

STAFF REPORT

Toward Equitable Shorelines: Environmental Justice and Social Equity at the San Francisco Bay Background Report in Support of Bay Plan Amendment No. 2-17

June 7, 2019



SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
455 Golden Gate Avenue, Suite 10600
San Francisco, CA 94102
Information: (415) 352-3600 Fax: (415) 352-3606
Web site: [BCDC Website](http://www.bcdc.org)

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I. Executive Summary

Environmental justice is defined as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”¹ In order for the San Francisco Bay Conservation and Development Commission (“the Commission” or “BCDC”) to fulfill its mission of protecting and enhancing San Francisco Bay and encouraging the Bay’s responsible and productive use for this and future generations, BCDC should integrate considerations of environmental justice and social equity into its work. On July 20th, 2017, BCDC initiated an amendment to the *San Francisco Bay Plan* (Bay Plan) to incorporate principles of environmental justice and social equity into the planning, design, and permitting of shoreline projects in and along the San Francisco Bay. This background report provides a foundation for the proposed Bay Plan amendment found in the accompanying staff planning report published on May 31, 2019. Section 2 of this report begins with the background of environmental justice and equity, including causes, history, terms and definitions, and principles BCDC has developed to guide this work. Section 3 highlights environmental justice and social equity considerations at BCDC to-date and why BCDC decided to amend the Bay Plan for environmental justice and social equity. Section 3 also explains the environmental justice and social equity Bay Plan amendment process. Section 4 identifies where BCDC’s current Bay Plan policies intersect with issues related to environmental justice and social equity. The final section, section 5, explains how environmental justice and social equity principles could be implemented at BCDC. This section explores a range of implementation options and identifies potential next steps. Appendix A comprises notes from the June 19, 2018 Environmental Justice Roundtable that BCDC hosted with the California State Lands Commission and the California Coastal Commission. Appendix B contains the notes from the January 17, 2019 BCDC Commissioner Workshop on Environmental Justice. Appendix C covers BCDC’s Adapting to Rising Tides (ART) Program’s Regional Community Indicators for Flood Risk methodology and results.

II. Environmental Justice and Social Equity General Background

A. **Causes of Environmental Injustice and Social Inequity.** Governments, at all levels, have played a role in creating a society where environmental injustice and social inequity have persisted and continue to exist today. Discriminatory and unfair public policies implemented at all levels of government intentionally and unintentionally caused generations of communities of color to face persistent poverty; poor public health; inadequate public services and infrastructure; disproportionate exposure to polluted air, water, and soil; and underrepresentation in policy-making.^{2 3} In the U.S., many of these conditions resulted from many racially-based local zoning ordinances and restrictive covenants along with exclusionary low-interest mortgage programs under the Federal Housing Administration, building subsidies

¹ CA Senate Bill No. 115, 1999-2000 leg. (1999) (enacted).

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=199920000SB115

² *Guide to Equitable, Community-Driven Climate Preparedness Planning* (pp. 1-67, Rep.). (2017, May). Retrieved https://www.usdn.org/uploads/cms/documents/usdn_guide_to_equitable_community-driven_climate_preparedness_high_res.pdf

³ *SB1000 Implementation Toolkit: Planning for Healthy Communities* (pp. 1-157, Rep.). (2017, October). Retrieved <https://caleja.org/2017/09/sb-1000-toolkit-release/>

for whites-only developments, public housing practices, siting of facilities that emit toxic substances, and tax exemptions, among others. Due to these policies and programs, communities of color and African Americans, in particular, were less able to increase their wealth through homeownership and pass inheritance between generations than their white counterparts. Many of these discriminatory practices have intentionally or inadvertently resulted in the systematic segregation of residential America.

Zoning, in particular, played a significant role in creating environmental injustices around the U.S. For example, in some cases industrial land uses, including facilities that emit toxic substances, were zoned and sited in or near neighborhoods of color to avoid impacts to white neighborhoods which had the effect of preserving residential racial segregation. In other cases, industrial land uses were already in existence when people of color moved in, as they had limited housing options due to low wages, discriminatory lending practices, and restrictive zoning.⁴ The co-location of incompatible land uses, aggregation of industrial development, lack of enforcement over polluting land uses, and prioritization of business interests over public health culminated in disproportionate environmental burdens and adverse health issues for many low-income, communities of color.⁵

B. The Environmental Justice Movement and Institutionalization. The environmental justice movement, influenced by the American civil rights movement, is a social movement that has used grassroots and community organizing strategies, placing equal emphasis on ecological sustainability and social equity.⁶ Environmental justice advocates and scholars view the formation of the movement as addressing three major criticisms of the mainstream environmental movement: 1) the disproportionate distribution of environmental burdens and benefits created by zoning and development that were not captured in the suite of environmental policies of the 1970s, 2) the mainstream environmental movement conceptualized the environment in a limited way, reflecting an anti-urban and anti-built environment bias, and 3) the mainstream environmental movement used “privileged” forms of advocacy such as litigation and high-level lobbying as opposed to community organizing and engagement, creating a movement comprised of affluent experts.⁷

Although environmental justice did not attain national attention until the 1980s, its roots are found in Native American struggles for environmental rights. There were also several small-scale efforts prior to the 1980s of what would later be called “environmental justice”. For example, as far as back as during slavery, there were efforts by African American abolitionists to

⁴ Rothstein, R. (2017). *The Color of Law*. New York City, NY: Liveright Publishing Company.

⁵ *SB1000 Implementation Toolkit: Planning for Healthy Communities* (pp. 1-157, Rep.). (2017, October). Retrieved <https://caleja.org/2017/09/sb-1000-toolkit-release/>

⁶ Alcock, F. (2008). Conflicts and Coalitions Within and Across the ENGO Community. *Global Environmental Politics*, 8(4), 66-91. doi:10.1162/glep.2008.8.4.66

⁷ Purdy, J. (2016, December 7). Environmentalism Was Once a Social-Justice Movement. *The Atlantic*. Retrieved from <https://www.theatlantic.com/science/archive/2016/12/how-the-environmental-movement-can-recover-its-soul/509831/>.

restrict the use of arsenic as a pesticide.⁸ In the 1960s, Latino farmworkers fought for workplace protections as did African American sanitation workers. In 1967, students in Houston, Texas protested the siting of a garbage dump, and in the following year, in West Harlem, in New York City, community members opposed the siting of a sewage treatment plant.^{9 10}

Yet, the first battle that shepherded the environmental justice movement onto the national stage was the siting of a hazardous waste (polychlorinated biphenyl or PCB) landfill without community input in the predominantly African American, low-income, rural Warren County, North Carolina in 1982. Protesters conducted non-violent protests for six weeks, resulting in over 500 arrests. These were the first arrests made over opposition to the siting of such a facility. Although the activists ultimately lost this battle, their resistance is considered a catalyst of the environmental justice movement in the U.S.^{11 12} This movement differed from the previous iteration of environmentalism in that the founders of the environmental justice movement were largely low-income people of color adversely affected by these environmental injustices, grassroots activists, and community organizers, as opposed to affluent white communities or mainstream environmental conservation organizations.¹³

In the wake of the events in Warren County, two seminal studies were conducted to support and provide evidence to the claims of environmental racism around the U.S.¹⁴ During this time, Reverend Benjamin Chavis, an African American civil rights leader and author of one of the aforementioned studies, coined the term environmental racism as:

Racial discrimination in environmental policy-making and enforcement of regulations and laws, the deliberate targeting of communities of color for toxic waste facilities, the official sanctioning of the presence of life-threatening poisons and pollutants for communities of color, and the history of excluding people of color from leadership of the environmental movement.¹⁵

The existence of this phenomenon was confirmed by the research undertaken in these groundbreaking studies and many following.

⁸ Gelobter, M. (2005). The Soul of Environmentalism. *Redefining Process*. Retrieved from <https://community-wealth.org/content/soul-environmentalism-reconsidering-transformational-politics-21st-century>

⁹ Skelton, R., & Miller, V. (2016, March 17). The Environmental Justice Movement. Retrieved from <https://www.nrdc.org/stories/environmental-justice-movement>.

¹⁰ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

¹¹ Skelton, R., & Miller, V. (2016, March 17). The Environmental Justice Movement. Retrieved from <https://www.nrdc.org/stories/environmental-justice-movement>.

¹² Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

¹³ Bullard, R. D., & Johnson, G. S. (2000). Environmental Justice: Grassroots Activism and Its Impact on Public Policy Decision Making. *Journal of Social Issues*, 56(3), 555-578. doi:10.1111/0022-4537.00184

¹⁴ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

¹⁵ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

The first of these studies was the U.S. Government Accountability Office (GAO)'s *Siting of Hazardous Waste Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities* in 1983. The study focused on U.S. Environmental Protection Agency (EPA)'s Region IV (Southeast) and found that three of the four communities with large hazardous waste landfills were predominantly African American. Furthermore, when compared to the population of Region IV, African Americans were overrepresented in communities containing these landfills. This study also found at least 26 percent of the communities with these landfills were economically disadvantaged. Again, this study found that the majority of these living below the poverty level were African American.¹⁶

The second pivotal study that aided in solidifying the environmental justice movement was The Commission for Racial Justice of the United Church of Christ's *Toxic Waste and Race in America* study in 1987, which found that as the number of waste treatment, storage, or disposal facilities increased so did the percentage of minority residents in a given ZIP code. *Toxic Waste and Race in America* revealed the disquieting statistic that three of every five African American and Hispanic-American individuals lived in ZIP codes with these waste facilities. They found race to be the most significant attribute in the siting of these facilities.¹⁷ Prompted by the unsettling realizations of these studies, environmental justice researchers organized the Conference on Race and the Incidence of Environmental Hazards at the University of Michigan in 1990, where researchers gathered to further corroborate the findings. The culmination of this initial research on environmental justice was the First National People of Color Leadership Summit in 1991, where over 650 advocates from over 300 environmental groups of color gathered to redefine, strategize, and plan for the environmental movement as it related to their communities. Participants developed 17 principles of environmental justice that coalesced and reinforced activists working around the country by providing a common framework and platform for ending environmental injustice.¹⁸ This summit, arguably the most significant event in the movement's history, attempted to expand the purview of environmental justice beyond toxics to include interconnected issues such as public health, worker safety, land use, transit, housing, resource management, and community empowerment.¹⁹

Compelled by the findings described above, the Congressional Black Caucus met with U.S. EPA officials in 1990 and contended that the agency was neglecting the needs of communities of color. This meeting prompted the creation that same year of the Environmental Equity Workgroup by the U.S. EPA. This workgroup produced a report, *Reducing Risk in All Communities*, that confirmed the concerns of the Congressional Black Caucus and made recommendations to address them, including the creation of an institution to tackle the

¹⁶ U.S. General Accounting Office (GAO). (1983, June 1). *Siting of Hazardous Waste Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities*. Retrieved from <https://www.gao.gov/assets/150/140159.pdf>

¹⁷ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

¹⁸ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

¹⁹ Bullard, R. D., & Johnson, G. S. (2000). Environmental Justice: Grassroots Activism and Its Impact on Public Policy Decision Making. *Journal of Social Issues*, 56(3), 555-578. doi:10.1111/0022-4537.00184

identified inequities. Per these recommendations, in November 1992, the U.S. EPA's Office of Environmental Equity was founded (in 1994, the name was changed to the Office of Environmental Justice). Further in 1993, the U.S. EPA administrator established the National Environmental Justice Advisory Council to hold public meetings and provide guidance to the U.S. EPA on collaborative measures for addressing the environmental protection needs of vulnerable communities and assimilating environmental justice into the agency's programs and policies.^{20 21}

A critical moment for the environmental justice movement was February 11, 1994, when President Bill Clinton signed Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. This Executive Order founded the Interagency Working Group on Environmental Justice and directed federal agencies to integrate environmental justice into their missions through the identification and addressing of disproportionate adverse human health or environmental impacts on minority and low-income populations. This Executive Order reinforces Title VI of the Civil Rights Act of 1964, which bans discrimination from those receiving federal funds, as well as the National Environmental Policy Act (NEPA), which requires environmental impact statements to include an analysis of project impacts on human health.^{22 23}

One aspect of this process was formalizing a definition of environmental justice to be used throughout the U.S. EPA's work that is still used today and has been adapted by many states. This definition stated that environmental justice is:

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. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. Meaningful involvement means: that people have an opportunity to participate in decisions about activities that may affect their environment and/or health; the public's contribution can influence the regulatory agency's decision; community concerns will be considered in the decision-making process; and decision makers will seek out and facilitate the involvement of those potentially affected.²⁴

²⁰ U.S. Environmental Protection Agency. (2017, June 2). Environmental Justice Timeline. Retrieved from <https://www.epa.gov/environmentaljustice/environmental-justice-timeline>.

²¹ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

²² U.S. Environmental Protection Agency. (2017, June 2). Environmental Justice Timeline. Retrieved from <https://www.epa.gov/environmentaljustice/environmental-justice-timeline>.

²³ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

²⁴ *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (U.S. EPA Rep.). (1998, April). Retrieved <https://www.epa.gov/sites/production/files/2015-04/documents/ej-guidance-nepa-compliance-analyses.pdf>.

California was one of the first states to officially recognize environmental justice at the state level. In 1999, California enacted Senate Bill (SB) 115 (Solis, 1999), signifying the state's commitment to environmental justice by designating the Governor's Office of Planning and Research (OPR) as the coordinating agency on environmental justice and mandating the California Environmental Protection Agency (CalEPA) to create an environmental justice mission statement for its departments, boards, and offices.²⁵ ²⁶ This legislation also provided a definition of environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." (Government Code §65040.12(e)).

Three additional bills enacted in California in 2000 addressed environmental justice: SB 89 (Escutia, 2000), Assembly Bill (AB) 970 (Ducheny, 2000), and AB 1740 (Ducheny, 2000). These bills similarly focused on procedures, rather than implementation or outcomes. They included the creation of a Working Group on Environmental Justice and a corresponding advisory committee to guide CalEPA, appropriations for an environmental justice program, and an assistant secretary position for environmental justice. This secretary was charged with reviewing the activities of CalEPA and identifying shortcomings regarding environmental justice. Later that year, SB 89 (Escutia, 2000) was amended, recognizing that a conceptual mission statement was not adequate and, in its place, called for the development of operational strategies. These strategies were meant to serve as examples for other state agencies attempting to address environmental injustices.²⁷ Several agencies would attempt to follow in these footsteps, including the California Natural Resources Agency (CNRA), described below.

At the federal level, NEPA serves as a mechanism to identify and assess environmental injustices as environmental assessments and environmental impact statements must include an analysis of the disproportionate impacts to minority, low-income, and tribal populations.²⁸ In California, the California Environmental Quality Act (CEQA) is the primary tool to analyze the potential environmental impacts a project may have on the environment but CEQA does not include specific environmental justice language. However, in 2012, former Attorney General Kamala Harris clarified that, while CEQA does not use the term "environmental justice," CEQA centers on whether a project may have a significant effect on the physical environment, which she argued, includes people.²⁹ Specifically, Harris states:

²⁵ U.S. Environmental Protection Agency. (2017, June 2). Environmental Justice Timeline. Retrieved from <https://www.epa.gov/environmentaljustice/environmental-justice-timeline>.

²⁶ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

²⁷ Peter, E. M. (2001). Implementing Environmental Justice: The New Agenda for California State Agencies. *Golden Gate University Law Review*, 31(4), 529-591.

²⁸ Environmental Justice and National Environmental Policy Act. (2019, March 28). Retrieved from <https://www.epa.gov/environmentaljustice/environmental-justice-and-national-environmental-policy-act>

²⁹ Harris, K. D. (2012). *Environmental Justice at the Local and Regional Level Legal Background* (United States, State of California, Department of Justice). Retrieved from https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf

Under CEQA, “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects” (Pub. Res. Code, § 21002.) Human beings are an integral part of the “environment.” An agency is required to find that a “project may have a ‘significant effect on the environment’” if, among other things, “[t]he environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly[.]”³⁰

CNRA serves as the California state umbrella agency on natural resources, including the San Francisco Bay Conservation and Development Conservation (BCDC). CNRA developed an Environmental Justice Policy in response to SB 115 (Solis, 1999), stating that:

All Departments, Boards, Commissions, Conservancies, and Special Programs of the Resources Agency must consider environmental justice in their decision-making process if their actions have an impact on the environment, environmental laws, or policies.³¹

Further, several example actions were identified as requiring environmental justice considerations. These include: “adopting regulations, enforcing environmental laws or regulations, making discretionary decisions or taking actions that affect the environment, providing funding for activities affecting the environment, and interacting with the public on environmental issues.”³²

In 2018, CNRA released an update to the *Safeguarding California* plan, the state’s roadmap for climate change adaptation and resilience efforts spanning various sectors and policy areas. This update dedicates a guiding principle and chapter to climate justice, recommending that state agencies “ensur[e] that the people and communities who are least culpable in the warming of the planet, and most vulnerable to the impacts of climate change, do not suffer disproportionately as a result of historical injustice and disinvestment.”³³

At least nine other agencies under CNRA have begun to address environmental justice in either policy or programmatic manners. In December 2018, the California State Lands Commission adopted a new environmental justice policy, updated from their original 2002 policy.³⁴ Likewise, the California Coastal Commission approved an environmental justice policy in March of 2019, after the ability to consider environmental justice when acting on a coastal

³⁰ Harris, K. D. (2012). *Environmental Justice at the Local and Regional Level Legal Background* (United States, State of California, Department of Justice). Retrieved from https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf

³¹ California Natural Resources Agency. (n.d.). *Environmental Justice Policy*. Retrieved from http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Environmental_Justice_Policy_-_California_Natural_Resources_Agency.sflb.ashx

³² California Natural Resources Agency. (n.d.). *Environmental Justice Policy*. Retrieved from http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Environmental_Justice_Policy_-_California_Natural_Resources_Agency.sflb.ashx

³³ California Natural Resources Agency. (2018, January). *Safeguarding California Plan: 2018 Update*. Retrieved from <http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf>

³⁴ California State Lands Commission. (2011, November). *Environmental Justice Policy*. Retrieved from <https://slc.ca.gov/wp-content/uploads/2018/11/EJPolicy.pdf>

development permit was added to the California Coastal Act via AB 2616 (Burke, 2016).³⁵ ³⁶ The California Ocean Protection Council recognized the need to prioritize vulnerable communities in the face of climate change in the recent *State of California Sea Level Rise Guidance*.³⁷ The California Department of Water Resources works towards advancing the State’s environmental justice goals with its Disadvantaged Community Involvement Program, promoting disadvantaged community involvement in integrated regional water management (IRWM) efforts guided by Proposition 1.³⁸ The California Energy Commission is working to advance environmental justice principles through improved, effective, and open public participation. Additionally, the Energy Commission has integrated environmental justice into its siting processes since 1995.³⁹ In 2013, the Parks Forward Commission issued recommendations to the California Department of Parks and Recreation to better advance several environmental justice and social equity paradigms, such as attempting to better serve diverse populations, increase access opportunities, and strengthen relations with local communities.⁴⁰ The Native American Heritage Commission’s efforts to identify, catalogue, and protect cultural resources throughout the state adheres to principles of environmental justice and social equity.⁴¹ The Sacramento-San Joaquin Delta Conservancy is working to address environmental justice through its Delta Mercury Exposure Reduction Program by reducing exposure to mercury from eating contaminated fish through public multilingual education and outreach.⁴² Finally, the California State Coastal Conservancy is currently assessing how they can address environmental justice and equity in their grant programs and internal processes.⁴³

Throughout the state, designating environmental or natural resource protection funds and grants for “disadvantaged communities” has also been gaining traction. CalEPA Environmental Justice Small Grants Program was established pursuant to AB 2312 (Chu, 2002) in 2002.⁴⁴ In 2006, Proposition 84 (The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006) contained provisions for the prioritization of disadvantaged communities in grant dispersal.⁴⁵ In 2012, SB 535 (de León, 2012) required twenty-five percent of cap-and-trade proceeds to benefit disadvantaged communities, as designated by CalEPA, and at least ten percent to be spent on projects located

³⁵ California Coastal Commission. (2019, March 8). *Environmental Justice Policy*. Retrieved from https://documents.coastal.ca.gov/assets/env-justice/CCC_EJ_Policy_FINAL.pdf

³⁶ CA Assembly Bill No. 2616, 2015-2016 Leg. (2016) (enacted). https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB2616

³⁷ California Ocean Protection Council. (2018). *State of California Sea-Level Rise Guidance: 2018 Update*. Retrieved from http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

³⁸ DAC Involvement Program. (2019). Retrieved from <https://water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Proposition-1/DAC-Involvement-Program>

³⁹ Environmental Justice. (2019). Retrieved from https://www.energy.ca.gov/public_adviser/environmental_justice_faq.html

⁴⁰ New Transformation Project Report Available. (2017, May 23). Retrieved from http://www.parks.ca.gov/?page_id=29241

⁴¹ About the Native American Heritage Commission. (2019). Retrieved from <http://nahc.ca.gov/about/>

⁴² Delta Mercury Exposure Reduction Program (MERP). (2015). Retrieved from <http://deltaconservancy.ca.gov/delta-mercury-exposure-reduction-program-merp/>

⁴³ Malinowski, K., & Heller, A. (2018, March 20). Meeting with California State Coastal Conservancy on Environmental Justice and Social Equity [in-person interview].

⁴⁴ Legislation. (2018, October 22). Retrieved from <https://www.calrecycle.ca.gov/envjustice/legislation>

⁴⁵ Proposition 84: Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (2006). https://www.waterboards.ca.gov/water_issues/programs/grants_loans/prop84/docs/prop84nov2006.pdf

in these communities. In 2014, SB 861 (Senate Budget and Fiscal Review Committee, 2014) expanded CalEPA's Environmental Justice Small Grant Program. That same year, AB 1741 (Rendon, 2014) - Proposition 1 directed significant funding on water quality, supply, and infrastructure improvement to benefit disadvantaged communities.⁴⁶ In 2016, AB 1550 (Gomez, 2016) amended AB 535 (de León, 2012) to increase cap-and-trade proceeds for disadvantaged and low-income communities.⁴⁷ In 2018, SB 5 (de León, 2018) - Proposition 68 was passed, which again allocated significant funding to benefit disadvantaged communities regarding drought, water supply and quality, parks, climate adaptation and resilience, coastal protection, and outdoor access.⁴⁸

Beyond integrating environmental justice at the state level, SB 1000 (Leyva, 2016) aims to integrate environmental justice into local planning efforts. This bill requires cities and counties to include environmental justice in their general plans if they are updating two or more sections and have a designated disadvantaged community. Local governments are required to address air quality, public facilities, food access, safe and sanitary homes, and physical activity as well as civil engagement in the public decision-making process.⁴⁹

C. Relevant Definitions and Analysis. In order to provide context for this report, this section contains several of the common terms and definitions associated with environmental justice, equity, and communities. These are used by various levels of the government and those outside of the government. This section is divided into related groupings of the following terms, including: environmental justice, social equity, communities, and hazards and communities. Each grouping contains an analysis of what the terms mean for BCDC.

- 1. Environmental Justice.** The prevailing definition of environmental justice used by California state agencies and San Francisco Bay Area regional agencies is included in California Government Code §65040.12(e). It states that environmental justice is “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”⁵⁰ 51

This definition is broad enough to be applicable to different types of environmental agencies in the State. Adopting the state definition would provide consistency with other agencies while retaining flexibility to tailor policy changes to BCDC's mission and core work of coastal land use planning and permitting.

⁴⁶ CA Assembly Bill No. 1471, 2013-2014 Leg. (2014) (enacted).

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB1471

⁴⁷ Legislation. (2018, October 22). Retrieved from <https://www.calrecycle.ca.gov/envjustice/legislation>

⁴⁸ CA Senate Bill No. 5, 2017-2018 Leg. (2017) (enacted).

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB5

⁴⁹ CA Senate Bill No. 1000, 2015-2016 Leg. (2016) (enacted).

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1000

⁵⁰ CA Senate Bill No. 115, 1999-2000 leg. (1999) (enacted).

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=199920000SB115

⁵¹ This definition was first stated in SB115 (Solis, 1999), directing OPR and CalEPA to undertake environmental justice efforts at the state level. Since, nearly all other state agencies (and many regional and local agencies in California) have adopted this definition.

For BCDC, environmental justice entails the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the implementation and enforcement of the McAteer-Petris Act, Suisun Marsh Preservation Act, San Francisco Bay Plan and amendment process, Suisun Marsh Protection Plan, BCDC Regulations, BCDC permit process, including the Design Review Board and Engineering Criteria Review Board, and Adapting to Rising Tides Program, as well as the development of BCDC's Strategic Plan.

The federal government defines *environmental justice* as "...the fair treatment^a and meaningful involvement^b 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."⁵²

^a "*Fair treatment* means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies."⁵³

^b "*Meaningful involvement* means: (1) People have an opportunity to participate in decisions about activities that may affect their environment and/or health; (2) The public's contribution can influence the regulatory agency's decision; (3) Community concerns will be considered in the decision-making process; and (4) Decision makers will seek out and facilitate the involvement of those potentially affected."⁵⁴

Some find the government definitions of environmental justice to be too procedural in nature and prefer more results-focused definitions, such as the one below by environmental justice scholar Dr. Bunyan Bryant.

Environmental justice is served when people can realize their highest potential, without experiencing the 'isms.' Environmental justice is supported by decent paying and safe jobs, quality schools and recreation, decent housing and adequate health care, democratic decision-making and personal-empowerment; and communities free of violence, drugs, and poverty. These are communities where both cultural and biological diversity are respected and highly revered and where distributional justice prevails.⁵⁵

⁵² Learn About Environmental Justice. (2018, November 7). Retrieved from <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

⁵³ Learn About Environmental Justice. (2018, November 7). Retrieved from <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

⁵⁴ Learn About Environmental Justice. (2018, November 7). Retrieved from <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

⁵⁵ Wilson, S. M. (2010). Environmental Justice Movement: A Review of History, Research, and Public Health Issues. *Journal of Public Management & Social Policy*, 19-50.

2. **Social Equity.** In the Governor’s Office of Planning and Research (OPR)’s 2017 General Plan Guidelines, OPR recommends viewing social equity as a larger framework within which environmental justice resides. Specifically, it is mentioned that:

[Environmental justice] is an integral component of equity, but social equity also encompasses a larger framework such as access to jobs and economic opportunity, arts and culture, safety from violence, public administration, management of goods and services, access to education, and complete neighborhoods. Social equity is applied across the age range and various disciplines and has many other nuances...Equity can be used as the larger framework for ensuring opportunities for all in the community.^{56 57}

This broad understanding of social equity allows BCDC to view its role in addressing environmental justice and social equity bounded by its jurisdiction and authority, as a part of the larger picture of addressing systemic social inequities and injustices. For BCDC, social equity means ensuring that this and future generations have full public access to San Francisco Bay and that development approved through BCDC’s permit process promotes everyone’s opportunity to participate.

