VIA ELECTRONIC SUBMISSION

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June 16, 2023

RE: Comments on Oakland Harbor Turning Basins Widening Navigation Study; Revised Draft Integrated Feasibility Report and Environmental Assessment

Dear Mr. Jolliffe:

We submit this letter on behalf of West Oakland Environmental Indicators Project ("WOEIP"), Center for Biological Diversity, Sierra Club, West Oakland Neighbors, Environmental Defense Fund, and Pacific Environment to comment on the U.S. Army Corps of Engineers' issuance of a Revised Draft Integrated Feasibility Report and Environmental Assessment ("Revised Draft EA") for the widening of the Oakland Harbor Turning Basins (the "Project") on April 26, 2023.[1]

In this Revised Draft EA, the Army Corps has added several new written sections to its original December 2021 draft Integrated Feasibility Report and Environmental Assessment (the "December 2021 Draft EA"), including an analysis on the potential for induced growth, greenhouse gas emissions analysis, a health risk assessment, and a Clean Water Act section

[1] We refer throughout these comments to the Revised Draft EA and associated appendices located here: https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Current-Projects/Oakland-Harbor-Turning-Basins-Widening/ (last accessed June 16, 2023).

404(b)(1) analysis. Members of our coalition previously identified each of those analyses as missing or insufficiently considered.

However, even with those modifications, the Army Corps has not adequately considered the impacts of expanding the Turning Basins on the nearby community. We have attached our February 14, 2022 Coalition Comment Letter to this submission as **Exhibit A** and are incorporating its contents and appendices by reference into these comments. Except as noted below, the issues identified in our prior letter all remain areas of concern in the Revised Draft EA. We urge the Corps to address the remaining omissions and deficiencies before moving forward with the Project.

In these comments, we identify a series of errors and omissions of analysis that violate the National Environmental Policy Act ("NEPA"), including a failure to scope the Project appropriately or to consider reasonably foreseeable operational impacts (Section I.A); an incomplete analysis of whether the expansion of the Turning Basins will induce growth (Section I.B); a failure to adequately analyze potentially significant and reasonably foreseeable environmental impacts, including to air quality, environmental justice communities, greenhouse gas emissions, regional wildlife, and dredging (Section I.C); an inadequate demonstration of the need for the Project (Section I.D); a failure to consider less impactful alternatives to the expansion of both Basins (Section I.E); and an inadequate analysis of reasonable mitigation measures (Section I.F).

We are also increasingly concerned about the Corps' decision to move forward with a National Environmental Policy Act ("NEPA") analysis separate from the Port of Oakland's forthcoming California Environmental Quality Act ("CEQA") analysis (Section I.G). Throughout the Revised Draft EA, the Corps identifies multiple potentially significant impacts that may require mitigation, but disclaims responsibility for developing those mitigations. The Corps' decision to separate the NEPA and CEQA processes makes public review more challenging, requires members of the public to expend additional time to review each of the separate environmental documents and supporting materials, and leaves community members in the dark about which entities will take responsibility for which aspects of mitigation. Finally, the Corps has also failed to engage meaningfully with the local community, as described in Section I.H below.

We urge the Army Corps to withdraw the Revised Draft EA and develop a full draft Environmental Impact Statement (EIS) for public review, on a timeline that would run concurrently with the Port's forthcoming CEQA process, to enable members of the public to participate more meaningfully and efficiently in both processes.

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I. The Revised Draft EA Fails to Comply with the National Environmental Policy Act

The Corps' Revised Draft EA fails to pass muster under NEPA. NEPA requires that agencies must take a "hard look" at the environmental impacts of their actions before the actions occur.[2] "General statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided."[3] The "'hard look' 'must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.'"[4]

Furthermore, when an EA indicates that the federal action "may" significantly affect the quality of the human environment, the agency must prepare an EIS.[5] "A determination that significant effects on the human environment will in fact occur is not essential. If substantial questions are raised whether a project may have a significant effect upon the human environment, an EIS must be prepared."[6]

As described below, the Corps failed to disclose or analyze myriad reasonably foreseeable impacts from expansion of the Turning Basins. Because of these flaws, we urge the Corps to withdraw the Revised Draft EA and instead issue a complete Environmental Impact Statement that complies with NEPA.

A. *The Revised Draft EA is Still Scoped Too Narrowly and Fails to Disclose or Analyze Reasonably Foreseeable Project Impacts*

The scope of the Corps' analysis in the Revised Draft EA is flawed in two distinct but related ways. First, the Corps still focuses too narrowly on construction impacts associated with expanding the Basins. The Corps fails to disclose or analyze the reasonably foreseeable operational impacts that visitation by ultra-large container vessels—and ongoing Port operations to host those vessels—could bring to adjacent neighborhoods. Second, the Corps inappropriately defines the physical scope of the Project to encompass only a one-mile radius that is too narrow to capture potentially significant adverse environmental and human health impacts in the broader San Francisco Bay region.

As members of our coalition emphasized throughout our February 2022 Coalition Comment Letter, this is *not* a mere isolated construction project: the widening of the Basins is inextricably tied to the commercial operations of a busy maritime port that consistently ranks among the top ten busiest ports in the United States. The Corps' Project implicates the entire Port of Oakland's operations, with corresponding impacts on the Port's use of physical space, deployment of cargo handling equipment, and the truck and rail traffic required to coordinate

[2] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).
[3] *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir. 1998).
[4] *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 491 (9th Cir. 2011).
[5] *Anderson v. Evans*, 371 F.3d 475, 488 (9th Cir. 2004).
[6] *Found. for N. Am. Wild Sheep v. U.S. Dep't of Agric.*, 681 F.2d 1172, 1178 (9th Cir. 1982) (internal citation omitted).

arrival and departure of cargo with the berthing of each ultra-large container vessel (ULCV).[7] Indeed, the Corps admits that the Project would "allow large vessels to call [at the Port] more frequently."[8]

It is fundamentally inconsistent for the Corps to state that expanding the Basins would achieve "*operational* efficiency for vessels entering and exiting the Port"[9]—but then simultaneously disclaim that it has any obligation under NEPA to analyze the Port's operations themselves. The Corps cannot have it both ways. Because the Corps admits the proportion of ultra-large vessels will increase if this Project moves forward, it is obligated under NEPA to analyze the reasonably foreseeable impacts on Port operations. Analysis of all reasonably foreseeable impacts is a crucial aspect of an agency's compliance with NEPA before it may pursue any federal action.[10]

Our February 2022 Comment Letter explained that NEPA requires the Corps to consider the reasonably foreseeable operational impacts on the Port.[11] Numerous other agencies shared our concerns, including the California Office of the Attorney General,[12] the U.S. Environmental Protection Agency (EPA),[13] the Bay Area Air Quality Management District (BAAQMD),[14] and

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[7] We use the industry term ULCV throughout these comments to refer to vessels that are Post-Panamax Generation III or Generation IV, with over ~15,000 twenty-foot equivalent units (TEUs), although there is no universally adopted TEU threshold for ULCVs.

[8] Revised Draft EA at v.

[9] See, e.g., Revised Draft EA at 157, 166.

[10] 40 C.F.R. § 1508.1(g); see 40 C.F.R. § 1501.2(b)(2); *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075-77 (9th Cir. 2002); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214 (9th Cir. 1998).

[11] See generally February 2022 Coalition Comment Letter, Exh. A at 6-13.

[12] Cal. Dep't of Justice, Office of the Attorney General, Letter to Eric Jolliffe, Comments on Oakland Harbor Turning Basins—Draft Integrated Feasibility Report and Draft Environmental Assessment (hereinafter "California Attorney General Comments") (May 9, 2022), at 5-7, 12-13; *id.* at 6-7 (critiquing the Corps' decision to omit analysis of the Project's operational impacts, and noting the lack of evidence supporting the Corps' assumption that there will be no change in operations at the Port following construction of the Project).

[13] U.S. EPA, Region IX, Letter to Eric Jolliffe, Comments on the Oakland Harbor Turning Basins Widening Navigation Study, Draft Integrated Feasibility Report / Environmental Assessment, Alameda County, CA (hereinafter "EPA Comments") (Feb. 14, 2022), at PDF p. 2 (encouraging the Corps to "work with the Port of Oakland to analyze and disclose how the resulting container movement efficiencies would influence the timing, scope, and location of port and freight throughput operations"); see *id.* at PDF p. 5.

[14] Bay Area Air Quality Mgmt. Dist. ("BAAQMD"), Letter to Eric Jolliffe, Comments on Oakland Harbor Turning Basins Widening Navigation Study Project Draft Integrated Feasibility Report and Environmental Assessment (hereinafter "BAAQMD Comments") (Feb. 14, 2022) at 3 (recommending that the Corps should analyze "all potential operational phase emissions, including any changes in emissions due to changes in vessel activity during ship calls, changes in types of vessels calling at the Port, increased ship calls, and any increased use of off-road equipment and on-road truck trips" and that the Corps should "[c]omplete an analysis of air quality impacts of the [Turning Basins] Project's operational phase, including a cumulative analysis that considers all reasonab[ly] [sic] foreseeable projects with the potential to further burden West Oakland with exposure to emissions . . . .").

the San Francisco Bay Conservation and Development Commission (BCDC).[15] Each of those agencies identified concerns about the improperly narrow scope of the Corps' analysis.

Notwithstanding the chorus of concerns raised about the scope of the Project in response to the December 2021 Draft EA, the Army Corps doubles down in the Revised Draft EA on a narrowly scoped Project. The Corps again analyzes only the construction impacts of the Project, rather than acknowledging that the Turning Basins are inextricably related to Port operations.[16] And, just as before, the Corps inappropriately defines the scope of environmental impacts within only a one-mile radius of the Turning Basins.[17] That constrained approach fails to capture reasonably foreseeable, potentially significant and cumulative environmental impacts that could result from increased visitation at the Port by ultra-large vessels, such as the impacts on air quality, the risk of ship strikes on marine mammals, and the possibility of oil spills, among other things, as discussed more fully in Section I.C below.

The Corps does not satisfactorily explain why it has failed to revisit the scope of the Project. Instead, the Corps' Response to Comments merely restates its original position without providing any additional, meaningful analysis:

> Dredging and construction will indeed be the primary source of emissions attributable to the Recommended Plan. The corresponding one-mile radius for environmental impacts from the center of the turning basins is appropriate.[18]

The Corps' refusal to define the scope of the Project appropriately violates NEPA. NEPA requires an agency to provide a complete and accurate description of a proposed federal action.[19] Because the Corps has not done so here, it must revisit its environmental analysis and produce a complete EIS that analyzes all reasonably foreseeable, potentially significant, and cumulative impacts with an appropriate scope.

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[15] San Francisco Bay Conservation and Development Commission ("BCDC"), Letter to Eric Jolliffe, Comments on Draft Integrated Feasibility Report and Environmental Assessment for the Oakland Harbor Turning Basins Widening Navigation Study (hereinafter "BCDC Comments") (Feb. 14, 2022) at 2-3 (recommending that the Corps undertake a "more comprehensive and holistic analysis" of the Project and urging the Corps to consider indirect impacts).

[16] See, e.g., Revised Draft EA, "App'x A4a: Air Quality Applicability Assessment" at 1 ("The purpose of this memorandum is to assess, for use in National Environmental Policy Act (NEPA) documentation, the impact that air emissions *related to project construction* have on air quality in the region.") (emphasis added); see also Revised Draft EA, "App'x A4b: Draft Health Risk Assessment" at 2 ("This Health Risk Assessment (HRA) was prepared to evaluate the increase in health risks to nearby receptors *from exposure to construction emissions* . . . .").

[17] See, e.g., Revised Draft EA at 34 ("The 1-mile radius is intended to account for potential construction traffic impacts in the areas closest to the construction sites."); Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 126 at PDF pp. 17-18 (stating that "blue and humpback whales are not expected in the immediate Project area" despite the presence of whales in the San Francisco Bay).

[18] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 101 at PDF p. 9.

[19] *E.g.*, *Aberdeen & Rockfish R.R. Co. v. Students Challenging Regulatory Agency Procedures*, 422 U.S. 289, 322 (1975) ("In order to decide what kind of an environmental impact statement need be prepared, it is necessary first to describe accurately the 'federal action' being taken.").

B. *The Revised Draft EA's Induced Growth Analysis Fails to Contextualize the Project amidst the Port's Present Efforts to Expand*

The Corps asserts that expansion of the Basins will not increase cargo throughput, but it fails to consider this Project in context alongside the Port's current efforts to expand its capacity. The Corps claims that the Port's berth constraints and yard constraints will limit any increase in twenty-foot-equivalent unit (TEU) throughput, flatly offering the conclusory point that expanding the Turning Basins "cannot change the number of vessels able to berth at a single time, nor change the constraints of the yard."[20]

The Corps ignores the fact that the Port is presently seeking the very landside expansions that could enable greater growth and an increase in cargo throughput, especially if the Turning Basins are expanded. For example, in May 2022, the Port submitted a successful grant application to the U.S. Department of Transportation's Maritime Administration (MARAD), seeking more than $36 million to develop one of its terminals to provide "expansion opportunities for increased container capacity."[21] The terminal that will receive those upgrades is called the Outer Harbor Terminal, which is immediately adjacent to the Outer Turning Basin that the Corps seeks to expand with this Project.[22] MARAD awarded the Port the grant money it sought in October 2022.[23]

Similarly, in January 2023, the Port submitted a grant application to the California State Transportation Agency (CalSTA) for a "Terminal Modernization Project" that seeks to dedicate about $177 million toward improvements at the Outer Harbor Terminal that facilitates the berthing of ULCVs.[24] With the money from a CalSTA grant, the Port seeks to "create seamless new berth capacity for ULCVs," "free up valuable real estate that can be used for terminal expansion," and "increase its container handling capacity."[25]

As these grant applications demonstrate, the Port is already pursuing precisely the type of growth that would complement an expansion of the Basins. If all of these projects continue to move forward simultaneously, it could facilitate growth at the Port by increasing container

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[20] Revised Draft EA at 151.

[21] See generally Port of Oakland, "FY 2022 Port Infrastructure Development Program (PIDP) Grant: Outer Harbor Terminal Redevelopment" (submitted May 16, 2022 to U.S. MARAD), https://www.portofoakland.com/wp-content/uploads/Project-Narrative_1_PIDP_Port-of-Oakland_5-16-22.pdf.

[22] *Id.* at 1; see Revised Draft EA at 13 [map].

[23] U.S. MARAD, "Biden-Harris Administration Announces More Than $703 Million to Improve Port Infrastructure, Strengthen National Supply Chains, Lower Costs" (Oct. 28, 2022), https://www.maritime.dot.gov/newsroom/biden-harris-administration-announces-more-703-million-improve-port-infrastructure; U.S. MARAD, "FY 2022 Port Infrastructure Development Grant Awards" (Oct. 28, 2022) at 2, https://cms.marad.dot.gov/sites/marad.dot.gov/files/2022-10/FY%202022%20Port%20Infrastructure%20Development%20Grant%20Awards.pdf.

[24] See generally Port of Oakland, "FY 2022 Port and Freight Infrastructure Program (PFIP): Terminal Modernization Project" (submitted Jan. 13, 2023 to Cal. State Transportation Agency), https://www.portofoakland.com/wp-content/uploads/CalSTA-PFIP_Terminal-Modernization-Narrative_Final_01-13-23.pdf.

[25] *Id.* at 6, 16, and 7, respectively.

throughput. Billions of dollars in federal funding have been made available for these and other infrastructure upgrades throughout the country due to the passage of the Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022. The grants the Port is pursuing are likely the first of many that could facilitate an expansion in cargo throughput. If not adequately mitigated, such an expansion of Port activity will increase air pollution and cause harm to the communities living adjacent to the Port. The Corps' conclusory assertion that the Port has berth and yard constraints thus takes an unnecessarily myopic view of the operational landscape.

We urge the Corps to revisit its induced demand analysis and take a hard look at the expansion of the Turning Basins in the appropriate context: as a physical modification to Port property, in an environment in which the Port is simultaneously seeking funding to expand its own landside capacity, while operating next to a disproportionately burdened community that is already disproportionately burdened by air pollution and truck traffic.

C. *The Revised Draft EA Does Not Adequately Analyze Significant or Cumulative Impacts of the Project*

The Corps' Revised Draft EA fails to consider a series of reasonably foreseeable, significant and cumulative impacts stemming from the Project. Most of these errors stem from improper scoping, as discussed above. Most centrally, the Army Corps inappropriately disclaims responsibility for all landside impacts, theorizing that "[t]he pressures of larger ships, whether [Post-Panamax Generation III] or ULCVs, exist independent of the Recommended Plan."[26] That statement by the Corps relies on the false idea that the expansion of the Basins is somehow divorced from the operation of the Port itself.

As outlined below, we have deep concerns that the Corps has not taken a sufficiently hard look at the actual impacts of expanding the Basins, including the impacts: (1) on air quality, (2) on disproportionately burdened communities, (3) on greenhouse gas emissions and global climate, (4) on regional wildlife, and (5) from dredged material, as described in each of the following five subsections. Because of these omissions, the Corps' Revised Draft EA fails to comply with NEPA.

1. Impacts on Air Quality

The air quality analysis in the Revised Draft EA is flawed: (a) the Corps fails to undertake any analysis of vessel emissions from ULCVs; (b) the Corps fails to consider the impacts of ULCV visitation on regional cargo movement through Northern California; (c) the Corps improperly relies on the General Conformity thresholds, (d) the Corps fails to consider the emissions impacts from an increased degree of maintenance dredging; and (e) the Corps' responses to public comments fail to meaningfully justify its decision to pursue the Project.

[26] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 105d at PDF p. 11.

a. *Failure to Analyze Vessel Emissions Profile of ULCVs*

First, the Revised Draft EA nowhere analyzes the vessel emissions profile of a Post-Panamax Generation III or Generation IV ULCV when it berths at the Port of Oakland. This represents a glaring omission, considering that the Corps repeatedly admits this Project will bring such vessels to the Port more frequently than before.[27] And its failure to analyze emissions is especially problematic because it is already well established that ocean-going vessels are the largest source of diesel particulate matter at the Port, and that they contributed to more than three-quarters of all nitrogen oxides (NO_x) emissions at the Port in 2020.[28]

Even if the Revised Draft EA is correct that the introduction of ULCVs will reduce the total annual number of vessel visits, the Corps did not properly analyze the air quality impacts that increased visitation by ULCVs could produce.

Numerous scientific articles have identified emissions issues with newer containership vessels operating at slow speeds. While containerships sometimes operate at slower vessel speeds to reduce fuel consumption and limit carbon dioxide emissions (a practice known as "slow steaming"), a growing body of research indicates that NO_x emissions in such vessels may be higher when operating at slower engine loads.

For example, a technical paper published in April 2018 in the Journal of the Air and Waste Management Association analyzed the emissions for two groups of post-Panamax container ships operating in a "slow steaming" mode: one group that satisfied the Tier I emissions limits, and another that satisfied the Tier II emissions limits.[29] The authors reported their conclusions: "at slow steaming, the diesel engine presumed to meet the Tier II limits actually emitted more NO_x than its certification value"—meaning, the amount a vessel can be expected to emit based on its tier status.[30] The authors calculated that the standard predicted NO_x emissions rates underestimated actual logged emissions by 21.9%. Furthermore:

> Although total NO_x emissions at slow steaming are undoubtedly lower than those at fast steaming, *higher emissions at lower power cause an underestimation of the*

[27] See Revised Draft EA at 30 ("[A] future with [the Turning Basins] project would allow the maritime industry to take advantage of more PPX Gen IV vessels that have larger TEU capacity, as shown in the vessel call projections."); see also *id.* at 116 ("Widening the turning basins would allow . . . for the ULCVs to call the Port of Oakland more frequently."); see also *id.* at 143 (stating the Project would "allow large vessels to call more frequently").

[28] Port of Oakland, 2020 Seaport Air Emissions Inventory: Final Report (hereinafter "2020 Seaport Emissions Inventory") at 79-82 (Nov. 2021), https://www.portofoakland.com/files/PDF/Port%20Oakland%202020%20Emissions%20Inventory%20Final%20Report.pdf.

[29] See generally Cheng, Chih-Wen, et al., "Nitrogen oxide emission calculation for post-Panamax container ships by using engine operation power probability as weighting factor: A slow-steaming case," 68 J. Air & Waste Mgmt. Ass'n 6 (Apr. 2018), pp. 588-597, https://doi.org/10.1080/10962247.2017.1413440.

[30] *Id.*

actual total NO_x emissions when the total NO_x emissions from slow steaming are calculated using the certification value.[31]

In other words, such vessels are underperforming and over-polluting relative to the predicted amount of emissions that should be expected of a vessel based on its tier.

More recent studies likewise indicate that newer containerships operating at slow speeds may produce excessive NO_x. A Technical Memorandum produced in 2022 for the South Coast Air Quality Management District found that 56% of Tier II containerships exceed the expected NO_x emission factors for their tier status, meaning that "*there is a risk of a general underestimation of the NO_x contribution* from [slow-speed diesel] [ocean-going vessels]," particularly at lower [engine] loads.[32] And a September 2022 article in Atmospheric Pollution Research reached a similar conclusion: "NO_x emissions for Tier II [ocean-going vessels], *contrary to what might be expected, are on average higher* than those for Tier I [ocean-going vessels]."[33]

The Corps did not consider any of this research in its Revised Draft EA. It did not consider vessel emissions at all.

The expert report of Dr. Edward Carr (attached as **Exhibit B**, hereinafter "Carr Report") addresses the omissions in the Corps' analysis and performs a vessel emissions profile for a typical ULCV visit at the Port of Oakland. The results corroborate what the scientific literature suggests: when ULCVs running on Tier III engines operate at extremely low speeds below 25% of their engine capacity, their NO_x emissions drop down to levels closer to Tier II emission rates—in other words, more than *four times greater* than what is allowable under Tier III.[34] Put more simply, larger containerships running on newer engines at very low speeds may actually be polluting (emitting NO_x) at a much higher rate than anticipated, according to the Carr Report.

These findings regarding emissions at low vessel speed are not merely academic: very low speeds are common—and indeed, become necessary—in each containership's approach to Oakland Harbor. Most containerships arriving to the Bay Area are already operating at low speeds as they approach. Many such vessels practice slow-steaming to economize fuel consumption, and others operate at reduced speeds because the area outside of the San Francisco Bay is part of a vessel speed reduction zone intended to reduce the impact of ship strikes on

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[31] *Id.*

[32] Knudsen, Bettina, et al., "Technical Memorandum, Contract No. 21222: Evaluating NOx Emission Inventories for Ocean-Going Vessels Using Real Emissions Data," Explicit ApS (Sept. 2022) at 37, http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/explicit-aps-contract-no-21222.pdf (emphasis added).

[33] Van Roy, Ward, et al., "Airborne monitoring of compliance to NO_x emission regulations from ocean-going vessels in the Belgian North Sea," 13 Atmospheric Pollution Research (Sept. 2022), https://doi.org/10.1016/j.apr.2022.101518 (emphasis added).

[34] See Carr, Edward W., Energy and Environmental Research Associates, "Oakland Harbor Turning Basins Widening: Peer review services for evaluating Air Quality, Emissions, and Economic Analysis: Operations and Emissions" (hereinafter "Carr Report") (June 12, 2023) at 10.

whales.[35] Even if a vessel does not adhere to speed reductions in the open ocean, all vessels must invariably lower their speeds to pass safely under the Golden Gate Bridge and navigate through the Bay, under the Bay Bridge, and into the Oakland Harbor. The Carr Report includes visual maps based on Automatic Identification System (AIS) data demonstrating the average speed of two containership vessels (of 16,000 and 19,000 TEU capacity) as each recently transited through the San Francisco Bay before berthing at the Port of Oakland. The Carr Report shows that such vessels travel at speeds at or below twenty percent of their engine loads shortly after passing under the Golden Gate Bridge and continue operating at lower speeds until berthing at the Port of Oakland.[36]

What this means in practice is that even the newest Tier III ULCVs visiting the Port will be emitting NO_x at higher-than-projected levels (more closely approximating the emissions of Tier II vessels) in every approach to and departure from the Port of Oakland and the already disproportionately exposed landside community. And because the expansion of the Basins will enable ULCVs to visit the Port more frequently, NO_x emissions could increase even further as a result of the Project.

These findings are particularly troubling because emissions of NO_x are directly linked to the formation of ozone (smog). Given West Oakland's disproportionate air pollution burden and Alameda County's nonattainment status for ozone,[37] any increase in the amount of NO_x caused by increased visitation by ULCVs will cause further harm to local residents and reduce the region's ability to meet national ambient air quality standards. The Corps entirely failed to consider this possibility in its Revised Draft EA.

The Carr Report also indicates that visitation by ULCVs can produce substantial particulate matter emissions. Specifically, each visit by a Tier II vessel of about 19,000 TEU can be expected to emit a *minimum* of 0.02 metric tons—roughly 44 pounds—of PM_{10} (particulate matter 10 microns or less in diameter) on its visit through the San Francisco Bay.[38] (As the Carr Report notes, for ocean-going vessels, 92% of PM_{10} is comprised of $PM_{2.5}$—the most dangerous type of particulate matter pollution to human health.)

Embedded in this estimate are the conservative assumptions that the ULCV is able to pull directly into the berth, requires limited maneuvering, spends no time at the anchorage, and plugs

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[35] Vessels over 300 tons are advised to limit speeds to 10 knots or less under the program. See Nat'l Oceanic and Atmospheric Admin., Greater Farallones National Marine Sanctuary, "Vessel Speed Reduction to Protect Whales" (n.d.) (hereinafter NOAA, "Vessel Speed Reduction"), https://farallones.noaa.gov/eco/whales/vessel-speed-reduction.html.

[36] Carr Report, Exh. B at 4 & Figure 2; also see 7 & Figure 3.

[37] See February 2022 Coalition Comment Letter, Exh. A at 24 (discussing Alameda County's status in marginal nonattainment for national 8-hour ozone 2008 and 2015 standards, and moderate nonattainment for 24-hour $PM_{2.5}$ 2006 standards).

[38] Carr Report, Exh. B at 6 & Table 5. In accordance with the Port of Oakland 2020 Seaport Air Emissions Inventory, emissions are calculated for the duration of time in the San Francisco Bay, beginning when a vessel passes under the Golden Gate Bridge inbound and outbound. Per EPA's port inventory guidance, $PM_{2.5}$ makes up 92% of PM_{10} for ocean-going vessels. See Carr Report, Exh. B at 5, n.4.

into the Port's shore power system upon arrival—even though none of those are guaranteed for any vessel.[39] If a ULCV were unable to pull directly into the berth and were sent to anchorage, it would continue to produce NO_x, fine particulate matter ($PM_{2.5}$) and CO_2 at an hourly rate; the same holds true for a ULCV that fails to plug into shore power and continues to run its auxiliary engines while at berth.[40] Furthermore, these calculations do not consider the emissions from any tugs or support vessels required to support the ULCV's berthing or visitation at the Port. In other words, this calculation represents a lower-bound (i.e., best case) estimate for public health purposes. In practice, actual emissions for each vessel's visit could be—and very often likely are—much higher.

Because the Army Corps failed to analyze the emissions profile of ULCVs or the air quality impacts of bringing ULCVs to the Port more frequently, the Corps must withdraw the Revised Draft EA and produce a full EIS that properly analyzes the air quality impacts that are foreseeable when ULCVs visit the Port of Oakland.

b. *Failure to Consider Impacts of ULCV Visitation on Cargo Movement through the Port and into Northern California*

The Army Corps' Revised Draft EA also makes no effort to address our previously stated concerns about the foreseeable impacts that increased ULCV visitation is likely to have on cargo movement through the region: including cargo handling within the Port, truck and rail trips to and from the Port, and traffic flow impacted by such trips.

The Carr Report identifies several ways in which cargo movement from ULCVs is likely to produce congestion and worsen air quality, which the Corps entirely failed to consider.

First, the arrival of a ULCV at the Port "may actually reduce the rate at which cranes load and unload cargo, as the distances traversed [by cargo handling equipment] are larger and therefore container move cycles are longer."[41] That finding is supported by other scientific literature, which likewise indicates that larger ships generally require additional time to unload larger volumes of cargo,[42] which could result in other ships "queuing" at anchorage or waiting to enter the harbor. As we noted in our February 2022 Coalition Comment Letter, congestion caused by a supply chain backlog in 2021 led to a substantial emissions increase from freight-related sources, specifically from auxiliary engines used to power vessels at anchor waiting to call on the Port.[43] At-anchor emissions from congestion-related delays caused an emissions

[39] See Carr Report, Exh. B at 8. As discussed more fully in Section I.C.3 below, rates of shore power usage at the Port of Oakland fall well below 100%. In 2022, the Port achieved shore power plug-in for only 62% of vessels.
[40] Carr Report, Exh. B at 5 & Table 4.
[41] *Id.* at 12.
[42] Jungen, Hendrik, et al., "The Rise of Ultra Large Container Vessels: Implications for Seaport Systems and Environmental Considerations," *Dynamics in Logistics* 249-275 (2021) at 258-59, https://link.springer.com/chapter/10.1007/978-3-030-88662-2_12.
[43] February 2022 Coalition Comment Letter, Exh. A at 11.

increase of 5.2 tons per day of NO_x and 0.14 tons per day of particulate matter at the Port.[44] The Corps failed to consider the reasonably foreseeable possibility that larger vessels could impact cargo operations.

Second, the Carr Report notes that the introduction of a "pulse" of containers when a ULCV arrives "may strain yard and cargo handling capabilities if not properly prepared," and "labor demand may be more episodic, correlated with the arrival of large ships that introduce more demand peaks."[45] Those impacts could then cascade out into delays for trucks and rail, on which the Port depends to transport cargo out of the Port and away from West Oakland. These potential "congestion effects" may occur if terminal operators at the Port are unprepared to handle an influx in TEU flow from a ULCV—because "pulses in TEUs may require longer gate hours and additional truck operators to efficiently move the cargo."[46] The Corps did not consider any of these reasonably foreseeable possibilities in its Revised Draft EA.

We reiterate the points raised in our February 2022 Coalition Comment Letter regarding the negative potential impacts that ULCV visitation could have on cargo handling in the Port, truck trips through neighborhoods, parking access issues, and traffic flow through the West Oakland community.[47] The Corps violated NEPA by failing to consider these potentially significant and reasonably foreseeable environmental impacts in its Revised Draft EA.

c. *Improper Reliance on the General Conformity Thresholds*

The Corps also inappropriately relied on the General Conformity thresholds in its Air Quality Applicability Assessment (Appendix A4a), rather than the more specific regional criteria that are more protective of public health. BAAQMD, the regional agency tasked with regulating air quality to protect the public's health, warned the Corps in its February 2022 comments that it did not believe that reliance on General Conformity *de minimis* thresholds of 100 tons per year was an appropriate threshold "for identifying potentially significant local and regional air quality impacts."[48] EPA raised similar concerns, stating that it recognized "the need for immediate identification and implementation of additional, robust measures to achieve the cleanest air quality and improve public health in the region."[49] EPA encouraged the Corps to "support all additional project design changes and mitigation measures that would result in improved air quality."[50]

We too are troubled by the Corps' decision to measure air quality impacts based on the less environmentally protective General Conformity thresholds rather than the regional air quality standards. This is particularly concerning given that Port projects, such as this one,

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[44] CARB, "Emissions Impact of Recent Congestion at California Ports" (Sept. 13, 2021), https://ww2.arb.ca.gov/sites/default/files/2021-09/port_congestion_anchorage_locomotives_truck_emissions_final_%28002%29.pdf.
[45] Carr Report, Exh. B at 12-13.
[46] *Id.* at 14.
[47] See generally February 2022 Coalition Comment Letter, Exh. A at 6-13, 25.
[48] BAAQMD Comments, *supra*, at 2.
[49] EPA Comments, *supra*, at PDF p. 4.
[50] *Id.*

disproportionately impact the health and wellbeing of already overburdened, environmental justice communities. Under the Biden Administration's recently issued executive orders, agencies are required to implement strategies that will "yield equitable outcomes . . . for underserved communities."[51] Failing to utilize more protective regional criteria does not accomplish these goals. We therefore reiterate the concerns identified by BAAQMD and EPA in their comments on the December 2021 Draft EA, and urge the Corps to adequately address this concern in an Environmental Impact Statement.

d. *Failure to Consider Maintenance Dredging*

The Army Corps also fails to consider the increased emissions due to an increased quantity of annual maintenance dredging. The Revised Draft EA observes that it expects an expansion of the Basins will "require an additional 93,000 cubic yards of material to be removed every year as regular operation and maintenance."[52] However, the Port of Oakland's 2020 Seaport Air Emissions Inventory notes that all annual maintenance dredging is performed by diesel-powered dredges, and supported by diesel-powered tugs that transport dredged material via barge to various disposal sites throughout the San Francisco Bay.[53] Because the Corps fails to analyze the operational impacts of the expansion of the Turning Basins, this represents yet another air quality impact that went unstudied in the Revised Draft EA.

e. *Deficient Response to Public Comments*

The Army Corps' Response to Public Comments on air quality is deficient in several respects. Most concerningly, the Corps fails to respond in any meaningful way to concerns that multiple commenters raised about $PM_{2.5}$ and ozone pollution. Instead, the Corps incorrectly recharacterized most of our coalition's concerns as though they were premised exclusively on concerns around greenhouse gases and climate impacts.[54] These responses are unsatisfactory and fail to meet the Corps' obligations under NEPA.

