

Cumulative Effects and Other Required Analyses

Introduction

This chapter addresses other analyses required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), including the analysis of cumulative effects, growth effects, the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, and irreversible and irretrievable commitments of resources. Each of these analyses is presented below.

Cumulative Effects

Requirements for Analysis

The Council on Environmental Quality's (CEQ's) NEPA regulations (Title 40, Code of Federal Regulations [CFR], Section 1580.25) and the State CEQA Guidelines (Section 15130) require a reasonable analysis of the significant cumulative impacts of a proposed action. Cumulative impact refers to "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, according to CEQA, is described 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]).

The cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines Section 15130[b]).

An environmental impact statement/environmental impact report (EIS/EIR) does not need to discuss effects that do not result in part from the action it evaluates, but it is required to discuss the cumulative effects of an action when the action's incremental effect is cumulatively considerable (State CEQA Guidelines, Section

15130). When a lead agency determines that the incremental effect is not cumulatively considerable, the agency does not need to consider that effect significant, but it must briefly describe its basis for that determination.

Although this chapter discusses cumulative effects in terms of the analysis requirements of the State CEQA Guidelines, this analysis is considered to comply with both NEPA and CEQA requirements because the definitions of cumulative effects under these acts are similar. According to CEQA, cumulative effects may be discussed in the form of either:

- a list of past, present, or reasonably foreseeable probable future projects producing related cumulative effects; or
- a summary of projections contained in an adopted general plan or related planning document, or in a prior adopted or certified environmental document.

This cumulative effect assessment employs a “projections plus” approach. It is based primarily on the Mare Island Specific Plan (City of Vallejo 1999) and the *Final EIS/EIR for the Disposal and Reuse of Mare Island Naval Shipyard, Vallejo California* (Navy and City 1998), plus the contributions of several individual projects that are currently under construction or are reasonably foreseeable (i.e., in the planning stages).

Assumptions

The following assumptions were used in this analysis of cumulative effects.

- A cumulatively considerable effect may occur only if the proposed action would contribute something to the total effect. A cumulatively considerable effect is more likely to occur if either the action’s contribution or the prevailing negative conditions are substantial.
- Pursuant to Sections 15064 and 15130, a project’s incremental contribution to a cumulative impact is not cumulatively considerable if the project will comply with the requirements of a previously approved plan or mitigation program that provides specific requirements that will substantially lessen the cumulative problem, or if the project will contribute its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- All direct effects of the proposed action have the potential to contribute to cumulatively considerable effects, even if they are individually less than significant.
- The geographic region affected by cumulative effects varies by resource; for instance, the region affected by cumulative air quality effects may be larger than the region affected by cumulative noise effects.
- This analysis incorporates past projects by acknowledging their contribution to existing negative or sensitive conditions.

Cumulative Effects of the Proposed Action

The proposed action is part of a broader plan to reuse and redevelop Mare Island. These activities are described and evaluated in the Mare Island Specific Plan (City of Vallejo 1999) and in the *Final EIS/EIR for the Disposal and Reuse of Mare Island Naval Shipyard, Vallejo California* (U.S. Navy and City of Vallejo 1998). The latter document, including its 1999 addendum, is referred to hereafter as the Disposal and Reuse EIS/EIR.

In addition to the level of development anticipated in the Mare Island Specific Plan, several subsequent development projects in the vicinity of the proposed action, both on Mare Island and on the mainland across Mare Island Strait, are proposed or are anticipated by the City of Vallejo (City). These projects are listed in Table 4-1.

