

Chapter 8. Other Considerations Required by CEQA

8.1. Introduction

In addition to an examination of project-level impacts, CEQA requires an EIR to evaluate a project's effect in relation to broader changes occurring or potentially occurring in the surrounding environment. This chapter presents a discussion of CEQA-mandated analysis for irreversible impacts, growth inducement, and cumulative impacts associated with the Proposed Project.

8.2. Irreversible Impacts

8.2.1. Significant Irreversible Environmental Changes

State CEQA Guidelines Section 15126.2(c) requires an EIR to discuss a project's irreversible environmental changes associated with use of nonrenewable resources during its initial phases and continued operation. It also requires a discussion of the Proposed Project's irreversible changes related to potential environmental accidents.

The establishment of MPAs would limit species take and activities in the affected areas and would not directly commit the CDFG or other agencies to future usage of fossil fuels or other types of nonrenewable resources. No specific development activities are proposed or authorized under the proposed MPAs that would result in the irreversible commitment of resources. Indirect impacts of MPA creation include an increase in fossil-fuel use that would potentially result from the increased activity of CDFG officers and wardens engaged in regulatory enforcement within the MPAs, and also would potentially result from increased transit times of displaced commercial and recreational fishing vessels.

The creation of MPAs would not directly result in potential environmental accidents. The increased activity of officers and wardens would slightly increase the potential for plane or boating accidents that could release hazardous chemicals into the water. In addition, displacement of fishing effort could result in vessel abandonment by individual fishermen. These indirect impacts have minimal chance of occurrence and do not represent a significant threat to the environment.

8.2.2. Significant and Unavoidable Impacts

No significant unavoidable impacts have been identified for the project or Alternatives 1, 2, and 3.

8.3. Growth Inducement

State CEQA Guidelines Section 15126(d) requires an EIR to discuss the extent to which a project would directly or indirectly foster economic or population growth or the construction of new housing, including through removal of obstacles to growth.

The Proposed Project would not have any direct growth-inducing impacts because no development is proposed. It would not indirectly induce growth because it proposes no extension of infrastructure or other environmental modifications that could foster population or economic growth. The protection of species and habitats proposed by the Proposed Project does not enable or encourage development elsewhere.

8.4. Cumulative Impacts

8.4.1. CEQA Analysis Requirements

Although the environmental effects of an individual project may not be significant when that project is considered in isolation, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines Section 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is defined as:

The change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines Section 15355[b]).

Cumulative-impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines Section 15130[b]). There are two approaches to identifying cumulative projects and the associated impacts: the list and projection approaches. The list approach identifies individual projects known to be occurring or proposed in the surrounding area to identify potential cumulative impacts. The projection approach uses a summary of projections in an adopted general plan or related planning document to identify potential cumulative impacts. Because of the large number of planning documents located along the north central coast, it was determined that forecasting of cumulative impacts using the projection approach would be unlikely to be accurate. For this reason, this EIR uses the list approach.

8.4.2. List of Cumulative Projects Considered

A wide variety of projects and regulations affecting marine resources exist along the California coast and into Oregon and Washington. In some cases, regulations or restrictions overlap, and others change from year to year. In general, existing regulations, designations, and restrictions have been considered as part of the baseline condition for the project analysis. The projects that were considered for their potential to interact with the Proposed Project and result in cumulative impacts are discussed below.

8.4.2.1. Nature Conservancy Trawler Buy-Out Program

In June 2006, The Nature Conservancy purchased federal trawling permits and trawling vessels from commercial fishermen in Morro Bay, which was the first private organization to buy out Pacific fishing vessels and permits for conservation purposes. The Nature Conservancy buy-out program is a collaborative effort between government and fisherman that seeks to protect 3.8 million acres. This program has the result of reducing impacts on seafloor communities from fishing activities and recovery of groundfish species. Because buyouts eliminate the potential for increased fishing pressure in new locations, it is not anticipated to have adverse impacts. Therefore, it does not create any cumulative impacts to which the proposed project could contribute.