The Corps' Response to Public Comments also incorrectly assumes that vessels berthing at the Port categorically do not produce emissions. The Corps speculates that "docked ships are on shore power, therefore they do not contribute to GHGs while docked."[55] But as discussed in Section I.C.3 below, the Port only achieved a 62% shore power plug-in rate in 2022. All vessels not plugged in to shore power remain reliant on diesel-burning auxiliary engines to maintain their on-board operations. (This example also demonstrates the Corps' improper focus in its

[51] E.O. 14091, "Executive Order on Further Advancing Racial Equity and Support for Underserved Communities Through The Federal Government" (Feb. 16, 2023) at § 3, https://www.whitehouse.gov/briefing-room/presidential-actions/2023/02/16/executive-order-on-further-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/; see also E.O. 14096, "Executive Order on Revitalizing Our Nation's Commitment to Environmental Justice for All" (Apr. 21, 2023), https://www.whitehouse.gov/briefing-room/presidential-actions/2023/04/21/executive-order-on-revitalizing-our-nations-commitment-to-environmental-justice-for-all/.

[52] Revised Draft EA at 145.

[53] 2020 Seaport Emissions Inventory at 33.

[54] See, e.g., Revised Draft EA, "App'x A10c: Response to Public Comments," Comments 111-116 at PDF pp. 13-14 (referring only to GHGs and not mentioning particulate matter or ozone).

[55] See Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 111 at PDF p. 13.

Response document exclusively on greenhouse gases, rather than responding to commenters' concerns about particulate matter and ozone.)

2. Impacts on Environmental Justice Communities

The Corps fails to properly account for the environmental justice impacts of this Project on disproportionately burdened communities like West Oakland. The Revised Draft EA frames the Turning Basins expansion as an air quality improvement project that will lead to "decreased emissions" and "benefits to the environment and the surrounding communities."[56] Yet despite numerous comments from the public, concerned residents, and a range of agencies like U.S. EPA, BAAQMD, BCDC, and the California Office of the Attorney General, the Corps failed to update its analysis in this Revised Draft EA to either analyze or disclose the full scope of reasonably foreseeable emissions impacts to nearby communities.[57] The Corps' failure to analyze the reasonably foreseeable operational impacts of the proposed Project violates NEPA.

The Corps' decision to narrowly focus on construction impacts while completely ignoring potential impacts to Port operations from this Project continues to skew the analysis. As discussed in our February 2022 Coalition Comment Letter, the Corps must take a hard look at all environmental consequences of this Project and any potential alternatives *particularly because* it acknowledges increased harms to neighboring communities.[58] As part of this obligation, the Corps must first provide a complete and accurate description of the Project that does not unreasonably narrow the scope or inappropriately discount reasonably foreseeable impacts to nearby communities of color and other low-income communities disproportionately impacted by environmental harms.[59]

The Revised Draft EA makes clear that the Project will facilitate more visits from vessels with the capacity to carry more than 19,000 TEUs, nearly triple the size of most vessels that currently visit the Port, and this Project will require an additional 93,000 cubic yards of material to be dredged annually. By entirely ignoring landside impacts, the Corps fails to consider how the additional cargo handling equipment, trucks, and rail use needed during these ULCV visits will have real-world impacts in surrounding disproportionately burdened communities like West Oakland.

In its 2022 State of the Air report, the American Lung Association ranked the Oakland area as the fourth most polluted in the U.S. for daily and year-round particle pollution.[60] And the West Oakland Community Action Plan modeling demonstrates that ship maneuvering and berthing are among the top contributors to cancer risk exposure due to emissions of $PM_{2.5}$ and

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[56] See, e.g., Revised Draft EA at 111, 160.
[57] See, e.g., U.S. EPA Comments, *supra*, at PDF p. 5; see also BCDC Comments, *supra*, at 3; BAAQMD Comments, *supra*, at 3; California Attorney General Comments, *supra*, at 5-8.
[58] *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 374 (1989); *California v. Bernhardt*, 472 F. Supp. 3d 573, 620 (N.D. Cal. 2020).
[59] *Aberdeen & Rockfish R.R. Co.*, *supra,* 422 U.S. at 322.
[60] American Lung Association, "State of the Air 2022," at 13, 15, https://www.lung.org/getmedia/74b3d3d3-88d1-4335-95d8-c4e47d0282c1/sota-2022.pdf.

diesel particulate matter.[61] As these sources indicate, West Oakland is still grappling with a toxic legacy of environmental racism that disproportionately burdens residents with many different and dangerous pollution sources, many of them stemming from Port activity.[62]

In addition to entirely ignoring operations impacts, the Corps' limited analysis of construction impacts is also unreasonably constrained. The Revised Draft EA ignored extensive public comments to consider more than a small one-mile radius from each of the Turning Basins. This decision continues to leave out most of the directly adjacent 6.5-square-mile neighborhood of West Oakland. By comparison, the City of Oakland's draft Environmental Justice Element for its 2045 General Plan Update identifies 48 total census tracts as environmental justice communities in Oakland alone, and maps out sensitive land uses across Oakland and other local communities.[63] The Corps must reconcile its analysis with these sources that are directly relevant to the Project area and are more protective of public health and safety.

Finally, the lack of a comprehensive emissions analysis for a ULCV visit limits the Corps' understanding of the impacts of these vessels on local communities. Taking the requisite hard look at all significant environmental justice impacts under NEPA inherently requires an analysis of these cumulative impacts without shortchanging operational changes from the Project. The Corps' disingenuous framing of this proposal as an air quality improvement project for West Oakland therefore ignores key deficiencies in its analysis, which violates NEPA.

a. *Failure to Address Disproportionate Impacts and Engage with Local Communities*

The Corps' failure to consider a proper Project area and scope for its analysis, and to consider all reasonably foreseeable impacts, is especially stark given the Biden Administration's recent Executive Orders on racial equity and environmental justice.[64] Adopted in February 2023, E.O. 14091 requires all federal agencies to implement a comprehensive equity strategy "to enable the agency's mission and service delivery to yield equitable outcomes for all Americans, including underserved communities."[65] E.O. 14096, adopted in April 2023, builds on E.O. 14091 and directs agencies to not just identify and avoid but also affirmatively "address disproportionate and adverse human health and environmental effects (including risks) and hazards of Federal activities, including those related to climate change and cumulative impacts of environmental and other burdens on communities with environmental justice concerns."[66] Both

[61] BAAQMD & WOEIP, "Owning Our Air: The West Oakland Community Action Plan," Vol. 1 (Oct. 2019) (hereinafter "WOCAP 2019"), https://woeip.org/wp-content/uploads/2020/11/WOEIP-research-Owning-Our-Air-full.pdf.

[62] Fears, D., & Muyskens, J., "City planners targeted a Black community for heavy pollution. Can the damage be undone?" *Washington Post* (May 7, 2023), https://www.washingtonpost.com/climate-environment/2023/05/07/oakland-freeways-environmental-justice/.

[63] City of Oakland, "Public Review Draft: Oakland 2045 Oakland Environmental Justice Element" (Mar. 2023) (hereinafter "Oakland 2045") at p. 2-15 & Figure EJ-8, https://cao-94612.s3.amazonaws.com/documents/EJ-Element_032123-public-review-draft_reduced.pdf.

[64] E.O. 14091; E.O. 14096.

[65] E.O. 14091, § 3.

[66] E.O. 14096, § 3(i).

of the orders require agencies to closely engage with communities to address the impacts of proposed federal actions.[67] By largely reiterating the improperly narrow analysis in the December 2021 Draft EA and ignoring comments from the public and agencies raising significant concerns with this Project, the Corps fails to comply with the E.O.s.

Similarly, the Corps fails to demonstrate how the Project supports the Biden Administration's Justice40 initiative to benefit disadvantaged communities.[68] Without properly accounting for all potential impacts, the Corps also cannot identify and reduce disparate environmental burdens or implement community benefits. Indeed, the Corps appears to ignore its own "Implementation of Environmental Justice and the Justice40 Initiative" Memorandum, which states:

> In *studying, planning, designing, constructing, and operating* USACE Civil Works projects or providing assistance, USACE shall work to meet the needs of disadvantaged communities by reducing disparate environmental burdens, removing barriers to participation in decision-making, and increasing access to benefits provided by Civil Works programs to disadvantaged communities within USACE authorities.[69]

By entirely ignoring the operations phase despite repeated requests from the public and failing to consult with the West Oakland community to reduce environmental burdens, the Corps fails to "put[] the disadvantaged communities at the front and center of the [Revised Draft EA]."[70]

b. *Failure to Assess Conflicts with Federal, Regional, State, and Local Measures to Address Environmental Justice*

In addition to conflicting with federal environmental justice executive orders and agency policies, the Corps still fails to assess whether the Project conflicts with "the objectives of Federal, regional, State, Tribal, and local land use plans, policies and controls" under NEPA.[71] For example, while the Revised Draft EA now acknowledges the West Oakland Community Action Plan (WOCAP) under California Assembly Bill (AB) 617, it does not incorporate any of the WOCAP's 89 emissions reduction strategies.[72] The Corps also does not address apparent conflicts with specific strategies in the plan for truck flow, congestion, and parking, and impacts from ULCVs.[73] In fact, as reiterated by the California Attorney General, the Project's construction emissions starting in 2027 are inconsistent with the WOCAP's 2025 $PM_{2.5}$ targets.[74]

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[67] E.O. 14091, § 5; E.O. 14096, § 3(vii-viii).
[68] See, e.g., Revised Draft EA at 110.
[69] U.S. Dep't of Army, Memorandum for Commanding General, U.S. Army Corps of Engineers, "Implementation of Environmental Justice and the Justice40 Initiative" (Mar. 15, 2022) at 2, https://planning.erdc.dren.mil/toolbox/library/MemosandLetters/ASACW_FinalInterimEJIG_15March2022.pdf.
[70] *Id.* at 4.
[71] 40 C.F.R. § 1502.16(a)(5); *see also* 40 C.F.R. § 1506.2(d) (stating EIS must also "discuss any inconsistency of a proposed action with any approved State, Tribal, or local plan or law").
[72] See, e.g., Revised Draft EA at 37, 96-97; see generally WOCAP 2019, *supra*.
[73] See, e.g., WOCAP 2019, *supra*, at 6-3, 6-4, 6-23, 6-26.
[74] California Attorney General Comments, *supra*, at 14.

The Revised Draft EA also fails to consider the City of Oakland's 2045 General Plan Update and its Environmental Justice Element, which will implement policies and actions to reduce pollution burdens on Oakland's most vulnerable communities.[75] The Plan and EJ Element include as a goal reducing emissions from Port operations, and call out the need "to study the effects on truck flow and congestion due to increasing visits from larger container ships."[76] As discussed throughout these comments, the Revised Draft EA fails to consider these potential operations phase impacts from the Project.

At the federal level, the Corps has an affirmative obligation to ensure the Port complies with Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d et seq., which prohibits entities like the Port that receive federal financial assistance from engaging in activities that subject individuals to discrimination on the basis of race, color, or national origin. Yet the Revised Draft EA still fails to provide any meaningful discussion of compliance with Title VI, or evaluate whether facilitating more visits from ULCVs will disproportionately subject communities of color near the Port to additional air pollution and serious health threats on the basis of their race. For example, recent research demonstrates that additional vessel tonnage or vessel visits to a port increases pollution concentrations for major air pollutants within a 25-mile radius, causing additional hospital visits among Black residents in particular.[77]

c. *Inadequate Cumulative Impacts Analysis*

The problems in the Corps' analysis are compounded in its consideration and summary dismissal of any cumulative impacts on surrounding communities. Taking the required "hard look" at all significant environmental justice impacts under NEPA inherently requires an analysis of cumulative impacts. As discussed in our comments on the December 2021 Draft EA, communities like West Oakland are designated as disproportionately burdened precisely because of the cumulative nature of the impacts they endure. The Corps must therefore properly analyze the cumulative burdens of this Project together with the air quality, water quality, and public health risks from other reasonably foreseeable projects. These burdens extend far beyond the narrow one-mile construction radius considered in the Revised Draft EA.

The cumulative impacts analysis here consists of a short table of various projects with their status. The Corps does not attempt to estimate the air quality, water quality, noise, or transportation impacts of any of these projects. Instead, the Corps claims these projects, for example, the polluting Eagle Rock facility, will actually lead to improvements for local communities, despite the fact they are mostly industrial and transportation development projects that have long plagued residents. The table also leaves out obvious projects that should be considered in this analysis, including the Schnitzer Steel facility located very near the Inner Harbor Basin that has been subject to legal challenges and intervention by the state due to its

[75] See generally Oakland 2045, *supra*.
[76] *Id.* at p. 3-19.
[77] Gillingham & Huang, "Racial Disparities in the Health Effects from Air Pollution: Evidence from Ports" (Mar. 15, 2022) at 3, https://resources.environment.yale.edu/gillingham/RacialDisparitiesAirPollution.pdf.

significant emissions.[78] The environmental impacts of these projects have already been analyzed and could have been easily factored into the Revised Draft EA.[79] The cumulative impacts of other major pollution sources in the area like the multiple freeways surrounding West Oakland also should be considered.[80] Incredibly, the table largely leaves out the emissions impacts from the Port itself on nearby communities, including its offsite activity like trucks and rail use.

d. *Inadequate Health Risk Assessment*

West Oakland's community characteristics and existing environmental burdens warrant careful consideration of potential "disproportionately high and adverse human health or environmental effects" associated with this Project.[81] The Corps, however, chose not to consider public health and safety impacts at all within the Revised Draft EA. Although a health risk assessment (HRA) is now included, the HRA suffers from the same problems as the rest of the analysis. For example, the HRA is improperly limited to construction impacts and fails to consider any of the longer-term health impacts from changes to Port operations. The construction impacts are also skewed because it presumes the use of Tier 4 engines, without analyzing the availability of these models for all the equipment types that will be used.[82] While the HRA acknowledges that risk levels could therefore be higher than modeled, the analysis stops there.

In addition, the Corps notes the HRA is included only "for informational purposes"[83]— the potential local health risks and hazards from increases in diesel PM, $PM_{2.5}$, and toxic air contaminant emissions from either the construction or operations impacts of the Project are not factored into the decisions in the Revised Draft EA. Beyond even the construction and operation

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[78] See Cal. Office of the Attorney General, "Press Release: Attorney General Becerra Announces $4.1 Million Settlement with Schnitzer Steel for Illegally Releasing Hazardous Waste and Harmful Emissions into the West Oakland Community" (Feb. 3, 2021), https://oag.ca.gov/news/press-releases/attorney-general-becerra-announces-41-million-settlement-schnitzer-steel ("AG Press Release"); *People of the State of California, et al. v. Schnitzer Steel Industries, Inc.*, Stipulation for Entry of Final Judgment and Order on Consent, https://oag.ca.gov/system/files/attachments/press-docs/Stipulation%20for%20Entry%20of%20Final%20Judgment%20and%20Order%20on%20Consent%20-%20People%20v.%20Schnitzer%20%282-2-21%29.pdf.

[79] See, e.g., Port of Oakland, "Eagle Rock Aggregates Oakland Terminal Project, Final Supplemental Environmental Impact Report, Vol. 1" (Nov. 2021), https://www.portofoakland.com/files/PDF/PortOak_ERA_FSEIR_Vol.1_SEIR_Nov2021_ADA.pdf; Shute, Mihaly & Weinberger, "Comments on Final SEIR for Eagle Rock Aggregates Oakland Terminal Project" (Dec. 15, 2021), https://www.portofoakland.com/files/PDF/Letter%20to%20Board%20of%20Port%20Commissioners%20re%20Eagle%20Rock%20FSEIR.pdf; *West Oakland Environmental Indicators Project v. Port of Oakland*, Verified Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief, Case No. 22CV008905 (Mar. 24, 2022); California Attorney General Comments, *supra*, at 11; AG Press Release, *supra*.

[80] Environmental Defense Fund, *A Tale of Two Freeways* (n.d.), https://www.edf.org/airqualitymaps/oakland/tale-two-freeways.

[81] E.O. 12898, "Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations" (Feb. 11, 1994), https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf, 59 C.F.R. § 32 (1994).

[82] Revised Draft EA, "App'x A4b: Draft Health Risk Assessment" at 23.

[83] Revised Draft EA at 159.

phases, the HRA generally fails to analyze the Project's cumulative impacts in the context of the existing pollution and threats that already overburden surrounding communities. The HRA therefore lacks the level of detail and scope needed to be meaningful in considering and affirmatively addressing health and safety risks.

3. Impacts on Greenhouse Gas Emissions and Climate

The Corps fails to adequately analyze reasonably foreseeable increases in greenhouse gas emissions and climate impacts stemming from the Project. The Corps does not provide adequate information to justify its assumption that larger ships will decrease the overall number of vessel trips to the Port, nor does it support the claim that vessel idle times will be reduced. Larger ships that would be accommodated by this Project will carry more cargo and will take longer to unload, spending more time in the Oakland Harbor.[84] While in the harbor, larger ships will demand larger amounts of power supplied by auxiliary engines unless the ships are successfully plugged in to shore-side power.

Unfortunately, shore power rates have fallen short of State regulations at the Port of Oakland for each of the past several years. The California Air Resources Board (CARB) required 80% of fleets' visits to a port to utilize shore power by January 1, 2020.[85] But so far, in 2023, only 75% of vessel calls at the Port of Oakland have successfully drawn shore power.[86] In 2022, the most recent full calendar year, only 62% of total vessel calls successfully drew shore power – nearly 20% short of the required rate two years after the compliance date.[87] Timing and crowding can prevent successful shore-power connections. Larger ships are very likely to produce crowding, meaning that even if these larger ships are able to plug in successfully, they could prevent other vessels from reaching shore-power plugs, requiring them to rely on auxiliary engines that would increase greenhouse gas emissions, as well as NO_x and particulate matter (as discussed in Section I.C.1, *supra*).

Additionally, the Corps improperly relies on the Port's environmental ordinance to justify its failure to analyze greenhouse gas emissions. The ordinance in question requires tenants to plan for a conversion to zero or near-zero-emissions cargo handling equipment.[88] The ordinance was imposed by the Port on its own tenants, but does not set a date by which tenants must transition equipment to zero or near-zero emissions equipment. Nor does the ordinance commit the Port to achieving zero-emissions by a date certain. Moreover, the ordinance was not passed as a climate or greenhouse gas mitigation measure, but was instead focused on addressing air quality issues, with the intention of "promot[ing] health" and "protect[ing] and enhanc[ing] the

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[84] Carr Report, Exh. B at 12-13.
[85] CARB, "At Berth FAQs," https://ww2.arb.ca.gov/resources/documents/berth-faqs (accessed June 6, 2023).
[86] Port of Oakland, "Shore Power Summary, April 2023," https://www.oaklandseaport.com/files/PDF/2023-04_Oakland_Shorepower.pdf (accessed June 6, 2023).
[87] *Id.* at 5.
[88] Port of Oakland Admin. Code, Chapter 9.01; see also Port Ordinance No. 4691, "Ordinance Amending and Restating Port of Oakland Environmental Ordinance No. 4345 and Adopting the Amended and Restated Ordinance No. 4345 as Chapter 9.01 of the Port of Oakland Administrative Code" (2023).

environmental quality" of the Port.[89] The Corps cannot rely on the ordinance to absolve itself of its obligation under NEPA to study the reasonably foreseeable impacts of the Project on greenhouse gas emissions.

4. Impacts on Regional Wildlife

Throughout its response to comments, the Corps repeatedly dismisses concerns regarding the Project's impacts on wildlife by arguing that species such as Longfin smelt, various salmonids, green sturgeon, and marine mammals are not expected to be present in the Project area.[90] While the Corps may be correct that the already-dredged area within the Turning Basins is likely not a thriving aquatic habitat, it is not the case that the waters immediately adjacent to the Project site are similarly unproductive. Aquatic species breed, spawn, rear, migrate, feed, and shelter in the waters around the Port and throughout the San Francisco Bay—waters through which ULCVs will need to travel prior to docking at the Port.

Instead of properly analyzing impacts on regional wildlife, however, the Corps downplays the Project's dredging impacts, disregards sensitive time periods for local species, and entirely ignores operational impacts such as ship strikes, noise, and oil spills.

a. *Failure to Analyze Impacts of Dredging on Regional Wildlife*

The Corps does not adequately respond to our coalition's prior comments regarding regional impacts on wildlife and water quality from dredging. The Revised Draft EA describes removal and placement of more than 2.3 million cubic yards of dredged sediment while widening the Turning Basins under its preferred alternative.[91] As we noted in prior comments, dredging resuspends sediment and associated organic material, including any contamination within the sediments. This can lead to temporary increases in turbidity and nutrients, reductions in dissolved oxygen, and/or changes in temperature and pH. These water quality impacts can harm fish, benthic animals, and marine mammals foraging in the waters immediately adjacent to the Project site.

However, the Army Corps' response to comments focuses on the lack of fish and other marine animals in the immediate Project site where the Basins are located.[92] While the Corps may be correct that the already dredged area within the Turning Basins is likely not a thriving aquatic habitat, it is not the case that the waters immediately adjacent to the Project site are similarly devoid of aquatic species. Indeed, green sturgeon and longfin smelt have critical habitat

[89] Port of Oakland Admin. Code, §§ 9.01.010, 9.01.130.
[90] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 118c at PDF p. 15 ("Longfin smelt are not expected to be in the Project area"), Comment 120 at PDF p. 16 ("Salmonids should not be present in the Project location"), Comment 126 at PDF pp. 16-17 ("Blue and humpback whale are not expected in the immediate Project area").
[91] Revised Draft EA at 145.
[92] Revised Draft EA, "App'x A10c: Response to Public Comments", Comment 118c at PDF p. 15, Comment 120 at PDF p. 16, Comment 126 at PDF pp. 17-18.

in the San Francisco Bay, and in-water construction is a key threat to these species.[93] The Corps even identifies longfin smelt and green sturgeon, along with various salmonids, as among the fish species in the region.

As our coalition mentioned in prior comments, dredging can cause fish species to suffer gill damage, body abrasion, reduced reproductive success, reduced visibility, decreased predator avoidance, modified territoriality, altered feeding, homing behavior, and flight/avoidance response.[94] The cumulative effect of these and other stressors may lead to a host of harms, including reduced reproductive output, immunosuppression, and increased mortality. By failing to look beyond the immediate Project area, the Corps inappropriately minimizes the significance of sublethal harms to wildlife and fisheries associated with dredging. Thus, the Corps' analysis has an inappropriately narrow scope as to biological impacts. As a result, the Corps fails to disclose or analyze reasonably foreseeable impacts on regional wildlife.

Additionally, three types of marine mammals—the Pacific harbor seal, California sea lion, and harbor porpoise—are known to exist in the vicinity of the Turning Basins, and these species, too, may suffer adverse impacts from dredging.[95] Again, the Corps' response to comments largely dismisses these concerns by focusing on the lack of mammals in the Turning Basins themselves. This myopic analysis fails to consider the true ramifications of the Project. Much like with fish species, increased turbidity and dredging activity can disturb marine mammal foraging activities. Marine mammals may also be impacted by the noise of dredging, and those impacts may manifest as changes in feeding, breeding, and predator-avoidance behaviors, flight/avoidance behaviors, and changes in dive times, migration routes, and swimming speeds. The Corps must conduct a more searching analysis of potential dredging-related impacts on marine mammals, both for purposes of NEPA compliance and also to ensure compliance with the Marine Mammal Protection Act.

b. *Insufficiently Protective Work Windows*

The Corps' reliance on "work windows" as a dredging mitigation measure to avoid species harm is misplaced. Throughout the Revised Draft EA, the Corps notes that most dredging will be conducted during a proposed window from June 1 through November 30 when certain

[93] 74 Fed. Reg. 52,299 (Oct. 9, 2009), "Critical Habitat Designation for Southern Distinct Population Segment of North American Green Sturgeon"; 87 Fed. Reg. 60,957 (Oct. 7, 2022), "Endangered and Threatened Wildlife and Plants; Endangered Species Status for the San Francisco Bay-Delta Distinct Population Segment of the Longfin Smelt"; Wenger et al., "A Critical Analysis of the Direct Effects of Dredging on Fish," 18 *Fish & Fisheries* 967 (Sept. 2017), https://onlinelibrary.wiley.com/doi/full/10.1111/faf.12218.

[94] Wenger et al., *supra*; see also Kjelland, M., et al., "A review of the potential effects of suspended sediment on fishes: potential dredging-related physiological, behavioral, and transgenerational implications," 35 *Enviro. Systems & Decisions* 334 (2015), https://link.springer.com/article/10.1007/s10669-015-9557-2.

[95] Revised Draft EA at 54.

fish species, such as salmonids and herring, are less likely to be present.[96] However, the Corps does not clearly state whether these work windows are mandatory or merely recommended, or in what instances it might elect to work outside the designated work windows.[97] Our coalition's prior comment letter raised these concerns, but the Corps avoids providing a satisfactory response.

The Corps also failed to explain how or whether its proposed dredging activities will be modified if such species are present when the work windows open on June 1. For example, out-migrating Chinook salmon and green sturgeon may be affected by dredging activities that fall outside the proposed work window.[98] The Corps asserts that it will consult with natural resource agencies such as the National Marine Fisheries Service ("NMFS") or the United States Fish and Wildlife Service ("USFWS") as appropriate to extend work windows when the Corps believes that species are *not present*, but the Corps says nothing about how it proposes to alter activity should species *still be present* during a proposed work window.[99] The Corps fails to adequately support its conclusion that there will be no significant impacts on local species caused by the proposed dredging or in-water construction activities.

Furthermore, we reiterate our concerns that the Revised Draft EA still contains inconsistencies regarding how it selected the proper work windows for the Project. Specifically, the Revised Draft EA notes that the preferred work window for the California least tern (listed as endangered by both state and federal governments) would run from August 1 through March 15 of each year, but that time frame does not align with the proposed work windows described above (June 1 through November 30). The Revised Draft EA acknowledges that "in-water construction is proposed to occur partially outside of [the work window most suitable for California least terns] under all action alternatives."[100] These proposed work windows are going to pose potential resource conflicts, light exposure, and disorientation for the California least tern.[101] Yet, the Revised Draft EA does not address how the Corps intends to mitigate such exposure to the largest population of least terns in Northern California.[102] In its Response to Comments, the Corps states it will coordinate with the U.S. Fish and Wildlife Service on

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[96] See, e.g., Revised Draft EA at 175, 182, 188 ("[D]redging work window for California least tern in the project vicinity is August 1 through March 15 each year. Because in-water construction is proposed to occur partially outside of this work window (i.e., in June and July) under all action alternatives, the USACE will initiate ESA consultation with USFWS and determine appropriate minimization measures . . .").

[97] See, e.g., Revised Draft EA, "App'x A-5: Draft CZMA Consistency Determination" at A-1 (noting there may be circumstances when "in-water work must occur at times other than the approved work window").

[98] See, e.g., Revised Draft EA, "App'x A-1: Draft Biological Assessment" at 25, 27, 30-31.

[99] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 123 at PDF p. 17.

[100] Revised Draft EA at 188.

[101] See Adams, et al., "Effects of artificial light on bird movement and distribution: a systematic map." *Environ Evid* 10, 37 (2021), https://doi.org/10.1186/s13750-021-00246-8.

[102] Leu, Chelsea, "Endangered California Least Terns Thrive on Hayward's 'Tern Island'" (June 16, 2016), *Bay Nature*, https://baynature.org/article/a-tern-for-the-better/ ("[T]he Alameda tern colony is the biggest in northern California, and it's here that least terns were first spotted in the Bay Area, in the 1970s.")

impacts.[103] The Corps' response is unavailing: coordinating with other agencies on impacts to the least tern does not satisfy the NEPA requirement of disclosing all foreseeable impacts.[104]

c. *Incomplete Analysis of Ship Strikes*

In the Revised Draft EA, the Corps continues to offer an incomplete analysis of the threat that shipping traffic associated with this navigation channel poses to marine mammals. As mentioned in prior comments, ship strikes serve as a primary cause of mortality for large whales worldwide.[105] Large vessels (*i.e.,* those ≥ 80 meters) are responsible for most of the collisions leading to whale death or severe injury.[106] For imperiled populations, "death from vessel collisions may be a significant impediment to population growth and recovery."[107] San Francisco Bay is increasingly a hotspot for whale strandings, many from ship strikes.[108] Just this past May, a gray whale was killed by a combination of malnutrition and trauma caused by a collision with a maritime vessel in the San Francisco Bay.[109] The number of blue whales killed by ship collisions in the San Francisco Bay area alone exceeds the amount that federal scientists have determined is sustainable for the entire population.[110] As discussed above, the larger ships facilitated by this Project will be more deadly.

The Corps inappropriately obfuscates the ship strike issue by defining the Project area too narrowly. The Corps' claim that whales would "not be impacted" by the Project because "blue and humpback whales are not expected in the immediate project area" is a preposterous example of the Project's unreasonably narrow scope and failure to disclose or analyze reasonably foreseeable impacts.[111] Indeed, a recent Whale Safe study reported 544 sightings of blue, fin, and humpback whales in the San Francisco Bay Area from September – December 2022.[112]

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[103] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 123 at PDF p. 17.
[104] See 40 C.F.R. §§ 1508.8, 1508.25 (Council on Environmental Quality (CEQ) regulations requiring agencies to describe the environmental consequences of the proposed action, including direct, indirect, and cumulative effects).
[105] Cotton Rockwood, et al., "High Mortality of Blue, Humpback and Fin Whales from Modeling of Vessel Collisions on the U.S. West Coast Suggests Population Impacts and Insufficient Protection," *PLoS ONE* 12(8): e0183052 (2017); Jensen, C.M. et al., "Spatial and Temporal Variability in Shipping Traffic Off San Francisco, California," 43 *Coastal Mgmt.* 575 (2015).
[106] Jensen et al. (2015), *supra*.
[107] Rockwood et al. (2017), *supra*.
[108] Nat'l Park Serv., "Spike in Gray Whale Deaths Triggers Investigations" (June 2019), https://www.nps.gov/articles/spike-in-gray-whale-deaths-triggers-investigations.htm.
[109] Russell, Kiley, "Vessel Strike, Malnutrition Likely Killed Whale That Spent 75 Days in SF Bay," *NBC Bay Area* (May 11, 2023), https://www.nbcbayarea.com/news/local/vessel-strike-malnutrition-whale-75-days-sf-bay/3227441/.
[110] Dorman, J. et al., "2021-22 Greater Farallones & Cordell Bank National Marine Sanctuaries Advisory Councils Joint Ship Strike Working Group: Final Report," https://nmscordellbank.blob.core.windows.net/cordellbank-prod/media/docs/2021-22-joint-ship-strike-working-group-report.pdf.
[111] Revised Draft EA, "App'x A-10c: Response to Public Comments," Response 126, at PDF pp. 17-18.
[112] Whale Safe, "2022 Year in Review: A Look Back at Whales & Ships in the Santa Barbara Channel and San Francisco Region," https://whalesafe.com/2022-year-in-review-a-look-back-at-whales-ships-in-the-santa-barbara-channel-san-francisco-region/.