OPR’s 2017 General Plan Guidelines include the following three definitions for *social equity*:

“The fair, just, and equitable management of all institutions serving the public directly or by contract; the fair, just and equitable distribution of public services and implementation of public policy; and the commitment to promote fairness, justice, and equity in the formation of public policy.”⁵⁸

“The expansion of opportunities for betterment that are available to those communities most in need, creating more choices for those who have few.”⁵⁹

⁵⁶ California Governor's Office of Planning and Research (OPR). (2017). *General Plan Guidelines, Chapter 5: Equitable & Resilient Communities*. Retrieved from http://opr.ca.gov/docs/OPR_C5_final.pdf

⁵⁷ This note is from Chapter 5: Equitable and Resilient Communities of the 2017 OPR General Plan Guidelines which demonstrates the relationship between environmental justice and equity and could be helpful in understanding the concepts together.

⁵⁸ California Governor's Office of Planning and Research (OPR). (2017). *General Plan Guidelines, Chapter 5: Equitable & Resilient Communities*. Retrieved from http://opr.ca.gov/docs/OPR_C5_final.pdf

⁵⁹ California Governor's Office of Planning and Research (OPR). (2017). *General Plan Guidelines, Chapter 5: Equitable & Resilient Communities*. Retrieved from http://opr.ca.gov/docs/OPR_C5_final.pdf

“Social equity ensures that all groups enjoy the benefits of a healthy and prosperous community, with access to housing, transportation, jobs and commerce. It enables a variety of businesses to flourish.”⁶⁰

Additionally, PolicyLink’s definition of *equity* is included in OPR’s *Planning and Investing for a Resilient California* as “Equity is just and fair inclusion into a society in which all can participate, prosper, and reach their full potential.”^{61 62}

3. **Communities.** One important step in addressing environmental injustice and social inequity is the identification of communities which are being disproportionately burdened by adverse environmental impacts as well as a community’s vulnerability to such impacts. Many communities may not identify with the following terms, although they are meant to describe them. Specifically, some of these terms have negative connotations, such as “disadvantaged.” Communities that these terms are meant to describe should be able to decide which terms to use. However, many of these terms are now solidified in state code and difficult to change. Some agencies have gone beyond the terms in state code to define communities facing inequities and injustices based on their missions and programmatic work.

Disadvantaged community is the term most commonly used among California state agencies, as it is included in the state health and safety code. Additionally, CalEPA has created a mapping tool to identify disadvantaged communities that many agencies are using to help implement environmental justice policies.

California Health and Safety Code Section 39711 states:

Disadvantaged communities may include, but are not limited to: a) Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation; b) Areas with concentrations of people that are of low-income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of educational attainment.^{63 64}

⁶⁰ California Governor’s Office of Planning and Research (OPR). (2017). *General Plan Guidelines, Chapter 5: Equitable & Resilient Communities*. Retrieved from http://opr.ca.gov/docs/OPR_C5_final.pdf

⁶¹ California Governor’s Office of Planning and Research (OPR). (2018, March 13). *Planning and Investing for a Resilient California*. Retrieved from http://opr.ca.gov/docs/20180313-Building_a_Resilient_CA.pdf

⁶² This definition was included in OPR’s *Planning and Investing for a Resilient California* guidance document for implementing Executive Order B-30-15 (the integration of climate change into all state planning and investment). The guidance emphasizes the importance of equity in climate-safe planning and investment and includes an “Equity Checklist” for state agencies’ planning and investments.

⁶³ California Governor’s Office of Planning and Research (OPR). (2017). *General Plan Guidelines, Chapter 4: Required Elements*. Retrieved from http://opr.ca.gov/docs/OPR_C4_final.pdf

⁶⁴ This definition is found in the Health and Safety Code §39711 in Chapter 4.1: Greenhouse Gas Reduction Fund Investment Plan and Communities Revitalization Act and calls on CalEPA to identify disadvantaged communities for the allocation of Greenhouse Gas Reduction Fund monies.

In order to identify disadvantaged communities, the state health and safety code further explains that,

Disadvantaged communities mean an area identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code or an area that is low-income that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation.⁶⁵

Specifically,

Low-income area means an area with household incomes at or below 80 percent of the statewide median income OR with household incomes at or below the threshold designated as low-income by the Department of Housing and Community Development's list of state income limits adopted pursuant to Section 50093.^{66 67}

The San Francisco Bay Restoration Authority uses the term economically disadvantaged communities as a prioritization criteria in determining the distribution of Measure AA funds.

An *economically disadvantaged community* (EDC) is defined as a community with a median household income less than 80% of the area median income (AMI). Within this set of low-income communities, communities of particular concern include those that: are historically underrepresented in environmental policymaking and/or projects, bear a disproportionate environmental and health burden, are most vulnerable to climate change impacts due to lack of resources required for community resilience, or are severely burdened by housing costs, increasing the risk of displacement.^{68 69}

⁶⁵ California Governor's Office of Planning and Research (OPR). (2017). *General Plan Guidelines, Chapter 4: Required Elements*. Retrieved from http://opr.ca.gov/docs/OPR_C4_final.pdf

⁶⁶ California Governor's Office of Planning and Research (OPR). (2017). *General Plan Guidelines, Chapter 4: Required Elements*. Retrieved from http://opr.ca.gov/docs/OPR_C4_final.pdf

⁶⁷ This definition is included in OPR's General Plan Guidelines for implementing SB 1000 (Leyva, 2016) (Environmental Justice Element requirement). It is from the Government Code §65302 which enumerates on the authority for and scope of General Plans under the Local Planning Chapter of the Planning and Zoning Division of the Planning and Land Use Title.

⁶⁸ San Francisco Bay Restoration Authority. (2017, June). *Grant Program Guidelines*. Retrieved from http://sfbayrestore.org/docs/Grant_Program_Guidelines_062717_final.pdf

⁶⁹ Measure AA, the regional funding mechanism of the San Francisco Bay Restoration Authority, stipulated nine prioritization criteria for determining funding for projects, one being, "benefit economically disadvantaged communities." With the help of its Advisory Committee, the San Francisco Bay Restoration Authority defined economically disadvantaged communities.

The Bay Area Air Quality Management District defines *impacted communities*, also known as CARE communities, as:

...areas within the Bay Area where health impacts from air pollution have been determined to be greatest. The Air District's latest analysis (version-2) for determining areas with the greatest health impacts considered air pollution levels (fine particles, ozone, and toxic air contaminants) and population vulnerability as determined from health records (mortality rates and diseases affected by air pollution).^{70 71}

The Metropolitan Transportation Commission (MTC) uses the term *Communities of Concern* to mean "census tracts that have a concentration of BOTH minority AND low-income households, OR that have a concentration of 3 or more of the remaining 6 factors (#3 to #8) but only IF they also have a concentration of low-income households."⁷²

Factors:

- Minority
- Low-income (<200% Federal Poverty Level – FPL)
- Limited English Proficiency
- Zero-Vehicle Household
- Seniors 75 Years and Over
- People with Disability
- Single-Parent Family
- Severely Rent-Burdened Household^{73 74}

4. **Communities and Natural Hazards.** Principles of environmental justice have been adapted to the climate movement and are reflected in the following terms. In the California Natural Resources Agency's *Safeguarding California Plan: 2018 Update*, climate justice was included as a stand-alone, over-arching chapter with dozens of action items pulled from the other sector-specific policy areas. It specified that:

⁷⁰ Bay Area Air Quality Management District. (2014, April). *Improving Air Quality and Health in Bay Area Communities*. Retrieved from [http://www.baaqmd.gov/~media/Files/Planning and Research/CARE Program/Documents/CARE_Retrospective_April2014.ashx?la=en](http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx?la=en)

⁷¹ The Bay Area Air Quality Management District has laid out several objectives for identifying and mapping "impacted communities." The Air District hopes to use this mapping to "prioritize grant and incentive funding, focus enforcement activities, develop regulations targeting pollutants and sources of concern in impacted areas, inform planning activities, direct outreach efforts, and direct special studies."

⁷² Plan Bay Area Equity Analysis. (2016, January). Retrieved from <https://www.planbayarea.org/2040-plan/plan-details/equity-analysis>

⁷³ Plan Bay Area Equity Analysis. (2016, January). Retrieved from <https://www.planbayarea.org/2040-plan/plan-details/equity-analysis>

⁷⁴ In the development Plan Bay Area 2040, MTC and ABAG formed a Regional Equity Working Group to inform the development of an equity analysis of the plan. The analysis included identifying equity measures, defining Communities of Concern, and creating a methodology.

Climate justice entails ensuring that the people and communities who are least culpable in the warming of the planet, and most vulnerable to the impacts of climate change, do not suffer disproportionately as a result of historical injustice and disinvestment.⁷⁵

The above definition was adapted from the Climate Justice Working Group's definition of climate justice. This working group was convened by the Resources Legacy Fund and comprised of environmental justice non-profit organizations. The group developed a set of recommendations for the 2018 update of *Safeguarding California*, in which they emphasized the urgent need for climate justice throughout the state. Many of the recommendations were incorporated into the "Climate Justice" chapter of the *Safeguarding California Plan: 2018 Update*. Their definition of climate justice states:

Climate justice requires California leaders to acknowledge that these frontline communities [see definition below] are experts in creating solutions to protect and preserve our air, water, land, and communities, despite their historical exclusion from decision making and from public resources and services. Climate justice requires California leaders to provide public resources and services to frontline communities to engage and assist them in developing technologies, policies, professions, services, and projects for addressing the causes and impacts of climate change and healing from historical injustices.⁷⁶

OPR uses the similar concept of climate equity in their report, *Planning and Investing for a Resilient California*. This definition, originally from the World Resources Institute, was included in this OPR guidance document for implementing Executive Order B-30-15, which entailed the integration of climate change into all state planning and investments. The guidance emphasizes the importance of equity in climate-safe planning and investments and includes an equity checklist for state agencies. This definition states that:

Climate equity involves "...addressing the impacts of climate change, which are felt unequally; identifying who is responsible for causing climate change and for actions to limit its effects; and understanding the ways in which climate policy intersects with other dimensions of human development, both globally and domestically."⁷⁷

⁷⁵ California Natural Resources Agency. (2018, January). *Safeguarding California Plan: 2018 Update*. Retrieved from <http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf>

⁷⁶ Climate Justice Working Group. (2017, August). *Advancing Climate Justice in California: Guiding Principles and Recommendations for Policy and Funding Decisions* (Guiding Principles and Recommendations). Retrieved <http://www.healthyworldforall.org/en/express-img/17081516-3570-img1.pdf>

⁷⁷ California Governor's Office of Planning and Research (OPR). (2018, March 13). *Planning and Investing for a Resilient California*. Retrieved from http://opr.ca.gov/docs/20180313-Building_a_Resilient_CA.pdf

BCDC recognizes that due to historic and ongoing marginalization as discussed above, a person or community's social and economic situation affects their ability to prepare for, respond to, or recover from a flood event. Areas with high concentrations of households exhibiting factors that can reduce access to or capacity for preparedness and recovery will be more vulnerable. In the context of environmental justice, very low-income communities and/or communities of color are particularly important, as these demographic factors compound other relevant indicators of vulnerability.

Additionally, pollution and contaminated lands should be considered as indicators in measuring the vulnerability of a community or area. These indicators represent degradation or threats to communities and the natural environment from pollution. The presence of contaminated lands and water raises health and environmental justice concerns, which may worsen with flooding from storm surge and sea level rise, as well as associated groundwater level changes. BCDC's Adapting to Rising Tides (ART) program has developed a screening methodology to identify *vulnerable communities*. See Appendix C for a detailed description of this methodology.⁷⁸

Further OPR's Integrated Climate Adaptation and Resiliency Program (ICARP)'s Technical Advisory Committee (TAC) has defined vulnerable communities by stating:

“Climate vulnerability describes the degree to which natural, built, and human systems are at risk of exposure to climate change impacts. *Vulnerable communities* experience heightened risk and increased sensitivity to climate change and have less capacity and fewer resources to cope with, adapt to, or recover from climate impacts. These disproportionate effects are caused by physical (built and environmental), social, political, and/or economic factor(s), which are exacerbated by climate impacts. These factors include, but are not limited to, race, class, sexual orientation and identification, national origin, and income inequality.”^{79 80}

⁷⁸ San Francisco Bay Conservation and Development Commission (BCDC). (2018) *Adapting to Rising Tides: Regional Community Indicators for Flood Risk* (unpublished).

⁷⁹ California Governor's Office of Planning and Research (OPR), Integrated Climate Adaptation and Resiliency Program (ICARP). (2018, July). Retrieved from http://opr.ca.gov/docs/20180723-Vulnerable_Communities.pdf

⁸⁰ In 2015, SB246 directed OPR to create the Integrated Climate Adaptation and Resilience Program (ICARP) to aid in the coordination of climate change adaptation efforts throughout the state. Both components of the program, the State Adaptation Clearing House and the Technical Advisory Committee (TAC) are including elements of environmental justice and equity. The TAC includes members from environmental justice organizations and in April 2018, defined the term “vulnerable communities” (above) to inform OPR in implementing SB246.

The Climate Justice Working Group, mentioned above, also identified frontline communities as being particularly vulnerable to climate change. They defined *frontline communities* as those:

“that experience continuing injustice—including people of color, immigrants, people with lower incomes, those in rural areas, and indigenous people—face a legacy of systemic, largely racialized, inequity that influences their living and working places, the quality of their air and water, and their economic opportunities.”⁸¹

D. Guiding Principles. Guiding principles are a helpful tool to guide and commit an organization to a set of overarching precepts over time, regardless of change in strategies, priorities or leadership. It is not surprising, therefore, that there are many guiding principles and best practices of environmental justice. The Principles of Environmental Justice drafted by the delegates to the First People of Color Environmental Leadership Summit in 1991 are heralded as the founding principles of the environmental justice movement. Since then, many additional principles have emerged including the Principles of the Youth Environmental Justice Movement drafted by the delegates to the Second National People of Color Environmental Leadership Summit in 2002, the Environmental Justice Leadership Forum on Climate Change’s Principles of Climate Justice, and the California Environmental Justice Alliance (CEJA)’s Environmental Justice Principles for Policy Implementation at Regulatory Agencies.

Drawing on the expertise of environmental justice and community-based organizations, BCDC staff has developed the following guiding principles in the process of this Bay Plan amendment. These guiding principles are intended to guide the Commissions’ actions through a commitment to integrating environmental justice and social equity into its mission.

The Commission will:

- 1. Recognize and acknowledge the California Native American communities who first inhabited the Bay Area and their cultural connection to the natural resources of the region.**

Rationale: It is necessary to acknowledge centuries of land theft, genocide, suppression, and systematic displacement of California’s Native American communities in the management, regulation, and protection of natural resources. Many of California’s Native Nations face similar environmental injustices as other disadvantaged and vulnerable communities. All government entities should use government-to-government tribal consultation policies and programs alongside environmental justice policies and programs to “lift up” tribal voices. Government entities should work to build relationships and collaborate with tribes to enhance comprehension of tribal issues, including the use of traditional ecological knowledge and cultural resource protection. BCDC recognizes the lack of institutional resources that it has dedicated to tribal issues. BCDC does not have established relationships

⁸¹ Climate Justice Working Group. (2017, August). *Advancing Climate Justice in California: Guiding Principles and Recommendations for Policy and Funding Decisions* (Guiding Principles and Recommendations). Retrieved <http://www.healthyworldforall.org/en/express-img/17081516-3570-img1.pdf>

with tribes. As a result, tribal issues are not highlighted to their fullest extent in this background report or in the accompanying staff planning report. BCDC acknowledges its need to build this institutional capacity. As a result, the Commission has decided to address these issues in its own project and policy amendment.

- 2. Maintain its commitment to ensuring that the Bay remains a public resource, free and safe for all to access and use regardless of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, genetic information, or disability.**

Rationale: When BCDC was established, only four non-contiguous miles of the Bay shoreline were open to public access. BCDC has played a major role in making the San Francisco Bay and its shoreline a national recreational treasure. Today, hundreds of miles of the Bay shoreline are open to the public as part of the San Francisco Bay Trail. Access to the Bay allows the public to discover, experience, and appreciate the Bay's natural resources and can foster public support for Bay resource protection, including habitat creation and restoration. Public access can provide recreational activities, educational and interpretive opportunities, subsistence fishing, and a means for alternative non-motorized transportation. The Bay belongs to everyone, and therefore, diverse water-oriented recreational facilities should be provided to meet the needs of a growing and diversifying population. These should be well distributed around the Bay and improved to accommodate a broad range of activities for people of all races, cultures, ages, abilities, and income levels.

- 3. Continuously strive to build trust and partnerships with underrepresented communities and community-based organizations.**

Rationale: Building community trust and relationships is key to having meaningful community involvement, which is essential to environmental justice and social equity. Absent these processes, policies may exacerbate disproportionate burdens on certain communities. Outreach and engagement, a first step to building trust, should begin at the earliest stages of a project and occur regularly throughout the life of the project in respectful and culturally-appropriate manners. Communities should have the opportunity to have a voice in the decision-making. Part of this outreach and engagement includes making public processes more accessible. Moreover, education is a key part of addressing issues collaboratively, especially issues related to climate change. This education should be reciprocal, as communities are best able to identify their vulnerabilities and assets and are needed to ground-truth any data analysis. In California Environmental Justice Alliance (CEJA)'s SB 1000 Implementation Toolkit, they describe ground-truthing as "a community fact-finding process where residents supplement technical information with local knowledge in order to better inform policy and project decisions."⁸²

⁸² *SB1000 Implementation Toolkit: Planning for Healthy Communities* (pp. 1-157, Rep.). (2017, October). Retrieved <https://caleja.org/2017/09/sb-1000-toolkit-release/>

4. Endeavor to eliminate disproportionate adverse economic, environmental, and social project impacts caused by Commission actions and activities, particularly in disadvantaged and vulnerable communities.

Rationale: The co-location of incompatible land uses, aggregation of industrial development, lack of or limited enforcement over polluting land uses, and prioritization of business interests over public health has culminated in disproportionate environmental burdens and adverse health issues for many low-income, communities of color. Over time, these communities have borne disproportionate environmental burdens from these land uses, such as air pollution, water and soil contamination, and lack of open space and parks.

5. Ensure that the needs of vulnerable shoreline communities are addressed as the Commission assists all stakeholders plan for current and future climate hazards.

Rationale: While climate change will impact all Californians, it will not impact all in the same manner. Communities will have varying abilities to prepare for, respond to, and recover from climate impacts. According to the Climate Justice Working Group,⁸³ “climate justice requires California leaders to ensure that the people and communities who are least culpable in the warming of the planet, and the most vulnerable to the impacts of climate change, do not suffer disproportionately as a result of historical injustice and disinvestment.”⁸⁴

6. Work collaboratively and coordinate with all stakeholders to address issues of environmental justice and social equity.

Rationale: BCDC was not created to obviate or supersede the authority of cities, counties, and special districts that are located along the Bay and its shoreline. Instead, its role is to view the Bay as an entire system, which historically had not been the case for more narrowly focused governmental bodies. Throughout its history, BCDC has learned that its most notable successes are produced by coordinating, collaborating, and/or partnering with governments at all levels and with a wide variety of other stakeholders. To work towards environmental justice and social equity, this cooperation will be vital given BCDC’s jurisdiction and authority, as well as local governments’ role in land use authority in California.

⁸³ The Climate Justice Working Group, convened by the Resources Legacy Fund and comprised of environmental justice non-profit organizations, developed a set of recommendations for the 2018 update of *Safeguarding California*, where they emphasized the urgent need for climate justice throughout the state. Many of the recommendations were incorporated into the “Climate Justice” chapter of the *Safeguarding California Plan: 2018 Update*.

⁸⁴ Climate Justice Working Group. (2017, August). *Advancing Climate Justice in California: Guiding Principles and Recommendations for Policy and Funding Decisions* (Guiding Principles and Recommendations). Retrieved <http://www.healthyworldforall.org/en/express-img/17081516-3570-img1.pdf>

7. **Continually build accountability, transparency, and accessibility into its programs and processes.**

Rationale: In order to effectively build trust and relationships with communities, it is essential to integrate measures of accountability and transparency into the agency's work. All analyses of how projects may affect vulnerable and disadvantaged communities, as well as how that information factored into any decision-making, should be transparent in any reports, recommendations, and approvals. Evaluation criteria for the Commission's environmental justice and social equity policies should be determined, measured, and reported to ensure accountability.

III. Environmental Justice and Social Equity at BCDC

A. **Existing Bay Plan Policies Related to Environmental Justice and Social Equity.** In 1965, when the McAteer-Petris Act was enacted, only four non-contiguous miles of the San Francisco Bay shoreline were open to the public. Since that time, BCDC, along with the California State Coastal Conservancy and the San Francisco Bay Trail and many others, has helped to ensure that hundreds of miles of San Francisco Bay shoreline are open to everyone without regard to socio-economic status. Many Bay Plan policies serve the purpose of providing inclusive public access, such as Recreation Policy 1, which states, in part,

[d]iverse and accessible water-oriented recreational facilities, such as marinas, launch ramps, beaches, and fishing piers, should be provided to meet the needs of a growing and diversifying population, and should be well distributed around the Bay and improved to accommodate a broad range of water-oriented recreational activities for people of all races, cultures, ages and income levels.

This policy, which was added in 2006 as part of a recreation-focused Bay Plan amendment, includes a brief section on environmental justice, recognizing the need to better include underserved communities in the planning of recreational projects to avoid any disproportionate negative effects on these communities.⁸⁵ However, as Bay Plan Public Access Finding e states,

Although public access to the approximately 1,000-mile Bay shoreline has increased significantly since the adoption of the Bay Plan in 1968, demand for additional public access to the Bay continues due to a growing Bay Area population and the desirability of shoreline access areas. Diverse public access experiences are in great demand, both along urban waterfronts and in more natural areas. The full potential for access to the Bay has by no means yet been reached.

⁸⁵ *Recreation and San Francisco Bay* (BCDC Staff Report). (2006, July 7). Retrieved http://www.bcdc.ca.gov/planning/reports/RecreationAndSFBay_July2006.pdf

BCDC remains committed to providing diverse and inclusive public access around the Bay.

The Bay Plan also recognizes environmental justice concerns in Climate Change Finding n, which states that:

Some Bay Area residents, particularly those with low incomes or disabilities and the elderly, may lack the resources or capacity to respond effectively to the impacts of sea level rise and storm activity. Financial and other assistance is needed to achieve regional equity goals and help everyone be part of resilient shoreline communities.

Accordingly, Climate Bay Plan Change Policy 6(g) advises BCDC to create a regional sea level rise adaptation strategy, which includes consideration of environmental justice and social equity concerns.

The Bay Plan recognizes environmental injustices around the region in Bay Plan Transportation Finding k, stating:

Transportation projects have the potential to degrade air quality, increase noise, impact mobility, eliminate open space and impede the public's access to the Bay. These impacts have often been disproportionately distributed in the Bay Area, commonly having greater impacts on low-income and minority communities. These disproportionate impacts have resulted in these communities having fewer opportunities for shoreline public access and views to the Bay, fewer shoreline recreational opportunities and fewer natural habitats.

The Bay Plan's Water Quality policies also can be used to address issues related to environmental justice. Bay Plan Water Quality Policy 2 states:

Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan, San Francisco Bay Basin and should be protected from all harmful or potentially harmful pollutants...

Moreover, Bay Plan Water Quality Policy 3 states "New projects should be sited, designed, constructed and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay..." Lastly, Bay Plan Water Quality Policy 4 states:

When approving a project in an area polluted with toxic or hazardous substances, the Commission should coordinate with appropriate local, state and federal agencies to ensure that the project will not cause harm to the public, to Bay resources, or to the beneficial uses of the Bay.

The presence of contamination in the Bay Area is a large environmental justice concern that many communities and advocacy groups are mobilizing around. In this region, many contaminated land sites are in or adjacent to vulnerable or disadvantaged communities, such as the Bayview-Hunters Point community's adjacency to the Hunters Point Shipyard, Treasure Island's use as a former naval station, AMCO Chemical in West Oakland, the former Romic Environmental Technologies Corporation in East Palo Alto, and the South Bay Asbestos Area near the Alviso community.⁸⁶ Although BCDC does not often have direct involvement in clean-up or remediation projects, occasionally a remediation project will require a BCDC permit or, in the case of federal Superfund (CERCLA) sites, will have to comply to the greatest extent practicable with BCDC's laws and policies (including the Bay Plan's Water Quality Policies) as "Applicable or Relevant and Appropriate Requirements" (ARARs).

B. Recognition and Acknowledgement. Although the San Francisco Bay Plan recognizes that environmental injustices exist, it is important to acknowledge the role that BCDC has played in approving development over the past several decades and any related injustices, such as perpetuating development that emits toxic substances in or near low-income, communities of color; unintentionally encouraging physical or cultural displacement; neglecting tribal issues, and providing little or no resources for community engagement and public education. As mentioned above, many industrial facilities that emit or discharge hazardous substances have been sited in or near low-income communities of color, resulting in disproportionate exposure to adverse environmental and health impacts. Examples include the Port of Oakland and the West Oakland community, the Hunters Point shipyard and the Bayview-Hunters Point community, Chevron Refinery and the North Richmond community, among others. Many industrial land uses around the Bay were established prior to BCDC's existence. Although the Commission neither initiates projects nor has any authority over municipal zoning or siting authority, through its permitting authority, the Commission has approved additional development projects to existing ports, oil and gas operations, sewage and wastewater treatment plants, and heavy industry in or near low-income communities of color around the Bay Area. Moreover, the Commission's Priority Use Areas, intended to minimize the necessity for future Bay fill, has also facilitated the aggregation of pollution sources within areas designated for Port and Water-Related Industry Priority Use Areas.

