

34th America's Cup Environmental Assessment

National Park Service
U.S. Department of the Interior



U.S. Coast Guard



The Presidio Trust



U.S. Army Corps of Engineers



ENVIRONMENTAL ASSESSMENT

SUMMARY

34TH AMERICA'S CUP RACES

June 7, 2012

PREPARED FOR:

U.S. Coast Guard

The National Park Service

U.S. Army Corps of Engineers

Presidio Trust

Draft Environmental Assessment 34th America's Cup Races

San Francisco, California

Lead Agencies: National Park Service, U.S. Coast Guard
Cooperating Agencies: U.S. Army Corps of Engineers, Presidio Trust

Pursuant to the National Environmental Policy Act (NEPA, 42 USC 4332(2)(C)), the National Park Service and the U.S. Coast Guard, in cooperation with the U.S. Army Corps of Engineers and the Presidio Trust, announce the availability of the Draft Environmental Assessment (EA) of the 34th America's Cup Races. The races would take place on lands and waters administered by federal government. On December 31, 2010, the City of San Francisco was chosen as the location to host the 34th America's Cup (AC34) sailing races. The America's Cup race events are proposed to take place in Summer-Fall 2013, with preliminary "World Series" races in Summer-Fall 2012. Races are proposed for marine areas subject to the U.S. Coast Guard authority and increased visitation is expected for lands managed by the National Park Service and the Presidio Trust. In addition, in-water facility upgrades and dredging are proposed along the San Francisco waterfront which would be subject to U.S. Army Corps of Engineers' authority. In addition, in-water construction and dredging are proposed along the San Francisco waterfront and would be subject to U.S. Army Corps of Engineers authority. The Draft EA evaluates potential environmental consequences of implementing the alternatives. Impact topics include the cultural, natural, and socioeconomic environments.

All of the action alternatives include a specified race area, spectator venues and secondary viewing areas, and race-related water-based developments. The Environmental Assessment (EA) presents and analyzes the potential consequences of implementing the following alternatives.

- Alternative A, No-Action
- Alternative B, Sponsor Proposed Project
- Alternative C, No Organized Events on NPS Lands
- Alternative D, Modified Program
- Alternative E, Preferred

Decision Process: The EA with the preferred alternative is released for public comment on June 8, 2012. The comment period will be 30 days (until Saturday July 7, 2012). All public comments will be taken into consideration; and any changes to the preferred alternative will be described in an errata which will be attached to each federal agency's Finding and Environmental Decision.

Comments will be accepted electronically at <http://parkplanning.nps.gov/AC34> or submitted by mail to: ESA, attn: AC34, 550 Kearny Street, Suite 900, San Francisco, CA 94108

A public meeting will be held on Thursday, June 21st from 6:30 - 8:00 p.m. at the Golden Gate Club - Cypress Room, 135 Fisher Loop on the Main Post in the Presidio, San Francisco. Additional project information may be found at <http://www.americascupnepa.org> or <http://parkplanning.nps.gov/AC34>.

AC34 ENVIRONMENTAL ASSESSMENT SUMMARY CONTENTS

TABLE OF CONTENTS

CHAPTER 1: PURPOSE AND NEED FOR ACTION.....	S-1
Introduction and Background	S-1
Background.....	S-1
Project Study Area	S-2
Purpose and Need for the Action	S-5
Purpose for Taking Action	S-6
Need for Action.....	S-6
Objectives of the Federal Agencies.....	S-6
Constraints of the Federal Agencies.....	S-7
Summary of Applicable Laws, Regulations, Plans and Policies.....	S-8
National Environmental Policy Act of 1969.....	S-8
Clean Air Act.....	S-8
Other Federal Laws and Policies	S-9
National Park Service	S-9
United States Coast Guard	S-10
United States Army Corps of Engineers	S-10
Presidio Trust	S-11
Scoping Process and Public Participation	S-11
Issues and Impact Topics.....	S-12
CHAPTER 2: ALTERNATIVES.....	S-13
Agency Jurisdictions.....	S-13
Alternatives Development Process.....	S-14
Alternatives Considered but Dismissed.....	S-15
The Alternatives Selected for Analysis.....	S-16
Alternatives Evaluated.....	S-16
Alternative A – No Action.....	S-16
Elements Common to Action Alternatives.....	S-17
Alternative B – Sponsor Proposed Project	S-18
Alternative C – No Organized Events on NPS Lands	S-25
Alternative D – Modified Program	S-28
Alternative E – Preferred Alternative	S-29
Federal Team Preferred Alternative Selection Process	S-32
CHAPTER 3: ENVIRONMENTAL IMPACTS.....	S-47
Impacts, Impact Thresholds and Significant Impacts.....	S-47
Geology, Soils and Seismicity	S-48
Hydrology and Water Quality.....	S-49
Air Quality.....	S-51
Greenhouse Gas Emissions and Climate Change.....	S-53

SUMMARY CONTENTS

CHAPTER 3: ENVIRONMENTAL IMPACTS (continued)

Biological Resources.....	S-55
Upland Biological Resources	S-55
Marine Biological Resources.....	S-59
Cultural Resources	S-63
Visitor Use and Experience	S-67
Noise and Soundscape	S-77
Facilities and Operations	S-81
Visual Resources	S-87
Transportation	S-91
Socioeconomics	S-97
Maritime Navigation and Safety	S-100
CONCLUSIONS AND EA PROCESS.....	S-105

CHAPTER 1: PURPOSE AND NEED FOR ACTION

INTRODUCTION AND BACKGROUND

The National Park Service (NPS) and United States Coast Guard (USCG), in cooperation with the United States Army Corps of Engineers (Corps) and the Presidio Trust (Trust)—collectively referred to as the “federal team”—have prepared an Environmental Assessment (EA) to analyze the potential effects of the 34th America’s Cup (AC34) sailing races and associated events upon lands and waters under the jurisdiction of these federal agencies. The America’s Cup is a series of international sailing events to be held in the San Francisco Bay that the City and County of San Francisco (CCSF) proposes to host in summer-fall 2012 and summer-fall 2013.

This document is an expanded summary of the EA. The full EA can be found on the NPS Planning, Environment, and Public Comment (PEPC) website <http://parkplanning.nps.gov>, the interagency National Environmental Policy Act (NEPA) website for AC34 (<http://www.americascupnepa.org>), or by requesting a CD or printed copy via email at: goga_planning@nps.gov. The City and County of San Francisco recently completed an Environmental Impact Report (EIR) for the AC34 project as required by the California Environmental Quality Act (CEQA). The EIR, which also addresses a separate project known as the James R. Herman Cruise Terminal and Northeast Wharf Plaza, is available for review on the San Francisco Planning Department website at <http://www.sf-planning.org/>.

The EA will be available for public comment for a 30-day period, and an opportunity for questions and communication with agency staff will be made available during that time. Substantive comments that question facts, suggest reasonable new alternatives or bring to light information that may have a bearing on the selection of an alternative will be carefully considered before the agencies make any decisions regarding permits or other actions, including whether or not they continue to believe no significant impacts would result from implementing the selected alternative. If so, they will each issue a separate Finding of No Significant Impact (FONSI) which details their decision, adopts protective measures and indicates no significant impacts would occur. This will conclude the NEPA process and the Project Sponsors will be able to implement the chosen alternative.

Background

On December 31, 2010, San Francisco was selected as the location for the AC34 sailing races. As originally proposed by the project sponsors (identified as the America’s Cup Event Authority, LLC and the City and County of San Francisco), AC34 events would consist of fleet and match races on San Francisco Bay in 2012 and 2013. The 2012 events would occur in mid-summer to early fall and involve the America’s Cup World Series (ACWS). The 2013 events would occur in late summer through early fall and involve the Louis Vuitton Cup, America’s Cup Challenger Series, potential America’s Cup Defender Series, and the final Match. The project sponsors requested a number of project sites, or venues to accommodate these events.

An EA or EIS (Environmental Impact Statement) is only required when federal actions that may affect the environment are proposed. In this case, the project sponsors requested authorization to stage

events and construct temporary program and viewing facilities on lands and waters managed by two units of the NPS, Golden Gate National Recreation Area (GGNRA) and San Francisco Maritime National Historical Park (SAFR), and the USCG. If such events were authorized, the Presidio Trust might also undertake certain discretionary actions to address potential impacts on its or NPS lands. The project sponsors also proposed in-water construction and dredging to support race teams and activities along the San Francisco waterfront; much of this work would require authorization from the Corps. Authorization for these activities would come in the form of federal agency permits and the development of a USCG Special Local Regulation (SLR) for management of on-water race activities (under 33 United States Code 1233).

Throughout the development of this EA the federal team has attempted to address frequent changes proposed by the project sponsors since analysis began in July of 2011. The analysis of all but one of the action alternatives (Alternatives B, C, and D) assumes the project as described in January 2012. Changes to the project in April 2012 were analyzed in the preferred alternative (Alternative E), but not in the other action alternatives. These changes included a reduced race schedule for 2012, inclusion of races during Fleet Week, and changes to pier construction and dredging associated with pier construction.

Other changes were recently proposed by the Sponsor in June 2012. These most recent changes included deletion of proposed AC72 exhibition series in 2012, a revised Louis Vuitton Cup schedule for 2013, and plans to conduct an AC34 Youth Race Series in 2013. The federal team considered the effects of these most recent changes to assess whether any would result in different impact determinations than presented for Alternative E. None of the changes did so.

Alternative E is the federal agency preferred alternative, and wherever possible reflects the most recent proposal from the project sponsor. It includes actions and measures that best protect resources, visitor experience, and safety, and manage impacts on agency operations and assets. For these reasons, Alternative E is also the environmentally preferable action alternative.

Project Study Area

As shown in **Figure SUM-1**, on-water activities including the AC34 sailing races, if authorized, would occur within Central San Francisco Bay, generally within an area bounded by the San Francisco waterfront to the south; the San Francisco-Oakland Bay Bridge, Treasure Island, and Yerba Buena Island to the east; portions of southern Marin County (including Angel Island) to the north; and areas just beyond the Golden Gate Bridge to the west. The actual race courses for the sailing races would be closer to the San Francisco waterfront, confined to a smaller portion of the Bay, and located within an area subject to restrictions established under the USCG's SLR and Marine Events Permit and the NPS Special Use Permit. The impacts to NPS lands would occur from an increased number of spectators watching the race from viewing locations or attending venues on park lands, including Crissy Field, Fort Mason, Fort Baker, San Francisco Maritime National Historical Park, and the Marin Headlands on NPS lands, and the Presidio Trust.



SOURCE: Google Maps

AC34 / Environmental Assessment (210317)

Figure SUM-1
AC34 Potential Venue and Facility Sites

Central San Francisco Bay

The Central Bay provides habitat for a variety of species, including several that are considered special status species or are otherwise unique and/or sensitive. Vessel traffic consists of oceangoing vessels inbound or outbound to Ports in the Bay, as well as recreational boats, passenger ferries, tugboats and fishing boats.

Crissy Field

Crissy Field is a waterfront district that is split between Area A (under NPS jurisdiction) and Area B (under Presidio Trust jurisdiction). Area A is north of Mason Street and Area B includes Mason Street and lands to the south. In this EA, Crissy Field Area B lands are also referred to as Presidio lands or Area B, and Crissy Field Area A lands are simply called Crissy Field. In some alternatives, race-related venues and programs are planned for Crissy Field A; in all alternatives this location is expected to be an attractive spot for viewing the AC34 races. Crissy Field A includes a 22-acre restored tidal marsh, a 28-acre former airfield (now turf), Crissy Field beaches, parking and Crissy Field Center, offices of NOAA (National Oceanic and Atmospheric Administration) recreational facilities and other uses in former air hangars and warehouses. The area is heavily used by a variety of visitors who walk, jog, bike, walk dogs, picnic, sailboard, kayak, kite surf, and use the indoor facilities. A portion of Crissy Field called the Wildlife Protection Area (WPA) is fenced to protect wintering western snowy plovers (a federally listed species) and other birds and extends 300 feet from shore, with recreational activities prohibited within the land and marine areas of the WPA.

The Presidio (Area B)

The inland portion of the Presidio, known as Area B, is managed by the Presidio Trust and consists of approximately 1,168 acres, or 80% of the Presidio's total land area. (The NPS manages the majority of the coastal recreational corridors, known as Area A, consisting of approximately 329 acres, or 20% of the total land area). The Presidio is a former U.S. Army post and part of the Golden Gate National Recreation Area. Area B is known for its depth of cultural and natural resources as well as excellent vistas, recreational opportunities and public events. A community of nearly 8,000 live, work, or attend school in Area B of the Presidio.

San Francisco Maritime National Historical Park (SAFR)

Managed by the NPS, the San Francisco Maritime National Historical Park (SAFR) extends from the west end of Fisherman's Wharf, starting west of Hyde Street, to the eastern bluffs of Fort Mason immediately west of Van Ness Avenue, and includes the Aquatic Park National Historic Landmark District, which is bounded by Van Ness Avenue, Beach Street, and Hyde Street. The park includes a fleet of historic boats, a visitor center, a man-made lagoon (Aquatic Park Cove), gardens, a maritime museum, and a library/research facility, among other features. Pedestrians and bicycle visitors number between 6,650 on an average weekday to 9,720 on a sunny weekend. Swimmers and other recreationists use Aquatic Park Cove on a daily basis.

Fort Mason

Fort Mason is an NPS property and includes upper Fort Mason, where GGNRA offices are located in former U.S. Army buildings and where there is an American Youth Hostel, residences and community gardens, and lower Fort Mason, which includes piers, warehouses and offices which are largely occupied by tenants or host special events. Upper Fort Mason is used by bicyclists, dog walkers and other pedestrians and the Great Meadow at upper Fort Mason is the site of special events throughout the year.

Alcatraz Island

Alcatraz Island, a former federal prison, is managed by the NPS and only accessible by a park concession ferry. The primary attraction on Alcatraz Island is the cellhouse, which is open year-round. Generally, the southeastern half of the island is open to the public. The northern portion of the island is accessible by docent-led tours only, and these tours are restricted to the non-breeding season for colonial water birds that nest on the island. Breeding season occurs February through mid-September during which time access to the western side of the island is also restricted.

Fort Baker

Fort Baker is an NPS property located at the base of the north end of the Golden Gate Bridge, with access from Alexander Avenue. Fort Baker includes a pier and marina at Horseshoe Bay, as well as several tenants such as the Bay Area Discovery Museum, and Cavallo Lodge and the USCG Station Golden Gate. Fort Baker contains sensitive cultural and natural resources including several historic batteries and habitat for the endangered Mission blue butterfly.

Marin Headlands

While no venues are planned here, parts of the Marin Headlands are expected to be excellent viewing sites for the AC34 sailing races. In particular, areas along Conzelman Road, a 5-mile stretch that traverses the western and southern bluffs, are likely to become more crowded with AC34 spectators. Sensitive cultural resources, including several batteries that would provide expansive views, could be impacted in this location.

PURPOSE AND NEED FOR THE ACTION

The federal team conducted internal scoping between June and October 2011 to identify the overarching goal or “purpose” it intends to fulfill by taking action, to consider the impetus or “need” of taking action, and to develop specific critical objectives for that action. In addition, the federal team identified key legal, policy or other “constraints” that would prohibit certain actions and thereby restrict what is considered a reasonable alternative. These planning elements (purpose, need, objectives, and constraints) respond to federal agency mandates and guidelines and are different from those used in the EIR. The full text of these elements is available in the EA.

Purpose for Taking Action

The purpose of federal action is to ensure that AC34, if authorized, provides for a safe and enjoyable experience and that all resources, values and uses of federal lands and waters of the marine and maritime environment are protected.

Need for Action

As noted above, federal approval in the form of permits or authorities is needed for AC34 to proceed. The federal government needs to engage in transparent, integrated, and informed decision-making to respond to this request and to ensure that any final decision conforms to all applicable laws and regulations, meets the purpose and objectives and is within stated legal and regulatory constraints.

Objectives of the Federal Agencies

Objectives are specific goal statements. Critical or primary objectives are those that must be met to a large degree for federal action such as granting a permit to be justified or an alternative considered feasible. These objectives come from a variety of sources, including NPS, USCG, Corps, and Presidio Trust management policies, laws, and regulations. The ability of an alternative, including the Sponsor Proposed Project as envisioned in January 2012, to meet primary objectives is part of what the federal team considered in deciding whether an alternative was reasonable and should be carried forward for environmental impact analysis or dismissed from further consideration. Some of the objectives are shared by the agencies and others are specific to a single agency.

Joint Agency Primary Objectives:

- Ensure safety for all affected parties before, during and after the event activities.
- Avoid, or minimize, and mitigate the impact on the environment and all affected parties, including through the use of sustainable, best practices.
- Maintain acceptable level of operational readiness including adequate communications between agencies, the public, project sponsors and all affected parties as needed.
- Provide for diverse, affordable, and enjoyable spectator and visitor experiences

National Park Service Primary Objectives:

(Note: All objectives apply to both the GGNRA and SAFR.)

- Avoid, or minimize, and mitigate the impact on park resources and values.
- Ensure that permitted activities have a meaningful association between the park and the event and contribute to understanding of a park's significance.
- Minimize and mitigate effects of AC34 operations on existing unique park recreational uses (e.g., where few or no other local opportunities exist).

- Minimize impacts on park assets and sustain or restore all park assets (e.g., facilities, features, grounds, ships, etc.) to pre-event or better condition.
- Facilitate convenient and affordable multi-modal access to parks during the event.
- Maintain access for residents, park staff, park partners, and visitors.
- Provide for cost recovery (i.e., event-related staffing and operations, and restoration costs).

United States Coast Guard Primary Objective:

- Ensure that participating boats comply with appropriate safety, security, and environmental regulations.

United States Army Corps of Engineers Objective:

- Avoid or minimize to the maximum extent possible the impacts of structures and work in and over navigable waters.

Presidio Trust Primary Objectives:

- Minimize disruption to or use of existing Presidio resources.
- Respect the needs of Presidio residents, tenants, and visitors.
- Maintain access to Presidio facilities and uses.

Constraints of the Federal Agencies

Constraints represent relevant legal, regulatory, logistic, economic, environmental, or other limitations that agencies must factor in to their respective decision-making processes. A complete listing is available by reading the Constraints section of Chapter 1 of the EA. A few of the major constraints—those that the federal team found particularly limited the alternatives it developed—are listed below:

National Park Service Constraints

- No boats or marine activities within 300-foot buffer zone around Alcatraz Island and within Crissy Field WPA (GGNRA Superintendent’s Compendium).
- No “adverse effects” allowed on historic properties under the National Historic Preservation Act (NHPA).
- No visitation levels that would cause “unacceptable impacts” on visitor experience or resources could occur (NPS Management Policies sections 8.2.5; 8.2.; see section 1.4.7.1 for definition of unacceptable impacts).
- No conflict with applicable provisions of the Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), and Migratory Bird Treaty Act (MBTA).

United States Coast Guard Constraints

- On-water event activities will only be allowed in the permitted event zone as defined by Special Local Regulation and a Marine Event Permit.
- Participating foreign flagged vessels and foreign constructed vessels will meet safety, environmental, and passenger carriage requirements as directed by Officer in Charge of Marine Inspections (OCMI), per applicable laws.

United States Army Corps of Engineers Constraints

- Project/permit denied if:
 - It does not comply with Clean Water Act Section 404(b)(1) (if not the least environmentally damaging project alternative);
 - If the project is contrary to the public interest (i.e., detrimental outweigh beneficial impacts).

Presidio Trust Constraints

- No activities that will significantly alter the kind and amount of natural, recreational, historical, scenic or cultural resources of Presidio Trust managed lands or the integrity of the setting (36 CFR 1010.8(c)(3)).

SUMMARY OF APPLICABLE LAWS, REGULATIONS, PLANS AND POLICIES

Authorization of AC34 would occur under, and in conformance with laws, regulations, plans, and policies administered by each of the federal agencies, including, but not limited to the following. Each is described in the text of the EA in more detail, as well as in Appendix A of the EA.

National Environmental Policy Act of 1969

The National Environmental Policy Act (NEPA) Section 102(2)(C) requires that an Environmental Impact Statement (EIS) be prepared for proposed major federal actions that are likely or expected to significantly affect the quality of the human environment. If significant impacts are not likely but unresolved conflicts concerning alternative uses of federal resources exist, an Environmental Assessment (EA) with a full range of alternatives is required (Section 102(2)(B)). If public involvement or analysis reveals potential for a significant impact from an alternative analyzed in an EA, the impact must be mitigated to “below significance” or an EIS prepared.

Clean Air Act

The United States Environmental Protection Agency (U.S. EPA) requires that the federal government not engage in, support, or provide financial assistance for licensing, permitting, or approving any activity not conforming to an approved Clean Air Act (CAA) State Implementation Plan in nonattainment or maintenance areas of the country. The San Francisco Bay Area Air Basin is a

nonattainment area for the federal 8-hour ozone standard and the federal fine particulate (PM_{2.5}) standard. The basin is designated as a maintenance area with respect to the federal carbon monoxide (CO) standards.

Through this NEPA process, the federal team is working with the U.S. EPA to ensure that its final decision with regard to the AC34 project would conform to State Implementation Plans, not cause or contribute to new violations of National Ambient Air Quality Standards (NAAQS), and ensure that attainment of NAAQS within the air basin is not delayed. Consequently, this EA is intended to fulfill the public review requirements set forth in the General Conformity Rule (59 FR 63214).

Other Federal Laws and Policies

Other laws and policies that are not described here, but are relevant to AC34 management and are described in Appendix A of the EA include the Endangered Species Act, the Migratory Bird Treaty Act and the Marine Mammal Protection Act.

National Historic Preservation Act, as Amended (1966)

Cultural resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470 et seq.), and its implementing regulation, Protection of Historic Properties (36 CFR Part 800). Prior to implementing an “undertaking” (for example, approval of a permit for AC34) Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would potentially affect properties listed or eligible for listing in the National Register.

National Park Service

National Park Service Organic Act and Management Policies

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of the Interior and the NPS to manage park units “to conserve the scenery and the natural and historic objects and wild life therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC 1). Although park managers have the discretion to allow impacts on park resources and values when necessary to fulfill the purposes of the park, they are also to seek ways to avoid, or minimize to the greatest degree practicable, any adverse impacts on these resources and values and cannot allow them to become impaired. The NPS Management Policies (2006) lay out regulations governing the management of all NPS resources and values, as well as operations and visitor use and experience and include direction on how park units are to achieve the requirements of the Organic Act.

General Management Plans

The GGNRA is currently updating its General Management Plan (GMP). Both the original 1980 GMP and the update state that the park's purpose is as follows:

The purpose of Golden Gate National Recreation Area is to offer national park experiences to a large and diverse urban population while preserving and interpreting the park's outstanding natural, historic, scenic, and recreational values.

The 1997 General Management Plan for San Francisco Maritime National Historical Park (NPS 1997) reflects the park's dedication to the maritime history, technology, arts, humanities and maritime activities of San Francisco Bay and its interaction with the Pacific Coast as well as worldwide maritime activity.

United States Coast Guard

Establishment of Coast Guard - 14 U.S.C Section 1

The primary duties of the USCG are to enforce or assist in the enforcement of all applicable federal laws on, under, and over the high seas and waters subject to the jurisdiction of the United States, including those meant to promote safety of life and property on and under the high seas and waters of the country. This includes provisions for rescue facilities to promote safety.

Ports and Waterways Safety Act of 1972

This law provides increased supervision of vessel and port operations in order to reduce the possibility of damage or loss of vessels, structures adjacent to navigable waters, cargo, life, property or the marine environment and insure compliance by vessels with all applicable laws.

Navigation and Navigable Waters - 14 CFR Parts 1 -199

This section delegates authority to direct the operation, movement, and anchorage of vessels.

Coast Guard Marine Safety Performance Plan

The 2008 Coast Guard Marine Safety Performance Plan guides USCG efforts to ensure safe and environmentally sound operation of U.S. flagged vessels wherever they are in the world, and to carry out Port State authorities for foreign vessels operating in U.S. waters. The plan includes major initiatives designed to focus the USCG's efforts to achieve its stated goals and objectives. These initiatives range from workforce development to boating safety.

United States Army Corps of Engineers

The Corps is charged with regulating certain activities that affect waters of the United States. Typical examples of activities regulated by the Corps include: (1) discharge of dredged or fill material into

waters of the U.S.; (2) dredging, piers, pilings, bulkheads, fills, etc., and (3) transport of dredged materials for open ocean disposal. The first class of activities is regulated under Section 404 of the Clean Water Act of 1972. The second is regulated by Section 10 of the Rivers and Harbors Act of 1899. The last category of work is regulated under Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972.

In 1968, Congress designated a certain portion of the San Francisco waterfront, namely that area extending from Van Ness Avenue to Bryan Street, as “nonnavigable waters within the meaning of the laws of the United States” (33 USC 59h). Therefore, any work occurring within the existing pier footprints along this portion of the San Francisco waterfront would not be subject to Corps Section 10 authorization. The Corps does not consider any of the AC34-related water-based work under review to be the discharge of dredged material or fill into waters of the U.S. Therefore, there would be no application by the Corps of Section 404 regulations.

The Corps is a signatory to the Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region. The goals of the LTMS are to manage dredging and disposal in an economically and environmentally sound manner, to maximize beneficial use of dredged material, and to develop a coordinated permit application review process for dredging and disposal projects. The LTMS provides specific mechanisms to ensure that existing laws and regulations concerning disposal of dredged materials in the Bay are consistently applied and coordinated.

Presidio Trust

In 2002, the Presidio Trust adopted the Presidio Trust Management Plan (PTMP) which describes the Presidio’s cultural, natural, scenic, and recreational resources and provides planning principles that will ensure that the Presidio is preserved, protected, and enhanced for the public’s benefit. The PTMP principles pertaining to recreational use and special events attempt to balance these opportunities with resource protection by considering the type and level of visitor use that can be accommodated while sustaining both the resources and the visitor experience.

SCOPING PROCESS AND PUBLIC PARTICIPATION

Scoping is an early and open process to determine the appropriate environmental issues and reasonable alternatives to be addressed in a NEPA document. Scoping can be conducted within an agency, between agencies or to provide an opportunity for public input. Chapter 5—Consultation and Coordination—in the EA addresses scoping in detail. A summary is provided below.

The federal team met several times between July 2011 and May 2012 to identify preliminary issues and alternatives, to consider public and project sponsors’ input, and to discuss a preferred alternative - identified as Alternative E in the EA. The public scoping period ran from August 5 to September 23, 2011 and included three open houses, an agency scoping meeting (for agencies other than the federal team), a website devoted to the AC34 NEPA process (<http://www.americascupnepa.org>) and a second NPS specific site (<http://parkplanning.nps.gov>), and an opportunity to provide written comments. The

SUMMARY

federal team received 48 pieces of correspondence, containing 383 comments representing the views of the general public, civic groups, public agencies, businesses, recreational groups, and conservation and preservation groups during the scoping period for the EA.

ISSUES AND IMPACT TOPICS

Among the issues raised during the internal agency scoping session and throughout the scoping process, the following impact topics were selected for detailed analysis. Rationale for selection of each impact topic was based on potential for impact; environmental statutes, regulations, and executive orders; and NPS and USCG management policies and guidance.

- Geology, Soils and Seismicity
- Hydrology and Water Quality
- Air Quality and Greenhouse Gas Emissions
- Vegetation, Wildlife and Species of Special Concern
- Cultural resources
- Visitor Use and Experience
- Soundscape and Noise
- Visual Resources
- Transportation
- Maritime Navigation and Safety
- Park Assets and Operations
- Socioeconomics

A summary of the impacts and larger conclusions is presented in Chapter 3 of this document, with full description and analysis in Chapters 3 and 4 of the EA. Although sources may be noted in parenthesis in this summary, the full notation is only available at the end of the EA Chapter 4 analysis of a particular topic in the References sections.

CHAPTER 2: ALTERNATIVES

This chapter provides an overview of the range of federal action alternatives considered for the 34th America's Cup events. Included within this chapter is a discussion of the nearly eight-month-long alternatives development process, detailed descriptions of the four action alternatives selected for detailed analysis, summaries of management and protection measures incorporated into those action alternatives, the process through which a preferred alternative was chosen, and a brief explanation of those alternatives considered and dismissed from further review.

AGENCY JURISDICTIONS

National Park Service

The project sponsors have proposed the use of NPS lands for landside special events and use of NPS waters (NPS jurisdiction also extends 0.25 mile seaward from the mean high tide line of its shoreline properties) for portions of the race course, during the 34th America's Cup (AC34). However, any use of park lands or waters requires a permit from the NPS; such permits are conditioned to ensure compliance with all of the regulations governing uses (see 36CFR Parts 2-199 for example).

United States Coast Guard

The project sponsors have proposed the use of waters under United States Coast Guard (USCG) jurisdiction for the AC34 races and associated activities. Pursuant to 33 CFR Sections 100 and 165, the USCG proposes to adopt a temporary Special Local Regulation (SLR) and safety zone and approve a Marine Event Permit for the AC34 events. The SLR and safety zone are necessary to ensure the safety of life on the navigable waters and would temporarily restrict vessel traffic in a portion of San Francisco Bay and prohibit vessels not participating in the America's Cup sailing events from entering the designated race area during race events. The Marine Event Permit issued by the USCG would establish operations, protection measures and other conditions of use.

United States Army Corps of Engineers

The project sponsors have also proposed in-water structures and other work to support 34th America's Cup races and events. As the work would occur within navigable waters of the U.S., it would require permits from the Corps under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413). Like the NPS and USCG, the Corps can incorporate mitigation and protection measures as conditions of any permit issued.

Presidio Trust

The project sponsors may propose the use of Presidio Trust lands for certain AC34 event-related activities. Furthermore, the NPS within the Presidio can only be reached via Trust-managed roads. In addition, due to the potential for incidental impacts resulting from proposed activities on Crissy Field, Areas A and B, the Presidio Trust may undertake certain actions to prevent such impacts. These management and protection measures are described in the context of the alternatives, below.

ALTERNATIVES DEVELOPMENT PROCESS

NEPA regulations include guidance that an EA or EIS look only at “reasonable” alternatives, which are defined for all agencies (40CFR1500 et seq.) as those that are economically and technically feasible, and show common sense. Generally, the “common sense” phrase has been interpreted to mean the alternative meets the agency purpose and objectives, and resolves the need for action. The AC34 alternatives development and refining process included several discussions among the agencies, consideration of input by the public, specific questions for the project sponsors aimed at determining feasibility, and extensive discussions with the City/County San Francisco to approve and fund environmental and other protection measures for the preferred alternative.

Preliminary alternative concepts were developed by the federal team and presented to the public during the scoping period. The team had determined that alternatives could vary based on geography; make use of restricted zones or areas to protect safety, property, and resources; change the timing or duration of the event; limit the scale or intensity of the event; or modify the proposed action with protection and mitigation measures. After considering input obtained from the public and agencies during public scoping, the federal team initially considered eight alternatives, including No Action:

- i. The No Action alternative means no federal permits would be issued and the race would not take place.
- ii. The Sponsor Proposed Project as of January 2012.¹
- iii. Modifying the geographical location of the race so that it would be held off the coast rather than in San Francisco Bay to alleviate spectator-related impacts to NPS lands
- iv. Moving the location of the race to the northeast portion of San Francisco Bay to alleviate impacts from spectators and traffic on NPS resources, assets, operations and visitors.
- v. Moving the location of the 2013 races so that they alternated between the proposed course offshore of Crissy Field and the northern waterfront and the proposed contingency course east of Alcatraz Island to reduce impacts from spectators and traffic on NPS resources, assets, operations, and visitors.