Table 4-1. Current and Reasonably Foreseeable Projects in Vallejo

Project	Location
Lennar Mare Island Amended and Restated Specific Plan. Includes a request to add approximately 2.7 million square feet of commercial/industrial development to the level of commercial/industrial development that is currently authorized in the 1999 Mare Island Specific Plan. An EIR is being prepared for this project and is expected to be complete by mid-summer 2005.	Mare Island (west Vallejo)
Vallejo Station and Waterfront Project. This would authorize approximately 562,000 square feet of commercial development and 1,090 housing units along the Vallejo waterfront between Curtola Parkway and Tennessee Street. An EIR has been prepared and the project under review by the City.	Mainland (west Vallejo) along the waterfront between Curtola Parkway and Tennessee Street
Downtown Specific Plan and Virginia Street Development. The Downtown Specific Plan covers 97 acres on the mainland. Inside the Downtown Specific Plan area is the proposed 1.05-acre Virginia Street Development, which would provide a minimum of 158 residential units with ground floor retail space. A Draft EIR prepared by Triad Communities, L.P. for the City was circulated on May 13, 2005, and the project under review by the City.	Mainland in west Vallejo in the Downtown area generally bound by Capitol Street and Curtola Parkway
Bordini Ranch Project. This would authorize the construction of 450 single-family homes on Columbus Parkway near Benicia Road. A Draft EIR has been circulated for public review and a Final EIR is anticipated to be completed by mid Summer 2005.	Mainland (east Vallejo) on Columbus Parkway near Benicia Road
Garthe Ranch. Comprises development of 120 residential single-family units on Columbus Parkway at Springs Road. Environmental documentation for this project was covered in 2005 EIR	Mainland (east Vallejo) on Columbus Parkway at Springs Road)
Solano County Fairgrounds Revitalization Project. Proposes to create 750,000 square feet of retail space on the 157-acre County Fairgrounds site, located on Fairgrounds Drive near the Highway 37 and Interstate 80 junction. Environmental documentation for this project has not been covered.	Mainland (central Vallejo) on Fairgrounds Drive near Highway 37/Highway 80 junction

Project	Location
<p>Public Access Trail and Completion of H-1 Landfill Remediation Project. As a requirement of the WETP, WESTON will complete the final stages of remediation on the closed H-1 Landfill and construct a public access trail along existing levee tops. The trail will include fencing, plantings, and signage to keep trail users out of adjacent wetlands. Construction of the trail is expected to commence in 2006 to 2007. <u>The H-1 landfill project includes installation of a temporary fence along the top of the eastern levees to prevent people and domestic animals from entering the remediation area.</u></p>	Mare Island (west Vallejo)

Except for the Public Access Trail and Completion of H-1 Landfill Remediation Projects, the projects described above are relatively large-scale commercial, industrial, and residential development projects that would have potentially significant cumulative environmental effects in a number of areas, particularly population and housing, traffic, aesthetics, and land use. With the exception of the residential development currently underway on Mare Island, these projects were not identified specifically in the Mare Island Specific Plan or Disposal and Reuse EIS/EIR, and are therefore being added to this cumulative impact analysis, in conjunction with the impacts described in the Disposal and Reuse EIS/EIR.

The cumulative effect analysis contained in the Disposal and Reuse EIS/EIR was used as a basis for evaluating the proposed action's cumulative effects. For example, environmental information in the Disposal and Reuse EIS/EIR was used to identify resources that may be sensitive to additional effects from the proposed action. The Disposal and Reuse EIS/EIR also was used to identify the appropriate regional context in which to evaluate cumulative effects. Finally, the cumulative effect analysis in the Disposal and Reuse EIS/EIR presents guidelines for preventing cumulative effects from future projects, including dredged material disposal. Some of these guidelines have been incorporated into the proposed action. The following discussion identifies the cumulative effects of the proposed action, by resource or topic as they appear in Chapter 3. The regional context for each topic is stated in parentheses.

Land Use (Mare Island and Bay Area Region)

The Disposal and Reuse EIS/EIR identifies land use conflicts as potential cumulative effects. The EIS/EIR states that, if the dredged material disposal ponds were *not* developed for use as an active disposal facility, a conflict with the Bay Conservation and Development Commission's (BCDC's) Bay Plan could occur (BCDC 2000). The analysis contained in this document also finds that other federal, state, and local plans recommend that the action area be used for dredged material disposal. The proposed action involves supporting the Bay Plan, the Disposal and Reuse EIS/EIR, and other plans through use of the ponds for material disposal. The proposed action would have no adverse cumulative effects on land use.