Additionally, the Marine Mammal Center's ongoing field observations conclude that gray whales are feeding while inside the San Francisco Bay.[113] Under the Corps' Recommended Plan, waters adjacent to and surrounding the Project area would host not just whale populations but also an increased number of ULCVs, leading to potentially devastating consequences.[114] Yet the Corps, in both the Revised Draft EA and its response to comments, ignores the impacts the Project could have, and baselessly concludes that marine mammals would not be impacted by whale strikes despite the literature that suggests otherwise.

The Corps also concludes without support that whales will not be impacted by ship strikes because ULCVs will operate at slower speeds than other smaller vessels.[115] It is important to note, however, that while whales have a greater chance of surviving a strike at lower speeds, there is no absolute safe speed for vessels to travel when it comes to whale strikes.[116] Moreover, shipping companies do not always abide by voluntary speed reduction measures. According to Whale Safe, of the 735 large vessels (> 300 tons) that transited through the San Francisco Bay Area, 61.4% cooperated with vessel speed reduction measures from May 1 through December 15, 2022 (the period of peak whale abundance in the San Francisco Bay Area).[117] The Corps cannot shirk its responsibility to analyze and disclose information regarding ship strikes by simply relying on hypothetical reduced ship speeds. The Corps must conduct an analysis assessing the likelihood of ship strikes and the potential impacts on whales in and around the Project's waters.

d. *Inadequate Analysis of Noise*

The Revised Draft EA fails to adequately analyze the impacts that increased vessel size may have on noise affecting local wildlife species, despite comments urging the Port to conduct such an analysis. As our coalition previously noted, the presence of larger ships will increase the levels of low-frequency noise, particularly close to major shipping lanes and ports.[118] While we acknowledge and appreciate the Corps' inclusion of an underwater noise assessment from in-water pile-driving and its potential impacts on wildlife, the Corps relies on an unsupported assumption that fish will disperse to avoid physical injury from pile-driving and its sound impacts.[119] This is misleading. Indeed, even very few pile-driving strikes can result in ruptured

[113] Russell, *supra*.
[114] Dorman, *supra.*
[115] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 126, at PDF pp. 17-18.
[116] Kelley, D., et al., "Assessing the lethality of ship strikes on whales using simple biophysical models," *Marine Mammal Science* (2020), https://onlinelibrary.wiley.com/doi/10.1111/mms.12745.
[117] Whale Safe, *supra*; see also NOAA, "Vessel Speed Reduction," *supra*.
[118] Port of Vancouver, "2021 Haro Strait and Boundary Pass voluntary vessel slowdown" (n.d.), https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/maintaining-healthy-ecosystems-throughout-our-jurisdiction/echo-program/projects/haro-slowdown/; Putland, R.L., et al., "Vessel noise cuts down communication space for vocalizing fish and marine mammals," 24 Global Change Biology 1708 (2018); Liu, M., et al., "Broadband ship noise and its potential impacts on Indo-Pacific humpback dolphins: Implications for conservation and management," 142 *J. Acoustical Society of America* 2766 (2017).
[119] Revised Draft EA at 187.

swim bladders and injuries for fish, including bass, salmonids, and sturgeon.[120] Ultimately, we urge the Corps to continue its analysis as applied to *all* Project-related noise impacts.

The Revised Draft EA does not look at reasonably foreseeable operational noise impacts. Specifically, and emblematic of the Corps' flawed scoping of this Project, the Corps spends little time analyzing noise impacts from the increased number of ULCVs that will visit the Port because of the Project. This is an egregious omission, given the effects that shipping noise has on aquatic species. Noise generated by commercial shipping reduces marine mammals' ability to communicate, locate prey, and navigate within their habitat, and induces behavioral changes.[121] A review of 42 studies on the effect of noise on fish suggested that the majority of fishes are sensitive to noise, including alarming impacts on foraging, predation risk, and reproductive success.[122] The Corps continues to omit disclosure of these impacts.

Instead, the Corps misconstrues our coalition's comments and dismisses concerns regarding noise impacts on local wildlife by arguing that the Project will result in fewer ship visits overall.[123] But this statement by the Corps fails to analyze or consider the noise impacts that would result from a proportionally higher number of ULCVs. Nor does this conclusion analyze whether ULCVs themselves will have larger noise impacts than smaller vessels.

The Corps states, without support, that "[l]arger vessels are not expected to generate more noise."[124] But the reports our coalition presented in our prior comments provide evidence the opposite is true. Indeed, larger vessels introduce significantly more noise into the marine environment, particularly if they have larger positioning thrusters and propulsion units.[125] As a 2018 report noted, "[l]arger vessels (exceeding 100m) typically produce louder, lower-frequency sounds than smaller boats . . . ."[126] The Corps has failed to respond to our coalition's comments regarding these concerns.

Failing to adequately analyze shipping noise in the Turning Basins—produced by larger ships in conjunction with tugboats—downplays impacts on regional wildlife, including but not limited to marine mammals, local fish, and terrestrial wildlife like avian species. Such an omission results in an EA that fails NEPA's "hard look" requirement.[127] Ships that approach and

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[120] Halvorsen, M.B., et al., "Effects of exposure to pile-driving sounds on the lake sturgeon, Nile tilapia and hogchoker," 279 *Proc. Biol. Sci.* 4705 (2012).
[121] Erbe, C., "The Effects of Ship Noise on Marine Mammals—A Review," 11 *Front. Mar. Sci.* 6 (2019).
[122] Cox, K., et al., "Sound the alarm: A meta-analysis on the effect of aquatic noise on fish behavior and physiology," 24 *Global Change Biology* 3105 (2018); Duarte, C.M., et al., "The soundscape of the Anthropocene ocean," 371 *Science* 6529 (2021) (81% and 82% of relevant studies have found significant impacts of noise on invertebrates and fish).
[123] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 127, at PDF p. 18.
[124] *Id.*
[125] *See* Kaplan, M.B. & Solomon, S., "A coming boom in commercial shipping? The potential for rapid growth of noise from commercial ships by 2030," 73 *Marine Policy* 119 (2016).
[126] Southall, B., et al., "Reducing Noise from Large Commercial Ships," *Proceedings* 58 (2018).
[127] *Cook Inletkeeper v. Raimondo*, 533 F. Supp. 3d 739, 766-68 (D. Alaska 2021) (finding agency's failure to analyze potential noise impacts from tugboats and their impacts on local marine mammal wildlife was unlawful).

use the Turning Basins will produce noise during their approach and while executing turns within the Basins, with assistance from tugboats. The Revised Draft EA estimates that underwater noise associated with ships turning in the Basins can range from 141 to 175 decibels.[128] However, the Revised Draft EA improperly dismisses those noise impacts as no different than existing vessel traffic.[129] In our coalition's prior comments, we urged the Corps to consider the noise impacts that emanate from the fact that the largest vessels (which potentially make more noise) will call on the Port more frequently. The Corps fails to do so in the Revised Draft EA and consequently must revisit its analysis regarding noise impacts on local species.

e. *Failure to Consider Greater Risk of Large Oil Spills*

As noted in our coalition's prior comments, the increased presence of these larger vessels—in addition to a potential increase in the size or number of accompanying tending vessels such as tugboats—may increase the risk or severity of oil spills and other discharges.[130] This would be the case even if the Corps is correct that there will be fewer overall vessel visits. ULCVs pose different risks, purely because of their size, than the smaller ships that visit the Port more regularly. The Corps fails to analyze the consequences of these larger vessels on the likelihood and magnitude of future oil spills.

For example, ULCVs have larger fuel bunkers than smaller ships. It thus stands to reason that even larger oil spills of bunker fuel could result from those ships that will be able to visit the Port with greater frequency as a result of this Project. However, the Corps does not analyze the possibility of an increase in the risk of oil spills, or the severity and magnitude of such spills, in its Revised Draft EA, instead constraining its analysis merely to construction impacts.

The Corps' responses to comments are similarly inadequate. The Corps dismisses concerns by stating that the Project will increase navigational efficiency and thus automatically decrease hazard risks.[131] This statement fails to respond to the core concern of the comments. While it may be true that ULCVs will visit the Port with or without the Project, widening the Turning Basins will facilitate a proportionally greater number of ultra-large vessels calling at the Port. Essentially, even if the Corps is correct that the *overall* number of vessel calls will be fewer, the Project will facilitate a future in which *more ultra-large vessels* visit the Port than they would without the Project.

An increased number of ultra-large vessels coupled with their accompanying tending tugboats could increase the risks of oil spills despite any navigational efficiencies gained by widening the Turning Basins. The spills from these ships are potentially even more disastrous than those from smaller vessels because of larger bunker fuel storage capacity. As our coalition

[128] Revised Draft EA at 104 to 105.
[129] See Revised Draft EA at 177 (concluding "transport barges carrying dredge material are not expected to generate underwater noise that is different or greater than existing vessel traffic") and 252 ("[T]he noise produced by the turning activity . . . would reasonably be expected to remain very similar to noise generated by existing vessels turning.").
[130] February 2022 Coalition Comment Letter, Exh. A at 34-35.
[131] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 125 at PDF p. 17.

mentioned in prior comments, the Corps should have analyzed the severity and magnitude of such spills.

5. Inadequate Analysis Regarding the Handling and Placement of Dredged Materials.

The Corps anticipates dredging more than 2.3 million cubic yards of sediment for this Project—but fails to offer concrete information about where nearly 95% of those sediments will go. Table 39 of the Revised Draft EA shows the Corps expects to dredge about 157,000 cubic yards of material that will be suitable for cover material at a beneficial use site: about 7% of the total amount of dredged material.[132] The Corps also indicates that it expects to dredge about 2,093,000 cubic yards of material—about 88% of the total—that will not be suitable for cover at a beneficial reuse site, but could be sufficiently uncontaminated to apply as foundation at such a site. Together, those two portions comprise approximately 2,250,000 cubic yards—about 95%—of the total amount of dredged sediment expected for this Project.[133]

The Corps' failure to identify where it will send 95% of the dredged materials violates NEPA. As we previously stated, the Corps has an obligation to provide meaningful information to facilitate public review, or to provide clarification about "why more definitive information could not be provided."[134] The Corps offers noncommittally that it might send the dredged sediments to the Montezuma Restoration site,[135] but fails to explain anywhere in the Revised Draft EA why it has not already confirmed that proposed placement location, or why it cannot do so at this time. By contrast, it has already identified specific landfills to handle the more highly contaminated, potentially hazardous wastes[136]—a task that is presumably more daunting given the potentially hazardous material.

We also have concerns about the Corps' stated intention to relocate more than 10,000 cubic yards of hazardous wastes to Kettleman Hills landfill. The communities adjacent to that landfill are predominantly Latino and disproportionately burdened by pollution.[137] They have previously opposed state and federal permits that enabled the landfill to expand.[138] We express deep reservations about the plan to export wastes from one environmental justice community to another. We urge the Corps to identify and analyze alternatives that would enable the waste to be

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[132] Revised Draft EA at 145.

[133] By way of comparison, 2.2 million cubic yards is the equivalent of about 688 Olympic sized swimming pools.

[134] *Cuddy Mountain*, *supra*, 137 F.3d at 1380.

[135] Revised Draft EA at 135, 144.

[136] Revised Draft EA at 145.

[137] Bedoian, Vic, "Kettleman Hills Toxic Waste Landfill Permitted to Expand," Fresno Community Alliance (Aug. 1, 2013), https://fresnoalliance.com/kettleman-hills-toxic-waste-landfill-permitted-to-expand/.

[138] Greenaction for Health and Environmental Justice, "Kettleman City, Buttonwillow, and Out-of-State Solid Waste Landfills: Racial Discrimination, Expired Permits, Civil Rights Violations, & Regulatory Malpractice by the Department of Toxic Substances Control in California's Failed Hazardous Waste Program," (n.d.), https://bes.dtsc.ca.gov/wp-content/uploads/sites/42/2023/03/FINAL-Greenaction-and-El-Pueblo-Presentation-for-DTSC-Oversight-Board-ADA.pdf?emrc=b2cb74.

appropriately treated and managed without burdening another environmental justice community. We also note that the Corps failed to consider or analyze the reasonably foreseeable truck emissions that would be created when transporting 10,000 cubic yards of waste to a location more than 200 miles away. It also did not analyze or describe to any degree how it will safely transport the hazardous wastes to ensure they are not released in transit, either by leakage or fugitive dust, should the wastes be transported in open containers. This omission represents yet another source of reasonably foreseeable potential impacts that went unstudied in the Revised Draft EA.

Additionally, we are troubled that the Corps did not perform any sediment analysis before issuing the Revised Draft EA. Instead, it appears to be relying throughout the document on sampling conducted in the Turning Basins and adjacent to Howard Terminal more than twenty years ago, in the late 1990s.[139] By failing to provide data about the actual composition of the sediments to be dredged, the Corps makes it challenging for members of the public to provide informed comments.

Finally, the Corps has not adequately discussed what measures it will take to reduce fugitive dust from the dredged sediments excavated from the Basins. It is reasonably foreseeable that dust from dried sediments could increase particulate matter emissions in a region that is already in nonattainment for $PM_{2.5}$. Equally concerning is the foreseeable possibility that dredged sediments could contain toxic elements that become aerated when dredged and left out to dry on barges. Without recent sediment sampling to indicate the sediment's composition, we cannot offer more specific commentary about the Corps' plans, but we are concerned about the lack of analysis of these possibilities. The Corps must disclose its plans regarding handling of dredged wastes and fully analyze the reasonably foreseeable possibility of fugitive dust so that meaningful mitigation measures can be selected.

For all of these reasons, we urge the Corps to withdraw its Revised Draft EA and produce a full EIS that considers the handling and placement of dredged materials.

D. *The Revised Draft EA Fails to Identify a Need for the Project*

We remain deeply concerned about the actual need for an expansion of the Turning Basins at this time. The Port's own data released in May 2023 suggests that it projects a decline in TEU throughput over the forthcoming five-year period running from 2023 through 2028.[140]

Given that the Port itself is not anticipating an increase in TEU throughput in the next five years—and indeed, even projects a small decline in throughput—the Corps has not demonstrated a need for the expansion of the Turning Basins.

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[139] Revised Draft EA at 88-89; see *id.* at 90 (noting "the sediments in the study area have not yet been sampled and analyzed for this study").

[140] Board of Port Commissioners, "Development of FY 2024 Operating and Capital Budget" (May 11, 2023) at PDF p. 7 (offered as Agenda Item 4.2 of the May 11, 2023 Board of Port Commissioners Meeting and available here: https://portofoakland.legistar.com/View.ashx?M=F&ID=11952778&GUID=238BCE39-510E-4431-8976-EF20E1A8316E).

The Corps also contends that the Project will relieve inefficiencies and improve navigational safety by reducing the risk of collisions and grounding—but does not point to any historical examples in which either collisions or grounding occurred. In the absence of evidence that the Turning Basins currently pose a safety risk, the Corps should have looked more closely at the confounding risks of containerships moving through the Bay more broadly, such as the risk of collision like the 2007 Cosco Busan oil spill, in which a containership collided with the Bay Bridge, spilling 58,000 gallons of fuel onto the coastlines of the San Francisco Bay in a matter of hours.[141]

E. ***The Revised Draft EA Fails to Consider Less Impactful Alternatives***

The Corps failed to consider less impactful alternatives to expanding both the Inner and Outer Turning Basins. The Corps "may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action . . . ."[142] Further, the Corps cannot engage in "subterfuge" in an effort to "rationalize a decision already made."[143]

Here, the Corps has improperly weighted the analytical scales in favor of its preferred approach by analyzing the application of electric dredges *only* to the analysis of widening both Basins. The Corps leaves in place the diesel-dredge option for all other alternatives, which makes the air emissions appear superficially much worse for other alternatives.[144] The Corps' approach fails to present a fair, impartial analysis. EPA identified this concern in its comments on the December 2021 Draft EA.[145] By failing to update its analysis in this Revised Draft EA, the Corps violates its obligations under NEPA.

Relatedly, the Corps has not seriously considered expanding only the Outer Basins in the Revised Draft EA. Expanding only the Outer Basins would address the Corps' stated chief concerns of enabling larger vessels to visit, while avoiding the significant landside impacts to West Oakland and Alameda. As EPA stated in its 2022 comments, pursuing an expansion of the Outer Basins "could achieve the project objective while resulting in fewer impacts to multiple resource areas (including noise, potential disturbance to water quality from contaminated dredged material, and no required trucking dredged material to an offsite landfill), higher Benefit Cost Ratio, and shorter construction duration."[146] And as BCDC noted, expansion of the Outer Basin would have the "fewest impacts to Bay resources while achieving the same goals of the project, which are to enable larger container ships to safely turn and exit the harbor."[147]

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[141] Cal. Coastal Comm'n, "Oil Spills" (accessed June 14, 2023), https://www.coastal.ca.gov/publiced/oilspills.html.
[142] *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 698 F.3d 1060, 1069 (9th Cir. 2012).
[143] *W. Watersheds Project*, *supra*, 632 F.3d at 491 (internal quotations omitted).
[144] Revised Draft EA at 227; *compare id.* at 228 (Table 50) *with* 229 (Table 51); see also Revised Draft EA, "App'x A4a: Air Quality Applicability Assessment," at 9-12 (Tables 8 and 9).
[145] EPA Comments, *supra*, at PDF pp. 6-7, 11.
[146] *Id.* at PDF p. 6.
[147] BCDC Comments, *supra*, at 2.

The Army Corps' lackluster Response to Public Comments reveal that it never truly considered the Outer Basins-only alternative: "Because an Outer Harbor only alternative would not maximize NED [National Economic Development] benefits, an Outer Harbor only alternative with electric dredges would not be a comprehensive benefit plan and therefore was not carried forward as such."[148] That response fails to demonstrate a reasoned consideration of an alternative that would be less environmentally impactful. The Corps' failure to consider less impactful alternatives violates its obligations under NEPA.

F. *The Revised Draft EA Fails to Identify Reasonably Available Mitigation Measures*

For the reasons outlined above, it is reasonably foreseeable that the expansion of the Turning Basins will have potentially significant impacts—and therefore, the Corps was obligated to produce a complete EIS.[149] As the California Attorney General noted in its comments, the Army Corps' own implementing regulations for NEPA state that feasibility reports for authorization and construction of major projects "normally requir[e] an EIS."[150] By choosing not to produce a full EIS, the Corps disregarded its own regulations here.

In an EIS, the Corps must analyze "[m]eans to mitigate adverse environmental impacts."[151] "Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated. A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA."[152] "[B]road generalizations and vague references to mitigation measures" are insufficient to satisfy this requirement.[153] Furthermore, "omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects."[154]

Here, given that air quality remains a serious problem for this region, the Corps should have undertaken a much more careful analysis of reasonable measures to reduce particulate matter and NO_x emissions, particularly given the region's nonattainment status and West Oakland's disproportionate air pollution burden.[155] While we appreciate that the Corps is considering implementing air monitors per its Response to Comments, we reiterate our request that the placement and operation of all such monitors be decided only after collaborative community engagement.

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[148] Revised Draft EA, "App'x A10a: Response to Public Comments," Comment 4 at PDF p. 10.
[149] See 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1501.3(b) (listing factors for weighing significance); *Bark v. U.S. Forest Service*, 958 F.3d 865, 868, 873 (9th Cir. 2020).
[150] California Attorney General Comments, *supra*, at 5, n. 16; see 33 C.F.R. § 230.6(a).
[151] 40 C.F.R. § 1502.16(a)(9).
[152] *Cuddy Mountain, supra,*137 F.3d at 1380 (citations omitted).
[153] *Id.*
[154] *Methow Valley, supra*, 490 U.S. at 352.
[155] See February 2022 Coalition Comment Letter, Exh. A at 24 (discussing Alameda County's status in marginal nonattainment for national 8-hour ozone 2008 and 2015 standards, and moderate nonattainment for 24-hour $PM_{2.5}$ 2006 standards).

To address the persistent air pollution crisis in this region, we urge the Corps and the Port to consider requiring the use of Tier IV tugs equipped with diesel particulate filters for all transportation of electric dredges and for the removal of dredged material. This type of measure would fall within the Port's contracting authority if this Project should proceed to the point where the Port is soliciting bids for the construction. Requiring Tier IV tugs would also meaningfully reduce emissions for the construction portion of the Project, based on the number of hours of operation that tugs are expected to be in service for this Project, according to the Air Quality Applicability Assessment in Appendix A4a.

The Corps and the Port should also seriously examine the possibility of requiring the use of electric tugs, which will be in use at other California ports this year and would help mitigate the impacts of this Project.[156]

We also wish to draw the Corps' attention again to the list of mitigation measures we identified in our February 2022 Coalition Comment Letter. As discussed extensively above, the Corps scoped this Project inappropriately, which is an error that pervades the entire analysis in the Revised Draft EA. Because of that error, the Corps incorrectly states that "the Project will not induce growth" and therefore that "mitigation measures for growth inducement are not appropriate."[157] The Corps' analysis is flawed. A full EIS, with appropriate mitigation measures for each reasonably foreseeable and significant impact, is required here.

G. *The Revised Draft EA Fails to Coordinate NEPA and CEQA Review*

We are increasingly concerned about the Corps' insistence on moving forward with the NEPA process even though the Port has not yet released a draft environmental impact report pursuant to CEQA. The Corps states in its Response to Public Comments that it cannot combine its NEPA process with CEQA, since the Port is not expected to release its CEQA document until late 2023, and "[s]uch a delay would jeopardize USACE's ability to timely request authorization for the proposed Project."[158] The Corps' concerns about the timeline do not stand up to scrutiny, and its decision to push forward will result in inconveniences and inefficiencies that should be avoided.

The Corps' decision to push forward with separate federal environmental review under NEPA—while CEQA review is forthcoming this fall—is extremely inefficient. It also conflicts with guidance issued by the Council on Environmental Quality, as we noted in our February 2022 Coalition Comment Letter.[159] Further, the Corps' decision produces disjointed opportunities for stakeholders to provide input and participate in the decision-making process. This lack of coordination results in incomplete information sharing, confusion, and limited opportunities for comprehensive public participation. Impeding public participation is particularly concerning given that this Project impacts disproportionately burdened communities. Additionally, inhibiting engagement with communities contradicts the goals of the Biden

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[156] "Crowley's Ewolf Tugboat Gets Tough on Greenhouse Gas Emissions" (Apr. 14, 2023), https://thebusinessdownload.com/crowleys-ewolf-tugboat-gets-tough-on-greenhouse-gas-emissions/.
[157] Revised Draft EA, "App'x A10c: Response to Public Comments," Comment 131a at PDF p. 19.
[158] *Id.*, Comment 97 at PDF p. 8.
[159] February 2022 Coalition Comment Letter, Exh. A at 48-49; *see* 40 C.F.R. § 1506.2(b), (c).

Administration's recent E.O.s, which establish stricter public participation requirements for federal actions that impact frontline communities.[160]

Equally concerning, pursuing separate NEPA and CEQA processes fragments the Corps' and the Port's obligation to identify appropriate mitigation measures. Without integration, mitigation measures will be addressed separately in NEPA and CEQA processes, which may not adequately address cumulative impacts or achieve the most effective and coordinated mitigation strategies. For example, the Corps identified certain adverse air quality impacts that will require mitigation, such as anticipated daily NO_x emissions exceedances, but deferred taking any action on the theory that the Port (as the non-federal sponsor of the Project) would handle the issue in its CEQA process.[161] The Army Corps is unlawfully avoiding its responsibility to conduct meaningful environmental review and mitigation.

Furthermore, separating the federal environmental review under NEPA from the state CEQA process leads to redundant analyses by separate entities, increasing the public taxpayer dollars that are being spent on this process. Embarking on separate processes also results in inconsistencies and conflicts between federal and state environmental requirements. This can lead to confusion and disagreements among agencies, stakeholders, and project proponents, potentially hindering the decision-making process and project progress. For example, if the Port identifies additional mitigation measures during its forthcoming CEQA review but assigns responsibility for those measures to the Corps, that could require the Corps to revisit its NEPA documentation or possibly even produce supplemental analysis. In effect, separating NEPA and CEQA processes may produce the very delay that the Corps claims it is trying to prevent by proceeding separately.

We urge the Army Corps to withdraw the Revised Draft EA and develop a full draft EIS for public review, on a timeline that would run concurrently with the Port's forthcoming CEQA process, to enable members of the public to participate more meaningfully and efficiently in both processes.

H. *The Army Corps Did Not Provide Adequate Opportunity for Meaningful Stakeholder Engagement*

The Corps' public engagement efforts on this Project have been deficient. As we previously explained, incorporating and inviting public participation into the government's environmental decision-making is a core element of the NEPA process. Furthermore, CEQ regulations state that agencies must "[m]ake diligent efforts to involve the public" when implementing NEPA.[162] The Corps has failed to comply with NEPA or its implementing regulations here.

Here, the Corps released its Revised Draft EA, comprising over 1,200 pages of material, for only a 45-day comment period. After repeated requests by members of the community to

[160] See Section I.C.2.a, *supra* (discussing E.O. 14091 and E.O. 14096).
[161] Revised Draft EA at 226; see also *id.* at 137 (postponing action on mitigation measures for eelgrass); 260 (postponing action on mitigation measures for traffic noise).
[162] 40 C.F.R. § 1506.6(a).

extend the deadline, and the submission of over 1,000 public comments, the Corps extended the submission deadline for the Project by only 4 days, which does not reflect genuine engagement with community concerns. (We are attaching as **Exhibit C** a series of emails outlining the requests for an extension that we submitted.)

The Corps offered a weak explanation for its paltry 4-day extension: it stated in an email that the updates in the Revised Draft EA were outlined on page vi of the Revised Draft EA.[163] That assertion neglects to consider that the Corps made global updates throughout nearly every section of the Revised Draft EA. As a result, members of the public were forced to engage in a careful comparison of the now-outdated December 2021 Draft EA with the present Revised Draft EA. The Corps did not offer a redline version to track changes from former to present, which made review substantially more challenging. And the Revised Draft EA comes with 26 appendices, whereas the original draft offered only 8 appendices. In sum, the Corps released a large quantity of material for review in a very short window of time, and failed to respond adequately to reasonable requests for an extension. The Corps' failure to offer adequate time for review fails to conform with NEPA or its implementing regulations.

The Corps also offered only a handful of poorly orchestrated public engagement meetings—many of which were plagued with technical difficulties—interspersed with long periods of silence in the past year.[164] Further, the Corps failed to indicate on its public-facing website at any point before June 16, 2023 whether the Revised Draft EA or its many supporting appendices were offered in Spanish or Cantonese, despite stating that it would do so in its Response to Comments.[165] The Corps' silence has left community members uninformed about whether and on what terms the Project will move forward.

Furthermore, we are troubled by the Corps' apparent decision in the Revised Draft EA to delay public review of sediment sampling until a later phase of this Project.[166] The Corps should have performed the sampling before issuing any NEPA compliance documentation, so that members of the public could consider and comment as part of a comprehensive environmental analysis, rather than as a discrete, isolated commenting process.

Finally, as noted in Section I.G above, the Corps' decision to proceed with its NEPA analysis separate from review under CEQA likewise reflects a failure of public engagement: it will require members of the community to review separate, lengthy environmental documents, and it fragments the Corps' and the Port's obligations to identify appropriate mitigation measures.

In sum, the Corps has failed to meet its obligations under NEPA to provide adequate opportunities for public comment on a project that will foreseeably have significant local and environmental impacts.

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[163] See Exh. C at 1.
[164] See Exh. C at 2-3.
[165] See generally https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Current-Projects/Oakland-Harbor-Turning-Basins-Widening/ (last accessed June 15, 2023).
[166] See generally Revised Draft EA at 223-224.

CONCLUSION

These comments outline our principal concerns with the Revised Draft EA. Now that the Army Corps is on notice of these concerns, it has an opportunity to revisit this Project with principles of environmental justice and equity in mind, and it should seize the chance to do so now. We urge the Army Corps to withdraw the flawed Revised Draft EA and undertake meaningful, sustained public engagement to listen, consider, and respond to the chorus of equity-based and environmental concerns about this Project. The Corps must develop a full draft EIS for public review that properly scopes the Project in the context of ongoing Port operations. It must disclose and analyze all of the reasonably foreseeable impacts to air quality and climate, environmental justice communities, wildlife and the San Francisco Bay as described above—and it must undertake careful analysis of meaningful mitigation measures should the Project go forward. Finally, we urge the Corps to release a draft EIS on a timeline that would run concurrently with the Port's forthcoming CEQA process, to enable members of the public to participate more meaningfully and efficiently in both processes.

Thank you for your consideration of these comments. We would welcome the opportunity to engage with the Army Corps further. You may contact Marie Logan at mlogan@earthjustice.org and Michelle Ghafar at mghafar@earthjustice.org with any questions about this submission.

Respectfully submitted,

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INDEX OF ATTACHMENTS IN SUPPORT OF COMMENTS

We submit the following documents into the record regarding the Oakland Harbor Turning Basins Widening Project together with our June 16, 2023 comments. All attachments listed below are viewable and downloadable at the following link:

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EXHIBIT A

VIA ELECTRONIC SUBMISSION

February 14, 2022

Mr. Eric Jolliffe, Environmental Planner
U.S. Army Corps of Engineers
450 Golden Gate Ave, 4th Floor
San Francisco, CA 94102
OaklandHarborTurningBasinsStudy@usace.army.mil

RE: Comments on Oakland Harbor Turning Basins Widening Navigation Study; Draft Integrated Feasibility Report and Environmental Assessment

Mr. Jolliffe:

West Oakland Environmental Indicators Project ("WOEIP"), Earthjustice, Sierra Club, Union of Concerned Scientists, and Center for Biological Diversity submit this letter to comment on the U.S. Army Corps of Engineers' issuance on December 17, 2021 of a Draft Integrated Feasibility Report and Environmental Assessment ("Draft Report") for the widening of the Oakland Harbor Turning Basins (the "Project"). The Port of Oakland (the "Port") is the non-federal sponsor of the project and will be a 50% cost-share partner together with the Army Corps for the Project.

The undersigned organizations have serious concerns about the Army Corps' failure to comply with the National Environmental Policy Act ("NEPA") and the Clean Water Act ("CWA") in issuing the Draft Report. The Army Corps has mischaracterized activities that could facilitate a major expansion at the Port as a mere construction project, which creates errors and omissions of analysis that pervade the entire Report.

By exploring only the hyper-local impacts of construction, the Draft Report fails to adequately analyze the potential environmental justice impacts that expanded freight throughput could have on the local community, which is already disproportionately impacted by pollution and heavy industrial activity. The Draft Report also fails to analyze the operational impacts that an expansion of the Turning Basins could have on air quality, climate change and greenhouse gas emissions, water quality, and impacts to local species and marine mammals—instead dismissing all of these impacts as insignificant in an unsupported Finding of No Significant Impact ("FONSI"). Furthermore, the Draft Report fails to clearly identify the need for the Project at this time, and fails to propose meaningful mitigation measures or reasonable alternatives to the Project. It also inexplicably segments out NEPA compliance from a forthcoming CEQA process that the Port will lead, thereby depriving members of the public of the opportunity to provide meaningful and informed comments. The Draft Report also fails to comply with the Clean Water Act. We request that the Army Corps address the significant flaws and omissions within the Draft Report, as described in detail below.