8.4.2.2. Other MPA Designations in California

The Commission is working to designate network components of MPAs for the remainder of the California coast and offshore islands. Specific proposals for these network components have not yet been developed other than for the central coast; however, initial efforts have started working on the network component for the south coast study region (Point Conception in Santa Barbara County to the California/Mexico border in San Diego County, including offshore islands within state waters). The South Coast Regional Stakeholder Group was recently formed and the Draft Regional Profile of the MLPA South Coast Study Region was posted online October 8, 2008. It is anticipated that the additional network components will be similar in nature to those of the Proposed Project. Therefore, these components would have similar impacts to the Proposed Project, although in many cases the impacts would be in different locations.

8.4.2.3. Restrictions on Commercial Chinook Salmon Harvest

In April 2006, in response to declines in the number of wild fall Chinook salmon returning to the Klamath River, the federal government reduced commercial salmon fishing seasons along 700 miles of the Oregon and California coasts between Cape Falcon in Oregon and Point Sur in California. The 2008 management measures established fishing areas, seasons, quotas, legal gear, recreational fishing days and catch limits, possession and landing restrictions, and minimum lengths for salmon taken in the EEZ off Washington, Oregon, and California. Effective April 2008, the commercial salmon fishing season has been essentially closed in the north central coast study region. Although this restriction could result in displaced fishing pressure in other locations, the general result is anticipated to be reduced fishing effort. These limits apply to 2008; future restrictions are speculative.

8.4.2.4. Restrictions on Rockfish Harvest

The coastwide commercial RCA was established in January 2002 by NOAA Fisheries to protect and assist in rebuilding stocks of lingcod and seven species of rockfishes. Trawl and non-trawl RCAs vary seasonally and regionally. Effective protection equivalent to that of an MPA occurs where the RCA is closed year-round to

particular gear types. Because the restrictions change from year to year, particularly in regard to depth range, the analysis of cumulative impacts is considered from the standpoint of the general effects of such restrictions, rather than their specific locations.

8.4.3. Future Regulations

It is possible that future regulations would result in new listings of endangered species, modification of the extent or management approach for EFH, amendments to fishery management plans, or result in other designations such as marine sanctuaries. Because the requirements under future regulations are not known at this time, they are considered speculative and are not included in this cumulative-impact analysis.

8.4.4. Global Climate Change and Greenhouse Gas Emissions

Global climate change is a problem caused by combined worldwide greenhouse gas emissions, and mitigating global climate change will require worldwide solutions. Greenhouse gases (GHGs) play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which could have otherwise escaped to space. Prominent GHGs contributing to this process include water vapor, carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), ozone, and certain hydro- and fluorocarbons. This phenomenon, known as the "greenhouse effect" keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life. Increases in these gases lead to more absorption of radiation and warm the lower atmosphere further, thereby increasing evaporation rates and temperatures near the surface. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and to contribute to what is termed "global warming," a trend of unnatural warming of the Earth's natural climate. Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and TACs, which are pollutants of regional and local concern.

The Intergovernmental Panel on Climate Change (IPCC) has been established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical and socio- economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation. The IPCC predicts substantial increases in temperatures globally of between 1.1 to 6.4 degrees Celsius (depending on scenario) (Intergovernmental Panel on Climate Change 2007).

Climate change could impact the natural environment in California in the following ways, among others:

- Rising sea levels along the California coastline, particularly in San Francisco Bay and the Sacramento–San Joaquin Delta due to ocean expansion;

- Extreme-heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent;
- An increase in heat-related human deaths, infectious diseases and a higher risk of respiratory problems caused by deteriorating air quality;
- Reduced snow pack and stream flow in the Sierra Nevada mountains, affecting winter recreation and water supplies;
- Potential increase in the severity of winter storms, affecting peak stream flows and flooding;
- Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield;
- Changes in distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million by the year 2040 (California Energy Commission 2005).

As such, the number of people potentially affected by climate change as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario are expected to increase. Similar changes as those noted above for California would also occur in other parts of the world with regional variations in resources affected and vulnerability to adverse effects.

GHG emissions in California are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (California Energy Commission 2006) as well as natural processes.