¹ This alternative includes the project elements as they stood in January 2012. Described in the Background section of this Summary, the sponsors’ proposal has evolved over the course of the NEPA process. Proposed project revisions since January 2012 have included schedule adjustments, race area modifications, and a reduction in proposed water-based construction.

- vi. Altering the timing of the races by moving the start date to a time after seabirds at Alcatraz Island, a unique park resource of the central San Francisco Bay, had finished nesting (early to mid- September).
- vii. Maintaining the existing race area but prohibit venues on NPS lands to reduce impacts to NPS resources, assets, operations, and visitors at Crissy Field, Fort Baker, and San Francisco Maritime Historical Park.
- viii. Modifying proposed venues on NPS lands by eliminating loud speakers, reducing bleachers, minimizing food and beverage services etc. and moving the 2012 race area slightly to the east to reduce the appeal of, and impact to, Crissy Field as a viewing location.

ALTERNATIVES CONSIDERED BUT DISMISSED

Alternatives that would have required changing the geographical location of the race to another location in the Bay (iv and v above) were further evaluated to determine if wind speed and direction would be consistent enough in these locations to hold an America's Cup race. The same is true for moving the start date to the end of the summer (vi). This analysis revealed that winds and tides would make establishment of consistently fair race courses in this area for the duration of the race periods in 2012 and 2013 prohibitively challenging, as wind speed and shear show inconsistencies that would make it impossible for the race sponsors to offer similar conditions for a particular series of races. Similarly, a current analysis revealed frequent tidal shifts in this area, which sometimes conflict with wind direction, according to America's Cup Race Management (ACRM 2012). The USCG also indicated interference with the two-way deep water traffic lane to the north of Alcatraz Island would unnecessarily interfere with maritime commerce. Unlike the eastbound and westbound traffic lanes, which pass through or near the proposed race area, the two-way deep water traffic lane is considered critical for commerce and the USCG would be unable to create an SLR prohibiting vessel traffic during the races as it would for the proposed route. Without the SLR, the races would be interrupted every time a commercial vessel needed to pass through the deep water traffic lane. In addition, any races in this area would intersect with many commuter ferries in an average race day. These ferries could either not be safely rerouted due to hazardous currents or would be delayed more than 10 minutes by re-routing. Both of these possibilities would conflict with USGC regulations and its objectives to ensure safety and the continuation of maritime commerce. Alternatives iv and v were dismissed because of these technical barriers.

Alternative vi above was dismissed because of the variability of Central San Francisco Bay wind speed and direction during the fall months. A review of National Oceanic and Atmospheric Administration (NOAA) archival wind data for the period 2005-2011 indicates that Central San Francisco Bay wind speed and direction are most consistent between the months of July and September. While wind speed and direction would be acceptable in September, average speed in October drops to from an average of 9.2 knots in July and August to around 7.3 knots. Consistency and reliability of wind direction also becomes less favorable during this period.

Moving the race to the open ocean near San Francisco (Alternative iii above) is an alternative that was also examined in the EIR and dismissed as unreasonable. This is primarily because it is the San Francisco Bay rather than the open ocean that was selected for the race, and the boats under

development for the 34th America's Cup are specifically designed for the predictable conditions of high winds and protected waters found within the Bay. According to the project sponsors, the race boats are not structurally designed to endure the loads and stress of sailing in the open ocean, and operating them in such conditions would be unsafe. The specifications for these boats are already incorporated in boat construction efforts, making re-design technically and economically infeasible.

THE ALTERNATIVES SELECTED FOR ANALYSIS

The dismissal of alternatives iii, iv, v and vi, left the No Action alternative (required), the sponsor's proposed project, a modified, proposal and an alternative that would prohibit events on NPS lands (ii, vii and viii). The environmental impacts of these options were evaluated in an in-house draft and used as part of a Choosing by Advantage process to create a Preferred Alternative. The Preferred Alternative also includes all accepted updates and changes submitted by the project sponsors as of April 2012, and is a fourth action alternative, named Alternative E in the EA. As a final step, the federal team discussed and finalized proposed *management actions and protection measures*, which lessen impact to a particular resource or other element (such as an asset, operational factor, etc.). These were discussed with the project sponsors to gain agreement on funding and implementation responsibilities, and were incorporated into alternatives. The protection measures, described more fully later in this document, include ideas originally proposed by the federal team during public scoping, such as exclusion zones and reductions in intensity, as well as measures designed to minimize impacts discovered during the analysis (see Table SUM-3 on page S-34).

ALTERNATIVES EVALUATED

The alternatives analyzed in this EA are

- Alternative A–No Action;
- Alternative B–Sponsor Proposed Project as of January 2012;
- Alternative C–No Organized Events on NPS Lands;
- Alternative D–Modified Program Alternative; and
- Alternative E–Preferred Alternative.

Alternatives B through E are known as the “action alternatives.” The following discussion briefly describes each of the alternatives, including the elements common to the four action alternatives.

ALTERNATIVE A – NO ACTION

In this EA, Alternative A-No Action Alternative assumes that the NPS, USCG, Corps, and Presidio Trust would not issue permits, develop special regulations, or undertake other discretionary actions to AC34. As such, there would be no AC34 races on San Francisco Bay, no organized AC34 activities on federal lands, and no AC34-related water-based work.

ELEMENTS COMMON TO ACTION ALTERNATIVES

The following elements of the AC34 project would be the same for all of the action alternatives (Alternatives B through E).

General Race Area Location

Figure SUM-1 shows the maximum area in which the AC34 race would take place, an element that is common to all action alternatives. The actual race areas vary slightly between alternatives and would always be smaller than the space shown in the figure. Spectator boat viewing locations within the regulated area would not be specifically defined, except that spectator boats would be required to stay out of the race area and outside of any other restricted areas identified in the SLR and action alternatives (i.e., marine buffers around Alcatraz Island or Crissy Field).

Race-Related Boats

Two new classes of boats would be raced during AC34: (1) the “AC45” class, planned for the ACWS in 2012; and (2) the “AC72” class, planned for races in 2013. The yachts would be launched from potential team base locations at either Pier 80 or Piers 30-32 on the San Francisco waterfront. They would be lifted by onsite cranes and lowered into the adjacent water. The boats do not have engines; therefore, they would be either sailed or towed (by a support boat) to and from the launch and race areas. Umpires would officiate the races from rigid hulled inflatable boats (RIBs) within course limits.

Helicopters

The America’s Cup Event Authority Television (ACEA TV) would use up to three helicopters for video and telemetry support during race periods. The helicopters would maneuver around the race course to anticipate stages of each race for filming. The ACEA TV helicopters following each race would fly between 100 and 400 feet above sea level (ASL) within most offshore race areas. However, under no alternative would helicopters be permitted to fly lower than 1,000 feet ASL or within 1,000 feet (horizontal) of Crissy Field and Alcatraz Island mean high tide lines. An existing helipad site located in the southeast corner of Treasure Island (at California Avenue and Avenue N) is expected to be used for helicopter staging.

Procedures during Race Events

ACRM would designate an AC34 race official, responsible for managing on-water race event activities. The course boundaries would be marked by ACRM-designated “stake boats,” which would maintain a specific position for the duration of each race. Several AC34 support boats, including team chase boats (up to two per team), emergency response boats, and tow and rescue boats, would also operate within an approximately 200-foot-wide service corridor outside but adjacent to the race course. The total number of support boats would vary, depending upon the number of teams competing in each race. Official media boats may also follow alongside the race boats within the race course. If personal

watercraft are used for race support, they would not enter into the 0.25-mile NPS legislative offshore boundaries. If part of the USCG regulated area, those areas would be monitored and enforced through coordinated action between the NPS and USCG.

Fireworks and Entertainment

The project sponsors have proposed the use of fireworks during nighttime entertainment for 2013 events. It is likely that up to four fireworks events, lasting between 30 and 45 minutes each, would be launched from a barge positioned for best viewing at the America's Cup Village near Piers 27-29.

ALTERNATIVE B – SPONSOR PROPOSED PROJECT

Race Events Schedule

2012 Race Schedule

As noted above, Alternative B is the project sponsor's original proposal for AC34 as envisioned in January 2012. In Alternative B, two America's Cup World Series (ACWS) events would occur in 2012; the first from August 11 through August 19, 2012, and the second from August 27 through September 2, 2012. Each ACWS would consist of six race days per series, along with other activity days (i.e., test and media days), and rest days.

Race days would consist of fleet racing (where every team races) and match racing (two boat format). There would be up to four races on race days, with fleet racing held on Sundays and finals held on Saturdays. It is expected that individual 2012 races would be completed within 45 to 60 minutes and occur no earlier than 12:00 pm and no later than 5:00 pm. If races end early, the USCG Captain of the Port (COTP) intends to open the regulated area to normal maritime activity as soon as possible.²

2013 Race Schedule

The 2013 race schedule is the same for all action alternatives. Events held in 2013 would include the Louis Cup (LVC) Challenger Series and the 34th America's Cup Finals Match. The final total number of race days is not known, as it would depend on the number of teams competing and the outcome of individual match races. However, it was originally projected to be 45 race days and 38 non-racing days during the July 4-September 24, 2013 period.

As with the AC34 World Series, individual 2013 races would be completed within 40-45 minutes, with up to four races occurring on race days and limited to the hours of 12:00pm and 5:00pm (or earlier as described above). The LVC schedule would include an opening ceremony on July 4, 2013, followed by five exhibition fleet racing days between July 5 and July 14, 2013; a match racing series (round robin)

² Changes to race schedule announced recently would shift the timing of most race days: from 12:00 – 5:00 (as now presented) to 11:00 -3:30 or 4:00. This change is noted here because it would lessen impacts discussed in the EA itself.

between July 17 and August 4, 2013; a semi-final series between August 10 and August 18, 2013 (best of seven); and the LVC Final Match series (best of nine) between August 23 and September 1, 2013. Racing would culminate with the 34th America's Cup Final Match series between the Defender and the Challenger (winner of the LVC), a best of nine matches, planned between September 7 and September 24, 2013.

Race Area Location

The maximum race area location for this alternative is shown in Figure ALT-15 in the EA. The primary 2012 race area would be adjacent to the San Francisco waterfront and extend from East Crissy Field to Aquatic Park. The primary 2013 race area would encompass a larger area, adjacent the San Francisco waterfront, and extend from Battery East to Piers 27-29. Environmental buffer zones would be observed along Crissy Field and Alcatraz Island. A contingency regulated area, to be used during unusual wind conditions, would be located on the north and west sides of Treasure Island for both 2012 and 2013. Scheduled commercial maritime traffic would take priority over AC34 events in the contingency regulated area.

Race Area Management

In all alternatives, the race area and associated on-water activities would be patrolled by the USCG, in cooperation with local law enforcement. However, ACRM would assume primary responsibility for managing the race area and ensuring the safety of the race boats and support boats participating in the event.

Primary Regulated Area

The 2012 primary regulated area would encompass approximately 2 square miles, and the 2013 regulated area would encompass approximately 4.5 square miles, both located along the San Francisco waterfront. The AC45 racing boats that would compete during the 2012 events would be smaller than AC72's competing in the 2013 events and require less room to maneuver. As such, the primary regulated area proposed for 2012 would be smaller than proposed for 2013. It is important to note that within the USCG regulated area ACRM would establish a smaller race area, within which the race courses would be developed. The race area would not occupy the entire regulated area.

Contingent Regulated Area

The USCG proposes a contingent regulated area that would be used for sailing races in 2012 or 2013 in the event that weather conditions make the primary regulated area unusable for racing. This contingent regulated area would be used only in the event of unusual wind conditions. This area is located east of Alcatraz Island and adjacent to the north and west sides of Treasure Island. Scheduled commercial maritime traffic would take priority over AC34 events in the contingency regulated area.

Non-motorized Vessel Area

An area designated for recreational swimmers, rowers, and kayakers would be located within the primary regulated area, near the shoreline between Fort Point and Anita Rock. During designated race periods, this area would be closed to motorized boats and all other vessels greater than 20 feet in length. All boats would be prohibited from anchoring in this designated area. The designated area would extend approximately 450 to 1,000 feet out from the shore along Crissy Field. Should the race area shift further to the east in 2012 (which is currently under consideration) the non-motorized vessel area would not be necessary.

No Loitering Area

The proposed rule would prohibit anchoring and loitering along the San Francisco waterfront east of the non-motorized vessel area, extending to the Municipal Pier at Aquatic Park. This restriction is intended to ensure public safety and prevent potential spectator vessel congestion south of the race area during both 2012 and 2013 events.

Transit Zone

A transit zone would be established during 2013 race events to facilitate the transit of boats requiring access to pier space and facilities along the San Francisco waterfront, and to minimize other traffic that may obstruct spectator views from the waterfront. To ensure safety and to minimize congestion, vessels using this zone would not be permitted to loiter or anchor. The transit zone would extend along the San Francisco waterfront, south of the race area, beginning at the face of Pier 23 and continuing to the western boundary of the primary regulated area, north of the non-motorized vessel area. In addition, the transit zone would include a separate route heading northeast from the waterfront transit zone, near Pier 39.

Closure of Vessel Traffic Lanes

The USCG would restrict access to the eastbound and westbound San Francisco Bay traffic lanes to vessels greater than or equal to 100 gross tons during designated race periods occurring in both 2012 and 2013. Vessels less than 100 gross tons would be allowed to use the westbound traffic lane provided they remain out of the race area. Entry into the closed traffic lanes would be allowed to large vessels with COTP permission. Shipping traffic may continue to operate using the existing deep water (two-way) traffic lane.

Temporary Safety Zone

A temporary safety zone is proposed that would require persons and vessels to remain 300 feet from AC34 race boats during racing periods. It would not be in effect while the race boats are practicing outside of designated race periods. This safety zone is necessary for public safety during exceptional circumstances when AC34 race boats are competing outside of the race area (e.g., under the Golden Gate Bridge during Opening Day ceremonies).

Visitation Estimates

Visitation estimates provide a reasonable idea of the number of AC34 spectators. These include “converted” visitors who would visit park lands for other reasons but stay to watch the races. Appendix D of the EA details the methods and assumptions used to make these estimates. To capture the upper limit of reasonable impact related to spectator use, the EA used “peak race days” for both 2012 and 2013. **Table SUM-1** shows that on peak race weekend days in 2012, about 55,000 people would visit park lands and on peak weekdays, an average of about 24,000 would visit. These are total numbers and include some “intentional” visitors who visit specifically to watch the races, “regular” visitors who visit for other reasons, some “converted visitors” who initially visit for other reasons and stay to watch the races and some “flow through” visitors. Of the 55,000, about 17,000 are expected to visit Crissy Field West, where Alternative B proposed a stage, bleachers and other venues. This is estimated to drop to about 5,100 on peak weekdays. Another approximately 15,000 visitors would be expected at either Crissy Field East or the Crissy Picnic Area, and nearly 13,000 to San Francisco Maritime National Historical Park (SAFR) on peak weekends in 2012. In addition, about 3,500 spectators on boats are expected on peak weekends in 2012.

Under Alternative B, races in 2013 are expected to draw substantially more visitors over a longer period of time. Four scenarios are analyzed in the EA, including “peak weekend race day” such as on opening race days or race finals, competitions featuring high-interest countries, or days near the beginning or end of the competition with exceptionally good weather. The other scenarios included days when visitation would be “medium high” or “average” on weekends and a “peak weekday.” Although only five of the 2013 races days qualify as “peak weekend,” total visitation to park lands during these days is estimated to average a total of more than 95,000 visitors (see Table SUM-1), with about 50,000 on Crissy Field West and approximately another 18,000 on Crissy Field East and the Crissy Picnic Area. Total average visitation during 2013 falls to about 58,000 on a medium-high weekend days (with about 35,000 on Crissy Field West, East and the Crissy Picnic Area) and to about 40,000 (with 21,000 at Crissy sites) on a more average weekend day. During a peak weekday, total visitation to park lands is estimated to be about 25,000, with most of this occurring on Crissy Field (about 13,000 at Crissy sites). Between 1650 and 10,000 spectators on boats are expected to view the races in 2013 in Alternative B and all other action alternatives. Secondary viewing locations at Marin headlands/Conzelman Road would be the same for all alternatives and would average about 2600 on peak weekends in 2012 or 2013. Public visitation at Fort Baker would also remain consistent across alternatives and average about 2,000 on peak weekends in both years.

Spectator Venues and Secondary Viewing Areas

The locations and types of events at the spectator venues (also known as primary viewing areas) and areas where no venue is planned but spectators would be expected to gather to view the races (known as secondary viewing areas) under Alternative B are described below.

TABLE SUM-1: ANALYSIS SCENARIOS AND LOCATIONS DAILY VISITORS - MAY 25, 2012

Analysis Location	Existing		Total Visitation During AC34 Events ¹							
	Conditions ²		2012				2013			
	Avg Wkday	Avg Wkend	Peak Wkday	V. High Wkend	High Wkend	Peak Wkday	Peak Wkend	Md High Wkend	Avg Wkend	
ALT B: SPONSOR PROPOSED PROJECT										
SAFR	6,650	9,720	7,050	12,920	11,640	7,130	16,120	13,720	11,720	
Fort Mason	2,950	4,580	3,030	5,380	5,060	3,110	5,380	4,980	4,820	
Crissy Field East	3,050	5,790	4,750	10,390	8,550	4,330	11,310	8,550	7,630	
Crissy Field West	1,170	2,100	5,090	16,910	10,990	7,050	51,480	21,850	10,000	
Crissy Picnic Area	1,300	2,560	1,680	4,430	3,680	1,680	7,250	4,430	3,500	
Marin Headlands/Conzelman Road	1,120	2,230	1,200	2,630	2,470	1,240	2,630	2,470	2,390	
Fort Baker	890	1,770	970	2,050	1,940	970	2,170	1,970	1,890	
Total ³	17,130	28,750	23,770	54,710	44,330	25,510	96,340	57,970	41,950	
ALT C: NO EVENTS ON NPS SITES										
SAFR	6,650	9,720	7,050	11,320	10,680	7,050	12,920	11,320	10,520	
Fort Mason	2,950	4,580	3,030	5,380	5,060	3,030	4,980	4,780	4,700	
Crissy Field East	3,050	5,790	3,990	9,010	7,630	3,900	14,530	8,550	7,630	
Crissy Field West	1,170	2,100	2,250	5,560	4,080	2,150	11,480	5,060	4,080	
Crissy Picnic Area	1,300	2,560	1,450	3,120	2,900	1,380	3,970	2,930	2,750	
Marin Headlands/Conzelman Road	1,120	2,230	1,200	2,630	2,470	1,240	2,630	2,470	2,390	
Fort Baker	890	1,770	970	2,050	1,940	970	2,170	1,970	1,890	
Total ³	17,130	28,750	19,940	39,070	34,760	19,720	52,680	37,080	33,960	
ALT D: MODIFIED PROGRAM ALTERNATIVE										
SAFR	6,650	9,720	8,250	13,720	12,120	6,970	13,720	12,520	10,920	
Fort Mason	2,950	4,580	3,030	5,380	5,060	3,110	5,380	4,980	4,820	
Crissy Field East	3,050	5,790	3,650	7,350	6,730	4,750	15,910	9,930	7,630	
Crissy Field West	1,170	2,100	1,370	2,990	2,630	2,890	18,890	9,010	5,060	
Crissy Picnic Area	1,300	2,560	1,380	2,890	2,760	1,490	4,900	3,500	3,030	
Marin Headlands/Conzelman Road	1,120	2,230	1,200	2,630	2,470	1,240	2,630	2,470	2,390	
Fort Baker	890	1,770	970	2,050	1,940	970	2,170	1,970	1,890	
Total ³	17,130	28,750	19,850	37,010	33,710	21,420	63,600	44,380	35,740	

TABLE SUM-1: ANALYSIS SCENARIOS AND LOCATIONS DAILY VISITORS - MAY 25, 2012

Analysis Location	Existing			Total Visitation During AC34 Events ¹							
	Conditions ²			2012				2013			
	Avg Wkday	Avg Wkend	Fleet Week	Peak Wkday	V. High Wkend	High Wkend	Fleet Week	Peak Wkday	Peak Wkend	Md High Wkend	Avg Wkend
ALT E: PREFERRED ALTERNATIVE											
SAFR	6,650	9,720	19,440	8,250	13,720	13,720	20,960	7,130	16,120	13,720	11,720
Fort Mason	2,950	4,580	7,810	3,030	5,380	5,380	8,380	3,030	4,980	4,780	4,700
Crissy Field East	3,050	5,790	9,190	3,990	7,630	9,010	9,790	3,900	14,530	8,550	7,630
Crissy Field West	1,170	2,100	3,410	2,250	2,590	5,060	3,600	2,050	10,990	5,060	3,580
Crissy Picnic Area	1,300	2,560	3,560	1,450	2,890	3,120	3,760	1,380	3,970	2,930	2,750
Marin Headlands/Conzelman Road	1,120	2,230	2,230	1,200	2,630	2,630	2,630	1,240	2,630	2,470	2,390
Fort Baker	890	1,770	3,550	970	2,050	2,050	3,770	970	2,170	1,970	1,890
Total ³	17,130	28,750	49,190	21,140	36,890	40,970	52,890	19,700	55,390	39,480	34,660
<p>¹ The "existing estimates" were derived from past reports, and visitation counts collected on 10 days during August, September and October 2011 during three representative two-hour time periods by ORCA Consulting. Existing visitation data was also collected at two other locations not represented in the above tables. These areas include: Fort Point and the Golden Gate overlook area (on Coastal Trail) for which there were only pedestrian and bicycle flow counts developed but no AECOM forecasted estimates. Peak hourly flow counts were: 250 for FT. Point average weekdays and 530 on average weekends; and 370 for Golden Gate overlook (Coastal Trail) for average weekdays, and 930 on average weekends. Based on these flow counts, estimates were developed for daily visitation at these two locations: 1,670 for the Golden Gate overlook area (Coastal Trail) on average weekdays, and 4,330 on average weekends; 1,070 for Fort Point on average weekdays, and 2,240 on average weekends.</p> <p>² The number of existing visitors that become "converted" into AC34 participants as part of the "Total Visitation During AC34 Events" will vary based on the type of visitor profile day and resulting expected crowding conditions, the particular race series and amount of event promotion, the park site and opportunities for other activities, and adjacent programming.</p> <p>³ The indicated visitation figures do not include Alcatraz Island, which serves 4,660 visitors daily under existing conditions, as well as an additional 600 in evening programs during summer months when AC34 race events will be held. While the visitation is not expected to increase due to the capacity limits of the island, the visitor length of stay is expected to increase, requiring increased visitor support services during peak race periods.</p>											

Crissy Field

Under Alternative B, Crissy Field, Areas A and B, would be the site for a range of facilities and services, including a large tent and a variety of smaller temporary structures housing hospitality services, food and beverage concessions, educational installations, a first aid kiosk, portable restrooms and hand washing stations. A large event stage for live entertainment, bleacher-style seating for public viewing of the races on central Crissy Airfield, up to three large video screens to provide spectators with live video feeds and race commentary, and amplification systems would be used. The Crissy Field venue would also include educational exhibits, designed to increase understanding of ocean stewardship, the history and environment of Crissy Field as well as the sport of sailing. Event activities would be limited to the hours of 11:00 a.m. to 6:00 p.m. occasional public evening events (i.e., up to two in 2012 and five in 2013) may be approved under this alternative only.

The Presidio (Area B)

There would be no programmed AC34 spectator events on the Presidio Trust interior lands, but there would be activity on Crissy Field Area A and Area B, including parking, bus turnaround, merchandising, first aid facilities, portable restrooms, and/or temporary storage. Furthermore, Area B would be used for access to the Crissy Field site.

San Francisco Maritime National Historical Park (SAFR)

SAFR would serve as a spectator venue (primary viewing area) for events in both 2012 and 2013, hosting vendors and exhibitions. Video screens in the vicinity of the bleachers are proposed (on land) for race viewing, and six race and exhibition boats would be anchored in Aquatic Park Cove during both years' events. The venue would offer educational exhibits or programs that draw upon different themes, including Healthy Parks, Healthy Oceans and maritime history and culture.

Fort Mason

Fort Mason would serve as a site for media operations in 2012 and 2013 and would provide a temporary international broadcast center and television studios, satellite communications, and hospitality services. Up to 10 satellite dishes, and a floating barge at Pier 2 are proposed.

Alcatraz Island

Alcatraz Island's main cellhouse would serve as a private, after-hours (i.e., 7:00 p.m. to 11:00 p.m.) hospitality venue up to twice in 2012 and five times in 2013. This use would be subject to NPS special use regulations so as not to interfere with regular visitation to the island. Temporary weather monitoring and communication broadcasting equipment (satellite dishes) would be installed on the cellhouse roof. Alcatraz Island may serve as a secondary viewing area location for the races in both years, and some visitors are expected to increase their length of stay for this purpose.

Fort Baker

Fort Baker Pier was proposed to serve as a private, after-hours (i.e., 7:00 p.m. to 11:00 p.m.) hospitality venue in 2012 and 2013 and would be used exclusively for hosting corporate and private functions. Educational programs may also be provided at the park's Bay Area Discovery Museum. Battery Cavallo would be considered for the installation of broadcasting equipment associated with AC34 event communications. Areas around Fort Baker may be excellent viewing spots during the race and function as secondary viewing areas.

Marin Headlands

There would be no programmed AC34 events at the Marin Headlands, but views may be excellent along Conzelman Road and may serve as a secondary viewing site.

Race-Related Infrastructure Work

As noted above, temporary on- and in-water infrastructure work would be undertaken to provide for berthing and mooring race boats, exhibit boats, and large spectator boats (see **Table SUM-2**). On and in-water infrastructure work to create berthing and mooring space and to support AC34 operations would take place at several locations along the waterfront. The work at each location is described in detail in the CCSF AC34 EIR (http://www.oewd.org/Development_Projects-Americas_Cup.aspx) and would include temporary floating docks, hundreds of steel and concrete piles and concrete or helical mooring anchors. After the races, this infrastructure would be removed. In addition, approximately 149,000 cubic yards of sediment would be dredged from near-shore areas of the bay to provide sufficient depth for the race boats as well as larger race-related support boats and spectator boats. Dredged materials would be transported to and disposed of at the San Francisco Deep Ocean Disposal Site. This race-related in-water work was assumed to be common to all action alternatives except the Preferred (Alternative E), which includes very recent changes to the AC34 project, announced in the Spring of 2012 as the NEPA analysis was nearing completion.

ALTERNATIVE C – NO ORGANIZED EVENTS ON NPS LANDS

Under Alternative C, there would be no programming specific to the AC34 events on NPS (or Presidio Trust) lands. The race events schedule, location of the race and race area management would be the same as described for Alternative B. While a few small indoor private events could still occur in certain NPS and Presidio Trust buildings that typically host such events, these would be similar to those that might otherwise occur in the absence of the America's Cup. Despite this change, secondary viewing spots on NPS and Presidio Trust lands would remain excellent locations to watch the races and would attract additional visitors.

TABLE SUM-2: IN-WATER AND WATERFRONT INFRASTRUCTURE PROJECT COMPONENTS

	ALTERNATIVES B, C AND D	ALTERNATIVE E, PREFERRED ALTERNATIVE
Pier 80	<ul style="list-style-type: none"> Up to two cranes, installed along the south side of Pier 80, within the Islais Creek Channel; Floating docks, gangways, and piles installed alongside the pier south apron; and Concrete mooring anchor blocks on bay floor near south side of the pier. 	<ul style="list-style-type: none"> Same as that specified for Alternatives B, C, and D.
Piers 30-32 and Piers 32-36 Open Water Basin	<ul style="list-style-type: none"> Floating docks and gangways installed on north side of Pier 30. Two sections of floating docks and gangways installed alongside the south side of Pier 32 Seismic upgrades at Piers 30-32 Helical mooring anchors placed in the Piers 32-36 Open Water Basin; Up to two cranes located along the south side of Pier 32; and Dredging of Bay sediment. 	<p>Same as specified for Alternatives B, C, and D, except:</p> <ul style="list-style-type: none"> No floating docks, gangways, or piles installed on north side of Pier 30; Floating docks, and piles installed along the south side of Pier 32 slightly reduced; and No seismic upgrades at Piers 30-32; and Amount of dredging substantially reduced.
Piers 27-29	<ul style="list-style-type: none"> One crane, located on the northwest corner of Piers 27-29; Floating docks, gangways, and piles on north side of Pier 29 and south side of Pier 27; and Helical and concrete block mooring anchors on Bay floor. 	<p>Same as specified for Alternatives B, C, and D, except:</p> <ul style="list-style-type: none"> One mobile crane, located on the southeast corner of Piers 27-29; Number of piles and gangways increased; Number of mooring anchors reduced.
Piers 26 and 28	<ul style="list-style-type: none"> Dredging with the Pier 28 south berth. 	<ul style="list-style-type: none"> No dredging within the Pier 28 South berth.
Pier 19, Pier 19½, and Pier 23	<ul style="list-style-type: none"> Floating docks and gangways installed on the north side of Pier 23; Floating docks, gangways, and piles installed on the north side of Pier 19; and Concrete mooring anchor blocks on Bay floor. 	<p>Same as that specified for Alternatives B, C, and D, except no floating docks, gangways, or piles installed at Pier 19 (moved to pier 23).</p>
Pier 14	<ul style="list-style-type: none"> Helical mooring anchors on Bay floor; Floating docks and gangways installed on the north and south sides of Pier 14; and Dredging of Bay sediment. 	<p>Same as that specified for Alternatives B, C, and D, except:</p> <ul style="list-style-type: none"> No floating docks, gangways, or piles installed on south side of Pier 14; Length of floating docks reduced; Number of piles increased; Number of mooring anchors reduced; and Amount of dredging substantially reduced.
Pier 9	<ul style="list-style-type: none"> Floating docks, gangways and piles on south side of Pier 9; Helical mooring anchors on Bay floor; and Dredging of Bay sediment in two areas south of Pier 9. 	<p>Same as that specified for Alternatives B, C, and D.</p>
Marina Green	<ul style="list-style-type: none"> Floating docks, gangway, and piles installed adjacent to Marina Green; A mobile or tower crane located on the land adjacent to the floating docks; Concrete mooring anchor blocks on the Bay floor; and All floating docks and gangways at Marina Green removed after the 2012 events. 	<p>Same as that specified for Alternatives B, C, and D, except:</p> <ul style="list-style-type: none"> No mobile or tower crane located adjacent to floating docks; Number of concrete mooring anchor blocks increased.

Visitation Estimates

Because NPS lands would offer only basic visitor services such as additional restrooms and hand washing stations rather than scheduled venues in Alternative C, the estimated number of spectators in 2012 would likely drop substantially from those predicted for Alternative B. Instead of the estimated 55,000 visitors on all NPS lands and 17,000 at Crissy Field West, analysts estimate that a total of about 39,000 on all NPS lands and 5,500 at Crissy Field West would visit during the races. Without a stage and screens to attract them, spectators would spread out over all of Crissy Field, and approximately 9,000 are expected at Crissy Field East and another approximately 3,000 at the Crissy Picnic Area in this alternative. This is true of peak weekdays as well, where of a total estimate of about 20,000 visitors, approximately 2,000 on Crissy West, 1500 at the picnic area and 9,000 on Crissy Field East would be present (see Table SUM-1). About 11,000 visitors would visit SAFR on peak weekend days and 7,000 on peak weekdays. The number of spectators in boats would not change from Alternative B.