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I. The Draft Report Fails to Comply with the National Environmental Policy Act

The Draft Report contains significant flaws and omissions, and fails to comply with NEPA. The central flaw in the Draft Report is the Corps' unsubstantiated conclusion that the environmental impacts of the Project will be exclusively generated by construction activity.

This Project is much larger than a mere construction project: it will remove nearly 2 million cubic yards of dredged and excavated material over 2.5 years, enable dramatically larger vessels to call on the Port of Oakland with greater frequency, and could fuel a major growth in cargo volume, which would produce concomitant increases in truck traffic, marine vessel traffic, and other significant impacts on the environment and the local community.

The last time the Port and the Army Corps seriously evaluated the environmental impacts of expanding the Oakland Harbor Turning Basins ("Turning Basins") was in 1998.[1] At that time, the Port and the Corps anticipated that the largest deep draft vessel expected to be using the Basins—called a "design vessel"—was a container ship 1,138 feet in length, with a capacity to carry 6,500 shipping containers known as twenty-foot equivalent units ("TEUs").[2]

Today, the Corps anticipates a design vessel "with nearly triple the capacity of the original design vessel," with a length of 1,310 feet and capacity to carry 19,000 TEUs.[3] If vessels of this new size are to be calling on the Port more frequently, as the Draft Report predicts,[4] then the Port will have the ability to dramatically expand its cargo throughput capacity.

But the Corps never analyzed in the Draft Report whether that reasonably foreseeable outcome—namely, expanding cargo throughput capacity—would occur at all.[5] Instead, the Corps categorized the expansion of the Turning Basins in this Report as a mere construction project with only local impacts, and it improperly elected to

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[1] Port of Oakland & U.S. Army Corps of Engineers, "Oakland Harbor Navigation Improvement (-50 Foot) Project, Final Feasibility Study" (May 1998).
[2] *Id.* at 5-4 to 5-15.
[3] See Draft Report, pp. ii-iii.
[4] See Draft Report, p. 100.
[5] See Draft Report, p. 130 ("[O]perational effects associated with freight volumes . . . are not discussed further in this analysis.").

produce an Environmental Assessment ("EA") and a FONSI instead of a full Environmental Impact Statement ("EIS"). The Corps' Draft Report fails to adequately analyze the potential for significant impacts that this Project may produce. Furthermore, the Corps' FONSI is arbitrary and capricious for relying on an inadequate EA.

NEPA requires federal agencies to prepare an EIS for all "major Federal actions significantly affecting the quality of the human environment."[6] In other words, "[a]n EIS must be prepared if substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor. To trigger this requirement, a plaintiff need not show that significant effects will in fact occur, but raising substantial questions whether a project may have a significant effect is sufficient."[7]

When a court reviews an agency's decision to issue a FONSI, and thus not to prepare an EIS, "the arbitrary and capricious standard under the [Administrative Procedure Act] requires a court 'to determine whether the agency has taken a "hard look" at the consequences of its actions, based [its decision] on a consideration of the relevant factors,' and provided a 'convincing statement of reasons to explain why a project's impacts are insignificant.'"[8]

As described below, this Project will significantly affect the human environment in communities near the Port, and the Army Corps failed to take a hard look at the consequences of expanding the Turning Basins. The undersigned organizations urge the Corps to withdraw its deficient EA and unsupported FONSI, and instead prepare a full EIS that provides adequate opportunity for public comment.

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[6] 42 U.S.C. § 4332(C).

[7] *Montana Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1099 (D. Mont. 2017), *amended in part, adhered to in part*, 2017 WL 5047901 (D. Mont. 2017) (citing *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 864–65 (9th Cir. 2005)).

[8] *Montana Envtl. Info. Ctr.*, 274 F. Supp. 3d at 1099 (citing *Barnes v. U.S. Dept. of Transp.*, 655 F.3d 1124, 1132 (9th Cir. 2011)).

A. ***The Scope of the Project Is Too Narrowly Defined***

The Draft Report is misleading because it defines the scope of the Project far too narrowly as a construction activity, rather than a project that has the potential to dramatically expand Port cargo capacity. NEPA requires that an agency must provide a complete and accurate description of a proposed federal action.[9] Here, the Corps and the Port have limited the scope of the Project to the dredging and construction activities themselves, ignoring the significant impacts that could be a predictable outgrowth from completion of the Project.

Rather than acknowledge that widening the Turning Basins could foreseeably induce increased cargo volume and fuel the ongoing expansion of the Port's import and export activity, the Draft Report makes two invalid assumptions: (1) that dredging and construction activity will be the primary sources of environmental impact, and (2) that the Project will not have any effect on expansion of cargo volume throughput at the Port. The Draft Report fails to substantiate or analyze either of these assumptions.[10] Based on these flawed assumptions, the Draft Report analyzes the physical boundaries of environmental impacts within no more than a one-mile radius extending from the center of each of the two circular Turning Basins.[11]

The Project's defined scope in the Draft Report is inappropriate because it ignores the reasonably foreseeable possibility that the widening of the Turning Basins could fuel an increase in vessel traffic by larger ships, resulting in increased cargo volume shipping activity to and from the Port, and therefore affecting an area well beyond the immediate radius of the Basins themselves. The Draft Report assumes that callings by larger ships would result in "operational efficiency gains" as well as "greenhouse gas emissions reductions,"[12] and also that bringing larger ships would

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[9] *See, e.g., Aberdeen & Rockfish R.R. Co. v. Students Challenging Regulatory Agency Procedures*, 422 U.S. 289, 322 (1975) ("In order to decide what kind of an environmental impact statement need be prepared, it is necessary first to describe accurately the 'federal action' being taken.").

[10] See, e.g., Draft Report, p. 130.

[11] See Draft Report, pp. 24-26; see also p. 130 ("The potential for *construction activities* to result in adverse environmental justice impacts depends on the geographic relationship of the construction impacts to the environmental justice communities of concern.") (emphasis added); see pp. 84-85 (analyzing air quality impacts only within 2,000 feet of the Turning Basin boundaries rather than throughout the West Oakland community).

[12] Draft Report, p. 125.

"increase the efficiency of operations" and "would not change cargo throughput" at the Port.[13] But the Corps failed to adequately analyze or support any of those assumptions.

The Army Corps should redefine the scope of the Project and produce a full EIS that analyzes all of the potentially significant impacts that could flow from widening of the Turning Basins, including the possibility of an increase in cargo handling volume at the Port, as further described in Section I.B.1 below.

B. *The Draft Report Fails to Adequately Analyze Numerous Significant and Cumulative Impacts of the Project*

NEPA requires that agencies take a "hard look" at the environmental impacts of their actions before the actions occur.[14] "General statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided."[15] The "'hard look' 'must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.'"[16]

The Draft Report fails to take a hard look at many direct, indirect, and cumulative impacts of the proposed action to widen the Turning Basins. Analysis of all the reasonably foreseeable impacts is a crucial aspect of an agency's compliance with NEPA before it may pursue any federal action. The Draft Report was prepared under the NEPA guidelines issued by the Council on Environmental Quality ("CEQ") by the Trump Administration in 2020.[17] Although the 2020 CEQ guidelines eliminated the express mandate to consider cumulative impacts, the Biden Administration's CEQ has proposed to restore the requirement for a cumulative impacts analysis as an essential component of NEPA review.[18] Furthermore, even the currently applicable 2020 regulations require agencies to take a hard look at all potential effects of a project that "are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives."[19] The Corps has failed to examine reasonably foreseeable impacts here.

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[13] Draft Report, p. 183.

[14] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

[15] *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir. 1998).

[16] *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 491 (9th Cir. 2011).

[17] See Draft Report, p. 1.

[18] 86 Fed. Reg. 55,757 (Oct. 7, 2021).

[19] 40 C.F.R. § 1508.1(g); see 40 C.F.R. § 1501.2(b)(2); see *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 374 (1989).

1. Failure to Disclose or Analyze the Potential for Expanded Freight Activity

The Draft Report fails to adequately analyze whether widening the Turning Basins could reasonably result in increased freight volumes flowing through the Port of Oakland and impacting nearby communities. The Corps is legally required under NEPA to disclose the reasonably foreseeable impacts that could result from accommodating larger ships, to allow for an honest and informed decision-making process.[20] Specifically, NEPA requires agencies to identify their methodologies, indicate when necessary information is incomplete or unavailable, and acknowledge scientific disagreement and data gaps.[21] The Corps' review must be thorough and the agency may not "sweep[] negative evidence under the rug."[22]

Here, the Corps does not deny that widening the Turning Basins will increase the number of ultra-large ships calling at the Port. "Widening the turning basins would allow for more efficient operation of the vessels within the Oakland Harbor and for the ULCVs [ultra-large container vessels] to call the Port of Oakland *more frequently*."[23]

But in spite of that admission, the Draft Report intentionally omits any analysis of the "operational effects associated with freight volumes" caused by widening the Turning Basins.[24] The Draft Report states without analysis that "the action alternatives would not change the projected overall volumes of freight that would come into the

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[20] See 40 C.F.R. § 1500.1 (describing purpose of NEPA to "provide for informed decisionmaking" by federal agencies); see also *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005) (agency violates NEPA by failing to provide "sufficiently detailed statement of environmental impacts and alternatives" for the public "so as to permit informed decisionmaking"); *City of Davis v. Coleman*, 521 F.2d 661, 674 (9th Cir. 1975) (rejecting agency's assertion in NEPA analysis that a freeway improvement project was merely an accessory to "inevitable industrial development").

[21] 40 C.F.R. §§ 1502.21, 1502.23.

[22] *Nat'l Audubon Soc'y v. Dep't of the Navy*, 422 F.3d 174, 194 (4th Cir. 2005).

[23] See Draft Report, p. 100, emphasis added. The Draft Report identifies ULCVs as Post-Panamax Generation III and IV vessels with a capacity between 9,901 and 23,000 TEUs. See Draft Report, p. 14. See also Draft Report, p. 102 (explaining that a decision to forego widening of the Basins would result in *fewer* ultra-large container vessels than would otherwise call at the Port "if the turning basins had been widened"); see also *id.*, p. 94.

[24] Draft Report, p. 130.

Port."[25] It also asserts that the Project "would not change cargo throughput."[26] The Draft Report also assumes without adequate analysis that (1) a transition to larger vessels will result in a reduced number of voyages over time,[27] (2) relying on larger vessels will reduce emissions due to reduced transit time, thereby resulting in environmental benefits,[28] (3) transitioning to larger vessels would produce operational efficiency gains and therefore reduce greenhouse gas emissions,[29] and (4) transitioning to larger vessels would reduce delays and vessel idling.[30] The Corps fails to base those assertions and conclusions on data or reasoned analysis.

The Draft Report lacks analysis about whether widening the Turning Basins might result in "debottlenecking" the Port's cargo throughput, or alternatively even inducing growth in cargo throughput over time. The U.S. Environmental Protection Agency ("EPA") defines "debottlenecking" as "[a] change in production equipment or processes that frees up additional production capacity up or down-stream of the equipment or process."[31] In the context of the Clean Air Act, "[a]ssessing debottlenecking impacts may be important when calculating emission increases . . . ."[32] So too here. Under NEPA, the Army Corps should have analyzed whether a bottleneck exists at the Port, such that expanding the Turning Basins would foreseeably free up additional flow-through capacity of cargo at the Port and cause emissions increases from the various emission sources at the Port—including, but not limited to, cargo handling equipment, truck and rail traffic, and the vessels themselves.

Furthermore, the Port failed to consider the alternative scenario that could also cause significant and foreseeable impacts: namely, that expanding the width of the Turning Basins could itself *induce* growth in cargo throughput over time. Failure to analyze a project's probable impact on growth violates NEPA.[33] The Port of Oakland has itself already observed in its 2020 "Emissions Inventory Report" that the trend of visitation by ever-larger ships correlates with a "gradual increase in annual TEU [cargo]

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[25] Draft Report, p. 130.
[26] Draft Report, p. 183.
[27] See Draft Report, pp. 14, 101-02.
[28] Draft Report, p. 94.
[29] Draft Report, p. 125.
[30] Draft Report, p. 183.
[31] Clean Air Act Handbook Appendix B, Glossary (2021).
[32] *Id.*
[33] See, e.g., *City of Davis v. Coleman*, 521 F.2d 661, 680-681 (9th Cir. 1975).

throughput."[34] And existing economic data and emerging research suggest that ports that expand their capacity to receive ultra-large container ships may experience a variety of economic pressures to expand operations, many of which produce adverse environmental impacts. For example, a 2014 report by the Port of Long Beach's acting deputy executive director and chief operating officer concludes: "[T]he trend toward larger vessels will have significant implications for ports that compete to service them as well as for the land side warehouse, trucking and rail operations that must accommodate an increase in volumes."[35] More recently, a 2021 study by Jungen *et al.* discussing the rise of ultra-large container vessels concluded, based on practical observations and empirical studies, that ultra-large container vessels experience "significantly longer port stay times" compared to smaller vessels, which in turn puts "enormous pressure on terminal operators to increase handling efficiency."[36] One way operators may handle such pressure is by increasing reliance on cargo handling equipment, and in particular, by increasing "crane intensity": the number of cranes deployed per calling vessel.[37] That research has already borne out in Florida, where Port Miami reportedly "raced" to replace its crane equipment to be ready to handle an influx in ultra-large "post-Panamax" vessels alongside a planned dredging project that would deepen its shipping canal.[38] Thus, existing research shows it is reasonably foreseeable that callings by ultra-large container ships could increase pressures on local Port-side infrastructure.

Further, callings by ultra-large container ships also increase traffic flow to and through ports and nearby communities. The Port of Oakland found in its 2020 Emissions Inventory Report that even a "minimal (1.7%) increase in TEU throughput"

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[34] "Port of Oakland 2020 Seaport Air Emissions Inventory Final Report" (Nov. 2021) at p. 24, https://www.portofoakland.com/files/PDF/Port%20Oakland%202020%20Emissions%20Inventory%20Final%20Report.pdf.

[35] Dr. Noel Hacegaba, "Big Ships, Big Challenges: The Impact of Mega Container Vessels on U.S. Port Authorities" (June 30, 2014), https://www.supplychainbrain.com/ext/resources/secure_download/KellysFiles/WhitePapersAndBenchMarkReports/PortofLongBeach/Hacegaba_PPM_PAPER_7_30_14.pdf.

[36] Hendrik Jungen, et al., "The Rise of Ultra Large Container Vessels: Implications for Seaport Systems and Environmental Considerations," *Dynamics in Logistics* 249-275 (2021) at pp. 258-59, https://link.springer.com/chapter/10.1007/978-3-030-88662-2_12.

[37] *Id.*

[38] "PortMiami Upgrades Cranes in Race for Giant Cargo Ships," *ColumbusCEO* (Oct. 7, 2013), https://www.columbusceo.com/story/business/2013/10/07/portmiami-upgrades-cranes-in-race/22907038007/.

between 2017 and 2020 produced a "roughly 30% increase in reported truck activity (i.e., trips)."[39] Complementing that finding, the Jungen *et al.* study described in the previous paragraph found a relationship between the number of containers handled per port call (also known as "call size") and coastal road traffic, apparently by trucks transporting the cargo flowing to and from the ultra-large vessels calling on local ports.[40] "Especially ports with a high modal share of road transportation show increased gate congestion in relation to arrivals of larger vessels."[41] In other words, as the number of containers per vessel goes up, so too does the local truck traffic. These data are further corroborated by a recent short paper issued by the California Air Resources Board on the emissions impacts of recent congestion at California ports, which noted the strong correlation between increases in cargo imports, traffic congestion at ports, and resulting regional air pollution.[42]

Thus, it is reasonably foreseeable that widening the Turning Basins could expand cargo throughput and cause temporal spikes in cargo handling and traffic flow to and through the local community when such vessels call on the Port, with resulting environmental impacts. And if ultra-large vessels call on the Port more frequently as a result of the expansion of the Turning Basins, it also stands to reason that there could be a commensurate increase in cargo throughput flowing through the Port of Oakland. After all, the expansion of the Turning Basins will enable container ships—up to *three times* larger in terms of capacity than the vessel size the Corps studied in 1998—to call at the Port more frequently, by the Corps' own assessment. The Corps failed to analyze the potential for expansion of Port operations at any length in the Draft Report, and in fact explicitly disavowed its responsibility to do so.[43] The Corps' omission of that analysis represents a failure to comply with NEPA.

The Corps' Draft Report also makes internally inconsistent assumptions regarding forecasted growth in cargo throughput at the Port. For example, the Draft Report concludes that a 2.1% average annual increase in TEU volumes is "expected to persist" through 2050,[44] even though data in the Draft Report from the last decade (2010

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[39] *Id.* at 64; see *id.* at p. 84.
[40] Hendrik Jungen, et al. (2021) at pp. 258-60.
[41] *Id.* at p. 261.
[42] See Cal. Air Resources Board ("CARB"), "Emissions Impacts of Recent Congestion at California Ports" (Sept. 13, 2021), https://ww2.arb.ca.gov/sites/default/files/2021-09/port_congestion_anchorage_locomotives_truck_emissions_final_%28002%29.pdf.
[43] See Draft Report, p. 130.
[44] See Draft Report, pp. 95, 101.

to 2020) shows almost no growth in imports and exports at the Port.[45] The Corps' conclusion that growth is inevitable conflicts with the data the Port provided. Meanwhile, separate analysis conducted by the Port indicates that it anticipates a much larger rise in growth of between 2.4 to 3.0% in the coming years.[46] The Corps failed to reconcile these inconsistencies in growth projections and increases in cargo volume, and simultaneously ignored the reasonably foreseeable ways in which this Project could induce future growth at the Port, as described above.

Furthermore, the Army Corps failed to consider whether the potential changes to Howard Terminal might affect the Port's operations. The Draft Report notes that widening the Turning Basins would result in the loss of 10 acres of fast land from the 50-acre Howard Terminal site.[47] The Army Corps did not discuss whether the loss of 20% of that site's land (which the Port presently uses for truck parking and container vessel storage) could impact the Port's ability to handle bottlenecks or additional cargo from the ultra-large vessels that would be visiting more frequently after the widening of the Turning Basins. It also failed to contextualize potential changes to the Howard Terminal site in relation to potential plans to construct a ballpark on that site, and to discuss whether removing land from the Howard Terminal site to facilitate expansion of the Turning Basins would affect the ongoing CEQA process for the potential ballpark. The Army Corps' failure to analyze the Project in the context of present and future uses of Port property violates NEPA.

In sum, the Army Corps should have studied the degree to which the expansion of the Turning Basins will further expand the Port's capacity to bring in bigger ships and process more cargo, and it also should have performed a more thorough analysis of forecasted growth in cargo volume at the Port. At worst, the Project could foreseeably result in an expansion of operational activity in a socioeconomically disadvantaged region that is already disproportionately burdened by pollution and traffic. Such an expansion could foreseeably facilitate more callings by larger ships that carry more cargo and will take longer to unload, spending more time at the Port, and require more

[45] See Draft Report, Appendix C, pp. 50-51.
[46] See, e.g., Starcrest Consulting Group LLC, Technical Memorandum MAQIP Update – Emissions Forecast and Potential Additional Reduction Strategies (hereinafter "MAQIP Update") (July 2018) at p. 4, https://www.portofoakland.com/files/PDF/WV%20 FINAL%20POAK%20Task%20V%20Technical%20Memo%20(13%20July%2018)scg.pdf.
[47] Draft Report, p. 18.

cargo handling equipment, rail, and truck visits to handle larger cargo loads.[48] The Army Corps failed to analyze or disclose these reasonably foreseeable outcomes in the Draft Report. The Corps must commit to developing a full EIS that adequately analyzes the impacts of expanded operations, in place of the flawed Environmental Assessment and arbitrary FONSI it has offered here.

2. Failure to Analyze Environmental Justice Impacts to Communities Near the Port

Environmental justice communities that surround the Port of Oakland will be burdened by the Project. In particular, the adjacent community of West Oakland experiences disproportionate environmental and public health harms and risks due to proximity to the Port. Pollution from trucks, trains, and ships associated with the Port continuously bombards residents from all sides. In fact, residents have a higher exposure to diesel particulate matter than over 90% of Californians.[49] They are also 99% more likely to have asthma and 96% more likely to be born with low birth weight compared to other people in the state.[50] Despite acknowledging the presence of these environmental justice communities near the Project area, the Army Corps fails to adequately address potential impacts to these communities. The Draft Report's conclusion that the Project will have no significant environmental justice impacts is therefore arbitrary and capricious.

According to the U.S. Environmental Protection Agency (EPA), environmental justice requires "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies."[51] Executive Order 12898 directs each federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its

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[48] See generally CARB, "Emissions Impacts of Recent Congestion at California Ports," *supra*.

[49] Cal. Environmental Protection Agency (CalEPA), Office of Environmental Health Hazard Assessment (OEHHA), *California Communities Environmental Health Screening Tool* (hereinafter "CalEnviroScreen 4.0"), https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40 (accessed Feb. 1, 2022).

[50] *Id.*

[51] U.S. Environmental Protection Agency (EPA), *Learn About Environmental Justice* (2021), https://www.epa.gov/environmentaljustice/learn-about-environmental-justice (accessed Feb. 1, 2022).

programs, policies, and activities on minority populations and low-income populations . . . ."[52] The "identification of a disproportionately high and adverse human health or environmental effect on a low-income population [or] minority population. . . . should heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population."[53]

Therefore, under NEPA, agencies conducting environmental review for a proposed project "must not only disclose . . . that certain communities and localities are at greater risk, but must also fully assess these risks."[54] The agency "cannot discount the localized impacts to people for whom the public health impacts are of clear significance."[55] To satisfy this "hard look" standard, the Army Corps must fully assess the public health and other impacts of the Project, including grappling with the substantial evidence suggesting that expanding the Port's Turning Basins could cause major increases in freight activity that will in turn severely affect nearby vulnerable and overburdened communities.

West Oakland is one of the most significant environmental justice communities in California. Residents are surrounded by freeways and sprawling freight complexes that spill into the community from the Port, its railyards, and the Oakland Army Base. West Oakland is bounded by Interstate 880 to the south and west, Interstates 80 and 580 to the north, and Interstate 980 to the east. The Port of Oakland and its associated railyards lie to the south and west.[56] The community thus grapples with the presence of many different and dangerous pollution sources. The number and type of cleanup sites is higher than 99% of the census tracts in California, higher than 99% for groundwater threats, and higher than 93% for hazardous waste generators and sites.[57] Taking the requisite hard look at all significant environmental justice impacts inherently requires

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[52] Exec. Order No. 12898, 59 C.F.R. § 32 (1994).

[53] Council on Environmental Quality, *Environmental Justice: Guidance Under the National Environmental Policy Act* (Dec. 10, 1997) at p. 10, https://ceq.doe.gov/docs/ceq-regulations-and-guidance/regs/ej/justice.pdf.

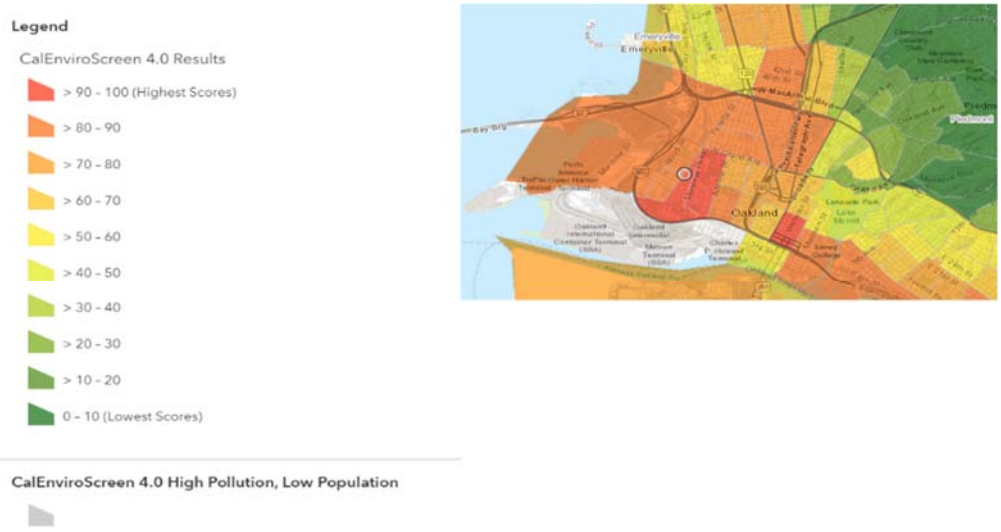
[54] *California v. Bernhardt*, 472 F. Supp. 3d 573, 620 (N.D. Cal. 2020).

[55] *Id.* at 622.

[56] Bay Area Air Quality Management District (BAAQMD) & WOEIP, *Owning Our Air: The West Oakland Community Action Plan*, Vol. 1 (Oct. 2019) at p. 2-1, https://www.baaqmd.gov/~/media/files/ab617-community-health/west-oakland/100219-files/final-plan-vol-1-100219-pdf.pdf?la=en.

[57] CalEnviroScreen 4.0, *supra*.

an analysis of these types of cumulative impacts. Communities such as West Oakland are designated as environmental justice communities precisely because of the cumulative nature of the impacts they endure. Cumulative impacts are a particular concern for West Oakland because residents are already overburdened by environmental pollution and other stressors and therefore are especially susceptible to adverse health consequences stemming from projects such as this one.



Indeed, West Oakland is one of the most pollution-burdened areas of the state, with elevated levels of diesel particulate matter (diesel PM), fine particulate matter ($PM_{2.5}$), and toxic air contaminants (TACs). The community is ranked in the 80–90th percentile for pollution burden in California.[58] EPA's EJSCREEN tool ranks West Oakland in the 57th percentile for $PM_{2.5}$ exposure in the state and in the 94th percentile nationally.[59] West Oakland is in the 97th percentile for diesel PM exposure in the state and in the 95th percentile nationally.[60] Residents also face some of the highest elevated cancer risks, with EJSCREEN ranking the community in the 56th percentile for cancer risk in the state and in the 78th percentile nationally.[61]

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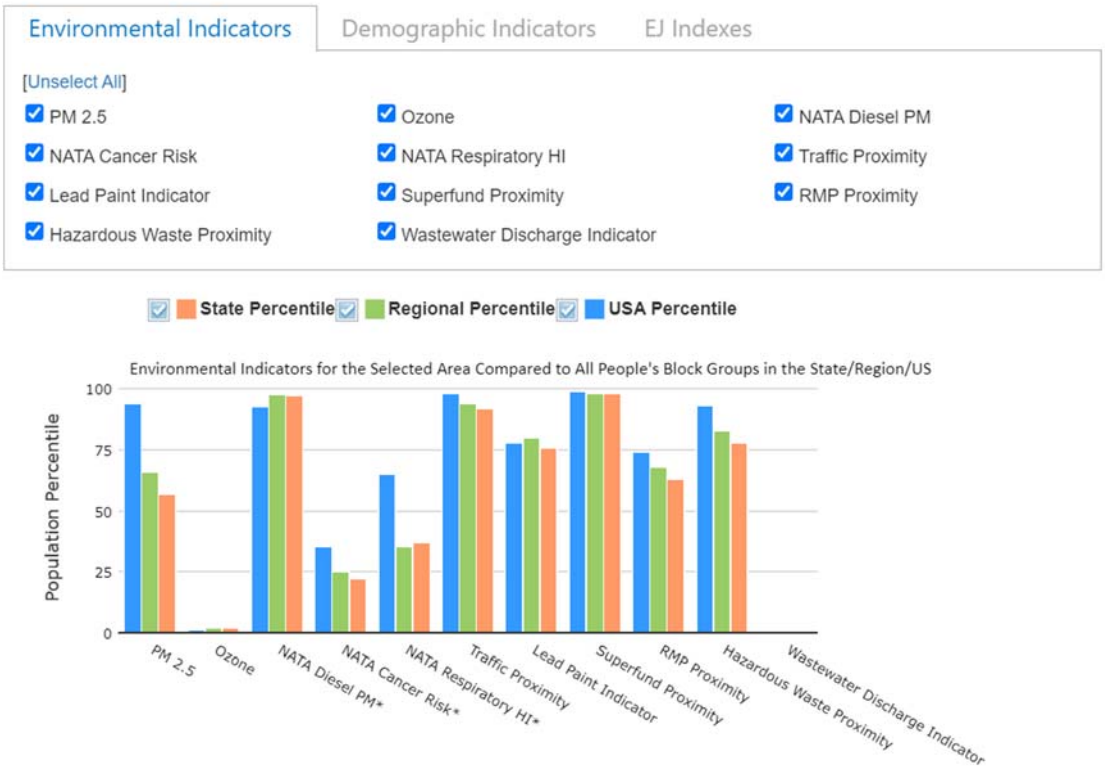
[58] *Id.*

[59] U.S. EPA, *EJSCREEN*, https://ejscreen.epa.gov/mapper/ (accessed Feb. 2, 2022).

[60] *Id.*

[61] *Id.*



As a result, West Oakland residents experience higher rates of death from cancer as well as heart disease and strokes, and higher rates of asthma emergency visits and hospitalizations compared to the rest of Alameda County.[62] Asthma hospitalizations for West Oakland are about 88% higher than the County average and heart disease deaths are 33% higher.[63] Half of new childhood asthma cases in West Oakland are due to traffic-related air pollution, compared to about 20% of new childhood asthma cases in the nearby affluent and mostly white Oakland Hills neighborhood.[64] Residents also have the lowest life expectancies among the rest of their neighbors in Alameda County.[65] These injustices are compounded by the fact that West Oakland remains primarily a community of color. Approximately 42% of residents are Black (compared to 6% of all Bay Area residents), 18% identify as Latino, and 11% are Asian.[66] About half of the population lives below the Bay Area poverty level (two times the federal

[62] *Owning Our Air: The West Oakland Community Action Plan*, *supra*, at p. 2-9.
[63] *Id.*
[64] Environmental Defense Fund, *Air Pollution's Unequal Impacts in the Bay Area* (Mar. 31, 2021), https://www.edf.org/airqualitymaps/oakland/health-disparities.
[65] *Owning Our Air: The West Oakland Community Action Plan*, *supra*, at pp. 2-7 to 2-9.
[66] *Id.* at p. 2-6.

poverty level), compared to 25% in Alameda County and 23% in the Bay Area as a whole.[67]

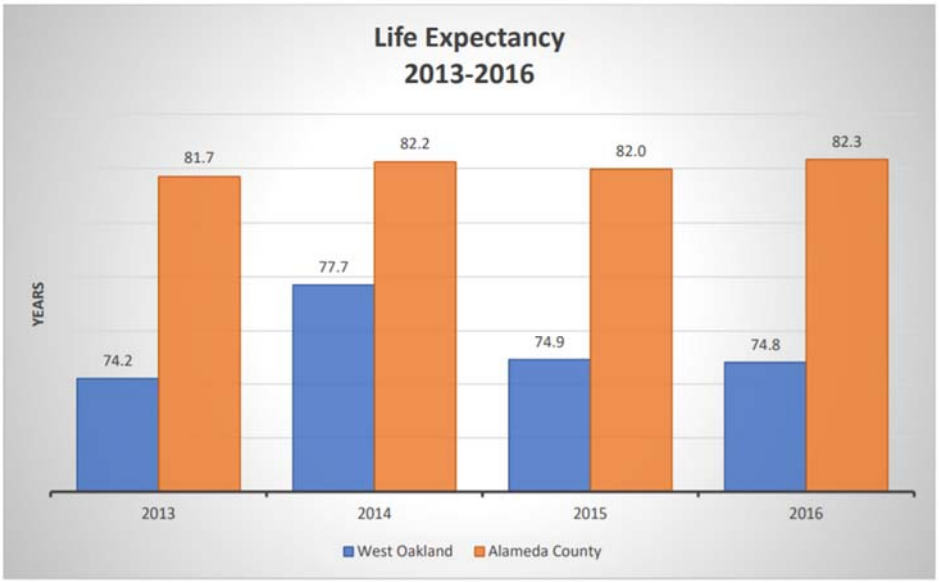


Figure 2-9. Life Expectancy at Birth for West Oakland and Alameda County

Freight activity from the Port already accounts for the lion's share of diesel PM and $PM_{2.5}$ emissions and cancer risk posed by TACs in West Oakland. The Port is responsible for 57% of diesel PM emissions in tons per year (tpy), nearly 20% of $PM_{2.5}$ emissions tpy, and 52% of cancer risk-weighted toxics.[68] Ocean-going vessels and harbor craft are a significant source of emissions from the Port, producing 12 tpy of diesel PM and nearly 16 tpy of $PM_{2.5}$.[69] Cargo handling equipment produces another 2 tpy each of diesel PM and $PM_{2.5}$.[70] The top local contributors to both diesel PM and cancer risk are heavy-duty diesel trucks (about 40%), marine vessels (about 30%), and rail (about 20%).[71] Diesel PM is responsible for over 90% of the cancer risk from local air pollution in West Oakland.[72] Even without accounting for the expanded cargo throughput activity that could result from this Project, the volume of goods moved by

[67] *Id.*
[68] *Id.* at p. 5-9.
[69] *Id.* at p. 5-7.
[70] *Id.*
[71] *Id.* at p. 5-12.
[72] *Id.* at p. 5-14.

the Port on all modes of transit is projected to increase over time, acutely compounding the pollution burden on West Oakland residents.[73]

West Oakland's community characteristics and existing environmental burdens therefore warrant careful consideration of potential "disproportionately high and adverse human health or environmental effects" associated with this Project and any increased freight activity it causes.[74] The Army Corps, however, fails to provide this careful consideration. The Draft Report instead improperly narrows its analysis to "the racial and income characteristics for census tract (CT) within or significantly intersecting both a 0.5-mile and 1-mile radius" of each of the Turning Basins.[75] This small analysis area—further limited to construction impacts alone—not only fails to capture how the Port's increased operations from the Project could foreseeably spill out into the region, but also, incredibly, leaves out most of the directly adjacent 6.5-square-mile neighborhood of West Oakland.