Part of BCDC's mandate is to encourage the development of the Bay and its shoreline to their highest potential with a minimum of fill, as expressed in the McAteer-Petris Act and the San Francisco Bay Plan. In particular, the McAteer-Petris Act states that:

The Legislature finds that in order to make San Francisco Bay more accessible for the use and enjoyment of people, the Bay shoreline should be improved, developed and preserved. The Legislature further recognizes that private investment in shoreline development should be vigorously encouraged and may be one of the principal means of achieving Bay shoreline development, minimizing the resort to taxpayer funds; therefore,

⁸⁶ CA Department of Toxic Substances Control EnviroStor. (2019). Retrieved from <https://www.envirostor.dtsc.ca.gov/public/>

the Legislature declares that the commission should encourage both public and private development of the Bay shoreline.⁸⁷

Further, the Bay Plan states “Encourage Private Shoreline Development: Private investment in shoreline development should be vigorously encouraged. For example, shoreline areas can be developed in many places for attractive, water-oriented housing.”⁸⁸ Likewise, the Appearance, Design, and Scenic Views section of the Bay Plan states “Over time, existing shoreline development of poor quality and inappropriate uses will be phased out or upgraded by normal market forces and by public action or a combination of both.”⁸⁹

Without explicitly addressing and accounting for potential negative impacts to low-income communities of color, BCDC’s authorization of such development patterns may have inadvertently led to the gentrification, and in some places, displacement of Bay Area communities. According to the Regional Plan Association, gentrification is:

...the form of neighborhood change characterized by the arrival of higher-income and often-time higher-educated residents, along with increasing rents, property values and cost-of-living, and decreasing non-white populations.⁹⁰

According to University of California at Berkeley’s Urban Displacement Project, more than half of the low-income households in the nine-county Bay Area region are already experiencing or are at risk of displacement and gentrification pressures. This research determined that communities of color and renters are particularly at risk and also found that several factors are behind these pressures in the Bay Area, including historic housing stock, proximity to rail stations and job centers, and real estate market strength. Additionally, the Urban Displacement Project discovered that gentrification and displacement in the Bay Area are regional as they are linked to the regional housing and job markets. Due to this, certain local solutions may be ineffective.

It is also critical to recognize the lack of institutional resources that BCDC has dedicated to Native American issues. BCDC does not have any established relationships with tribes. As a result, issues related to Native Americans are not highlighted to their fullest extent in this background report or in the accompanying staff planning report. BCDC acknowledges its need to build this institutional capacity.

In the past decade, the Commission has worked to improve its public outreach and engagement broadly and with underrepresented communities through the establishment of policy-area working groups, conducting public workshops, attending public events and meetings throughout the region, and through the ART program’s projects. Although BCDC has

⁸⁷ California Government Code Section 66605.1. Findings and Declarations as to Desirability of Development and Preservation of Shoreline by Public and Private Development

⁸⁸ San Francisco Bay Plan Major Plan Proposals section of the San Francisco, item #7

⁸⁹ San Francisco Bay Plan Appearance, Design, and Scenic Views Finding A

⁹⁰ *Planning for Equity Policy Guide (Draft for Member Review)* (pp. 1-44, Rep.). (2019, February) American Planning Association (APA).

significantly improved its public presence, it acknowledges there is a long way to go. Public meetings and materials are often still inaccessible to people who are low-income, not versed in land use regulation, people with disabilities, people who do not speak English, those without access to transportation or technology, people of color, among other barriers.

C. How BCDC Came to Amend the Bay Plan for Environmental Justice and Social Equity.

Since the Commission amended the San Francisco Bay Plan in 2011 to add policies related to climate change, BCDC has learned a significant amount about climate change through its work in leading the ART Program and collaborating with federal, state, regional and local agencies and organizations in the public, non-profit, and private sectors. These collaborations have raised questions about how BCDC can continue to support local and regional resilience and adaptation to sea level rise, and to what extent their current policies allow them to do so.

The Rising Sea Level Working Group was an informal BCDC Commissioner Working Group convened in 2013 to strengthen the Commission's expertise on the issue of rising sea levels. The working group was also tasked with providing policy recommendations for future rising sea level Commission actions, such as formulating a regional resilient shoreline strategy. One of the key issues identified by this working group to further explore was social equity. The commissioner working group members agreed that a regional shoreline resilience strategy could not be successful unless it ensured that the most vulnerable Bay Area communities were protected through the strategy's implementation and work towards making the entire Bay Area more resilient in a fair and just manner.

The 2016 Policies for a Rising Bay project was developed in order to evaluate BCDC's laws and policies in light of the novel threats to the Bay presented by sea level rise and to determine if changes to BCDC's laws, policies, or regulations were needed to help facilitate the advancement of appropriate regional resilience and adaptation actions. To ensure a broad and collaborative process, BCDC staff organized a steering committee composed of over thirty diverse stakeholders representing public, private, and non-governmental organizations. Working together with steering committee members and other interested parties, BCDC staff analyzed its law and policies through one-on-one interviews, case studies, and a series of meetings. This process resulted in the identification of four overarching priority policy issues, including environmental justice and social equity. BCDC's policies were found to be inadequate regarding risks associated with sea level rise in terms of: (1) addressing inadequate shoreline protection that exposes adjacent properties to flooding; and (2) addressing environmental justice and sea level rise, where factors such as a lack of resources and public engagement can render disadvantaged communities more vulnerable to sea level rise. This analysis led to the conclusion that the Bay Plan should be amended to incorporate findings and policies on social equity and environmental justice.

Additionally, in 2016 and 2017, BCDC held a series of public workshops to discuss how the agency could better address rising sea levels. The workshop series identified eight actions. On October 6th, 2016, the Commission adopted eight actions: (1) Create a regional sea level rise adaptation plan that serves as a framework for implementing future actions, while allowing for immediate early actions to be developed in advance of the plan; (2) Complete multi-sector, county-scale sea level rise vulnerability assessments for all nine counties using the Adapting to

Rising Tides Program; (3) Explore new institutional arrangements to address the impacts of climate change in a way that promotes local and regional cooperation, coordination, collaboration and partnerships that build the Regional Adaptation Plan in (1) above; (4) Identify regionally significant natural and built assets and vulnerable communities and develop approaches to minimize and mitigate damage from flooding in ways that adapt to changing natural circumstances such as rising sea levels; (5) Change existing laws, policies and regulations to more fully consider the local and regional impacts of rising sea levels in permitting and decision-making processes as needed; (6) Work with others to develop a regional educational campaign to increase awareness of rising sea level and how the Bay Area can adapt successfully to its challenges; (7) Assist efforts to define, identify, and fund one or more regional data repositories to collect and share data in ways that best inform rising sea levels strategies and actions; and (8) Develop a new Commissioner Working Group on innovative financing called Financing the Future, which would consist of Commissioners, Alternates, and external stakeholders.⁹¹

The focus of the final three workshops in the spring and summer of 2017 was on action 5, the Commission's laws, policies, and regulations, which resulted in the identification of four priority policy issues to be addressed in the coming years: (1) the use of Bay fill for habitat projects; (2) beneficial use of sediment; (3) mitigation in the face of rising tides; and (4) social equity and environmental justice. On July 20, 2017, the Commission voted to initiate amendments to the San Francisco Bay Plan for social equity and environmental justice, as well as the use of Bay fill for habitat projects.

In the Brief Descriptive Notice of the Bay Plan Amendment 2-17 on environmental justice and social equity, three sections of the Bay Plan were identified, Public Access, Shoreline Protection, and Mitigation, as well as the option to create a new section.

D. Environmental Justice and Social Equity Bay Plan Amendment Process. Following initiation of the amendment, BCDC staff began with a scoping and organizing phase, then moved into a background research phase, and most recently conducted policy analysis to draft policy changes. BCDC staff has been guided through each of these stages by a Commissioner Working Group on Environmental Justice (EJCWG). The EJCWG meets monthly and has thus far met 14 times, with one meeting led by the Environmental Justice Review Team, described below. BCDC's Environmental Justice Commissioner Working Group consists of Commissioner Teresa Alvarado of SPUR-San Jose acting as chair, Commissioner Eddie Ahn of Brightline Defense, Commissioner Sheri Pemberton of the California State Lands Commission, Commissioner John Vasquez of the Solano County Board of Supervisors, and former Commissioner Pat Showalter of the City of Mountain View City Council. Meeting materials and summaries from these meetings can be found at <http://www.bcdc.ca.gov/ejwg/meetings.html>.

⁹¹ Final Rising Sea Level Policy Recommendations - The Commission adopted the recommendations on October 6, 2016. (2016). Retrieved from <http://www.bcdc.ca.gov/cm/2017/SLR-Policy-Recommendations.html>

Throughout this process, BCDC staff had considerable contact with other state agencies, regional agencies, local governments, environmental justice and social equity advocacy and community groups, and other non-profits, firms, and academia in scoping and researching this project. Thus far, staff had 13 meetings or calls with local government agencies, 10 meetings or calls with regional government agencies, and 16 meetings or calls with fellow state agencies. Staff met with, had calls with, or attended lectures of 43 environmental justice or social equity advocacy or community organizations based in the Bay Area or working throughout the state. To date, staff had nine meetings or calls with representatives from other non-profits, design firms, or academia. Throughout each project phase, staff made efforts to attend trainings, workshops, lectures, panels, and other events on topics related to environmental justice and social equity; and have thus far attended 17 such events. Additionally, staff conducted outreach on the Bay Plan amendment and has thus far conducted outreach at 13 smaller events and have held two larger outreach events.

The first of these two larger events was held on the evening of June 19, 2018 at OakStop in Oakland. BCDC hosted an environmental justice community roundtable along with the California State Lands Commission and the California Coastal Commission. Roughly 50 people were in attendance, including several environmental justice and social equity organizations, community members, unions, and government representatives, amongst others. This event focused on identifying intersections of the three agencies' missions and programs with issues of environmental justice and social equity. Notes from this event can be found in Appendix A.

The second major outreach event was a public workshop on environmental justice held at the regularly scheduled Commission meeting on the afternoon of January 17, 2019 at the Bay Area Metro Center in San Francisco. This event focused on brainstorming potential policy solutions for BCDC to address environmental justice and social equity. Approximately 75 people were in attendance including environmental justice organizations and community members, BCDC commissioners, government agency representatives, and others. BCDC staff co-facilitated the workshop with staff from the Environmental Justice Coalition for Water. Additionally, representatives from environmental justice organizations around the region, including Breakthrough Communities (Alameda County), Greenaction for Health and Environmental Justice (Bayview-Hunters Point, Treasure Island), Nuestra Casa (East Palo Alto), and All Positives Possible (South Vallejo) presented at the workshop. Notes from this event can be found in Appendix B.

Throughout the process of this Bay Plan amendment, BCDC has worked closely with the Environmental Justice Review Team (EJRT), a group of representatives from five equity and social justice organizations, who are funded by the Resources Legacy Fund to participate and develop robust community recommendations regarding environmental justice, social equity principles and practices for consideration in BCDC's staff planning report regarding the Environmental Justice Bay Plan amendment. The EJRT consists of Sheridan Noelani Enomoto of Greenaction for Health and Environmental Justice working in the Bayview-Hunters Point and Treasure Island areas of San Francisco, Terrie Green of Shore Up Marin working in Marin City, Carl Anthony and Paloma Pavel of Breakthrough Communities working primarily in Alameda County, Julia Garcia of Nuestra Casa working in East Palo Alto, and Nahal (Ghoghhaie) Ipakchi, formerly of the Environmental Justice Coalition for Water working throughout California.

Staff is anticipating more meetings and calls with various stakeholders throughout the public comment period for the staff planning report and background report, as well as opportunities for outreach on the draft policies. The first public hearing for this amendment, scheduled for July 18th, 2019, will serve as BCDC's third major outreach event on the amendment where members of the public will have an opportunity to comment, staff will give presentations, and the Commission will discuss the matter. The EJCWG will continue to guide staff through the end of the amendment process with monthly meetings. Staff also looks forward to the continued involvement of the EJRT in the refinement and implementation of this Bay Plan amendment.

IV. Environmental Justice and Social Equity Intersections with BCDC's Policies

There are many places where BCDC's policies and issues of environmental justice or social equity converge. This section focuses on environmental justice and social equity in regard to the sections of the Bay Plan that were included in the scope of the amendment: public access, shoreline protection, and mitigation. Potential integration with BCDC's regulatory work more broadly will also be identified. These intersections were identified through literature review, public workshops, individual discussions with relevant stakeholders, and attendance at related events. Each section begins with a brief introduction to how the policy area is used at BCDC.

A. Public Access. At BCDC, public access includes physical public access to and along the shoreline of the San Francisco Bay and visual public access (views) to the Bay from other public spaces. Physical access may include waterfront promenades, trails, plazas, play areas, overlooks, parking spaces, landscaping, site furnishings, and connections from public streets to the water's edge. Visual access can be achieved through thoughtful site planning and design, including roadway layout, building siting and massing, and use of intrinsic opportunities at the site, such as natural grade changes and shoreline variations, to enhance Bay sight lines and views. Public access is required by BCDC as a condition of approval for most shoreline developments. As stated in BCDC's governing law, the McAteer-Petris Act, every proposed development must provide "maximum feasible public access, consistent with a proposed project."⁹² BCDC has required permits for many of the San Francisco Bay Trail and Water Trail sites. The Design Review Board (DRB) is an advisory board, consisting of architects, landscape architects, and engineers, that assists BCDC in evaluating the physical and visual access to the Bay for projects that require BCDC permits.

- 1. Inclusive and Appropriate Design.** Equity and environmental justice concerns can arise in the design of public access amenities. Although BCDC has worked since its inception to provide access to the Bay shoreline for all, many low-income communities of color have been historically and are still, disconnected from the Bay due to non-inclusive or inappropriate designs. This could have resulted from the fact that the Bay Area was predominately white until the last few decades and public

⁹² California Government Code section 66632.4. Powers and Duties of the Commission

access and recreational amenities were potentially made with this homogenous demographic in mind.⁹³ This disconnect could have also resulted from the fact that many low-income communities of color have historically been, and are today, underrepresented in environmental and public policy-making and planning processes, including the design of public access areas.

For these reasons, current shoreline public access may not reflect the recreational preferences of all communities.⁹⁴ BCDC's staff report on recreation in the San Francisco Bay from 2006 discusses the importance of catering to the needs and interests and promoting the involvement of diverse communities in recreational facility planning to ensure equal access and to avoid disproportionate negative effects on underserved communities. The Bay Area is diversifying to the extent that whites no longer comprise over 50 percent of the population in some counties. Population projections estimate whites will comprise only 31 percent of the Bay Area population by 2040.⁹⁵ Public access and recreational amenities that do not account for this diversity of users in their planning, designing, and programming can lead to gentrification and to reduced use or non-use of public access areas by certain communities if they do not feel welcome or if they feel like the public access was not created for them. Public access and open spaces themselves are not gentrifiers, but rather how and for whom they are designed can cause them to aid in gentrifying an area.⁹⁶ Dr. Lindsay Dillion of the University of California at Santa Cruz, who has been studying environmental justice in Hunters Point, San Francisco for more than a decade, notes that:

If you build parks but are not protecting people from market forces, which in San Francisco are so rampant, then parks are going to become unwitting participants in displacement. It's not about intentionality, or about parks, per se. It's about urban planning more broadly.⁹⁷

The process has been recently described as ecological gentrification, green gentrification, environmental gentrification, or eco-gentrification. Anxieties around this type of gentrification and its potential for displacement are on the rise as many American cities are looking to redevelop archaic and underused industrial infrastructure, such as rail and utility corridors or remediated brown fields in or near low-income and communities of color. This type of development can substantially reduce affordable housing and commercial/retail serving low-income communities, many of which are communities of color.⁹⁸

⁹³ Bay Area Census. (2010). Retrieved from <http://www.bayareacensus.ca.gov/bayarea.htm>

⁹⁴ *Recreation and San Francisco Bay* (BCDC Staff Report). (2006, July 7). Retrieved http://www.bcdc.ca.gov/planning/reports/RecreationAndSFBay_July2006.pdf

⁹⁵ The Bay Area in 2040 (MTC-ABAG)

⁹⁶ Harshaw, P. (2018, Fall). Just Green Enough. *Bay Nature, Fall 2018*, 23-29.

⁹⁷ Harshaw, P. (2018, Fall). Just Green Enough. *Bay Nature, Fall 2018*, 23-29.

⁹⁸ Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. *Landscape and Urban Planning*, 125, 234-244. doi:10.1016/j.landurbplan.2014.01.017

Similar concerns are pervasive in the Richmond and North Richmond community. In 2009, the Pacific Institute, along with many community partners, published *The West County Indicators Report* summarizing neighborhood research for economic and environmental health and justice in Richmond, North Richmond, and San Pablo. They interviewed Doria Robinson who stated,

When I was a kid, I didn't even know about the North Richmond shoreline. I had never been to Point Pinole; I had never known about Breuner Marsh [now known as Dotson Family Marsh] or any of that area. Ninety-nine percent of kids from Richmond and the flatlands have never been out there even though it is blocks away from their houses. When I bring kids out to the shoreline, they feel uncomfortable. They feel like it's not theirs.⁹⁹

Similar sentiments were echoed in the *North Richmond Shoreline Vision* project process that occurred throughout 2017. The vision is a community-based approach to planning for the upland transition zone in North Richmond. Surveys of North Richmond residents were conducted on barriers to visiting the shoreline where most respondents expressed that they did not know what to do at the shoreline.¹⁰⁰

Some public access amenities may be aimed at certain users and could result in the reduced use or non-use by other users. For example, some may require owning boats or kayaks, which may exclude people based on income if they are unable to afford a boat. Such concerns exist in the Bayview-Hunters Point community in southeast San Francisco, the city's last major African American neighborhood. The Blue Greenway proposed by the San Francisco Park Alliance would be a 13-mile network of waterfront parks, trails, and Bay access from China Basin to Candlestick Park. The southern portion of the project will accompany two major mixed-use developments containing a majority of market-rate luxury housing. The residents of Bayview-Hunters Point question who the Blue Greenway is for and remain skeptical of the effects it will have on their communities. Plans show open spaces paved over for walkways, boat docks, and a new restaurant. Current residents contest that these designs do not take their preferences into consideration as boating is too expensive for people in their community.¹⁰¹ Related concerns are arising in the South Vallejo community, an identified vulnerable and disadvantaged community, with the proposal of a cement plant near the Bay's edge. Such a plant would likely require in-lieu public access, as public access at the plant would present safety concerns. The project proponents have proposed a number of options over which

⁹⁹ Moore, E., & Prakash, S. (2009, May). *Measuring What Matters: Neighborhood Research for Economic and Environmental Health and Justice in Richmond, North Richmond, and San Pablo* (Pacific Institute Rep.). Retrieved from <https://pacinst.org/wp-content/uploads/2014/04/measuring-what-matters.pdf>

¹⁰⁰ *North Richmond Shoreline Vision: A community-based approach to planning for the upland transition zone* (San Francisco Estuary Partnership Rep.). (2017, November). Retrieved <http://www.sfestuary.org/wp-content/uploads/2017/06/N.-Richmond-Shoreline-Vision.pdf>

¹⁰¹ Harshaw, P. (2018, Fall). Just Green Enough. *Bay Nature, Fall 2018*, 23-29.

the community has raised concerns. Proposals include closing San Francisco Bay Trail gaps in the more affluent community of North Vallejo or building a kayak launch at the Vallejo marina. South Vallejo community members worry because the mitigation could be geographically separated from their community or could include amenities that they are not likely to use due to economic or cultural barriers.¹⁰² Similar issues are arising around the Bay, such as restoration and park enhancement in San Jose, tree planting in East Palo Alto, and shoreline restoration and creek daylighting projects in Alameda and Contra Costa counties.¹⁰³

New York City's High Line can serve as a cautionary tale. After its opening, it was apparent that the local communities were not using the space. The High Line's Executive Director noted three reasons for this, "...they felt it wasn't built for them, they did not see people like them there, and they didn't like the programming."¹⁰⁴ Moreover, property values near the High Line increased 103 percent in the eight years prior to and during the project's construction.¹⁰⁵ University of California at Berkeley professor, Dr. Jennifer Wolch, argues that in order to achieve a level of "just green enough," planners and stakeholders will need to design based on community concerns and desires rather than using traditional urban design or ecological restoration strategies.¹⁰⁶

Certain amenities and programming could also exclude certain older or disabled users, if requirements for accessibility are not integrated into the design. BCDC works to ensure accessibility through Public Access Policy 7 which states:

Public access improvements provided as a condition of any approval should be consistent with the project and the physical environment, including protection of Bay natural resources, such as aquatic life, wildlife and plant communities, and provide for the public's safety and convenience. The improvements should be designed and built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for persons with disabilities to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs.

¹⁰² Brooks, P. (2018, June). Bay Trail and Vallejo: (Never) Mind the Gap. *Bay Crossings*. Retrieved from <http://www.baycrossings.com/dispnews.php?id=3785>

¹⁰³ Harshaw, P. (2018, Fall). Just Green Enough. *Bay Nature, Fall 2018*, 23-29.

¹⁰⁴ Harshaw, P. (2018, Fall). Just Green Enough. *Bay Nature, Fall 2018*, 23-29.

¹⁰⁵ Bogle, M., Diby, S., & Burnstein, E. (2016, July). *Equitable Development Planning and Urban Park Space: Early Insights from DC's 11th Street Bridge Park Project* (Urban Institute Rep.). Retrieved from https://www.urban.org/sites/default/files/publication/82881/2000874-equitable-development-planning-and-urban-park-space_6.pdf

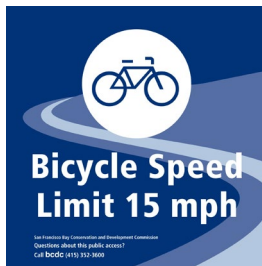
¹⁰⁶ Harshaw, P. (2018, Fall). Just Green Enough. *Bay Nature, Fall 2018*, 23-29.

BCDC can also support organizations working to bring adaptive programming for persons with disabilities to the Bay and its shoreline, such as the Bay Area Outreach and Recreation Program (BORP)'s Disability Outdoor Coastal Access Project. This project hosts activities such as adaptive cycling along the San Francisco Bay Trail, wheelchair trips to the shoreline and coast, and sea kayaking for the visually impaired.¹⁰⁷

2. **Signage.** Communities that do not speak English may be excluded from public access areas if signage is only in English. Those who cannot read are excluded from word-based signage. BCDC's current approved signage contains signs with only words and signs with both icons and words. Words are displayed only in English, and some of the icons may be unfamiliar to other cultures such as, the "Public Shore Only" parking sign, and the "Fish Cleaning Station" sign shown below.



Other icons do not tell the full message such as the "Bicycle Speed Limit 15 mph" sign, and the "Bicycles Yield to Pedestrians" signs shown below. The icon of the bicycle does not indicate anything about speed and could be interpreted as "bikes are allowed on this path." The icon of the hikers does not indicate anything about bicyclers and could be interpreted as "hiking is permitted on this path."



3. **Physical Access to Public Access.** Some shoreline parks or trails are effectively inaccessible due to busy roads and freeways or industrial land uses. Routes to public access can be unsafe for those traveling by bike or foot. For example, in the disadvantaged and vulnerable community of West Oakland, the San Francisco Bay Trail runs inland without views of the Bay. The trail then runs behind the Port of Oakland and related land uses along Third Street, Eighth Street, and Seventh Street where pedestrians and bicyclists must travel alongside semi-trucks entering and exiting the Port of Oakland in order to reach Middle Harbor Shoreline Park. In East

¹⁰⁷ Disability Outdoor Coastal Access Project. (2019). Retrieved from <http://www.borp.org/california-coastal-san-francisco-bay-trails-disability-project/>

Oakland, an identified vulnerable community, the Bay Trail again turns inland, losing sight of the Bay and runs parallel to several industrial land uses including an aggregate company, a construction company, and several trucking and freight companies. Further, there are several missing links in the Bay Trail near vulnerable communities, making accessing the shoreline difficult for these communities. Near the Bayview-Hunters Point community, there is a large gap at the former naval shipyard, as well as gaps around South Basin and Yosemite Slough. Such gaps also exist near North Richmond. In *The West County Indicators Report*, the Pacific Institute and partners found that even though 14 percent of Richmond residents live within a half-mile of public shoreline open space, only 4 percent have easy physical access to this open space.¹⁰⁸

Staff heard concerns about the intersections of public access and shoreline protection structures from participants in BCDC's Commission workshop on environmental justice. Participants expressed that public access, especially water access (fishing, swimming, boating, etc.) should not be lost when building shoreline protection structures, especially in communities that have a limited amount of water access.

Finally, inadequate public transit can also diminish people's abilities to reach the shoreline. Many disadvantaged and vulnerable communities, such as Treasure Island, West Oakland, South Vallejo, East Palo Alto, East Oakland, and Eastern Contra Costa County experience infrequent or non-existent public transit.¹⁰⁹

4. **Costs.** Some communities may be excluded from public access if there are ticketed special events or if parking or transit are too expensive. Although BCDC-approved shoreline public parking is free, it can be limited. Other nearby parking may be expensive depending on the area.

Public transportation may also become more cost-prohibitive as low-income transit riders, accounting for just over half of the riders across all 27 regional transit operators in the Bay Area, are forced to move farther away from city centers. Each of the different regional transit operators has their own fare policy, which also burdens low-income riders as they are more likely to make transit transfers than higher-income riders. Pay-by-distance operators, such as the Bay Area Rapid Transit (BART) is also more cost-intensive on low-income riders who have been pushed farther from job and activity centers. BART, along with several other of the major transit operators in the Bay Area, does not have a low-income discount or monthly pass. One-way trips range from \$2.50 to \$12.45 (\$0.50 cheaper with a Clipper

¹⁰⁸ Moore, E., & Prakash, S. (2009, May). *Measuring What Matters: Neighborhood Research for Economic and Environmental Health and Justice in Richmond, North Richmond, and San Pablo* (Pacific Institute Rep.). Retrieved from <https://pacinst.org/wp-content/uploads/2014/04/measuring-what-matters.pdf>

¹⁰⁹ AllTransit Gap Finder. (n.d.). Retrieved from <https://alltransit.cnt.org/gap-finder/>

Card).^{110 111 112 113} Caltrain has also been criticized for being unaffordable to low-income people. The 2016 Caltrain Triennial Survey found that low-income riders tend to use higher-priced one-way tickets and day passes where higher-income riders use discounted monthly passes and Go Passes offered to full-time corporate employees.¹¹⁴

People with disabilities are also more transit-burdened. Oftentimes, elevators and escalators are out of service in transit stations and rail cars are often full at rush-hour with standing room only, making a wheelchair difficult to maneuver. There are paratransit services in the region for those who cannot ride standard bus and rail services, but these can be unaffordable and unaccommodating for some. For example, East Bay Paratransit rides must be booked in advance and cost from \$4 to \$7 one-way.¹¹⁵

Additionally, in November 2018, Bay Area voters passed Regional Measure Three, which will help solve the region's traffic congestion problems but can place a financial burden on low-income drivers around the region. Regional Measure Three included a \$1 toll increase at the region's seven state owned bridges on January 1, 2019 and will include two more \$1 toll increases in 2022 and 2025.¹¹⁶ This will raise tolls to \$8 by 2025 except the Bay Bridge which will be between \$7 and \$9 depending on the time of day.¹¹⁷

Although BCDC can place limitations on the number of ticketed special events in public access areas, costs of these tickets can be prohibitive for low-income communities. For example, in 2018, the Treasure Island Music Festival charged \$185 plus service fees for a two-day general admission ticket.¹¹⁸ The festival was held on Treasure Island from 2007 until 2017 when it moved to Middle Harbor Shoreline Park in West Oakland. Both Treasure Island and West Oakland are identified vulnerable and disadvantaged communities.