Average visitation on peak weekend race days in 2013 would also be more spread out and lower than in Alternative B. As Table SUM-1 shows, a total of about 53,000 visitors are expected on peak weekends in 2013, 37,000 on medium high weekends and 34,000 on average weekends are predicted to visit NPS lands. The average on a peak weekday would fall from about 25,000 in Alternative B to around 20,000 in Alternative C. Instead of a concentrated crowd of more than 50,000 at Crissy West in Alternative B and 70,000 at all Crissy sites, crowds in Alternative C would be lower (29,000 at all Crissy sites) and spread more evenly between Crissy Field East (about 14,000), West (about 11,000) and the picnic area (about 4000). Visitors to SAFR would number around 13,000 on a peak weekend day in 2013, close to that predicted for very high weekend days in 2012 and medium high weekend days in 2013. This is largely because SAFR has a compact land area which may reach capacity fairly quickly on most AC34 weekend race days.

Spectator Venues and Secondary Viewing Areas

The locations and types of events at spectator venues (primary viewing areas) under Alternative C are described below. As noted previously, Alternative C assumes no organized AC34 spectator events on NPS lands during the 2012 or 2013 race periods. A few small indoor private events, or limited one-off special events, could still occur in certain NPS and Presidio Trust buildings, or spaces, that typically host such events.

At Crissy Field, rather than the large-scale educational programming described in Alternative B, the NPS would instead emphasize maritime-themed educational programs within existing park and partner interpretive programs. First aid kiosks and Advanced Life Support responders, portable restrooms, and hand washing stations would be provided at Crissy Field and at SAFR only on peak and medium-high race weekends.

Presidio Trust lands and facilities in Crissy Field Area B could be used for access to Crissy Field programs, parking, bus turnaround, portable restrooms, and other event support activities.

No AC34 outdoor exhibitions, boat displays in Aquatic Park Cove, video screens near the bleachers or other AC34 programming would take place at SAFR, although AC34-related interpretive materials may

be displayed in partnership with other maritime museums. The Maritime Museum would be available for private event-related activities under a separate special events permit. As they would at Crissy Field, first aid kiosks and Advanced Life Support responders, portable restrooms, and hand-washing stations would be provided only on peak and medium-high race weekends. Viewing opportunities would continue at Fort Mason, Fort Baker, Alcatraz Island and in the Marin Headlands but no services or events would be provided. Incident command services to protect visitor safety and resources, along with fencing, and resource monitors, would be provided as needed on park lands.

ALTERNATIVE D – MODIFIED PROGRAM

Race Events Schedule

The race schedule and race area management activities would be the same as that described for Alternative B. Although the race area location would be the same for 2013, it would be shifted east in 2012 by about 0.25 mile to minimize spectator impacts on Crissy Field.

Visitation Estimates

Visitor estimates for Alternative D are similar to those in Alternative C, except that total numbers at Crissy would be higher and distribution would reflect the venue planned at Crissy West on weekends. Additional visitation at SAFR compared to Alternative C is related to the shifting of the race area slightly to the east which means it would be substantially more visible offshore of Aquatic Cove and the SAFR bleachers. Visitation during peak weekends in 2012 at SAFR are estimated at about 14,000 compared to 11,000 in Alternative C and 14,000 compared to 13,000 in 2013 for Alternative C in 2013. At Crissy Field West, visitor numbers in 2013 on a peak weekend are predicted to be about 19,000 compared to 11,000 in Alternative C. Table SUM-1 has additional estimates for other locations and days.

Spectator Venues and Secondary Viewing Areas

Race schedule and race area management would be the same as for other alternatives. The race location would be shifted 0.25 miles east and end east of Muni Pier and Aquatic Cove at approximately Pier 41. A reduced level of programming at NPS lands would be offered during both 2012 and 2013 and would take place only on peak and medium-high race weekends.

Under Alternative D, limited programmed AC34 events at Crissy Field, including a large tent, smaller booths for food and beverage concessions, portable restrooms, hand washing stations, and smaller bleachers on peak and medium-high race weekends. No sponsor displays or private tents would be built on NPS lands; AC34 merchandising could be integrated into park partner retail in existing buildings or in Presidio Trust buildings at Crissy Field. No event stage, video screen or amplification would be available, but Wi-Fi kiosks to transmit race-related feeds to individual mobile devices would be available.

Presidio Trust lands would be used for access to Crissy Field events, and potentially for parking, bus turnaround, merchandising, portable restrooms, and/or temporary storage on peak and medium-high weekends.

Under Alternative D, there would be limited programmed events at SAFR, but the park would host maritime-themed exhibits and educational programs. A first aid kiosk, portable restrooms, and hand washing stations would also be provided only on peak and medium-high weekends.

Similar to Alternative B, Fort Mason would serve as a site for media operations for 2012 and 2013, and would include a floating barge for media boats. Instead of 10 satellite dishes installed on the pier apron of Pier 3, Alternative D would leave the Pier 3 apron open for public access. Portable restrooms and hand washing stations would only be provided on peak and medium-high weekends.

Organized event-related activities at Alcatraz Island in 2012 and 2013 would be the same as those described for Alternative B, after hours on a limited basis.

There would be no programmed AC34 events at Fort Baker or in the Marin Headlands.

Race-Related Water-Based Work

Water-based infrastructure work would be the same as that described for Alternative B.

ALTERNATIVE E – PREFERRED ALTERNATIVE

Alternative E was developed through the federal team's participation in a Choosing by Advantage (CBA) process, used specifically by the NPS, and includes elements taken from other action alternatives. It also incorporates project sponsor-proposed revisions as of April 2012.

Alternative E is similar to that of Alternative C in that it would involve no public AC34 programmed activities at Crissy Field, Presidio Trust lands, Fort Mason, Alcatraz Island, Fort Baker, or the Marin Headlands. At SAFR, the Preferred Alternative most closely resembles elements of Alternative B as it includes the opportunity for some limited AC34-programmed activities at SAFR on weekends, but without food and beverage concessions. Protection measures developed for Alcatraz Island nesting seabirds, including a 2,000-foot vertical and 1,000-foot horizontal buffer for helicopters, most closely resemble those for Alternative D. The types, locations, and dates of Alternative E 2012 race events are also slightly different from those of the alternatives described previously, while those of 2013 remain unchanged.

Race Events Schedule

2012 Race Schedule

As with all other alternatives, two America's Cup World Series (ACWS) events would occur in 2012. However, whereas the original 2012 schedule called for six days of racing between August 11 and 19

for the first series, the modified schedule shows four race days during August 23-26. The ACRM has also added a new AC72 exhibition in 2012 for four race days from September 30 to October 3³. The second series was originally scheduled for six days between August 27 and September 2, but has been changed to four days and to coincide with Fleet Week, which occurs from October 4-7.

There would be up to four races on race days, with fleet racing held on Sundays and finals held on Saturdays. It is expected that each individual 2012 race would be completed within 40 to 45 minutes and would occur no earlier than 12:00 p.m. and no later than 5:00 p.m.

2013 Race Schedule

The race schedule for AC34 events in 2013 would be the same as that described for Alternative B.⁴

Race Area Location

Under Alternative E, AC34 race events would occur in Central San Francisco Bay in 2012 and 2013. There would be two primary AC34 2012 race areas. The first, which would be established for the August ACWS event, would be shifted east from its Alternative B counterpart by approximately 0.5 mile, to minimize spectator impacts on Crissy Field and focus visitors toward facilities and amenities at the AC34 Village at Marina Green. The second race area, which would be established for the September/October AC72 exhibition races, would be similar to the Alternative B 2013 race area. The third race area, which would host the October ACWS races, would be established within the existing Fleet Week Safety Zone, located approximately 1.0 mile east of the Alternative B race area. The 2013 primary race area, and the contingency race area for both years, would be the same as those described for Alternative B.

Race Area Management

The 2012 and 2013 race areas would be managed in a manner similar to those for Alternative B. The race area and associated on-water activities would be patrolled by the USCG, in cooperation with local law enforcement. As with Alternative B, ACRM would assume primary responsibility for race area management, ensuring the safety of the race boats and support boats participating in the event. The USCG would publish a Special Local Regulation (SLR) that sets forth specific rules for on-water AC34 activities, and would establish safety zones around the race boats. As described previously, the SLR

³ In June 2012, the project sponsors cancelled their proposed plan to add an AC72 exhibition series between September 30 and October 3, 2012. The analysis of Alternative E does not reflect this most recent change by the sponsor. However, it is clear to the federal team that deletion of this exhibition even would only serve to reduce impacts discussed in the EA.

⁴ In June 2012, the project sponsors proposed two changes to the 2013 race calendar. The first change was adjustment of the Louis Vuitton Cup (LVC) race calendar to reflect an anticipated smaller number of contenders and fewer scheduled races per event day during the series. The proposed change may increase the number of LVC race days from 35 to 38. The second change was the inclusion of a 4-day AC45 Youth America's Cup race series between September 1 and 4, 2013. The analysis of Alternative E does not reflect these most recent changes by the sponsor; however, the USCG has determined that the proposed changes will allow shifting the entire 2013 race period one hour earlier to 11:00 a.m. to 4:00 p.m. each race day. This time change is expected to further reduce impacts discussed in the EA.

would specify areas within which race courses could be established and impose restrictions on vessel traffic and other uses of the Bay (i.e., anchorages and traffic lane requirements) during race events. Under this alternative, NPS would create a regulation to restrict vessel activity within 500 feet of Alcatraz Island during race periods to avoid nesting bird disturbance.

Visitation Estimates

Under Alternative E, a considerable decrease in visitation for areas where venues are planned in Alternative B is expected, although SAFR would continue to be crowded in 2012 under this alternative. This is true for several reasons: it could still host AC34 exhibits and venues (with a connection to maritime history), the race area shifts 0.5 mile east in 2012 in this alternative, placing it directly offshore of SAFR, and one 4-day AC34 World Series regatta would overlap with Fleet Week, which always draws heavy crowds to SAFR.

Table SUM-1 shows that visitation estimates in Alternative E would be lower or substantially lower in 2012 than those projected for Alternative B and substantially lower for most park sites in 2013 than for Alternative B. Overall, estimates for both years are most similar to, but slightly higher than Alternative C.

Visitation at SAFR in 2012 could exceed 13,000 on peak weekends and would be similar to Alternative B for 2013 visitation (that is, 16,000 on peak weekends). Visitation at Crissy West would be substantially lower for both years than for Alternative B (5000 on peak weekends in 2012 during the AC72 exhibition compared to 17,000 in Alternative B; 11,000 on peak weekends in 2013 compared to 51,000 in Alternative B). Crissy East would have more visitation in Alternative E in 2013 than would Alternative B; this is due to a better viewing area along the coasts when bleachers are unavailable at Crissy West as they would be in Alternative B

In 2012, visitation would reach a maximum of about 37,000 people on a peak weekend during the August ACWS event. In 2013, total park visitation would reach nearly 20,000 on peak weekdays and is estimated to top 55,000 on peak weekends. These figures represent a substantial decrease from the Alternative B estimates of 25,000 and 95,000 visitors per average peak race weekday and peak race weekend, respectively.

Spectator Venues and Secondary Viewing Areas

The locations and types of events at spectator venues (primary viewing areas) under Alternative E are described below. Alternative E assumes no public AC34 programmed events on GGNRA or Presidio Trust lands during the 2012 or 2013 race periods. SAFR would be available for limited event programming, and a few small, indoor, private after-hours events. One-off evening events, could still occur within NPS buildings, or areas that typically host such activities. First aid and emergency response teams, portable restrooms, and hand washing stations would be provided at a minimum on peak and medium-high race weekends at primary NPS viewing locations in San Francisco (i.e., Crissy Field, Fort Mason, and SAFR). Added restrooms and hand washing stations would also be provided at

SUMMARY

Fort Baker on peak weekends, along with additional emergency response capability at the Marin Headlands.

There would be no programmed AC34 events at Crissy Field in 2012 or 2013. Rather than the large-scale educational programming described in Alternative B, the NPS would instead emphasize maritime-themed educational programs within existing park and partner interpretive programs. Similarly, there would be no programmed AC34 events on Presidio Trust lands, although a small portion of Presidio Trust lands could be used for parking, bus turnaround, and portable restrooms.

Under Alternative E, programmed events at SAFR would be limited to race weekends. During events in 2012 and 2013, the park could host exhibitions and various maritime-themed educational programs. The project sponsors may also elect to anchor up to six display boats within Aquatic Cove. In addition, small land-side video screens and an announcement system, and/or Wi-Fi kiosks, could be set up by the project sponsors to help spectators better follow the race events.

Under Alternative E, there would be no programmed AC34 events at Fort Mason. However, as with other parklands under this alternative, race spectators would still be expected to visit the park as a secondary viewing area in 2012 and 2013.

Organized event-related activities at Alcatraz Island in 2012 and 2013 could be similar to those described for Alternative B. The main cellhouse could serve as a private after-hours (i.e., 7:00 p.m. to 11:00 p.m.) hospitality venue up to two times in 2012 and five times in 2013. Weather monitoring and communication broadcasting equipment (satellite dishes) similar to those described for Alternative B could be installed within the grounds for signal transmission during 2012 and 2013 and would be subject to terms and conditions of the special use permit issued by the NPS. As in other alternatives, visitors may nonetheless remain on the island longer than they might otherwise during non-race periods.

Under Alternative E, there would be no programmed AC34 events at Fort Baker or in the Marin Headlands.

Race-Related Infrastructure Work

Differences in AC34 race-related, infrastructure work for Alternative E are shown in Table SUM-2 above.

FEDERAL TEAM PREFERRED ALTERNATIVE SELECTION PROCESS

The federal team used the results of impact analysis, the degree to which alternatives met objectives, and a systematic weighing process called Choosing By Advantages (CBA) to compare options and to help create a preferred alternative. Alternatives C and D were found to have elements that met objectives or protected resources the best; therefore, combination of these two alternatives were drawn upon to create Alternative E, the Preferred Alternative. This option included moving the 2012 race area to the east as in Alternative D (although it was moved even further east, or 0.5 mile, in

Alternative E) to help ease spectator crowding at Crissy Field, home to sensitive biological resources in the marsh, dunes and WPA. It also includes a 2,000 foot height restriction for AC34 helicopters over Alcatraz Island to help minimize disturbance to nesting seabirds. Like Alternative C, no programming on any GGNRA lands would occur, a measure that would reduce crowds substantially. Venues would be allowed on a limited basis at SAFR, which is a park unit devoted to maritime history and composed largely of hardened surfaces to withstand heavy visitor use.

Environmentally Preferable Alternatives

Guidance on the environmentally preferable alternative indicates it is both the one that minimizes impacts and the one that balances use and resource protection. Although the No Action Alternative offers the strongest resource protection, Alternative E was also identified as the action alternative that best balances use without degradation of resources.

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Air Quality Management Actions and Protection Measures			
AIR-1	Alternatives B, C, D, E	Emissions Reduction Measures. The CCSF would require certain construction equipment emission controls, best management practices and engine standards, alternative low-emissions fuels for boats and generators (Tier-4 EPA standards), and shoreside power (temporary at Pier 27 and long-term for Pier 70).	Project Sponsors
AIR-1a, AIR-1b	Alternatives B, C, D, E	Construction Vehicle Emissions Minimization. The project sponsors would minimize idling time of construction equipment, keep equipment tuned and maintained, and use specified types of newer trucks. Off-road construction vehicles would be required to have engines that meet specific Tier 2 or Tier 3 emissions standards and CARB Level 3 particulate control technology for diesel engines.	Project Sponsors
AIR-1c	Alternatives B, C, D, E	Off-road Construction Equipment – Electricity Use. Hydropower electricity supplied by a public utility would be used where available at pier construction sites.	Project Sponsors
AIR-1d	Alternatives B, C, D, E	Off-road Construction Equipment – Best Management Practices (BMPs). Standard best management practices, such as high pressure fuel injectors, onsite services for personnel to minimize traffic, and other measures, would be used.	Project Sponsors
AIR-1e, AIR-1g	Alternatives B, C, D, E	Off-road Construction Equipment. Tier 3 or cleaner engines would be required for harbor craft used in construction; Tier 3 or 4 for would be required for race-sponsored spectator and support boats.	Project Sponsors
AIR-1f, AIR-1i	Alternatives B, C, D, E	Fuels for Off-road Construction Equipment. Race-related boats and large private spectator boats would use B20 biodiesel or similar emissions-reducing fuels.	Project Sponsors
AIR-1h	Alternatives B, C, D, E	Temporary Shoreside Power for Large Private Yachts at Pier 27. Hydropower, if available at rates and service levels equivalent to a private utility, would be used for large private boats at Pier 27.	Project Sponsors
AIR-1j	Alternatives B, C, D, E	Pier 27 Long-term Shoreside Power. Phase 2 construction of the James R. Herman Cruise Terminal would be completed and shoreside power at Pier 27 would be reconnected not later than April 1, 2014, if feasible, to return shoreside power to the Port within one month of the completion of the AC34 Match.	Project Sponsors
AIR-1k	Alternatives B, C, D, E	Long-term Shoreside Power at Pier 70. Shoreside power would be developed by constructing 12 megawatts of shoreside power at the Port's Drydock #2 at Pier 70.	CCSF
AIR-1l	Alternatives B, C, D, E	Clean Diesel Engines for Temporary Power. The project sponsors would ensure that all diesel generators at the AC34 event and viewing locations would conform to a level of performance equivalent to a Tier 4 interim, or Tier 2/Tier 3 (as applicable, depending on power rating) engine fitted with a Level 3 Verified Diesel Emissions Control (VDEC), which would reduce diesel particulate emissions by at least 85%.	Project sponsors

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Biological Resources Management Actions and Protection Measures			
BIO-1, CULT-1, VUE-1	Alternatives B, C, D, E	<p>Incident Command System. An Incident Command System (ICS), required by NPS Management Policies for large-scale events, would be employed by the NPS and the Presidio Trust, in coordination with other agencies, for the AC34 race series programs to augment ongoing operations through provision of staff and infrastructure support. The system would be organized into five divisions, span eight distinct NPS areas and the Presidio Trust-managed lands, and integrate the Presidio Trust, GGNRA, and SAFR command, planning, logistics, administration, transportation coordination, and field support functions, including resource management and monitoring, visitor use management and monitoring, law enforcement, safety, facilities and grounds maintenance, communications, parking management, and event and permit management.</p> <p>The SFPD would provide additional commissioned officers who would be deputized to work with the NPS and Presidio Trust park areas during AC34 race days.</p>	Project sponsors (for funding)/NPS and Presidio Trust (for implementation in coordination with other agencies)
BIO-2, CULT-2, TRA-9, VUE-2	Alternatives B, C, D, E	<p>Visitor Use Management and Monitoring Strategies. Visitor use management and monitoring strategies would be developed for all NPS AC34 primary venues and viewing areas affecting NPS and Trust lands and facilities, with identification of pre-determined points where a ladder of escalating, pre-planned management actions could be implemented to mitigate adverse impacts of crowding. These would include staffing plans and the use of barriers, barricades, fencing, and other visitor flow management equipment.</p>	Project sponsors (for funding and implementation in coordination with NPS and Presidio Trust)
BIO-3, VUE-3	Alternatives B, C, D, E	<p>Resource Management and Monitoring Program. The NPS would implement a Resource Management and Monitoring Program to stop any activity that has the potential to damage sensitive resources before it happens and to provide for short-term and adaptive management. The program would consist of trained resource monitors to inform visitors of the reasons for restrictions and by observation and reporting of violations of the established fencing and signage protection measures.</p>	Project sponsors (for funding)/NPS (for implementation)
BIO-4, CULT-4, VUE-4	Alternatives B, C, D, E	<p>National Parks Events and Operations Plan. A National Parks Events and Operations Plan would be prepared to identify common and unique event-related management and conservation measures and serve as a site-specific reference for operational measures to be implemented.</p>	Project sponsors (for funding)/NPS, Presidio Trust, and CCSF (for implementation)
BIO-5, GEO-1	Alternatives B, C, D, E	<p>Fencing and Signage of Sensitive Resource Areas. The project sponsors would provide for the installation of signage and fencing, as necessary, to protect land-based natural and cultural resources.</p>	Project sponsors (for funding)/NPS and Presidio Trust (for implementation)

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Biological Resources Management Actions and Protection Measures (cont.)			
BIO-6	Alternatives B, C, D, E	<p>Protection of Marine Species from Vessel Traffic. USCG would arrange for volunteer Course Marshals on small boats to survey the course prior to and during races and would be tasked with scanning for debris, obstructions, and the potential rare occurrence of a whale or other large marine mammal.</p> <p>The project sponsors would upgrade 10 mooring anchors presently located within sensitive eelgrass areas with less invasive anchoring systems. In addition, anchoring within Horseshoe Bay would be limited to permitted vessels only.</p>	CCSF, in coordination with NPS and USCG
BIO-7	Alternatives B, C, D, E	<p>Protection of Marine Species From Aircraft. AC34 and event-related aircraft pilots would maintain a minimum altitude of 1,000 feet above the water's surface when humpback whales are present within the race area and avoid flying low over seal and sea lion haul-out areas.</p>	Project sponsors, in conjunction with USCG and NPS
BIO-8	Alternatives B, C, D, E	<p>Temporary Area Restrictions on NPS Lands for Sensitive Species Protection. To protect sensitive habitat areas on GGNRA lands, such as Mission blue butterfly habitat and sensitive shoreline areas, NPS may restrict temporarily various trail, area, or roads during race events.</p>	NPS
BIO-9	Alternatives B, C, D, E	<p>Special Local Regulation (SLR): Marine Buffer Around Crissy Field Wildlife Protection Area. A no-marine access zone of 300 feet offshore of the Crissy Field Wildlife Protection Area (WPA) to protect snowy plovers would continue to be enforced.</p>	NPS in cooperation with USCG
BIO-10, NAV-4	Alternative B	<p>Marine Buffer Around Alcatraz Island (Alternative B). During the 2012 and 2013 AC34 race periods, the NPS would establish a 300-foot buffer around Alcatraz Island, within which vessel traffic would be restricted in order to protect nesting seabirds along the western cliffs of the island. Nesting birds on Alcatraz Island would be monitored by NPS biologists during the 2012 and 2013 race events. Should nesting birds show signs of distress as a result of passing race boats, adaptive management measures – which could include expanding the buffer area an additional 200 feet – would be employed.</p>	NPS in cooperation with USCG
	Alternatives C, D, E	<p>Marine Buffer Around Alcatraz Island (Alternatives C, D, E). During the 2012 and 2013 AC34 race periods, the NPS would establish a 500-foot buffer around Alcatraz Island, within which marine vessel traffic would be restricted in order to protect nesting seabirds along the western cliffs of the island. NPS law enforcement staff and the NPS ICS would enforce these marine buffers, with assistance from USCG or ACRM.</p>	
BIO-11, NOI-4	Alternative B	<p>Aircraft Buffers (Alternative B). During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of Alcatraz Island and the Crissy Field Wildlife Protection Area (WPA).</p>	Project sponsors in coordination with USCG and NPS

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Biological Resources Management Actions and Protection Measures (cont.)			
BIO-11, NOI-4 (cont.)	Alternative C	Aircraft Buffers (Alternative C). During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all NPS lands.	
	Alternative D	Aircraft Buffers (Alternative D). During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 2,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all NPS lands.	
	Alternative E	Aircraft Buffers (Alternative E). During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all NPS lands with the exception of Alcatraz Island, over which the aircraft buffer would extend to 1,000 feet horizontal and 2,000 feet vertical to protect nesting shorebirds.	
BIO-12, VUE-8	Alternatives B, D, E	After-hours Activities at Alcatraz Island (Alternatives B, D, E). Private events at Alcatraz Island would be limited to the hours of 7:00 p.m. and 11:00 p.m. and could occur twice in 2012 and five times in 2013. No outside lighting would be added for these events, and they would be limited to a maximum of 250 persons.	NPS
	Alternative C	After-hours Activities at Alcatraz Island (Alternative C). There would be no private AC34 events at Alcatraz Island under Alternative C.	N/A
BIO-13	Alternatives B, C, D, E	Dredging Activity Window. Dredging associated with the AC34 events would be limited to the period of June 1 through November 30 to minimize impacts on steelhead, Chinook, and Pacific herring spawning; otherwise, a "take" permit under the Endangered Species Act would be required.	Project sponsors
BIO-14	Alternatives B, C, D, E	Dredging Methods, Materials Handling, and Disposal Measures. During dredging activities, the project sponsors would observe several restrictions to minimize increases in turbidity and to appropriately dispose of dredge material.	Project sponsors
BIO-15, NOI-1	Alternatives B, C, D, E	Pile-driving Noise Reduction Strategy. A National Marine Fisheries Service (NMFS)-approved strategy to attenuate underwater noise from pile driving would be required.	Project sponsors
BIO-16	Alternatives B, C, D, E	Protection of Marine Species During Pile Driving. A National Oceanic and Atmospheric Administration (NOAA)-approved biological monitor survey would be conducted before and during pile driving to ensure marine mammals are not present in the area and to keep sound levels below 90 decibels (dBA) in air when pinnipeds (seals and sea lions) are present.	Project sponsors

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Biological Resources Management Actions and Protection Measures (cont.)			
BIO-17	Alternatives B, C, D, E	Best Management Practices for Water-based Construction. Several required best management practices would be required to minimize turbidity, leaks, or spills from equipment and debris in the Bay.	Project sponsors
BIO-18	Alternatives B, C, D, E	Invasive Species Control. Construction personnel would be trained on safe removal and disposal of any invasive marine species observed on removed structures, and biological monitors would be retained to identify and advise on proper handling of these species.	Project sponsors
BIO-19, NOI-5	Alternatives B, C, D, E	Restrictions on Fireworks Displays. AC34 event-related fireworks (2013 only; none in 2012) would be launched from a location distant from Alcatraz Island and Crissy Field to avoid potential impacts on sensitive bird species.	Project sponsors
BIO-20	Alternatives B, C, D, E	Restrictions on Night Lighting. The project sponsors would ensure that all lights that are to be left on during the evening hours would be fully shielded and downward cast to contain and direct light away from habitat, the sky, and Bay waters. No additional outside lights would be allowed.	Project sponsors
Cultural Resources Management and Protection Measures			
CUL-3	Alternatives B, C, D, E	Resource Management and Monitoring Program. The NPS would implement a Resource Management and Monitoring Program, established through the completion of the Section 106 Report (Cultural Resource Condition Assessment Report).	Project sponsors (for funding)/NPS (for implementation)
CUL-5	Alternatives B, C, D, E	Fencing and Signage of Sensitive Cultural Resources Areas. The project sponsors would provide for the installation of signage and fencing, as necessary, to protect cultural resources. All sensitive cultural resources in the primary and secondary viewing areas, except for historic ships, would be fenced, signed, and protected by resource monitors backed up by law enforcement personnel as part of an Incident Command System (ICS).	Project sponsors (for funding)/NPS and Presidio Trust (for implementation)
CUL-6	Alternatives B, C, D, E	Historic Pier Access Restrictions. Municipal Pier would be closed on race days. Access to the Hyde Street Pier would be managed during races to ensure that visitation would not exceed capacity	Project sponsors (for funding)/NPS Incident Command System (ICS) (for implementation)
CUL-7	Alternative B	Capacity Limitations at Fort Baker Pier (Alternative B). The number of visitors permitted to attend private events at Fort Baker Pier would be limited by the pier's load capacity.	NPS
	Alternatives C, D, E	Capacity Limitations at Fort Baker Pier (Alternatives C, D, E). There would be no programmed private events at Fort Baker Pier under Alternatives C, D, or E. Any one-time private use would be subject to a separate special event permit.	N/A

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Cultural Resources Management and Protection Measures (cont.)			
CUL-8	Alternatives B, C, D, E	Pre- and Post-event Conditions Assessment and Repair. Prior to the 2012 AC34 events, NPS-approved qualified cultural resources personnel would assess the existing condition of fragile historic resources. Following both the 2012 and 2013 AC34 events, the project sponsors and NPS would ensure that qualified cultural resources personnel reassess the condition of historic resources identified above. The project sponsors would be responsible for restoring to the pre-event condition any resources that are damaged as a result of the AC34 event.	Project sponsors (for funding)/NPS and Presidio Trust (for identifying sensitive resources to be inventoried)
CUL-9	Alternatives B, C, D, E	Continued Section 106 Review of Planned Activities. Any plans that call for the attachment (and later, the removal), anchoring, or bracing of temporary structural elements to existing historic buildings, structures, or objects on parklands would be reviewed by a qualified historical architect for compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.	Project sponsors (for preparing plans/NPS (for ensuring compliance and restoration)
CUL-10, VIS-1	Alternatives B, D, E	Temporary Weather Monitoring and Satellite Installations Restrictions (<i>Alternatives B, D, E</i>). Any AC34 event-related weather monitoring and satellite equipment installed on NPS lands would be temporary, not interfere with existing operations, and be located as far from the water's edge as possible.	Project sponsors with oversight by an NPS resource monitor
	Alternative C	Temporary Weather Monitoring and Satellite Installations Restrictions (<i>Alternative C</i>). There would be no weather monitoring or satellite equipment installed on NPS lands under Alternative C.	N/A
Hydrologic Resource Management Actions and Protection Measures			
HYD-1	Alternatives B, C, D, E	Spill Prevention Control and Response. The project sponsors would prepare a Spill Prevention Control and Countermeasure (SPCC) Plan to address the emergency cleanup of any hazardous material, and the SPCC would be available onsite during all construction activities.	Project sponsors
HYD-2	Alternatives B, C, D, E	Materials Management and Disposal Plan. The project sponsors would prepare a Materials Management Disposal Plan (MMDP) to prevent any debris from falling into the Bay during construction to the maximum extent practicable. The measures identified in the MMDP would be based on the Best Available Technology.	Project sponsors
HYD-3	Alternatives B, C, D, E	Bay Sediment Sampling and Analysis Plan. The Sampling and Analysis Plan was prepared in accordance with U.S. EPA and Corps guidance and approved by the Dredged Materials Management Office (DMMO); sampling has been approved and the proposed disposal site is the San Francisco Deep Ocean Disposal Site.	Project sponsors

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Hydrologic Resource Management Actions and Protection Measures (cont.)			
HYD-4	Alternatives B, C, D, E	Educational Materials for the Maritime Public. The project sponsors would develop and distribute to the maritime community educational materials on the proper and legal waste handling procedures in the Bay and identify facilities for onshore waste disposal during the AC34 activities, as well as on invasive species and pollution control best management practices.	Project sponsors
HYD-5	Alternatives B, C, D, E	Water Quality Sampling. Water sampling would be done on a sample of race days in 2013 at beaches adjacent to the primary race areas, including Aquatic Park Cove and Crissy Field.	USCG/NPS/Project sponsors
Maritime Navigation and Safety Management Actions and Protection Measures			
NAV-1	Alternatives B, C, D, E	SLR: Non-motorized Recreational Use Zone. In 2012 and 2013, the USCG would establish a designated marine zone along Crissy Field for recreational water users and small non-motorized vessels, which would be closed during race periods to motorized vessels and other vessels greater than 20 feet in length. The zone would extend from approximately 450 to 1,000 feet from the shore along Crissy Field. A no-marine access zone of 300 feet offshore of the Crissy Field WPA to protect snowy plovers would continue to be enforced.	USCG/NPS/Project sponsors
NAV-2	Alternatives B, C, D, E	SLR: San Francisco Waterfront Transit Zone. In 2013, the USCG would establish a transit zone, along the San Francisco waterfront to facilitate the safe transit of vessels requiring access to pier space and facilities, and to minimize other traffic that may obstruct the waterfront.	USCG/Project sponsors
NAV-3	Alternatives B, C, D, E	Maintenance of Maritime Commercial Activity. The USCG Captain of the Port (COTP) would coordinate with commercial entities and ACRM to minimize the impact of scheduled races on the smooth flow of maritime commerce by delaying scheduled races, rerouting traffic around the race area, adjusting shipping schedules, providing commercial vessels access through the race area, or other measures as needed.	USCG/Project sponsors
NAV-5, VUE-6	Alternatives B, C, D, E	Controlled Vessel Access to Aquatic Park Cove. During race periods in 2012 and 2013, Aquatic Park Cove would be restricted by permit for and/or closed to visiting vessels, and all other unauthorized vessel traffic.	NPS in cooperation with USCG
Noise and Soundscape Management Actions and Protection Measures			
NOI-2	Alternatives B, C, D, E	Noise Controls for Entertainment Venues. Noise control strategies would be implemented for operations and activities proposed for the AC34 activity venues, to reduce the severity of potential noise impacts from public address and/or amplified sound.	Project sponsors
NOI-3	Alternatives B, C, D, E	Stationary Sources of Noise. The AC34 project sponsors would use utility electricity, if available, in lieu of generators, at all venue sites. If electricity requirements exceed available power, the project sponsors would use the quietest generators available.	Project sponsors