Similarly, the Corps claims the Port conducted a health risk assessment (HRA) for the Project, but the Draft Report and appendices do not include clear references for the public to review and comment on it. The brief discussion in Appendix A-4 discussing criteria pollutant emissions during construction within the small geographic analysis areas is too limited to properly constitute an HRA.[76] There is no discussion of potential local risks and hazards from increases in diesel PM, $PM_{2.5}$, and TAC emissions from either the construction or operations impacts of the Project. The analysis fails entirely to analyze local risks and hazards in the context of nearby environmental justice communities like West Oakland and others in the region that may be impacted by the Project. Finally, the HRA fails to analyze the cumulative impacts from this Project in the context of the existing environmental pollution and threats that already overburden surrounding communities. The HRA therefore lacks the requisite level of information and is so narrow as to be meaningless in assessing health and safety risks. The Corps must complete a full EIS and an HRA that analyze the construction *and* operations impacts of the Project in the whole region.

Local transportation emissions from Port-related sources represent by far the largest share of criteria air pollutant and greenhouse gas emissions in West Oakland

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[73] See, e.g., MAQIP Update, *supra*, at p. 4 (indicating TEU growth rates between 2.4% to 3.0% in the coming years).
[74] Exec. Order No. 12898, 59 C.F.R. § 32 (1994).
[75] Draft Report, p. 24.
[76] Draft Report, pp. 126, 134.

and surrounding communities, primarily from drayage trucks, cargo handling equipment, ships and harbor craft, and trains traveling through the railyards located at the Port. The Army Corps must therefore take a hard look at whether the thousands of additional construction-related truck trips as well as dramatically larger ships and associated increase in cargo throughput will further contribute to the air pollution and climate crises and their attendant public health and safety impacts in the region.

In addition, the Corps must assess whether this Project conflicts with federal, statewide, and local policies and plans to reduce air pollution and greenhouse gas emissions and protect vulnerable communities in California. Under NEPA, an agency must include discussion of "[p]ossible conflicts between the proposed action and the objectives of Federal, regional, State, Tribal, and local land use plans, policies and controls."[77] The EIS must also "discuss any inconsistency of a proposed action with any approved State, Tribal, or local plan or law."[78]

California has enacted several statutes to protect its disadvantaged communities from air and water pollution and this Project would have a significant adverse impact on the state's ability to meet these goals. For example, California State Assembly Bill (AB) 617 (2017) created a Community Air Protection Program that is focused on reducing exposure in communities most impacted by air pollution, including several near the Port that will be impacted by this Project, such as West Oakland and Richmond.[79] Indeed, West Oakland was selected as a first-year priority community under the program—one of the top ten in the state most impacted by pollution.

WOEIP partnered with the Bay Area Air Quality Management District ("BAAQMD") and California Air Resources Board to develop the West Oakland Community Air Action Plan ("WOCAAP") under AB 617. The WOCAAP implements 89 different strategies to reduce impacts in the community from $PM_{2.5}$, diesel PM, and cancer risk from all toxic air contaminants.[80] The strategies are designed to minimize community exposure to freight activity and, importantly, to transition to a more sustainable and equitable freight system in the region. For example, many of the

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[77] 40 C.F.R. § 1502.16(a)(5).

[78] 40 C.F.R. § 1506.2(d).

[79] Governor Gavin Newsom. (2020). *Executive Order N-79-20*, https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf (accessed July 20, 2021); Cal. Air Resources Board, *Community Air Protection Program Communities*, https://ww2.arb.ca.gov/capp-communities (accessed Feb. 2, 2022).

[80] See generally *Owning Our Air: The West Oakland Community Action Plan*, *supra.*

strategies will require state and local agencies to work together to reduce truck impacts on local streets in West Oakland, limit hours when trucks can operate in the community, and improve truck flow and congestion in the face of increasing visits from large container vessels.[81]

This Project, which will cause thousands of additional truck trips during construction, and could dramatically expand cargo throughput capacity and result in much greater freight activity in and around the Port, conflicts with these emissions reduction strategies and undermines the WOCAAP's goal to establish a sustainable model for freight activity in communities near the Port. The Corps must therefore assess whether this Project will infringe on the state's ability to meet its community protection and emissions reduction goals and discuss measures that will address any conflicts.

Similarly, the Draft Report fails to consider the West Oakland Truck Management Plan ("TMP"), which the City and Port of Oakland adopted in 2019 to reduce the incidence and impacts of trucks driving through and parking in the community.[82] The City and Port are still in the midst of a five-year implementation plan for the TMP, yet the Corps did not analyze whether a huge expansion of truck trips during both the construction and operations phases of this Project could conflict with the goals and implementation of the TMP.

At the federal level, Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d et seq., prohibits entities receiving federal financial assistance from engaging in activities that subject individuals to discrimination on the basis of race, color, or national origin. Pursuant to Title VI, the U.S. Department of Defense, which is the parent agency of the Army Corps, promulgated regulations prohibiting funding recipients from engaging in discrimination.[83] The Port of Oakland receives significant financial assistance from the Corps, as well as the U.S. Department of Transportation, EPA, and other federal agencies, and is a 50% cost share partner with the Army Corps on this Project.[84] The Department of Defense and the Corps thus have an affirmative obligation to ensure that

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[81] *Id.* at pp. 6-22, 6-26.

[82] City of Oakland & Port of Oakland, "West Oakland Truck Management Plan" (May 2019), https://cao-94612.s3.amazonaws.com/documents/West-Oakland-Truck-Management-Plan-FINAL-APPROVED.pdf.

[83] See 40 C.F.R. §§ 195.1, 195.3.

[84] See, e.g., *2021 Port Infrastructure Development Program Grant Awards*, U.S. Department of Transportation, Maritime Administration, https://bit.ly/3LuFuDQ.

the Port complies with Title VI and the Defense Department's implementing regulations.

The Port and the Corps fail to satisfy their Title VI obligations for this Project. The Draft Report fails to evaluate whether the Project will disproportionately subject the communities of color that surround the Port to additional air pollution and other serious health threats on the basis of their race. In fact, the Draft Report fails to provide *any* discussion of compliance with Title VI, instead referring to Title VI in one short sentence.[85] We find this especially troubling because the President and other federal agencies have made environmental justice a top priority for the new administration. The President's Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," issued in January 2021, states:

> To secure an equitable economic future, the United States must ensure that environmental and economic justice are key considerations in how we govern. . . . Agencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts. It is therefore the policy of my Administration to secure environmental justice and spur economic opportunity for disadvantaged communities that have been historically marginalized and overburdened by pollution and underinvestment in housing, transportation, water and wastewater infrastructure, and health care.[86]

The Corps must therefore hold the Port accountable in its environmental review of this Project. Not only does the Draft Report fail to meaningfully address Title VI, however, it also fails to even mention WOEIP's 2017 Title VI complaint against the Port, which WOEIP filed after the Port continuously authorized freight expansion activities exactly like this Project. The complaint resulted in a Title VI settlement that ultimately imposed public engagement and substantive decisionmaking requirements on the Port

[85] Draft Report, p. 22.

[86] Executive Order (EO) 14008 (Jan. 27, 2021), § 219.

by the Department of Transportation and EPA to ensure Title VI-compliant processes at the Port going forward.[87]

The Port and Corps must ensure this Project complies with these requirements and properly analyze any disproportionate impacts on the surrounding community. The analysis must include appropriately tailored, updated mitigation measures that address the harmful externalities of expanded industrial and freight activities resulting from this Project. The Corps must also commit to a meaningful, continuous process for receiving and incorporating input from the West Oakland community—not one where the Corps and Port simply tell the community about its plans and decisionmaking after the fact. If the Army Corps and Port cannot ensure compliance with Title VI or the mitigation measures cannot appropriately address all impacts on surrounding communities, the Corps cannot move forward with the Project.

3. Failure to Consider Operational Air Quality Impacts at the Port

The Draft Report fails to take the Port's daily operations into account in its analysis of air quality impacts, particularly considering that the proposed Project could not only facilitate ongoing commercial activity at the Port but actually fuel expansion.

In its air quality analysis, the Corps performs a cursory review of the impacts that dredging and construction activities will have on air pollution, based on the Draft Report's underlying assumption that the Project will have only local environmental impacts. Based on that flawed assumption, the Draft Report analyzes the proximity of sensitive receptors—meaning, people who are more sensitive to air pollutants, and the places where they congregate, such as daycares, parks, apartment buildings, and nursing homes—within a constrained 2,000-foot radius of each of the two Turning Basins.[88] The Report further constricts its analysis only to the period from 2027 to 2029,

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[87] WOEIP's Complaint against the City and Port of Oakland Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d (Apr. 4, 2017), https://earthjustice.org/sites/default/files/files/2017-04-04-TitleVI_Complaint.pdf; EPA's Resolution of Administrative Complaints (July 26, 2019), https://earthjustice.org/sites/default/files/files/Resolution%20Letter%20and%20IRA%20-%20Paul%20Cort%20-13R%20and%2014R-17-R9%202019-07-26.pdf.

[88] See Draft Report, pp. 84-85 (identifying only the sensitive receptors within 2,000 feet of the Turning Basins).

when the Corps estimates construction will take place.[89] But as throughout the entire Draft Report, the assumption that construction is the *only* source of air pollution dramatically underestimates the potential for impacts to air quality, and renders the entire analysis inadequate.

The Port is already a major contributor to air pollution in Alameda County. As a complex maritime facility with multiple incoming truck routes, interconnected rail yards and rail lines, the Port's daily operations have significant air quality impacts on the 26,000+ residents of the West Oakland community in particular.[90] Heavy-duty trucks, marine vessels, and rail all operate daily in, around, and through the community to enable the steady flow of cargo to and from the Port.[91]

While the Draft Report implies that a conversion to larger ships will decrease the overall number of vessel trips at the Port,[92] the Corps does not provide adequate support for that assumption. In improving operational efficiency, this Project could conceivably induce growth and even increase the cargo throughput *and* vessel visitation simultaneously at the Port.[93] Even if the Project does somehow decrease the overall number of vessel trips, the larger ships that will be accommodated by this Project carry more cargo and will take longer to unload, spending more time in the harbor.[94] The Port could also conceivably require more cargo handling equipment, rail, and truck visits at any given time to handle the influx of larger cargo loads, resulting in higher localized concentrations of pollution to the communities adjacent to the Port, as discussed in Section I.B.1, *supra*.[95] All of these impacts from cargo throughput will have an impact on regional air pollution and the West Oakland community in particular, which cannot afford any additional pollution. The Draft Report fails to analyze those significant impacts.

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[89] See Draft Report, p. 183 (analyzing air emissions "based on construction schedule and phasing, proposed construction equipment lists, activity levels, and worker and construction truck trips by phase" from 2027 to 2029).
[90] See generally *Owning Our Air: The West Oakland Community Action Plan*, *supra*.
[91] *Id.* at p. 5-12.
[92] See Draft Report, p. 14.
[93] See Section I.B.1, *supra*.
[94] See "Port of Oakland 2020 Seaport Air Emissions Inventory Final Report," *supra*, at p. 24.
[95] See, e.g., CARB, "Emissions Impacts of Recent Congestion at California Ports," *supra*, at p. 1 (observing that "increased cargo imports are expected to increase the activity of trucks and locomotives moving these containers in/out of the ports").

To provide another specific example, the Draft Report entirely fails to mention or analyze the impact of at-anchor emissions by larger vessels on air emissions. The Port's "Emissions Inventory Report" confirms that ocean-going vessels accounted for more than half of the diesel particulate matter and more than three-quarters of the nitrogen oxide emissions at the Port in 2020.[96] That Report also indicates that the number of hours vessels spent at anchor (awaiting a berth assignment at the Port or their next port of call assignment) increased from 1,505 total hours in 2005 to 6,815 total hours in 2020; the average time at anchor per vessel also increased from 15.2 hours in 2005 to 27.4 hours in 2020.[97] The Corps should have analyzed whether, and to what degree, the increase in anchorage times correlates to the trend of increased callings by larger vessels, which the Port reported in its Emissions Inventory Report.[98] The Corps additionally should have analyzed in the Draft Report the degree to which anchorage times by larger ships (whose visitation will be facilitated by the widening of the Turning Basins) will contribute to the regional air pollution burden. For example, larger ships might foreseeably emit more pollutants per hour while waiting at anchor than smaller ships do—even if there are fewer total ships calling on the Port. The Corps' failure to analyze at-anchor emissions to any degree in the Draft Report violated NEPA.

Air pollution is already an urgent health concern in this region. Alameda County has been in marginal nonattainment for the national 8-hour ozone (both the 2008 and the 2015 standards) and moderate non-attainment for the 24-hour $PM_{2.5}$ 2006 standards for multiple years in a row.[99] The movement of goods to and from the Port is a significant source of criteria pollutant emissions (like particulate matter and ozone) that affects the region's nonattainment status, and this Project could reasonably lead to increased freight transportation. The Corps must consider the potential for significant operational impacts to air quality produced by the widening of the Turning Basins, and the Draft Report entirely fails to perform analysis of any operational impacts.[100]

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[96] "Port of Oakland 2020 Seaport Air Emissions Inventory Final Report," *supra*, at p. 78.
[97] *Id.* at 25.
[98] See *id.* at 24.
[99] See generally EPA, "California Nonattainment / Maintenance Status for Each County by Year for All Criteria Pollutants," (current through Jan. 31, 2022), https://www3.epa.gov/airquality/greenbook/anayo_ca.html.
[100] See Draft Report, p. 130.

The Draft Report also errs by characterizing the increased exposure to ozone and particulate matter as "de minimis" exposure.[101] The Corps' "de minimis" characterization for those pollutants is misleading. As described above, the West Oakland community is already disproportionately exposed to pollution from freeways, rail, industrial activity, and heavy car and truck traffic. Even though federal regulations currently specify "de minimis" levels for ozone and $PM_{2.5}$ at 100 tons per year, any contribution of pollutants must be considered cumulatively alongside all of the other major sources of pollution in the region. The Corps has a responsibility to provide accurate air emissions estimates for this Project, supplement those estimates with details about the calculations and assumptions used to achieve those numbers, and to perform a conformity determination under the Clean Air Act for the aggregated effects of the Project. The Corps did not meet its responsibility to do those things in the Draft Report.

The Corps also failed to consider the possibility that callings by larger vessels could result in increased truck traffic to and through the West Oakland community. Even taking as true the Corps' assumption that larger vessels will equate to a lower number of vessel callings—which remains an unanalyzed assumption that the undersigned organizations strongly question—more truck or rail capacity will be necessary to load or offload the increased cargo capacity available on each larger ship that calls on the Port of Oakland.[102] Unless increases in regional truck traffic are limited exclusively to zero-emissions vehicles, then any increase in truck traffic will inevitably increase the air pollution burden on the West Oakland community. The Corps failed to analyze this possibility in any depth in the Draft Report.

The Corps' decision to proceed without analyzing the possibility of an increase in transport truck traffic also ignores regional efforts to reduce the impacts generated by truck congestion. The Port of Oakland finalized a Truck Management Plan for West Oakland in 2019 after considering substantial public input from members of the residential and business communities.[103] Among the issues the Truck Management Plan aims to address are (1) safety for pedestrians and bikers whose routes are regularly criss-crossed by commercial trucks, (2) truck traffic flow and congestion in residential neighborhoods, and (3) idling and parking in illegal spaces not intended for commercial trucks. All of these issues have an indirect—but important—effect on air quality, because commercial trucks that pass regularly through residential areas expose residents to ongoing pollution caused by combustion of fossil fuels. The Army Corps

[101] Draft Report, pp. 80-81.

[102] See discussion of Jungen *et al.* in Section I.B.1, *supra*.

[103] See generally "West Oakland Truck Management Plan," *supra*.

cites the Truck Management Plan in its list of references but fails to discuss it in any depth whatsoever in the Draft Report. Similarly, the Corps did not consider the mitigation measures in West Oakland's AB 617 plan, which require reductions from truck impacts on local streets and improved truck flow and congestion in the face of increasing visits from large container vessels.[104] The Corps' failure to discuss the implications of truck traffic further contributes to a flawed Draft Report.

In sum, the Draft Report utterly disregards the potential air quality impacts that could result from widening the Turning Basins. The Army Corps should perform a full Environmental Impact Statement rather than relying on the flawed EA and FONSI it has prepared here. In revisiting its analysis of air quality impacts, the Corps should ensure that it coordinates with BAAQMD to identify reasonable mitigation commitments that it could undertake, alone or jointly with the Port, to address the potential impacts to regional air quality. Some of those potential mitigation measures are outlined in more detail in Section I.D, *infra*.

4. Failure to Analyze Climate Change and Greenhouse Gas Emissions Impacts

The FONSI issued with the Draft Report inexplicably concludes that climate change will be "unaffected by" the proposed Project.[105] That conclusion is faulty and unsupported by analysis. The Corps must revise its Draft Report to issue a full EIS that analyzes the potentially significant impacts to greenhouse gas emissions (and therefore, climate change) that will be fueled by expansion of the Turning Basins and the resultant potential for concomitant growth in freight volume flowing through the Port, either due to debottlenecking or induced growth, as discussed in Section I.B.1 above.

As a general rule, increased cargo throughput equates with an increase in greenhouse gas emissions. Emissions from the Port and port-related activities are determined by the emissions factor of the various pollution sources, multiplied by the level of activity of those pollution sources. As an emissions inventory completed for the Port of Oakland explains: "Simply stated, if the cargo throughput doubles, this analysis assumes the source category activity will also double."[106] Absent major changes to Port equipment and ocean-going vessel technology that would dramatically alter their emissions factors, any increases in cargo throughput capacity caused by the Project will result in substantial greenhouse gas emission increases. The emissions inventory

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[104] *Owning Our Air: The West Oakland Community Action Plan*, *supra*, at pp. 6-22, 6-26.
[105] Draft Report, Appendix A-10, p. 2.
[106] MAQIP Update, *supra*, at p. 4.

highlights that even under a scenario assuming turnover to lower-emitting technologies, capacity "growth outpaces the emission reductions achieved by control strategies resulting in . . . increases in CO_2 emissions."[107]

This relationship between cargo throughput and greenhouse gas emissions is already apparent at West Coast ports amid the surge in cargo movement in 2021. As the California Air Resources Board ("CARB") notes in its 2022 Draft State Implementation Plan, "[i]ncreased cargo imports and congestion of ocean-going vessels at ports across California, together with the related increased activity of trucks and locomotives moving containers in and out of the ports, has recently led to significant emissions increases."[108] Unless there is a decisive, expansive effort by the Port to ensure that any increased freight activity relies on zero-emissions technologies, the Project will surely increase greenhouse gas emissions and contribute to worsening climate impacts. These impacts mean that the Project will impede progress toward achieving a net-zero emissions economy at the Port of Oakland and across the State—which state and local government agencies committed to in the Port of Oakland's Seaport 2020 and Beyond Plan,[109] the City of Oakland's Equitable Climate Action Plan,[110] and the State of California's goal of achieving carbon neutrality by 2045.[111] Under NEPA, the Corps must now assess whether the Project is consistent with, or instead will infringe upon, the ability of the state, the City of Oakland, and the Port to meet their climate goals.[112] The Corps erred in its Draft Report by failing to analyze these conflicts or the potential for significant impacts on greenhouse gases and climate change. And the Corps' FONSI that finds climate change will be "unaffected by" the Project is arbitrary and capricious due to its reliance on a flawed EA.

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[107] *Id.*

[108] CARB, 2022 Draft State Implementation Plan (Jan. 31, 2022) at p. 17, https://ww2.arb.ca.gov/sites/default/files/2022-01/Draft_2022_State_SIP_Strategy.pdf.

[109] Port of Oakland, Seaport Air Quality 2020 and Beyond Plan – the Pathway to Zero Emissions (June 13, 2019), https://www.portofoakland.com/files/PDF/2020%20and%20Beyond%20Plan%20Vol%20I.pdf.

[110] City of Oakland, Oakland 2030 – Equitable Climate Action Plan (July 2020), https://cao-94612.s3.amazonaws.com/documents/Oakland-ECAP-07-24.pdf.

[111] Governor Jerry Brown, Executive Order (EO) B-55-18 to Achieve Carbon Neutrality (Sept. 10, 2018), https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf.

[112] 40 C.F.R. § 1506.2(d).

5. Failure to Analyze Impacts of Dredging on Water Quality

The Draft Report inappropriately fails to analyze the potential for water quality impacts caused by the Project. Specifically, the Report fails to adequately consider the water quality impacts that will result from dredging (and the impacts on species that will result), as well as the risk of contaminant resuspension in the water column and its potential for exacerbation due to climate change. The Draft Report also fails to adequately justify its reliance on work windows to mitigate water quality impacts caused by dredging, as described below.

Dredging

The Corps inappropriately minimizes the significance of sublethal harms to wildlife and fisheries species associated with dredging. The Draft Report describes an anticipated production of more than 1.9 million cubic yards of dredged material while widening the Turning Basins under its preferred alternative.[113] Dredging resuspends sediment and associated organic material, including any contamination within the sediments. This can lead to temporary increases in turbidity and nutrients, reductions in dissolved oxygen, and/or changes in temperature and pH. These water quality impacts can harm fish, benthic animals, and marine mammal foraging. The transit of dredged material can result in spills and the disposal can also resuspend dredged materials. Additionally, resuspension of contaminated sediments accompanying the proposed dredging project poses a substantial risk to marine life in the project vicinity. The Army Corps failed to adequately analyze any of these potential impacts in the Draft Report, instead only characterizing these types of impacts as "insignificant" in its FONSI.[114]

Longfin smelt, various salmonids, and green sturgeon are among the fish species the Corps identifies in the region. Dredging can cause fish species to suffer gill damage, body abrasion, reduced reproductive success, reduced visibility, decreased predator avoidance, modified territoriality, altered feeding and homing behavior, and

[113] Draft Report, pp. iv-v.

[114] See Draft Report, Appendix A-10, p. 2.

flight/avoidance response.[115] The cumulative effects of these and other stressors may lead to a host of harms including reduced reproductive output, immunosuppression, and increased mortality. The Corps must discuss expected effects on regional and protected fish populations in more detail.

Three types of marine mammals—the Pacific harbor seal, California sea lion, and harbor porpoise—are known to exist in the vicinity of the Turning Basins, and these species, too, may suffer adverse impacts from dredging.[116] Specifically, increased turbidity and dredging activity have the potential to disturb marine mammal foraging activities. The Corps declares such effects inconsequential because marine mammals "forage over large areas of San Francisco Bay and can avoid areas of temporarily increased turbidity and dredging disturbance."[117] But such relocation of effort is not without cost. The animals must expend energy to relocate, and distribution of prey is not uniform across time and space. Other threats to marine mammals may loom (*e.g.*, ship strikes, predators) in the areas to which they relocate. Marine mammals may also be impacted by the noise of dredging and those impacts may manifest as changes in feeding, breeding, and predator-avoidance behaviors; flight/avoidance behavior; and changes in dive times, migration routes, and swimming speeds. The Corps must conduct a more searching analysis of potential dredging-related impacts to marine mammals.

The Corps refers vaguely in the Draft Report to techniques that may be used to limit the adverse effects of dredging, such as using silt curtains, "avoiding spillage," and "increasing cycle times."[118] But the Corps barely discusses these at any length in the Draft Report, and even the section of the Appendix dedicated to the development of avoidance and minimization measures couches these obligations in noncommittal language.[119] Further, the Corps fails to discuss the degree to which the various proposed mitigation techniques will be employed to minimize harms to local aquatic

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[115] Amelia S. Wenger et al., "A Critical Analysis of the Direct Effects of Dredging on Fish," 18 Fish & Fisheries 967 (Sept. 2017), https://onlinelibrary.wiley.com/doi/full/10.1111/faf.12218 ; see also Michael E. Kjelland et al., "A review of the potential effects of suspended sediment on fishes: potential dredging-related physiological, behavioral, and transgenerational implications," 35 Enviro. Systems & Decisions 334 (2015), https://link.springer.com/article/10.1007/s10669-015-9557-2.

[116] Draft Report, p. 43.

[117] Draft Report, pp. 152-53.

[118] Draft Report, p. 139; see Draft Report, Appendix A-7, PDF p. 251.

[119] See Draft Report, Appendix A-7, PDF pp. 250-54.

species. The Corps must revisit its analysis of the harms to local species associated with dredging, and provide more explicit instructions regarding any required mitigation for dredging-related impacts.

Moreover, the Corps must consider the impacts from maintaining the depth of the Turning Basins. While maintenance dredging of these channels is already an ongoing activity, maintenance of the Basins will necessarily change as a result of the widening project envisioned here. The Draft Report fails to analyze the impacts from continuing to conduct maintenance dredging. Maintenance of the proposed depth is part of this Project and must be evaluated in a full EIS.

Contaminant Resuspension, and its Exacerbation by Climate Change

The Army Corps also failed to adequately analyze the risks from resuspension of contaminants into the water column, and the possibility that such contamination could be exacerbated by climate change. The resuspension of contaminated sediments accompanying the proposed dredging project poses a substantial risk to marine life in the project vicinity. Such resuspension poses a threat in particular to marine mammals, which—due to high levels of body fat—tend to bioaccumulate lipophilic contaminants.[120]

Benthic sediments like those underlying the greater San Francisco Bay area act as a sink for anthropogenic contaminants including heavy metals (e.g., copper, lead, cadmium and zinc), polycyclic aromatic hydrocarbons ("PAHs"), phthalates, and persistent organic pollutants ("POPs") including polychlorinated biphenyls ("PCBs"), pesticides (e.g., DDT), and flame retardants ("PBDEs").[121] Dredging resuspends seafloor sediments, remobilizing a fraction of the contaminants and making them bioavailable to aquatic life.[122] This bioavailability and uptake can have devastating ecological consequences. For example, remobilized metals like copper and zinc pose a

[120] *Cf.* Ross, P.S. et al., "High PCB Concentrations in Free-Ranging Pacific Killer Whales, Orcinus orca: Effects of Age, Sex, and Dietary Preference," 40 Marine Pollution Bull. 504 (2000).
[121] Knott, N.A. et al., "Contemporary Ecological Threats from Historical Pollution Sources: Impacts of Large-Scale Resuspension of Contaminated Sediments on Sessile Invertebrate Recruitment," 46 J. Applied Ecology 770 (2009).
[122] Draft Report, p. 140; Knott et al. (2009), *supra*; Victor, O. et al., "Environmental Effect of Dredging and Geochemical Fractionation of Heavy Metals in Sediments Removed from River," 6 Modern Chem. 44 (2018).

threat to salmon at very low concentrations. Many POPs, including PCBs, bioaccumulate in the fatty tissues of animals and biomagnify up the food chain.[123]

Studies of pinnipeds—like the California sea lions and harbor seals that are known to visit the Project area—have demonstrated that elevated POP concentrations lead to reproductive impairment, endocrine disruption, immunotoxicity, neurotoxicity, and skeletal abnormalities.[124] And a growing body of evidence on cetaceans suggests that organochlorine chemicals put certain cetacean species at risk for similar toxic responses.[125] Indeed, scientists studying other cetacean populations have found an association between high PCB-concentrations in females and low recruitment, which in turn leads to declining abundance.[126] The Corps did not consider whether such concerns may also apply to the myriad species that frequent the San Francisco Bay.

The Corps also must consider how climate change may increase exposure to and bioaccumulation/ biomagnification of certain contaminants in marine organisms including the Chinook salmon. These increases in exposure or bioconcentration may occur (1) as climate change increases contaminant exposure or sensitivity, and/or (2) when contamination leads to an increase in susceptibility to other climate change effects.[127] Alava et al. (2018) estimate climate-induced contaminant amplification in Chinook salmon to be on the order of 10%. The Corps must consider how the proposed dredging and any associated contaminant resuspension would interplay with climate change effects and potentially harm resident fish and wildlife species.

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[123] Ross et al. (2000), *supra*; Hall, A.J. et al., "Predicting the Effects of Polychlorinated Biphenyls on Cetacean Populations Through Impacts on Immunity and Calf Survival," 233 Envtl. Pollution 407 (2018).

[124] Ross et al. (2000), *supra*; Krahn, M.M. et al., "Effects of Age, Sex and Reproductive Status on Persistent Organic Pollutant Concentrations in 'Southern Resident' Killer Whales," 58 Marine Pollution Bull. 1522 (2009); Lundin, J.I. et al., "Persistent Organic Pollutant Determination in Killer Whale Scat Samples: Optimization of a Gas Chromatography/Mass Spectrometry Method and Application to Field Samples," 70 Archives Envtl. Contamination & Toxicology 9 (2016).

[125] Ross et al. (2000), *supra.*

[126] Hall et al. (2018), *supra*.

[127] Alava, J.J. et al., "Projected Amplification of Food Web Bioaccumulation of MeHg and PCBs Under Climate Change in the Northeastern Pacific," 8 Nature Scientific Reports, Art. No. 13460 (2018), https://www.nature.com/articles/s41598-018-31824-5.

Despite the threat posed by contaminant resuspension, the Corps downplays the risk of these contaminants in the Draft Report, making general assumptions that much of the material to be dredged will be "relatively 'clean' material."[128] Such a conclusion is at odds with the fact that contamination is already known to exist at various sites within the scope of the proposed Project.[129] The Corps should commit to conducting water quality sampling prior to approving this Project, and present the data to the public so that dredging project impacts, including contaminant impacts, can be properly analyzed. Should the Project move forward, the Corps should commit to a more frequent, scheduled sampling program of dredged materials over the anticipated course of construction to ensure water quality does not degrade over time or pose risks to local species in any location where dredged materials are to be deposited. If the Project should move forward, any dredging wastes that are found to be contaminated should be handled as hazardous waste and disposed of accordingly, with meaningful consultation to members of the affected community before embarking on such disposal.