¹¹⁰ Raby, S. (2019, January 9). The inequity of pay-by-distance transit in the Bay Area. *Curbed San Francisco*. Retrieved from <https://sf.curbed.com/2019/1/9/18118201/bart-pay-by-distance-transit-bay-area-transportation>

¹¹¹ Fare Calculator. (2019). Retrieved from <https://www.bart.gov/tickets/calculator>

¹¹² Fleisher, A. (2017, June 26). Making Bay Area Transit Affordable for Those Who Need It Most. *SPUR News*. Retrieved from <https://www.spur.org/news/2017-06-26/making-bay-area-transit-affordable-those-who-need-it-most>

¹¹³ Fleisher, A. (2017, August 31). How Clipper Masks the Bay Area's Transit Fare Policy Problems. *SPUR News*. Retrieved from <https://www.spur.org/news/2017-08-31/how-clipper-masks-bay-area-s-transit-fare-policy-problems>

¹¹⁴ Caltrain fare study update shows equity problems [Web blog post]. (2017, December 7). Retrieved from <http://www.greenaltrain.com/2017/12/caltrain-fare-study-update-shows-equity-problems/>

¹¹⁵ East Bay Paratransit. (2019). Retrieved from <https://www.eastbayparatransit.org/>

¹¹⁶ Regional Measure 3. (2019, January 14). Retrieved from <https://mtc.ca.gov/our-work/fund-invest/toll-funded-investments/regional-measure-3>

¹¹⁷ Brekke, D. (2018, May 29). 10-Plus Things to Know: Regional Measure 3, the Proposed Bay Area Bridge Toll Increase. *KQED News*. Retrieved from <https://www.kqed.org/news/11671240/10-things-to-know-regional-measure-3-the-proposed-bay-area-bridge-toll-increase>

¹¹⁸ Treasure Island Music Festival Tickets. (2018). Retrieved from <https://www.treasureislandfestival.com/tickets>

5. **Maintenance.** Poor maintenance can deter people from using public access, especially if it renders areas unsafe. According to a report by PolicyLink, neglect and inadequate maintenance can result in an avoidance by families, especially those with small children, through the proliferation of illegal activities rendering the space to be a threat or an eyesore. As upkeep of many parks in California today are linked to user fees or local taxes, park maintenance varies greatly in affluent areas versus lower income areas.¹¹⁹ Most studies have revealed that low-income and communities of color have less access to green and/or open spaces than their white, affluent counterparts.¹²⁰ In some cases, public areas may even be restricted to those who help pay for its upkeep via taxes, such as the publicly owned Foothills Park in Palo Alto that is only open to Palo Alto residents and accompanied guests.¹²¹ Because of this lack of amenities, the spaces that do exist are often over-crowded or congested, potentially creating a greater demand for maintenance.¹²² Staff has heard several comments from members of vulnerable and disadvantaged communities that public spaces and parks are not well-maintained in their neighborhoods. They cited overflowing trash, broken glass, broken benches or tables, broken lights, and unkempt landscaping. *The West County Indicators Report* found an average of 7.3 “bad conditions” per park for parks in Richmond, North Richmond, and San Pablo. “Bad conditions” included missing park features, the disrepair of a park feature, or the presence of unwanted conditions.¹²³

As a part of the permit conditions on public access, BCDC stipulates permanent maintenance, by and at the expense, of the permittee(s) or its assignees but is currently unable to enforce compliance for all of its permits.

6. **Security.** The presence of law enforcement can discourage certain communities from using public access. This can be especially true today for immigrants and people of color. Data from U.S Immigration and Customs Enforcement (ICE) show an 11 percent increase in immigration arrests and a 13 percent increase in deportations from 2017 to 2018. This increase results from a recent Executive Order to no longer prioritize arrests and deportation of those who have criminal records or pose a threat to public safety.¹²⁴ BCDC staff has heard from members of the public that these increases can create a daily fear for many immigrants around the country,

¹¹⁹ Raya, R., & Rubin, V. (2006, Winter). *Safety, Growth, and Equity: Parks and Open Space* (PolicyLink Rep.). Retrieved https://www.policylink.org/sites/default/files/SafetyGrowthEquity-ParksOpenSpace_final.pdf

¹²⁰ Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities ‘just green enough’. *Landscape and Urban Planning*, 125, 234-244. doi:10.1016/j.landurbplan.2014.01.017

¹²¹ Cabanatuan, M. (2019, April 21). Quirky law keeps pristine Palo Alto park restricted to residents. *San Francisco Chronicle*. Retrieved from <https://www.sfchronicle.com/bayarea/article/Quirky-law-keeps-pristine-Palo-Alto-park-13783032.p>

¹²² Wolch, J. R., Byrne, J., & Newell, J. P. (2014). Urban green space, public health, and environmental justice: The challenge of making cities ‘just green enough’. *Landscape and Urban Planning*, 125, 234-244. doi:10.1016/j.landurbplan.2014.01.017

¹²³ Moore, E., & Prakash, S. (2009, May). *Measuring What Matters: Neighborhood Research for Economic and Environmental Health and Justice in Richmond, North Richmond, and San Pablo* (Pacific Institute Rep.). Retrieved from <https://pacinst.org/wp-content/uploads/2014/04/measuring-what-matters.pdf>

¹²⁴ Nixon, R. (2018, December 14). Immigration Arrests and Deportations Are Rising, I.C.E. Data Show. *The New York Times*. Retrieved from <https://www.nytimes.com/2018/12/14/us/politics/illegal-immigrant-arrests-deportations-rise.html>

especially in public spaces and in the presence of uniformed security, which could lead to a decreased use of public access spaces by immigrant communities. Additionally, a number of instances have occurred in the Bay Area regarding white people calling the police on black people for trivial or nonexistent offences. In April of 2018, a white woman called the police on two black men using a charcoal grill in an area of Lake Merritt in Oakland not designated for charcoal use. Later that summer, a white woman called the police on an 8-year old black girl for selling bottled water on her street in San Francisco without the appropriate permit.¹²⁵ This issue was also expressed at a community roundtable event, which BCDC hosted along with the California State Lands Commission and the California Coastal Commission. Instances like these can lead certain communities to feeling unwelcome or not belonging in Bay Area public spaces.

B. Shoreline Protection. According to the Bay Plan, shoreline protection projects are intended to prevent shoreline erosion and damage from flooding. Some examples of shoreline protection include levees, seawalls, wetlands, or riprap. Currently, BCDC authorizes shoreline protection projects that are:

- Necessary to provide flood or erosion protection;
- Appropriate for the project site;
- Engineered to provide erosion control and flood protection for the expected life of the project based on a 100-year flood event¹²⁶ that takes future sea level rise into account;
- Designed and constructed to prevent significant impediments to physical and visual public access;
- Integrated with current or planned adjacent shoreline protection measures; and
- Designed with the help of professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes.

Whenever feasible and appropriate, shoreline protection should include non-structural or natural shoreline protection methods such as marsh vegetation or Bay ecosystem enhancement.

¹²⁵ Farzan, A. N. (2018, October 19). BBQ Becky, Permit Patty, and Cornerstore Caroline: Too 'cutesy' for those white women calling cops on black people? *Mercury News*. Retrieved from <https://www.mercurynews.com/2018/10/19/bbq-becky-permit-patty-and-cornerstore-caroline-too-cutesy-for-those-white-women-calling-cops-on-black-people/>

¹²⁶ 100-year flood event = A flood with 1% chance of occurrence in any given year.

1. **Costs and Adjacent Adverse Impacts.** Shoreline protection structures may intensify wave reflection and contribute to shoreline erosion and overtopping at adjacent vulnerable areas that may be unable to afford protection or have ad-hoc protection.¹²⁷ BCDC's *Policies for a Rising Bay* project's steering committee found that:

...Bay Plan Shoreline Protection Policy 1 requires permit applicants to integrate their projects with current or planned adjacent shoreline protection measures, in an attempt to create contiguous, effective shoreline protection. However, if the neighboring parcels have inadequate shoreline protection and no plan to improve it, the Commission does not have the authority to compel the creation of contiguous shoreline protection.¹²⁸

Well-engineered shoreline protection can carry high costs throughout the project's life from planning and design to construction and maintenance. Lower income communities in particular may experience disproportionately more erosion and flooding than higher income communities if they lack financial resources to construct adequate shoreline protection.

If site conditions allow, adjacent impacts from shoreline protection structures can be decreased through the protection structure design. Specifically, the slope and surface of the protection can help control the intensity of wave reflection. Harder shoreline protection structures with vertical walls and smooth, impermeable surfaces such as seawalls, revetments, and levees can have detrimental impacts by creating more wave reflection. Conversely, sloped protection structures with permeable surfaces will absorb and dissipate wave energy, reducing wave reflection and adverse impacts. Many natural and nature-based solutions are specifically designed to attenuate wave energy, primarily through plant and sedentary animal material, such as oysters.^{129 130}

2. **Contaminated Lands.** Prior to BCDC's inception, industry boomed along the San Francisco Bay shoreline, including the construction of manufacturing facilities, ports, military installments, refineries, food processing plants, landfills, and shipyards. These land uses have created a shoreline full of contamination from PCBs, heavy metals, hydrocarbons, gasoline and diesel, radioactive materials, and other known

¹²⁷ Torres, M. (2016). *Policies for a Rising Bay Project Final Report* (BCDC Rep.). Retrieved <http://www.bcdc.ca.gov/prb/Policies-for-a-Rising-Bay.pdf>

¹²⁸ Torres, M. (2016). *Policies for a Rising Bay Project Final Report* (BCDC Rep.). Retrieved <http://www.bcdc.ca.gov/prb/Policies-for-a-Rising-Bay.pdf>

¹²⁹ Department of the Army, U.S. Army Corps of Engineers. (2002, April 30). *Coastal Engineering Manual*. Retrieved from <https://www.publications.usace.army.mil/USACE-Publications/Engineer-Manuals/>

¹³⁰ Newkirk, Sarah, Sam Veloz, Maya Hayden, Walter Heady, Kelly Leo, Jenna Judge, Robert Battalio, Tiffany Cheng, Tara Ursell, Mary Small. (The Nature Conservancy and Point Blue Conservation Science). (2018). *Toward Natural Infrastructure to Manage Shoreline Change in California*. California's Fourth Climate Change Assessment, California Natural Resources Agency. Publication number: CCCA4-CNRA-2018-011. Retrieved from http://climateassessment.ca.gov/techreports/docs/20180827-Ocean_CCCA4-CNRA-2018-011.pdf

carcinogens and toxins. Over 1,100 known or likely contaminated sites are subject to flooding with a three-foot rise in Bay levels.¹³¹ This could occur today in a 50-year storm with no sea level rise. This could also occur in the future under the following scenarios: a 25-year storm with six inches of sea level rise, a 5-year storm with one foot of sea level rise, a 2-year storm with 18 inches of sea level rise, a king tide with two feet of sea level rise, or with three feet of sea level rise and no storm surge.¹³² According to the U.S. EPA, flooding could cause the unregulated release of chemicals, complicating cleanup efforts or threatening prior remediated sites.¹³³ Few remediation activities are required to consider the best available sea level rise science and BCDC's authority to impose such a requirement is limited. Remediation projects at federal Superfund (CERCLA) sites have to comply to the greatest extent practicable with BCDC's laws and policies as Applicable or Relevant and Appropriate Requirements (ARARs). Other projects may require a BCDC permit, but BCDC relies on the expertise of the San Francisco Bay Regional Water Quality Control Board and Department of Toxic Substances Control on issues of water quality and contamination. Many of these former and current industrial sites in the Bay Area are located in or near low-income communities of color, such as southeast San Francisco, Treasure Island, Vallejo, Oakland, and Richmond. Since many of these communities are already burdened with several other environmental and social impacts, they often cannot afford high levels of shoreline protection to prevent the mobilization of contaminants and subsequent health impacts into their communities caused by flooding of these contaminated sites. If these communities face an extreme flooding event, they will have a more difficult time responding to and recovering from such an event due to their vulnerability. The cleanup of these contaminated lands around the Bay should incorporate the best available science on future flooding and associated impacts to groundwater to prevent this mobilization of contaminants into vulnerable communities.

3. **Community Involvement.** Sea level rise adaptation planning, while still an emerging practice, has mainly been top-down and managerial in nature, with emphases on (1) climate change science; (2) the physical, ecological, and economic vulnerabilities to flooding; and (3) technical solutions. This can create a "climate gap" where communities' needs and concerns, especially of those in the most vulnerable communities, are not included in the adaptation discussion. Certain communities, mainly low-income communities of color, have been historically, and are still currently, underrepresented in environmental policy-making and planning processes. As detailed above, certain socioeconomic characteristics and levels of contamination can increase a community's vulnerability, rendering them less able to prepare for, respond to, or recover from flooding. Employing technical, objective, apolitical, and colorblind adaptation strategies that overlook the racialized history of

¹³¹ Sea Level Rise & Pollution Risk to the Bay. (n.d.). Retrieved from <https://baykeeper.org/shoreview/pollution.html>

¹³² BCDC ART Bay Shoreline Flood Explorer. (2018). Retrieved from <https://explorer.adaptingtorisingtides.org/explorer>

¹³³ Adaptation and Contaminated Site Management. (2016). Retrieved from <https://www.epa.gov/arc-x/climate-adaptation-and-contaminated-site-management>

land use and the everyday experiences of the most vulnerable communities, can perpetuate environmental racism and leave valuable community assets unprotected. Given their relatively high vulnerability, these communities should not only be involved in adaptation planning, but their involvement should be prioritized.¹³⁴ BCDC's Adapting to Rising Tides (ART) program is trying to address this issue by integrating the goal of social equity, along with environmental and economic goals, into its work.

C. Mitigation. At BCDC, mitigation consists of measures to offset unavoidable adverse impacts to the environment and may include:

- Restoring a resource where formerly located (e.g., restoration of tidal marsh from a diked former tidal marsh area);
- Creating a new resource in an area that does not currently or did not historically support that type of resource (e.g., the creation of a tidal marsh from an upland area);
- Enhancing the functions of an existing resource that is degraded in comparison to historic conditions (e.g., establishing native vegetation in an existing tidal marsh); and/or
- Preserving a resource through a legally enforceable mechanism (e.g., a deed restriction).

Projects should be designed to avoid adverse environmental impacts to Bay natural resources such as to water quality, surface area, volume, and/or circulation and to plants, fish, other aquatic organisms and wildlife habitat, including subtidal areas, tidal marshes, or tidal flats. Whenever adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable. BCDC may require measures to compensate for unavoidable adverse impacts to the natural resources of the Bay by requiring repair or restoration of the impacted areas, and as a final measure BCDC may require compensatory mitigation as discussed in section 1 above. BCDC has policies that require mitigation to be provided as close to the impact/project site as practicable, and if this is not feasible then in-lieu mitigation is required at another site that is as close to the site as possible.

Examples of mitigation projects BCDC has required include:

- Installation of a seal haul-out structure at the WETA Alameda Ferry to compensate for removal of structures where seals were previously located (BCDC Permit no. 2014.002.01);
- Reconstruction at the Golden Eagle Refinery Avon Wharf in Martinez included habitat acquisition and improvement to offset impacts to tidal/brackish marsh vegetation a (BCDC Permit no. 2014.006.01); and

¹³⁴ Hardy, R. D., Milligan, R. A., & Heynen, N. (2017). Racial coastal formation: The environmental injustice of colorblind adaptation planning for sea-level rise. *Geoforum*, 87, 62-72. doi:10.1016/j.geoforum.2017.10.005

- The solid fill and water surface area reduction associated with the ferry terminal constructed as part of the Treasure Island Redevelopment project was mitigated through removal of dilapidated pier structures and removal of creosote pilings from the Bay (BCDC Permit no. 2016.005.00).

1. **Limited Scope of Mitigation.** Environmental mitigation originates from the traditional environmental and conservation movements, which led to a strict interpretation of the term ‘environment,’ to mainly include matters regarding wildlife protection, ecology, and open space. Similarly, a BCDC staff background report on mitigation in 2002, described the nature of mitigation projects at BCDC, stating they include “[resource] creation, restoration, enhancement, [and] preservation.”¹³⁵

The environmental health and justice movements envision a much broader understanding of ‘environment’ to include not only wild areas but also urban and suburban areas and social aspects of spaces.¹³⁶ Another approach to broadening the definition of “environment,” is to conceptualize it as the place where people live, work, learn, play, and worship. In his essay, *Social Justice in Restoration*, Pete Holloran argues that traditional restoration projects will ultimately not be successful if they fail to address the root social and economic causes that lead to land destruction.¹³⁷ In communities with a history of pollution and land degradation due to social and economic injustice, addressing these root causes can lead to a more holistic and successful restoration project by addressing community restoration as well. Restoration pioneer, William R. Jordan III, argued for a restoration practice that allows humans to reconsider their relationship to land and take responsibility for the environmental degradation they cause. With an expanded interpretation of the environment, Jordan views ecological restoration as a vehicle for mending community relations.¹³⁸

Projects that BCDC approves may have adverse socioeconomic or human health impacts in addition to adverse environmental impacts. These may include disproportionate levels of pollution from the construction of a project or the ongoing operation of a project, the displacement of residents if projects lack anti-displacement measures, or the reduced use or non-use of public access amenities by certain communities as new, more affluent neighbors move in and community character changes.

¹³⁵ *Staff Report: Mitigation* (BCDC Staff Report). (2002, December). Retrieved http://www.bcdc.ca.gov/planning/reports/Mitigation_Dec2002.pdf

¹³⁶ Palamar, C. R. (2008). The Justice of Ecological Restoration: Environmental History, Health, Ecology, and Justice in the United States. *Human Ecology Forum*, 15(1), 82-94. Retrieved from <http://ajph.humanecologyreview.org/pastissues/her151/palamar.pdf>

¹³⁷ Holloran, P. (1996). The Greening of the Golden Gate: Community-Based Restoration at the Presidio of San Francisco. *Restoration & Management Notes*, 14(2), 112-123. Retrieved from <https://www.jstor.org/stable/43440240>

¹³⁸ Palamar, C. R. (2008). The Justice of Ecological Restoration: Environmental History, Health, Ecology, and Justice in the United States. *Human Ecology Forum*, 15(1), 82-94. Retrieved from <http://ajph.humanecologyreview.org/pastissues/her151/palamar.pdf>

Some agencies and local governments have addressed adverse social impacts of projects through the creation of dedicated community benefits programs, such as affordable housing, education programs, skills-based training programs, renewable energy provisions, community gardens, and others. The scope of many of these programs falls outside of BCDC's authority.

2. **Location of Mitigation Measures.** Currently, BCDC's policies require mitigation to occur as close to the project impacts as possible. However, this does not always happen. For example, the mitigation for the east span of the Bay Bridge (BCDC permit no. 2002.008) included a mitigation measure to restore Skaggs Island in Sonoma County. The closest community to the project impacts was West Oakland, a low-income community of color facing many sources of pollution. However, the communities nearest Skaggs Island do not exemplify many vulnerable socio-economic characteristics, nor is there a legacy of pollution and contamination. In this example, an already burdened community was the site of adverse project impacts but received little benefits of the mitigation. This example demonstrates the difficulty in implementing required mitigation in low-income communities of color around the Bay. Many of these communities are in highly industrialized areas that are often not suitable for the scale of mitigation required such as in the Bay Bridge mitigation example above.

Conversely, providing mitigation at the project site can also continue disinvestment in certain communities. Following this policy can result in mitigation going to areas that already have high habitat value, neglecting areas that do not support Bay habitats

3. **Timing of Mitigation Measures.** Currently, BCDC's policies encourage mitigation to occur prior or concurrent to the project impacts. In conversations with workshop participants, BCDC staff heard that in areas that are already burdened by adverse environmental impacts, it is best to have mitigation occur prior to any further impacts.
4. **Community Involvement.** Certain communities have been historically, and are still currently, underrepresented in environmental policy-making and planning processes. The planning, designing, building, and monitoring of mitigation projects are not exceptions to this. There are a multitude of benefits created by bringing a diversity of voices into the restoration planning process, including: new approaches and perspectives, bringing more people into relationship with the landscape, fostering new stewardship and ownership, community empowerment, and the creation of new cross-cultural partnerships. However, using the established mainstream restoration project process will not necessarily yield these results.

Traditional power structures will continue to serve as barriers to inclusivity without appropriate efforts to improve diversity among decision-makers.¹³⁹ One example of an organization who has been successful in meaningfully engaging residents in this field is Literacy for Environmental Justice (LEJ). According to their website,

LEJ promotes ecological health, environmental stewardship, and community development in Southeast San Francisco by creating urban greening, eco-literacy, community stewardship and workforce development opportunities that directly engage and support local residents in securing a healthier future.¹⁴⁰

The San Francisco Bay Restoration Authority (SFBRA),

...a regional agency charged with raising and allocating local resources for the restoration, enhancement, protection, and enjoyment of wetlands and wildlife habitat in San Francisco Bay and along its shoreline, and associated flood management and public access infrastructure,¹⁴¹

held an environmental justice panel on June 29, 2018. The panel was comprised of three environmental justice advocates working around the Bay Area, who discussed what a strong environmental justice component of a Measure AA grant would look like. The need for authentic and robust community involvement was echoed throughout the discussion. Douglas Mundo, from Shore Up Marin, a community-based organization working in Marin City and in the San Rafael Canal District, mentioned that failing to include environmental justice communities is a failure, and emphasized the need for consistent and persistent engagement to establish a foundation of partnership, trust, and empowerment. One method for doing this, Mundo suggested, was to establish the community as partners and stakeholders in the project and require a community endorsement of the project. He noted that unless projects are framed in light of the community's daily lives, restoration projects will continue to seem irrelevant. Anthony Khalil, from LEJ, working in Bayview-Hunters Point, stated that one way to build trust is having the most impacted communities determine what projects get funded.¹⁴²

Another way to involve the community that was emphasized at the panel was through job creation within impacted communities. There were ideas around special admission programs for job training and the creation of job pipelines for underserved youth in the restoration and environmental policy and planning fields. According to Green 2.0 (an initiative aimed at increasing racial diversity in the

¹³⁹ Newman, A. (2014). Planning for Inclusive Urban Ecological Restoration. Retrieved from http://dev.earthsake.ca/wp-content/uploads/2014/10/urban_ecology_restoration.pdf

¹⁴⁰ Literacy for Environmental Justice "About Us: Our Mission". (2019). Retrieved from <https://www.lejyouth.org/about-us/>

¹⁴¹ San Francisco Bay Restoration Authority. (2019). Retrieved from <http://sfbayrestore.org>

¹⁴² San Francisco Bay Restoration Authority. (2019). *Advisory Committee June 29, 2018 Meeting Minutes*. Retrieved from http://sfbayrestore.org/packets-advisory/2018-06-29/AC_MeetingMinutes_062918.pdf

environmental field), people of color only made up 22 percent of full-time staff at the top 40 environmental non-profits and 26 percent full-time staff at the top 40 environmental foundations in 2018.¹⁴³ ¹⁴⁴ Proceeding with intentionality and contentiousness is extremely important as these fields have been historically white, and people of color can struggle adapting to different cultural norms if resources for them to succeed are not available.¹⁴⁵

Phoenix Armenta of the Resilient Communities Initiative, working throughout the Bay Area, mentioned the need for technical assistance for communities. Environmental justice communities may be starting behind well-funded environmental groups or affluent communities in initiating or designing restoration projects to be selected for Measure AA funding or included in potential mitigation measures.¹⁴⁶ The spirit of the panel can be captured in two of the founding principles of environmental justice from the 1991 National People of Color Leadership Summit. They state: “Environmental justice demands the right to participate as equal partners at every level of decision-making including needs assessment, planning, implementation, enforcement and evaluation,” and “Environmental justice affirms the need for an urban and rural ecological policy to clean up our cities and rural areas in balance with nature, honoring the cultural integrity of all our communities, and providing fair access for all to the full range of resources.”¹⁴⁷ ¹⁴⁸

D. Additional Intersections. These intersections do not exclusively fall into any of the above sections but can be captured in a new section of the Bay Plan on environmental justice and social equity or in other BCDC processes and procedures.