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Transportation Management Actions and Protection Measures			
TRA-1	Alternatives B,C,D, E	People Plan for National Parks Area. A plan for the Presidio Trust and NPS lands would be developed that identifies transit service and vehicle, pedestrian, and bicycle management strategies for access to and from the Presidio Trust and NPS lands.	CCSF and project sponsors
TRA-2	Alternatives B, C, D, E	AC34 People Plan Specific Provisions. Specific provisions would be developed to facilitate access by all modes to and from the AC34 event venues while maintaining acceptable conditions for residents, commuters, businesses, and visitors.	CCSF
TRA-2a	Alternatives B, C, D, E	Traffic Monitoring and Management Program. A Traffic Monitoring and Management Program would be developed and implemented to identify preferred spectator routes, bus and bicycle priority streets, new bus lanes and extension of existing bus-only lanes, onstreet parking restrictions and traffic control officer deployment, coordination with other events, roadway closures, restricted access streets, diversion plans, event signage, and media announcements of roadway closures and detours.	CCSF
TRA-2b	Alternatives B, C, D, E	Transit Operating Procedures. The City would increase frequency of existing shuttles and relevant bus routes, add streetcar routes, augmenting BART and Caltrain service, add bus and shuttle routes on weekends, and supplement ferry service on peak weekends.	CCSF
TRA-2c	Alternatives B, C, D, E	Satellite Parking Facility Program. The City would arrange for the provision of satellite parking facilities and frequent transit or shuttle service between the satellite parking facilities and the various venues.	CCSF
TRA-2d, TRA-3, VUE-17	Alternatives B, C, D, E	Public Information Program. The City would coordinate public information about access for different modes, maps, signs, web-based information, media and press updates, and a marketing campaign, to encourage transit and bicycle use. It would also create information kiosks and a web-based special event program, possibly using cell phones.	CCSF
TRA-4	Alternatives B, C, D, E	Presidio and Other NPS Sites Roadway Management Strategies. Roadway management strategies would include establishment of pre-determined attendance, visitor, or vehicle trigger points for the various profile days for 2012 and 2013, and would inform how and under what conditions roads would be restricted.	NPS and Presidio Trust, in coordination with CCSF and other agencies
TRA-5	Alternatives B, C, D, E	Traffic Control Officers at Intersections. Traffic control officers at intersections would facilitate bicycle and pedestrian flows, to reduce overall delays at key intersections. Traffic control officers, SFPD officers, or NPS Park Police, as appropriate, would be deployed during peak and other congested race periods.	NPS and Presidio Trust, in coordination with CCSF and other agencies

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Transportation Management Actions and Protection Measures (cont.)			
TRA-6	Alternatives B, C, D, E	Enhanced Muni 22-Fillmore, 28-19th Avenue, and 43-Masonic Bus Service. The San Francisco Municipal Transportation Agency (SFMTA) would provide additional bus service on the enhanced 22-Fillmore, 28-19th Avenue, and the 43-Masonic routes.	CCSF
TRA-7	Alternatives B, C, D, E	Expanded Shuttle Service. If funding is available and if permitted, existing service between Downtown and Crissy Field, and within the Presidio may be increased and routes may be adjusted in response to the nature of the event day and observed demand on the shuttle routes.	Presidio Trust
TRA-8	Alternatives B, C, D, E	Transportation Enhancement Measure. Golden Gate Bridge Highway and Transportation District (GGBHTD) would offer an augmented 4 Short Route for peak weekend days in both 2012 and 2013.	Golden Gate Transit Authority
TRA-10	Alternatives B, C, D, E	Temporary Bicycle Lanes/Routes. During the AC34 events in 2013, SFMTA would implement temporary bicycle lanes within the curb parking or curb travel lane on peak weekend event days.	CCSF
TRA-11, VUE-19	Alternatives B, C, D, E	Temporary Bicycle Parking. SFMTA would provide temporary secure and managed bicycle parking at key locations serving the NPS sites for 2012 and 2013 peak and medium-high weekend race days.	CCSF
TRA-12	Alternatives B, C, D, E	NPS Parking Management Strategy. NPS would actively manage parking lots/areas at Crissy Field East, West Bluff, and Battery East in San Francisco on all peak weekend event days. In addition, Crissy Field East would be actively managed on average race weekend days, and peak race weekdays in 2013 when the races are offshore. Fort Baker and Conzelman Road in the Marin Headlands would be actively managed on peak race weekend days in 2012 and 2013, as needed.	CCSF
TRA-13	Alternatives B, C, D, E	NPS/Presidio Trust Staff, Park Partner, Resident, Delivery, and Customer Access to Presidio and Other NPS Sites. With CCSF, the NPS would develop access strategies for NPS staff, park partners, residents, deliveries, and customers to provide access to Fort Mason, Fort Baker/Marin Headlands, and Crissy Field (Areas A and B) during peak and medium-high weekend race days when some roadways would be closed to the general public.	CCSF and NPS in cooperation with Presidio Trust
Visitor Use-Experience Management and Protection Measures			
VUE-5	Alternative B	Educational Programming at AC34 Venues (Alternative B). The project sponsors would provide for the development of educational installations on federal lands where it hosts AC34 activities, such as at Crissy Field and SAFR. These would include ocean stewardship educational displays and a simulated experience at the Crissy Airfield.	Project sponsors in coordination with NPS

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Visitor Use-Experience Management and Protection Measures (cont.)			
VUE-5 (cont.)	Alternative C	Educational Programming at AC34 Venues (Alternative C). The NPS would emphasize ocean stewardship and maritime-themed educational programs within existing park and partner interpretive programs. These programs would be located at Crissy Field, SAFR, and Fort Baker. In addition, the Maritime Museum at SAFR may produce AC34-related interpretive displays in partnership with other maritime museums.	NPS
	Alternative D	Educational Programming at AC34 Venues (Alternative D). The project sponsors would provide for the development of ocean stewardship, bay ecology, and health-themed exhibits on peak weekends at Crissy Airfield and targeted maritime history exhibits at SAFR. Trained visitor services staff would be stationed at primary viewing areas to provide information about the significance of park sites.	Project sponsors in coordination with NPS
	Alternative E	Educational Programming at AC34 Venues (Alternative E). The NPS would emphasize ocean stewardship programs within existing park and partner interpretive programs at Crissy Field and Fort Baker. In addition, the Maritime Museum at SAFR may produce maritime-themed interpretive displays in partnership with other maritime museums or sponsors.	NPS
VUE-7, VUE-16	Alternatives B, C, D, E	Temporary Visitor Support Facilities. The project sponsors would provide for the placement and maintenance of portable restrooms and hand washing stations at NPS sites requiring them (e.g., Crissy Field, SAFR, Fort Mason, and Fort Baker). The cleaning regimen of portable restrooms, a responsibility of the project sponsors, would be maintained to ensure hygienic and clean visitor conditions.	Project sponsors
VUE-9	Alternative B	After-hours Activities at Fort Baker Pier (Alternative B). Private events at Fort Baker Pier would be limited to the hours of 7:00 p.m. and 11:00 p.m., after normal public visiting hours, so as not to interfere with regular visitation. Events would not be allowed to restrict fishing or other public uses during the day.	Project sponsors
	Alternatives C, D, E	After-hours Activities at Fort Baker Pier (Alternatives C, D, E). There would be no programmed private AC34 events at Fort Baker Pier under Alternatives C, D, and E.	N/A
VUE-10	Alternative B	After-hours Activities at Crissy Field (Alternative B). The NPS may authorize programmed evening AC34 events at the Crissy Field (Area A) venue. If authorized, such after-hours events would occur no more than two times in 2012 and five times in 2013. Evening activities at Crissy Field would run no later than 10:00 p.m. and would be subject to applicable noise and lighting restrictions.	Project sponsors
	Alternatives C, D, E	After-hours Activities at Crissy Field (Alternatives C, D, E). There would be no programmed evening AC34 events at Crissy Field (Area A) under Alternatives C, D, and E.	N/A

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Visitor Use-Experience Management and Protection Measures (cont.)			
VUE-11	Alternative B	Timing of Programmed Activities at AC34 Spectator Venues (Alternative B). Unless otherwise authorized by the NPS, publicly programmed AC34 activities at Crissy Field (Area A) would be restricted to the hours of 11:00 a.m. to 6:00 p.m. Publicly programmed AC34 activities at SAFR would be restricted to the hours of 10:00 a.m. to 8:00 p.m. Programmed AC34 activities on Presidio Trust lands (Area B) would generally occur between the hours of 9:00 a.m. and 10:00 p.m.	Project sponsors
	Alternative C	Timing of Programmed Activities at AC34 Spectator Venues (Alternative C). There would be no spectator venues on NPS lands under Alternative C.	N/A
	Alternative D	Timing of Programmed Activities at AC34 Spectator Venues (Alternative D). Unless otherwise authorized by the NPS, publicly programmed AC34 activities at Crissy Field (Area A) would be restricted to the hours of 11:00 a.m. to 6:00 p.m. on race weekends only. Otherwise, timing of programmed activities under Alternative D would be the same as specified for Alternative B.	Project sponsors
	Alternative E	Timing of Programmed Activities at AC34 Spectator Venues (Alternative E). Unless otherwise authorized by the NPS, publicly programmed AC34 activities at SAFR would be restricted to race weekends between the hours of 10:00 a.m. to 8:00 p.m. There would be no events at Crissy Field (Area A) under Alternative E. Timing of activities on Presidio Trust lands would be the same as specified under Alternative B.	Project sponsors
VUE-12	Alternatives B, C, D, E	Placement of Venue Amenities. All AC34 venue-related amenities, including concessions tents, information stations, temporary structures, portable restrooms and hand washing stations, would be placed in locations that do not contribute to crowded conditions. All temporary event structures would be set back at least 25 feet from the Crissy Field Promenade.	Project sponsors
VUE-13	Alternatives B, C, D, E	Fencing and Signage for Sensitive Resources and Visitor Protection. The project sponsors would provide for the installation of fencing and signage, as necessary, to protect natural and cultural resources and to manage visitor flow impacts.	Project sponsors
VUE-14	Alternatives B, C, D, E	Public Safety and Emergency Response. To ensure continued public safety and access to emergency services, CCSF-funded emergency medical support would be stationed at various locations in San Francisco, near and within the GGNRA and SAFR on all 2012 and 2013 race weekends; and a dedicated, paramedic unit from Southern Marin Fire Protection District (SMFPD) would be available for Conzelman Road and Marin Headlands. Advanced Life Support (ALS) emergency response would be provided during peak race weekend periods.	Project sponsors (for funding)/NPS and Presidio Trust (for implementation)

TABLE SUM-3: SUMMARY OF MANAGEMENT ACTIONS AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management Actions and Protection Measure Description	Implementation Responsibility
Visitor Use-Experience Management and Protection Measures (cont.)			
VUE-15	Alternatives B, C, D, E	Unique Visitor Uses of Marine Area. To facilitate continued unique uses of marine areas in parklands, a non-motorized small craft zone off Crissy Field would be established, a communications system would be established to alert recreationists and mariners when races are over and marine areas re-opened, boat access to Aquatic Park Cove would be controlled to ensure safety of swimmers, and rental storage lockers for sailboarders would be made available by CCSF on CCSF property east of east Crissy Field for the peak and medium-high weekends.	NPS in cooperation with USCG and CCSF
VUE-18	Alternatives B, C, D, E	Visitor Safety and Screening. Information regarding ferry service delays to and from Alcatraz Island would be provided by the project sponsors to the point of sales locations. Alcatraz Island Ferry passengers and their carry-on items may be subject to additional security screening at points of embarkation during race days.	Project sponsors
VUE-20	Alternatives B, C, D, E	Accessibility. The project sponsors would develop and fund strategies for deployment/implementation by all land management agencies to enhance access for persons with disabilities and seniors in full compliance with applicable accessibility standards. Such strategies would include: accessible regional-to-local transit, shuttles, wayfinding, off-site accessible parking or shuttle connections to the San Francisco waterfront primary viewing sites with access paths or paratransit vans from key sites.	Project sponsors
<p>NOTES:</p> <p>ACEA = America’s Cup Event Authority; ACRM = America’s Cup Race Management; CCSF = City and County of San Francisco; CARB = California Air Resources Board; GGBHTD = Golden Gate Bridge Highway and Transportation District; GGNRA = Golden Gate National Recreation Area; N/A = not applicable; NPS = National Park Service; OEWD= Office of Economic and Workforce Development; SAFR = San Francisco Maritime National Historical Park; SFPD = San Francisco Police Department; SFPUC = San Francisco Public Utilities Commission; USCG = United States Coast Guard; U.S. EPA = United States Environmental Protection Agency.</p>			

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CHAPTER 3: ENVIRONMENTAL IMPACTS

IMPACTS, IMPACT THRESHOLDS AND SIGNIFICANT IMPACTS

Impacts were analyzed across all alternatives for the topics identified in Chapter 1. Analysts developed impact thresholds as part of their methodology to help agency decision makers and the public discern and understand differences among the alternatives. For this EA the terms **negligible**, **minor**, **moderate**, or **major** are used to discriminate between impacts. The generic definitions of these terms are:

- **Negligible:** The impact is at the lower levels of detection.
- **Minor:** The impact is slight, but detectable.
- **Moderate:** The impact is readily apparent.
- **Major:** The impact is substantial.

The way these terms are applied varies for each impact topic. Geographic and temporal context are important. In the case of thresholds the questions analysts asked were related to the size and scope of AC34. For example, a minor or detectable impact across the scope of the entire affected area would be different than a minor impact for a one-acre site. A short-term impact resulting from a two-year project would be different than a similar impact resulting from the execution a 20-year general management plan.

The AC34 events would only occur during a limited number of days in 2012 and 2013, and would only occupy a short period each day. Many of the scheduled races would be on week days which are expected to draw smaller crowds than on weekends.

The specific elements of resources at stake also help set the thresholds. For example, impacts to Alcatraz seabirds were of particular concern in the AC34 planning process because they nest during the summer months when races are proposed.

Although the analysis of impacts helps inform agencies' decisions, the determination of whether any of the impacts are "significant" is a different process. Criteria to help decide whether an impact is significant are presented in section 40CFR1508.27 in the NEPA regulations that apply to all federal agencies. These criteria include public health and safety, unique natural and historic resources, controversy or disagreement about the degree of impact, uncertainty or unknown risks, precedent or and significant cumulative effects, federally recognized threatened or endangered species, and legal requirements imposed for environmental protection. If the analysis of impacts in the EA indicates any of these criteria are triggered, and significant impacts are likely and cannot be mitigated to below significance, then an EIS is prepared.

The analysis of impacts in this EA indicates the potential for major short-term impacts to traffic and to park operations for some alternatives. Such impacts generally concern traffic delays and park operational costs. However, because impacts to traffic and operations are not impacts to resources or otherwise trigger the significance criteria, and because in context they are short-term, these traffic and

operations impacts do not rise to the level of “significant” under NEPA. The federal team has, nonetheless, identified certain management actions and protection measures that would lessen these impacts. In addition, as described below, in some cases, additional mitigation (i.e., additional funding commitments by the project sponsors) would be required for an alternative with several major impacts to be feasible.

GEOLOGY, SOILS AND SEISMICITY

Impacts on geology and soils and from geohazards are related to physical disturbance and soil compaction caused by visitors, particularly on areas that have not been previously disturbed, and potential hazards to spectators from earthquakes, slides, tsunamis or other geologic hazards to spectators.

Although soils at Crissy Field and SAFR, primary event locations, have already been disturbed and are in many cases fill or relatively immune to impact (such as sand or urban land without a soil horizon for example), this is not the case at many of the secondary viewing locations. The heavily vegetated bluffs located between Crissy Field and Doyle Drive are underlain by the Colma Formation and Younger Dune Sands to the east and serpentine rocks of the Franciscan Complex to the west (NPS 2009) and this area may be an excellent secondary viewing location. Soils in the northern edge of the Presidio, from the Golden Gate Bridge and Fort Point east to Battery East in the vicinity of Lincoln Blvd may also be serpentine (although many are artificial fills and other less sensitive soils), a type of soil that hosts 8 of the 12 rare plants found at the Presidio. This area also has panoramic views of the race area. Soils in the Marin Headlands are erodible, particularly those in the southern tip of the Marin peninsula which is steeply sloped and landslide prone.

Alternatives B and D include tents, bleachers and other structures at Crissy Field and SAFR, and Alternative E includes the potential for such structures at SAFR. Because soils at these sites are already disturbed, developed or relatively immune to impact, the effects from venue activities are considered negligible.

Estimates indicate that in any of the action alternatives may attract between 1200 (at Marin Headlands/Conzelman Road sites on a peak weekday in 2012) and about 2600 (at Marin Headlands/Conzelman Road sites on a peak weekend in 2013) visitors to see the races from sites in Marin Headlands, Fort Baker or other park lands not considered primary venue sites. Without any signs, fences, law enforcement or other personnel to direct them, spectators would be likely simply to seek the best viewing locations, and walk the shortest distance to get to them. This could cause trampling and loss of vegetation with subsequent degradation through compaction, erosion and loss, and could result in water contamination and/or the spread of weeds. The locations of the unique serpentine soils in the area are mostly on steep slopes that are densely vegetated and unlikely to attract spectators. Other unique soils, such as those that support the host plant for the Mission blue butterfly or Crissy dune sands are at risk from trampling. However, each of the action alternatives includes the following measures that would help protect these soils, as shown in Table SUM-3:

- New fencing and gates are proposed in several locations to keep spectators from trampling soils, vegetation, cultural resources or disturbing wildlife habitat

- Trails and areas with sensitive resources, including soils, could be temporarily restricted or closed to the public during AC34 events
- Signs would direct spectators to areas where trails or hardened viewing areas exist.
- Resource monitors and law enforcement (if needed) would observe and direct the public away from fences and sensitive resources, including soils

Where these protection measures are in place, they would keep impacts to soils from becoming more than minor. In areas where fencing or resource monitors are not in place, soils may be exposed to trampling, erosion and loss. This is true in steep serpentine soils, although the federal team does not expect many visitors to seek them out for viewing. If they are trampled and losses from erosion occur, the impact may be localized and moderate. This is also true for soils that are in fenced areas if spectators breach the fences.

The probability of an earthquake, tsunami, or other natural disaster coinciding with the peak of AC34 events is extremely low. It is nevertheless conceivable that a strong earthquake could affect the AC34 races, in which case provisions of the San Francisco Emergency Response Plan such as emergency response teams and reliable communication systems would be immediately put into effect. Although a strong earthquake could result in injuries or even casualties for AC34 spectators, or damage to temporary spectator venues, the activation of the Emergency Response Plan and the fact that most event spectators on federal lands would be outdoors would likely to minimize impacts from earthquakes to AC34 spectators. Similarly the San Francisco National Warning System would be activated to warn of any approaching tsunami. Although impacts from these and other natural hazards (such as landslides) could be substantial, because the probability is very low the impact is considered minor (see section 4.1.4 of the EA “Methods/Thresholds” section of Geological Resources for definitions of thresholds such as negligible or minor).

Cumulative impacts to soils in the region include benefits from GGNRA trail rehabilitation, invasive species removal and replanting with native species and adverse impacts from Doyle Drive and other road construction projects. These actions would offset project-related impacts. Overall, cumulative impacts to soils in combination with those from AC34 are considered minor for all alternatives.

HYDROLOGY AND WATER QUALITY

The key hydrology and water quality issues would be related to soil loss from construction or setup activities on NPS lands (for bleachers, tents, and other features), discharges, spills, and littering from race-related and spectator boats, and increases in turbidity associated with dredging and race-related infrastructure construction.

In each of the action alternatives, areas of Crissy Field and SAFR would see increases in the number of visitors. Secondary viewing areas would also be more crowded in every alternative. For those locations near the Bay or a watercourse, impacts from compaction, loss of vegetation and erosion could increase turbidity or sedimentation of waterways including the Bay. Trash or litter from spectators may also make its way into the Bay, Crissy Marsh or waterways at secondary viewing locations (both official and incidental) either directly or by wind or gulls. The NPS would ensure adequate trash receptacles and

SUMMARY

regular waste management pick-ups by the City as a condition of the permit; this would help keep impacts to short-term and minor for all alternatives, although those options such as Alternative C or E with fewer visitors to Crissy Field and no planned events on GGRNA lands may have fewer litter-related impacts.

Trash, discharges and spills from race-related and spectator boats and floating platforms and increased turbidity from anchoring may all result in short-term localized impacts on Bay water quality. However, boats would be subject to a number of requirements (see Protection Measures table in the EA for a complete description, or Table SUM-3 in this document for a brief description) that regulate discharges, spills and waste management as well as handling of ballast water to prevent introduction of invasive aquatic species. Educational materials for all race-related boaters would also be distributed to indicate where to discharge sewage and other waste, explain the rules and regulations of boating in the Bay, and to describe environmentally sound boating practices. With these measures in place, impacts from race-related boats to Bay area water quality would be minor.

Dredging would occur as part of all the action alternatives, although the areas where dredging or other race-related infrastructure work would take place would change in Alternative E (because it is the only alternative that reflects updated pier use plans by the project sponsors). The differences are reflected in Table SUM-2. Dredging would disturb and re-suspend mud and sediment, which could affect the water quality conditions. Specifically, it may momentarily lower dissolved oxygen (DO), change pH and salinity, and increase total suspended solids (TSS) and turbidity. Protection measures implemented during construction to minimize the impact of dredging include best management practices such as use of floating debris booms and clamshell bucket types that minimize turbidity. As part of these practices, all floating debris would be removed and disposed of at an approved upland location. The dredged sediments would be tested and disposed of in an appropriate Bay, ocean or upland site depending on their composition. If they are disposed of in a water environment, they may have the same type of impacts as dredging itself for a short period of time. As part of the Corps (as well as other non-federal agencies) permitting process, sampling procedures and results would be evaluated independently to assure dredging and disposal are in accord with appropriate regulations.

Although each of the action alternatives includes dredging, Alternative E updates the dredging proposal submitted by project sponsors most recently. As Table SUM-3 shows, Alternative E eliminates dredging within the Pier 28 south berth and at Pier 32. Although this would reduce water quality impacts associated with dredging related to AC34, impacts for this Alternative would remain minor and short-term.

Other race-related infrastructure construction work such as installation of several temporary and a few permanent in-water improvements (e.g. anchor bolts and piles) would be undertaken to provide for the berthing and mooring of race boats, exhibit boats, and large spectator boats. These activities would result in short-term disturbance of localized Bay sediments with impacts similar to those described for dredging. In addition, construction equipment could leak oils or lubricants. Protection measures including inspections and regular maintenance, specific fueling restrictions, spill response planning and restrictions on the discharge of cement into the Bay would be in place to minimize impacts on water quality from these sources. Best management practices would also limit the extent of

increases in turbidity or other impacts from race-related infrastructure construction and keep them from becoming more than minor.

Although all action alternatives include race-related infrastructure construction at several of the San Francisco ports, Alternative E has been updated to reflect recent changes from the project sponsors. Table SUM-2 lists these in-water changes, including eliminating seismic upgrades at Piers 30-32, and eliminating floating docks, gangways and piles at Piers 19 and 19 ½. Although these changes would reduce race-related infrastructure construction related impacts to water quality, impacts would still be considered minor.

AIR QUALITY

The project area is located within the San Francisco Bay Area Air Basin, which is designated as a nonattainment area for the federal 8-hour ozone standard and the federal fine particulate matter (PM_{2.5}) standard. The air basin is designated as a maintenance area with respect to the federal carbon monoxide (CO) standards.

Construction equipment for race-related infrastructure work such as barges, dredge equipment, generators, vehicles and off-road construction equipment including pile drivers and cranes would all be sources of air emissions before the races begin. Operations would also emit air pollutants to a lesser degree; sources include helicopters, power boats, generators and providing shore power for race-related boats. In addition, an increase in cruise ship emissions would occur at Pier 27 during 2013 events associated with the loss of the existing shore power hookup, which would be relocated and disconnected until completion of the AC34 events at Piers 27-29.

The pollutants that would be emitted by these sources that are of concern include ozone precursors and those for which national ambient air quality standards (NAAQS) exist. The states have each created and had approved a plan (the State Implementation Plan or SIP) that shows how they will maintain or meet these standards, and federal actions including permit approvals cannot result in more than defined “*de minimis*” increases in these “criteria” pollutants. In this analysis, precursors to ozone (VOCs or volatile organic compounds, NO_x or oxides of nitrogen), carbon monoxide, and small (less than 2.5 microns or PM_{2.5}) particulate matter emissions are analyzed. The nonattainment status of the air basin triggers the need for separate conformity analysis and determination as to whether *de minimis* levels are exceeded.

Existing sources of emissions within federal lands include motor vehicles traveling on roadways within federal lands, maritime emissions occurring in waters under USCG jurisdiction, and permitted stationary sources of the USCG and NPS at Fort Baker and Alcatraz Island, respectively. All of these sources contribute to the existing nonattainment status of the San Francisco Bay Air Basin.

As Table SUM-4 shows, all of the action alternatives would result in emissions below *de minimis* thresholds except for CO, which would exceed the standards in all alternatives for both 2012 and 2013 even with all air quality protection measures assumed. Because of this, the federal team used dispersion modeling, allowed as an alternative process to determine whether *de minimis* thresholds would truly be exceeded by CO emissions.

TABLE SUM-4: AC34 MAXIMUM LOCALIZED CARBON MONOXIDE CONCENTRATIONS FOR THE SPONSOR PROPOSED PROJECT (ALTERNATIVE B) IN 2013

Scenario	Maximum 1-hour Average Carbon Monoxide Concentration (ppm)			
	Project 1-hour Concentration	Ambient 1-hour Concentration	Total 1-hour Concentration	NAAQS
Construction	2.9	1.6	4.5	35
Operations	5.1	1.6	6.7	35
	Maximum 8-Hour Average Carbon Monoxide Concentration (ppm)			
	Project 8-hour Concentration	Ambient 8-hour Concentration	Total 8-hour Concentration	NAAQS
Construction	1.4	1.2	2.6	9
Operations	3.0	1.2	4.2	9
NOTES: ppm = ; NAAQS = national ambient air quality standard SOURCE: ENVIRON/ESA, 2011				

Impact thresholds are based on the tons per year of each pollutant as well as the extent to which emissions approach or exceed the conformity de minimis thresholds. Since the events are not permanent and are of relatively short duration, dispersion modeling can be used as a tool in addition to defining de minimis thresholds.

The NPS 2011 Technical Guidance on Assessing Impacts to Air Quality in NEPA and Planning Documents identifies an 8-hour CO concentration of 7.2 ppm or greater or a 1-hour CO concentration of 28.0 ppm or greater as resulting in a major adverse impact on air quality. A moderate adverse impact would result if 8-hour CO concentrations were between 4.5 and 7.1 ppm or 1-hour CO concentrations were between 17.6 and 27.9 ppm. A minor adverse impact would result if 8-hour CO concentrations were between 0.3 and 4.4 ppm or 1-hour CO concentrations were between 0.3 and 17.5 ppm. Concentrations below these are identified as negligible. Sources include boat and yacht trips (race-sponsored spectator boats, race support boats, small and large private spectator boats, and assist tugs), boat lifts, generators and other equipment used at race-sponsored viewing sites, passenger vehicle traffic, and helicopter operations.

As Table SUM-4 shows, although there are some slight quantitative differences between action alternatives; however, they are not large enough to change the applicable impact threshold. For all action alternatives, the project would increase regional pollutants of reactive organic gases (ROG; or VOC in the federal lexicon) and oxides of nitrogen (NOx) as well as local particulate concentrations due to fugitive dust and diesel construction equipment sources. Over the two-year intermittent operation period, the project would result in an increase in emissions primarily due to temporary increases in marine operations of race-sponsored passenger boats, race-support boats, and spectator boats, including super yachts. Other emissions associated with the AC34 project include increased motor vehicle trips, operation of diesel-powered generators, and an increase in cruise ship hoteling emissions as the result of the temporary decommissioning of shoreside power at Pier 27 so that the pier may be used for the America's Cup Village in 2013. The project would not include any on-site permitted stationary sources or area sources.

Beneficial impacts result primarily from a major protection measure AC34 project sponsors would use to offset impacts—for example the creation of shoreside power at Pier 70 for race-related boats (including spectator boats) so they are not required to idle or “hotel” to create their own power when they are docked. Although this drops all emissions of concern, it does not reduce CO gross totals enough to meet *de minimis* standards. However, as noted above, dispersion modeling is an acceptable tool to use as a check of these initial findings. In this case, dispersion modeling showed the maximum 1-hour CO concentrations would occur from operations of all action alternatives and would be no more than 6.7 parts per million (ppm), which would be well below the NAAQS of 35 ppm. The maximum 8-hour CO concentrations would be 4.2 ppm, which would be well below the NAAQS of 9 ppm. Given these results, CO emissions will not be above the dispersion modeling thresholds. These predicted CO concentrations would represent a minor adverse impact on air quality during AC34 operations based on criteria recently established by the NPS.

As shown in Table (SUM-4), the maximum 1-hour CO concentrations from construction would be 4.5 ppm, while the maximum 8-hour CO concentration from construction would be 2.6 ppm. CO concentrations resulting from construction activities would be considered a minor adverse impact on air quality.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because, like a greenhouse, they capture heat radiated from the earth. The accumulation of GHGs has been implicated as a driving force in global climate change. The principal GHGs of concern are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Each of the principal GHGs varies in its potential heat-trapping ability; CH₄ is 23 times as potent as CO₂, while SF₆ is 22,200 times more potent than CO₂. In this analysis, GHGs have been reported as CO₂ equivalents (CO₂e).

All of the alternatives would generate GHGs from the same sources as described for other air quality pollutants. Because the NPS has an established GHG inventory for emissions under its purview, this inventory is used to assess the effects of GHGs from emissions related to activities under NPS jurisdiction, while substantially more broad thresholds suggested by the Council on Environmental Quality guidance is used for the remainder of the AC34 project emissions.

In the Bay Area in 2007, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) and the industrial/ commercial sector were the two largest sources of GHG emissions, each accounting for about 36% of the Bay Area’s 95.8 million gross metric tons (MMT) CO₂e (105.4 million U.S. tons) emissions. Industrial and commercial electricity and fossil fuel consumption (including office and retail) were the second largest contributors of GHG emissions, with about 34% of total emissions. Electricity generation accounted for approximately 16% of the Bay Area’s GHG emissions, followed by residential fuel usage (e.g., home water heaters, furnaces) at 7%, off-road equipment at 3%, and agriculture at 12%. Among industrial sources, oil refining currently accounted for more than 40% of GHG emissions, or approximately 15% of the total Bay Area GHG emissions (BAAQMD 2008).