Work Windows

The Corps' reliance on "work windows" as a dredging mitigation measure to avoid species harms is misplaced. The Corps notes throughout the Draft Report that most dredging will be conducted during a proposed window from June 1 through November 30 when certain fish species such as salmonids and herring are less likely to be present.[130] However, the Corps does not clearly state whether these work windows are mandatory or merely recommended, or in what instances it might elect to work outside the designated work windows.[131] The Corps also failed to explain how or whether its proposed dredging activities will be modified in the event that such species are still present during the work windows. For example, outmigrating Chinook salmon and green sturgeon may be affected by dredging activities that fall outside the proposed work window.[132] The Corps has failed to adequately support its conclusion that there will be no significant impact to local species caused by the proposed dredging and in-water construction activities. The Corps should discuss in more detail its historical

[128] Draft Report, p. 77; see also p. 143-44.
[129] See generally Draft Report, pp. 77-78 (identifying various sources of historical contamination in sediment).
[130] See, e.g., Draft Report, pp. 45-46, 117, 144-45, 147, 150.
[131] See, e.g., Draft Report, Appendix A-5, p. A-1 (PDF p. 194) (noting that there may be circumstances when "in-water work must occur at times other than the approved work window").
[132] See, e.g., Draft Report, Appendix A-1, pp. 4-2, 4-4, 4-7 to 4-8.

record of complying with work windows in this particular navigation channel, as well as impacts that might result should work windows not be practicable.

Furthermore, the Draft Report contains inconsistencies regarding how it selected the proper work windows for the Project. Specifically, the Report notes that the preferred work window for the California least tern (a species listed as endangered both by the state and federal governments) would run from August 1 through March 15 of each year, but that time frame that does not align with the proposed work windows described above (June 1 through November 30). The Report acknowledges that "in-water construction is proposed to occur partially outside of [the work window most suitable for California least terns] under all action alternatives."[133] Given that the Corps' proposed work windows are going to pose potential resource conflicts and exposure for the California least tern, the Draft Report fails to adequately address how the Corps intends to mitigate for such exposure.[134] The Corps' decision to proceed without analyzing the potential for significant impacts to the California least tern represents a violation of NEPA as well as the state and federal Endangered Species Acts.

6. Failure to Analyze Impacts of Larger Ships on Wildlife

In the Draft Report, the Corps implies that widening the Turning Basins will lead to reduced overall vessel traffic, because larger ships will carry cargo more efficiently and produce gains in operational efficiency.[135] That assumption is problematic for several reasons. First, it is an unstudied assumption that is not necessarily true, as discussed in Section I.B.1 above. Second, even if it were true, that assumption is not binding on any entity. A change in market demand could lead to an increase in the number of vessels beyond what is forecast and analyzed in the Draft Report, with a concomitant increase in vessel impacts on fish and wildlife species.

Furthermore, even if the Corps is correct that there will be an overall reduction in vessel traffic, the Draft Report nonetheless forecasts an increase in the number of ultra-large container vessels visiting the Port.[136] (In other words, the Draft Report predicts the percentage of ultra-large container vehicles calling on the Port will increase, thereby displacing at least some callings by smaller ships.) The increased presence of these larger vessels—in addition to a potential increase in the size or number of accompanying tending vessels such as tugboats—may increase the risk or severity of oil

[133] Draft Report, p. 141.
[134] See Draft Report, p. 151.
[135] See Draft Report, pp. 14, 125.
[136] Draft Report, p. 101-102.

spills and other discharges, the likelihood of ship strikes on marine mammals, or generate excessive levels of underwater noise, as discussed below. The Corps failed to adequately analyze any of these possibilities in the Draft Report.

Oil Spills and Other Discharges

The Corps entirely failed to analyze the potential for oil spills and other discharges from the ship traffic that will be visiting the Port. This is a remarkable omission given California's long and troubled history of oil spills that have soiled our shorelines over the years. Oil spills have caused great harm to the Bay Area historically: in 1971, a ship spilled 800,000 gallons of bunker fuel in San Francisco Bay, which the California Coastal Commission confirms had a "devastating impact on local species."[137] More recently, a container ship struck the Bay Bridge in 2007 and spilled 58,000 gallons of bunker fuel, which spread across the coastlines of the San Francisco Bay in a matter of hours.[138] Less publicized but frequent smaller oil spills in the region have contributed to "chronic" oil pollution throughout California.[139]

Because the impact of widening the Turning Basins will be to facilitate callings by ever-larger container ships, it stands to reason that even larger oil spills of bunker fuel could result from those ships that will be able to visit the Port with greater frequency as a result of this Project. The Corps should have analyzed the possibility of an increase in the risk of oil spills, as well as the severity and magnitude of such spills in its Draft Report, instead of constraining its analysis merely to construction impacts.

The Draft Report also fails to discuss compliance with EPA's 2013 Vessel General Permit and the Vessel Incidental Discharge Act ("VIDA") passed in 2018. The 2013 Vessel General Permit applies to discharges incidental to the normal operation of commercial vessels greater than 79 feet in length, and remains applicable on an interim basis until EPA publishes standards for compliance with VIDA and the U.S. Coast Guard develops implementing regulations.[140] Because the Corps explicitly anticipates

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[137] Cal. Coastal Comm'n, "Oil Spills" (accessed Feb. 3, 2022), https://www.coastal.ca.gov/publiced/oilspills.html.

[138] *Id.*

[139] Steve Hampton, et al., "Tank Vessel Operations, Seabirds, and Chronic Oil Pollution in California," 31 Marine Ornithology 29 (2003), https://marineornithology.org/PDF/31_1/31_1_4_hampton.pdf.

[140] See generally U.S. EPA, "Vessels – VGP" (n.d.), https://www.epa.gov/vessels-marinas-and-ports/vessels-vgp.

that larger vessels will be visiting the Port as a result of the Project, it is obligated under NEPA to discuss the rates of compliance of the larger-sized ships with the Vessel General Permit and to evaluate reasonably foreseeable impacts from their visitation at the Port.

Ship Strikes

The Corps also entirely fails to analyze the threat that shipping traffic associated with this navigation channel poses to marine mammals. Ship strikes serve as a primary cause of mortality for large whales worldwide.[141] Large vessels (*i.e.,* those ≥ 80 m) are responsible for most of the collisions leading to whale death or severe injury.[142] For imperiled populations, "death from vessel collisions may be a significant impediment to population growth and recovery."[143]

Ports in the Bay Area host extensive shipping activity.[144] Incoming ship traffic transits several ecologically rich areas including Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries.[145] These areas provide important habitat for blue whales (*Balaeonoptera musculus*), humpback whales (*Megaptera novaeangliae*), and gray whales (*Eschrichtius robustus*).[146] Blue whales and distinct population segments of humpback whales are listed as endangered under the U.S. Endangered Species Act.

In an analysis of ship strikes off the West Coast of the continental United States, scientists found that "the majority of strike mortality occurs in waters off California, from Bodega Bay south and tends to be concentrated in . . . designated shipping lanes

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[141] Rockwood, R. Cotton et al., "High Mortality of Blue, Humpback and Fin Whales from Modeling of Vessel Collisions on the U.S. West Coast Suggests Population Impacts and Insufficient Protection," PLoS ONE 12(8): e0183052 (2017); Jensen, Caitlin M. et al., "Spatial and Temporal Variability in Shipping Traffic Off San Francisco, California," 43 Coastal Mgmt. 575 (2015).
[142] Jensen *et al.* (2015), *supra*.
[143] Rockwood *et al.* (2017), *supra*.
[144] Jensen *et al.* (2015), *supra*.
[145] *Id.*; Keiper, Carol et al., "Risk Assessment of Vessel Traffic on Endangered Blue and Humpback Whales in the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries: Summary of Research Results," Oikonos (2012).
[146] Jensen *et al.* (2015), *supra*.

leading to and from major ports."[147] Shipping lanes off San Francisco pose one of the highest ship strike risks.[148] Between 2005 and 2014, the National Oceanic and Atmospheric Administration documented 15 ship strikes of blue, humpback, and gray whales off the coast of San Francisco.[149] Given that ship strikes are rarely detected, the actual number is likely much higher.[150]

The Army Corps anticipates that the widening of the Turning Basins will facilitate an increased number of visits by ultra-large container vessels.[151] Larger vessels traveling at proportionately higher speeds as they transit to the navigation channel pose a greater risk of harm to marine mammals from ship strikes. Given the grave risk to whale species, including endangered populations of blue and humpback whales, the Corps must analyze how expansion of the Turning Basins may affect the risk of ship strikes.

Noise

The Draft Report also fails to adequately analyze the impacts that increased vessel size may have on noise affecting local wildlife species. The presence of more and larger ships will increase the levels of low frequency noise, particularly close to major shipping lanes and ports.[152] Larger vessels may introduce significantly more noise into the marine environment, particularly if they have larger positioning thrusters and propulsion units.[153]

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[147] Rockwood *et al.* (2017), *supra*.
[148] *Id.*
[149] Jensen *et al.* (2015), *supra*.
[150] *Id.*
[151] Draft Report, p. 100.
[152] Port of Vancouver, "2021 Haro Strait and Boundary Pass voluntary vessel slowdown" (n.d.), https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/maintaining-healthy-ecosystems-throughout-our-jurisdiction/echo-program/projects/haro-slowdown/; Putland, R.L., et al., "Vessel noise cuts down communication space for vocalizing fish and marine mammals," 24 Global Change Biology 1708 (2018); Liu, M., et al, "Broadband ship noise and its potential impacts on Indo-Pacific humpback dolphins: Implications for conservation and management," 142 Journal of the Acoustical Society of America 2766 (2017).
[153] *See* Kaplan, M.B. & Solomon, S., "A coming boom in commercial shipping? The potential for rapid growth of noise from commercial ships by 2030," 73 Marine Policy 119 (2016).

Kaplan and Solomon (2016) estimate that the growth of commercial ship noise could increase by up to a factor of 1.9 by 2030.[154] The study looked at three segments of the commercial shipping fleet: container ships, oil tankers, and bulk carriers. Continued growth in the number of ships, quantity of goods carried, and distances traveled all feed into the dramatic increase in the predicted ocean noise level.[155] Ocean sound is not distributed evenly across the ocean, but concentrated particularly in port areas like the San Francisco Bay. Because much of the increased noise pollution will be concentrated near the Oakland Harbor, it is particularly important that this Project address the issue of noise pollution from commercial shipping.

The Corps also must conduct a more searching analysis on the effects of project-associated noise on regional wildlife and fisheries species. Noise associated with the Project will be produced by a broad range of construction equipment including dredges, vibratory pile drivers, and tugboats, as well as land-side construction activities including pile driving, drilling, and compaction machinery.[156] Even if the noise produced from this machinery does not result in lethal harms to local species, smelt, salmonids, and green sturgeon might experience behavioral disturbances including reduced foraging, reduced ability to avoid predators, and increased flight/avoidance behavior, as well as neurological stress and hearing threshold shifts. The Corps must discuss in more detail the individual- and population-level implications of such sublethal harms, by themselves and in conjunction with other stressors, as discussed in Section I.B.5 above.

The Army Corps also fails to adequately analyze how shipping noise in the Turning Basins, produced by larger ships in conjunction with tugboats, could affect regional wildlife, including but not limited to marine mammals, local fish, and terrestrial wildlife like avian species. An agency's failure to analyze the noise impacts emanating from tugboats can result in an EA that fails NEPA's "hard look" requirement.[157] In *Cook Inletkeeper*, a federal agency dismissed noise impacts from tugboats in a semi-enclosed estuary of Alaska, contending that marine mammals "are likely habituated to the existing baseline of commercial ship traffic."[158] The district court concluded that the agency had failed to analyze the potential noise impacts from

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[154] *Id.*

[155] *Id.*

[156] Draft Report, p. 194.

[157] *Cook Inletkeeper v. Raimondo*, 533 F. Supp. 3d 739, 766 (D. Alaska 2021).

[158] *Id.* at 745, 766.

tugboats and their impacts on local marine mammal wildlife.[159] Here, too, ships that approach and use the Turning Basins will produce noise during their approach and while executing turns within the Basins, with assistance from tugboats. The Draft Report estimates that underwater noise associated with ships turning in the Basins can range from 141 to 175 decibels.[160] However, the Draft Report improperly dismisses those noise impacts as no different than existing vessel traffic.[161] The Draft Report fails to consider the noise impacts that emanate from the fact that that the largest vessels (which potentially make more noise) will call on the Port more frequently—a conclusion the Corps had in fact already reached elsewhere in the Draft Report, and which it failed to apply to its noise analysis.[162] The Corps must revisit its analysis regarding noise impacts on local species.

Any increase in shipping noise threatens marine mammal species that visit the San Francisco Bay area. Noise generated by commercial shipping reduces marine mammals' ability to communicate, locate prey, and navigate within their habitat, and induces behavioral changes. The Corps must disclose these impacts. The Corps also should consider developing and implementing a noise budget to protect vulnerable wildlife and fisheries species from noise pollution generated by construction and increases in vessel noise attributable to Port traffic, as more fully discussed in Section I.D below.[163]

Finally, the Corps must also discuss in more detail the behavioral implications of ship traffic and vessel noise on longfin smelt. Although the Draft Report outlines the life history of longfin smelt, it fails to discuss at any length the potential for impacts that

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[159] *Id.* at 767-68.

[160] Draft Report, p. 89.

[161] See Draft Report, pp. 166 (concluding "transport barges carrying dredge material are not expected to generate underwater noise that is different than existing vessel traffic") and 191 ("[T]he noise produced by the turning activity would reasonably be expected to remain very similar to noise generated by existing ships turning.").

[162] Draft Report, p. 100.

[163] See, e.g., Merchant, N. D., et al., "Marine noise budgets in practice,"11 Conservation Letters 1 (2018); Haver, S.M. et al., "Monitoring long-term soundscape trends in US Waters: The NOAA/NPS Ocean Noise Reference Station Network," 90 Marine Policy 6 (2018); Redfern, J.V., et al., "Assessing the risk of chronic shipping noise to baleen whales off Southern California, USA," 32 Endangered Species Research 153-167 (2017); Viola, S. et al., "Continuous monitoring of noise levels in the Gulf of Catania (Ionian Sea), Study of correlation with ship traffic," 121 Marine Pollution Bull. 97 (2017).

disturbances from barges, dredging crews, and tugboats could have on the species. Given that longfin smelt are currently listed as threatened by the state of California and are a candidate species for listing under the federal ESA, the Corps must conduct a more searching analysis of the ways in which sublethal harms might affect the long-term population viability of threatened longfin smelt.

Marine Mammals

The Corps failed to adequately explore whether it requires an authorization under the Marine Mammal Protection Act ("MMPA") for the Project. The MMPA prohibits the taking of marine mammals, unless the take falls within certain statutory exceptions.[164] The statute defines "take" is as "to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect or kill, any marine mammal."[165] Here, the Project will have foreseeable impacts on a wide range of marine mammals including pinnipeds and cetacean species as discussed throughout these comments. All of those species are protected under the MMPA, and some are also protected under the state and federal ESA. The noise impacts from dredging and larger ships could cause take,[166] and any increase in shipping traffic or at-anchor times could also cause take. Because the Project (and any foreseeable future impacts from the project, such as an increase in growth of cargo throughput volume) may harass or harm marine mammals, the Corps should have explored whether MMPA authorization is required before it may proceed with the widening of the Turning Basins.

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[164] 16 U.S.C. § 1371(a)(3).

[165] 50 C.F.R. § 216.3; 16 U.S.C. § 1362(13).

[166] See, e.g., Jason Gedamke, Ocean Sound & Ocean Noise: Increasing Knowledge Through Research Partnerships, NOAA 2 (2014), available at http://cetsound.noaa.gov/Assets/cetsound/documents/MMC%20Annual%20Meeting%20Intro.pdf; International Maritime Organization, "Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life," (2014), https://cetsound.noaa.gov/Assets/cetsound/documents/MEPC.1-Circ%20883%20Noise%20Guidelines%20April%202014.pdf; L. S. Weilgart, "The Impacts of Anthropogenic Ocean Noise on Cetaceans and Implications for Management," 85 Canadian J. Zoology 1091-1116 (2007), https://cdnsciencepub.com/doi/10.1139/Z07-101; D. Kastak et al., "Noise-Induced Permanent Threshold Shift in a Harbor Seal," 123 J. Acoustical Soc'y of Am. 2986 (2008), https://asa.scitation.org/doi/10.1121/1.2932514.

C. *The Need for the Project Is Not Clearly Defined*

The Draft Report fails to clearly define the need for the Project. The Corps acknowledges that the Port has already previously hosted the largest existing category of container ships, known as post-Panamax Generation IV vessels, with a TEU capacity of between 15,000 to 23,000 TEUs. Specifically, there were 3 such calls by Generation IV vessels on the Port in 2016, and 4 such calls by those vessels in 2020, the last year for which vessel calling records are available, according to the Corps.[167] Although such callings are extremely uncommon, the Port's own records indicate that it is feasible to use the Turning Basins at their present size for vessel callings by even the largest container ships that currently exist in the commercial shipping fleet.

Given that ultra-large container ships like Generation III and IV vessels are already capable of visiting the Port, it is not clear why the Army Corps is seeking to expand the Turning Basins at this time. Although the Draft Report identifies navigation inefficiencies and timing limitations associated with the largest ships performing maneuvers within the Turning Basins,[168] Generation IV vessel callings on the Port of Oakland to date represent only a tiny fraction of the number of total callings. Specifically, for the six-year period from 2014 to 2019 (the most recent years for which complete ship calling data is available), Generation IV vessels represented only 0.03% of the 8,449 vessels that called on the Port of Oakland in those years.[169] Generation IV vessels presently visit the Port so infrequently that it strains logic to suggest that those very limited visits by large vessels have produced meaningful or lasting navigational inefficiencies. In short, the mere existence of temporary inconvenience in hosting the ultra-sized container vessels does not adequately support the Corps' stated need for widening of the Turning Basins.

Based on the exceedingly low number of callings by ultra-large container vessels to the Port to date, the only conceivable reason to pursue a widening of the Oakland Harbor Turning Basins is to make navigation more efficient for ultra-large ships that call at the Port. But if navigation becomes more efficient, it is reasonably foreseeable that this could invite increased callings by ultra-large container vessels, which could in turn potentially "debottleneck" cargo throughput, or even facilitate a growth in cargo volume throughput. Either of these results would have significant effects that could

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[167] Draft Report, pp. 14-15; see Draft Report, Appendix C, p. 32.

[168] Draft Report, p. 17.

[169] See Draft Report, p. 15 (Generation IV vessels represent 3 visits out of 8,449 from 2014-2019).

reverberate throughout the local community and beyond, as discussed in Sections I.A and I.B.1 above. If the Army Corps' true motivation is, in fact, to debottleneck operations or induce increased cargo volume to flow through the Port of Oakland, the Draft Report should have defined "increased operations" as the goal, and analyzed the need for the Project and its resultant impacts accordingly. But characterizing the need for this Project as a mere construction improvement—without also acknowledging the potential for impacts on operational output at the Port due to visitation by ever-larger container ships—is disingenuous and violates NEPA.

The Army Corps has a long history of pursuing dredging and port expansion projects, like this one, throughout the country, without first identifying a clear need. For example, the Port of Long Beach—which serves as a port of first call far more frequently than the Port of Oakland for vessels traveling along the Asian-to-West Coast U.S. routes[170]—is already undertaking a major dredging project, partially funded by the Army Corps, that will expand that port's capacity to receive ultra-large container ships like Generation III and IV vessels.[171] (Many members of the local community and environmental organizations opposed the Army Corp's proposed Long Beach dredging and expansion project for similar reasons to those expressed herein, including the unanalyzed possibility that dredging could result in an expansion of that port's operations and shipping throughput volumes.) The dredging project at the Port of Long Beach is expected to be completed in 2027.[172] The Corps fails to discuss in the Draft Report whether the completion of the forthcoming Long Beach dredging project may affect the need for the Project at the Port of Oakland.[173] The Army Corp's failure to consider the implications of other California port expansions that are already in progress also violates NEPA.

For all of these reasons, the Draft Report fails to identify a clear need for the Project. The Corps must withdraw its flawed EA and FONSI, and issue a revised EIS for public comment that clearly identifies whether there is a true "need" for this Project.

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[170] See Draft Report, pp. 12-13.

[171] Hayley Munguia, "Army Corps Recommends Deepening Channels at Port of Long Beach," Long Beach Business Journal (Oct. 9, 2021), https://lbbusinessjournal.com/army-corps-recommends-deepening-channels-at-port-of-long-beach.

[172] Zlatan Hrvacevic, DredgingToday.com, "Port of Long Beach Dredging Project on the Way" (June 25, 2021), https://www.dredgingtoday.com/2021/06/25/port-of-long-beach-dredging-project-on-the-way/.

[173] See Draft Report, pp. 12-13.

D. *The Draft Report Fails to Consider Meaningful Mitigation Measures*

As outlined above, there are a broad range of significant impacts that the Army Corps failed to consider in its Draft Report. Because the Corps failed to identify those impacts (instead relying on the issuance of a FONSI that is unsupported by adequate analysis), the Draft Report likewise failed to identify meaningful mitigation measures that could help to avoid or reduce those impacts on the affected local community and the environment. CEQ NEPA regulations require agencies to identify mitigation measures that can be undertaken to avoid significant impacts.[174]

Most fundamentally, the Corps should have considered implementing mitigation measures that could address any impacts caused by the potential for expansion of cargo throughput at the Port. CEQ NEPA regulations require agencies to take a hard look at all potential effects of a project that "are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives."[175] As discussed in Section I.B.1 above, it is reasonably foreseeable that expanding the Port's ability to receive larger ships could result in more visits from larger ships that carry more cargo and will take longer to unload, spending more time at the Port, and could also result in heavier reliance on cargo handling equipment, rail, and truck visits to handle the influx of larger cargo loads—all of which could foreseeably result in higher localized concentrations of pollution.[176] The Corps failed to consider these possibilities when developing mitigation measures.

Beyond that fundamental critique, there are several specific mitigation measures that the Corps should have considered, but failed to even propose as a possibility in the Draft Report. First, although the Corps did commit to using electric dredges during the construction phase of the project,[177] it should have required that *all* construction equipment commissioned by the Corps or the Port (including, but not limited to, tugboats, barges, trucks, cranes, tractors, excavators, power packs and generators, cargo handling equipment, etc.) rely on commercially available zero-emissions equipment

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[174] See 40 C.F.R. § 1501.6(c).

[175] 40 C.F.R. § 1508.1(g); see 40 C.F.R. § 1501.2(b)(2); *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 374 (1989).

[176] See generally CARB, "Emissions Impacts of Recent Congestion at California Ports," *supra*.

[177] See Draft Report, pp. 116-17.

during the construction phase of the project to the greatest extent feasible.[178] This kind of holistic mitigation measure would produce a meaningful improvement in regional air quality because it would reduce reliance on outdated diesel-powered and gasoline-fueled equipment that produces particulate matter pollution and contributes copious greenhouse gases to climate change; it would also simultaneously facilitate compliance with the Corps' environmental justice obligations under Title VI of the Civil Rights Act. and support the emissions reduction strategies in West Oakland's AB 617 plan.[179]

We urge the Corps to consider implementing mitigation measures that commit the Corps and the Port to the use of commercially available zero-emissions vehicles and construction equipment to reduce the air quality impacts that will come from three years of nearly constant ground disturbances around the Turning Basins, as well as the foreseeable potential air quality impacts from expansion of Port operational activity due to debottlenecking or induced growth as described in Section I.B.1 above.[180] Electric dredges alone will not adequately mitigate the air quality impacts from this Project.

Second, the Army Corps should develop a plan jointly with the Port to introduce local air quality monitors closer to the location of the two Turning Basins, which would be operational at a minimum for the duration of the planned construction phase of the Project. The Draft Report notes that "[t]he monitoring station closest to the study area is the Oakland West station, approximately 1.3 miles north." That station is not close enough to detect the air quality emissions from the various construction equipment (barges, tugs, tractors, excavators, power packs and generators, etc.) that will be operating during the planned construction periods at the Turning Basins. The undersigned organizations urge the Army Corps to approach the process of selecting a site for any air quality monitoring in a collaborative way that invites input from and dialogue with residents of the local community as to the location, frequency of testing, and public accessibility of the data. Relatedly, the Corps should review the "best clean air practices for Port operations" website that EPA has made available online to explore

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[178] See, e.g., CARB, Draft State Implementation Plan 2022, *supra*, at p. 72; Bellona, "Zero Emission Construction Machinery – Manufacturers," https://bellona.org/database-emission-free-construction-equipment-by-manufacturer (database accessed Feb. 1, 2022); BAAQMD, "Diesel-Free by '33: Resources for Zero-Emission Vehicles and Equipment," (n.d.), https://dieselfree33.baaqmd.gov/available-equipment.

[179] See *supra*, Section I.B.2.

[180] See Draft Report, p. v (describing estimated 2.5 year duration of construction activity).

other ways that the Corps and the Port can work to mitigate air quality impacts stemming from the Project.[181]

Third, the Army Corps should have worked with the Port to explore mitigation measures that require larger vessels calling at the Port to rely on either zero-emissions technologies currently in development or the cleanest available technology. If use of zero-emissions vessels were independently determined to be infeasible, the Port and Corps should instead consider a mitigation measure that requires vessels to pay in-lieu fees or a certain percentage of their profits or revenues into a fund for zero-emissions demonstration or pilot projects for ocean-going vessels or other hard-to-abate sources of pollution near the Port. For instance, the California Air Resources Board's At-Berth vessel regulation requires ocean-going vessels to control their emissions at-berth with the use of shore power, but includes an "innovative concept compliance option" which allows the regulated entity to alternatively meet compliance by funding projects at or near the Port that achieve equivalent emissions reductions.[182] The Army Corps and Port should have examined the feasibility of such mitigation measures, which would either require adoption of zero-emissions technology outright, or allow for greater contributions to projects that enable accelerated future adoption of zero-emissions technologies. As discussed in Section I.F *infra*, these types of comprehensive mitigation measures can more appropriately be proposed (and members of the public can participate more meaningfully) when NEPA and CEQA analysis are not improperly segmented into separate environmental analyses.

Fourth, the Corps should have considered as mitigation any of the 89 emissions reduction strategies included in West Oakland's AB 617 plan. These strategies include limiting truck hours of operation on local streets, moving truck routes away from residences, improving truck flow and congestion in the face of increasing visits from large container vessels, and planting vegetative borders between particulate matter sources and places where residents live, work, and go to school.[183] By essentially ignoring a plan adopted by BAAQMD, CARB, and WOEIP that reflects agency and community expertise and guidance specific to the Port's nearby communities, the Corps undermines the plan's goals and targets and fails to meaningfully consider relevant and site-specific mitigation measures for this Project.

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[181] See U.S. EPA, "Best Clean Air Practices for Port Operations" (n.d.), https://www.epa.gov/ports-initiative/best-clean-air-practices-port-operations.
[182] CARB, *Final Regulation Order – Control Measure for Ocean- Going Vessels At-Berth* at p. 54, https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2019/ogvatberth2019/fro.pdf.
[183] *Owning Our Air: The West Oakland Community Action Plan*, *supra*, at pp. 6-3, 6-22, 6-26.

Fifth, the Corps should consider exploring a partnership with other state, federal and international bodies to facilitate the creation of a zero-carbon trade corridor between the Port and Asian markets. The United States recently committed to pursuing the creation of such "green shipping corridors" in the Clydebank Declaration during the 2021 Glasgow Climate Change Conference (COP 26).[184] The Corps' proposed Project at the Port of Oakland represents a meaningful opportunity to pursue the goals of the Clydebank Declaration—not only because of the significant Trans-Pacific trade that the Port of Oakland engages in,[185] but also because the Draft Report and other projections make the fundamental assumption that there will be constant growth in total container cargo throughput.[186] There has been significant progress and momentum on zero-carbon and zero-emissions shipping in the past two years alone. For example, major international shipping company Maersk recently revised forward their target date for full decarbonization from 2050 to 2040,[187] and announced the introduction of eight new carbon-neutral large ocean-going container vessels that will be introduced starting the first quarter of 2024.[188] Recent reports have also highlighted the potential to decarbonize maritime shipping, including through zero-emissions solutions such as green hydrogen or ammonia plus fuel cells.[189] Exploring this type of mitigation measure would have meaningful air quality and climate impacts.

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[184] COP 26: Clydebank Declaration for Green Shipping Corridors (Nov. 10, 2021), https://www.gov.uk/government/publications/cop-26-clydebank-declaration-for-green-shipping-corridors/cop-26-clydebank-declaration-for-green-shipping-corridors#signatories.

[185] See Draft Report, pp. 12-13 (describing frequency of Trans-Pacific routes involving the Port of Oakland).

[186] See, e.g., Draft Report, p. 95 (indicating Corps' expectation that TEU volume at the Port will continue to increase by 2.1% annually); MAQIP Update, *supra*, at p. 4 (indicating TEU growth rates between 2.4% to 3.0% in the coming years).

[187] Reuters, "Maersk Speeds Up Decarbonisation Target by a Decade" (Jan. 13, 2022), https://www.reuters.com/markets/commodities/maersk-moves-net-zero-target-forward-by-decade-2040-2022-01-12/.

[188] Maersk, "A.P. Moller – Maersk accelerates fleet decarbonisation with 8 large ocean-going vessels to operate on carbon neutral methanol" (Aug. 24, 2021), https://www.maersk.com/news/articles/2021/08/24/maersk-accelerates-fleet-decarbonisation.

[189] World Bank, *The Potential of Zero-Carbon Bunker Fuels in Developing Countries* (Apr. 2021), https://openknowledge.worldbank.org/handle/10986/35435.

Sixth, the Corps should consider developing and implementing acoustic monitoring together with a noise budget to protect vulnerable wildlife and fisheries species from noise pollution generated by ship traffic associated with the Oakland Harbor.[190] Quantitative management targets identified under the budget could form the basis for Port regulations or incentive-based sound reduction initiatives.[191]

Seventh, the Corps should consider working with the Port to require that incoming and outgoing vessels adhere to a set speed limit when transiting through shipping lanes to and from the Port. Implementing such a measure would reduce the possibility of ship strikes, mitigate some of the noise concerns, and reduce emissions.

Finally, in addition to the specific ideas outlined above, we urge the Army Corps to think more deeply about and identify mitigation measures to address the serious effects that sea level rise will have on the Port and local communities in the decades to come. The Draft Report dismisses sea level rise as essentially irrelevant to the Project on the theory that it will be a "net positive [to deep draft navigation] due to the increased channel depth and reduced channel maintenance needs."[192] That short-sighted analysis fails to consider the potential for major impacts to the Port's operations and local communities, should critical shoreline infrastructure be submerged. As the federal agency tasked with regulating work in jurisdictional wetlands adjacent to coastal communities throughout the United States, the Corps should be a leader in addressing and mitigating the effects of sea level rise, not dismissing it as a convenient side effect to global shipping.

E. *The Draft Report Fails to Consider a Reasonable Range of Alternatives*

By failing to properly define the purpose, need, and scope of this Project, the alternatives and mitigation measures considered by the Corps in the Draft Report are far too narrowly constrained. The alternatives analysis in the Draft Report is therefore wholly inadequate and the Corps must address these deficiencies.

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[190] See, e.g., Merchant et al. 2017, *supra*; Haver et al. 2018, *supra*; Redfern et al. 2017, *supra*; Viola et al. 2017, *supra*.

[191] *Cf.* Heise, K.A. et al. Proposed Metrics for the Management of Underwater Noise for Southern Resident Killer Whales Coastal Ocean Report Series (2) (Ocean Wise, Vancouver, 2017) (providing example of what metrics could look like for another cetacean species).