- 1. Community Outreach and Engagement.** Inclusive community outreach and engagement with diverse populations is critical to meaningful involvement and successful environmental justice and social equity policy and program development. According to California Environmental Justice Alliance (CEJA) there are two main reasons why this engagement is integral to environmental justice planning and policymaking:

¹⁴³ *Green 2.0 NGO Diversity Data* (Green 2.0 Rep.). (2018). Retrieved from https://www.diversegreen.org/wp-content/uploads/2019/01/NGOs_30Jan2018.pdf

¹⁴⁴ *Green 2.0 Foundation Diversity Data* (Green 2.0 Rep.). (2018). Retrieved from https://www.diversegreen.org/wp-content/uploads/2019/01/Foundations_24Jan2018.pdf

¹⁴⁵ San Francisco Bay Restoration Authority. (2019). *Advisory Committee June 29, 2018 Meeting Minutes*. Retrieved from http://sfbayrestore.org/packets-advisory/2018-06-29/AC_MeetingMinutes_062918.pdf

¹⁴⁶ San Francisco Bay Restoration Authority. (2019). *Advisory Committee June 29, 2018 Meeting Minutes*. Retrieved from http://sfbayrestore.org/packets-advisory/2018-06-29/AC_MeetingMinutes_062918.pdf

¹⁴⁷ Holloran, P. (1996). The Greening of the Golden Gate: Community-Based Restoration at the Presidio of San Francisco. *Restoration & Management Notes*, 14(2), 112-123. Retrieved from <https://www.jstor.org/stable/43440240>

¹⁴⁸ Principles of Environmental Justice. (1991). Retrieved from <https://www.ejnet.org/ej/principles.html>

- Community members are holders of local knowledge and listening to their voices can lead to better and more effective planning decisions, and
- A core part of [environmental justice] is listening to the people most impacted.¹⁴⁹

Additionally, CEJA identifies requirements for implementing a meaningful public engagement strategy, including sufficient time, multiple opportunities, and funding.¹⁵⁰ In its *SB 1000 Implementation Toolkit*, CEJA includes the International Association of Public Participation's Public Participation Spectrum (see Figure 1). One effective way that local and state government agencies can move to the right side of this public participation spectrum is by partnering with local community-based organizations, as these organizations are already trusted entities within communities, can provide engagement expertise, and can be partners in leveraging resources.^{151 152}

Moreover, there are several community engagement principles that CEJA recommends for increasing the level of public impact (see Figure 1). In order to be inclusive, the process needs to be accessible in terms of language, time, location, variety of participation methods, content (not overly technical with large amounts of jargon and acronyms), and other services such as transportation, food, and childcare. Policymakers and planners need to be transparent throughout the entire public engagement process about timelines, resources, limitations, and how community feedback and input will be used. Decision-makers also need to be responsive to all community feedback in a timely manner. Accountability is necessary throughout the entirety of the public engagement process. It is important to recognize how past policies and planning often created environmental injustices. Checking in with community-based organizations and giving transparent and timely updates on the process is essential to avoid past planning and policymaking mistakes. The most meaningful participation comes from a diverse and balanced set of participants. Potential stakeholders should include: area-based community groups; faith-based groups; local businesses; local community and civic organizations; residents from a diversity of racial, ethnic, and cultural groups; and students. Honoring and including local knowledge can significantly increase the robustness and effectiveness of the community engagement process as local communities can define issues and policy solutions as well as plan and facilitate meetings. Some methods for incorporating this knowledge are listening sessions, storytelling, walking tours, art, and participatory research/citizen science.¹⁵³

¹⁴⁹ *SB1000 Implementation Toolkit: Planning for Healthy Communities* (pp. 1-157, Rep.). (2017, October). Retrieved <https://caleja.org/2017/09/sb-1000-toolkit-release/>

¹⁵⁰ *SB1000 Implementation Toolkit: Planning for Healthy Communities* (pp. 1-157, Rep.). (2017, October). Retrieved <https://caleja.org/2017/09/sb-1000-toolkit-release/>

¹⁵¹ SB1000 requires local governments to incorporate an Environmental Justice element into their General Plans

¹⁵² *SB1000 Implementation Toolkit: Planning for Healthy Communities* (pp. 1-157, Rep.). (2017, October). Retrieved <https://caleja.org/2017/09/sb-1000-toolkit-release/>

¹⁵³ *SB1000 Implementation Toolkit: Planning for Healthy Communities* (pp. 1-157, Rep.). (2017, October). Retrieved <https://caleja.org/2017/09/sb-1000-toolkit-release/>

Figure 4-1 / IAP2 Public Participation Spectrum

Increasing Level of Public Impact				
Inform	Consult	Involve	Collaborate	Empower
Public Participation Goal	Public Participation Goal	Public Participation Goal	Public Participation Goal	Public Participation Goal
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives, and/or solutions.	To obtain public feedback on analysis, alternatives, and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public	Promise to the Public	Promise to the Public	Promise to the Public	Promise to the Public
We will keep you informed.	We will keep you informed, listen to, and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Tools	Example Tools	Example Tools	Example Tools	Example Tools
<ul style="list-style-type: none"> ➤ Fact sheets ➤ Websites ➤ Open houses 	<ul style="list-style-type: none"> ➤ Public comment ➤ Focus groups ➤ Surveys ➤ Public meetings 	<ul style="list-style-type: none"> ➤ Workshops ➤ Deliberate polling 	<ul style="list-style-type: none"> ➤ Citizen Advisory Committee ➤ Consensus-building ➤ Participatory decision-making 	<ul style="list-style-type: none"> ➤ Citizen juries ➤ Ballots ➤ Delegated decisions

Source: International Association of Public Participation

Figure 1: IAP2 Public Participation Spectrum (Source: IAP2)

In PolicyLink and the Kirwan Institute’s *Community Engagement Guide for the Sustainable Communities Initiative*, the following five guiding principles were listed for meaningful community engagement:

- Honor the wisdom, voice, and experience of residents.
- Treat participants with integrity and respect.
- Be transparent about motives and power dynamics.
- Share decision making and initiative leadership.
- Engage in continuous reflection and willingness to change course.¹⁵⁴

¹⁵⁴ Bergstrom, D., Rose, K., Olinger, J., & Holley, K. (2012). *The Community Engagement Guide Sustainable Communities* (PolicyLink Rep.). Retrieved from <http://www.policylink.org/resources-tools/community-engagement-guide-for-sustainable-communities>

Additionally, PolicyLink and the Kirwan Institute lists guidelines and strategies for meaningful public engagement that can be used by local and state governments to improve their engagement outcomes. First, they recommend being proactive in engagement by working with existing social networks, attending existing events as a participant, understanding racial and economic disparities in relevant jurisdictions, seeking out relationships with community leaders (especially with those from non-English speaking communities), translating materials in appropriate languages, engaging faith-based organizations, making connections between organizations, and developing incentives for participation while simultaneously working to reduce barriers to participation.

The second guideline is to build opportunities for community decision-making and partnerships. Recommended strategies for achieving this include: avoiding marginalization of voices of color by having a substantial amount of diverse voices in the decision-making process, funding leadership development of participating residents, setting aside resources to be overseen by community members, and developing partnerships with community groups.

The third engagement guideline requires tackling past failings and current challenges in fragmented and disinvested communities and recognizing that these communities are the building blocks for envisioning a sustainable future. Strategies in achieving this may include: creating entry points for engagement that recognize power dynamics, cultivating trust by recognizing and understanding the communities' concerns, even if they are not able to be addressed in the particular setting, and using appropriate conservation tactics as demonstrated in Figure 2 below.¹⁵⁵

The fourth guideline is the prioritization of community knowledge and concerns by holding listening sessions and storytelling activities, participatory research, and diverse communication techniques. PolicyLink and the Kirwan Institute also recommend cultivating cultural competency skills and humility through staff training and equitable workforce development among others.

Finally, they recommend supporting capacity building of community members and organizations through training and education, leadership development, and aiding communities in identifying ways to connect institutional/governmental capacity to marginalized populations. It is essential that engagement is iterative and reflective with benchmarks for success and check-ins. Lastly, resources and opportunities need to be identified to continue ongoing engagement to prevent engagement from being disjointed, duplicative, and transactional.¹⁵⁶

¹⁵⁵ Bergstrom, D., Rose, K., Olinger, J., & Holley, K. (2012). *The Community Engagement Guide Sustainable Communities* (PolicyLink Rep.). Retrieved from <http://www.policylink.org/resources-tools/community-engagement-guide-for-sustainable-communities>

¹⁵⁶ Bergstrom, D., Rose, K., Olinger, J., & Holley, K. (2012). *The Community Engagement Guide Sustainable Communities* (PolicyLink Rep.). Retrieved from <http://www.policylink.org/resources-tools/community-engagement-guide-for-sustainable-communities>

Basic Community Conversation Guidelines:

DO	DON'T
<ul style="list-style-type: none"> ☑ Work with a skilled facilitator who can guide this conversation with respect. ☑ Underscore shared, deep values (<i>opportunity, connectedness, good health, and a sustainable and productive economic future</i>). ☑ Acknowledge that individualism is important, but that the healthiest individual is nurtured by a community invested in everyone's success. ☑ Propose policies that are universal <i>and</i> targeted. By this we mean, posit a universal goal—i.e. “everyone graduates from high school”—but recognize that individuals and schools will need different types of resources to achieve this. ☑ Be aware that word choice matters. Using “minority” to refer to people of color is outdated and tends to carry a subordinate connotation. ☑ Acknowledge cultural assets and contributions. ☑ Be prepared for emotionally charged sentiments from residents, particularly at the beginning of the process. 	<ul style="list-style-type: none"> ⊘ Don't present disparities only and then leave them there. (<i>Contextualize them. Draw out—how they occurred and why they are harmful to everyone in the community.</i>) In other words, emphasize the opportunity frame and fairness. Be forthright about acknowledging the forces that led to marginalization of low-income communities and communities of color. ⊘ Don't frame action as robbing Peter to pay Paul. (<i>Grow the entire pie, utilize resources more effectively, don't fight over tiny pieces.</i>) ⊘ Don't separate out people in need from “everybody else.” (<i>Everyone, at some point in time, needs help from other people.</i>) ⊘ Don't glide over real fears, shared suffering, or the fact that people are often internally conflicted. ⊘ Don't feel the need to solve all problems or resolve all conflicts, but do hold the space to legitimize and recognize concern or conflict. ⊘ Don't dismiss the importance of individual efforts.

Figure 2: Basic Community Conversation Guidelines (Source: PolicyLink and The Kirwan Institute)

Currently BCDC’s public outreach and engagement fall among the “inform,” “consult,” and “involve” categories in Figure 1, the IAP2 Public Participation Spectrum, shown above. As a public agency, BCDC is required to hold public meetings and hearings. The Commission meets the first and third Thursday of each month at 1pm at 375 Beale Street in San Francisco. BCDC holds a number of other smaller public meetings, all in San Francisco (either at 375 Beale Street or 455 Golden Gate Avenue) during the standard working week and typically during the standard working day. The one exception to this is BCDC’s Design Review Board, which meets in the evening. BCDC’s ART program also holds meetings and workshops around the region and has recently begun to conduct more authentic and robust community engagement on issues related to sea level rise in vulnerable communities for the ART Bay Area project.

BCDC has a website, but it can be difficult to navigate or understand, especially if someone is new to regulatory and land use matters, is visually impaired, and/or has limited English language skills. In addition to posting notices on the website, BCDC requires posting notices on residences 100 feet from the project site. The above opportunities for public participation are rife with barriers for low-income people, working people, parents and guardians, people of color, people that have limited English language skills, people with disabilities, and others who have been historically and are still currently underrepresented in decision-making processes.

Without meaningful engagement, policies may exacerbate disproportionate burdens on certain communities. Meaningful outreach and engagement include dedicated time and resources to recognize past and current injustices and build relationships and trust with communities, in particular underrepresented communities. This outreach and engagement needs to begin at the earliest stages of a project and be consistent throughout the life of the project. Communities should have the ability to steer or at least have a voice in the decision-making. Part of this outreach and engagement could entail making the above public processes more accessible as well as expanding upon current outreach and engagement efforts.

This may necessitate re-evaluating public meeting times, dates, and locations. Other ways to remove barriers for underrepresented communities to participate in public processes may include providing participation or travel stipends, serving meals, offering childcare, or establishing remote participation options such as live webcasts and call-in opportunities. Language is also a key component to meaningful outreach and engagement. Not only should public meetings and materials be provided in the appropriate languages, meetings and materials should not be overly technical and rife with acronyms and jargon. People with disabilities should also be given the full opportunity to participate in BCDC's public processes, which could involve ensuring materials are accessible for those with speech, hearing, and vision impairments as well as ensuring meeting spaces are accessible.

Outreach and engagement should be connected to underrepresented communities' everyday experience and meet people where they are. Responsiveness is also essential to meaningful engagement. Response to public comments should be provided and it should be made clear how they influence decision-making. Calls and emails should also be returned in a timely manner. Education is a key part of addressing issues collaboratively, especially issues related to climate change. This education should be reciprocal, as communities are best able to identify their vulnerabilities and assets and play an important role in supplementing the limitations of technical analysis with local expertise and traditional knowledge.

Although BCDC can work to improve its community outreach and engagement, it will struggle to ensure such outreach and engagement is occurring from the project onset given BCDC's place in most entitlement timelines. Due to the requirement in law that projects must first obtain local approvals, and BCDC policies that require other environmental information, BCDC's permit process often follows environmental review and documentation, the local government approval process, the Regional Water Board's Water Quality Certification/Waiver process (if applicable), the Department of Toxic Substances Control's approval process (if applicable), and the U.S Fish and Wildlife Service, the California Department of Fish and Wildlife and the National Marine Fisheries Service's Biological Opinion, Take Authorization, or consultation processes (if applicable).¹⁵⁷

¹⁵⁷ BCDC Application Form. (n.d.). Retrieved from <http://www.bcdc.ca.gov/forms/appform.pdf>; California Code of Regulations Title 14, Division 5, Appendix F

2. **Disproportionate Burdens.** Part of the Commission’s mandate is to encourage development around the Bay Area, to its highest potential, with a minimum of fill. BCDC regulates Bay filling and dredging as well as shoreline development through the issuance and enforcement of permits. As mentioned above, some development along the shoreline can have deleterious effects on local communities. These low-income, communities of color have borne disproportionate environmental burdens from certain land uses, such as air pollution, water and soil contamination, and lack of open space and parks. Conversely, affluent white communities tend to receive a disproportionate share of environmental benefits, such as clean air, water, and soil as well as open space and parks. The maps below explore these issues spatially throughout the region.

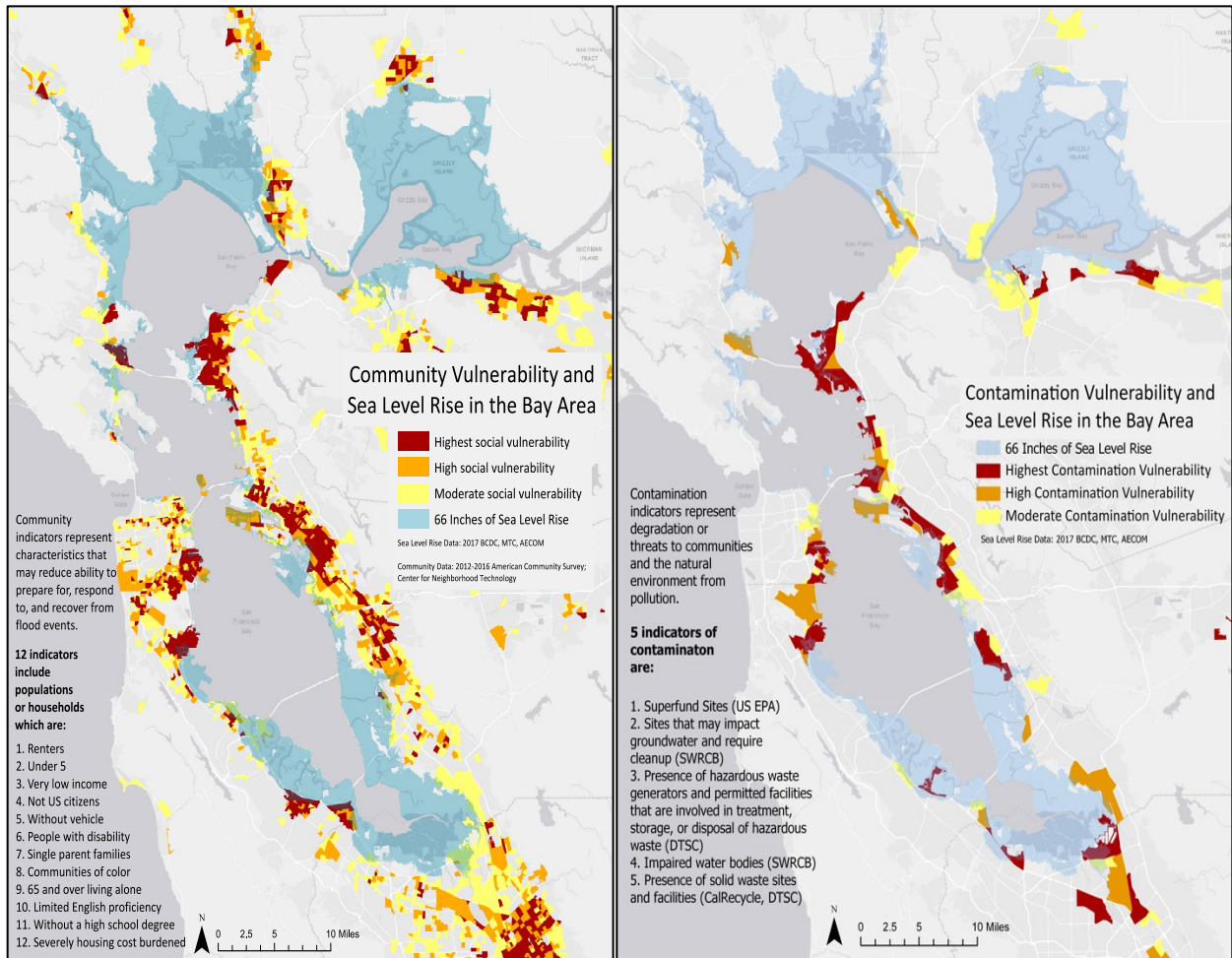
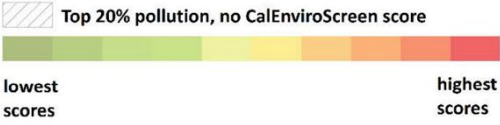
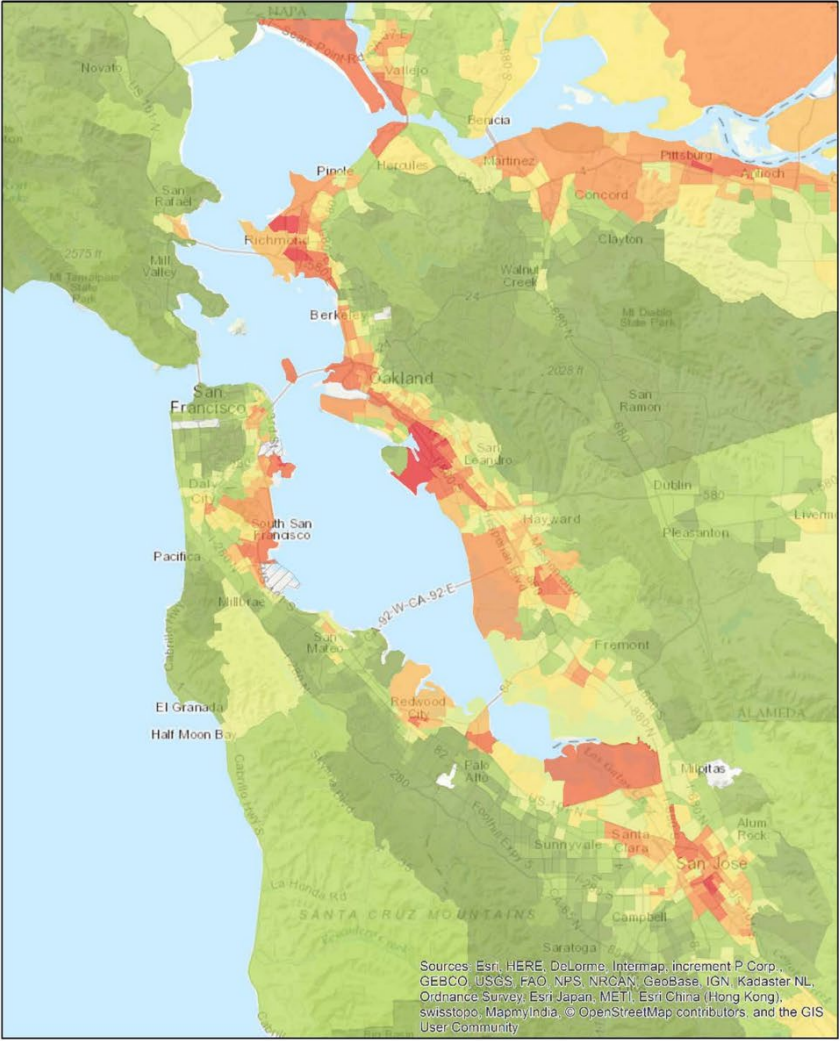


Figure 3: Comparison of regional maps showing overlap between social vulnerability (left) and contamination vulnerability (right) (Source: BCDC’s ART Program)

**CalEnviroScreen
Version 3.0
Final Results**



Each color represents 10% of scores



San Francisco Area

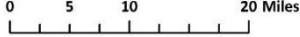


Figure 2: CalEnviroScreen 3.0 snapshot of the Bay Area. Higher scores represent higher pollution burden and disadvantaged socioeconomic population characteristics.¹⁵⁸

¹⁵⁸ CalEnviroScreen 3.0: Update to the California Communities Environmental Health Screening Tool (CalEPA/OEHHA Rep.). (2017, January). Retrieved <https://oehha.ca.gov/media/downloads/calenviroscreen/report/ces3report.pdf>

When addressing environmental justice, all levels of government should strive to do no harm and should work actively to avoid, minimize, or mitigate disproportionate adverse impacts and protect public health and safety for all communities, especially those who have been historically burdened by pollution. BCDC can strive towards this by requiring an analysis and mitigation of any disproportionate burdens in its regulatory process.

Unintentional consequences of development projects should be considered by all decision-makers and project proponents. Increased property values and gentrification can be a consequence of new development, revitalization, or the provision of new amenities, such as parks, which can lead, in turn, to demographic and cultural displacement of residents and communities. These can also reduce use of public spaces by communities that do not feel welcomed. BCDC can strive to ensure that all communities, especially underrepresented communities, are involved in the approval of any new development to avoid these unintended consequences.

3. **Coordination.** BCDC’s role is to view the Bay as an integrated system, which is difficult for single purpose or more geographically-focused governmental bodies. Throughout its history, BCDC’s most notable successes have resulted from coordinating, collaborating, and/or partnering with governments at all levels and with a wide variety of stakeholders. To work towards environmental justice and social equity, this cooperation will be vital given BCDC’s limited jurisdiction and authority. BCDC will need to work in coordination with agencies and departments at federal, state, regional, and local levels. Working with local governments on implementing environmental justice and social equity will be critical as local governments retain land use authority in California. Additionally, BCDC will need to work alongside the private, non-profit, and community sectors.

V. Environmental Justice and Social Equity Implementation at BCDC

Although BCDC is currently amending the Bay Plan, there are other ways that BCDC can address environmental justice and social justice issues in its day-to-day operations. In addition to activities over which BCDC has direct permitting authority, BCDC can also coordinate and consult with agencies at all levels of government, provide support and encouragement for the work of others, as well as provide guidance and technical assistance. This section details which aspects of BCDC’s work related to environmental justice and social equity fall into each category. In addition to illustrating what is in BCDC’s direct authority and what is not, this section can be used to determine what BCDC can achieve through this Bay Plan amendment and what potential implementation or next steps could include.

A. Direct Authority

1. **McAteer-Petris Act.** In the 1960’s, the San Francisco Bay was being filled at an alarming rate for uses that didn’t need to be in the Bay, such as housing, and landfills. The Bay was in danger of being reduced to a river. The Save the Bay movement was established to counter this threat. As a result, state legislation—the McAteer-Petris Act—was enacted in 1965, establishing BCDC with planning and

regulatory authority over the San Francisco Bay and its shoreline and with the mandate to prevent indiscriminate Bay fill and maximize public access. The McAteer-Petris Act provides for BCDC's jurisdiction and authority, Commission composition, and powers and duties of the Commission, among other items. Planning and permitting are the main duties of the Commission. A BCDC permit must be obtained before any of the actions below occur within the Commission's jurisdiction, among others:

- Place fill, including pile-supported or cantilevered structures, disposal of material, or mooring a vessel for an extended period.
- Dredge or extract material from the Bay floor;
- Substantially change the use of any land, water, or structure;
- Construct, remodel or repair a structure; and
- Subdivide property or grade land.

Several provisions of the McAteer-Petris Act, including Government Code sections 66600, 66601, 66602, 66605, and 66632.4, provide authorities that BCDC can use to address environmental justice and social equity in the planning, design, and permitting of projects in the Bay and its shoreline. A potential future step for BCDC could be working with the California State Legislature to request that the Legislature amend the McAteer-Petris Act to explicitly incorporate environmental justice and social equity, and increase BCDC's authority to act on these matters.

2. **California Code of Regulations Title 14, Division 5.** BCDC's regulations contain substantive and procedural requirements to aid BCDC in carrying out its laws and policies. Several sections in the regulations relate to environmental justice and social equity such as rules regarding public meetings, public comment, noticing, and advisory boards, which are discussed further below. BCDC's regulations are not being amended as part of the proposed Bay Plan amendment. However, BCDC is planning to develop proposed amendments to the regulations in late-2019 or 2020, which could include amending some of the regulation sections mentioned below to include environmental justice or social equity considerations.

The equality of public comment procedures can be improved. Beyond the challenges of attending meetings, opportunities to provide public comment at meetings can be difficult to access for those unfamiliar with the process, unless clear instructions are provided. On the continuum of community engagement from "informing" on the left to "community-driven," in Figure 1 shown earlier, these public comment practices lie just one step right from "inform" in the "consult" column.¹⁵⁹ Moreover, if meetings are held only in English without any translation or interpretation, non-English speakers can also be excluded. BCDC could improve its community

¹⁵⁹ *Guide to Equitable, Community-Driven Climate Preparedness Planning* (pp. 1-67, Rep.). (2017, May). Retrieved https://www.usdn.org/uploads/cms/documents/usdn_guide_to_equitable_community-driven_climate_preparedness_high_res.pdf

engagement, by moving toward “community-driven” practices. Some steps could include: making public comment procedures clear and easy to understand, providing translation and interpretation, and public comment time restrictions could be expanded.

Currently, BCDC’s regulations contain the following regarding public comment periods at meetings. Section 10246 of BCDC’s regulations addresses specifically when public comment is given on an item not on the agenda or scheduled for a public hearing:

§ 10246. Public Comment Period. (a) At each Commission meeting, the Commission shall provide the public with an opportunity to address the Commission on any matter on which the Commission has not already held a public hearing and which is not scheduled for a public hearing during the meeting. (b) The Commission may provide the public the opportunity required by subdivision (a) either prior to or as part of Commission consideration of the matter on which comments would be offered. (c) Speakers shall be heard in the order in which they sign up and shall generally be limited to three minutes each. The total time for public comment shall generally be limited to a total of fifteen (15) minutes. (d) The Commission may provide more time to each speaker and may extend the total time available for public comment beyond fifteen (15) minutes if the Commission or the Chair believes that such an extension is necessary to allow a reasonable opportunity for all members of the public who want to testify. (e) Members of the public who believe that they need additional opportunity to communicate with the Commission may present written material to the Commission at any time subject to such deadlines as the Commission or Chair may impose concerning matters for which specific Commission action may be required in the future. (f) The Executive Director shall insure that copies of all written materials received prior to any deadline established by the Commission or the Chair are provided to the Commission in a timely manner. (g) The Commission shall not take any action on any matter raised during the public comment period other than to schedule the matter for a future meeting agenda or to refer the matter to the staff for investigation unless the matter is already scheduled for action by the Commission later in the meeting.