SUMMARY

The emissions inventory for the Golden Gate National Recreation Area (GGNRA) includes GHG emissions from energy requirements for park operations (365 metric tons per year), mobile emissions from park visitors and employees (9,613 metric tons per year), and emissions from solid waste disposal and wastewater treatment (365 metric tons per year) or a total of 10,343 metric tons per year.

Alternative B would generate air emissions from a variety of different sources. Over the two year intermittent operation period, this alternative would result in an increase in emissions primarily due to generators, diesel-powered light standards and increased vehicle traffic to GGNRA lands. Additionally, forklifts and boomlifts which are considered off-road mobile sources would be used to transport materials.

AC34 GHG emissions that could result in an increase in inventoried emission sources and result in an impact with respect to GHG emissions would total 411 metric tons (MT) of CO₂e in 2012 and 1,156 MT in 2013. These would represent increases over the existing carbon footprint for GGNRA of 4% and 11% in 2012 and 2013, respectively. Using NPS thresholds, this means Alternative B would have a minor GHG impact in 2012 and a moderate GHG impact in 2013.

AC34 on-water emissions from race-related boats (including spectator boats, support boats, tugs etc. in 2012 are estimated to be 2,126 MT of CO₂e while in 2013 they are estimated to total 10,923 MT of CO₂e. An additional 2,192 MT of CO₂e per year would result in 2013 from cruise ship hoteling while Pier 27 shoreside power is unavailable, resulting in a total on-water GHG burden of 13,115 MT CO₂e for 2013. Using CEQ thresholds, on-water GHG emissions of Alternative B would have a minor impact in 2012 and in 2013. Additional short-term moderate impacts would result in 2012 from construction related impacts not on federal lands or under federal jurisdiction.

Compared to Alternative B, Alternative C would result in no emissions from event-related construction on NPS lands and a lesser increase in GHG emissions from spectators traveling to park lands to observe AC34 race events. Using the spectator estimates in Table SUM-1, a total of 79,045 spectators would be expected to visit these lands in 2012 and 280,740 in 2013. No events on NPS lands (as in Alternatives C or E) means fewer spectators would travel to these areas to watch the race. However, Crissy Field and other park sites would remain excellent viewing areas and substantial increases in the number of people using them on certain days are expected. Emissions related to this incremental increase would generate about 55 metric tons of CO₂e in 2012 and 196 metric tons of CO₂e in 2013, or less than one third of those generated by Alternative B. In addition to vehicle emissions, indirect emissions from increased demand for water, wastewater, disposal of trash, etc. would bring the total expected GHG emissions for activities related to NPS lands to 61 MT of CO₂e in 2012 and 210 MT in 2013. These would represent increases over the existing carbon footprint of 0.6% and 2% in 2012 and 2013, respectively. Consequently, Alternative C would have a minor GHG impact in 2012 and in 2013.

Impacts from marine race-related boats and construction are expected to be the same as for Alternative B, that is a minor adverse effect from the former and a possible moderate short term adverse effect for the latter.

Under Alternative D, fewer spectators are expected on park lands but construction related GHG emissions, race-related vessel emissions and construction emissions on lands not under NPS

jurisdiction are all expected to remain the same as for Alternative B. GHG emissions that could result in an increase inventoried emission sources and result in an impact with respect to GHG emissions would total 316 MT of CO₂e in 2012 and 873 MT in 2013. These would represent increases over the existing carbon footprint for GGNRA of 3% and 8.5% in 2012 and 2013, respectively, representing a minor impact. This alternative would also have a minor impact from vessel-related emissions and a moderate impact from construction on non-federal lands.

Under Alternative E, most NPS lands would have no spectator venues and in that respect have impacts identical to Alternative C. However, there is potential for some programming at SAFR under Alternative E. No venue related construction would occur (no construction at SAFR is planned) and visitor numbers and related GHG impacts would be less than those expected under Alternative B. GHG emissions would total 64 MT of CO₂e in 2012 and 222 MT in 2013, a minor adverse impact on GGNRA emissions. These would represent increases over the existing carbon footprint for GGNRA (10,319 metric tons of CO₂e per year) of 0.6 percent and 2.2 percent in 2012 and 2013, respectively. Impacts in Alternative E from AC34 related racing boats and from construction on non-federal lands would be similar as in other alternatives. Construction related impacts would be less than in other alternatives; this is related only to an updated project description from project sponsors rather than any real difference between alternatives. However, impacts would remain moderate, at most.

BIOLOGICAL RESOURCES

This section analyzes impacts to upland and marine vegetation, wildlife and special-status species.

Upland Biological Resources

Direct impacts of the AC34 events could include crushing or removal of sensitive or unique vegetation and disturbance of wildlife from the presence of spectators, boats and/or noise.

Visitor use of park sites is heavy and already affects vegetation and wildlife, as pedestrians, bicycles, dog-walkers and other recreationists find park sites to be welcome open space in an otherwise urban environment. Over all park lands that may be affected by AC34, existing visitation on average weekdays can total 16,000, and on weekends, 27,000 people. While this visitation disturbs wildlife and does result in some trampling of vegetation, the park regularly implements protection programs for its natural resources, including fencing, removing non-native vegetation, replanting native plants, updating its local regulations, and creating buffers around sensitive locations such as the Crissy Field WPA.

Vegetation

Trampling, i.e., walking upon a natural substrate, can inadvertently reduce both plant and animal populations (e.g., Cole 1995). Trampling of natural vegetation can also cause the spread of nonnative plants, soil pathogens, and, depending on the severity, introduce feral animals into the area. For the majority of vegetation at the park, trampling would be localized, short term and minor. This is because the vegetation prevalent in the park is somewhat resistant to impacts because it is dense, thorny or

otherwise discourages human and animal trampling. Grasses on Crissy Field are not as common, but are able to withstand larger numbers of visitors. Some less common or hardy vegetation could experience impacts if fencing, signage and resource monitors were not included as protective measures. These measures would be installed where vegetation is unique and/or sensitive and spectators are expected; however minor impacts from spectators jumping the fences or in areas where no fences exist are possible. Fencing and signs would also keep impacts related to the spread of invasive species by visitors walking across park vegetation, especially in coastal dunes, to minor.

Wildlife

The primary sources of impact for non-marine wildlife would be disturbance from increased human activity, noise and increased boating activity. These impacts may be more intense in relatively natural environments such as in portions of Crissy Field, the Presidio, and in the Marin Headlands, and could change distribution patterns of wildlife, favoring disturbance tolerant species. Temporary changes in wildlife habitat quality or integrity, species richness and abundance could be detectable.

The study of animal response to noise is a function of many variables, but noise can increase heart rate and effect metabolism and hormone balance in addition to causing behavioral changes. Studies vary in their results, but at least one study in the immediate area (ESA 2011) did not find construction noise levels associated with the Doyle Drive construction project to change bird behavior in a measurable way. Given this finding, impacts to wildlife from noise from spectators or construction is likely to be no more than minor.

Noise from helicopters and fireworks may be more disruptive for wildlife, however. Whereas Doyle Drive noise levels average 70 decibels (dBA), fireworks can generate peak sound levels of 82dBA and average sound levels of 78 dBA even at 0.5 miles away. All alternatives assume fireworks would be no closer than 1.5 miles from Alcatraz Island (where sensitive seabirds nest) and would generate about 72.5 dBA at this distance (NOAA 2011).

Alcatraz Island Nesting Seabirds

Alcatraz Island hosts several species of colonial nesting seabirds and waterbirds and is considered a unique and relatively rare natural environment because of it. Visitors would continue to visit Alcatraz Island during AC34 and are not expected to have impacts that are different from those that currently occur now. However, there is a possibility that some of the nesting birds would be disturbed and fly away, experience physiological responses (release of corticosteroids) that affect reproduction, and/or abandon their nests or young. Nesting seabirds can also dislodge eggs or nests and expose them to predation when the adult birds leave, even temporarily. In the extreme, stressed or disturbed colonial nesting birds can abandon the entire colony, resulting in no successful reproduction for a year or longer. Large-scale nest abandonment as a result of AC34 event-related activities would be counter to the Migratory Bird Treaty Act. Each of the action alternatives includes water and air buffer zones to minimize the chance of such a loss.

Factors that make predicting the extent of impact from AC34 difficult include the differences among species and among individual birds of a single species in their reaction to disturbance; stage in the breeding cycle; ability to habituate to continued stress or relative sensitivity to additive stress over a

season; cumulative impacts such as weather and food source availability; and the birds' tendency to follow other disturbed birds or remain on the nest. Although several species nest on the island (black-crowned night heron, snowy egret, pigeon guillemot), two species of cormorants, the Brandt's cormorant and the pelagic cormorant, are particularly vulnerable because they are more sensitive to cumulative impacts over a season and do tend to leave their nests or young more often, including if they see other birds flush (fly away). Although neither species of cormorants is considered special-status, Alcatraz is the only breeding colony site for these two species in San Francisco Bay (NPS 2011.) It is unknown how these two bird species may react to a new type of disturbance, such large, fast sailboats, in combination with their support boats nearby and helicopters overhead.

The scientific literature reports a wide range of flush distances related to boat traffic for different species and in different situations and locations. In a literature review by Borgmann (undated), 50 waterbird disturbance studies for water and shorebird species found in the San Francisco Bay area were evaluated and summarized. Although the author recommends a large buffer (250 meters) when dealing with all species and situations, flushing distances (for boat traffic) for waterbirds are reported as less than 300 feet in virtually all cases. Buffer zone recommendations from the authors summarized by Borgmann when boating was the disturbance vector ranged from 65 meters (for gulls) to 294 meters (for cormorants) with the average across all species of 148 meters or 487 feet. Even for more sensitive species (i.e., double crested cormorant, blue heron and egret; no studies in the Borgmann review proposed buffer distances for Alcatraz Island's most sensitive nesting species, the Brandt's and pelagic cormorants) the average was 155 meters (511 feet). Experts consulted for this analysis (McChesney, Allen, Merkel, Hatch) advised that boats related to AC34 should not approach closer than 500 feet of Alcatraz Island, and agreed that this protective measure would very likely prevent unacceptable impacts.

Based on this and other scientific information, the federal team has adopted, and the ACRM agreed to, a 500-foot buffer for any race-related or other boats for AC34 for all alternatives except Alternative B which employs a 300-foot buffer, along with active monitoring and adaptive management strategies to expand the buffer if necessary. In Alternatives C, D and E, NPS proposes to implement a regulation to create a 500-foot buffer around Alcatraz Island during race periods and ACRM has agreed to conduct races so that AC34 race boat and support boats remain outside the proposed buffer. Spectator boats would also be required to comply with this buffer. Given the planned 500-foot buffer in Alternatives C-E and the monitoring and adaptive management process in Alternative B, impacts on Alcatraz Island nesting birds from race-related activity would be no more than moderate, and would likely remain minor.

Helicopters are also noisy, and pose a risk to nesting seabirds when they come too close to nesting areas. Much of the scientific literature indicates birds are most disturbed by low-flying aircraft (200 to 600 feet). For example McChesney et al. (2006) reported that of 15 major disturbances to murrelets or Brandt's cormorants (which breed at Alcatraz Island), those caused by helicopters (40 %) occurred in low flyovers of 200 to 600 ft (60 to 180 meters) above sea level. GGNRA monitors Alcatraz Island nesting seabird responses to disturbance including overflights, and has found that disturbance has decreased following an agreement with helicopter tour operators to approach no closer than 1,000 feet away from and above Alcatraz Island. However, even with this restriction, 160 Brandt's cormorants were observed flushing in response to helicopters in 2007 monitoring (Acosta et al. 2007). This

SUMMARY

occurred during a season when cumulative effects, including of a special use in the Alcatraz Laundry Building near nesting sites introduced night lighting and activities in an area where birds were accustomed to neither. Notably, no AC34 activities in any alternative would take place in the Laundry Building at Alcatraz Island, but special use activities may be held much further away in the cellhouse (occupied by more than one million visitors each year) so as not to disturb nesting birds. In addition, Alternatives B, C and D include a requirement that ACRM helicopters remain at least 1,000 feet away and at least 1,000 or 2,000 feet above the island (depending on the alternative). These and other protection measures (no night lighting, etc.) would reduce the impact from helicopter noise to Alcatraz Island birds to minor, or possibly to negligible if flights are no lower than 2,000 feet as in Alternative E, the preferred alternative. Helicopters would also remain at least 1,000 feet away from and above Crissy Field to reduce noise impact to sensitive wildlife in this area to minor.

Although firework displays conducted in close proximity to Alcatraz are known to disturb some of the nesting birds, eliminating fireworks displays in 2012 and conducting them at least 1.5 miles away (Piers 27-29) in 2013 will keep impacts from becoming more than minor and short-term under Alternative E.

Other sensitive seabirds that may experience some effect from AC34-related events include those that “still-fish” in shallow waters of the Bay or forage in its waters. This group includes herons, egrets and least tern. Impacts to this group are expected to be indirect as the race activity will not be conducted in their habitat. Impacts would be minor, short-term and localized for all alternatives.

Sensitive listed (e.g. threatened or endangered on the federal Endangered Species list) species on park lands in the AC34 project area include Western snowy plover, Mission blue butterfly, Presidio manzanita, Marin dwarf-flax, Presidio clarkia, California seablight, and San Francisco lessingia.

Each of the action alternatives are expected to attract crowds of spectators to areas where these species and/or their habitats exist in the park, particularly at Crissy Field where the threatened western snowy plover winters in the Crissy WPA. Dune areas at Crissy Field’s beaches also host California seablight and the Crissy Field marsh is home to San Francisco lessingia. Each of these areas are fenced with materials that may prove inadequate if large crowds are moving along the beach to get the best viewing area. Protection measures include increasing the strength of some fencing and providing natural resource monitors to keep visitors outside sensitive spots. Impacts on plovers and on Crissy marsh and dune vegetation would remain no more than minor in other alternatives, and may be even less in Alternatives D and E, which shift the race area to the east and presumably would result in the movement of many race spectators away from the WPA, Crissy Field West dunes and the Crissy Marsh. Dunes in Crissy Field East may experience increased pressure from spectators, although fencing and monitors would be used to keep impacts from becoming more than minor and incidental. The reduced number of spectators at Crissy associated with Alternatives C, D and E may also reduce the potential for impact from spectators jumping or ignoring fences or signs to stay away from sensitive plants and wildlife habitat.

Although substantially fewer spectators are anticipated at secondary locations, even a single or a few visitors trampling host plants for Mission blue butterflies or listed plant species could result in unacceptable damage. Therefore, protection measures in the form of fencing and resource monitors

would be used where views are excellent and sensitive resources exist. Baker Beach and dunes, home to four listed plant species, are neither primary nor secondary viewing sites but are expected to be vulnerable to indirect impacts from park visitors displaced from viewing sites. However, existing signs would be likely to keep this increased number of visitors from adversely affecting listed species. With protection measures in place, impacts to special status species is expected to be minor, short-term and localized. This translates to “may affect, but will not adversely affect” listed species in thresholds defined by the Endangered Species Act.

Other sensitive but non-listed plants occur over a wider area of the park, as well as on Presidio Trust lands. These are not likely to be areas that are fenced or monitored, and so may be subject to damage from spectators with potential short-term localized moderate impacts. Appropriately placed signs, or the use of fences or monitors if warranted would reduce this impact to no more than minor.

Cumulative impacts on non-marine vegetation and wildlife would include positive effects from managing infrastructure and alternative transportation, trail improvements, planting native vegetation and removing invasive plants, as well as adverse effects from Treasure Island/Yerba Buena redevelopment and increases in boat traffic, noise and disturbance from Doyle Drive construction, and disturbance from the presence of human visitors in or near wildlife habitat. Combined, these impacts are considered minor and short-term. Increased visitors from Fleet Week in Alternative E during this part of the 2012 races (e.g. where Fleet Week and AC34 races coincide) would increase cumulative impact potential to vegetation and wildlife from trampling and disturbance. However the cumulative effects are not expected to exceed those of a 2013 weekend day and given the protection measures, would continue to be minor and short-term.

Marine Biological Resources

Marine plants and wildlife could experience noise and vibrations associated with construction, injury or mortality from physical contact, physical loss or disturbance of foraging habitat, or harassment of an animal species to the point where it abandons part of its normal range. Indirect effects would include ecosystem changes that would primarily affect food web dynamics; these changes would occur with decreased suitability of foraging habitat, temporary noise or physical disturbance that results in avoidance behavior, and the reduced food-web value of foraging habitat as the result of the introduction of nonnative invasive species.

Aquatic vegetation inhabiting Project waters includes water column phytoplankton, submerged aquatic vegetation (SAV) beds of brown, green, and red algae attached to subtidal and intertidal hard substrates, and eelgrass beds. The potential direct impacts to Central Bay region aquatic plant life are direct physical loss or destruction from dredging and piling installation and removal, disturbance/destruction by temporary mooring and vessel anchors, and installation of piling wraps. Potential indirect impacts include reduced light penetration from increased turbidity resulting from dredging, shading from installed temporary floating docks, barges, and from new pilings installed for seismic improvements and pier repairs. Indirect impacts may also occur from the introduction or spread of invasive species by visiting boats or during the removal of Port pier pilings for Port improvements and other temporary race-related infrastructure (floating docks, anchor piles, mooring anchors, and barges) installed to support AC34 race activities. Although most of these potential effects

would occur from activities under Corps or USCG jurisdiction, some would take place in NPS submerged tidelands and waters in some alternatives and potentially affect marine resources under NPS jurisdiction.

No eelgrass (*Zostera*) or SAV beds are located in the area where federal actions under Corps, USCG or NPS jurisdiction would take place. Eelgrass in NPS waters adjacent to Fort Baker will be protected by prohibiting race-related boats from using Horseshoe Bay. Some algae is expected to be attached to pier pilings that are scheduled for replacement (fender piles) (AMS 2011), although recolonization is expected to be immediate and keep impacts from becoming more than negligible or minor. Negligible to minor short-term impacts on phytoplankton from increased turbidity related to dredging race-related infrastructure construction or shading would also occur under all alternatives, but would be less in Alternative E because less dredging is scheduled. Boats from other locations entering the Bay have the potential to bring exotic aquatic species, which if released could result in widespread infestation. Protection measures include education and inspection to minimize the potential for introduction of new exotic species, which would keep impacts on native aquatic vegetation from becoming more than minor.

Wildlife

The principal direct impacts on marine wildlife (fish, sharks, bats, rays, and soft substrate and hard substrate benthic invertebrates) would be from in-water port infrastructure improvement and would include temporary soft substrate benthic habitat destruction at dredging locations, temporary hard bottom habitat loss from piling removal and installation of piling wraps, entrainment during dredging, and noise trauma to fish from pile driving. Potential indirect impacts include temporary loss of foraging habitat for fish and other mobile predators at dredging locations, and under temporary mooring anchors and anchor pilings, altered community composition and food web contribution from the introduction or spreading of invasive species, exposure to organic and inorganic contaminants from resuspended sediments during dredging, and increased predation from night lighting. Additionally, increased noise from race and spectator boats on the water during races may result in increased energy expenditures by mobile marine life attempting to avoid the assumed threat posed by the increased noise.

Alternative B dredging and installation of piling would result in habitat loss of 30 acres or 0.0006% of Central Bay benthic habitat considered relatively common would be lost. This habitat is expected to be quickly recolonized following the removal of pilings and completion of dredging. In-fauna that is not mobile would be permanently lost from dredging, but mobile wildlife associated with benthic habitat, such as fish or crabs, are likely to abandon the area when pressure waves and noise that precede the actual dredge occur (Reine and Clarke 1998).

Dredging may also resuspend contaminants in the sediment, but implementing sediment testing quality requirements is expected to keep impacts from redistribution and exposure of contaminated sediments to marine biota to no more than minor and short-term.

Pile driving could generate high noise and/or vibration levels that could result in injury and disturbance to marine life. Ambient underwater noise in the vicinity of the Ports where AC34

construction related work is anticipated is estimated at about 150 dB (Caltrans 2009). Impact hammers driving concrete and steel piles in water typically generate peak sound waves ranging between 185-220 dB and sound exposure levels (SEL) ranging between 160 -195 dB (Caltrans 2009).

Vibratory hammers, which cause liquefaction of the immediately adjacent sediment, allowing the pile to sink downward, produce noise levels of 165-195 dB (Peak) and 150-180 dB (SEL) (Caltrans 2009). In a similar project (Pier 36/Brannan Street Wharf), vibratory pile driving was estimated to generate peak underwater noise of 170-180 dB (URS 2011), slightly lower than the sound thresholds established for impacts on fish of 183-187 dB. At about 15 feet from the source of the noise, sound levels would drop to ambient levels (150 dB). No similar project for estimated noise levels from impact hammers driving similarly sized pilings exists, but given the generally louder sound from them related to vibratory pile driving, distances from the source needed to meet standards for injury to fish and to fall to ambient conditions are larger.

Other projects have shown that minimum distances ranging from 154-1,410 feet for 66-inch piles and 289-2,608 feet for 90-inch piles would be needed to reduce sound levels to a point where fish are not expected to be injured. Best management practices would be required to keep sound levels from impact hammers below those considered safe, and these and other protection measures such as restricting the season when pile hammers are used, are explained in brief in this summary and in more detail in the EA itself (see BIO-14 and BIO-15 for example). Noise from race-related boats is expected to be similar to that found for small craft of about 157 dB at a yard distance (Kipple 2009), and fall to below background noise of 40dB at 100 yards.

Given the use of best management practices and the short-term nature of underwater construction, noise impact from these sources and from race-related boats is expected to be negligible and localized. In Alternative E there would be fewer piles and fewer resulting noise related impacts. Impacts to benthic habitat would also be less extensive than for other alternatives because dredging would be reduced.

Marine invasive species can also be introduced or be spread from AC34 activities, particularly from the removal of pilings, temporary structures (floating docks, moorings, etc.) and from visiting boats. Removal of structures could loosen attached invasive species, allowing them to float to a new location and boats out of compliance or unaware could have species on their hulls or in bilge water. Protection measures to minimize the possibility of release of invasive species include training of construction personnel, on-site biological monitors to identify invasive species, and education and inspection for boats visiting during AC34.

Potential introduction of invasive species from either bilge water or removal of underwater structures is expected to result in no more than minor and potentially regional impacts to marine life given the protection measures for boats described above.

Special status marine species that may be affected by AC34 construction or operation include California central valley and California coastal steelhead, several runs of Chinook salmon, green sturgeon, each listed under the federal Endangered Species Act., and longfin smelt, a listed state species. Several protection measures, including seasonal restrictions on race-related infrastructure construction, best management practices to minimize sound effects and sound monitoring by the

SUMMARY

National Marine Fisheries Service would be required under any of the alternatives. Given these measures, impacts would be no more than minor, which translates to “may affect, not likely to adversely affect” in ESA thresholds.

Potential direct and indirect impacts on protected marine mammals (harbor seal, California sea lion, Northern elephant seal, harbor porpoise, bottlenose dolphin, sea otter, California gray whale, and humpback whale) may occur from pile driving noise, media helicopter noise, firework display noise, and possible collision with either AC34 race or spectator boats. Noise studies conducted on pinnipeds (seals and sea lions) indicate that harbor seals can detect sounds underwater as low as 65 dB at frequencies of 75 hertz (Hz) and higher, and that avoidance behaviors are regularly exhibited at sound levels of 80 dB above hearing thresholds, or approximately 160–165 dB (Kastak and Schusterman 1998). Lower frequency sound has a more severe effect over a longer distance. Protection measures for marine mammals include on-site monitors and seasonal restrictions, as well as maximum underwater noise levels, safety zones where construction stops if a marine mammal enters and reduced vessel speeds, avoidance measures, or modifying race times are required if marine mammals are present. Given these measures, impacts from underwater noise or collisions to protected marine mammals is expected to be negligible, localized and short-term, and “may affect, not likely to adversely affect” these animals.

Low flying aircraft noise, including from helicopters, could result in disturbance to any marine mammals present near the aircraft. The scientific literature indicates helicopter noise elicited detectable avoidance behaviors by whales at altitudes of less than 820 feet (250 meters) (Luksenburg and Parsons 2009). Maintaining a minimum of 1,000-foot vertical and horizontal buffer zones for helicopters when flying near or over NPS lands is part of all action alternatives, and Alternative E includes a 2,000-foot vertical buffer over Alcatraz Island. In addition, helicopters will be instructed to stay at higher elevations when pilots observe seal or sea lions in haul out areas. These protection measures will avoid potential disturbance of any seals or sea lions temporarily hauled out at such locations. Noise from helicopters could cause erratic swimming and avoidance behavior by whales if they are in the Bay and injury could result if the area is congested with race-related boats. However, this same protection measure applies to observed whales. Given this restriction on flight heights, and the fact that whales are rarely seen in the Bay, impacts from helicopter noise to marine mammals is expected to be no more than minor, and “may affect, not likely to adversely affect” these animals.

The potential for AC34 firework displays to result in impacts on marine mammals is extremely small or negligible since the closest established haul-outs range between 0.5 -3.5 miles from Piers 27-29, and 2.5-2.8 miles from Pier 39.

The potential for race boats or spectator boats to strike marine mammals is a potential direct impact of the AC34 race events. San Francisco Bay is host to regular and frequent sailing regattas, many daily high-speed ferries, recreational boaters and regular commercial vessels, and there are no known records of boat strikes. In a recent evaluation, NOAA (2011) observed the interaction of spectator boats (at a firework display conducted regularly over a nine-year period) with marine mammals and found the potential for spectator boats colliding with marine mammals during the event was virtually non-existent. The use of race officials and volunteer course marshals to scan for debris, obstructions, and the potential rare occurrence of a whale or other large marine mammal would also help in

avoiding collisions with marine mammals. Impacts are considered negligible and “may affect, not likely to adversely affect” these animals.

CULTURAL RESOURCES

Effects on sensitive cultural resources within the portions of the Area of Potential Effect (APE) under federal jurisdiction, as well as the Golden Gate Bridge, are assessed. The APE is defined as part of a review and consultation process under the National Historic Preservation Act (NHPA) in which each agency on the federal team has participated. The NPS is completing a cultural conditions assessment report to satisfy requirements for Section 106 of the NHPA for GGNRA and SAFR, and will include any effects on Crissy Field Areas A and B together, satisfying Presidio Trust obligations. The USCG has evaluated the potential for impacts to cultural resources from AC34 on marine waters and has received State Historic Preservation Officer (SHPO) concurrence that no effects on historic properties would occur. The Corps will be making a decision regarding the issuance of a Section 10 permit under the Rivers and Harbors Act to allow the installation of temporary structures and dredging activities to occur in San Francisco Bay. Effects on cultural resources on non-federal lands (i.e., Port of San Francisco, Marina Green, Angel Island, and Treasure Island) that may result from construction of event venues or spectator gatherings have been addressed in the environmental impact report prepared for AC34.

Increased visitation by AC34 spectators in both the programmed event venues and secondary viewing areas could result in trampling, turf degradation, erosion, or crumbling (of weathered concrete/brick) or other structural damage to cultural resources, as well as potential graffiti, artifact collection, and other vandalism. At SAFR and Fort Mason, excessive crowding could result in damage to turf, shrubs, and trees that are part of the cultural landscapes. Under Alternative B, a temporary floating media barge moored between Fort Mason Piers 2 and 3, an array of up to 10 satellite dishes attached to the Pier 3 apron, as well as a hospitality tent at the pier at Fort Baker could result in effects on the historic fabric of the piers, all of which are significant architectural resources that contribute to the National Register and National Historic Landmark (NHL) Districts. Similar physical effects on the Alcatraz Island prison cellhouse, a contributor to the Alcatraz Island NHL District, would also be possible under Alternative B, which includes use of the cellhouse for private events and satellite dish/weather monitoring equipment attachment. The proposed temporary spectator amenities (e.g., bleachers, tents, and video screens) could potentially detract from the historic setting and feeling of National Register and NHL Districts within the APE on GGNRA, SAFR, and Presidio Trust lands.

Currently, visitation at the parks is high and cultural resources experience erosion and degradation on an ongoing basis from this use. This impact would continue under all alternatives, including in the No Action Alternative (in which no AC34 events would take place).

Impacts common to all of the action alternatives include effects related to the inadvertent discovery of archeological resources during construction activities. Impacts could also occur to sensitive historic architectural resources and cultural landscapes resulting from large gatherings of spectators to view the AC34 races. Protection measures common to all alternatives include signs, fencing and resource monitors to ensure fences are not breached and visitors do not impact resources through climbing or other inappropriate use. These measures would serve to eliminate or reduce effects on historic

architectural resources and cultural landscapes to a negligible level. Impacts on unknown archeological resources would be negligible, as no ground disturbance would affect archeologically sensitive soils.

As **Table SUM-5** shows, the residual impact of all AC34 actions on cultural resources for all alternatives would be none or negligible after protection measures are applied. Potential effects on archeological sites, historic architectural resources, and cultural landscapes from erosion, trampling, crumbling of brick or concrete, graffiti, artifact collection, or other vandalism would be uniformly reduced or eliminated through the use of fencing, signs, other access restriction, and/or resource monitoring as appropriate in each location. Compliance with the Secretary of the Interior's Standards ("Temporary Structure Approach") or other NPS Special Events Permit restrictions (including plan review in consultation with NPS cultural resources preservation assessment review staff) would reduce to a negligible level the effects of event venues or equipment located inside or attached to historic architectural resources that would primarily result from Alternatives B, D or E on NPS lands. In some locations, repair or replacement of current interpretive signage would result in a minor beneficial impact.

No mitigation (beyond the protection measures noted in Table SUM-3 above) would be warranted with regard to cultural resources under any of the project alternatives. All potential effects on archeological and historic architectural resources and cultural landscapes have been addressed through site-specific protection measures and management actions associated with each of the project alternatives. No adverse effects as defined by the National Historic Preservation Act would occur.

Activities that could have additive or cumulative impacts on historic architectural resources and cultural landscapes within the APE include the construction of the James R. Herman Cruise Terminal (analyzed in the AC34 EIR), the San Francisco Marina Renovation Project, the Bay Trail Plan and related projects along the shoreline in San Francisco and Marin counties, the California Coastal Trail project, various rehabilitation and development projects at the Port of San Francisco, and the Fisherman's Wharf Public Realm Plan.

On federal lands, cumulative impacts on cultural resources could result from the Crissy Field Center Relocation Project, Doyle Drive Improvement, and Vegetation Management Plan for the Presidio of San Francisco, Fort Point Accessibility Retrofits, Presidio Coastal Trail Project, and in Alternative E from Fleet Week events. The Golden Gate Bridge seismic retrofit, energy improvements on Alcatraz Island, and building improvements at Lower Fort Mason have or will also affect cultural resources in the park. The parks have or will implement standard mitigation measures to ensure the protection of known resources and prevent or minimize impacts to those that remain unknown to date. These protection measures are part of a programmatic agreement with the State Historic Preservation Office and the NPS that allow the park(s) to implement them as needed. Although some of the actions outside NPS lands may require additional consultation with the SHPO and application of agreed-upon mitigation, the contribution of the AC34 project to cumulative cultural resources impacts, regardless of alternative, would be negligible.