Geology, Soils, and Seismicity (Action Area)

The Disposal and Reuse EIS/EIR does not identify any cumulative effects on geology, soils, or seismicity resulting from development of Mare Island. In this context, the effects of the proposed action would not have a considerable cumulative impact.

The proposed action would involve few structures and only 10 employees, and would therefore limit the exposure of people and structures to geologic hazards. The project design incorporates geological and seismic safety measures and features to address risks to pipelines and levees. The proposed action includes environmental commitments to control erosion and identifies mitigation measures to stabilize levees to the extent possible. See Chapter 3 (Sections 3.2 Geology and Soils and 3.3 Water and Sediment Quality under “Environmental Commitments and Mitigation Measures”).

The proposed action’s incremental contribution to cumulative effects is not cumulatively considerable because the project would contribute its fair share of measures designed to alleviate the cumulative impact.

Water and Sediment Quality

Water Quality

The Disposal and Reuse EIS/EIR (in Chapter 5) identifies effects on water quality as potential cumulative effects. The regional contamination of San Pablo Bay and Napa River waters by nonpoint-source runoff has created an environment sensitive to water quality effects. In particular, the proposed action may contribute to water quality degradation through construction activities, levee failure, stormwater runoff, dredged material spillage, and the release of decant effluent. The other projects considered in this cumulative analysis could also contribute unquantified amounts to this cumulative effect through construction activities and stormwater runoff. These amounts would be minimized by the requirements of construction Storm Water Pollution Prevention Plans (SWPPPs) and by Waste Discharge Requirements (WDRs) imposed by the Regional Water Quality Control Board (RWQCB) on the City of Vallejo’s stormdrain discharges.

With respect to discharges of decant effluent, the Disposal and Reuse EIS/EIR recommends compliance with WDRs. The proposed discharge limits reflect water quality criteria from the Basin Plan, or, in the case of constituents for which San Pablo Bay is listed as impaired, from the California Toxics Rule. These discharge limits would be incorporated into WDRs that would ensure that effluent discharges would not cause or contribute to a violation of water quality standards.

WESTON has made several environmental commitments regarding water and sediment quality in order to avoid or minimize the effects of the proposed action. The environmental commitments are described in Chapter 3 (Section 3.3 Water

and Sediment Quality under “Environmental Commitments and Mitigation Measures”).

The proposed action’s incremental contribution to cumulative effects is not cumulatively considerable because the project would contribute its fair share of measures designed to alleviate the cumulative impact.

Sediment Quality (Action Area)

The proposed action involves the disposal of dredged material into ponds slated for ultimate restoration as wetlands. The cumulative impacts of this activity were discussed in the Disposal and Reuse EIS/EIR (in Chapter 5 under “Reuse of Dredge Disposal Ponds”). The Disposal and Reuse EIS/EIR found that the impact from dredged material disposal is a cumulatively considerable concern, but that the contribution of this project would be mitigated to a less-than-considerable level through RWQCB WDRs on dredged water discharges, consistent with the RWQCB Basin Plan. Further, the proposed action includes a final restoration plan, which converts the disposal ponds to seasonal wetlands at the end of the approximately 20-year project life (see Appendix E of this Draft EIS/EIR).

None of the proposed or anticipated projects listed above would contribute to this impact. The H-1 Landfill is a remediation project that is improving sediment quality. Therefore, the analysis in the Disposal and Reuse EIS/EIR remains current. Although dredged material may be of varying quality, the proposed acceptance criteria and mitigation measures would reduce any potential degradation of sediment quality. As a result, effects of the proposed action on sediment quality and the ability of sediments to support long-term land uses would not be cumulatively considerable.