Additionally, the Bagley-Keene Open Meeting Act (Government Code Section 11125.7) requires the Commission to provide an opportunity for the public to speak on each agenda item before or during the state body’s discussion or consideration of the item. Further, BCDC’s regulations contain two more provisions requiring the Commission to allow public comment at public hearings on permit applications (Section 10410(a)(4)) and Bay Plan amendments (Section 11004).

Noticing can also present equity issues. Those receiving BCDC’s meeting notices, which include an agenda, are laid out in Section 10214 of BCDC’s regulations. These recipients include: Commission members, all applicants and their agents, interested organizations and individuals, owners and residents of nearby property located within 100 feet of the project site as identified by the applicant, any person who requests the notice in writing, and all agencies that have jurisdiction by law with respect to any proposed activity. In this situation, interested parties are identified by the project proponent or such parties identify themselves. This places the burden on the community to identify what projects are planned that they might care about, who the project proponent is, and even who BCDC is.

Furthermore, this section of BCDC’s regulations requires notices to be sent to “owners and residents of nearby property identified by the applicant...” pursuant to BCDC’s permit application, which explains that “nearby” means within 100-feet of the project site. This may not capture many affected neighbors who may be impacted by the construction or the operation of the project. The notice may not reach all residents as tenants can change often, and some neighbors may not have a fixed address. Further, focusing on residents does not capture those who work, recreate, or rely on facilities near the project site, but not within 100 feet of the site. If notices are only posted in English, this also excludes those who do not read English. BCDC could improve its noticing practices by adding community-based organizations who work near the project site to interested parties lists; expanding noticing requirements beyond 100 feet; translating all notices into appropriate languages; and expanding where notices are posted, such as in community centers, churches, libraries, local businesses, and other community facilities near the project site.

Currently, BCDC’s regulations, which implement the requirements of the Bagley-Keene Open Meeting Act (see Government Code Section 11125), contain the following regarding noticing:

§ 10213. Meeting Notice. Written notice of the time and place of a regularly scheduled meeting and a preliminary agenda shall be mailed by first class not less than ten (10) working days before the meeting. If an interruption in regular mail service occurs, alternative notice may be given. Such alternative notice shall consist of telephoning each Commissioner and each Alternate and publishing a notice of the time and place of the meeting and a summary of the preliminary agenda in a newspaper of general circulation not less than ten (10) working days before the meeting.

§ 10214. Who Shall Receive Notice. The notice shall be mailed to Commission members, to all parties to the proceedings on the agenda, to interested organizations and individuals, to owners and residents of nearby property identified by the applicant pursuant to Appendix D item 20, to any person who requests the notice in writing, and to all agencies

that have jurisdiction by law with respect to any proposed activity that is listed in the notice. The Executive Director may require each person requesting the notice to provide the necessary number of self-addressed, stamped, four-inch by nine and one-half inch envelopes for the purpose of mailing the notice.

Appendix D item 20 (BCDC permit application):

Box 9

Public Notice Information
(must be completed by all applicants)

- a. Owners and residents of all properties located within 100 feet of the project site (if more than four, provide the information electronically):

<p>North: Name: _____ Address: _____ City, State, Zip: _____ Telephone: _____ <small>(415) 333-3333</small></p>	<p>East: Name: _____ Address: _____ City, State, Zip: _____ Telephone: _____ <small>(415) 333-3333</small></p>
<p>South: Name: _____ Address: _____ City, State, Zip: _____ Telephone: _____ <small>(415) 333-3333</small></p>	<p>West: Name: _____ Address: _____ City, State, Zip: _____ Telephone: _____ <small>(415) 333-3333</small></p>

- b. Other persons known to be interested in this project: None
(if more than two, provide the information electronically).

<p>Name: _____ Address: _____ City, State, Zip: _____ Telephone: _____ <small>(415) 333-3333</small></p>	<p>Name: _____ Address: _____ City, State, Zip: _____ Telephone: _____ <small>(415) 333-3333</small></p>
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Advisory board composition can also exemplify an environmental justice and social equity issue in terms of who is advising the Commission on projects. Neither BCDC’s Design Review Board nor its Engineering Criteria Review Board require representatives with a demonstrated history of working with impacted communities on environmental justice or social equity issues. BCDC could amend its regulations to include representatives from the environmental justice or social equity field or community advocates on its Design Review Board and Engineering Criteria Review Board.

Currently, BCDC’s regulations contain the following regarding advisory boards:

§ 10270. Membership and Function of Design Review Board. (a) The Design Review Board shall consist of seven (7) members of the design professions, including at least one (1) architect, one (1) landscape architect, and one (1) engineer. (b) The Board shall advise the Commission and the staff on the appearance and design of projects for which a Commission permit or consistency determination is needed, particularly as the project affects public access to the Bay and shoreline.

§ 10271. Membership and Function of Engineering Criteria Review Board. The Engineering Criteria Review Board shall consist of not more than eleven (11) members, including at least one (1) geologist, one (1) civil engineer specializing in soils, one (1) structural engineer, and one (1) architect. The Board shall advise the Commission on problems relating to the safety of fills and of structures on fills.

BCDC's permit application, found in Appendix D of BCDC's regulations, lacks any mention of environmental justice or social equity. Including a filing requirement regarding meaningful community involvement or what disproportion impacts were identified and how they were addressed would ensure that applicants address these issues before their application can be considered filed.

3. **BCDC Strategic Planning.** BCDC's most recent strategic plan has several goals, objectives, and proposed actions related to environmental justice and social equity. Achieving the goals and objectives laid out in BCDC's 2017-2020 Strategic Plan can help BCDC implement its work on environmental justice and social equity, not only by carrying out the Bay Plan amendment but through addressing other related issues such as community outreach and engagement, regional adaptation planning, public education, staff training, and workforce development. Future versions of BCDC's Strategic Plan could advance environmental justice and social equity at BCDC across all programs and units, and build upon the goals, objectives, and actions laid out in the 2017-2020 plan. BCDC could continue to include community engagement in its strategic plan, but could add more specificity about providing engagement and developing stronger community partnerships and contracts. BCDC could expand staff training opportunities on environmental justice and social equity by developing co-learning programs with social equity, environmental justice, and community leaders. Lastly, BCDC could continue to work on diversifying its workforce by implementing new recruitment and retention programs.

BCDC's 2017-2020 Strategic Plan contains the following goals, objectives, and proposed actions:

GOAL 1: Enhance the Bay's unique contributions to the Bay Area, and enable all its communities to flourish.

- *Objective 1.3 Update key statutes, policies, regulations, and practices.*
 - *Proposed actions:*
 - ◆ *Evaluate the efficacy of current public engagement, and improve outreach to as broad an audience as possible.*

GOAL 2: Increase the Bay's natural and built communities' resilience to rising sea level.

- *Objective 2.2 Support local efforts to become more resilient to rising sea level, and pay special attention to environmental justice issues across the region.*
 - *Proposed Actions:*
 - ◆ *Use ART Bay Area to collaborate with a broad spectrum of stakeholders, including those from environmental justice communities, when developing the Regional Adaptation Plan.*
 - ◆ *Continue to actively engage environmental justice communities in BCDC's planning and permitting processes.*
 - ◆ *Inventory local climate resilience and assessment projects to help connect projects between and among sponsoring organizations.*
 - ◆ *Continue training staff about environmental justice issues.*
- *Objective 2.7 Develop an education campaign to increase the public's understanding of rising sea level vulnerabilities and resilience strategies.*
 - *Proposed Actions:*
 - ◆ *Develop and implement, with partners, a public information program to inform the public about rising sea level vulnerabilities and resilience strategies.*
 - ◆ *Use a wide range of communication tools, including social media, to inform as broad an audience as possible.*
 - ◆ *Disseminate the best available rising sea level data and information through a web-based portal for the public*

GOAL 3: Improve organizational health and performance.

- *Objective 3.1 Expand staff in light of BCDC's increasing responsibilities.*
 - *Proposed Actions:*
 - ◆ *Use traditional and non-traditional channels to attract a more diverse applicant pool for employment at BCDC*

4. **Day-to-Day Operations and Procedures.** BCDC's day-to-day operations and procedures include other aspects of BCDC's work that may not explicitly be described in the McAteer-Petris Act, San Francisco Bay Plan, California Code of Regulations, or Strategic Plan. These may include topics related to environmental justice or social equity, such as improved community outreach and engagement, meeting accessibility, translation and interpretation, communications, staff training, workforce development, and workplace culture, among others. These day-to-day operations and procedures can be reexamined to address issues of environmental justice and social equity. While BCDC may be able to implement some of these with existing resources, additional resources may be needed for others.

B. Coordination and Consultation. Given its limited authority and jurisdiction, BCDC coordinates and consults with other federal, state, regional, and local agencies who do have authority, jurisdiction, and specialized knowledge on topics related to environmental justice and social equity that are not BCDC's primary responsibility or do not fall within BCDC's authority. There are several issues related to environmental justice and social equity on which BCDC coordinates and consults with other agencies. These include: water quality, contaminated lands, climate change adaptation, public access, mitigation, industrial uses, ports, and the public trust. This coordination can also be required by BCDC's filing requirements for its permit application, including local government discretionary approval, water quality certifications and remediation project approvals from the San Francisco Bay Regional Water Quality Control Board, and remediation project approvals from the Department of Toxic Substances Control.

As described in BCDC's Bay Plan Climate Change policies, the creation of a Regional Adaptation Plan will also require significant coordination and collaboration among all stakeholders. BCDC could improve and strengthen these coordinating efforts with other entities to advance environmental justice and social equity. The McAteer-Petris Act and Bay Plan sections below discuss the issues related to environmental justice and social equity on which BCDC coordinates and consults with other public entities. As the policy framework for coordination is already in place, BCDC can work to improve its coordination and collaboration with other entities to improve effectiveness and efficiency in addressing issues of environmental justice and social equity in a timely and fair manner. This coordination can also be used to streamline community outreach and engagement processes as to not duplicate efforts which can place further burdens upon already burdened communities.

1. Water Quality

- a. **McAteer-Petris Act: Section 66646.1. Responsibility of Boards.** *The Legislature finds that the State Water Resources Control Board and the California Regional Water Quality Control Board for the San Francisco Bay Region have the responsibility for establishing the beneficial uses of the waters of San Francisco Bay and setting water quality objectives to protect these uses, and have the primary responsibility for coordination, control, and enforcement of water quality in San Francisco Bay. The policies, decisions, advice, and authority of these boards should be the primary basis for the commission to carry out its water quality responsibilities in San Francisco Bay.*
- b. **Bay Plan Major Plan Conclusions #7. Water Quality.** *San Francisco Bay receives wastes from many municipal, industrial, and agricultural sources. Because of the regulatory authority of the State Water Resources Control Board, the San Francisco Bay Regional Water Quality Control Board, the U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers, the Bay Plan does not deal extensively with the problems and means of pollution control. Nevertheless, the entire Bay Plan is founded on the belief that water quality in San Francisco Bay can and will be maintained at levels sufficiently high to protect the beneficial uses of the Bay.*

- c. **Bay Plan Water Quality Finding o.** *The State Water Resources Control Board is responsible for formulating and adopting state water quality control policy pursuant to the state Porter-Cologne Water Quality Control Act and federal Clean Water Act. The State Board is responsible for approving the water quality control plans of the nine regional water quality control boards, and establishing salinity standards for the Bay and Delta to protect the beneficial uses of these waters. The San Francisco Bay Regional Water Quality Control Board is charged with designating, protecting, and enhancing the beneficial uses of the waters of the San Francisco Bay Basin. The Regional Board states the beneficial uses of the Bay waters and the water quality objectives and waste discharge standards in its Water Quality Control Plan, San Francisco Bay Basin, which it carries out through Board resolutions, planning and policy development, adoption and enforcement of National Pollutant Discharge Elimination System permits and of waste discharge requirements and water quality certification of the U.S. Army Corps of Engineers' permits, among other programs. The State Board, Regional Board and local governments regulate discharges from construction sites. The Department of Toxic Substances Control, Regional Board, and U.S. Environmental Protection Agency have the primary responsibility for the remediation and clean up of hazardous substances.*
- d. **Bay Plan Water Quality Policy 2.** *Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan, San Francisco Bay Basin and should be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Board, should be the basis for carrying out the Commission's water quality responsibilities.*

2. Contamination

- a. **Bay Plan Water Quality Finding o.** *The State Water Resources Control Board is responsible for formulating and adopting state water quality control policy pursuant to the state Porter-Cologne Water Quality Control Act and federal Clean Water Act. The State Board is responsible for approving the water quality control plans of the nine regional water quality control boards, and establishing salinity standards for the Bay and Delta to protect the beneficial uses of these waters. The San Francisco Bay Regional Water Quality Control Board is charged with designating, protecting, and enhancing the beneficial uses of the waters of the San Francisco Bay Basin. The Regional Board states the beneficial uses of the Bay waters and the water quality objectives and waste discharge standards in its Water Quality Control Plan, San Francisco Bay Basin, which it carries out through Board resolutions, planning and policy development, adoption and enforcement of National Pollutant Discharge Elimination System permits and of waste discharge requirements and water quality certification of the U.S. Army Corps of Engineers' permits, among other programs. The State Board, Regional Board and*

local governments regulate discharges from construction sites. The Department of Toxic Substances Control, Regional Board, and U.S. Environmental Protection Agency have the primary responsibility for the remediation and clean up of hazardous substances.

- b. **Bay Plan Water Quality Policy 4.** *When approving a project in an area polluted with toxic or hazardous substances, the Commission should coordinate with appropriate local, state and federal agencies to ensure that the project will not cause harm to the public, to Bay resources, or to the beneficial uses of the Bay.*

3. **Climate Change Adaptation**

- a. **Bay Plan Climate Change Finding e.** *[...] The Commission, along with other agencies such as the National Oceanic and Atmospheric Administration, the Federal Emergency Management Agency, the United States Army Corps of Engineers, cities, counties, and flood control districts, is responsible for protecting the public and the Bay ecosystem from flood hazards. This can be best achieved by using a range of scientifically based scenarios, including projections, which correspond to higher rates of sea level rise. [...]*
- b. **Bay Plan Climate Change Finding h.** *[...] Developing innovative adaptation approaches will require financial resources, testing and refinement to ensure that they effectively protect the Bay ecosystem and public safety before they are implemented on a large scale. Developing the right mix of approaches would best be accomplished through a comprehensive regional adaptation strategy developed through a process involving various stakeholders and local, regional, state and federal agencies.*
- c. **Bay Plan Climate Change Finding t.** *There are multiple local, state, federal, and regional government agencies with authority over the Bay and shoreline. Local governments have broad authority over shoreline land use, but limited resources to address climate change adaptation. Working collaboratively with local governments, including agencies with responsibility for flood protection is desirable to optimize scarce resources and create the flexibility needed to plan amidst a high degree of uncertainty.*
- d. **Bay Plan Climate Change Policy 6.** *The Commission, in collaboration with the Joint Policy Committee, other regional, state and federal agencies, local governments, and the general public, should formulate a regional sea level rise adaptation strategy for protecting critical developed shoreline areas and natural ecosystems, enhancing the resilience of Bay and shoreline systems and increasing their adaptive capacity.*
- e. **Bay Plan Climate Change Policy 8.** *To effectively address sea level rise and flooding, if more than one government agency has authority or jurisdiction over a particular issue or area, project reviews should be coordinated to resolve conflicting guidelines, standards or conditions.*

- f. **Bay Plan Shoreline Protection Finding e.** *Addressing the impacts of sea level rise and shoreline flooding may require large-scale flood protection projects, including some that extend across jurisdictional or property boundaries. Coordination with adjacent property owners or jurisdictions to create contiguous, effective shoreline protection is critical when planning and constructing flood protection projects. Failure to coordinate may result in inadequate shoreline protection (e.g., a protection system with gaps or one that causes accelerated erosion in adjacent areas).*
4. **Public Access.** *Bay Plan Public Access Policy 11. Federal, state, regional, and local jurisdictions, special districts, and the Commission should cooperate to provide appropriately sited, designed and managed public access, especially to link the entire series of shoreline parks, regional trail systems (such as the San Francisco Bay Trail) and existing public access areas to the extent feasible without additional Bay filling and without significant adverse effects on Bay natural resources. State, regional, and local agencies that approve projects should assure that provisions for public access to and along the shoreline are included as conditions of approval and that the access is consistent with the Commission's requirements and guidelines.*
 5. **Mitigation.** *Bay Plan Mitigation Policy 8. Mitigation programs should be coordinated with all affected local, state, and federal agencies having jurisdiction or mitigation expertise to ensure, to the maximum practicable extent, a single mitigation program that satisfies the policies of all the affected agencies.*
6. **Public Trust Lands**
 - a. **Bay Plan Public Trust Finding c.** *Title to this public trust ownership is vested in the State lands Commission or legislative grantees.*
 - b. **Bay Plan Public Trust Policy 1.** *When the Commission takes any action affecting lands subject to the public trust, it should assure that the action is consistent with the public trust needs for the area and, in case of lands subject to legislative grants, should also assure that the terms of the grant are satisfied and the project is in furtherance of statewide purposes.*
 7. **Water-Related Industry and Ports**
 - a. **Bay Plan Water-Related Industry Policy 6.** *The Commission, together with the relevant local governments, should cooperatively plan for use of vacant and underutilized water-related industrial priority use areas. Such planning should include regional, state and federal interests where appropriate, as well as public and special interest groups. [...]*
 - b. **Bay Plan Port Finding d.** *[...] Bay fill for new terminals must be minimized to conform to the provisions of the McAteer-Petris Act, the efficiency of existing and new terminals must continue to increase, and all of the available sites must be reserved for terminals. This will require careful coordination of port development*

with other shoreline uses, local government protection of sufficient port lands to accommodate port-related uses and terminal back land expansions, redevelopment of some existing terminals and industry for new terminals, and deepening channels where it would increase the efficiency of existing terminals.

C. Support and Encouragement. BCDC can support and encourage certain activities related to environmental justice and social equity by project proponents; local governments; or federal, state, regional, and local agencies. BCDC has several policies in the Bay Plan that are of this nature, such as those in the Climate Change, Transportation, and Public Access sections. BCDC can strive to be a leader in championing environmental justice and social equity by continuing to support and encourage actions on the topics listed above. Additionally, BCDC can create more advisory policies that encourage and support action on issues related to environmental justice and social equity. The sections of the Bay Plan that contain policies of encouragement or support on issues related to environmental justice and social equity are included below.

1. **Bay Plan Climate Change Policy 7(a).** *Until a regional sea level rise adaptation strategy can be completed, the Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts. The following specific types of projects have regional benefits, advance regional goals, and should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding:*
 - a. *remediation of existing environmental degradation or contamination, particularly on a closed military base;*
2. **Bay Plan Transportation Policy 1.** *Because of the continuing vulnerability of the Bay to filling for transportation projects, the Commission should continue to take an active role in Bay Area regional transportation and related land use planning affecting the Bay, particularly to encourage alternative methods of transportation and land use planning efforts that support transit and that do not require fill. The Metropolitan Transportation Commission, the California Department of Transportation, the California Transportation Commission, the Federal Highway Administration, county congestion management agencies and other public and private transportation authorities should avoid planning or funding roads that would require fill in the Bay and certain waterways.*
3. **Bay Plan Climate Change Policy 6(g, i, j).** *The Commission, in collaboration with the Joint Policy Committee, other regional, state and federal agencies, local governments, and the general public, should formulate a regional sea level rise adaptation strategy for protecting critical developed shoreline areas and natural ecosystems, enhancing the resilience of Bay and shoreline systems and increasing their adaptive capacity.*

The Commission recommends that: (1) the strategy incorporate an adaptive management approach; (2) the strategy be consistent with the goals of SB 375 and the principles of the California Climate Adaptation Strategy; (3) the strategy be

updated regularly to reflect changing conditions and scientific information and include maps of shoreline areas that are vulnerable to flooding based on projections of future sea level rise and shoreline flooding; (4) the maps be prepared under the direction of a qualified engineer and regularly updated in consultation with government agencies with authority over flood protection; and (5) particular attention be given to identifying and encouraging the development of long-term regional flood protection strategies that may be beyond the fiscal resources of individual local agencies.

Ideally, the regional strategy will determine where and how existing development should be protected and infill development encouraged, where new development should be permitted, and where existing development should eventually be removed to allow the Bay to migrate inland.

The entities that formulate the regional strategy are encouraged to consider the following strategies and goals:

- g. address environmental justice and social equity issues;*
- i. advance regional sustainability, encourage infill development and job creation, provide diverse housing served by transit and protect historical and cultural resources;*
- j. encourage the remediation of shoreline areas with existing environmental degradation and contamination in order to reduce risks to the Bay's water quality in the event of flooding;*

- 4. Bay Plan Public Access Policy 10.** *Roads near the edge of the water should be designed as scenic parkways for slow-moving, principally recreational traffic. The roadway and right-of-way design should maintain and enhance visual access for the traveler, discourage through traffic, and provide for safe, separated, and improved physical access to and along the shore. Public transit use and connections to the shoreline should be encouraged where appropriate.*

One way that BCDC can advance these policies is by writing public comment letters. For example, BCDC has written to local governments on their policies and plans related to climate change adaption. BCDC has also written to federal government agencies encouraging the use of its policies where it does not have authority or jurisdiction. One example is writing to the U.S. military about future flooding and their clean-up and remediation projects at federal facilities or properties.

D. Guidance and Technical Assistance. BCDC provides guidance and technical assistance on issues related to environmental justice and social equity to external entities such as local governments, agencies, non-profits, community groups, the private sector, and project proponents, among others through several means detailed below. BCDC could work to integrate environmental justice and social equity considerations into the work of the entities below, including improved community engagement and involvement, revisions to guidelines, and additional review board members. Specifically, environmental justice and social equity

considerations should be included in the Public Access Design Guidelines since this amendment includes the Public Access Bay Plan policies. For example, the Shoreline Spaces guide can include sections on community involvement in the design phase as well as the importance of including elements and programming that embody multicultural and indigenous histories and presence. Further, the Shoreline Signs guide can include the need to provide signage in the appropriate languages and icons. Moreover, BCDC could develop a new guidance document on how local governments can be consistent with any environmental justice and social equity Bay Plan findings and policies. The sections below provide brief descriptions of BCDC's current guidance and technical support programs.

1. **Adapting to Rising Tides (ART) Program.** Founded in 2011 in BCDC's Planning Division, the Adapting to Rising Tides (ART) Program provides staff support, guidance, tools and information to help agencies and organizations understand, communicate, and begin to resolve complex climate change issues. The ART Program both leads and supports multi-sector, cross-jurisdictional projects that build local and regional capacity in the San Francisco Bay Area to plan for and implement adaptation responses. These efforts have enabled the ART Program to test and refine adaptation planning methods to integrate sustainability and transparent decision-making, and foster robust collaborations that lead to action on adaptation. Additionally, the ART Portfolio website provides access to the planning guidance, tools, data and information developed and refined by ART Program staff based on their extensive experience and lessons learned in adaptation planning through leading and supporting numerous projects. The portfolio consists of findings, projects, how-to guides, and a help desk.
2. **Design Review Board (DRB) and Public Access Design Guidelines.** The Design Review Board (DRB) serves as an advisory board to the Commission and its staff. The DRB was formed to advise BCDC on the evaluation of the physical and visual public access proposed as a part of projects that require BCDC permits. Specifically, the DRB advises on a project's effects on appearance, design and scenic views in accordance with BCDC's San Francisco Bay Plan policies and the Public Access Design Guidelines. The DRB's recommendations are advisory only. The Board is comprised of seven members and includes at least one architect, one landscape architect and one engineer. The Board members volunteer their time and expertise.

BCDC's Public Access Design Guidelines are a three-part handbook that provide the San Francisco Bay region with a design resource for development projects along the shoreline of the San Francisco Bay. The guidelines are not legally enforceable standards but are an advisory set of design principles aimed at enhancing shoreline access while providing for the protection of Bay resources, regional livability and local economic prosperity. The design guidelines also provide guidance on signage and planting.

3. **Engineering Criteria Review Board (ECRB).** The Engineering Criteria Review Board (ECRB) is an advisory board that assists BCDC in evaluating the engineering aspects of projects that require BCDC permits. Currently, the ECRB is made up of ten professionals, including structural, coastal, and geotechnical engineers, a geologist, a geophysicist, and an architect. The ECRB members volunteer their time and expertise to advise BCDC regarding seismic and other engineering issues, and assist applicants in designing projects with appropriate engineering criteria.

VI. Appendix A

Notes from the June 19, 2018 Environmental Justice Roundtable hosted by the California State Lands Commission, California Coastal Commission, and the San Francisco Bay Conservation and Development Commission (BCDC)

What brings you here today? What got you interested in environmental justice issues?

- Greenwashing by corporations
- Expand environmental justice to include economic justice
- Need to appreciate that we are on Indigenous land and treat others with the same kindness we'd want
- Wants to see if environmental justice communities are part of the discussion
- Currently leadership requires a certain level of education that excludes the real experts (community members that have lived experience with environmental injustice) – government needs to value this community/lived expertise
- Coastal and open-space access, especially transit-constrained Bay access for people with disabilities or special needs
- Need to add disability to the environmental justice discussion – expand definition of environmental justice to include those with disabilities
- Need to decrease the amount of coal being transported through Richmond that worsens air and water quality. Wants to know the authorities of the commissions to address this
- Health impacts of coal in West Oakland
- Impact of economic development, especially if driven by toxic resource use. Agencies should consider health impacts, not just economic improvements
- Wants a seat at the table in the planning process
- Decisions being made early on without involving communities of color. Agencies should engage these communities in the planning process from the beginning
- Remediation site near Phillips 66 – why is Phillips 66 calling all the shots if the CA State Lands Commission is 80% land owner? Concerned about change of land use. Confused about Public Trust. Concerned that environmental impact report doesn't show neighborhoods
- Phillip 66 project – studies for similar projects differ from applicant findings

- Agencies need to require developers to take environmental justice impacts into account and mitigate/address them
- Agencies need to announce projects early on so there is time for communities to prepare
- Restaurant workers rights
- Lead poisoning in Chicago
- Environmental law
- Access for all
- Bringing out the voices of those who are affected
- Need more involvement than just testifying at a meeting
- Urban, rural, and indigenous communities are dumped on
- Government agencies are violating the law. Having a policy is not enough. Need to make policy strong and follow it. Need to include civil rights in policy
- How to lessen impacts on frontline communities
- Call on people's consciences
- Toxic dump site at Carquinez Bridge
- Housing costs
- Ability to live and be healthy are related to the environment
- Hotel permitting
- Standing Rock
- Agencies need to take into consideration unintended consequences, perceived safety, and protection of the environment
- Environmental protection is not just birds and trees – it is human/social
- Need to have more public access
- Need to move away from a broad categorization of “homeless”
- Need to find opportunities to educate on public access
- Agencies need to get people engaged, meet people where they are, and allow them to have ownership
- Need more public transit opportunities to access coast/water
- Air quality
- Public health
- Climate change and sea level rise
- Concerned about coal
- Environmental injustice in Hunters Point
- CAUSE's work
- Selby Slag remediation concerns

- Lived-in experience needs to be considered expertise
- Concerned that government agencies have environmental justice policies on paper but do not enforce them
- Wants more information on how to be involved in the process for participating
- Community voices need to be heard and considered in the decision-making
- Public participation in the public process
- Youth
- Students and others feel helpless
- Government and industry need to follow the law
- Wants to assure that people in the community are heard and their voices are taken into consideration
- Wants a website on how to get involved, including all the government agencies, where they are, and how to start the process for getting students active

What does achieving environmental justice in terms of flooding protection/food hazards and safety look like? What would we need to get there?