TABLE SUM-5: COMPARISONS OF IMPACTS TO CULTURAL RESOURCES ON FEDERAL LANDS WHERE INITIAL IMPACTS ARE GREATER THAN NEGLIGIBLE

Resource	Potential Effect – Alt B	Alt C	Alt D	Alt E	Protective Measures	Residual Impact
Crissy Field: Signal Cable Hut (building 946)	Minor to moderate adverse: Existing social trails could entice spectators to climb to the top of the earthen structure, causing erosion and exacerbating turf degradation.	Minor	Minor	Minor	Provide supplemental temporary fencing around hut; fencing to remain in place through 2012 and 2013 race periods.	Negligible
Airfield	Moderate adverse: Large crowds could cause degradation of turf and subsequent erosion of engineered airfield.	Minor	Minor to Moderate	Minor	Repair and replace turf following removal of event facilities after each season	Negligible
Presidio Area A: Battery East	Moderate adverse: Erosion of earthworks and damage or defacement of masonry magazines and tunnel could result.	Minor	Minor	Minor	Provide supplemental fencing/signage and cultural resource monitoring/ law enforcement presence during race days (2012 and 2013).	Negligible
SAFR: Muni Pier	Major adverse: Pier is structurally unable to support large numbers of spectators.	Moderate to Major	Moderate to Major	Moderate to Major	Close public access to the pier during races (2012 and 2013).	Negligible
Hyde Street Pier	Moderate to major adverse: Large numbers of spectators could overload pier and/or damage boats.	Moderate	Moderate	Moderate	Limit access to pier during races (2012 and 2013); use cultural resource monitor on pier on an as-needed basis (TBD by SAFR).	Negligible
East and West Roundhouses	Moderate to major adverse: Overcrowding of the roundhouse roofs could cause structural damage and create a safety hazard.	Moderate	Moderate	Moderate	Close stairways leading to roofs of both roundhouses.	None
Trees, shrubs, grass, and other plantings of the Aquatic Park Cultural Landscape	Minor to moderate adverse: Spectators could trample plantings and damage turf; event facilities could degrade turf and lead to erosion.	Minor	Minor	Minor	Fence historically designed low planting beds with temporary fencing during both race seasons; repair or replace turf as needed following each race season	Negligible
Fort Mason: Piers 2 and 3, Lower Fort Mason	Minor adverse: installation of media equipment and media/hospitality facilities could temporarily diminish integrity	None- no media or hospitality	None- no media or hospitality	None- no media or hospitality	For Alt B, comply with NPS Special Events Permit regulations for use of Historic Structures	Negligible
Alcatraz Island: Main Cellhouse	Minor to moderate: Any equipment or use could diminish integrity	Negligible	Negligible	Negligible	For Alt B, comply with NPS Special Events permit regulations for use of historic structures	Negligible

TABLE SUM-5: COMPARISONS OF IMPACTS TO CULTURAL RESOURCES ON FEDERAL LANDS WHERE INITIAL IMPACTS ARE GREATER THAN NEGLIGIBLE (CONTINUED)

Resource	Potential Effect – Alt B	Alt C	Alt D	Alt E	Protective Measures	Residual Impact
Fort Baker: Fort Baker Pier (Mine Wharf)	Minor adverse: securing hospitality tent could damage historic fabric of pier	None-no tent	None-no tent	None-no tent	For Alt B, comply with NPS Special Events Permit restrictions for anchoring tent	Negligible
Battery Cavallo	Minor adverse: effects could include erosion of earthworks and/or, vandalism	Minor	Minor	Minor	Provide a cultural resources monitor and/or law enforcement officer on site during race events (2012 and 2013)	None/ negligible

VISITOR USE AND EXPERIENCE

Impacts to park visitor use and experience are expected to be closely related to the level of crowding and congestion experienced by visitors to parklands during AC34 events. Such impacts are analyzed based upon Level of Service (LOS), a standard method of assessing the capacity of an area, trail, or roadway, to accommodate people, whether on foot, bicycle, or vehicle. The following definitions of estimated levels of service (LOS) are used throughout this section:

- LOS “A” corresponds to spacious and comfortable conditions (all visitors have unimpeded, scenic views and/or comfort),
- LOS “B” corresponds to busy, yet comfortable conditions (almost all visitors have good views and/or comfort within a defined space),
- LOS “C” corresponds to crowded, but manageable conditions (a substantial portion of the visitors have somewhat reduced views and/or comfort within a defined space),
- LOS “D” corresponds to very crowded conditions (the majority of the visitors have reduced views and/or comfort, and experience uncomfortable crowding levels within a defined space),
- LOS “E” corresponds to extremely crowded with intermittent gridlock conditions, and
- LOS “F” corresponds to severe crowding with ongoing and unsafe gridlock conditions.

These estimates are based on observed conditions and prior management experience during past large events at numerous points throughout the project area. The LOS estimates are used both for hourly flow, or *congestion*, through an area and the maximum number of people at one time (PAOT), or *crowding*, an area might experience during an afternoon race day. The following sections present, in terms of congestion and crowding, the LOS that could occur at each primary and secondary viewing area under each alternative.

For each geographic area, an initial degree of impact on visitor experience is reported, followed by that which would occur with the implementation of certain management actions and protection measures (Table SUM-3). Protection measures common to all alternatives include the use of an Incident Command System (ICS), which would help in directing flow, maintaining access and keeping the area as safe as possible. An integrated communication system and back-up emergency access would be available to transport any sick or injured visitors; the communications would help traffic control to know how to best manage visitor crowding. On portions of the Bay Trail within NPS lands (i.e., Crissy Field Promenade and Aquatic Park Promenade), bicycle and pedestrian traffic would be separated and dedicated bicycle lanes would be developed.

Portable restrooms, hand washing stations, as well as restroom maintenance would be required all NPS parkland viewing sites along the San Francisco waterfront, and at Fort Baker. A portion of the restrooms would be ADA accessible. In addition, firefighting, rescue, and emergency medical support would be stationed at key locations, such that response time averages 5 minutes or less from notification 90% of the time for emergencies requiring Advanced Life Support. Crowd control would be used to ensure that all San Francisco Fire Department emergency access lanes are maintained at a

minimum of 14 feet wide at all times and that a minimum of 3 feet of clear space is maintained around fire hydrants (SFFD 2012).

San Francisco Maritime National Historical Park (SAFR)

If Alternative B were implemented, on-site crowding conditions on 2012 peak race days could range between LOS B and D without management actions or protection measures in place. On 2012 peak race weekends, LOS C, which is a situation where conditions are crowded but manageable, would prevail. On peak weekend days, it would be very crowded, LOS D, at one location at SAFR.

Under Alternative C, on-site crowding conditions would range from LOS B to LOS C on 2012 peak race days at SAFR. For Alternative D, on-site crowding conditions could reach LOS D at two locations on the 2012 peak weekend race days. However, conditions would remain between LOS B and LOS C on the 2012 peak race weekdays. For Alternative E, the only alternative with a race schedule coincident with Fleet Week, conditions would generally be LOS C or D. However, conditions would likely worsen during race days overlapping with Fleet Week, such that congestion could deteriorate to LOS E and overall crowding could reach LOS F during that peak weekend race day.

In Alternative B, a few locations would experience visitor increases in 2013, but many would remain at LOS B or C. The Jefferson Street entrance would likely experience the most congestion, as it would reach LOS D on both peak and medium-high race weekends. However, on peak weekend race days, the park could become extremely crowded (LOS E). Conditions under Alternative C would be considerably less crowded than that of Alternative B and experience a reduced level of congestion at Jefferson Street Entrance and the Aquatic Park Promenade at the Bath House, resulting in LOS C conditions at all but the former location during 2013 weekend race days. Crowding in 2013 under Alternatives D and E would be nearly identical to that described for Alternative B, with slightly reduced overall crowding (LOS D) during peak periods.

Visitor Safety. Without the adopted management actions and protection measures, conditions ranging from crowded to severely crowded in 2012 and crowded to extremely crowded in 2013 could pose threats to visitor safety in Alternative B, D or E. Impacts would include increases in unsafe site conditions, potentially delayed medical response times, and/or unsanitary public health conditions (e.g., lack of available restrooms). Very crowded conditions could result in pedestrian and bicycle conflicts, although these impacts would be mediated with protection measures that call for separate bike lanes and/or alternate bike routes.

Visitor Use. Crowded conditions may discourage non AC34-related visitation at SAFR on race days, although some visitors there for other purposes may be “converted” to watching the races. Others may choose not to visit and be “displaced” to other park sites or open space areas. Unique uses at SAFR, such as swimming in Aquatic Park Cove, are less likely to be displaced under Alternatives C, D, and E due to the decrease in extent and timing of regular race day programming at this site than under Alternative B.

Visitor Satisfaction. Visitor satisfaction and experience would likely become degraded if conditions became too crowded and visitor support facilities were not readily available. Under Alternatives C, D,

and E, visitor satisfaction would be less impacted than under Alternative B, due to decreased congestion around programmed areas.

Visitor Understanding. If visitors could not access historic ships or the visitor center at SAFR because of crowds, they would not be able to learn about the park's history or resources. To offset this, SAFR could emphasize educational programs on maritime history under all alternatives. Sailing exhibits and ocean stewardship educational displays would be available, if funded and provided for by AC34 project sponsors, under Alternatives B, D, and E.

Protection Measures. For Aquatic Park Cove, AC34 displays, if permitted, would be restricted to limited zones to preserve existing uses such as swimming and rowing. During the weekend race days, SAFR staff would actively monitor the cove and determine when it is full. USCG may assist if requested to restrict access to only permitted boats. Although visitor use management actions and protection measures would reduce impacts, some existing park visitors, such as bicyclists and swimmers/boaters, would avoid the park or experience a reduction in visitor satisfaction. In addition, the perceived LOS conditions could be somewhat higher (e.g., worse) during particularly high interest race event periods, such as afternoons of peak weekend race days. However, these effects would be short-term and use and satisfaction of the area would be restored upon completion of the AC34 events, and particularly upon completion of the peak weekend and 2013 medium-high event periods.

With funding, augmented staffing, and full application of protection measures (Table SUM-3) for such, AC34 visitor safety, use, satisfaction, and understanding impacts at SAFR would be short-term and range from minor for Alternatives C, D and E to moderate for Alternative B.

Fort Mason

Crowding conditions at Fort Mason during Alternative B race periods in 2012 and 2013 could result in LOS ranging from B (busy, yet comfortable) to F (gridlock). Weekday conditions would range from LOS B to C. Congestion during peak and medium-high weekend race days would be particularly high (LOS E to F) at the "pinch point" on Laguna Street (at Marina Boulevard). Other locations within Fort Mason would experience conditions at or below LOS C for both years. These conditions would be nearly identical for Alternatives C, D, and E, although overall crowding would be slightly less during peak and medium-high weekend race days under Alternatives C and E for both years.

Visitor Safety/Satisfaction. Impacts and protection measures to protect visitor safety and satisfaction would be the same as described above for SAFR. However, bike flows will be separated from the pedestrian walkway on peak and high medium interest days in 2012 and 2013 and re-routed either on dedicated bike lanes up Van Ness Boulevard and along Bay Street to Laguna Street or through the Van Ness Boulevard gate on lower visitation days. Bikes would be walked at the pinch point at Laguna and Marina, or diverted to an alternative City bike lane to further west on Marina Boulevard. Traffic management personnel ("safe street ambassadors") assigned by the City to help re-route bicyclists through traffic would also be deployed here. This safety measure would be applied to all action alternatives including Alternative E to reduce pedestrian and bicycle conflicts.

Visitor Use. Visitors to Fort Mason use the park to bicycle, jog, walk their dogs, or picnic. As with SAFR, some visitors would choose not to visit Fort Mason because of AC34 events. Others may “convert” and watch the races from viewing spots at Upper or Lower Fort Mason, or be displaced to other open areas. In addition, regularly occurring special events that make use of the Great Meadow and other Fort Mason areas, such as music festivals and picnics, could be in conflict with proposed race days, and some events may need to be rescheduled.

Visitor Understanding. For those wishing to explore Fort Mason’s historic batteries, gardens or discovery exhibits, visitor understanding could be diminished on peak weekend days due to crowding.

Protection Measures. The Incident/Event Command System (ICS) would help to manage crowds, ensure safety, access, and use communication to redirect crowds or restrict areas at capacity at Fort Mason (e.g., Black Point Battery). Pedestrian and bicycle traffic would be actively managed and tracked at the Fort Mason/Laguna Street entrance and key intersections. SFMTA, park partner, permitted program user, and resident access would be coordinated with the San Francisco Police Department (SFPD), and the Department of Parking and Traffic, which would be controlling the traffic access along Marina Boulevard.

Although protection measures (Table SUM-3) would reduce impacts, some would remain. In addition, during the actual races perceived LOS could be higher as the crowds thicken and jostle. Overall, impacts on visitors at Fort Mason would be short-term, and minor to moderate for all alternatives.

Crissy Field East (Areas A and B)

In Alternative B, Crissy Field would have bleachers and a stage with amplified sound, and the race area would extend offshore of the entire Crissy West and East area. In Alternatives C and E, no venues are planned at Crissy Field, and in Alternatives D and E, the race area is located further east (by 0.25 mile in Alternative D and by 0.5 to 1.0 mile in Alternative E), shifting the best viewing locations, and consequent crowding, to the east as well.

While visitor flows at Crissy Field East under Alternative B during 2012 would stay at LOS B or C for the most part, crowding could increase to LOS D during peak weekend race days. In Alternative C, flows in 2012 would generally be lighter, with most sites experiencing LOS A or B conditions. However, crowding could reach LOS D conditions during peak weekends. In Alternative D, conditions would be similar to or less severe than under Alternative C. In Alternative E, congestion levels would remain similar to those of Alternatives C and D, characterized as busy, yet comfortable. However, during certain weekend race days (e.g., Fleet Week), crowding under Alternative E could increase to LOS D and E levels.

Crowding would worsen in 2013 under all alternatives, particularly during peak weekends. In Alternative B, congestion and crowding would reach LOS E at the Mason Street multi-use trail as many visitors would use the trail to Crissy Field when roads are restricted. Conditions would be somewhat better during medium-high visitation days. At other locations within the park and during other race days, 2013 LOS levels would primarily be LOS B and C for Alternative B.

Congestion would be less in Alternative C than B, but would still be high (LOS C) during peak weekend days, with LOS D at the same Mason Street area as for Alternative B and crowds reaching LOS E conditions on peak weekend days. For Alternative D, LOS conditions would fall between those identified for Alternatives B and C in 2013, reaching LOS E on peak weekend race days at one location, but otherwise remaining in the LOS B or LOS C range. For Alternative E in 2013, Crissy East would generally be busy or manageably crowded for most race days; however, whereas Alternative B congestion would reach LOS D or E conditions on peak weekends at two locations, Alternative E would reach LOS D at only one location. However, under Alternative E, overall crowding could still reach (LOS E) conditions; especially during peak viewing times on peak weekend days.

Visitor Safety. Similar to other park sites, impacts to visitor safety include increases in unsafe site conditions, delayed response times, unsanitary public health conditions, and pedestrian and bicycle conflicts, particularly along the pathway adjacent to Mason Street and the Crissy Field Promenade. Intersections and crosswalks around Marina Boulevard and Mason Street would be managed, as necessary, during race days.

Visitor Use. As at other park sites, visitors could be displaced, converted or choose not to visit Crissy Field East during AC34. Restricted access and parking would make use of the Crissy Field East beach for board sail launching difficult because equipment is too heavy to transport without private vehicles. In addition, regularly occurring special events, such as canoe and windsurfing competitions, could be in conflict with proposed race days and many may need to be scheduled for non-race days. Golden Gate National Parks Conservancy and Crissy Field Center programming could be disrupted.

Visitor Satisfaction/Understanding. Overcrowding and impacts on visitor facilities would reduce visitor satisfaction and experience, as well as the chance to understand park resources, mostly under Alternative B.

Protection Measures. The ICS would help in the ways identified above to manage visitor crowding, flow, access and safety, including by redirecting vehicle traffic, bicycles, pedestrians and even buses or shuttles to prevent gridlock. Equipment storage is also expected to be provided by the City on Yacht Road, near the shoreline. USCG and ACRM would notify both maritime users and the general public when each day's racing is completed to help facilitate water access to the Central Bay. In addition, a parking management system to help maintain access, to the extent feasible, at Crissy Field (use of Crissy Field Center, kayaking, sailboard launching etc.) on race weekends in both years would be put into place. Educational displays and other interpretive materials would continue to be integrated into park and partner programs at the Crissy Field Center during AC34.

With application of management actions and protection measures (Table SUM-3), overall visitor safety, use, satisfaction, and understanding effects would be reduced to minor for Alternatives C, D, and E, to moderate for Alternative B. Moderate impacts for Alternative B are related to higher visitation levels and resulting in greater congestion and displacement of uses than other alternatives.

Crissy Field West (Areas A and B)

For Alternative B, 2012 race days are expected to result in visitor flows ranging from LOS A to C conditions at Crissy Field West. For most locations on most race days during 2012, conditions are expected to be crowded but manageable at worst. Overall crowding could reach LOS D levels during peak weekend days. Reduced crowding and congestion would occur under Alternative C, and at no time would LOS D conditions occur. Conditions for Alternative E would be very similar to those expected for Alternative C in 2012. Those for Alternative D would be less severe than for Alternative B, mostly in the LOS A and B range.

In 2013, LOS levels under Alternative B would generally be in the B and C range, although they would worsen during peak weekends to LOS D and E for visitor flows. Overall crowding during such days could increase to LOS F conditions, corresponding to extreme crowding and gridlock on Crissy Airfield.

In Alternative C, congestion and crowding would be less severe (i.e., LOS A to LOS C) throughout Crissy Field West in 2013, as there would be no programming attracting spectators to that area. The park would experience a similar reduction in congestion and crowding under Alternative D; however, with certain programmed activities and associated visitation, conditions could reach LOS D during peak weekend race days. Alternative E conditions at Crissy Field West would be nearly identical to those described for Alternative C.

Visitor Safety/Satisfaction/Understanding. Impacts to visitor safety, satisfaction and understanding would be more severe than those described above for other park sites, although Alternative B is more likely to result in greater impacts (extended moderate effects) to these variables because of crowding than other alternatives.

Visitor Use. As with other park sites, some visitors would choose not to visit Crissy Field West or be converted or displaced. In addition, regularly occurring special events, such as races, large picnics, festivals, and Relay for Life, could be in conflict with proposed race days and may need to be scheduled for non-race days. Further, visitors to Golden Gate National Parks Conservancy and Gulf of the Farallones National Marine Sanctuary headquarters operations and programming could be disrupted during overlap between AC45 race series and Fleet week in 2012, and on 2013 peak and high-interest weekend days.

Protection Measures: The ICS would help in managing crowds, ensuring safety, helping visitor flow, managing parking, program access, and managing traffic, bikes and pedestrians. Communications between ICS personnel would help redirect visitors to less crowded areas, transit, bike parking, etc. NOAA would continue its environmental educational programs/exhibits on marine life ecology and ocean stewardship for the public.

With full application of management actions and protection measures (Table SUM-3), impacts would be short-term and minor for all action alternatives, except Alternative B which would have a moderate effect as noted above.

Crissy West Picnic Area

Congestion at Crissy West Picnic Area during 2012 under Alternative B would be LOS B or C on peak race days, although overall crowding could reach LOS D (very crowded) during peak weekends. In all other alternatives, fewer visitors would mean crowding levels at the picnic area would decrease to between LOS A and B for the most part, although increased visitation in connection with Fleet Week under Alternative E could result in LOS D conditions during that weekend.

In 2013, Alternative B congestion at Crissy West picnic area would range between LOS B and LOS C for all days except peak weekends, when it would reach LOS D. However, overall crowding could reach extreme (LOS E) conditions during peak weekend race days. In Alternative C, congestion would decrease LOS A or B conditions for the most part, although periodic increases during weekend race days mean overall crowding could increase to LOS D during peak weekends. The crowding would be similar to or slightly lower in Alternatives D and E, except more congestion (LOS C) would be expected during Alternative D peak weekend race days along the Promenade.

Impacts and protection measures (Table SUM-3) would be the same as those described for other park sites above. Given the application of these measures, impacts to visitor safety, satisfaction, access and understanding at the Crissy West Picnic Area would be short-term and minor for alternatives C, D and E. Higher visitation and crowding would increase LOS levels in Alternative B, particularly during peak weekends. The ICS would help in maintaining visitor flow to some degree, but may only be able to keep impacts to a moderate level on these few days in both years for that alternative.

Fort Point

If Alternative B were selected, Fort Point LOS would range between B and D in 2012. On 2012 peak weekday and peak weekend race days, congestion conditions would range between LOS B and C, slightly more crowded than is typically experienced under current conditions. However, areas where people would stop to watch AC34 events could be very crowded (LOS D) on peak weekend race days. Alternatives C, D and E could also result in some crowding in 2012, but conditions are not anticipated to exceed manageable (LOS C) levels. However, during those Alternative E weekend race days that overlap with Fleet Week, congestion would increase to LOS D.

In 2013, Fort Point under Alternative B would be busier than in 2012. Congestion would range between LOS B and D, with the latter occurring during peak weekend days. On such days, overall crowding conditions could reach LOS E. For the most part, Alternative C conditions would be less crowded than those for Alternative B, but could still reach LOS D during peak weekend race days. Conditions would be slightly worse in Alternative D than Alternative C, but would not be as severe as in Alternative B in 2013. Under Alternative E, conditions at Fort Point would about the same as those described for Alternative C.

Impacts to visitor safety, access, satisfaction and use would be similar to those described above for other sites. Except for possible closure of Fort Point to vehicle access on peak and high interest 2013 weekend race days, protection measures would be the same as noted above for other park sites. With adoption of these measures, impacts to visitors at Fort Point would be short-term and minor, though

the duration and visitor displacement may increase under Alternatives B for peak and medium high weekend days.

Golden Gate Bridge Overlook

Access and use at this site includes bridge walkers, bridge bicyclists and sightseers. Although some visitors may be converted to spectators, few would be displaced to other locations as this experience is particularly unique in the area.

Crowding during the 2012 races at the Golden Gate Bridge Overlook is expected to increase only slightly beyond conditions without the races. In Alternative B, conditions would range from LOS B to LOS C, although overall crowding could reach LOS D conditions for peak weekends. In Alternatives C, D and E, conditions at this location in 2012 would range from LOS B to LOS C, or unchanged from current conditions.

At the Overlook, views of the Bay would be best from the coastal trail on the east side of the bridge. In Alternative B, congestion in 2013 at this location would vary from LOS C on weekdays to LOS D on weekends. Overall crowding would reach LOS D conditions on all weekends except peak weekends, when it would increase to LOS E, extremely crowded with intermittent gridlock conditions. In Alternatives C, D, and E, congestion would be less than for Alternative B in most cases; however, overall crowding during peak and medium high weekends would still reach LOS D conditions.

Impacts on visitor safety, satisfaction and understanding would be the same as those described for other park sites, as would be protection measures. With adoption of protection measures, impacts to visitors at the overlook would be short-term and minor under Alternatives C, D, and E, to moderate for Alternative B.

Battery Spencer/Conzelman Road

Battery Spencer, an excellent viewing location in the Marin Headlands, would be a secondary viewing spot and visitor numbers are not expected to change much between alternatives in 2013. In 2012, slight differences between Alternative E and the other alternatives would occur because of the overlap with Fleet Week, and the additional eastward shift in the race area.

Existing conditions are generally uncrowded at Battery Spencer, although busy conditions are possible at certain times of the day on weekends. In 2012, the main walkways of the battery would remain relatively free of congestion, but crowding could increase to LOS C on peak weekends for all alternatives. In Alternative E, crowding could increase further to LOS D conditions during the weekend days corresponding with Fleet Week.

In 2013, congestion would generally be limited to the range of LOS B and C, with the occasional LOS D on peak race weekends. However, overall crowding conditions could result in LOS D during peak and medium high weekend race days, prompting additional traffic controls on Conzelman Road and adjacent roadways.

Impacts to visitor use and access may be particularly to bike riders, who often use Conzelman Road or those seeking an extraordinary scenic drive and view on peak and medium high interest days. Protection measures such as restricting Conzelman Road to vehicles on peak weekend days, or emergency response vehicles staged in the immediate area of Conzelman Road to meet response times may be applied if needed. With application of protection measures described above for other park sites, visitor safety, use, satisfaction, and understanding effects would be short-term and minor to moderate for all alternatives.

Fort Baker

Fort Baker would have some small venues in Alternative B, and so crowding conditions during peak weekend race days in both 2012 and 2013 could reach LOS D, one level higher than for all other action alternatives. Such would also be the case under Alternative E, during the 2012 weekend that overlaps with Fleet Week. Otherwise congestion would be the same across all alternatives for both 2012 and 2013 at Fort Baker, and would range between LOS A and LOS C. Existing conditions for Fort Baker range from LOS A to LOS B.

Impacts to visitor safety, satisfaction and understanding would be the same or similar to those described above. Crowding or access restrictions may particularly affect those who wish to visit the Discovery Museum, or fish from the pier under Alternative B. Added fencing and resource monitors, as well as temporary restrictions on race days, will also ensure that Mission blue butterfly habitat and sensitive cultural resources are not disturbed.

Protection measures would be the same as described for other park sites. Traffic and parking management actions, including the implementation of a parking management system on peak weekend days, are most important here to preserve access to unique visitor uses and programs of this site, such as the Bay Area Discovery Museum, fishing pier, kayaking, boat and sailboard launch, marina boats, scenic views, and the Cavallo Point Lodge, restaurant and spa, and would be one of the responsibilities of the ICS.

With the adoption of these management actions and protection measures, impacts to visitor safety, use, satisfaction, and understanding at Fort Baker would be short-term and minor for all alternatives.

Marin Headlands, Baker Beach, China Beach, Lands End

The inland and northern portions of the Marin Headlands, Baker Beach, China Beach, and Lands End areas may be where displaced visitors go as an alternative during AC34. LOS analysis has not been developed for these areas; however, based on the analysis performed for Battery Spencer, it is possible that crowding could occur during 2013 peak weekend days because of displacement of visitors seeking alternative park experiences.

Protection measures, such as those described for Battery Spencer, could also apply to these areas if needed. For example, Conzelman Road may be restricted to vehicles on peak weekend days, additional traffic control may be applied at the Fort Baker-Barry tunnel during peak congestion periods on

weekends, and emergency response vehicles may need to be staged close to the Marin Headlands or Conzelman Road to meet response times. With adoption of these management actions and protection measures, visitor safety, use conflicts, diminished visitor satisfaction, and understanding effects at these locations would be short-term and minor for all alternatives.

Alcatraz Island

As with the locations previously discussed, there has been no LOS analysis performed for Alcatraz Island. Visitation to the Island would not be expected to increase under any alternative, as visitation is controlled by ferry capacity and no additional ferry service would be provided. However, visitation patterns could shift under all action alternatives. As such, increased staffing may be needed to manage longer duration of visitation and interest in viewing AC34 races, especially in 2013. In addition, visitors to Alcatraz Island may experience longer wait times in both accessing the embarkation point for Alcatraz Island at Pier 31½ as well as longer boarding times due to any added screening measures necessary. USCG and ACRM would make every attempt to keep Alcatraz ferry waiting times to no more than 10 minutes, including by providing an escort through the race area if necessary.

The Presidio (Area B)

Portions of Presidio Trust lands may also experience crowding. However, LOS modeling was not performed for these areas. Without protection measures, such crowding could result in impacts like those described above, including impacts to programming offered by the Presidio Trust, Golden Gate National Parks Conservancy, and Presidio tenants.

Management actions and protection measures, such as those described above, would also apply to the Presidio Trust lands. With adoption of these management actions and protection measures impacts to visitor safety, use, and visitor satisfaction effects would be short-term and minor.

United States Coast Guard Managed Nearshore Areas

Currently motorized boats can transit along the San Francisco waterfront. Due to potential increases in this traffic during AC34, and the potential for associated impacts to recreation, the USCG in coordination with NPS would establish a small non-motorized vessel zone along Crissy Field. This zone would facilitate water-based recreational access to the Central Bay during 2012 and provide a buffer for such small non-motorized uses in 2013, minimizing impacts to the extent feasible.

Although AC34 events could interrupt Alcatraz Island ferry service, the USCG and ACRM are committed to ensuring delays do not exceed 10 minutes on average during afternoon race periods. This may be accomplished through an ACRM-escort boat through the race area and would keep impacts to minor.

Cumulative

Cumulative effects on visitor use and experience consider the past, present, and reasonably foreseeable actions in the vicinity of venue and secondary viewing areas, in addition to the potential effects of AC34. The projects identified include those which could affect visitor use and experience by affecting visitor safety, uses, satisfaction, or understanding.

There are a number of projects recently completed, ongoing, or planned within, or in, the vicinity of either a primary venue or secondary viewing areas such as the Doyle Drive Reconstruction, among others. Projects that are not specifically associated with one particular venue or spectator viewing area include the San Francisco Marina Renovation Project, the Bay Trail Plan and related projects along the shoreline in San Francisco and Marin Counties, the California Coastal Trail project, various rehabilitation and development projects in the Port of San Francisco, and the Fisherman's Wharf Public Realm Plan. Area specific projects such as Fort Point Accessibility retrofits, Presidio coastal trail project, Municipal Pier rehabilitation, seismic upgrades at Fort Mason, Saterlee Road improvement at Fort Baker, Conzelman Road construction and Bunker road water line replacements in the Marin Headlands can also all have impacts on visitors.

San Francisco Fleet Week is typically held the first week in October and would coincide with the second proposed America's Cup World Series (ACWS) event race series in 2012. The combination of Fleet Week and AC34 visitors could increase visitation numbers and worsen LOS conditions over those reported for AC34 events above.

Because most of these projects would require environmental review and mitigation, they are unlikely to have specific individual effects that are more than minor or moderate. When combined with the effects of AC34, the cumulative effect to visitor use and experience would be incrementally greater, but may still be considered minor to moderate depending on the location and viewing opportunities. However, these projects and some special events like Fleet Week or major construction would likely to have an additive effect that is greater than this. For example, with Doyle Drive Reconstruction, impacts on Crissy Field would be minor to moderate under all action alternatives.

NOISE AND SOUNDSCAPE

Sources of noise include construction activities both on federal lands in some alternatives and off federal lands but under federal permit jurisdiction.

Operation of the AC34 events would also result in the temporary introduction of both stationary and mobile noise sources, including generators, helicopters, amplified sound and vehicle traffic.

Construction Noise

Construction activities that would be associated with activities not on federal lands would be the same for Alternatives B-D, and similar for Alternative E, although this alternative has been updated to reflect the most recent changes in the Sponsor Proposal that include less construction. Construction activities

include site preparation, placement of infrastructure, placement of foundations for structures, and fabrication of structures. Demolition and construction activities at a number of the pier sites along the San Francisco waterfront would require the use of heavy trucks, material loaders, cranes, concrete breakers, and other mobile and stationary construction equipment but would occur far from federal lands and would not require federal permitting

In all alternatives, the 2012 AC34 Village would be located at Marina Green; temporary construction noise could spill over into adjacent park sites at Crissy Field or even Fort Mason. The loudest construction activities at Marina Green would be related to pile driving for floating docks over a short (one- to two-day) period, although heavy equipment and trucks and tugs would also be needed. Assuming simultaneous operation of the two noisiest pieces of construction equipment (an impact pile driver and a mobile crane) as a worst-case analysis, peak construction-related noise levels at Marina Green would be 101.1 dBA at a distance of 50 feet. Construction would take place only between 7 a.m. and 8 p.m.

The nearest sensitive receptors to Marina Green are single-family residences across Marina Boulevard, approximately 100 feet from Marina Green and approximately 400 feet from the Bay where pile driving would occur. At the 400-foot distance, construction-related noise would be attenuated to 83.0 dBA. This contribution to the existing monitored background at these receptors and would result in a temporary increase of ambient noise of 20 dBA. Noise from pile-driving activities would represent a moderate adverse construction noise impact at the nearest residence. Pile driving locations would be approximately 1,500 feet from Fort Mason facilities and 1,900 feet from Crissy Field east facilities and parklands. Pile driving noise impacts to nearest visitors and park staff at Fort Mason would be 71 dBA, approximately 2 dBA above hourly average ambient levels along Laguna Street. Construction noise would result in minor adverse impacts on the nearest parklands.