Biological Resources (Bay Area Region and Statewide)

The Disposal and Reuse EIS/EIR found that no cumulative effect on biological resources would occur as a result of the Mare Island Specific Plan. However, the Disposal and Reuse EIS/EIR identifies effects on biological resources within the Bay Area caused by the reuse of the Mare Island dredged material ponds as potentially significant cumulative effects. Specifically, wetlands and sensitive species are in decline on a regional and statewide level, so any effects leading to further degradation may be significant.

Wetlands

The proposed action would involve the permanent loss of 12.33 acres of waters of the United States. This is considered a significant effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA). In addition, this impact would have a substantial adverse effect, either directly or through

habitat modification, on habitats that are important to common and special-status species, including the salt marsh harvest mouse. The proposed action includes a wetland mitigation and monitoring plan that provides for a 1.3:1 replacement of wetlands (see Appendix C of this Draft EIS/EIR). Additionally, implementation of the environmental commitments included as part of the proposed action to protect water quality, reduce erosion, and protect biological resources and implementation of the mitigation measures identified in this Draft EIS/EIR to avoid or minimize adverse effects would reduce the effects of the proposed action to a less-than-significant level.

Special-Status Species

The Disposal and Reuse EIS/EIR (in Chapter 5) states that operation of the dredged material disposal ponds could adversely affect salt marsh harvest mouse and clapper rail populations and habitat. This potential effect is considered significant for special-status wildlife species. As described in Section 3.4 of this Draft EIS/EIR, the proposed action would be subject to the continued implementation of the 1988 Memorandum of Understanding (MOU) between the Department of the Navy and the U.S. Fish and Wildlife Service (USFWS), contained in Appendix G. Additionally, implementation of the environmental commitments included as part of the proposed action to protect water quality, reduce erosion, and protect biological resources and implementation of the mitigation measures identified in this Draft EIS/EIR to avoid or minimize adverse effects would reduce the effects of the proposed action to a less-than-significant level.

In addition to the effect on special-status mammal species, construction and operation activities could result in a reduction of local juvenile populations of chinook salmon, steelhead, delta smelt, green sturgeon, river and Pacific lamprey, Sacramento splittail, and longfin smelt as well as their planktonic prey (i.e. zooplankton). Lowered adult reproductive success could also occur as a result of water quality changes and contaminants. Implementation of the environmental commitments included as part of the proposed action to protect water quality, reduce erosion, and protect biological resources and implementation of the mitigation measures identified in this Draft EIS/EIR to avoid or minimize adverse effects would reduce the effects of the proposed action to a less-than-significant level.

To address potential impacts to juvenile fish and zooplankton associated with water withdrawal during hydraulic off-loading, the proposed action includes using a modified fish exclusion screen on the intake structure and locating the intake structure outside of the entrapment or mixing zone and suspending it in the middle of the water column (see Appendix D for more information). The overall water volume that will be withdrawn is a very small fraction (0.007 percent under average conditions) of the volume that passes through Carquinez Strait on a daily basis. Over the life of the project, water withdrawal would occur an average of approximately 50 days each year, which would also limit impacts to zooplankton. Other activities and projects that are occurring upstream may have a greater impact on zooplankton and phytoplankton species.

In summary, with implementation of the environmental commitments and mitigation measures identified in this Draft EIS/EIR, the proposed action's incremental contribution to cumulative effects is not cumulatively considerable because the project would contribute its fair share of measures designed to alleviate the cumulative impact.

The Lennar Mare Island Specific Plan Amendment, Weston Mare Island Specific Plan Amendment, and projects listed in Table 4-1, could contribute to this cumulative impact. However, they would also have to comply with Section 404 of the CWA and with the Endangered Species Act and provide mitigation to protect special status species and mitigate any loss of wetlands prior to project approval. This could reduce the contribution of these projects to cumulative effects on biological resources. USFWS and National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) would not approve either the proposed action or future projects in anticipation of possible negative effects on special-status mammal, bird, or fish species.