[192] Draft Report, p. 96.

NEPA regulations require the Corps to consider a reasonable range of alternatives that would mitigate the environmental and other impacts from the Project, including consideration of choosing the no-action alternative.[193] An agency may choose the no-action alternative even though it does not fulfill a project's purpose and need.[194] The "agency's decision may be based on any relevant considerations of law or policy" and "as long as [those considerations] are explained in the decision document" the decision to choose the no-action alternative is justified.[195]

All of the Corps' alternatives are virtually the same, save the no-action alternative, because each basically considers different widening areas:

- **Alternative A**: no-action alternative
- **Alternative B**: Inner Harbor Only (Inner Harbor Variation 3), with beneficial placement of eligible material
- **Alternative C**: Outer Harbor Only (Outer Harbor Variation 8), with beneficial placement of eligible material
- **Alternative D-1**: Inner and Outer Harbor (Inner Harbor Variation 3 and Outer Harbor Variation 8), with beneficial placement of eligible material
- **Alternative D-2**: Inner and Outer Harbor (Inner Harbor Variation 3 and Outer Harbor Variation 8), with beneficial placement of eligible material and the electrification of dredges[196]

The Draft Report thus fails to conduct a true alternatives analysis or consider meaningful mitigation measures beyond moving dredged material elsewhere and using electric dredges. For example, the Corps could have considered an alternative that addresses impacts from outdated diesel-powered and gasoline-fueled equipment commonly used during construction projects by relying on commercially available zero-emissions equipment instead. The Corps also could have considered alternatives consistent with the emissions reduction measures in West Oakland's AB 617 plan, or that require visiting vessels to limit ship speeds to address ship strikes that cause marine mammal deaths. Instead of moving dredged material elsewhere, the Corps could have considered an alternative that uses the dredged material to raise the Bay's

[193] 40 C.F.R. § 1502.14(c), (e).
[194] See, e.g., *Agdaagux Tribe of King Cove v. Jewell*, 128 F. Supp. 3d 1176, 1194 (D. Alaska 2015).
[195] See, e.g., *id.*
[196] Draft Report, p. 113.

shoreline and protect local communities against flooding from rising sea levels.[197] Without proper consideration of these and other reasonable alternatives, the analysis in the Draft Report fails to comply with NEPA.

F. ***The Draft Report Fails to Coordinate NEPA and CEQA Review***

The Corps failed to adequately coordinate NEPA review with review under the California Environmental Quality Act ("CEQA"). Federal regulations require that "to the *fullest extent practicable* . . . , [federal] agencies shall cooperate with State . . . agencies to reduce duplication between NEPA and comparable State . . . . requirements."[198] The regulations further provide that "[s]uch cooperation shall include, to the fullest extent practicable, joint environmental impact statements."[199] Combining NEPA and CEQA review is so important that the U.S. Executive Office of the President and the California Governor's Office of Planning and Research jointly issued a report specifically on the topic of how to integrate state and federal environmental reviews under NEPA and CEQA.[200]

Here, the Corps issued its Draft Report and FONSI on an entirely separate timeline from the forthcoming CEQA process that the Port will be overseeing as lead agency beginning later in 2022.[201] The Corps did not adequately justify its decision to segment out NEPA review from the forthcoming CEQA process. The Corps failed to demonstrate in its Draft Report that it sought to cooperate with the state CEQA process "to the fullest extent practicable."

The Army Corps' failure to coordinate NEPA and CEQA review has a detrimental impact on environmental review by members of the public. It is inefficient for members of the public to review two separate sets of environmental documents supporting the Project, especially when each will presumably be separately supported by voluminous and lengthy appendices. In particular, various state and federal

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[197] P. Rogers, "San Francisco Bay Report Decries Waste of Protective Sediment" (Apr. 13, 2021), https://www.marinij.com/2021/04/13/san-francisco-bay-report-decries-waste-of-protective-sediment/.

[198] 40 C.F.R. § 1506.2(c), emphasis added.

[199] *Id.*

[200] U.S. Executive Office of the President & Cal. Governor's Office of Planning & Research, "NEPA and CEQA: Integrating Federal and State Environmental Reviews" (Feb. 2014), https://opr.ca.gov/docs/NEPA_CEQA_Handbook_Feb2014.pdf.

[201] See generally U.S. Army Corps of Eng'rs, "Turning Basins Widening Study: Community Stakeholder Meeting #2" at Slide 17 (Jan. 12, 2022).

government agencies with oversight authority over aspects of the Project may need to weigh in on both the NEPA and CEQA documentation, which will compound the inefficiencies for members of the public who intend to track both the federal and state processes simultaneously.

Furthermore, segmenting out NEPA and CEQA review makes it less feasible for commenters to identify meaningful mitigation measures: some of the mitigations that could best offset the impacts from increased vessel size visitation at the Port would necessarily require joint action by the Corps and the Port, which either entity alone may not be able to pursue. It is also conceivable that any mitigation measures the Port selects during its CEQA review process could ultimately change the scope of the Project to a degree that would require renewed analysis by the Corps under NEPA. All of these inefficiencies could have been avoided if the Corps had pursued a combined review under NEPA and CEQA from the outset.

We urge the Corps to withdraw its flawed Draft Report and FONSI, and to issue a full EIS and an Environmental Impact Report jointly with the Port as the lead state agency.

G. *The Army Corps Failed to Provide Adequate Public Comment Opportunities*

The Corps should re-open the unnecessarily brief comment period for the Draft Report to allow for more meaningful public participation. Incorporating and inviting public participation into the government's environmental decisionmaking is a core element of the NEPA process. CEQ regulations state that agencies must "[m]ake diligent efforts to involve the public" when implementing NEPA.[202] The opportunity to comment on draft environmental documents is one of the main avenues by which the public can participate in the NEPA process.

The Army Corps' comment period was inadequate under NEPA, because the Corps provided too few public participation meetings and the comment period was too short given the factual circumstances and the complexity of the information provided.

First, as far as the undersigned organizations are aware, the Army Corps offered only two public participation meetings regarding this Project: one in late August 2021 and another in mid-January 2022, the latter of which fell nearly four weeks *after* the comment period for the Draft Report had already opened on December 17, 2021. The

[202] 40 C.F.R. § 1506.6(a).

Army Corps failed to provide adequate notice of these meetings or to alert members of the affected communities about the scope of the proposed Project or the potential impacts. The Corps' failure to do so represents a violation of NEPA and undermines the goals and obligations of AB 617 and Title VI.

Second, the Corps designated an unnecessarily short timeframe to submit comments, which constrained the ability of community groups to develop meaningful comments. The Corps issued the Draft IFR/EA on December 17, 2021 shortly before a major national holiday period when schools are closed and many organizations have holiday breaks and are not working at full capacity. The holidays, including the travel period surrounding Christmas and New Year's Day, removed essentially two weeks of time to review the Draft IFR/EA.

Furthermore, the ongoing COVID-19 pandemic has led to office and school closures throughout the country, with COVID cases peaking at an all-time national high in early January 2022.[203] As a result, members of the public as well as attorneys and support staff at organizations engaged in this Project have been forced to make necessary adjustments, including alternative childcare arrangements and coordination for timely filing of comments. This has made it even more challenging to review and prepare comments in the allotted time.

Although the Army Corps extended the deadline to submit written comments by 14 days (from the originally designated January 31, 2022 deadline to February 14, 2022) upon the request of some of the undersigned organizations as well as U.S. EPA, that limited 14-day extension does not make up for the unnecessarily abbreviated timeline for comment submission in light of the timing constraints and public outreach inadequacies outlined above. The Draft IFR/EA is 243 pages and includes 8 appendices with at least 544 additional pages, bringing the total to at least 787 pages of material. It takes a substantial amount of time to review large amounts of materials and provide meaningful comments. The Corps did not allow adequate time to review the supporting materials.

For these reasons, the undersigned organizations respectfully request that the Army Corps withdraw its flawed Draft Report, issue a substantially improved draft

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[203] Lisa Shumaker, "U.S. Reports 1.35 Million COVID-19 Cases in a Day, Shattering Global Record," Reuters (Jan. 10, 2022), https://www.reuters.com/business/healthcare-pharmaceuticals/us-reports-least-11-mln-covid-cases-day-shattering-global-record-2022-01-11/.

Environmental Impact Statement jointly with an Environmental Impact Review with the Port, and reopen the comment period on a draft EIS to allow community groups and those affected by the Turning Basins proposal to have more time to develop meaningful comments that will enable the Corps and the Port to improve their environmental review.

II. The Draft Report Fails to Comply with the Clean Water Act

The Army Corps also failed to comply with the Clean Water Act ("CWA"), 33 U.S.C. § 1251 *et seq.*, in several respects, many of which overlap with the NEPA compliance issues described above. First and foremost, the Corps has failed to clearly articulate whether and under what circumstances it may seek in the future to obtain any necessary CWA permits. The Draft Report says only that "all dredge material will be placed at a permitted upland beneficial reuse site or landfill," without specifying the location or possible alternative placements.[204] Based on that statement alone, the Corps elected not to provide a 404(b)(1) analysis with the issuance of the Draft Report.[205] The Corps also states that it will "obtain a water quality certification for the [P]roject [pursuant to CWA section 401]. . . *if applicable* . . . after the feasibility phase, in the pre-construction design phase."[206] The Corps' approach to compliance with the Clean Water Act in the Draft Report is flawed.

First, the Corps has adopted an overly narrow definition of this Project's scope and purpose, as well as an inadequately articulated need for the Project, both of which are more fully discussed in Sections I.A and I.C above. By artificially defining this Project as confined to a mere construction activity, the Corps disregards myriad potential water quality impacts that are broader than the construction activities themselves. The Draft Report ignores the possibility that the construction or future operational phases of the Project could require or result in the discharge of material into jurisdictional waters, or otherwise cause discharges that require CWA permitting.[207] The excessively narrow scope of the Draft Report violates the CWA.

Second, the Draft Report inappropriately postpones analysis of the need for any water quality certification permitting until the pre-construction design phase of the Project, which deprives members of the public from having adequate opportunity

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[204] See Draft Report, p. 200.

[205] *Id.*

[206] *Id.*, emphasis added.

[207] See, e.g., *supra*, Sections I.B.1, I.B.5, and I.B.6.

under NEPA to review and comment on that analysis.[208] In so doing, the Draft Report fails to provide adequate information that would enable members of the public to evaluate whether the Project will conform to the EPA's Section 404(b)(1) guidelines.[209] The Army Corps should have included a CWA Section 404(b)(l) alternatives analysis within the Draft Report to provide a more meaningful opportunity to evaluate potential impacts.

Third, if the Corps ultimately does need to seek a permit under the CWA for any portion of the Project activities, the Draft Report fails to demonstrate that it has selected the "least environmentally damaging practicable alternative" ("LEDPA") to achieve the Project's purpose. The Corps is required to make a LEDPA finding before it may approve any Section 404 permit under the CWA.[210] Because the Corps has deferred a determination about whether it will need to rely on a Section 401 or 404 permit until a later stage of the Project that post-dates the issuance of this Draft Report, the undersigned organizations do not have adequate information about the dredging or water quality certification alternatives the Corps may consider or the environmental impacts of those options.[211] At a minimum, the Draft Report failed to include any analysis of the potential impacts of debottlenecking and/or induced expansion on Port operations due to the Report's improperly constrained scope.[212] If such analysis had been included, that would have facilitated a determination about whether the proposed Project and the proposed dredging waste disposal locations would represent the LEDPA under the CWA. The Corps' omission of such analysis frustrates the goals of the CWA and impedes public participation.

Fourth, there is inadequate information in the Draft Report about whether this Project could reasonably fulfill the Army Corps' public interest review, should a CWA permit be required at some point in the future. The CWA and the Army Corps' own regulations require that the Army Corps may issue a CWA permit only when a

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[208] Draft Report, pp. 181-82, 200.

[209] See, e.g., 33 C.F.R. § 323.6 (requiring district engineer to "review applications for permits for the discharge of dredged or fill material into waters of the United States in accordance with guidelines promulgated by the Administrator, EPA, under authority of section 404(b)(1) of the CWA"); 40 C.F.R. § 230.12 (requiring disposal sites for discharge of dredged or fill material to comply with EPA guidelines).

[210] See 40 C.F.R. § 230.10(a).

[211] See *supra*, Section I.E. (discussing how the Draft Report inadequately explores a range of alternatives that could achieve the Project's goals).

[212] See generally *supra*, Section I.B.1.

proposed project will meet certain environmental standards.[213] The Corps' regulations require it to consider numerous factors, including several most relevant here: "conservation, . . . aesthetics, general environmental concerns, wetlands, . . . fish and wildlife values, flood hazards, . . . land use, . . . shore erosion and accretion, . . . water quality, . . . and, in general, the needs and welfare of the people."[214] The Draft Report largely skims over many of these factors—in part by inappropriately confining the scope of the Project to construction impacts only—and fails to adequately analyze the adverse impacts of the Project on these factors. Particularly concerning is the Army Corps' failure to consider environmental justice issues ("the needs and welfare of the people") in developing the Draft Report, as more fully discussed in Section I.B.2 above; the impacts to local and protected species discussed in Sections I.B.5 and 6 above also lack adequate analysis. These and other omissions in the Draft Report prevent members of the public from being able to weigh in on whether the Corps will perform an appropriately thorough public interest review as required by the CWA.

For all of these reasons, the Army Corps should withdraw its flawed Draft Report and develop a more thoughtful and extensive analysis of the potential water quality impacts that could emanate from the Project to ensure compliance with the Clean Water Act.

Conclusion

The Draft Report for the Project fails to adequately define the scope of or need for the project, to adequately analyze the potentially significant impacts of the Project, or to consider meaningful mitigation measures or a reasonable range of alternatives, and therefore, it fails to comply with NEPA and the CWA. The Corps must revise the Draft Report to include a fulsome analysis of environmental justice impacts that could result from widening the Turning Basins, including analysis of the foreseeable implications of debottlenecking or an expansion in freight volume throughput at the Port. The Draft Report must also be revised to fully address, disclose, and mitigate the significant environmental effects of the Project, including the operational impacts of expanding freight activity at the Port, as well as impacts on air quality, climate change and greenhouse gas emissions, water quality impacts, and endangered species and marine mammal impacts, as described above.

We urge the Corps to fulfill its duties under NEPA and the CWA by withdrawing the flawed Draft Report and FONSI, and issuing a meaningful draft EIS

[213] See generally 33 C.F.R. § 320.1 to 320.4; see also 33 U.S.C. § 1341.
[214] 33 C.F.R. § 320.4(a)(1).

that informs the public, and particularly communities most impacted by the Project, about the associated impacts of widening the Turning Basins, and proposes meaningful mitigation measures. The Corps should expand public comment opportunities to ensure that these proposals can be vetted by members of the public.

Thank you for your consideration of these comments, and please do not hesitate to reach out if you have any questions.

Signed,

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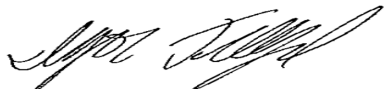

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INDEX OF ATTACHMENTS IN SUPPORT OF COMMENTS

WOEIP, Earthjustice, Sierra Club, Union of Concerned Scientists, & Center for Biological Diversity submit the following documents into the record regarding the Oakland Harbor Turning Basins Widening Project together with their February 14, 2022 comments. All attachments listed below are viewable and downloadable at the following link:

https://earthjustice.sharefile.com/d-s0bbb84e31cea4941b0d19d6e7170f149

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Spectrometry Method and Application to Field Samples," 70 Archives Envtl. Contamination & Toxicology 9 (2016).

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20. Putland, R.L., et al., "Vessel noise cuts down communication space for vocalizing fish and marine mammals," 24 Global Change Biology 1708 (2018).

21. Redfern, J.V., et al., "Assessing the risk of chronic shipping noise to baleen whales off Southern California, USA," 32 Endangered Species Research 153-167 (2017).

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EXHIBIT B

EDWARD W. CARR, PH.D.

Biography

Dr. Carr is the Vice President of Research and Operations at Energy and Environmental Research Associates, LLC. He is an expert in emissions, air quality, and economic analysis in the mobile, non-road, and biogenic sectors. He has worked on transportation air quality, fuels, and emissions inventory projects for federal, state, NGO, and industry clients. Dr. Carr's recent publications include work on the air quality and health impacts of ship fuels, economic incentives for alternative fuels in the shipping industry, and macroeconomic modeling of transportation electrification and alternative fuels. He received his Master of Marine Policy, and Ph.D. in Marine Studies from the University of Delaware (Newark, DE) and an A.B in Biology from Bowdoin College (Brunswick, ME).

Oakland Harbor Turning Basins Widening: Peer review services for evaluating Air Quality, Emissions, and Economic Analysis: Operations and Emissions

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V3

June 12, 2023

This document provides expert peer-review consulting services of the U.S. Army Corps of Engineers (USACE, or the Corps) 2023 "Oakland Harbor Turning Basins Widening: Draft Integrated Feasibility Report and Environmental Assessment"[1] ("the EA") and relevant Appendices.

Specifically, this technical memo focuses on the following question(s):

1) What is the emissions profile of a typical ultra-large container vessel when it visits a port?
    a) How does the fuel and technology used by ultra-large vessels compare to the fuel and technology used by vessels that presently visit the Port of Oakland?
    b) What are the operational differences between ultra-large vessels and vessels that presently visit the Port of Oakland?
        i) Do AIS data show that ultra-large vessels are associated with longer periods of time idling, waiting at berth, or waiting for their next call assignments?
        ii) What differences may be expected in terms of greater use of cargo handling equipment to move larger amounts of cargo at once?
        iii) What impacts may there be to truck and rail movements in terms of congestion of equipment, truck, and rail due to increased, simultaneous operation?
    c) How might truck trips change due to visitation by ultra-large container vessels?

Project Overview

The EA's purpose is to determine the technical, environmental, and economic feasibility of expanding and modifying the Inner Harbor Turning Basin and the Outer Harbor Turning Basin, shown as A and B in Figure 1, respectively.

Figure 1: Port of Oakland navigation features, including the Inner Harbor Turning Basin (A) and Outer Harbor Turning Basin (B). Source: Port of Oakland.

[1] EA and Appendices available at https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Current-Projects/Oakland-Harbor-Turning-Basins-Widening/

Expansion of the turning basins is proposed to allow larger Fourth Generation (Gen IV) Post-Panamax vessels, which do not fit through the Panama Canal, to maneuver more easily within the Port. Gen IV vessel characteristics are shown in Table 1. Gen IV vessels range from 15,000 to 23,000 twenty-foot equivalent units (TEUs) and the project design vessel is estimated to be around 19,000 TEUs. Presently, port operators and Harbor Pilots state that each Gen IV vessel creates delays of 3-4 hours per transit due to Pilot restrictions. Gen IV vessels necessitate "additional tugs, pilots, and specific schedules to operate safely" due to the size of the turning basin.[2] Tide and current conditions further restrict the movements of Gen IV vessels at the Port of Oakland.

Table 1: Post-Panamax Gen IV vessel

Post-Panamax Gen IV	Design Vessel	From	To
Beam (ft)	193	168	200
LOA (ft)	1,310	1,295	1,315
Draft (ft)	52.5	52.5	52.5
TEUs	19,000	15,000	23,000

Research Questions

What is the emissions profile of a typical ultra-large container vessel when it visits a port?

MSC Anna

The MSC Anna was the largest container vessel ever to call at the Port of Oakland. The vessel characteristics of the MSC Anna, and the MSC Amsterdam are shown in Table 2 below.

Table 2: MSC Amsterdam and MSC Anna Vessel Specifications

Vessel Name	MSC Anna	MSC Amsterdam
IMO Number	IMO9777204	IMO9606338
Deadweight Tonnage	185,503 DWT	185,541 DWT
Gross Tonnage	187,587 GT	176,490 GT
TEU Capacity	19,200 TEU	16,652 TEU
Service Speed (kts)	14.5 knots	23 knots
Main Engine Power (kW)	60,140 kW	59,780 kW
LOA (m)	400 m (1,312 ft)	399 m (1,309 ft)
Beam (m)	58.6 m (192.3 ft)	54 m (177.2 ft)
Draft (m)	16m (52.5 ft)	16 m (52.5 ft)

[2] EA Appendix C, Section 2.5.1.

MSC Anna: Port Call Description

The MSC Anna called on April 16, 2020, passing under the Golden Gate Bridge at 20:03 local time. The MSC Anna transited at 10-12 kts initially to the west of the Golden Gate, with speeds dropping to 6-8 kts under the Golden Gate Bridge. Speeds varied between 6 and 10 kts transiting the bay, and then began to slow down to around 3 kts after passing under the Bay Bridge and entering the Port, maneuvering in the approach to the Inner Harbor Channel. MSC Anna reached the berth at the OICT at around 21:25 local time, a transit time of 1h22m. MSC Anna was observed to remain at berth for around 31h. For the outbound journey, MSC Anna left the berth at around 04:20 and passed under the Golden Gate Bridge at 06:11

MSC Anna: Speed Over Ground and Engine Load

Main engine loads for the MSC Anna are between 20 - 25% west of the Golden Gate Bridge dropping to 8% under the bridge, and maintaining load at 8 - 15% until Alcatraz. Main engine load drops from 12.5% at Alcatraz to around 6% by the time the vessel moves under the Bay Bridge (Figure 2).

For the outbound journey, MSC Anna left the berth at around 04:20 and passed under the bridge at 06:11 traveling at a speed of 15.8 kts. Outbound the MSC Anna main engine load was around 12% under the Bay Bridge (SOG = 8.9 kts), 27% at Alcatraz (SOG = 11.7 kts), and 68% (SOG = 15.8 kts) outbound under the Golden Gate Bridge

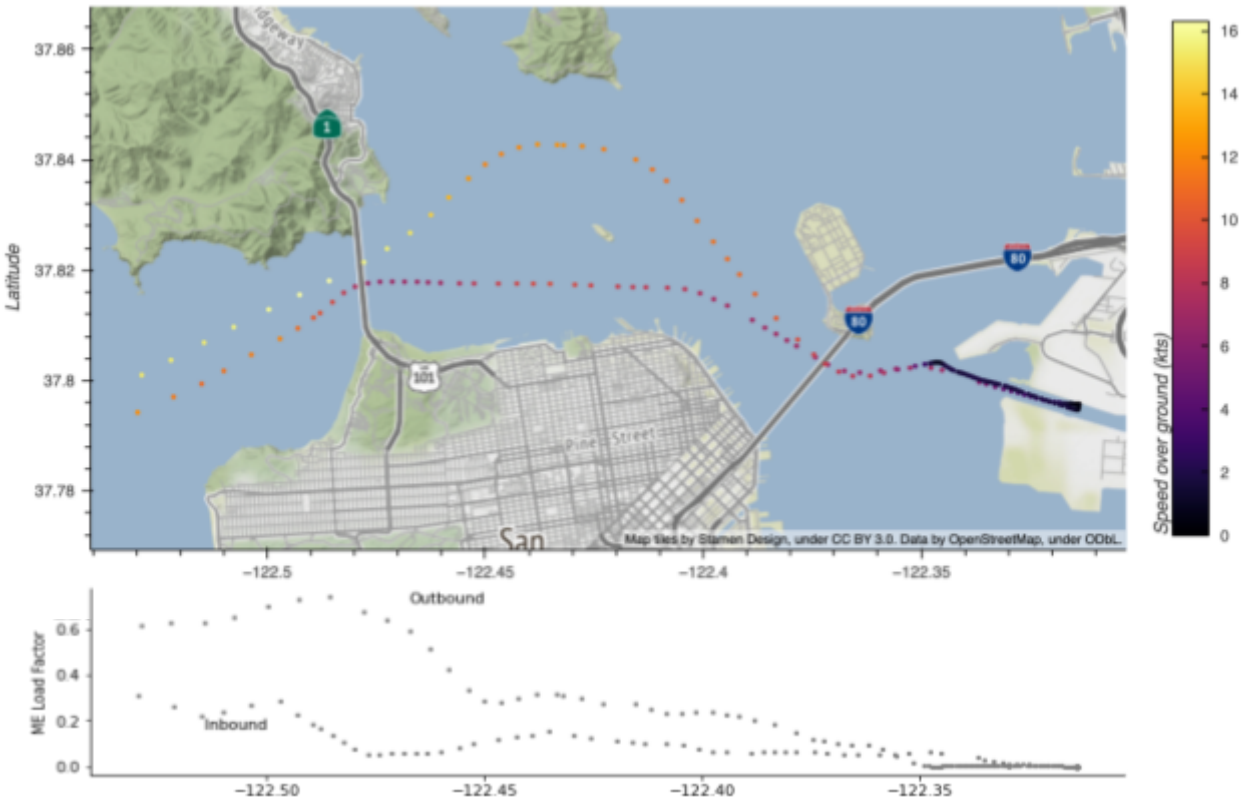

Figure 2: Speed over ground positions and main engine load factor as the MSC Anna calls at the Port of Oakland

MSC Anna: Default Auxiliary Engine Loads

Data on the size of the MSC Anna's auxiliary engines are not publicly available, but the 2021 emission inventory for the Port of Los Angeles[3] lists the following default auxiliary engine loads (Table 3) for a 19,000 TEU container ship, which we may reasonably expect to be similar to the MSC Anna. We assume that MSC Anna plugged into shore power and auxiliary engine berth hotel loads and corresponding vessel emissions were zero, with any emissions associated with the shore power system and electricity grid.

Table 3: Default auxiliary engine load assumptions for 16,000 TEU and 19,000 TEU container vessels from the 2021 Port of Los Angeles emission inventory

Mode	**16,000 TEU Load (kW)**	**19,000 TEU Load (kW)**
Transit	1,793 kW	1,950 kW
Maneuvering	2,179 kW	2,275 kW
Berth Hotelling	1,150 kW	1,350 kW
Anchorage Hotelling	1,271 kW	1,475 kW

The vessel was able to pull directly into the berth upon arrival, with very limited maneuvering, and no time at the anchorage. Therefore these emissions estimates represent a conservative lower bound for round trip vessel emissions for a Gen IV container ship calling at the Port of Oakland.

Default Anchorage and At-Berth Emissions

For the MSC Anna, the largest vessel to call on the Port of Oakland, if the vessel does not use shore power for any reason, it may be expected to consume around 0.273 MT of MDO/MGO fuel per hour (Table 4), emitting around 0.80 MT CO_2 per hour, and 0.019 MT NOx per hour at berth. Were a vessel like the MSC Anna to visit the anchorage it may be expected to emit around 0.88 MT CO_2 and 0.021 MT NOx hourly.

Table 4: At berth and anchorage CO_2 and NOx emissions for the MSC Amsterdam and the MSC Anna based on default auxiliary load assumptions

	CO_2 (MT hourly)		NOx (MT hourly)		PM_{10} (MT Hourly)[4]	
	At Berth	Anchorage	At Berth	Anchorage	At Berth	Anchorage
MSC Amsterdam	0.68	0.75	0.017	0.018	0.0035	0.0039
MSC Anna	0.80	0.87	0.019	0.021	0.0041	0.0045

[3] https://kentico.portoflosangeles.org/getmedia/f26839cd-54cd-4da9-92b7-a34094ee75a8/2021_Air_Emissions_Inventory

[4] Per EPA's Port Emissions Inventory Guidance, $PM_{2.5}$ makes up 92% of PM_{10} for Category 3 ocean-going vessels. See Section 3.5.3 of https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1014J1S.pdf

MSC Anna: Fuel Consumption and Emissions

Based on AIS speeds observed, while in the San Francisco Bay we estimate that the MSC Anna's main and auxiliary engines consumed as much as 3.97 MT of fuel (Table 5), most likely 0.1% S MGO/MDO, in compliance with the North American ECA and CARB regulations. Carbon dioxide emissions associated with fuel consumption at around 12.72 MT CO_2 along with 0.34 MT NO_x.[5] Main + auxiliary engine emissions are shown in the Table 5 below, broken down by emissions in each mode of operation observed.[6] Estimated fuel consumption and emissions are for the vessel only, and do not account for operations of harbor craft associated with the vessel's entrance and clearance of the port.

Table 5: Main plus auxiliary engine emissions for the MSC Anna calling at the Port of Oakland

Species	**Berth**	**Cruise**	**Maneuvering**	**Total**
Total Fuel Consumption (MT)	-	3.50	0.47	3.97
CO_2 Emissions (MT)	-	11.21	1.51	12.72
NO_x Emissions (MT)	-	0.31	0.04	0.34
PM_{10} Emissions (MT)	-	0.01	0.01	0.02

MSC Amsterdam

The MSC Amsterdam has very similar engine characteristics to the MSC Anna, the largest ship ever to call at the Port of Oakland, described in the prior section. The vessel lengths are nearly identical, the beam (width) of the MSC Anna is 4.6 m, or 15.1 feet, wider than the MSC Amsterdam. From an energy perspective, main engine power differs by just 360kW between the two vessels. We include the MSC Amsterdam here as a second example of movements and emissions of a large container ship. The vessel characteristics of the MSC Amsterdam are shown in Table 6.

Table 6: MSC Amsterdam and MSC Anna Vessel Specifications

Vessel Name	MSC Amsterdam
IMO Number	IMO9606338
Deadweight Tonnage	185,541 DWT
Gross Tonnage	176,490 GT
TEU Capacity	16,652 TEU
Service Speed (kts)	23 knots
Main Engine Power (kW)	59,780 kW
LOA (m)	399 m (1,309 ft)
Beam (m)	54 m (177.2 ft)
Draft (m)	16 m (52.5 ft)

[5] MSC Amsterdam and MSC Anna both have keel laid dates in 2015, and are therefore Tier II vessels, with a slow speed engine NO_x emission rate of 14.4 $g.kWh^{-1}$, adjusted for low loads.
[6] We define the western boundary of emissions as from when a vessel passes under the Golden Gate Bridge inbound and outbound, per the 2020 Port of Oakland Emission Inventory

MSC Amsterdam: Port Call Description

The MSC Amsterdam was the largest container vessel to call at the Port of Oakland in 2022 based on analysis of automatic identification system (AIS) data obtained from the Marine Cadastre[7] for all of 2022. We include the MSC Amsterdam as a second example of vessel movements by large container ships calling at the Port of Oakland. MSC Amsterdam was not observed leaving the port in the AIS data we sampled, and thus only the inbound leg of the voyage is available.

The MSC Amsterdam called on May 21, 2022, passing under the Golden Gate Bridge at 17:48 local time with a reported draft of 10.9 m, or 35.8 ft. MSC Amsterdam reached the berth at the OICT at around 18:55 local time, a transit time of 1h07m.

MSC Amsterdam: Speed Over Ground and Engine Load

The MSC Amsterdam passed under the Golden Gate Bridge at 13-14 kts until reaching Alcatraz, where the main engine load was 18%, then began to slow down to around 8.5 kts under the Bay Bridge (load = 8%). Entering the Port, maneuvering speed dropped to around 3.5 kts approaching the Inner Harbor Channel (Figure 3).

Main engine loads for the MSC Amsterdam are between 20 - 25% from west of the Golden Gate Bridge to just east of Alcatraz. Main engine load drops from 21.1% at Alcatraz to under 10% by the time the vessel moved under the Bay Bridge.

Figure 3: Speed over ground, positions, and main engine load for the inbound leg of the MSC Amsterdam calling at the Port of Oakland

[7] https://marinecadastre.gov/ais/

MSC Amsterdam: Default Auxiliary Engine Loads

Data on the size of the MSC Amsterdam's auxiliary engines are not publicly available, but the 2021 emission inventory for the Port of Los Angeles[8] lists default auxiliary engine loads for a 16,000 TEU container ship (Table 3), which we may reasonably expect to be similar to the MSC Amsterdam. The MSC Amsterdam was commissioned to use the Port's shore power system at OICT on May 22,[9] indicating that the vessel plugged into the Port's shore power system upon arrival. Therefore we assume that auxiliary engine berth hotel loads and corresponding vessel emissions were zero, with any emissions associated with the shore power system and electricity grid.