Construction of 2012 and 2013 Spectator Areas

Under Alternatives B and D, bleacher seating tents/canopies installed at park sites would result in noise levels 10 dBA above ambient or less at nearby receptors for a period of several days, a short-term minor adverse impact.

Construction Vibration

All of the action alternatives include the potential for vibration impacts from pile driving and the use of excavators and backhoes used to break concrete.

The closest pile driving to federal lands would occur at Marina Green and would be approximately 1,500 feet from Fort Mason. At this distance, vibration levels from pile driving would be reduced to 51 vibration decibels (VdB) and would be a negligible adverse impact with regard to human annoyance.

Helicopter Noise

Helicopters would be used for AC34 races in any of the alternatives to support race telemetry, broadcasting and media operations.

Flight tracks for helicopter operations would follow the race course and include a 1,000-foot buffer from the Crissy Field shoreline, for all alternatives to reflect protective measure restrictions on helicopter flights in this area. Helicopter height restrictions over Alcatraz Island are also part of all alternatives, although they vary in height from 1,000 feet in Alternatives B and C, to 2,000 feet in Alternatives D and E. Otherwise, helicopters would be able to drop to as low as 100-400 feet over much of the race area in open water. Exceptions to this include where marine mammals are present or over known seal or sea lion haul-out areas.

Modeling of a more conservative scenario than 1,000 feet in elevation at 1,000 feet distant from Crissy Field or Alcatraz Island accounted for the possibility that helicopters may drop low once they are outside the 1,000 foot horizontal distance. Given this possibility, NPS lands under Alternative C, D and E would generally experience reduced helicopter noise; although on occasion, low-elevation helicopter activity for race photography could cause noise levels to come close to those of Alternative B. As a result, the impacts would be minor to moderate and adverse for all alternatives, although they would likely be of a shorter duration for Alternatives E and D.

Traffic Noise

Increased vehicle traffic associated with the proposed AC34 events would increase noise levels along most affected roadways, although closures could lower noise from traffic on some roadways. Impacts from these closures and restrictions would mean beneficial or negligible impacts at three of the roadway segments analyzed and moderate adverse along Lincoln Boulevard on weekdays for Alternative B. This would change to minor impacts for 3 segments and moderate impacts at Lincoln on weekends. Traffic-related impacts are similar for Alternative D, although fewer road closures mean impacts would be negligible instead of beneficial and weekend impacts to Lincoln Boulevard would be reduced to minor. In Alternatives C and E, weekday and peak weekend traffic related noise would be negligible for all roadways during both years, except for benefits from road closures at Bay Street from Van Ness Avenue to Franklin Street.

The use of the ICS to help maintain traffic flow and redirect traffic to prevent gridlock to the extent possible may reduce moderate impacts to some degree.

Generator Noise

Alternative B includes the use of amplified sound at Crissy Field and SAFR by project sponsors' activities, and these and other park sites (Fort Baker, for example) would require generators to provide electricity for this and lighting, entertainment, etc.

At Fort Baker, generators in Alternative B could result in noise levels of 56.6 dBA, as much as 7.6 dBA over existing noise levels at Cavallo Point Lodge, 1,660 feet from where the generators are likely to be

operating. This is likely to be tempered by some degree by an intervening hillside between the generators and the lodge, which would reduce the noise level at the lodge by an estimated 5dBA and drop the degree of impact to moderate for lodge guests. Generators would not be present at Fort Baker under any other alternative, including Alternative E, and impacts would therefore be undetectable or negligible.

Alternative B would also include up to five generators in 2013 at Crissy Field to support venue operations. The combination of these generators operating in unison is predicted to contribute 77 dBA in 2012 and 79 dBA in 2013 at 100 feet. Depending on the location of the generators, they have the potential to cause major adverse impacts at locations like Crissy Field Marsh and Crissy Field Center. Generator noise could also detract from the soundscape experience of park visitors present for reasons other than observing AC34 events. Protective measures include a requirement to use the quietest possible generator, which would reduce impacts at this location to moderate adverse. No other alternatives include amplified sound at Crissy, and Alternatives C, D and E would therefore result in no generator related impacts to visitors, educational programs at the Crissy Field Center or to nearby residents.

A single generator for SAFR would likely be used to power proposed exhibition and concession facilities. The distance to the nearest sensitive receptor as well as the existing noise levels at the receptors along Beach Street result in a marginal contribution to existing noise levels from operation of the proposed generator at SAFR.

Amplified Sound

Alternative B includes entertainment venues with amplified sound at Crissy Field, Marina Green, Fort Mason, and Aquatic Park in 2012 and 2013 and also for Pier 27 in 2013. At Marina Green, the event stage would be located at the western end of the green and directed toward the Bay. At Crissy Field West, the event stage would be located at the center of the western field area. No amplified sound would be allowed at Crissy Field in any other alternative; therefore the closest location would be from Marina Green, about 2,000 feet from the Crissy Field Center.

Without Protection Measure NOI-2, amplified sound has the potential for major impacts during events on residents or park visitors. NOI-2 establishes a performance standard consistent with local land use regulations, which keep interior noise levels from exceeding 45 dBA, and would lower impacts in Alternative B related to amplified sound to moderate. The impacts of other alternatives to federal lands from amplified sound at Marina Green would be lower; however, the impact of the AC34 programmed activities upon residents near Marina Green would continue to be moderate.

Fireworks

All alternatives include fireworks in 2013. Given the brief duration and limited number of firework events proposed, and the distance to proposed location offshore of pier 27/29 in 2013, noise from firework displays is expected to result in a minor adverse human exposure impact on federal lands, with noise levels of 72 dBA expected during 45-minute events.

Cumulative

Federal lands, including parklands, would be subjected to the cumulative contribution of all noise sources generated by AC34 events. A park visitor would be simultaneously exposed to noise from generators, amplified sound, helicopters and roadway traffic increases on a given event day. There is also the potential for other projects, primarily though construction activities (e.g., construction of improvements to Doyle Drive), to cumulatively combine with the identified impacts of the project, as well as the existing noise sources occurring without the project.

Cumulative noise sources at Crissy Field from AC34 events (57.0 dBA ambient + 57.2 dBA helicopters + 60 dBA generator + 60 dBA Amplified Sound) results in a cumulative noise level of 64.8 dBA, which would be 7.8 dBA above the ambient level resulting in a moderate adverse impact.

Additionally, Alternative E, unlike the other alternatives would include a four-day race series overlapping with Fleet Week activities in 2012. Fleet Week days would result in cumulative increases in vehicle traffic and additional noise from overflights from Fleet Week air shows. Cumulative traffic volumes including Fleet Week traffic would result in a moderate impact along Lincoln Boulevard, a minor impact on Lombard Street and a negligible impact on Bay Street. The F-18 Hornet aircraft used by the Blue Angels during Fleet Week can generate 110 dBA at a distance of 1,000 feet (U.S. Department of the Navy, 2011). These noise levels from jet aircraft would overwhelm the cumulative contributions of Alternative E sources, which would not have a quantifiable contribution during air show events.

FACILITIES AND OPERATIONS

Impacts will occur to park facilities and assets, as well as operations (e.g. staff and budget) in the following divisions: (1) Law Enforcement, Traffic Management, and Parking Management; (2) Maintenance, Protection, and Compliance Monitoring; (3) Special Events, Business Management, Public Affairs, and General Administration. Due to duration of this event series and large crowds, it will also be necessary to draw upon both regional and national NPS staff, Presidio Trust staff, as well as local law enforcement and fire/EMS staff, especially in 2012 during overlap with Fleet Week, and throughout 2013 races.

Impacts Common to All Action Alternatives

Expected high visitor use to areas under federal jurisdiction could threaten the integrity of accessible assets. Grass fields, maintained landscapes, trails, restrooms, signage, historic ships, and benches would require maintenance, repair, and restoration in both 2012 and 2013. Specifically, restoration efforts of grounds due to visitor-induced turf and trail degradation in such areas as the Promenade/Bay Trail and its secondary trails, the Great Meadow at Fort Mason and SAFR gardens and grounds may be necessary.

Facilities may also be temporarily affected. For example, increased visitor use could lead to impacts to wastewater treatment. Management and protection measures include the addition of portable

restrooms and wastewater would be disposed of by truck. Similarly, all race-related boats and spectator boats in the Bay would be required to use land-side or mobile pump-out facilities for disposal of sewage or wastewater.

Operation strategies and management measures include the following key objectives: (1) provide a safe and clean environment for AC34 spectators, other park visitors, and staff during the entire event timeframe; and (2) provide convenient access to all park venues supporting AC34 activities and minimize impacts to continuing park operation, partners, tenants, and neighbors. In anticipation of the high interest in AC34 events compared to previous events hosted at these venues, approaches to crowd management will address not only on-site tactics but also methods and strategies for shifting visitation away from high-demand periods and locations. Thus, crowd management strategies will incorporate both traditional on-site crowd control methods along with demand distribution – i.e., managing the incoming arrivals of spectators so that they are more evenly distributed across the length of the race series and each of the affected viewing locations (ORCA 2011).

Impacts of Alternative B

Fort Baker

In addition to the potential Incident Command System (ICS) discussed in project protection measures (see BIO-1, CULT-1, VUE-1 in Table SUM-3) this alternative is likely to draw from out-of-town NPS resources and require funding by project sponsors. This alternative would require NPS to dedicate park staff and contractor resources through reassignment, overtime, or temporary hires to provide maintenance, protection, and compliance services at park sites. Tasks could include traffic control or direction, law enforcement, visitor management, resource protection before and during the event, maintenance of restrooms, visitor information, first aid response, as well as grounds or facilities repair following AC34 events.

Visitors are expected to use facilities, such as restrooms and the general grounds of Fort Baker, therefore requiring additional trash pickup, servicing of both existing and temporary restrooms, grounds repairs, and utility troubleshooting calls. Sensitive cultural and biological resources in the vicinity will require installation and monitoring of fencing installed for resource protection and/or resource monitor personnel. Given the intensity and duration of the AC34 events and associated increases in visitation, the impacts on facilities and operations at Fort Baker could be short-term minor adverse in 2012 and short-term moderate in 2013 since more staff and other personnel would be provided by the ICS in 2013. The funding of management and protection measures (including the ICS), by the project sponsors means the park will be able to utilize locally assigned staff and resources with limited outside support in most of 2012, although to the extent that park staff is used to manage AC34 events, other “regular” work may be put on hold. In 2013, during peak periods, additional staffing resources will be needed from outside the park, due to duration and intensity of race events and visitation.

In addition to the ICS, visitor use monitoring and management strategies used to help keep spectators and other visitors from unduly crowding or adversely impacting park assets (see BIO-2, CULT-2 or

VUE-2) the following measures would also help protect park assets and operations: the preparation of a park operations plan guiding staff on AC34 responsibilities; resource monitors; and signs and fencing to protect sensitive park resources. Other measures speak to weight restrictions for park piers and restrictions to prevent damage (CULT-8 and 9, GEO-1, CULT-7) and the coordinated approach to direct traffic, pedestrians and bikes that will help reduce operational efforts during the races. Transportation protection measures would provide structure for organized operations and help alleviate effects to the transportation and parking monitoring and law enforcement personnel stationed at Fort Baker, they would include parking management augmentation on peak weekends with projected high visitation.

Actions that may have cumulative impacts at Fort Baker include the Golden Gate Bridge Seismic Retrofit, Satterlee Road Project to pave the roadway along the marina, Mission Blue Butterfly habitat restoration effort that could compromise the availability of resource compliance and protection monitoring for other resources, and implementation of the Marin Headlands and Fort Baker Transportation Infrastructure and Management Plan (GGNRA) which may lead to additional construction operations in the area impacting administration and traffic management. These projects provide benefits to park resources and assets which help to offset the temporary adverse effects to operations of AC34.

Overall, deployment of existing and additional personnel resources to implement management and protection measures results in short-term minor adverse impacts on operations in 2012 and short-term moderate adverse impacts on operations in 2013. The overall impact on park assets would be minor adverse in 2012 and moderate adverse in 2013.

Marin Headlands/Conzelman Road

Spectators in the Marin Headlands may particularly affect park operations by traffic and parking along Conzelman Road, the main access into that coastal area and a scenic drive. Park or CHP staff would be needed to direct traffic here and in other locations (such as at Vista Point or North Tower Golden Gate parking lot) and to enforce regulations. Impacts to operations of these divisions would be intermittent short-term minor adverse in both 2012 and moderate adverse 2013 since the ICS would be required to implement the protection measures noted above for Fort Baker. Resource protection and compliance monitoring operations would experience short-term moderate impacts in 2012 and 2013. Maintenance needs will increase from AC34 events, and this division is likely to experience short-term minor adverse impacts in 2012 and moderate in 2013 in the Headlands. Because no special events would occur at this site, impacts to this and the business management and public affairs staff and budget at the park would be negligible in 2012 and 2013. Assets, including trails and parking lots in the vicinity, would experience minor adverse impacts in 2012 and moderate in 2013. Parking lots at some locations are likely to experience moderate adverse impacts in both years since parking management staff would be deployed with protection measures. Actions that contribute to cumulative impacts on park operations and assets include ongoing maintenance, as well as staff and budget devoted to the same projects identified above for Fort Baker. Implementation of these projects results in benefits to park assets and will eventually help in reducing operations such as traffic or resource management in Marin Headlands. Even though impacts from AC34 spectators would be no greater than moderate

adverse in 2012 and 2013 with protection measures in place, the beneficial impacts from these cumulative actions help in offsetting them.

Alcatraz Island

Visitation is not expected to increase during the races at Alcatraz Island, although the length of stay may increase. Therefore, the need for ICS personnel would include both land patrols and marine patrols with impacts to law enforcement requirements on the island to ensure that visitors do not enter into restricted nesting or building areas. Resource protection needs at Alcatraz Island may increase to ensure spectators straining to see the races do not move to the western side where seabirds nest or to culturally sensitive areas, as well as to ensure resource monitoring during the races. Impacts to these divisions would be short-term minor adverse in both years with the need to deploy staff for the purposes of implementing management and protection measures such as added security plans, funding for ICS, etc. Impacts to assets at Alcatraz Island would likely be no more than minor adverse.

Ongoing maintenance, repairs, restoration, and retrofits could cumulatively impact the available facilities and operational resources for AC34 events, although recent energy improvement projects are expected to enhance the energy efficiency on the island resulting in a beneficial impact.

Crissy Field (Areas A and B)

Crowding is expected to be at high levels at Crissy Field locations, particularly in 2013. Law enforcement, traffic and parking management operations capacity will need to be increased. With the addition of protection measures that could require funding of a ICS team (e.g., with outside staff), the park would be able to deploy U.S. Park Police, San Francisco police and other personnel that will result in short-term moderate impacts to park operations in this division in 2012 and short-term major impacts in 2013.

An increase in maintenance, protection, and compliance monitoring would occur primarily at Crissy Field WPA, and dune areas, as well as at Battery East, a historic earthwork battery. Sensitive habitats and vegetation around Crissy Marsh would also require monitoring. The Crissy Field West, Airfield, and WPA would be fenced with gates and require monitors and signage protecting sensitive areas and informing visitors to stay out. Potential service alerts, particularly in 2013, involving recreational area crowding would add to increased visitor impacts expected to affect Crissy Field protection and compliance monitoring operations.

The temporary relocation of the Crissy Field Center, due to Doyle Drive Reconstruction, may increase visitors to East Beach and subsequent impacts. Maintenance, protection and compliance monitoring staff would be deployed under ICS, resulting in short-term moderate adverse impacts in 2012 and short-term major adverse impacts in 2013. In Alternative B (as well as Alternative D), Crissy Field would host venues and NPS special events, business management, public affairs, and general administrative personnel would need to monitor construction of bleachers, stage, etc. These staff members would be integrated into the ICS but would need to put “regular” tasks on hold to be able to turn their attention to AC34.

Project sponsors funding for out-of-town and local resources, as well as event planning, communications, logistics, facilities and maintenance, parking management, etc. along with dedicated SFPD officers would help keep operations impacts to these divisions to short-term moderate adverse in 2012 and major adverse in 2013 for Crissy Field locations. However, under Alternative B, substantial assets are at risk at Crissy Field, including the promenade, secondary trails, parking lots, berms and turf at Crissy Airfield. Even with project sponsor funding, the impact to the NPS of these rehabilitation and repair efforts stemming from AC34 would be moderate adverse in 2012 and major adverse in 2013. Extended repairs to park assets with increased maintenance staff involvement could also impact park operations with potentially moderate adverse or even major adverse cumulative impacts, if required to be diverted from other park maintenance needs. Overall, the impacts to Crissy Field operations and assets under this alternative would be moderate adverse in 2012 and major adverse in 2013.

San Francisco Maritime National Historical Park (SAFR)

Though a primary viewing area, visitors are expected to use public transportation, bike, or walk to this location on race days due to the lack of street parking surrounding SAFR. To address management of increased visitation in a generally confined urban space at SAFR on land and in the cove, NPS would deploy existing and additional personnel resources under ICS. This would result in short-term moderate adverse impacts in 2012 and short-term major adverse impacts in 2013 even assuming protection measures including the ICS are in place and funded. Similar short-term moderate adverse impacts in 2012 and short-term major adverse impacts in 2013 are expected for resource protection and maintenance divisions, especially for grounds-keeping. Impacts to park assets at SAFR are anticipated to be short-term moderate in 2012 and major in 2013, though not as extensive as Crissy Field for example because there are more hardscapes; however, damage to plant beds, lawn area, graffiti on bleachers, and other park furnishings or historic ships, would require extended staff time and reimbursement from project sponsors. Construction and upgrades could increase cumulative impacts on park operations and assets at SAFR. Combined with those from AC34, cumulative impacts under Alternative B would remain short-term moderate adverse in 2012 and short-term major in 2013.

The Presidio (Area B)

Traffic and parking management in the Presidio (Area B) includes managing road restrictions, and shuttle frequency, such as along Mason Street, so that restrictions are enforced and alternative routes are available. Impacts to these divisions of Presidio Trust operations would be short-term and moderate in 2012, but could be major in 2013. Compliance monitoring operations would experience short-term moderate impacts due to the need to protect natural and cultural resources on a routine basis. Moderate impacts to special events or general administrative staff from managing crowding, or to business management staff ensuring businesses along Mason Street are accessible are possible. Area B restrooms, trails, parking and picnic areas are assets that may experience minor impacts from AC34 visitors.

Fort Mason

Visitors are expected to use public transportation, bike, or walk to Fort Mason on race days due to the lack of street parking, proximity to public transportation and its central location. Nevertheless, the increased number of visitors would trigger the need for law enforcement, traffic management, and parking management personnel deployed, resulting in short-term moderate adverse impacts in 2012 and short-term major adverse impacts in 2013. This increase in visitors on race days would likely also mean large crowds on the Bay Trail in lower Fort Mason, with increased maintenance requirements and short-term moderate adverse impacts in 2012 and short-term major adverse impacts in 2013 on maintenance operations. Ensuring natural and cultural resources are protected, particularly at Black Point, may result in short-term moderate impacts to resource protection staff in 2012 and short-term major adverse impacts in 2013. As with other park sites, special events and park administrative staff would likely incur a short-term minor adverse impact in 2012 and a short-term moderate adverse impact over the race months in 2013. Potential impacts on park assets would likely be short-term minor adverse for Bufano and Burton statues in the Great Meadow but short-term moderate adverse impacts are expected on restrooms, pathways and staircases, benches, maintained landscapes, and turf areas.

Ongoing maintenance, repairs, restoration, and retrofits would likely impact the available facilities and operational resources for AC34 events with resulting cumulative short-term moderate adverse impacts to assets and operations in both 2012 and 2013. However, overall impacts would be short-term moderate adverse in 2012 and short-term major adverse in 2013.

Baker Beach and Dunes

Although Baker Beach and Dunes are distant from primary and secondary viewing areas, law enforcement and other divisions would be deployed under ICS, resulting in short-term moderate adverse impacts in both 2012 and 2013. Implementation of **GEO-1** would provide fencing and signage as necessary to protect natural and cultural resources at Baker Beach. Additional restroom servicing, signage, and fencing to protect the cultural and natural resources of the surrounding dunes would be implemented as necessary. For these reasons impacts from AC34 would be no greater than short-term minor adverse in 2012 and 2013.

Alternative C

Given the scale, intensity, and duration of the AC34 events, the overall impacts on park operations would be short-term minor in 2012 and short-term moderate in 2013 with park personnel resources deployed under ICS. ICS would require increased staffing, overtime and use of outside resources, but less than Alternative B. Impacts would generally be less intense than under Alternative B. NPS's local maintenance, protection, and compliance monitoring personnel would be re-assigned to support the planning, coordination, preparation, implementation and restoration activities related to the Sponsor's Proposed Project. As a result, other park projects (not related to AC34) that normally would have been in the planning and implementation stage would be delayed up to two years. Similarly, special events, business management, public affairs, and general administrative staff would also be assigned to

support the planning, coordination, preparation, and implementation activities and as a result local NPS staff would have less time to manage other special events, respond to new partnership opportunities, and manage new projects proposed by existing park partners. There may be some loss of revenue to both the Presidio Trust and the NPS Office of Special Park Uses, but not to the degree as under Alternative B. Impacts on park assets would be minor adverse in 2012 and moderate adverse in 2013.

Alternative D – Modified Program Alternative

Impacts of Alternative D on operations would be generally less intense than under Alternative B but more intense than under Alternative C. Overall operational impacts would be short-term moderate adverse in 2012 and short-term major adverse in 2013. As with all other alternatives, even with funding of the ICS, the re-assignment of NPS staff means other work would be placed “on hold” for as much as two years in some cases, to accommodate AC34. Similarly, special events, business management, public affairs, and general administrative staff would also be assigned to support the planning, coordination, preparation, and implementation activities and as a result local NPS staff would have less time to manage other special events, respond to new partnership opportunities, and manage new projects proposed by existing park partners. Impacts on park assets would be moderate adverse in 2012 and in 2013.

Alternative E – Preferred Alternative

As with Alternatives D, Alternative E would result in short-term moderate adverse impacts to operations in 2012 and in 2013 with an ICS. Even with funding levels of reimbursement from the City, along with their provision of SFPD commissioned officers, the impacts would generally be similar due to the need to implement ICS but it would be less intense and for fewer days than Alternative B. While commitments to the protection measures may ensure modest base funding of the ICS, NPS and Presidio Trust staff already assigned to each park area would be supplementing the ICS to ensure resources are protected and a safe, visitor experience can be provided. This would result in delays in other park and partner projects, plans and events for up to one-two years. Damage repair and restoration to turf would be much less than under Alternative B because of the lack of programming on Crissy Field, and much less at SAFR. Repair and restoration efforts would still be required to address impacts to berms, park furnishings, etc., and thus would require reimbursement and extended work beyond the completion of the event itself. Hence, impacts would be moderate adverse in 2012 and 2013. Overall, impacts to park assets and operations under Alternative E would be minor to moderate adverse for both years’ events.

VISUAL RESOURCES

Visual resources (also called aesthetic resources) are defined as the visible natural and built landscape features within or surrounding a project site. Issues associated with the AC34 events include the quality of views of the Bay, of views from NPS lands and impacts of spectator density on the aesthetic quality of NPS lands and facilities.

SUMMARY

In all action alternatives, the AC34 race schedule would define the times during race events that could produce temporary visible effects on the Bay. Race series would usually be held over long weekends including Fridays. In 2013, some race periods would extend over the Fourth of July and Labor Day holiday weekends. Late August and September would see heightened competition in the later phases of the Louis Vuitton Cup Challenger Series and the America's Cup Match, the latter of which is scheduled for the two weeks between September 7 and September 24, 2013. With races, events and facility installations occurring over a series of weeks, visual effects associated with AC34 installations would be considered temporary effects.

The race boats would be objects of visual interest on the Bay. Larger boats are more visible on the Bay, Racers would be using the AC45 catamarans in 2012 and the AC72 catamarans in 2013. While the AC45 boats are 45 feet long and 70 feet high, the AC72 yacht class is nearly twice that size at 72 feet long and 130 feet high and would therefore be more visible. The sailing yachts would be fast, achieving speeds of 20+knots for the AC45s and 30+knots for the AC72s, suggesting the duration of visibility would be relatively short. The frequency of races would also be relatively low, averaging about one race per hour from 12:00-5:00 p.m. From a single viewing points, the boats would be visible on average for 5 to 15 minutes at a distance of 1,000 to 5,000 feet from park locations, and as much as 18,000 feet away from more elevated locations outside of federal lands (such as Coit Tower). Fleet races would mean more boats racing at a given time.

In 2012 or 2013, if the contingency course near Treasure Island is used due to unexpected wind conditions, viewers would have less opportunity to see the races. Summer fog is a strong possibility and could adversely affect race viewing in July and August as it could cause race cancellations or obscure the races from public visibility.

Projections of visitor attendance include spectator boats that would be visible on San Francisco Bay. These boats include recreational boats, typically in the range of 25 to 60 feet long (though some may be larger), commercial charters (carrying up to 150 people) and private yachts, in the range of 100 to 250 feet long.

About 330 recreational boats in 2012 and 800 in 2013, 8 commercial charters in 2012 and 20 in 2013 and 60 private yachts in 2013 (none expected in 2012) would occupy the Central Bay on an average peak weekend day. The presence of spectator boats on the Bay may cause the Bay to appear crowded and boats could potentially block scenic views and/or views of the race events themselves. This would temporarily alter the open character of the Bay and would briefly diminish the quality of certain views; on a peak weekend race day impacts to spectators on land could be moderate, although they would be short-term.

Temporary visible disturbance of vegetation and soils could occur to varying degrees in all action alternatives due to the generally increased visitation to NPS park lands that would result from the AC34 event. The potential exists for visitors within secondary viewing locations to cause incidental yet visible damage through the creation of informal trails and/or increased use of off-trail areas. The location of potential visual impacts would be primarily at Crissy Field (Areas A and B), the Marin Headlands, and Fort Baker. The degree of impact at different locations and under different action alternatives varies in relation to the most desirable secondary viewing areas under each alternative. For

all alternatives, installation of temporary facilities such as fencing, at established spectator venues and at secondary viewing locations would occur. For this reason, visible impacts on vegetation and soil at established spectator venues would be negligible.

Tables VIS-2 through VIS-5 in the EA include a detailed analysis of each of the activities in each of the alternatives and its effect on the foreground, middleground, background and lightscape at NPS sites. Larger issues are summarized here.

San Francisco Maritime National Historical Park (SAFR)

Views from within Aquatic Park could be modified by the up to six static display racing boats placed by the ACRM in the middle of the cove in Alternatives B and E. Temporary tents providing food, beverages, and merchandise would be located on the lawn area of the upper terrace just above and to the east of the amphitheater in Alternative B, but not in other action alternatives. Tents in this area are common for art shows regularly held here. This area is also already very active with tourists as they wait to ride the cable car up Hyde Street, where elevated views of the race course would be available. The upper park area at SAFR is small, and multiple tents in the area would temporarily block views from the typically busy Beach Street toward the Bay, though not from the Bay Trail. SAFR contains multiple places for viewing the Bay waters, including the amphitheater, the Maritime Museum, and the Bay Trail. While the visual effects of spectator facilities and the crowds in the vicinity of the park on the upper terrace would be detectable, the visual change would be slight, of limited intensity, and of short enough duration so as not to diminish the overall integrity of the public viewshed. For these reasons, the impact of facilities on visual resources would be minor in Alternatives B, D, and E, and negligible in Alternative C.

The purpose of the existing amphitheater is to provide seating for special events held in Aquatic Park Cove; however, these events are rarely large enough to fill the structure. The impact of using the amphitheater seating would be beneficial to the site, as it would realize the historic intention of the park, infuse the amphitheater with vibrant public activity, and encourage visitors to experience the unique setting and views of the Bay.

In Alternative E, facilities at SAFR would be similar to those in Alternative D but may include video screens or Wi-Fi. Generally, the changes in 2012 of moving the race area and conducting races coincident with Fleet Week means the races will be more visible at SAFR and visitor numbers will be high for part of the AC34 activities. SAFR is already quite crowded during Fleet Week and cumulative impacts from crowding and related inability for all visitors to see views of the Bay or other visual resources may be comparable during this week to a peak weekend in 2013 that is moderate, short term and localized.

Crissy Field (Areas A and B)

Venue related facilities include portable restrooms and hand washing stations in all alternatives; tents and bleachers in Alternatives B and D; and video screens and a stage with sound and lighting in

SUMMARY

Alternative B. No venues or facilities except restrooms and hand washing stations would be available at Crissy in Alternatives C or E.

In Alternative B, facilities would occupy about half of the open area at Crissy Field, providing nearby space for unobstructed views. Views from the Bay Trail (promenade) toward the Bay would not be blocked by any AC34 facilities. Visitors themselves could block views of the Bay, the background views or the AC34 races, particularly in 2013, and a small portion of the Bay view could be blocked by the video screen. Both the number of facilities and visitors at Crissy would decrease in Alternative D reducing moderate and/or minor effects to the fore, mid and background to moderate and/or negligible. However, high visitation on peak race weekends could briefly hinder access to the most high-quality views. For these reasons, visitation impacts to visual resources in Alternatives B and D would each be moderate at Crissy Field, although the impact would be temporary and fairly localized.

Overall Alternatives C and E would reduce or eliminate impacts associated with facilities in all park sites except SAFR (for Alternative E) compared to Alternative B. However, Alternative E would be roughly comparable to that of Alternatives B and D in that spectators could have moderate short term impacts on the ability of visitors to see the Bay or other views from Crissy Field particularly.

Cumulative impacts under Alternative E from crowding and related inability for all visitors to see views of the Bay or other visual resources may be comparable during Fleet Week to a peak weekend in 2013 that is moderate, short term and localized.

Fort Mason

Alternative B would include a floating barge at Pier 2 and up to 10 satellite dishes on the apron of Pier 3 at Lower Fort Mason, a minor short term impact on the view of the Bay, Golden Gate Bridge, Alcatraz Island and Marin County. Protection measures include moving the satellite dishes away from visible pier aprons and muting the colors of the dishes, reducing the impact to no more than minor. No other alternative includes these facilities. Nonetheless, the presence of crowds at Fort Mason and associated visual obstructions under each alternative would result in impacts ranging from negligible to minor.

Alcatraz Island

An additional satellite communications dish and a small weather station proposed for Alternative B would have short term impacts to Alcatraz Island visual resources. No other alternative would include these facilities or impacts to visual resources related to them at Alcatraz Island.

Both the 2012 and 2013 race areas would come near to the southern and western portions of Alcatraz Island, creating excellent viewing opportunities when race boats are nearby, potentially within 500 feet of the island at the southwest corner. This is not expected to result in adverse impacts on existing visitor viewsheds from the island in any of the action alternatives.

Fort Baker

Fort Baker Pier is located at the north end of the Golden Gate Bridge, facing east on Horseshoe Bay. The Marin Headlands and Golden Gate Bridge form a backdrop, with foreground views of San Francisco Bay. Views across the Bay include the San Francisco skyline and Crissy Field. Cavallo Point blocks views to the north.

Under Alternative B, Fort Baker Pier would operate as a venue for private parties at night and as a public secondary viewing area by day. In the daytime, the nearest views to the race courses from Fort Baker Pier would range from 2,500 to 3,500 feet for all alternatives, which is a moderate distance on the Bay, causing the potential for increases in visitor attendance. The viewshed would see the addition of race boats in the distance on the Bay and stronger chances for more people in the foreground on the pier. These impacts would be minor and temporary.