- Addressing proximity of industrial sites to vulnerable communities – avoiding what happened in Houston
- Addressing economic displacement
- People who have lower-wage jobs need to receive assistance in recovery, not only property owners
- Addressing impacts of shoreline protection on nearby properties
- Making a difference in emissions reductions, not accepting that we are “doomed”
- Government needs to connect with culturally competent organizations
- Need to connect the issues of environmental justice communities to everyone
- Government needs to build relationships with and partner with communities
- Need large scale mobilization
- Need to provide easy steps to get involved in your personal life and community
- Needs to be coordination among government agencies about which one to contact with what issues – a “roadmap” to action
- Equity needs to be at the center of every step in the planning process
- Policies need stronger language than only “consider”
- Need to pay community members and organizers for their participation

What does achieving environmental justice in terms of development look like? What would we need to get there?

- Community members do not just want to be heard – they want a seat at the table
- Communities of color need to be in the room from the beginning of the process

- Acknowledgement of affected communities' existence
- Follow UN sustainable development goals for social, environmental, and economic benefits without causing harm
- Protection of communities
- Requiring developers to take environmental justice into consideration
- Need more announcements and better advertisement of public meetings
- Projects need to start with doing research on communities affected and incorporating these communities from the beginning
- Every stakeholder needs to be in the room
- Need language access resources – agencies need to talk to communities and people who will be affected in their language
- Agencies need to talk to communities first, not developers
- CA State Lands Commission needs to remember they are stewards of our (public) property – they need to be in favor of the public over corporations from other states
- Agencies need to take into account not only who lives nearby development site, but who is working in these project areas – projects that only provide poorly paid jobs are actually hurting the communities around it as well as the communities where the workers live. If we instead create better paid jobs, we can create stability.
- Agencies need to not allow restrictions on access for traditional uses of land such as fishing that allow people to feed themselves and recreate
- Honor, know, and consider the communities that use the land
- Development of harbors is leading to loss of public access
- Agencies need to post notices about meetings in the communities
- Need protection and enhancement for existing communities rather than communities moving in/gentrifying
- Notices need to be sent to tenants, not just property owners
- “Neutral” laws can be enforced in racist ways (i.e. Lake Merritt example of charcoal bbq) – we need to think about how these laws are being enforced and who enforces them
- Adding “security” to open spaces can be threatening and discourage access especially among those with immigrant status. Access needs to be protected but these patrols are not a good option
- Need to have culturally sensitive open spaces – they cannot just be for gentrifiers
- There is a failure in environmental impact report reporting – these reports can favor the fossil fuel industry. They need to take both acute and chronic exposures into account. Selby Slag environmental impact report does not mention human health and the nearest neighborhoods were photoshopped out to give the impression that the closest community was farther away from the project site than it actually was.

- Agencies need to consider cumulative impacts of multiple projects instead of case-by-case analysis
- Carbon tax is leading to the concentration of polluters in close proximity to low-income housing
- There needs to be an environmental justice analysis in permit applications or hearings before commissions
- Agencies need to start denying permits on environmental justice grounds
- Agencies need to stop blaming municipalities
- Tired of regulators saying they have no power
- Agencies need to consider public health and social impacts with any economic development project proposed
- Often environmental justice communities or communities of color are asked to join in late in the process, after decisions are made so that the agencies can say they “did environmental justice.” These communities need to be involved from the start.
- Immigrant families are not considered as there are often no translation/interpretation services offered
- Low-income workers need protection – many are being displaced out of the Bay Area
- Need to make sure public access to the coast/Bay is protected as the coast/Bay is being beautified
- Agencies need to protect low-cost and traditional uses of coast/Bay such as fishing (even for those who do not live at the coast/Bay)
- Need water-quality protections for fishers who depend on the Bay to feed themselves and their families
- Agencies need to revisit MOUs, permits, and agreements that have environment justice implications on communities
- Agencies need to ensure that developers provide good jobs through the construction and life of projects (including decent salaries and benefits to protect workers from displacement)
- Areas keep getting developed in a way that raises the costs of living, forcing tourism and service workers out of their homes.
- Agencies need to include a clause in policies that require (or at least encourage) jobs for lower income and people of color in permit applications
- Announcements and information about upcoming development projects needs to be posted in the affected communities (in schools, grocery stores, churches, libraries, and other public spaces) and disseminated via radio and other relevant community media outlets in the appropriate languages
- Agency staff need to go out and engage with the public at community meetings and report on upcoming projects

- One way to reach more people is to conduct a survey similar to a census survey to let people know about issues
- Many people want to participate in discussions regarding upcoming development projects but do not because of lack of process awareness and language barriers
- Agencies need to highlight the potential impacts of the project in notices
- All of our materials, including our laws and policies, need to be in Spanish
- If agencies don't help communities fight back against developers, the rich will continue to get richer and the poor will continue to get poorer
- Need to have meetings exclusively for Spanish speakers so people can feel at ease when participating

What does achieving environmental justice in terms of coastal and Bay public access and recreation look like? What would we need to get there?

- Law enforcement in public spaces (depending on how it's conducted, especially if it official officers) is threatening. People feel uncomfortable calling enforcement or reporting access issues
- Open spaces and public spaces should be welcoming to people of all cultures
- Gentrification and changes in communities threatens access of communities who have historically been there
- Access means safety
- People need to know their rights
- Need more accessibility requirements for public access signage
- Agencies need to do community education around what is available and when
- Agencies need to do a better job of drawing people in
- Agencies need to utilize community groups to spread information
- Agencies need to use social media, television advertisements, and radio
- Agencies need to make the community feel welcome
- Neighborhood associations are good outreach opportunities – agencies need to hold meetings here
- Agencies need to include both parents and children in public access/recreation education and outreach
- Do free programming to gain momentum
- Get decision-maker buy-in
- Leverage technology to promote public access
- Need better parking opportunities at the coast/Bay
- Need better public transportation opportunities to get to the coast/Bay
- Improve signage
- Need programs focused on children/schools (escorted introductions)

- Coastal access is sometimes cut off by roads/railroads – need to consider land use as a connected watershed
- Need creation of more public park areas
- Need focused amenities based on what communities want
- Need low-cost accommodations
- Need better education in schools about the coast/public trust – the people of California need to know it belongs to them
- Agencies need to engage a more diverse demographic of users
- Need to address perceptions of who can use public access

What does achieving environmental justice in terms of public participation/process access look like? What would we need to get there?

- Make meetings more accessible – provide food and childcare and announce this when sending out meeting information so participants know what to expect
- If staff is paid to be at a meeting or workshop, so should community members who are sharing their time and expertise. Local and community knowledge and lived experience need to be treated as an expertise – therefore, community members need to be involved from the onset and compensated for providing this expertise (just as other experts are). Agencies need to recognize this process takes a long time.
- Agencies need to build trust with communities and then partner with them. Agencies can start with identifying local/community leaders.
- Agencies need to provide volunteer opportunities to help people get involved
- The medical and labor communities need to be included in environmental justice discussions
- People need to be reimbursed for their time
- Agencies’ mission statements are good but need to enact laws with force
- Agencies need to be more responsive to the public
- Industry is getting more access to decision-makers than the public
- Staff does not follow board rules
- Environmental impact reports do not reflect communities
- Agencies need to be clearer, more transparent, and fairer in their communication, especially on jurisdictions and authorities
- Policies need to be translated into laws and actions
- Agencies need to put their tribal consultation policies into work – agencies specifically need to consider the impacts of large solar developments on indigenous land and communities
- There needs to be more integrity in the translation of policies
- Need further clarification of agencies’ jurisdictions

- Concerned about whether to spend efforts working with staff as they are not the actual decision-makers
- Agencies need to put policies into practice and need to be held accountable for doing so
- Government needs to go to the people, rather than having the people go to government
- Environmental justice policies need to have “teeth” so that agencies can be held accountable
- Government needs to push back on private interests
- There needs to be less bureaucracy and simplified messaging
- Agencies should be the ones taking on the responsibilities of making participation/process accessible, it should not fall on non-profit organizations
- Agencies need to take public comment seriously and hold developers accountable
- Agencies need to loop back with communities and tell them what changes were made in response to events (like these), meetings, public comment, etc.
- Communities want to shape, guide, and lead processes not just “provide input” – they want decision-making power
- We need to speak from our individual experiences and those with power need to acknowledge it
- Everyone needs to be equitably invited to the table. This takes a long time – agencies need to build that time into planning processes
- We need more public/private and public/non-profit partnerships
- Agencies need to value local and community expertise over in-house engagement exercises
- Agencies need to hold meetings in community spaces at times and dates that are accessible to community members
- Language accessibility needs to be ensured at all public meetings and in any materials that the agencies produce
- Meetings need to be universally accessible – agencies need to let people know about accessibility in meeting notices/follow-ups (e.g. building accommodations, ASL interpreters, etc.)
- Need changes to the US economic system
- Agencies need to go out to communities, rather than making people come to the government (downtown Oakland does not seem like a good location)
- Agencies need to be willing to fight Washington
- Agencies need to be less confusing. People want to know how to access the process and a project as it goes through permitting processes. Provide infographics on how to participate (similar to ACLU’s graphics)
- Agencies need to hold meetings after work hours, so that working people can participate

- Agencies need to provide Spanish translation at meetings
- Agencies need to take workers' concerns seriously
- Agencies need to have an online/web option to participate in meetings
- Agency staff need to negotiate community engagement/environmental justice work into job description and project work plans (utilize GARE framework)
- Agencies need to create positions for community engagement/environmental justice work (utilize unions)
- Agencies need to provide transit stipends for people to participate (public transit is expensive)
- Agencies should fund community coalitions to create action plans – agencies can also provide technical expertise to these coalitions
- (In the Bay Area), we need to work with MTC – they will need to be a part of the solution
- Be a “bureactivist” as a government employee
- Agencies need to spend time building trust and relationships with communities
- Legislature needs to appropriate more funding for this work (write op-eds and utilize democratic clubs to start process)

How do you want to be involved in our agencies' processes?

- 1-on-1 meetings with agency staff
- Advance public notices
- Listservs
- Tell teacher groups about opportunities
- Agency staff and board members need to have the ability to sit down and meet in person prior to decisions being made
- Infographics and simple explanations for how to participate
- Return phone calls
- Agencies need to engage social justice schools and co-ops
- Not sure if exercises (like this) are anything more than a waste. Will they affect any change?
- Agencies need to involve the local community in spreading the word about events – utilize potentially unrelated groups to spread message
- Agencies need to make communications local/relatable to the immediate community, rather than abstract concepts
- Agencies need to spread participation opportunities through community newspapers, churches, schools, and youth groups
- Agencies should leverage ethnic media outlets

- Agencies need to better connect advocacy organizations with public's responses to agencies
- Agencies need to make information more digestible and involve more people
- Agencies need to hold separate meetings in communities in which English is not the primary language spoken

VII. Appendix B

Notes from the January 17, 2019 BCDC Commissioner Workshop on Environmental Justice.

Public Access Discussion

Brainstorm on any missing intersections of EJ and public access to add

- Linking to k-12 experience.
- Linking to public schools.
- Public access spaces that may be flooded.
- Security – do you feel safe or unsafe from having security?
- Programming of space – be more explicit how it will be used and advertised.
- Multi-lingual outreach/advertisement of public access areas.
- Adaptive amenities.
- Water quality as public access issue.
- Liveboards – consider people who live on boats. The only way to be middle class while owning a boat in the Bay area is to live on it given the cost of boating. Liveboard rules harm the boating community but no one is engaged with this community or is doing continuous relationship-building.
- Issues impact everyone not just the most active users.
- Some children taught that the experiences of being at the Bay are not for them – this is a chance to integrate this into school curricula.
- Fishing amenities – cultural and language access.

Brainstorm on how BCDC could address these intersections given its role, jurisdiction, and authority

- When EJ amendment is complete, could BCDC update the public access design criteria?
- Need outreach early in the design of public access areas.
- Need more proactive and continuous outreach to different groups
- Leverage the public transit that is there – make access BARTable.
- Need to create a list for early outreach to EJ groups on all issues in various ways.
- Need broader public outreach and education around public access.
- Diversify locations of public access requirements.
- Need to engage youth so they are aware and use public access spaces.
- Engage organizations to help BCDC improve engagement, especially to youth.

- Provide skills/training to youth on how to actively use the Bay (i.e. swimming, kayaking, fishing, etc.) which can create a lifetime love and stewardship of the Bay.
- Have BCDC's Design Review Board require community engagement in applicants' design processes.
- Invite community groups to Design Review Board meetings.
- Add EJ representatives as members to the Design Review Board.
- Hold Design Review Board meeting in/near project sites.
- Encourage cities to be more active in public access design plans and engagement.
- Programming spaces will get folks there –could BCDC require a certain number of events per year?
- Design Review Board should consider environmental justice in its design criteria.
- Improve advertisement of public access areas to targeted populations (needs to be culturally and language appropriate).
- Design public access areas to reflect regional values around multiculturalism, social justice, and environmental sustainability.
- Source public access building materials sustainably.
- Public access amenities should include elements and signage that embraces natural and indigenous/multicultural history and presence.
- Redesign Public Access Design Guidelines to include environmental justice and social equity
- In lieu of physical access, can BCDC require money in trust for EJ purposes such as community engagement?
- There are other ways to improve safety of public access beyond uniformed security guards and police. There can be rangers, guides, and public events.
- Focus on stewardship of public access.
- How can BCDC encourage the 100-foot shoreline band to not be treated like a setback but rather encourage folks to activate the spaces?
- BCDC needs a better understanding of how certain communities use the public access and the Bay to design better public access
- Flexibility in designs such as moveable furniture.

Shoreline Protection/Flooding

Brainstorm on any missing intersections of EJ and Shoreline Protection/Flooding to add

- Outreach and education are critical as residents may not be aware of flood/hazard risks in the area or know what or how projects are being designed for flood protection.
- Two-way transfer of knowledge: both from BCDC to residents, but also from residents to BCDC and recognizing that communities know best what they need and have a lot of knowledge specific to the areas in which they live that is valuable

- Inability to access meetings limits communities' ability to participate
- Thinking about recreation in the short-term and long-term with the construction of shoreline protection.
- How do we manage expectations? How long should we protect structures for?

Brainstorm on how BCDC could address these intersections given its role, jurisdiction, and authority

- Improved community involvement in process including better outreach and making participation accessible.
- Meetings at locations convenient to the projects in question.
- BCDC staff could go to meetings already in existence that are discussing this issue (ex: Bayview Hunters Point EJ Response Task Force) to engage the communities on projects in their neighborhoods.
- Improved outreach on sea level rise awareness and extent of impacts.
- Community often has no knowledge of meetings or what projects are being considered – need to bridge that gap.
- Improved community education.
- Projects need to engage the community at the onset at the pre-application stage
- Can shoreline protection provide access to the water?
- Partnerships between agencies and communities to increase representation of communities.
- Draw on community programs that already exist, utilize the networks of community-based organizations and create partnerships with these organizations to share information and work together to engage more participation.
- Create map and list of existing organizations and contact information.
- Utilize the Bay Area Climate Adaptation Network (BAYCAN).
- Projects are often already designed before they are reviewed by the public. Need to change this.
- Communities are told what the project is without an option to comment at the first steps.
- Create a requirement for applicants to work with community in development of project proposals, find a way to create a standard (or best practices) to ensure community engagement in project designs are done comprehensively and meaningfully with the community
- There needs to be community processes, not just a community meeting. Community involvement should not be a check-list item but a real engagement process.
- Add community involvement into the standard of review.
- Look to nonprofits who are trying to create strong community processes for projects (ex: Asian Pacific Environmental Network).

- Ask questions early on before moving forward, such as, “would this type of use make sense?”
- There needs to be community involvement at every phase of the projects including research, planning, and review.
- BCDC needs to give information to applicants about what is required for community process.
- Need to consider contamination and the potential mobilization of contaminants.
- Ensuring communities adjacent to protection can access the Bay.
- Making private landowners a part of the permitting process.
- Create a repository of regional information about who regulates and who enforces what.
- Create MOUs and contracts with groups.
- Create a regional public access plan that includes local government and stakeholders.
- Collaboratively incorporate community in flood plans.

Mitigation/Habitat Restoration

Brainstorm on any missing intersections of EJ and mitigation/habitat restoration to add

- Involvement of public after restoration – missing education link.
- In theory we have closed several contaminated sites and done mitigation but what will sea level rise do to it?
- Public access is missing from this conversation. Restoration could restore access and education to EJ communities (example in West Oakland as habitat restoration was also used to re-create connection to the shoreline for fishing, education, and recreation).
- Restoration and habitat can tie in cultural and recreational opportunities.
- How do superfund sites and contaminated lands play into mitigation?
- Social restoration is missing from mitigation.
- Sustained and maintained relationships with the community.
- Shoreline communities and contaminated lands that are at risk of flooding.
- Signage related to illiteracy.

Brainstorm on how BCDC could address these intersections given its role, jurisdiction, and authority

- Community involvement in the initial selection of mitigation project, design of mitigation project, in the identification of community (language, cultural use of shoreline (fishing)) – who should be involved/included?, in post-restoration (educational component, internships, monitoring).
- Applicants for projects should fully address EJ issues.
- We have focused much mitigation on habitat restoration and banking, could we expand that to include protection from sea level rise. This type of mitigation could include

higher levels of protection from sea level rise in EJ communities. We should prioritize protecting disadvantaged communities instead of just protecting the shoreline. We could even do protection banking.

- Encourage mitigation projects that combine habitat, education, and social opportunities in EJ communities.
- Job opportunities can also be a part of mitigation projects so the whole community is a part of it.
- Figure out who to bring to the table for the mitigation projects.
- Develop regional plan of priority areas where mitigation from SLR is needed and use as mitigation for social and habitat impacts.
- There should be mitigation for social impacts.
- How would we embed this into existing regulatory work? Is this through policy updates or regulation changes?
- Build in measures to ensure that mitigation that is required does not lag behind project. Maybe require mitigation prior to project start? This may be challenging financially.
- How do we get the right people at the table?
- ShoreUpMarin in Marin City could serve as a model for linking many groups in the community to solve issues. There is an opportunity to share stories and successes.
- Habitat restoration/mitigation not just for species but also for community.
- Work with and not for the communities on these projects.
- Moving from helping to partnering and collaborating.
- Build trust and relationships.
- Need to have broad, collaborative planning and bring people to the table.
- Mitigation needs to be culturally relevant with signage in appropriate languages.
- Forms/materials need to be rethought – language, literacy, government jargon, acronyms, etc.
- Long-term community benefits and collaborations.
- Incorporate community priorities.
- Invite community to collaborate, do not impose a project onto a community.
- Community needs ownership over a project.
- Are the terms “habitat” and “restoration” and “mitigation” appropriate? Are they accessible?
- Look to Literacy for Environmental Justice – SF-based organization involved in restoration projects (Yosemite Slough is one example).
- Need to consider relationships (consider movement of water and how it connects communities).
- How do we include more complete communities as “interested parties”?
- How do we ask communities who is impacted by a project?

- Ask the applicant of a project, “how will this impact community?” and, “Are you working with community?”
- Work with Neighborhood Councils (Ex: Richmond) – projects are often presented to advisory councils.
- Develop a list/database of community groups/environmental groups/etc. to notice of projects.

Other Policy Areas of Concern

Brainstorm on what other policy areas should or could be address by BCDC and why

- Contaminated lands.
- Workforce development.
- Fossil fuels and climate change mitigation.
- Incorporating environmental justice frameworks.
- Recognizing racist role.
- New port in Vallejo.
- ORCEM cement plant in Vallejo.
- Phillips 66.
- Is BCDC protecting communities or public health?
- BCDC continues to preserve industrial areas without considering public health impacts.
- BCDC needs to take a stronger stand on issues (ex: rock blasting in Napa, port in Vallejo, coal terminal in Oakland, regional powerplants, Selby Slag, etc.).
- Create safety buffer zone around frontline communities that does not allow for polluting industries any adverse public health impacts.
- There needs to be a public health analysis and sign off on permit decisions.
- BCDC needs to stop preserving industrial land uses and instead protect public health.

Brainstorm on what other (non-Bay Plan) BCDC plans, policies, procedures, or guidance could or should be amended to address environmental justice and social equity

- Increase BCDC staff resources around environmental justice.
- Processes needs to slow down in order to talk to communities.
- There needs to be action beyond talk.
- Staff need more technical expertise around pollution, contamination, public health and CEQA requirements.
- BCDC needs to address tribal issues.
- Amend McAteer-Petris Act to include environmental justice and public health.
- Remove any language in BCDC plans, policies, laws, etc. that promotes retaining industrial uses.
- BCDC should stop helping applicants meet the permit requirements if they do not do so initially.

Access to and engagement in BCDC's public processes

Discussion on what is and is not working regarding BCDC's public process

- Conducting meetings and producing materials only in English is not working.
- BCDC often relies on public process/community engagement in CEQA requirements carried out by the local governments – is this really working?
- The general public does not know BCDC exists.
- 100-ft noticing requirement is not enough.
- Process is now dependent on applications and negotiations with BCDC permit analysts over a long period of time → this is not ideal for community involvement.
- Right now, commissioners do not have early knowledge about projects and risks until the project is brought before them. This does not lead to the most informed decision-making.
- Many projects are permitted as administrative permits that do not have a public meeting or process and limit the ability of public knowledge and involvement in decisions.
- Website is not enough.
- Commission meeting time is not convenient.
- Communities need action; they are tired of going to meetings.
- BCDC needs improved coordination with other agencies, especially DTSC.

Discussion on how BCDC can improve access to its public process and required applicant public process

- Create list of EJ organizations, NGOs, and communities to add to interested parties lists and to send courtesy emails of upcoming projects when they are early in the pre-application stage.
- Create Help Desk.
- Webcast meetings.
- Language access in required public access signage and posted notices.
- Hire Chief Public Information Officer.
- Create a social media presence across different platforms that that is culturally and language-appropriate.
- Create universal info-graphics/symbols for signage.
- Use documentaries.
- Informational handouts at meetings for how to participate in meeting and give public comment (similar to Coastal Commission).
- Create applications/mapping tools for the public.
- Provide translation and interpretation at public meetings (meetings and materials).
- Engage with the media.

- BCDC needs a community relations/engagement team with specific skills and training who is responsible for early and regular engagement, rather than ad hoc engagement/winging it/engagement as an add-on or afterthought.
- Improve website to be more user-friendly and less jargon-y as well as ADA-compliant and multi-lingual.
- Create diverse community advisory boards.
- Hold commissioners accountable for outreach.
- Communicate permitting process so proponents know when to call BCDC.
- Participate in lower formality engagement opportunities such as tabling/having a booth at public events.
- Create one-page summaries of projects with photos and accessible language/description to go on website and as hand-outs at meetings.
- Conduct survey to find out what people think and know of BCDC.
- Use the state auditors' feedback from the enforcement audit to get more outreach resources.
- Can BCDC pool its resources with Coastal Commission and Coastal Conservancy to improve meeting accessibility?
- Create a glossary of common terms (in all appropriate languages)—Coastal Commission is working on this and BCDC could use/build from the list.
- Include more informal, less intimidating engagement.
- Need to do multilingual outreach on public access beyond signage at the site.
- Need to raise awareness about the Bay beyond people who live or work near the shoreline. It needs to become more of a shared resource.
- BCDC needs to be clearer about how the public can make their voices heard in its processes, including answering the questions, "how do people get involved with advisory boards and committees?" "how do people get chosen to be on the Commission?" and, "How do people contact Commissioners?"
- Use enforcement actions and fines to improve access (ex: Coastal Commission's "Your Coast" application)
- Participating in BCDC's processes should not be a financial burden, meetings should be at times that people do not have to miss work to access them, should provide food, and accessible by transit.
- In order for people to become involved, BCDC will need to do outreach and build trust.
- Community members should be involved the process from the beginning.
- When planning meetings, take into account and coordinate with community availability to attend.
- Use existing partners and organizations.

- There needs to be longevity and formal long-term relationships. Create these by funding community partnerships and participation.
- BCDC should start with looking at past projects and think about how the process could have been designed differently.
- Establish a necessary baseline level of engagement with a community.
- Add requirements around engagement in the pre-application phase.
- Communities do not know what is going on and that should be recognized, valued, and accounted for in meetings and presentations.
- Outreach and education should not be 1-way, it should be 2-way transfer of knowledge.
- Communities know their circumstances best but may not know background process and research on project development and approval.
- BCDC should notice projects under consideration.
- There is a lack of explanation of the “trade-offs” in development of projects.
- Need to ask the communities what they want, staff cannot make this decision.
- If projects are just posted on the website and there is not a community process, then the community may not know about the project until construction starts and then it is too late to influence anything.
- Can there be a preference for communities that bring forth projects?
- Can there be a scaling of engagement based on the size of a project and/or type of permit?
- Make sure communities know where and what projects are being considered.
- Add a section to the application to discuss how the project addresses environmental justice.
- Create a permit application requirement to include local stakeholder/public engagement in pre-application stage.
- Improve coordination with other agencies on outreach over and above legal requirements.
- Need to create a Tribal Consultation Policy.
- Engagement needs to be consistent over long permitting timelines.
- Task commissioners with outreach including 1-on-1 meetings with staff to understand needs and talking with constituents.
- More information to commissioners ahead of time so they can make the most informed decision.
- Provide stipends for community groups to participate in meetings.
- Use commissioners as a resource for community contacts.
- Staff needs to get out of office and do engagement.
- Actually listen to the public and implement feedback and input.