Visual Resources/Aesthetics (Mare Island and Surrounding Viewpoints)

The Disposal and Reuse EIS/EIR identifies a potential cumulative reduction in scenic resources in the action area, depending largely on the construction of a bridge across Mare Island Strait (a southern crossing). However, more recent studies concluded that such a bridge would not be constructed (Vallejo Transportation and Mare Island Access Study 2001). The Lennar Mare Island Amended and Restated Specific Plan and Vallejo Station and Waterfront projects would all potentially contribute to this cumulative impact. Further, the H-1 Landfill Remediation Project includes a temporary fence along the levee tops that is degrading the views from private residences.

The proposed actions would contribute to the degradation of views from some viewpoints, through raised levees, the addition of scows and cranes to on-island and off-island views, and a new source light and glare including nighttime light. The new source of light and glare that affect views in the area would change the intensity of light, creating a substantial change in nighttime light that would primarily affect residential viewer group with views to the island, particularly Sandy Beach residents. Implementation of environmental commitments included as part of the proposed action and mitigation measures identified in this Draft EIS/EIR would reduce the effects of proposed action to a less than significant level. These measures are described in greater detail in Chapter 3 (Section 3.5 Visual Resources/Aesthetics under "Environmental Commitments and Mitigation Measures").

The proposed action's incremental contribution to cumulative effects is not cumulatively considerable because the project would contribute its fair share of measures designed to alleviate the cumulative impact and because visual quality would remain moderate to high, action-related changes would be minor and/or temporary, impact to existing public views would be minor and/or temporary,

and new moderate-quality public views would be created by allowing access to pier facilities.

Air Quality (Bay Area Region)

Future Mare Island land uses and traffic will generate air pollutants from mobile and stationary sources. The projects listed in Table 4-1 would similarly contribute to the cumulative regional air quality impact. The Disposal and Reuse EIS/EIR found that no cumulative effect would occur as a result of the Mare Island Specific Plan. The Bay Area Air Quality Management District (BAAQMD) cumulative threshold states that any proposed project that would individually have a significant air quality effect would also be considered to have a significant cumulative air quality effect (BAAQMD 1999). The threshold reflects the allowable level of individual contributions that could occur without exceeding federal or state emissions standards, consistent with air quality management plans.

As described in Section 3.6, construction emissions would be below the thresholds (including cumulative thresholds) established by the BAAQMD, based on implementation of PM10 best management practices. Although under the worst-case scenario for hydraulic and mechanical off-loading, operations emissions would exceed the daily thresholds for NO_x with the implementation of the proposed environmental commitments and mitigation measures the impact would be mitigated to a less than significant level. Therefore, with mitigation the contribution to the cumulative impact would also be less than significant. In addition, the action would result in reduced barge and truck emissions related to disposal of dredged materials over current levels by providing a disposal site that is closer to dredge sites and allows shorter trips as a result.

All basic and enhanced control measures established by BAAQMD would be implemented as part of the proposed action. Most of the optional control measures would also be implemented. The proposed action would have no significant effect after implementation of mitigation; dust and odors from the proposed action would be controlled through mitigation measures and best management practices.

The proposed action's incremental contribution to cumulative effects is not cumulatively considerable because the project would contribute its fair share of measures designed to alleviate the cumulative impact.

Noise (Mare Island)

The Disposal and Reuse EIS/EIR found that noise from reuse activities would contribute to the cumulative noise on Mare Island. The Mare Island projects, including the Lennar Mare Island Amended and Restated Specific Plan, Public Access Trail, and H-1 Landfill Project would all contribute unquantified levels of

noise to this cumulative impact. Impacts from the Public Access Trail and H-1 Landfill project would be limited to construction-related only.

Noise from construction and operation of the proposed action would result in localized noise increases. As described in Section 3.7, this increase is considered less than significant because it would remain below the City's noise threshold. (It should be noted that under Alternative 3, which is not the proposed action, the increase is considered significant and unavoidable.)