Secondary viewsheds

Secondary viewing areas on federal lands are located in Area B of the Presidio and other parts of the GGNRA in Marin County. Secondary viewing areas have individual viewsheds that include the Bay and AC34 race course(s). Secondary viewing areas would experience increases in visitation of roughly the same number of visitors regardless of the alternative. Additional visitors may affect the ability to view the Bay or other visual resources from a site, depending on the size of the crowds and the capacity of the visitor-serving facilities there and would be minor and temporary.

Lightscaapes

Under Alternative B, night lighting would cause minor impacts to nighttime visual resources at Crissy Field, Fort Mason, Alcatraz Island (interior lighting only) and Fort Baker pier. Under all other alternatives, the minor visual effects seen in Alternative B would be incrementally reduced.

TRANSPORTATION

Impacts Common to All Alternatives

The proposed project's transportation impacts would be similar for all action alternatives, and would vary only in the location and intensity of impacts at primary venues and secondary viewing areas within NPS and Presidio sites. Transportation impacts have been classified as negligible, minor, moderate, or major, depending on their intensity and frequency. However, all potential transportation impacts would be temporary (i.e., short-term), only occurring on the event days in 2012 and 2013. Transportation impacts would include increased traffic congestion at intersections, increased transit ridership and crowding on existing and augmented bus routes, increased pedestrian crowding, changes in pedestrian and bicycle accessibility, increased parking occupancy, changes in accessibility to existing businesses and facilities within NPS and Presidio sites, and increased travel times to NPS and Presidio sites during the weekends with AC34 races.

Management and Protection Measures

All action alternatives would include implementation of transportation protection measures, which would be modified in response to the nature of the event day (e.g., weekday or weekend, anticipated interest in races and spectator levels) and observed conditions. Implementation of transportation protection measures would reduce the intensity, and duration, of the identified minor, moderate, and major adverse impacts. Protection Measures are found in Table SUM-3.

Alternative B

2012 Event Conditions

On **weekday** event days in 2012, access to NPS and Presidio sites would remain similar to existing conditions. Additional Muni service would be provided on the 30L-Marina and on a supplemental 47L-Van Ness Limited, which would also serve the NPS and Presidio sites, and transit capacity would generally be available to meet the projected ridership. Some overcrowding on lines serving the Presidio would occur, which could result in passengers needing to wait for one or more buses before being able to board, increasing visitor and employee travel times.

Those driving to the NPS and Presidio sites would experience somewhat increased delays at intersections within the Presidio, and visitor parking availability would be very limited; those parking at reserved/designated spaces would generally be unaffected. On peak weekday event days, visitors may need to park farther from their destinations, or change travel modes, thereby increasing travel times from existing conditions.

Pedestrian conditions on weekdays would generally be acceptable, with the exception of walkway conditions at the Fort Mason pinch point on Laguna Street, and at the intersection of Mason/Crissy/McDowell in the Presidio. The already implemented closure of Halleck Street and Marshall Street as part of the ongoing construction of Doyle Drive will further increase pedestrian volumes at this already constrained intersection. The recent restructuring of the PresidiGo Around the Park shuttle service into two routes, one of which directly serves Crissy Field, would facilitate some access due to the roadway closures. As part of AC34, Crissy Field transit access would be improved with a combination of expanded shuttle service to downtown and a frequent Crissy Field shuttle service. On weekday event days, bicycle access would remain unchanged from existing conditions.

On weekday event days in 2012, the number of spectators destined to the Marin Headlands and Fort Baker is expected to be relatively small, and travel conditions would remain similar to existing conditions. Overall, on weekday event days in 2012, Alternative B impacts on transportation conditions and visitor access to NPS and Presidio sites would be short term, minor to moderate, adverse impacts. Implementation of the transportation protection measures would reduce the intensity of the identified impacts.

On the **weekend** event days in 2012, the number of spectators destined to NPS and Presidio sites, as well as to other nearby spectator venues and viewing areas (e.g., the AC Village in the Marina Green), would increase over weekday conditions. Vehicular access on Mason Street would be restricted,

except for emergency and authorized vehicles; permitted tenants/visitors could potentially enter via McDowell Avenue and exit eastbound via Mason Street. This measure will provide additional safety and capacity for bicycle, and pedestrians, and reduce congestion in these areas.

Increases in the number of pedestrians and bicyclists at Crissy Field, Fort Mason, and Aquatic Park would result in increased crowding at the Fort Mason pinch point and intersection of Mason/Crissy/McDowell, and, on peak weekend event days, pedestrians would also experience increased crowding at additional locations including on Jefferson Street at Aquatic Park, and at the Crissy Field East Class I multi-use trail (Crissy Field Promenade). Parking availability in the vicinity of NPS sites in the Presidio would be more limited due to the temporary closure of parking areas on East Beach and West Crissy Field.

On the weekend event days, additional transit service would be provided on the 30L-Marina, 30X-Marina Express, and a supplemental 47L-Van Ness Limited bus route that would serve the Presidio, but this additional service would not be adequate to accommodate the AC34 transit ridership demand. Enhanced service on the 22S-Fillmore Short, 28S-19th Avenue Short, and the 43L-Masonic Limited bus routes that directly serve the Presidio, and expansion of shuttle service between downtown San Francisco and the Presidio, with a Crissy Field connection, would serve to reduce overcrowding and minimize travel time delays. Faced with the shortfall in transit capacity, reduced parking availability, and increase intersection delays, those traveling to the Presidio, Fort Mason and Aquatic Park would have increased travel times. Visitors traveling by transit may need to wait for one or more buses before being able to board, some may decide to take an alternate, less convenient bus route, some may shift to other modes of travel such as bicycling and walking, and some may change their travel plans to off-peak periods or other event days.

On weekend event days in 2012, the number of spectators destined to the Marin Headlands and Fort Baker would increase from weekday conditions, but would still be relatively small. On the two peak weekend event days (and not on the four high-interest weekend event days), vehicular access to Conzelman Road between Alexander Avenue and McCullough Road may be restricted to emergency and authorized vehicles during peak periods, similar to conditions that currently occur on special event days, such as Fourth of July. Therefore, on most weekend event days in 2012, vehicular, pedestrian, and bicycle travel conditions in the Marin Headlands and Fort Baker would remain similar to conditions that exist currently for special events.

Overall, on the weekend event days in 2012, the intensity of travel time and access impacts would depend on the visitor attendance levels. Based on visitor estimates for Alternative B, on weekend event days in 2012, impacts on transportation conditions and visitor access to NPS and Presidio sites would be short term, moderate to major, adverse impacts. Implementation of the transportation protection measures would reduce the intensity of the identified impacts.

2013 Event Conditions

On most **weekday event days** (race and non-race) in 2013, access to the NPS and Presidio sites would remain similar to existing conditions. As described above for 2012 weekday event conditions, additional transit service would be provided on lines that serve the Presidio, although overcrowding

would occur on more days than in 2012. Those driving, bicycling and walking to the NPS and Presidio sites would experience congestion at similar locations as in 2012, but the congestion would occur on more days than in 2012. On weekday event days in 2013, the number of spectators destined to the Marin Headlands and Fort Baker is projected to be relatively small, and travel conditions would therefore remain similar to existing conditions. Overall, on the weekday event days in 2013, Alternative B impacts on transportation conditions and visitor access to NPS and Presidio sites would be short term, minor to moderate, adverse impacts. Implementation of the transportation protection measures would reduce the intensity of the identified impacts.

On the **weekend events** in 2013, the number of spectators destined to the NPS and Presidio sites would substantially increase over weekday conditions. These weekend events would occur on most weekends between early July and the end of September 2013. On weekend event days, vehicular access on Mason Street would be restricted, except for emergency and authorized vehicles; permitted tenants/visitors could potentially enter via McDowell Avenue and exit eastbound via Mason Street. On the combined peak and medium high-interest weekend event days, intersection delays at unrestricted roadways within the Presidio and at intersections to the south would increase over existing conditions. Additional traffic control and management strategies would be implemented by SFPD, U.S. Park Police, SFMTA traffic control officers, and possibly California Highway Patrol officers, to reduce congestion at the key intersections.

Increases in the number of pedestrians and bicyclists on Crissy Field, Fort Mason, and Aquatic Park would result in increased crowding at numerous locations on Crissy Field, within the Presidio, as well as at locations in Aquatic Park and at the Fort Mason pinch point. These conditions would primarily occur on the five peak weekend event days, and the most aggressive visitor use management strategies would be required to maintain pedestrian flows on these peak AC34 event days. The strategies would include temporary alternate bicycle routes using curb parking or travel lanes on Van Ness Avenue, and Bay and Cervantes streets. Bicycles would also be able to use the Marina Boulevard lanes when that road is restricted to vehicular access from Laguna Street to Divisadero Street. At key constraint points, such as the Fort Mason pinch point, bicyclists may be required to dismount and walk their bicycles on peak days when pedestrian crowding is most severe. Parking availability in the vicinity of NPS sites in the Presidio would be more limited due to increased demands, and the temporary closure of parking areas on East Beach and West Crissy Field.

On the average weekend event days in 2013, the additional transit service on the 30L-Marina, 30X-Marina Express, and a supplemental 47L-Van Ness Limited bus routes that would serve the Presidio would be adequate to accommodate the increased demand, because in 2013 the AC Village would be located at Piers 27-29 (rather than at the Marina Green), and the overall number of spectators destined to the waterfront between Aquatic Park and Crissy Field in 2013 would be less than on weekend event days in 2012. On peak and medium-high weekend event days in 2013, the additional transit service in San Francisco, including enhanced service on the 22-Fillmore, 28-19th Avenue, the 43-Masonic bus routes and the downtown shuttles, with Crissy Field connections, would be increased but would not be adequate to meet forecasted demand. Faced with the shortfall in transit capacity, reduced parking availability, and increased intersection delays, those traveling to the Presidio, Fort Mason and Aquatic Park would have substantially increased travel times.

Visitors traveling by transit may need to wait for one or more buses before being able to board, some may decide to take an alternate, less convenient bus route, some may shift to other modes of travel such as bicycling and walking, and some may change their travel plans to off-peak periods or other event days. Overall, on the (24) weekend event days, the effect on transportation conditions and visitor access and travel times to NPS and Presidio sites in San Francisco would be short-term, moderate to major, adverse impacts.

On weekend event days in 2013, the number of spectators destined to the Marin Headlands and Fort Baker would be increased from weekday conditions, but would still be relatively small. Vehicular access to Conzelman Road between Alexander Avenue and McCullough Road may be restricted to emergency and authorized vehicles during peak periods, similar to conditions that currently occur on special event days, such as Fourth of July. The Golden Gate Transit Route 4 would run on peak weekend event days, between the Manzanita park-and-ride facility and San Francisco, and would stop near Conzelman Road in the southbound direction and Vista Point in the northbound direction, and would enhance transit access to the Marin Headlands and Fort Baker. On the weekend event days in 2013, pedestrian and bicycle access would be maintained, although the number of visitors would increase, and some visitors may experience increased travel times.

Overall, on the weekend event days in 2013, the intensity of travel time and access impacts would be most noticeable. Alternative B impacts on transportation conditions and visitor access to NPS and Presidio sites would be short term, moderate to major, adverse impacts. Implementation of the transportation protection measures would reduce the intensity of the identified impacts.

Alternative C – No Organized Events on NPS Lands

Under Alternative C, because there would not be any organized events on NPS lands in either 2012 or 2013, the number of spectators destined to Aquatic Park, Fort Baker, Crissy Field (Areas A and B) and other areas of the Presidio in San Francisco, Fort Baker and the Marin Headlands in Marin would be less than under Alternative B on both weekday and weekend event days. Under Alternative C, Mason Street would remain open on all event days, except on peak weekend event days in 2013, when access would be restricted, except for emergency vehicles, transit, staff, permitted tenants, and scheduled program participants. Transportation impacts of Alternative C would be generally less intense and for shorter durations and days than under Alternative B, although they would still be short-term, moderate to major, adverse impacts. Implementation of the transportation protection measures would reduce the intensity of the identified impacts.

Alternative D – Modified Program Alternative

Under Alternative D, there would be a reduced intensity of programming across spectator venues, and the primary race area would be shifted east from its Alternative B and Alternative C counterpart by approximately 0.25 mile. The total number of spectators destined to NPS and Presidio Trust sites under Alternative D would be less than Alternative B during both the AC34 2012 and AC34 2013 events, similar to Alternative C during the AC34 2012 events, but more than Alternative C during the AC34 2013 events. Similar to Alternative C, Mason Street would remain open on all event days, except

on peak weekend event days in 2013, when access would be restricted, except for emergency vehicles, transit, staff, permitted tenants, and scheduled program participants. Impacts of Alternative D would be generally less intense and for shorter durations than under Alternative B, but more intense than Alternative C, although they would still be short-term, moderate to major, adverse impacts. As with all other alternatives, implementation of transportation protection measures would minimize the intensity of the impacts.

Alternative E –Preferred Alternative

Under Alternative E, there would be no programming on NPS lands except potentially on weekends at SAFR. In 2012, similar to Alternative D, the first AC World Series race area would be shifted east from its Alternative B and Alternative C counterpart by approximately one-quarter to 1.0 mile (depending on race). The total number of spectators destined to NPS and Presidio Trust sites under Alternative E would be less than Alternative B during both the AC34 2012 and AC34 2013 events, and similar to Alternative D during the AC34 2013 events.

Unlike all other alternatives, Alternative E assumes that some of the AC34 races in 2012 would occur during Fleet Week, an annual event that historically has drawn large crowds of visitors to the same waterfront areas as AC34 would. Alternative E assumes that AC34 races occur daily between Thursday, October 4, 2012 and Sunday, October 7, 2012. On the two weekend race days in October, the net-new visitor increase to the waterfront due exclusively to AC34 activities (i.e., additional visitors that would not already be on the waterfront attending Fleet Week activities) is projected to be between 5 and 20 (at most) percent of the observed conditions during Fleet Week, depending on location (i.e., a greater increase along the San Francisco waterfront, and a lesser increase at Fort Baker and the Marin Headlands), though saturation of some areas may keep this increase lower and displace visitors to non-park sites.

Assessment of transportation conditions indicates that with the additional spectators destined to and from the waterfront, transportation conditions would not substantially worsen over Fleet Week conditions, although increased congestion would be experienced, particularly at locations that are currently congested on Fleet Week weekend days. Implementation of AC34 transportation protection measures, in combination with protection measures that are implemented for Fleet Week (e.g., additional Muni service), would reduce the intensity of the impacts.

Overall, impacts of Alternative E would be much less intense for shorter durations than conditions under Alternative B, and only slightly more intense than Alternative C. Alternative E impacts on transportation conditions and visitor access to NPS and Presidio sites would be short-term, moderate to major, adverse impacts, nonetheless. As with all other alternatives, implementation of transportation protection measures would minimize the intensity of the impacts.

SOCIOECONOMICS

During race days, access within certain portions of the Central Bay would be limited for a period not exceeding five hours between 12:00 p.m. and 5:00 p.m. These access limitations may directly affect use of the Bay by shipping, ferries and other commercial activities (e.g. fishing, charter and sand mining operations) in several ways.

In most cases, access limitations across the Central Bay would require vessels to re-route and consequently take a longer and possibly a more time-consuming trip to their destination. In some cases, particularly for the ferry operations, the extra travel time might require schedule changes if the vessels' have insufficient dock time to load/unload their passengers. Longer travel distances and any delayed arrivals would also likely add some additional operating costs as vessels would use more fuel and crew time. Greater congestion within the Bay might also delay vessel traffic and hence add to the time and fuel needed for commercial operators to complete their trips.

In the case of on-land commercial businesses, a key socioeconomic issue would be the extent that the event would impact the local economy. Redirecting visitor activity and spending downtown to the north bayfront area to experience AC34 events would likely have a negligible net socioeconomic effect on the San Francisco economy since the same amount of visitor spending would occur (albeit at different businesses within the city). Consequently, the event's primary socioeconomic impact on the city's economy will depend on the extent that new visitors (or more precisely greater visitor spending) are attracted to the city that otherwise would not have come and/or that visitors are encouraged to extend their visit on account of the race events.

In all alternatives, the presence of large crowds drawn by AC34 events on peak days would present local, neighborhood businesses with a pool of potential customers, some of whom may purchase goods or services during the day of the event, and others who may return in the future to become paying customers having been introduced to the business by their AC34 experience. At the same time, other existing and potential customers may stay away from the area due to concerns about congestion and inconvenience during AC34 event days. The sum total of positive and negative impacts would be different for every business, and would likely be a net positive for some and a net negative for others.

Limitations on Bay Access

Under all action alternatives, the proposed race event activities would result in temporary limitations in access to the Central San Francisco Bay for shipping, ferry and other commercial operators. Vessel traffic operating during the periods when the access limitations are in effect (i.e. during 12:00 p.m. to 5:00 pm on race days) would be able to transit the Bay but would be required to use alternate routes, travel greater distances and possibly experience greater congestion along their routes. Nonetheless, the two-way deep water traffic channel would remain open and accessible for large commercial vessels, among other marine traffic, throughout all race events.

The race events would be scheduled well in advance and vessel operators would be informed in advance of the actual date and timing of the Bay access limitations. The advance scheduling of the race

events and USCG coordination to deconflict scheduled vessel arrivals/departures with affected maritime users will reduce the impacts on commercial vessels.

Transit zones would be established within the 2013 regulated area to allow access for small boats and ferries during races. Smaller vessels include barges, fishing boats and recreational boats. Consequently, any impacts to vessel traffic patterns would be short-term and negligible to minor.

Ferries

Bay ferries would be the commercial maritime users that may face the greatest disruption by the race events due to their frequent transits across the bay and the short-turn around periods upon reaching destinations.

Approximately 34 round-trip ferry runs occur on summer weekdays and 30 such trips on weekend days. Such ferry runs represent a total of 68 transits during the race event period on weekdays and 60 transits on weekends. However, many of those ferry routes would be relatively unaffected as their routes do not require access through the Central Bay areas that would be closed during race events (e.g. Ferry Building routes to Oakland/Alameda, Alameda Bay Harbor and Vallejo). Transit zones incorporated into the 2013 regulated area would also help ferries maintain normal schedules during race days. While those ferries may face some greater congestion, USCG assistance would ensure they maintain their scheduled routes and operating schedules.

For those ferries that do re-route their transits through the Central Bay due to race activity, such as the Sausalito, Tiburon and Larkspur ferries, may incur additional fuel costs and potentially longer transit times. The impacts to ferry operators could be offset by pre-announcing any schedule changes, and by increased ridership from spectators.

Given the relatively small magnitude of the economic impacts to the ferry services as well as the temporary and predictable nature of any service adjustments, the ferry schedule alterations' effects to operators' revenues and costs would be similar to fluctuations commonly experienced as a natural and typical course of operations and economic impacts are not expected to be more than minor. As noted in other sections, the Alcatraz Island Ferry would continue to operate on a normal schedule; an escort through the race area may be required at times, so no negligible adverse economic impact to the Alcatraz Island concessioner from AC34 events is expected.

Commercial Fishing

Commercial fishing boats transiting to or from the Bay returning from fishing outside the bay might face some delays in returning to Fisherman's Wharf due to congestion and maritime traffic control measures, but they would be permitted to travel along the USCG's proposed transit lane in 2013, and not divert around the regulated area. Such vessels may also see increased revenue by converting to passenger charters for race viewing. Consequently, the economic effects to commercial fishing businesses would be negligible.

Sand Mining

Bay sand mining operations are one of the few commercial activities that regularly operate within the Central Bay. AC34 events would limit access for operators, but mining may be rescheduled around the race times. For example, sand operators could begin their mining operations earlier on race days, increase their operations on non-race days, possibly relocate to the North Bay mining sites or temporarily increase on land stockpiling of sand. These changes may temporarily increase costs for these businesses, but impacts would be short term and minor.

Excursions

While evening Bay cruise excursions would not be affected, those in the afternoon on race days would need to use the transit lane or divert around the race area. The adverse impacts would be offset by an increased demand from spectators wishing to see the races from an excursion ferry and is expected to offer net benefits. The same is true for charter fishing excursions.

Landside Impacts

AC34 events that would bring spectators and vendors to Crissy Field would likely affect Presidio Trust businesses and organizations by limiting any excess parking capacity within the Presidio. For the majority of businesses and organizations within Area B, there would only be minor impacts as they would continue to have dedicated on-site parking and the races would occur primarily Thursday through Sunday. Two businesses along Mason Street (Planet Granite and House of Air) operate on long term memberships that would not be affected. The Sports Basement parking lot and open meeting space at the entrance of the store would likely be used as merchandizing locations. This has the potential to bring more customers through the store, and could prove beneficial to this business. However, class sessions at La Petite Baleen are scheduled throughout the week and parking would not be available during peak race days.

Parking shuttles established for peak race days could establish parking elsewhere within the Presidio for patrons. Likewise, patrons could switch class days and times, and the Thursday through Sunday afternoon classes could be under-used. In addition, AC34 events would be a temporary event and would only pose temporary parking difficulties for patrons of La Petite Baleen. For these reasons, impacts are expected to be short term and minor. Impacts to these businesses from other alternatives are expected to be less than those for Alternative B, but would remain minor and short term.

In SAFR, Alternative E includes the potential for small land-side video screens and announcement systems, as well as exhibitions of boats in the Cove during both 2012 and 2013 events which would likely increase visitation and length of stay in the area during AC34 events. However, as AC34 is a temporary event, there would be no permanent adverse socioeconomic effects as a result of Alternative E.

Cumulative Impacts

Cumulative impacts in 2012 for Alternative E include the effects of visitation during Fleet Week, an annual event that historically has drawn large crowds of hundreds of thousands of visitors to the same Bay waterfront areas as AC34 events are expected to draw. Furthermore, the free concert Hardly Strictly Bluegrass will be held October 5-7, 2012 in Golden Gate Park, another annual San Francisco event that has attracted hundreds of thousands of people in recent years. Other events, such as spectator sporting events or street fairs could add yet more cumulative attractions to San Francisco during the same four-day time period.

The on-water cumulative effects of AC34 are likely to be masked for the most part by the Fleet Week water and air activities already planned and would be negligible or minor.

The landside cumulative impacts of multiple spectator events during the same four days would likely be larger in the aggregate due to the agglomeration of attractions, and the short-term beneficial impact of visitor spending on the San Francisco economy is likely to be larger as a result.

MARITIME NAVIGATION AND SAFETY

The temporary closure of certain portions of the Central Bay to accommodate race events in 2012 and 2013 may affect the movements of existing commercial shipping, commuter ferry service, other commercial vessel uses and recreational boating activities on the Bay. Additional impacts could result from temporary construction and rehabilitation of piers, moorings, and barges as well as additional vessels visiting the Bay as a result of the AC34 events.

Currently, the San Francisco Bay experiences vessel congestion during large-event weekends such as Fleet Week. In addition to commercial and recreational boat traffic, commuter ferries operate in the Central Bay.

Vessel Traffic

Under all action alternatives for both 2012 and 2013, the USCG would establish a regulated area and safety zone. The regulated area is the identified body of water within which the ACRM is authorized to conduct races and would remain in effect on all race days from 12:00 pm to 5:00 pm. If races end early, the USCG intends to open the regulated area to normal maritime activity as soon as possible. ACRM would establish a race course within the race area and delineated by marker boats. Maritime traffic, with the exception of spectator vessels, is prohibited from entering the regulated area. A temporary safety zone would require vessels to remain at least 300 feet from race boats during the designated race periods. This safety zone is necessary for public safety during exceptional circumstances when AC34 race boats are competing outside of the race area (e.g., under the Golden Gate Bridge during Opening Day ceremonies). The geographic location and extent of the race area would vary by action alternative. Spectator boats are allowed to enter the regulated area, but are restricted from entering the race area. As a result, under all action alternatives, vessel traffic may be temporarily displaced or rerouted during

race activities. Additionally, under all action alternatives, the number of recreational vessels in the Bay is expected to increase above normal levels as a result of the race events.

The on-water spectator boat estimates are expected to reach a maximum of 340 boats in 2012 and 880 boats in 2013 on peak weekend race days. These levels are about 68% and 158% of peak boat estimates observed for 2011 Fleet Week respectively. While the majority of 2012 boating traffic is not expected to exceed the Bay capacity for vessels, for a period of time AC34 and Fleet Week would overlap in Alternative E, the preferred alternative. For this week and on peak weekends in 2013, congested vessel traffic conditions on the Bay would occur, although cumulative impacts are not expected to exceed those predicted for a peak 2013 AC34 weekend, (e.g., 158% of 2011 Fleet Week counts). The increased congestion of boats in the Central Bay would increase the potential for boating mishaps, such as collisions, groundings, or capsizes. However, boating estimates are similar to those estimated for other large maritime events, such as Fleet Week, and therefore the USCG considers it within their ability to manage. As such, impacts are considered to be minor and short term.

Beyond the Central Bay, AC34 spectator boats may impact Aquatic Park Cove, which is part of SAFR. During all major waterfront events such as the Fourth of July and Fleet Week, the NPS monitors the cove and restricts access when it is determined to be full. While capacity of Aquatic Park depends on many factors, 40 visiting boats is generally the capacity or limit. Two NPS patrol boats would be inside the cove to manage activities during AC34 events.

Race-Related Infrastructure Work

Table SUM-2 shows AC34 in- and on-water infrastructure work for each of the action alternatives. Because construction is outside commercial traffic and ferry lanes, it would have no or only a negligible effect on maritime navigation and safety. Moving dredge material may have a temporary and minor impact.

Race Areas

Management of the race area would be similar in 2012 and 2013. The race area in 2013 would be larger than in 2012 and extend further east along the San Francisco waterfront. As noted in other sections, the 2012 race area would be shifted east by 0.25 mile in 2012 in Alternative D, and 0.5 mile east in 2012 in Alternative E.

In both 2012 and 2013 for all alternatives, an area designated for recreational swimmers, rowers, and kayakers would be located within the primary regulated area, near the shoreline between Fort Point and Anita Rock. During designated race periods, this area would be closed to motorized vessels and all other vessels greater than 20 feet in length. All vessels would be prohibited from anchoring in this designated area. A transit zone would be established during 2013 race events to facilitate the transit of vessels requiring access to pier space and facilities along the San Francisco waterfront, and to minimize other traffic that may obstruct spectator views from the waterfront. To ensure safety and to minimize congestion, vessels using this zone would not be permitted to loiter or anchor. The transit zone would extend along the San Francisco waterfront, south of the race area, beginning at the face of Pier 23 and

continuing to the western boundary of the primary regulated area, north of the non-motorized vessel area. In addition, the transit zone would include a separate route heading northeast from the waterfront transit zone, near Pier 39.

Commercial Vessels

The USCG would restrict access to the eastbound and westbound San Francisco Bay traffic lanes to vessels greater than or equal to 100 gross tons during designated race periods occurring in both 2012 and 2013. Vessels less than 100 gross tons would be allowed to use the westbound traffic lane provided they remain out of the race area. Entry into the closed traffic lanes would be allowed to large vessels with COTP permission. Shipping traffic may continue to operate using the existing deep water (two-way) traffic lane. Based on transit counts from 2005 to 2010, an average of 3.6 commercial vessels transit the Bay between 12:00 pm and 6:00 pm on weekends. Conservatively estimating that none of the commercial vessels are already required to use the two-way deep water traffic lane, then an average four vessels on weekdays and one vessel on weekends could expect to be rerouted around the race area in 2012 on race days. Similarly, in 2013, rerouting of approximately 4.9 vessels on weekdays and 2.9 vessels on weekends would occur on up to 18 race days. Because the effect is for a short time, it would be minor.

Commuter Ferries, Tours, and Harbor Cruises

Commuter ferries which normally transit through the race area would likely be rerouted around it during race periods. Commuter ferries operating out of the San Francisco Ferry Building to North Bay destinations would generally be unaffected, as their normal routes occur outside the race area. The race areas would bisect a portion of the routes for those ferries operating from Piers 41 and 43½. As such, effected ferries may need to increase speeds slightly to maintain existing schedules. As delays to effected commuter ferries are expected to be less than 10 minutes during the busiest race periods, the impact in 2012 would be minor. Because the race area in 2013 would be larger than in 2012 and extend farther east along the northern waterfront, the impact may be moderate, although commuter ferry operations from the Ferry Building would continue as they are now and experience only minor impacts.

Bay sightseeing or excursion cruises and other commercial tours, as well as the Alcatraz Island ferry (with an escort if needed) would continue operations in both 2012 and 2013. Impacts would be minor and short term in all alternatives.

In Alternative D, the shifting east of the race area would result in greater interference with ferry routes between Piers 41 and 43½ and North Bay destinations than for alternatives B and C, although impacts would remain minor.

In Alternative E, the shifting of the August 2012 race area would mean a larger area north of Piers 41 and 43½ than other alternatives is affected, but for only for four race days. Interference with ferry routes between Piers 41 and 43½ and North Bay destination would be similar to that for other alternatives. Immediately prior to and following races, commuter ferries would be permitted to transit across the race area. Resulting impacts would be minor to moderate and last for only four days.

For the 2012 October series, the races would be conducted within the Safety Zone established for Fleet Week. Because this area is already restricted, the potential for effects on ferries and overall maritime navigation and safety would be similar to that which already occurs as a result of Fleet Week Events.

Recreational Boats

Although not restricted from entering the regulated area, recreational boats including sailboats, power boats, and personal watercraft would be prohibited from entering the race area during race events in all alternatives, a minor short term impact.

In Alternatives D and E, some spectator boat congestion could occur on the east side of the race area on peak race days, which could impact existing vessel traffic lanes. Although spectator boats may not impede vessels that are required to use the vessel traffic scheme, such congestion could result in a minor increase in safety hazards and management requirements. Recreational swimmers, rowers, and kayakers would be permitted to use the designated area for small non-motorized vessels, near the shoreline between Fort Point to Anita Rock and would experience negligible impacts from AC34 events in 2012 and 2013.

Commercial fishing boats transiting the Bay to reach offshore fishing grounds would be diverted around the race area in 2012, a minor impact. In 2013, the transit zone described above would alleviate such impacts to commercial fishing vessels, although minor short term delays could occur.

Contingent Regulated Area

Alternatives include the potential for using a contingent regulated area adjacent to the north and west sides of Treasure Island when weather dictates it. The contingent regulated area is located within the north/south traffic lanes, which accommodate commercial vessel traffic to and from the Port of Oakland and northern Ports. Scheduled commercial traffic would take priority over AC34 events in the contingent regulated area. Impacts associated with this regulated area would therefore be minor.

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CONCLUSIONS AND EA PROCESS

The impact analysis and response of each alternative to objectives stated in Chapter One resulted in the selection of Alternative E as both the federal agency preferred and environmentally preferable alternative. Alternative E reduces impacts to resources by eliminating venues on park lands and by moving the race area to the east to shift visitation to lands better able to accommodate large numbers of people. Impacts to resources, assets, operations, and visitors that may still result from visitation at park sties or from those at SAFR or in the marine environment are all reduced through the use of management actions and protection measures. Although major impacts to traffic and park operations remain, they are short term and do not trigger any of the significance criteria, indicating this EA is the appropriate NEPA document for AC34.

The EA will be available for public comment for a 30-day period, and an opportunity for questions and communication with agency staff will be made available during that time. Substantive comments that question facts, suggest reasonable new alternatives or bring to light information that may have a bearing on the selection of an alternative will be carefully considered before the agencies make any decisions regarding permits or other actions, including whether or not they continue to believe no significant impacts would result from implementing the selected alternative. If so, they will each issue a separate Finding of No Significant Impact (FONSI) which details their decision, adopts protective measures and indicates no significant impacts would occur. This will conclude the NEPA process and the project sponsors will be able to implement the chosen alternative.