8.4.4.1. United States Greenhouse Gas Emissions

In 2006, total U.S. greenhouse gas emissions were 7,054.2 million metric tons (MMT) CO₂ Eq. Overall; total U.S. emissions have risen by 14.7 percent from 1990 to 2006. The primary greenhouse gas emitted by human activities in the United States was CO₂, representing approximately 84.8 percent of total greenhouse gas emissions. The largest source of CO₂, and of overall greenhouse gas emissions, was fossil fuel combustion. CH₄ emissions, which have declined from 1990 levels, resulted primarily from enteric fermentation associated with domestic livestock, decomposition of wastes in landfills, and natural gas systems. Agricultural soil management and mobile source fossil fuel combustion were the major sources of N₂O emissions. The emissions of substitutes for ozone depleting substances and emissions of HFC-23 during the production of HCFC-22 were the primary contributors to aggregate HFC emissions. Electrical transmission and distribution systems accounted for most SF₆ emissions,

while PFC emissions resulted from semiconductor manufacturing and as a by-product of primary aluminum production (U.S. Environmental Protection Agency 2008).

8.4.4.2. California Greenhouse Gas Emissions

California AB 32, the “Global Warming Solutions Act of 2006,” codifies the State’s GHG emissions target by directing the California Air Resources Board (ARB) to reduce the State’s global warming emissions to 1990 levels by 2020. ARB regulations are required to begin phasing in by 2012.

Worldwide, California is the 12th to 16th largest emitter of CO₂ (California Energy Commission 2006), and is responsible for approximately 2% of the world’s CO₂ emissions (California Energy Commission 2006).

Transportation is responsible for 41% of the state’s GHG emissions, followed by the industrial sector (23%), electricity generation (20%), agriculture and forestry (8%) and other sources (8%) (California Energy Commission 2006). Emissions of carbon dioxide and nitrous oxide are byproducts of fossil fuel combustion, among other sources. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, among other sources. Sinks¹ of carbon dioxide include uptake by vegetation and dissolution into the ocean. California GHG emissions in 2002 totaled approximately 491 million metric tons of carbon dioxide equivalent (MMT-CO₂ eq).

BAAQMD prepared an inventory of GHG emissions in the 9-county Bay Area in November 2006. Transportation is responsible for 51% of the Bay Area’s emissions, followed by the industrial/commercial sector (26%), power plants (7%), oil refining (6%) and domestic use (11%) (Bay Area Air Quality Management District 2006). Total GHG emissions in 2002 were estimated at 85.4 MMT-CO₂ eq.

8.4.5. Cumulative Effects

8.4.5.1. Consumptive Uses and Socioeconomic Considerations

Socioeconomic effects are not required to be analyzed under CEQA. The Proposed Project’s potential for contributions to cumulative physical impacts resulting from social and economic effects are discussed under the relevant topics below.

8.4.5.2. Air Quality

Portions of the North Coast and San Francisco Bay Area Air Basins are not in attainment for ozone, PM₁₀, and PM_{2.5}. As indicated in Chapter 5, the Proposed Project’s operational emissions would be well below the criteria pollutant emission

¹ A carbon dioxide sink is a resource that absorbs carbon dioxide from the atmosphere. The classic example of a sink is a forest in which vegetation absorbs carbon dioxide and produces oxygen through photosynthesis.

thresholds of the MCAPCD, the NSCAPCD and the BAAQMD. While potential operational emissions resulting from the Proposed Project are for the most part within acceptable levels, emissions within both air districts would contribute to cumulative attainment impacts for ozone, PM10, and PM 2.5 in the North Coast and San Francisco Bay Area Air Basins. As with direct impacts, this cumulative impact is considered a potential short-term adverse effect of the Proposed Project, as well as Alternatives 1, 2, and 3. Long-term emissions are anticipated to diminish over time due to the current trend of declining number of commercial fishing vessels, the ARB's ongoing statewide efforts on the regulation of harbor craft diesel engines, and continuing efforts of the Carl Moyer Fund to refurbish or replace aging diesel engines. Therefore, this impact likely does not represent a considerable contribution to long-term cumulative air quality impacts.

The impacts associated with GHGs are long-term climatic changes; . as previously noted, GHG contaminant emissions tend to accumulate in the atmosphere because of their relatively long lifespan. As a result, their impact on the atmosphere is mostly independent of the point of emission; GHG contaminant emissions are more appropriately evaluated on a regional, state, or even national scale than on an individual project level. However, as the project could contribute to GHG emissions, the potential emissions generated by the project have been evaluated. Refer to Table 8-1 below for projected GHG emissions associated with displacing commercial vessels for the Proposed Project and alternatives.