Construction activities associated with the proposed action could generate noise levels as high as 82 dBA near existing and proposed residential land uses on Mare Island. Because the City's standard conditions of approval for a site development permit would require that construction be limited to the hours between 7:00 a.m. and 6:00 p.m. and because construction noise during daytime hours is not predicted to exceed 90 dBA, this impact is considered less than significant. Because construction noise is intermittent, of limited duration, and highly localized, construction noise is not considered to contribute to a significant cumulative noise effect.

Operations under the proposed action would increase noise at noise-sensitive land uses in the project area (see Tables 3.7-2 and 3.7-3 in Section 3.7). However, in no case is the proposed action predicted to result in operational noise that exceeds City of Vallejo noise standards.

Traffic generated by the proposed action would not be a substantial amount because project-related traffic would be limited traffic generated by workers associated with project operation. Therefore, the proposed action is not considered to contribute to any significant cumulative traffic noise effects in the project area.

Although the project-specific effect of increased noise on Mare Island is less than significant because it is within acceptable thresholds, it could contribute to the significant cumulative impact of increased noise from reuse activities on Mare Island. However, because the construction noise would be temporary and the operational noise intermittent, the contribution of the proposed action is not considered substantial.

Cultural Resources (Mare Island)

The Disposal and Reuse EIS/EIR (Chapter 5) found that activities that would adversely affect the Mare Island Historic District, outside the provisions set out in the Memorandum of Agreement (MOA) between the Department of the Navy, State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), and City of Vallejo, would contribute to a cumulative effect on Mare Island's cultural resources. To the extent that the Lennar Mare Island Amended and Restated Specific Plan affect cultural resources in excess of that described in the Disposal and Reuse EIS/EIR, they would contribute to this cumulative impact. The Mare Island Historic District was listed in the National

Register of Historic Places (National Register) on January 21, 1997. In the proposed action area, Pier 34 is a historic resource that is considered to contribute to the Mare Island Historic District.

The proposed action would involve rehabilitating Pier 34, which is a contributing resource to the Mare Island Historic District. However, implementation of Mitigation Measure 3.8-3: Rehabilitate Pier 34 Consistent with Secretary of the Interior Standards and City of Vallejo Municipal Code, would allow the action to avoid any adverse effects on the historic qualities of Pier 34. This mitigation measure is described in greater detail in Chapter 3 (Section 3.8 Cultural Resources under “Environmental Commitments and Mitigation Measures”).

Further, although the project includes a 20-inch above ground pipeline extending through the Western Magazine Area, the introduction of the pipeline would not diminish the ability of the buildings in this area to convey their historical significance. Pipelines, ditches, and outfalls have been part of the landscape throughout this area of the historic district. Although no pipeline originally ran along Ribiero Road, pipelines were visible to the north (around the 6 contiguous ponds) and south (Pier 34 to Pond 7). The weir outfall from Pond 2S/4S is immediately adjacent to the northern end of the Western Magazine area, and the golf course had an outfall that discharged to the area. Consequently, the addition of the pipeline would not be inconsistent with historic features in the area. Moreover, the proposed pipeline would have a low profile and would not interfere with use of the magazines.

Therefore, the proposed action’s incremental contribution to cumulative effects is not cumulatively considerable because the project would contribute its fair share of measures designed to alleviate the cumulative impact.

Recreation (Mare Island and Vallejo)

The proposed action, as well as redevelopment of Mare Island and the public access trail project, would have a beneficial effect on recreation because additional recreational facilities and opportunities would be developed.

Traffic (Mare Island and Bay Area Region)

As stated in the Disposal and Reuse EIS/EIR, the capacity of I-80 and SR 37 will be exceeded by traffic volumes under foreseeable development conditions in the region. This is a cumulative impact resulting from individual developments throughout the region. The projects listed in Table 4-1 could contribute to this cumulative impact on the highways.

The proposed action would generate small amount of construction-related traffic and operational traffic under the proposed action (Alternative 1). Mitigation identified in the Draft EIS/EIR includes a construction traffic control plan. Operation-related traffic includes an estimated 10 employees as well as vehicles

that come onto the island at the beginning and end of the disposal event. The proposed action's incremental contribution to cumulative effects is not cumulatively considerable because the project would contribute its fair share of measures designed to alleviate the cumulative impact and project operation would occur intermittently and would not contribute substantially to cumulative effects.