The data for the MSC Amsterdam are one way, as the AIS data did not show the vessel leaving the Bay. Furthermore, the vessel was able to pull directly into the berth upon arrival, with very limited maneuvering, and no time at the anchorage. Therefore these emissions estimates represent a conservative lower bound for inbound vessel emissions in the Bay.

Were a vessel like the MSC Amsterdam to visit the anchorage, based on the default auxiliary load assumptions described, auxiliary engines would consume around 0.24 MT of MDO/MGO fuel per hour (Table 4), emitting around 0.75 MT CO_2 per hour, and 0.018 MT NOx per hour. Note that for the Corps' design vessel, similar to the MSC Anna, those emissions would increase by around 18% based on the default auxiliary engine loads.

MSC Amsterdam: Fuel Consumption and Emissions

Based on AIS speeds observed, we estimate (Table 7) that the MSC Amsterdam's main and auxiliary engines consumed as much as 1.36 MT of fuel in the San Francisco Bay,[10] most likely 0.1% S MGO/MDO, in compliance with the North American ECA and CARB regulations. Carbon dioxide emissions associated with fuel consumption at around 4.37 MT CO_2 along with 0.12 MT NO_x.[11] Main + auxiliary engine emissions are shown in Table 7 below.

Table 7: Main plus auxiliary engine emissions for the MSC Amsterdam calling at the Port of Oakland

Species	**Berth**	**Cruise**	**Maneuvering**	**Total**
Total Fuel Consumption (MT)	-	1.24	0.12	1.36
CO_2 Emissions (MT)	-	3.98	0.39	4.37
NO_x Emissions (MT)	-	0.12	0.01	0.12
PM_{10} Emissions (MT)	-	0.01	0.00	0.01

[8] https://kentico.portoflosangeles.org/getmedia/f26839cd-54cd-4da9-92b7-a34094ee75a8/2021_Air_Emissions_Inventory

[9] See "List of Approved Shore Power Vessels" at the Port of Oakland at https://www.oaklandseaport.com/development-programs/shore-power.

[10] Per the 2020 Port of Oakland Emission Inventory, the western boundary of emissions analysis is the Golden Gate Bridge.

[11] MSC Amsterdam and MSC Anna both have keel laid dates in 2015, and are therefore Tier II vessels, with a slow speed engine NO_x emission rate of 14.4 $g.kWh^{-1}$, adjusted for low load operations.

How does the fuel and technology used by ultra-large vessels compare to the fuel and technology used by vessels that presently visit the Port of Oakland?

Ultra-large vessels are generally newer builds, post-2016, and are more likely to have Tier III engines on board. As noted in the EA, Gen IV vessels are generally scheduled on European routes for a number of years due to economies of scale, high profitability on those routes, and a tightening regulatory environment in Europe before being redeployed to the Pacific. As the fleet turns over, Gen IV vessels will call at California Ports in greater numbers. While it is likely that newer vessels go to European routes before Pacific routes, the benefits of IMO carbon intensity regulations[12] may be felt more slowly among older vessels, but they are likely to have an impact as the regulations are applied for each individual vessel. Larger vessels that do call on California usually call at San Pedro Bay ports first, arriving to Oakland lighter due to draft constraints (Oakland is dredged to 50 ft, Gen IV drafts are usually around 52.5 ft, and the Port of Los Angeles' main channel is maintained at 53 ft). Scrubbers are not allowed within California waters,[13] and all engines must be fully operating on 0.1% S fuels within 24 nautical miles of the shoreline.

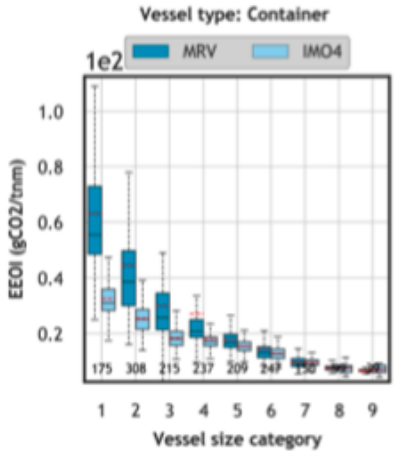

Figure 4: Carbon intensity of container ships by size bin.[14]

Larger vessels are more fuel efficient per nautical mile sailed (Figure 4), and correspondingly the carbon intensity of larger container vessels per ton-nautical mile is lower.[15] Per the Fourth IMO Greenhouse Gas Study (GHG4), Table 60, the carbon intensity of IMO Category 9 vessels (20,000+ TEUs), is 7.7 gCO_2/t-nm, compared to 8.0 gCO_2/t-nm for Category 8 container vessels (14,500 - 19,999 TEUs). Data from the Port of Oakland's 2020 Emission Inventory, recreated in Table 8 below, show that 50.6% of calls at the Port are from

[12] https://www.imo.org/en/MediaCentre/HotTopics/Pages/EEXI-CII-FAQ.aspx
[13] https://ww2.arb.ca.gov/our-work/programs/ocean-going-vessel-fuel-regulation
[14] Source: IMO GHG4, Figure 108.
[15] See, for example, Figure 73 and Figure 108 in the Fourth IMO Greenhouse Gas Study. https://www.imo.org/en/ourwork/Environment/Pages/Fourth-IMO-Greenhouse-Gas-Study-2020.aspx

vessels with a capacity of less than 8,000 TEU, and the modal size bin is 8,000 - 10,000 TEUs, which account for 30.2% of voyages.[16]

Table 8: Container ship calls at the Port of Oakland in 2020 by TEU capacity.

Capacity (TEU)	n Voyages
<1,000	0
- <2,000	27
- <3,000	137
- <4,000	74
- <5,000	216
- <6,000	21
- <7,000	111
- <8,000	37
- <10,000	372
- <12,000	119
- <14,000	56
- <16,000	56
16,000+	5
All	**1,231**

GHG4 reports a carbon intensity of 13.4 gCO_2/t-nm for vessels in this size category, indicating that Gen IV vessels are around 42.5% more carbon (and fuel) efficient per unit cargo moved than the current most common container vessel size group at the Port of Oakland (8,000 - 10,000 TEU).

While Gen IV vessels are likely to have Tier III NO_x controls on board, the effectiveness of those controls below 25% engine load is uncertain, with most indications that selective catalytic reduction systems are not operated below 25% engine load (maximum continuous rating), and exhaust gas recirculation systems aren't operated below around 10% engine load.[17] This means that while vessels may be equipped with Tier III NO_x controls, NO_x is unlikely to be controlled to Tier III levels due to low engine loads and associated operational constraints. Accordingly, while the Tier III NO_x emissions rate for slow speed engines is 3.4 gNO_x/kWh, vessels may emit at rates closer to the Tier II limit of 14.4 gNO_x/kWh inside the San Francisco Bay on the approach to the Port of Oakland. Furthermore, there is literature that indicates that the performance of Tier III control technologies can degrade over time through sulfur poisoning, thermal decomposition, and carbon deposition.[18] Given that container vessels slow down significantly passing under the Golden Gate Bridge, engine loads are often well below 25%, and below 10% east of the Bay Bridge, NOx emissions from Gen IV vessels equipped with Tier III NOx controls operating at low loads in the near shore environment are likely to be more closely aligned with Tier II emission rates, which are more than 4x greater than Tier III emission rates.

Low load adjustment factors presented in the EPA Port Emissions Inventory Guidance[19] show that NOx, PM, and CO_2 emission factors increase at loads below 20%. At 15% main engine load, NOx emission factors increase by 1.06x, and by 1.22x at 10%. At 2% main engine load, the lower limit of the tables provided, NOx emission factors increase by 4.63x.

[16] See Table 2-1. https://www.portofoakland.com/files/PDF/Port%20Oakland%202020%20Emissions%20Inventory%20Final%20Report.pdf

[17] MEPC 80/5/1 Assessment of Low-Load Performance of IMO NOX Tier III Technologies.

[18] https://doi.org/10.1039/C1CY00007A and https://doi.org/10.1016/j.applthermaleng.2014.02.021.

[19] https://www.epa.gov/state-and-local-transportation/port-emissions-inventory-guidance

What are the operational differences between ultra-large vessels and vessels that presently visit the Port of Oakland?

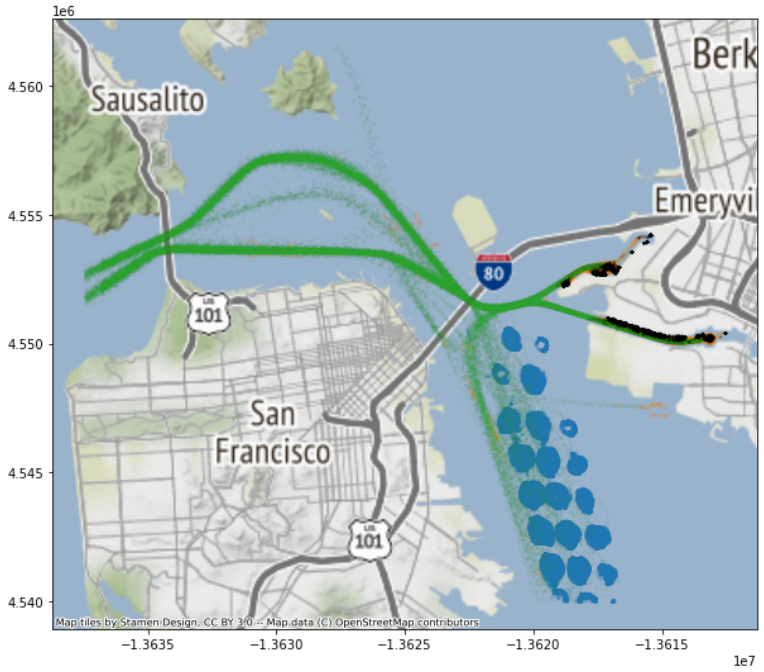

Figure 5: AIS positions of vessels calling at the Port of Oakland in 2015 shown in transit (green), at anchor (blue), maneuvering (orange) and at berth (black).

Do AIS data show that ultra-large vessels are associated with longer periods of time idling, waiting at berth, or waiting for their next call assignments?

We analyzed 848 voyages identified from the AIS. After removing outliers for time at anchor and time at berth, associated with non-standard operations or mis-characterisation by our algorithms, we were left with 799 voyages, with 282 unique vessels (Figure 5).

The data do not indicate differences in cruise or maneuvering times across voyages, comparing vessels less than 300m long with vessels longer than 300m, shown in Table 9.[20] On average, vessels spend 3.2 - 3.6 hours cruising with the AIS sample, and 0.4 - 0.5 hours maneuvering. T-tests testing for significant differences in the population means found no significant difference in hours spent in cruise or maneuvering mode ($p = 0.22$ and $p = 0.88$, respectively). Mean time spent at anchorage, when sent to the anchorage, is significantly longer for the larger vessel group (means = 153.5 and 103.8 hours, $p = 0.002$). Additionally, as expected, vessels in the larger group spend an average of 90.3 hours at berth, significantly more than the smaller vessels (mean = 70.0, $p < 0.001$).

Table 9: Mean time at anchor, berth, cruising, and maneuvering by vessel length at the Port of Oakland in 2022

[20] This cutoff corresponds to a deadweight of around 90,000 DWT, which breaks the data into IMO container ship size categories 1-5 (< 300m), and 6-9 (<= 300m).

	Vessel Length	
Time at… (h)	< 300m	>= 300m
Anchor	103.8	153.5
Berth	70.0	90.3
Cruise	3.2	3.6
Maneuvering	0.5	0.4

We also compared the likelihood of being sent to the anchorage for vessels of different sizes. For the largest vessels, those longer than 350m, we identified 21 voyages, of which 9 (42.9%) visited the anchorage. For vessels longer than 300m, we identified 263 voyages, of which 29.3% visited the anchorage. The percent of voyages for vessels less than 300m that visited the anchorage was 16.4%. There were no significant differences in the time spent at anchorage among the three groups.

What differences may be expected in terms of greater use of cargo handling equipment to move larger amounts of cargo at once?

The Corps' stated goal of the proposed project is to reduce congestion and risk, by enabling faster and safer turning of larger vessels in the turning basins. The turning basin expansion does not, per se, enable larger Gen IV vessels to call at the Port. Gen IV vessels have already called at the Port, albeit in low numbers. Channel depth, berth depth, crane reach, crane height, and yard space and handling are primary constraining factors that are unchanged with this project. Terminal expansions are planned or already underway, independent of the turning basin expansion project, and this project will not add additional berths, cranes, or yard space.

It is likely that the Port of Oakland will see increasingly larger vessels, discharging larger container volumes. Gen IV vessels are proliferating through the fleet, offering greater economies of scale and, importantly, lower emissions per unit of cargo transported. Container vessels typically visit Oakland after calling, and offloading, at the San Pedro Bay Ports. This proposed project aims to make calls from larger container ships safer and more efficient, but the routing of those vessels is also a function of macroeconomic factors outside of the proposed turning basin expansion.

Data from the International Transport Forum indicate that larger vessels may actually reduce the rate at which cranes load and unload cargo, as the distances traversed are larger and therefore container move cycles are longer.[21] The Corps' assumption is that total calls will remain flat, meaning projected container throughput increases will be driven by larger vessels, unloading larger cargoes, but over a proportionally longer period of time. It is reasonable to assume that, were throughput to double as a result of doubling TEUs/call, a single ship might sit at berth for less time than two smaller vessels unloading the equivalent total cargo, as waiting, maneuvering, and berthing time would need to be factored in for the two smaller vessels.

This scenario may introduce a pulse of containers when the vessel arrives, which may strain yard and cargo handling capabilities if not properly prepared, as the cranes would potentially be in more frequent loading/unloading operation rather than sitting idle for the period of time while one vessel departs and the next maneuvers into the berth. Additional yard operations in terms of container stacking and moves may also

[21] https://www.itf-oecd.org/sites/default/files/docs/15cspa_mega-ships.pdf

be required. Under this scenario it is possible that cargo handling needs would increase, within the constraints of the yard size, available cargo handling capacity, and gate opening times.

Arrivals of Gen IV vessels in significant numbers and their associated cargoes are also likely to require changes in yard and labor practices. Yards may need to increase stack heights to accommodate greater volumes and labor demand may be more episodic, correlated with the arrival of large ships that introduce more demand peaks.

What impacts may there be to truck and rail movements in terms of congestion of equipment, truck, and rail due to increased, simultaneous operation?

Around 10% of imports at the Port of Oakland are moved by rail, and rail facilities at the port are near-dock not on-dock, requiring additional transport across terminal aprons to the rail yards. In contrast, around 60% of imports at the Port of Los Angeles move via rail.[22] Container rail dwell times, the time between the container being unloaded from the vessel and loaded onto a train, were reportedly 9-12 days in Oakland in June 2022, up from 3-4 days previously. The delay is reportedly due to a lack of capacity to move containers to off-dock rail facilities.

Trucks arriving at the Port of Oakland primarily arrive via one of three freeway interchanges: Maritime/West Grand Street, Seventh Street, and Adeline/Market Street. Truck movements are calculated using a few metrics, including gate counts in the Port's eModal system, truck count surveys, and inferred truck counts based on container movements. Data from 2020, reported in the Port's 2020 Emission Inventory, show 1,391,171 total truck visits to marine terminals, and an additional 54,855 truck visits to rail terminals.

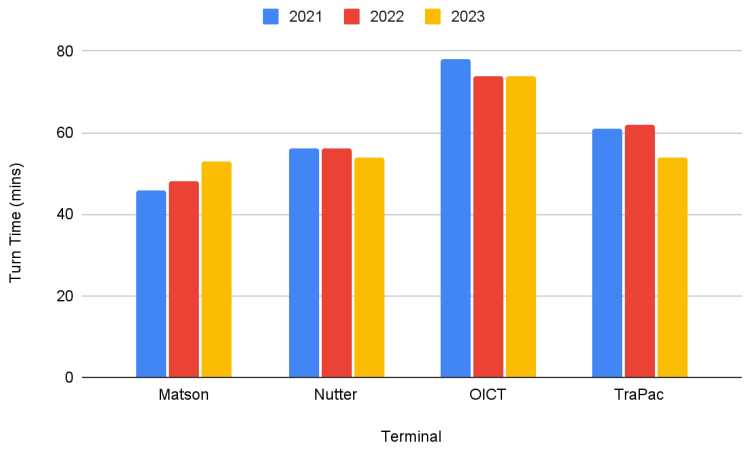

Figure 6: Mean turn times from 2021 - 2023 for trucks calling at Port of Oakland container terminals.

The 2020 Emission Inventory reports that, on average, trucks idle at the gate for an average of 8 minutes, and idle in the terminal for 20 minutes. Notably, these data are from surveys performed in 2005 and 2012, and may not be fully reflective of the current situation. Total turn times, that is the time from when a truck enters the terminal gate, loads and/or unloads cargo, and leaves the terminal, are shown in Figure 6.[23] These data

[22] https://www.cnbc.com/2022/07/08/railroad-bottleneck-at-west-coast-ports-reaches-inflection-point.html
[23] Data compiled from https://portofoakland.emodal.com/HistoricalTruckTurnTime

show that mean turn times at the Nutter Terminal decreased from 56 minutes in 2021 and 2022 to 54 minutes in 2023. Turn times are longer at the OICT, down from an average of 78 minutes in 2021 to 74 minutes in 2022 and 2023.

With larger vessels and associated larger TEU discharges, we may expect to see pulses of containers needing to move through the port, requiring twice as many, or more, truck trips for a single vessel call. While the rate at which containers are moved off the vessel may be lower due to the larger size of the vessel and longer container lift trips, the total volume of containers will be greater, requiring efficient yard handling practices, including stacking higher, additional labor, and automation.

This has the potential to lead to congestion effects if terminals do not efficiently plan for and stage cargo to be transported on and off the vessel. These pulses in TEUs may require longer gate hours and additional truck operators to efficiently move the cargo. From a rail perspective, container dwell times are already extended due to a lack of capacity to move containers to off-dock rail facilities. Additional pulses in cargo associated with larger container ships would likely strain those dwell times further.

How might truck trips change due to visitation by ultra-large container vessels?

Ultra-large container vessels may introduce a pulse of containers when the vessel arrives, which may strain yard and cargo handling capabilities with the potential for cascade effects through to drayage. At present, the Port reports that large vessels load and unload as many as 2,500 containers when visiting the Port,[24] with the average TEU per call up from around 1,672 in 2015[25] to around 2,000 in 2020.[26] The Corps assumption is that the number of calls will be unchanged in future scenarios, and with throughput set to roughly double, this means that TEUs per call will also, on average, double.

As noted in the prior sections, larger vessels, and associated larger TEU discharges, may lead to pulses of larger volumes of containers needing to move through the port at a given time, requiring twice as many, or more, truck trips for a single vessel call. These pulses in TEUs may require longer gate hours, additional truck operators, and additional chassis to efficiently move the cargo. These pulses may also induce short-term labor effects, including shortages, overtime, and union-related issues.

For reference, Table 5-6 in the Ports 2020 emission inventory, recreated in Table 10, shows NOx emission rates of 41.07 gNOx/hr while idling, and 10.55 gNOx/mile traveling at 10mph or below. NOx emission rates fall further to 4.35 gNOx/mile at 35mph.

Table 10: NOx and PM_{10} average emission factors by speed for drayage trucks in the 2020 Port of Oakland Emission Inventory.

Speed (mph)	NOx	PM_{10} Total	Unit
0	41.07	0.014	g/hr
10	10.55	0.217	g/mile

[24] https://www.portofoakland.com/seaport/port-oakland-steps-ships-carry-bigger-loads-ever/
[25] https://www.bts.gov/archive/publications/port_performance_freight_statistics_annual_report/2016/ch3
[26] https://www.portofoakland.com/files/PDF/Port%20Oakland%202020%20Emissions%20Inventory%20Final%20Report.pdf

35	4.35	0.174	g/mile

We have provided an example calculation for a truck dropping off/picking up a container at OICT, entering the 7th Street Gate, which corresponds to the shortest distance to Berths 55-56. Assuming a one-way distance of 1.44 miles from gate to berth, travel speeds of 13.5 mph, gate delays of 8 minutes, and a total turn time of 74 minutes, we might expect a single truck round trip to generate around 75 grams of NOx, of which 69% is attributable to idling and 31% to emissions while moving. This same truck trip could also generate 0.62 grams of PM_{10} (0.57g $PM_{2.5}$), 97% of that while driving. For terminals where distances are longer emissions would be greater, though NOx emissions increase at low speed, and are greatest while idling.

Table 10: 2015 TEU throughput, container calls, and TEUs per calls at the Port of Oakland and the three largest container ports.

Port	TEUs	Container Calls	TEU/ call
POAK	2,340,000*	1,361	1,672
POLB	7,192,000	983	7,320
POLA	8,160,000	1,086	7,494
NYNJ	6,732,000	2,270	2,808

In practice, there is likely to be an asymmetric effect, where the mean TEUs per call is skewed by calls from ultra-large container ships that may unload more than 4,000 TEUs per call. Table 11 shows that although the Port of Oakland receives more container calls than the Ports of Los Angeles and Long Beach, the TEUs per call at Oakland are far lower. In future, ultra-large container ships may reasonably be expected to load/unload 4,000+ TEUs per call. A typical tractor trailer and chassis can move a forty-foot container, or 2 TEUs. This corresponds to approximately one additional truck trip per additional 2 TEUs of throughput, as roughly 90% of TEU throughput at the port is moved via truck.

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EDUCATION

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EXPERTISE AND EXPERIENCE

Dr. Carr has over a decade years of experience working on projects related to air quality, climate, emissions, energy and economic analysis in the mobile, non-road, and biogenic sectors. Dr. Carr has worked on air quality and emissions inventory projects for federal, state, NGO, and industry clients, including the U.S. EPA (Office of Transportation and Air Quality), U.S. FHWA, U.S. DOT Maritime Administration, and South Coast Air Quality Management District. Dr. Carr brings expertise in policy analysis, geospatial analysis, and economic and data analysis. He has published work on the economics and health benefits of emissions abatement technology in ships, analyzing the use of economic instruments to incentivize alternative fuels in the shipping industry, the costs and benefits of alternative fuels in medium and heavy-duty transportation, and the macroeconomic factors affecting heavy-duty truck purchasing decisions. Dr. Carr's works also includes macro- and micro-economic modeling of large-scale electrification and transportation projects. Dr. Carr earned his Master of Marine Policy, and Ph.D. in Marine Studies from the University of Delaware, and A.B. In Biology from Bowdoin College.

PROJECT SUMMARIES

- **New York State Energy Research and Development Authority (NYSERDA):** Supported development of an assessment of the New York State methane emissions inventory and developed an updated methodology to geospatially estimate methane emissions from oil and natural gas infrastructure.
- **Environmental Protection Agency (EPA)**: Development of Category 3 marine vessel emissions model methodology; Shore power technology assessment and development of energy use and emissions calculator (2017 and 2022 reports); Port Everglades emissions inventory vessel projection; Analysis of Heavy-Duty Vehicle Sales Impacts due to New Regulation; EPA Subpart W.
- **REMPEC (2018-2022):** Drafted technical and feasibility study for the proposed Med SOx ECA, road map for the possible designation of the Med SOx ECA, and initial Draft Submission to the International Maritime Organization (IMO) for the designation of the Med SOx ECA. Technical analysis, health modeling, fuel availability study, economic impacts analysis. Country-level readiness and air quality regulations.
- **California Electric Transportation Coalition (CalETC) (2017, 2020):** Macroeconomic Input-Output analyses of impacts of transportation electrification in regions throughout the United States. Bottom-up survey estimation of workforce needs to meet battery electric vehicle infrastructure demand.
- **California Hydrogen Fuel Cell Partnership (2022):** Hydrogen vehicle report, including industry overview, analysis of existing fueling infrastructure, and bottom-up survey estimation of workforce needs to meet hydrogen vehicle infrastructure demand.
- **Ocean Conservancy (2022):** Reducing Greenhouse Gases in the Maritime Sector: Approaches for Decarbonizing the U.S. Fleet**.** Decarbonization analysis and alternative maritime fuels discussion. Analysis of AIS-derived fleet movements for U.S. flag and federally owned and operated vessels and economic costs.
- **Macroeconomic Input-Output Analysis:** Macroeconomic Input-Output analysis of the economic impacts of constructing a new transmission line and associated substations. Projects include PSEG Long

Island Expansion (2018), Nassau County, New York, and New York Energy Solution Transmission Project.

- **IMO (2022):** Co-authored Just In Time Arrival Emissions Reduction Potential in Global Container Shipping with MarineTraffic. Analysis of global container ship AIS positions to determine waiting times and optimal speeds to reduce voyage GHG emissions.

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EXHIBIT C

Marie Logan

From: Oakland Harbor Turning Basins Study <OaklandHarborTurningBasinsStudy@usace.army.mil>
Sent: Monday, May 22, 2023 5:57 PM
To: Katrina Tomas; Oakland Harbor Turning Basins Study
Cc: Marie Logan; Michelle Ghafar; margaret.woeip@gmail.com; bbeveridge@woeip.org; Jolliffe, Eric F CIV USARMY CESPN (USA)
Subject: RE: Comment Period on Oakland Harbor Turning Basins

External Sender

Dear Ms. Tomas,

Thank you for your email. The U.S. Army Corps of Engineers (USACE) is willing to meet with Earth Justice and the West Oakland Environmental Indicators Project. Please let us know if there is day and time in the coming weeks that you are available.

In recognition of the multiple requests for extension of the public comment period for the Oakland Harbor Turning Basins Integrated Feasibility Report and Environmental Assessment (IFR/EA), USACE has decided to extend the comment period by five additional days, until June 16, 2023. Please recognize that we are unable to provide the requested extension of 60 days.

This is a rerelease of the original December 2021 IFR/EA, for which a 45-day comment period plus 14 day extension was provided, and we received comments from your organization. In recognition of the public interest in this project, USACE opted to initially provide another 45-day comment period of the rereleased report instead of the standard 30 days. USACE is now allowing for a total of 49 days to comment on this rereleased document.

Further, not all sections of the document have been revised. To facilitate public review of the draft report, an outline of changes that have been made since the initial draft report was released, has been provided on page 6 of the Executive Summary. In this rerelease, Appendices A10-a, A10-b, and A10-c are dedicated to the comments received on the previous Draft Report. The appendices provide detailed responses and where in the document they are addressed.

In response to the emailed requests to host another public meeting during the comment period, a second virtual meeting is being scheduled for Wednesday, June 7, 2023 at 6:00 pm.

Kind regards,
The Oakland Harbor Turning Basins Study Project Delivery Team

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From: Katrina Tomas <ktomas@earthjustice.org>
Sent: Monday, May 22, 2023 4:54 PM
To: Oakland Harbor Turning Basins Study <OaklandHarborTurningBasinsStudy@usace.army.mil>
Cc: Marie Logan <mlogan@earthjustice.org>; Michelle Ghafar <mghafar@earthjustice.org>; margaret.woeip@gmail.com; bbeveridge@woeip.org
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Comment Period on Oakland Harbor Turning Basins

Hello Mr. Jolliffe,

This is my fourth email requesting an extension of the comment period for the Oakland Harbor Turning Basins Widening Navigation Study. We have not received a response from you or anyone else from the Army Corps to our prior emails sent on May 2, May 8, and May 17. We remain disappointed that the Corps has not responded to our request for an extension of the comment period.

We also saw that the Army Corps' webpage for the Oakland Harbor Turning Basins Widening Navigation Study has changed the original June 12 comment deadline to June 16. We want to confirm that the Army Corps has extended the deadline by four additional days. While we appreciate the extension, we want to urge the Corps to consider further extending the comment period to ensure that community members can engage with the over 1,200 pages of materials prepared for this project.

Finally, we would like to reiterate our request for the Corps to hold another public hearing. As I explained in my previous email, the Corps' technical issues at the May 10 meeting precluded adequate public participation.

Thank you,

Katrina

Katrina A. Tomas
she/her/hers
Associate Attorney
California Regional Office
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San Francisco, CA 94111
T: 415.217.2116
earthjustice.org

From: Katrina Tomas
Sent: Wednesday, May 17, 2023 2:53 PM
To: OaklandHarborTurningBasinsStudy@usace.army.mil
Cc: Marie Logan <mlogan@earthjustice.org>; Michelle Ghafar <mghafar@earthjustice.org>; margaret.woeip@gmail.com; bbeveridge@woeip.org
Subject: RE: Comment Period on Oakland Harbor Turning Basins

Dear Mr. Jolliffe,

We have not heard from you in response to our May 2 or May 8 emails. We are disappointed that the Corps has not responded to our request for an extension of the comment period, or the submissions by over 1,000 community members who emailed you to request the extension.

We also write to express disappointment about the technical issues that affected the Corps' virtual public hearing on May 10. Despite pre-registering using Eventbrite, our experience trying to access the meeting was that participants were required to create an account through Eventbrite and then rely for authentication on an existing email address simply to access a Zoom meeting. When the Corps ultimately did send out the Zoom link

about 15 minutes after the hour, the public presentation was already nearly concluded—and anyone who joined late due to the technical issues therefore had no information to respond or react to.

The Corps' technical issues at the May 10 meeting precluded adequate public participation. We therefore reiterate our request that the Corps hold another public hearing to adequately invite comment from members of the community who would be affected by the expansion of the Turning Basins.

Please let us know whether you plan to extend the comment period or hold another public hearing.

Thank you,

Katrina

Katrina A. Tomas
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T: 415.217.2116
earthjustice.org

From: Katrina Tomas
Sent: Monday, May 8, 2023 10:02 AM
To: OaklandHarborTurningBasinsStudy@usace.army.mil
Cc: Marie Logan <mlogan@earthjustice.org>; Michelle Ghafar <mghafar@earthjustice.org>; margaret.woeip@gmail.com; bbeveridge@woeip.org
Subject: RE: Comment Period on Oakland Harbor Turning Basins

Hello Mr. Jolliffe,

I wanted to follow up on my previous email requesting a meeting with the Army Corps to discuss the comment period for the Oakland Harbor Turning Basins Widening Navigation Study. In my previous email I included a formal written request to extend the comment deadline for the Revised Draft Integrated Feasibility Report and Environmental Assessment (Revised EA) by 60 days. Earthjustice and West Oakland Environmental Indicators Project would appreciate a timely response to this request.

Thank you,

Katrina

Katrina A. Tomas
she/her/hers
Associate Attorney
California Regional Office
Earthjustice

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From: Katrina Tomas
Sent: Tuesday, May 2, 2023 10:56 AM
To: OaklandHarborTurningBasinsStudy@usace.army.mil
Cc: Marie Logan <mlogan@earthjustice.org>; Michelle Ghafar <mghafar@earthjustice.org>; margaret.woeip@gmail.com; bbeveridge@woeip.org
Subject: Comment Period on Oakland Harbor Turning Basins

Hello Mr. Jolliffe,

This is Katrina Tomas from Earthjustice and the Sustainable Ports Collaborative writing in partnership with West Oakland Environmental Indicators Project (WOEIP).

I'm writing to request a meeting with the Army Corps to discuss the comment period for the Oakland Harbor Turning Basins Widening Navigation Study. WOEIP and Earthjustice have deep concerns that 45 days is insufficient for thoughtful and informed commenting by members of the public, and we are hereby submitting a written request to extend the comment deadline for the Revised Draft Integrated Feasibility Report and Environmental Assessment (Revised EA) by 60 days. In this meeting, we would also like to discuss our concerns about the Army Corps' failure to adequately consult with the West Oakland community on development of the EA.

Please let me know what times you are available this week or next week for a meeting with us.

Thank you,

Katrina Tomas
Marie Logan
Michelle Ghafar
Earthjustice

Ms. Margaret Gordon
Brian Beveridge
West Oakland Environmental Indicators Project

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