Table 8-1. Projected Greenhouse Gas Emissions of Displaced Commercial Vessels for the Proposed Project and Alternatives 1, 2 and 3 (lbs/day)

Port of Call	CO ₂
<i>Proposed Project</i>	
Point Arena	59.2
Bodega Bay	399.0
Princeton-Half Moon Bay ^a	184.0
Other San Francisco Bay ^b	1,278.0
Total Study Region	1,920.3
<i>Alternative 1</i>	
Point Arena	64.8
Bodega Bay	351.2
Princeton-Half Moon Bay ^a	269.2
Other San Francisco Bay ^b	1,557.6
Total Study Region	2,242.8
<i>Alternative 2</i>	
Point Arena	49.3
Bodega Bay	345.8

Port of Call	CO ₂
Princeton-Half Moon Bay ^a	184.1
Other San Francisco Bay ^b	1,186.8
Total Study Region	1,766.0
<i>Alternative 3</i>	
Point Arena	62.0
Bodega Bay	638.5
Princeton-Half Moon Bay ^a	506.1
Other San Francisco Bay ^b	2054.0
Total Study Region	3,260.6

^a Includes nine vessels homeported in the north central coast study region in same APCD including Bolinas Bay, Tomales Bay, and Point Reyes.

^b Includes vessels homeported outside of the north central coast study region in the BAAQMD including those in San Francisco, Sausalito, Richmond, San Rafael, Berkeley, Oakland, and Alameda.

Currently, the EPA, ARB, and BAAQMD have not established any thresholds or guidance to evaluate impacts associated with GHG emissions. The Governor's Office of Planning and Research (OPR) is developing, and the California Natural Resources Agency will certify and adopt amendments to the CEQA Guidelines on or before January 1, 2010, pursuant to Senate Bill 97 (SB97). These new CEQA Guidelines will provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents. OPR has asked CARB to recommend a method for setting GHG-related significance thresholds. As described by the OPR technical advisory, in absence of regulatory guidance or standards, lead agencies must undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.

To provide some context, the South Coast Air Quality Management District (SCAQMD) proposes a 10,000 metric ton² significance threshold for industrial projects and a 3,000 metric ton significance threshold for residential/commercial projects. The California Air Pollution Control Officers Association (CAPCOA) developed a quantitative threshold of 900 tons/year for commercial, residential, and industrial sources. Additionally, as required under SB97, the ARB submitted a preliminary draft proposal to establish CEQA GHG emission thresholds and proposed a quantitative standard of 7,000 tons/year for industrial project operational emissions. Based on a conservative analysis, the Proposed Project would contribute to global climate change in the short term, on order of 400-700 tons/year, which is less than the guidance proposed by SCAQMD, CAPCOA, and ARB. Given the conservative estimate is less than proposed thresholds, the Proposed Project's contribution to GHG emissions is not considered cumulatively considerable

² 1 ton per day equals 2000 lbs. per day

8.4.5.3. Water Quality

The analysis of water quality in Chapter 5 considers the issue of vessel abandonment and related water quality impacts. Similar to the Proposed Project, vessel abandonment could result from other fishing restrictions along the California coast, such as designation of other MPAs. However, as concluded in Chapter 5, the extent of vessel abandonment as a result of the Proposed Project is considered speculative, and substantial abandonment is not supported by economic analysis completed to date (Wilén and Abbott 2006). As such, the Proposed Project is not anticipated to make a considerable contribution to cumulative water quality impacts related to vessel abandonment. Similarly, the project would not affect nonconsumptive uses and therefore would not contribute cumulatively to degraded water quality resulting from such uses.

8.4.5.4. Ecosystems and Habitat

The Proposed Project would have beneficial effects on ecosystems and habitats to varying degrees, depending on the ecosystem and habitat in question and the degree to which they are protected by the MPA designations. Specifically, the Proposed Project may assist in the rebuilding and/or maintenance of some portions of stocks of the seven groundfish species initially considered to be overfished. Because project impacts and designation of other MPAs are considered beneficial, the Proposed Project would not contribute to adverse cumulative impacts related to ecosystems and habitat in designated areas.