Public Services and Utilities (Mare Island and Vallejo)

The Disposal and Reuse EIS/EIR states that development of Mare Island under the Mare Island Specific Plan will create additional demand for services such as schools, law enforcement, and fire protection. The Mare Island developments proposed under the Lennar Mare Island Amended and Restated Specific Plan would contribute to this effect. Developments proposed elsewhere in Vallejo will create a need for additional services and utilities.

However, the proposed action would create almost no additional demand on public services and utilities. It would employ relatively few people and would not require expansion or installation of utility infrastructure. If an electric off-loader is used, the dredging sponsor will be required to coordinate with the electricity provider to ensure there is adequate system capacity. Therefore, the action would not have a substantial contribution to this cumulative effect.

Population, Housing, Employment, and Environmental Justice (Mare Island and Vallejo)

The Disposal and Reuse EIS/EIR finds that development will result in positive effects on regional housing and employment opportunities. This would also be true for the projects listed in Table 4-1. Similarly, the proposed action would generate employment for 10 people, but this small increase in employment is not expected to cause a geographic shift in population. The proposed action would contribute to a cumulative effect on employment, but the effect would be beneficial, not adverse.

Summary of Cumulative Effects

A summary of the cumulative effects is presented in Table 4-2. The conclusions for cumulative effects for all projects are based on the conclusions of the Disposal and Reuse EIS/EIR considered in conjunction with anticipated effects of the projects identified in Table 4-1.

Table 4-2. Summary of Cumulative Effects

Resource/Topic	Cumulative Effect of All Projects	Contribution of Proposed Action
Land Use	Potential cumulative effect	None
Geology, Soils, and Seismicity	None identified	Not substantial
Water and Sediment Quality	Potential cumulative effect	Not substantial
Biological Resources	Potential cumulative effect	Not substantial
Visual Resources/Aesthetics	Potential cumulative effect	Not substantial
Air Quality	Cumulative effect	Not substantial
Noise	Potential cumulative effect	Not substantial
Cultural Resources	Cumulative effect	Not substantial
Recreation	Beneficial	Beneficial
Traffic	Cumulative effect	Not substantial
Public Services and Utilities	Cumulative effect	Not substantial
Population, Housing, Employment, and Environmental Justice	Beneficial	Not substantial

Growth-Inducing Effects

Requirements for Analysis

According to the State CEQA Guidelines (Section 15126[d]), an EIR must evaluate the growth-inducing impacts of a proposed action. Growth-inducing impacts are defined by the State CEQA Guidelines as

[t]he ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects... [In addition,] the characteristics of some projects... may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It is not assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. (State CEQA Guidelines, Section 15126.2[d].)

Included in this definition are public works projects that would remove obstacles to population growth. Direct growth inducement would result if a project, for example, involved the construction of new housing. Indirect growth inducement would result if a project established substantial new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises) or if it involved a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services.

Growth inducement may indirectly lead to adverse environmental effects if the induced growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected, and would thereby lead to adverse physical effects that might not occur otherwise. Local land use plans provide for land use development patterns and growth policies that encourage orderly urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer services, and solid waste disposal services. A project that would induce “disorderly” growth (i.e., conflict with the local land use plans) could indirectly cause additional adverse environmental impacts and other public services impacts.

According to NEPA, growth-inducing effects are entirely considered as indirect effects, caused by the action but “occur[ring] later in time or are farther removed in distance, but are still reasonably foreseeable” (Council on Environmental Quality National Environmental Policy Act regulations). Because this definition is included in the CEQA approach to growth-inducement, this chapter discusses growth-inducing effects in terms of the analysis requirements of the State CEQA Guidelines.

Assumptions

The following assumptions were made in assessing the growth-inducing effects of the proposed action.

- Projects that (1) remove obstacles to population growth; (2) foster economic growth; or (3) result in the construction of additional housing, either directly or indirectly, are considered to cause growth-inducing effects. These effects must be considered because of their potentially taxing effect on existing community service facilities.
- It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Growth-Inducing Effects of the Proposed Action

The proposed action does not involve direct growth-inducing actions, such as construction of housing or necessary infrastructure that would remove an obstacle to growth. In addition, the action is consistent with relevant land use

plans, such as the City of Vallejo General Plan, the Mare Island Specific Plan, and BCDC's Bay Plan, which call for existing Naval dredged material disposal sites to be redeveloped for commercial disposal use. As such, the action would have no potential to induce or result in "disorderly" growth.

With respect to indirect growth-inducing effects, the proposed action would not create the need for any new community services or facilities. Proposed activities would be limited to isolated operations on barges, at the piers, and at the disposal ponds. The provision of dredged material disposal capacity may facilitate Bay Area commerce and maritime activities, but the effects of this facilitation on growth are speculative. Further, if the proposed action is not implemented, a DMDF facility could still be required and would be located elsewhere in the Bay Area. A new dredged material disposal site would need to be created, resulting in site specific impacts, and would likely be located further away requiring greater truck and barge traffic than would be associated with the proposed action.

Proposed trail improvements and increased public access would make the area more attractive and result in increased recreational uses; however, this increase would not strain existing public services or facilities. Revenues from the action would facilitate the overall redevelopment and revitalization of Mare Island and the City of Vallejo, but not above the level planned by the City and other stakeholders. The majority of the island's dry land is already developed; the action area would not become available for housing or structural development through implementation of the proposed action. No growth-inducing effects are anticipated.

Unavoidable Adverse Effects

An EIS/EIR must describe any unavoidable adverse environmental effects for which either no mitigation or only partial mitigation is feasible. If proposed action elements would pose unavoidable effects, an alternative design may be imposed to alleviate those effects. This document identifies mitigation measures to reduce each of the significant effects of the proposed action to less-than-significant levels. Therefore, the proposed action would not cause unavoidable adverse effects.

In the context of the three action alternatives considered, Alternatives 1 (proposed action) and Alternative 2 would not result in unavoidable adverse effects. Alternative 3 would result in a significant and unavoidable impact related to noise because of the increased truck traffic associated with this alternative.

Irreversible and Irretrievable Commitment of Resources

Section 15126(f) of the State CEQA Guidelines requires a discussion of potential significant, irreversible environmental changes that could result from a proposed project. Examples of such changes include commitment of future generations to similar uses, irreversible damage that may result from accidents associated with a project, or irretrievable commitments of resources.

Overall, the reuse and future development of Mare Island, including the reuse of the dredged material disposal ponds, could result in a loss of Bay Area property available to water-dependent users. However, the proposed action is consistent with the action area's land use designation for water-related industry. In general, the transfer of U.S. Navy property on Mare Island will increase the availability of property to water-dependent users and will create opportunities for responsible long-term resource management. The transfer of property makes no resource commitments.

The action would require commitments of both renewable and nonrenewable energy and material resources for rehabilitating, demolishing, constructing, and operating the features of the project, such as the piers and pipeline.

The proposed action would not result in irreversible or irretrievable commitment of wetland resources. Improvements to the existing disposal ponds, such as weir installation and ditching, would be implemented so that seasonal wetlands within the ponds would be allowed to function as wetlands during periods of disuse and at the ultimate conclusion of disposal activities. When the ponds reach their capacity for dredged material, they would revert to permanent seasonal wetlands after placement of wetland cover or other suitable material. As such, they would provide important wildlife habitat and open space for public access and recreational purposes. In addition, disposal and long-term storage of contaminated sediments in the facility would contribute to the improvement of water quality and reduction of contaminant exposure to people and wildlife by permanently removing contaminated sediments from the Bay.

The proposed action (i.e., Alternative 1) would not result in any significant environmental effects that cannot be mitigated to less-than-significant levels.