Although displaced fishing pressure could have locally adverse effects on habitat in nondesignated areas, the benefits to marine ecosystems and habitats within designated areas and to the marine ecosystem as a whole are anticipated to be greater than and to offset any degradation resulting from displaced fishing pressure. Therefore, although the project could result in localized short-term adverse effects, in the long run, it would not contribute considerably to cumulative impacts related to exploitation of marine ecosystems and habitat.

8.4.5.5. Species of Interest

The Proposed Project variably restricts or limits take of certain species within the proposed MPAs and would have a beneficial impact on their habitat and individual survival. Similar effects are anticipated related to other nontarget species that may also be affected by harvest. The impact analysis has concluded that such benefits would be greater than and would offset any declines in species resulting from displaced fishing pressure. Similarly, other restrictions on commercial fisheries along the coast would have a beneficial impact on habitat and individual survival. Therefore, although the Proposed Project could result in localized adverse effects, it would not make a considerable contribution overall to cumulative impacts related to species of interest.

8.4.5.6. Cultural Resources

The establishment of MPAs and associated restrictions on species take within the areas will in no way disturb or otherwise affect any existing cultural resources sites or artifacts known to exist or potentially existing in the north central coast study region. Current regulations prohibit all salvage and extraction of artifacts, and the Proposed Project would not change this regulation. Therefore, the Proposed Project would not contribute to any cumulative impact on such resources.

The north central coast study region does not contain any known and recorded TCPs, but there may be unknown and unrecorded TCPs in the area. In accordance with PRC 5097.9, the CDFG will not interfere with the free expression or exercise of any Native American religious rites or otherwise restrict traditional Native American cultural activities within the MPAs. Therefore, the Proposed Project would not contribute to any cumulative impact on TCPs that could occur.

8.4.5.7. Population and Housing

The Proposed Project would not generate new employment or otherwise directly result in population growth. The extent of indirect effects on population growth from increased tourism and recreation as a result of MPA designation and other regulations in the north central coast study region has been determined to be speculative. The tourism industry is expected to experience continued growth along the north central coast; however it is difficult to determine the extent and location of growth in relation to MPA designations.

As discussed in Chapter 7, the Proposed Project is not anticipated to result in urban decay; the ocean economies in the north central coast counties are heavily dependent in the Tourism and Recreation industry. Designation of MPAs in the north central coast study region may displace commercial fisherman, however, business opportunities associated with recreational activities may increase adjacent to and within MPA boundaries. Therefore, the Proposed Project would not contribute to cumulative impacts associated with population growth along the coast.

8.4.5.8. Public Services and Utilities

The MLPA requires development of enforcement plans and adequate funding for enforcement. As discussed in Chapter 7, existing law enforcement resources would not be redirected from patrol services elsewhere in the state in order to cover the Proposed Project. Such resources would be obtained thru additional recruitment and supplemented by other agencies with overlapping jurisdiction. Therefore, MPA component designations would not contribute to any cumulative impacts related to law enforcement. The Proposed Project is not anticipated to have any effects on emergency response.

8.4.5.9. Recreation and Research

The Proposed Project would neither cause substantial physical deterioration of coastal waters or other recreational facilities to occur or be accelerated, nor require the construction or expansion of recreational, scientific, or educational facilities. Educational and study opportunities are anticipated to improve by the presence of MPAs near research opportunities. Therefore, the Proposed Project would not contribute to cumulative impacts.

8.4.5.10. Vessel Traffic

The proposed MPA network component could result in displacement of fishing activity and therefore potential increased concentration of vessels (i.e., congestion) in certain locations outside of MPAs. Similar displacement could also result from other fishing restrictions along the north central coast, such as designation of MPAs in federal waters. Such increases are anticipated to be minor given the extent of areas that are not designated as MPAs. In addition, captains and operators of individual vessels would still be under the same international navigational rules as existed before the implementation of the MPAs. These rules place the responsibility on individuals to pilot their vessels in a safe manner. Therefore, the Proposed Project would not make a considerable contribution to any cumulative impacts related to the concentration of vessels and oceanic hazards.