- Create an official outreach plan for the agency.
- Do outreach to local working groups.
- Notice community centers and have a community outreach person on staff.
- Work with the community organizations and grassroots organizations to get the word out about meetings. Money to compensate community groups for their time and expenses in helping with this outreach.
- Rotate the meeting locations around the Bay (different cities and buildings), including in communities. Also live-feed video at satellite locations.
- Trust is one of the key issues that should be addressed. Many folks do not trust the government, Oftentimes, there are only one to two people of color in the room. Government agencies need work on building trust.
- Do you really want to make a change or a difference? This is crucial for successful engagement. If an agency doesn't truly want communities at the meeting, then engagement will not work. Agencies need to be transparent.
- Encourage different communities to look at government jobs/work.
- Reconsider job descriptions and qualifications and how they may lead to inequity.
- Be more transparent and upfront about purpose of meetings/content.
- Use different media outlets to target specific populations (webpage, snapchat, twitter, newspaper, radio, etc.).
- Contact the city of a proposed project – ask city staff to begin outreach as they often know local groups and individuals.
- If BCDC knows of regular commenters or interested parties, let them know.
- Water is our connector and connection - consider using “water level rise” instead of “sea level rise”.
- Public access improves connection to the Bay and increases caring for the Bay.
- Fishing signage should not be in English first when the majority of the fishers do not speak English.
- Need to relate to people's day-to-day life.
- Set up regional participation center.
- Develop a non-profit partnership to help spread the word about a meeting, rather than a paper notice or website post.
- Need to make water and the Bay relevant.
- Let the community decide their priorities around the scale and type of engagement.
- Utilize community knowledge of an area at public meetings.
- The goal is for the community to have more impact and involvement that works for them.
- Educational programs that are culturally appropriate (including language).
- BCDC (and all agencies) needs an ombudsman.

- Need a way for the public to easily see what projects, applications, etc. are in their area, across all agencies.

VIII. Appendix C

BCDC's Adapting to Rising Tides (ART): Regional Community Indicators for Flood Risk

An important step in addressing environmental injustice and social inequity is the identification of people who are disproportionately burdened by adverse environmental contamination, have characteristics that make them less able to prepare for, respond to, or recover from hazards, and understanding their vulnerabilities to such impacts. Identifying these groups of people within communities can hold governments and society more accountable as “all too often, the burden of proof is placed on communities to demonstrate the cumulative impacts of environmental and social stressors and push for action.”¹⁶⁰ Once these groups of people within communities have been identified, they can be the site of stronger industry regulation, increased funding, additional mitigation, or more targeted outreach and engagement.

BCDC's Adapting to Rising Tides (ART) Program has augmented traditional community identification methods by analyzing community vulnerability to current and future flooding due to tides, sea level rise and storm surges. Potential impacts to communities from current and future flooding include loss of property and income; displacement from their communities; disrupted access to medical care and other critical services; loss of power and utilities; exposure to toxic substances, spread of disease, worsened pre-existing health conditions; and physical and mental distress resulting from the flooding of homes and infrastructure. These impacts can be disproportionately distributed to populations with certain existing socioeconomic vulnerabilities. Additionally, these populations tend to be highly sensitive to impacts, leading to potentially devastating implications from even minor flooding.

In order to understand vulnerability to adverse environmental impacts, BCDC's ART Program leverages existing research on specific certain socioeconomic characteristics that may reduce ability to prepare for, respond to, or recover from a hazard event or impacts from environmental burdens. This is done at the census block group level. Census block groups with high concentrations of these characteristics and contamination relative to the nine-county Bay Area were identified and grouped into low, moderate, high, and highest vulnerability. Block group data are from American Community Survey (ACS) 2016 5-year estimates. To understand flood risk, 2010 residential parcel data¹⁶¹ was analyzed against 2017 ART Bay Area Sea Level Rise and Shoreline Analysis data,¹⁶² FEMA 100- and 500-year flood zone data, and San Francisco 100-year precipitation data to generate percent residential exposure at each water level by block group. The number of residential units exposed in each block group was divided by total residential units per block group.

¹⁶⁰ Morello-Frosch, R., Sadd, J., & Pastor, M. (2016). *Update and Statewide Expansion of the Environmental Justice Screening Method (EJSM)* (Rep. No. Contract No.: 11-336 Prepared For the California Air Resources Board (CARB)). Retrieved from <https://ww3.arb.ca.gov/research/apr/past/11-336.pdf>

¹⁶¹ Bay Area Metro: MTC & ABAG. (2010). Retrieved from <https://github.com/bayareametro>

¹⁶² ART Bay Area Sea Level Rise and Shoreline Analysis Maps. (2017). Retrieved from <https://explorer.adaptingtorisingtides.org/download>

The term *total water level (TWL)* is used in this section to discuss exposure to flooding. TWL consists of water levels from any combination of tides, storm surge, and sea level rise at the shoreline. This approach allows a more flexible approach for planning actions to address temporary impacts of today's winter storms while simultaneously planning to address permanent flooding from sea level rise in the future.

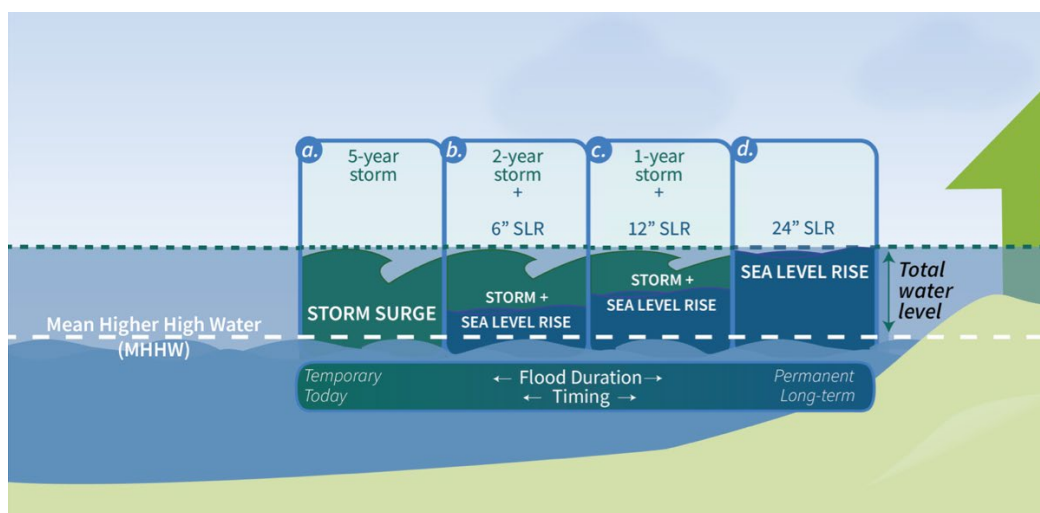


Figure 1: Graphic illustrating the Total Water Level (TWL) concept

In addition to determining exposure of residential households, the ART Program’s methodology for identifying vulnerable community block groups consists of two major components: identifying and mapping social vulnerability indicators and pairing this data with contamination burden indicators.

A. Contamination Indicators. To understand the environmental burden communities face, BCDC’s ART Program considers the presence of contaminated lands and water using data compiled by CalEPA’s Office of Environmental Health Hazard Assessment (OEHHA) for use in CalEnviroScreen 3.0.¹⁶³

Contamination indicators represent degradation or threats to communities and the natural environment from pollution. The presence of contaminated lands and water raises health and environmental justice concerns, which may worsen with flooding and sea level rise. A percentile score for the severity of contamination in each block group was calculated using data compiled by CalEPA’s OEHHA for use in the Environmental Effects category of CalEnviroScreen 3.0. In CalEnviroScreen calculations, the Environmental Effects component is weighted less when incorporated into the total pollution burden. By looking at the Environmental Effects components isolated from the CalEnviroScreen total score, specific risk to contamination becomes clearer. The five specific types of contamination are:

¹⁶³ CalEnviroScreen 3.0. (2018, June 26). Retrieved from <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

- Land with hazardous substances undergoing cleanup actions, original source data from CalEPA’s Department of Toxic Substances Control (DTCS) and U.S. EPA’ Superfund Sites.
- Sites that may impact groundwater and require cleanup, original source data from CalEPA’S State Water Resources Control Board (SWRCB).
- Presence of hazardous waste generators and permitted facilities that are involved in the treatment, storage, or disposal of hazardous waste, original source data from DTSC.
- Water bodies that do not meet water quality standards, listed as impaired under Section 303(d) of the Clean Water Act, original source data from SWRCB.
- Presence of solid waste sites and facilities, original source data from CalEPA’s CalRecycle and DTSC.

Block groups labeled “**Highest contamination vulnerability**” have:

- 4 or more contamination indicators with rates in the 90th percentile, relative to the state; *and/or*
- Total contamination score above 90th percentile, relative to the state

Block groups labeled “**High contamination vulnerability**” do not meet criteria in “Highest” category, and have:

- 5 indicators in the 70th percentile; *and/or*
- Total contamination score between 80th – 90th percentile

Block groups labeled “**Moderate contamination vulnerability**” do not meet criteria in “Highest” and “High” categories, and have:

- 4 indicators in the 70th percentile; *and/or*
- Total contamination score between 70th – 80th percentile

Block groups labeled “**Lower contamination vulnerability**” do not meet any of the criteria above.

B. Social Vulnerability Indicators. To determine social vulnerability, a screening methodology was utilized to identify block groups that have a concentration of individuals or households with a particular characteristic in the 70th percentile or 90th percentile, relative to the nine-county Bay Area. BCDC’s ART Program’s analysis for each block group contains the percent of households with each indicator and the total count of indicators for the two percentile thresholds. In this analysis, indicators in each category are counted the same, when in actuality, different characteristics do not contribute equally to vulnerability. For example, income level may contribute more to community vulnerability than the presence of young children, but it is difficult to quantify how much more. In reality, combinations of characteristics often result in higher vulnerability than either one on its own, which is why a total count method is used.

The methodology for identifying community vulnerability originated in the 2015 ABAG/BCDC Stronger Housing, Safer Communities project.¹⁶⁴ The project’s advisory committee of recognized experts, including community advocates, selected social characteristics which contribute to increased vulnerability to hazards (specific to flood and seismic risks), drawing on professional experience, local knowledge, and consultation of academic and federally-sponsored research. Additional attributes ranking the presence of contaminated sites were added to the dataset following input from the working group for the ART Bay Area project,¹⁶⁵ Policies for a Rising Bay project,¹⁶⁶ and BCDC’s Environmental Justice and Social Equity Bay Plan Amendment. Data and methods should be continually updated as thinking surrounding community and social vulnerability evolves.

The following are the identified socioeconomic characteristics for social vulnerability to hazards:

1. **Renters**^{167 168 169 170 171 172 173 174 175 176 177}

Renters have less control over the condition of their housing than those who own their homes. Renters have a limited ability to make repairs or improvements, such as flood proofing, and generally less information about how hazards may impact their home. During disaster recovery periods, financial aid programs and resources from federal programs are primarily focused on homeowners. Renters are more likely to be evicted if their homes are damaged and face greater risk of displacement after a disaster event —an extensive problem in the Bay Area.

¹⁶⁴ Brechwald, D., Kroll, C., Goodfriend, W., & Lowe, L. (2015, March). *Stronger Housing, Safer Communities* (Rep.). Retrieved from http://resilience.abag.ca.gov/wp-content/documents/housing/FinalReport/StrongerHousingSaferCommunities_SummaryReport.pdf

¹⁶⁵ ART Bay Area. (2019). Retrieved from <http://www.adaptingtorisingtides.org/project/art-bay-area>

¹⁶⁶ Torres, M. (2016). *Policies for a Rising Bay Project Final Report* (BCDC Rep.). Retrieved <http://www.bcdc.ca.gov/prb/Policies-for-a-Rising-Bay.pdf>

¹⁶⁷ Characteristic identified in [Stronger Housing, Safer Communities project](#)

¹⁶⁸ Similar characteristic used in [Communities of Concern](#) designation by MTC

¹⁶⁹ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

¹⁷⁰ Zoraster, R. M. (2010). Vulnerable populations: Hurricane Katrina as a case study. *Prehospital and Disaster Medicine*, 25, 74-78. doi:10.1017/S1049023X00007718

¹⁷¹ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

¹⁷² Fazeli, B. (2009, October). *Cumulative Impacts: Changing Regulatory Culture to Address Environmental Injustice and Environmental Racism* (Communities for a Better Environment Rep.). Retrieved <https://www.cbecal.org/wp-content/uploads/2012/05/Cumulative-Impacts-report.pdf>

¹⁷³ Foster, K. A. (n.d.). Resilience Capacity Index. Retrieved from <http://brr.berkeley.edu/rci/> University of Buffalo Regional Institute, State University of New York

¹⁷⁴ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

¹⁷⁵ Pastor, M., Wander, M., & Auer, M. (n.d.). *Equity Issue Brief: Advancing Environmental Justice through Sustainability Planning* (PolicyLink, OSU Kirwan Institute for the Study of Race and Ethnicity, USC Program for Environmental and Regional Equity Rep.). Retrieved https://dornsife.usc.edu/assets/sites/242/docs/EQUITY_ISSUE_BRIEF_Env_Just_Full.pdf

¹⁷⁶ Beyers, M. et al. (2008, August). *Life and Death from Unnatural Causes, Health and Social Inequity in Alameda County* (Alameda County Public Health Department Rep.). Retrieved <http://www.acphd.org/media/53628/unnatcs2008.pdf>

¹⁷⁷ Similar characteristic used in UC-Davis' [Regional Opportunity Index \(ROI\)](#)

2. Children Under 5 Years Old^{178 179 180 181 182 183 184 185 186 187.}

Young children are more physically impaired by floodwater covering walkways, more likely to come into contact with contaminated water, have more sensitive immune systems susceptible to disease and exhaustion, and are more vulnerable to the effects of climate change.¹⁸⁸ An association between rain events and children's emergency department visits has been observed.¹⁸⁹ Young children have greater care needs which still need to be met during a hazard event. These include daycare or other childcare services, or specific material needs, such as formula and diapers. Sufficient information is often not available about the locations and specific needs of young children, and they can experience more difficulties in evacuation.

¹⁷⁸ Characteristic identified in [Stronger Housing, Safer Communities project](#)

¹⁷⁹ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

¹⁸⁰ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

¹⁸¹ U.S. Global Change Research Program, Climate Health Assessment Chapter 9: Populations of Concern. (2016). Retrieved from <https://health2016.globalchange.gov/populations-concern>

¹⁸² Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

¹⁸⁴ Pastor, M., Wander, M., & Auer, M. (n.d.). *Equity Issue Brief: Advancing Environmental Justice through Sustainability Planning* (PolicyLink, OSU Kirwan Institute for the Study of Race and Ethnicity, USC Program for Environmental and Regional Equity Rep.). Retrieved https://dornsife.usc.edu/assets/sites/242/docs/EQUITY_ISSUE_BRIEF_Env_Just_Full.pdf

¹⁸⁵ Beyers, M. et al. (2008, August). *Life and Death from Unnatural Causes, Health and Social Inequity in Alameda County* (Alameda County Public Health Department Rep.). Retrieved <http://www.acphd.org/media/53628/unnatcs2008.pdf>

¹⁸⁶ Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

¹⁸⁷ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

¹⁸⁸ Xu, Z., Sheffield, P. E., Hu, W., Su, H., Yu, W., Qi, X., & Tong, S. (2012). Climate Change and Children's Health—A Call for Research on What Works to Protect Children. *International Journal of Environmental Research and Public Health*, 9(9), 3298-3316. doi:10.3390/ijerph909329

¹⁸⁹ Drayna, P., McLellan, S. L., Simpson, P., Li, S., & Gorelick, M. H. (2010). Association between Rainfall and Pediatric Emergency Department Visits for Acute Gastrointestinal Illness. *Environmental Health Perspectives*, 118, 1439-1443. doi:10.1289/ehp.0901671

3. Adults 65 Years Old and Over, Living Alone^{190 191 192 193 194 195 196 197 198 199 200}

Older adults are also more physically impaired by floodwater covering walkways, more susceptible to disease and exhaustion, more likely to have a pre-existing health condition and disabilities, declining health, limited mobility, and are more vulnerable to climate change health effects.²⁰¹ Older adults are more likely to need special food, medications, and medical equipment, making them more vulnerable to power outages and other impacts of hazards. Sufficient information is often not available about the locations and specific needs of older adults, and they can experience more difficulties in evacuation. Cognitive function declines as we age, making processing information and responding during a disaster more difficult for the elderly. Older adults can be on a limited fixed-income and have less financial ability to respond to or recover from a hazard. In addition, older adults living alone

¹⁹⁰ Characteristic identified in [Stronger Housing, Safer Communities project](#)

¹⁹¹ Similar characteristic used in [Communities of Concern](#) designation by MTC

¹⁹² Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

¹⁹³ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

¹⁹⁴ U.S. Global Change Research Program, Climate Health Assessment Chapter 9: Populations of Concern. (2016). Retrieved from <https://health2016.globalchange.gov/populations-concern>

¹⁹⁵ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

¹⁹⁷ Pastor, M., Wander, M., & Auer, M. (n.d.). *Equity Issue Brief: Advancing Environmental Justice through Sustainability Planning* (PolicyLink, OSU Kirwan Institute for the Study of Race and Ethnicity, USC Program for Environmental and Regional Equity Rep.). Retrieved https://dornsife.usc.edu/assets/sites/242/docs/EQUITY_ISSUE_BRIEF_Env_Just_Full.pdf

¹⁹⁸ Beyers, M. et al. (2008, August). *Life and Death from Unnatural Causes, Health and Social Inequity in Alameda County* (Alameda County Public Health Department Rep.). Retrieved <http://www.acphd.org/media/53628/unnatcs2008.pdf>

¹⁹⁹ Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

²⁰⁰ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

²⁰¹ Gamble, J. L., Hurley, B. J., Schultz, P. A., Jaglom, W. S., Krishnan, N., & Harris, M. (2013). Climate change and Older Americans: State of the Science. *Environmental Health Perspectives*, 121, 15-22. doi:10.1289/ehp.1205223

may not have the social support they may need to prepare for, respond to, or recover from a hazard. **People of Color**^{202 203 204 205 206 207 208 209 210 211 212 213}

Present and historical inequities in economic, political, and social systems result in adverse impacts to populations of color, including higher instances of adverse health conditions, higher likelihood of living in housing of inadequate quality and/or in a hazard zone, limited economic opportunities and access to the decision-making process, tenuous relationships with first responders, and more. The Race Counts initiative,²¹⁴ launched in 2017, quantifies racial disparities in California. Across the U.S., mortality rates from asthma—which is worsened by mold growing in damp or wet structures—for Black populations are three times higher than for White populations.²¹⁵ Research following a 2006 flood in El Paso, Texas identified Hispanic ethnicity as a significant risk factor after controlling for other socioeconomic factors such as age and housing quality.²¹⁶ Although the term people of color is used, it is important to note that people of different ethnicities and races do not all experience the same burdens.

²⁰² Characteristic identified in [Stronger Housing, Safer Communities project](#)

²⁰³ Similar characteristic used in [Communities of Concern](#) designation by MTC

²⁰⁴ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

²⁰⁵ Zoraster, R. M. (2010). Vulnerable populations: Hurricane Katrina as a case study. *Prehospital and Disaster Medicine*, 25, 74-78. doi:10.1017/S1049023X00007718

²⁰⁶ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

²⁰⁷ U.S. Global Change Research Program, Climate Health Assessment Chapter 9: Populations of Concern. (2016). Retrieved from <https://health2016.globalchange.gov/populations-concern>

²⁰⁸ Fazeli, B. (2009, October). *Cumulative Impacts: Changing Regulatory Culture to Address Environmental Injustice and Environmental Racism* (Communities for a Better Environment Rep.). Retrieved <https://www.cbecal.org/wp-content/uploads/2012/05/Culumative-Impacts-report.pdf>

²⁰⁹ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

²¹¹ Beyers, M. et al. (2008, August). *Life and Death from Unnatural Causes, Health and Social Inequity in Alameda County* (Alameda County Public Health Department Rep.). Retrieved <http://www.acphd.org/media/53628/unnatcs2008.pdf>

²¹² Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

²¹³ Similar characteristic used in UC-Davis' [Regional Opportunity Index \(ROI\)](#)

²¹⁴ Race Counts - Tracking Racial Disparity in California. (n.d.). Retrieved from <http://www.racecounts.org/>

²¹⁵ Frumkin, H. (2002). Urban Sprawl and Public Health. *Public Health Reports*, 117, 201-217. doi:10.1093/phr/117.3.201

²¹⁶ Collins, T. W., Jimenez, A. M., & Grineski, S. E. (2013). Hispanic health disparities after a flood disaster: Results of a population-based survey of individuals experiencing home site damage in El Paso (Texas, USA). *Journal of Immigrant and Minority Health*, 15(2), 415-426. doi:10.1007/s10903-012-9626-2

4. Very Low-income^{217 218 219 220 221 222 223 224 225 226 227 228 229 230 231}

Income level affects most aspects of life. Lack of financial resources lessens the ability to prepare for, respond to, and recover from a hazard event. Inadequate or unsafe housing, societal marginalization, inadequate infrastructure and access to services all afflict the poor. Poor people have been found to be more vulnerable to hazards in many ways, including being less likely to evacuate during a hazard.²³² Moreover, they may not be able to afford home weatherization or floodproofing. In some regions, higher incidences of vector-borne disease have been found in low-income populations.²³³ Populations with lower incomes have less access to insurance and entitlement programs, lower ability to pay for medical care, are more likely to live in housing in poor condition, and have less options for rebuilding and/or relocating housing.²³⁴ Lastly, very low-income people may experience displacement in the event that housing becomes uninhabitable due to damage.

²¹⁷ Characteristic identified in [Stronger Housing, Safer Communities project](#)

²¹⁸ Similar characteristic used in [Communities of Concern](#) designation by MTC

²¹⁹ Similar characteristic used in [CalEnviroScreen3.0](#)

²²⁰ Similar characteristic used in Department of Water Resources [disadvantaged community designation](#)

²²¹ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

²²² Zoraster, R. M. (2010). Vulnerable populations: Hurricane Katrina as a case study. *Prehospital and Disaster Medicine*, 25, 74-78. doi:10.1017/S1049023X00007718

²²³ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

²²⁴ U.S. Global Change Research Program, Climate Health Assessment Chapter 9: Populations of Concern. (2016). Retrieved from <https://health2016.globalchange.gov/populations-concern>

²²⁵ Fazeli, B. (2009, October). *Cumulative Impacts: Changing Regulatory Culture to Address Environmental Injustice and Environmental Racism* (Communities for a Better Environment Rep.). Retrieved <https://www.cbecal.org/wp-content/uploads/2012/05/Cumulative-Impacts-report.pdf>

²²⁶ Foster, K. A. (n.d.). Resilience Capacity Index. Retrieved from <http://brr.berkeley.edu/rci/> University of Buffalo Regional Institute, State University of New York

²²⁷ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

²²⁹ Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

²³⁰ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

²³¹ Similar characteristic used in [UC-Davis' Regional Opportunity Index \(ROI\)](#)

²³² Fothergill, A., & Peek, L. A. (2004). Poverty and Disasters in the United States: A Review of Recent Sociological Findings. *Natural Hazards*, 31(1), 89-110. doi:10.1023/B:NHAZ.0000026792.76181.d9

²³³ DeGroote, J. P., & Sugumaran, R. (2012). National and Regional Associations Between Human West Nile Virus Incidence and Demographic, Landscape, and Land Use Conditions in the Conterminous United States. *Vector-Borne and Zoonotic Diseases*, 12(8), 657-665. doi:10.1089/vbz.2011.0786

²³⁴ Ross, T. (2013, August). *A Disaster in the Making: Addressing the Vulnerability of Low-Income Communities to Extreme Weather* (Center for American Progress Rep.). Retrieved <https://cdn.americanprogress.org/wp-content/uploads/2013/08/LowIncomeResilience-3.pdf>

5. Without a Vehicle^{235 236 237 238 239 240 241 242 243 244}

During a flood or hazard event, services such as public transportation may be disrupted. Access to a vehicle is important for evacuation during emergencies, and also for mobility if a transit service used for commuting or activities is disrupted, particularly if this is the sole route. This vulnerability may be compounded if elderly populations and people with disabilities are unable to drive. Low-income households are less likely to own a vehicle.

6. People with Disabilities^{245 246 247 248 249 250 251 252 253 254}

People with disabilities possess impairments in cognitive, physical, and/or sensory functions. While the needs of people with disabilities are specific and varied, all will face disproportionate impacts from climate change and face greater obstacles in society in general. Obstacles include exclusion in the workforce and limited economic opportunities, and reduced capacity to adapt to societal and economic changes. Changes requiring relocation are detrimental to people with disabilities as they disrupt personal support networks, healthcare services, accessible and safe

²³⁵ Characteristic identified in [Stronger Housing, Safer Communities project](#)

²³⁶ Similar characteristic used in [Communities of Concern](#) designation by MTC

²³⁷ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

²³⁸ Fazeli, B. (2009, October). *Cumulative Impacts: Changing Regulatory Culture to Address Environmental Injustice and Environmental Racism* (Communities for a Better Environment Rep.). Retrieved <https://www.cbecal.org/wp-content/uploads/2012/05/Culumative-Impacts-report.pdf>

²³⁹ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

²⁴¹ Beyers, M. et al. (2008, August). *Life and Death from Unnatural Causes, Health and Social Inequity in Alameda County* (Alameda County Public Health Department Rep.). Retrieved <http://www.acphd.org/media/53628/unnatcs2008.pdf>

²⁴² Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

²⁴³ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

²⁴⁴ Similar characteristic used in UC-Davis' [Regional Opportunity Index \(ROI\)](#)

²⁴⁵ Characteristic identified in [Stronger Housing, Safer Communities project](#)

²⁴⁶ Similar characteristic used in [Communities of Concern](#) designation by MTC

²⁴⁷ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

²⁴⁸ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

²⁴⁹ U.S. Global Change Research Program, Climate Health Assessment Chapter 9: Populations of Concern. (2016). Retrieved from <https://health2016.globalchange.gov/populations-concern>

²⁵⁰ Foster, K. A. (n.d.). Resilience Capacity Index. Retrieved from <http://brr.berkeley.edu/rci/> University of Buffalo Regional Institute, State University of New York

²⁵¹ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

²⁵³ Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

²⁵⁴ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

housing, and more.²⁵⁵ Specific accommodations are needed for the safe evacuation and shelter of people with disabilities during an emergency.²⁵⁶ The needs of people with disabilities are often not adequately addressed in disaster relief and recovery plans, if they are addressed at all.²⁵⁷ Often people with disabilities experience “invisibility” to decision-makers.²⁵⁸ Communication materials and methods often do not adequately accommodate those with impaired cognitive function, hearing, or vision,²⁵⁹ and information available to first responders may be limited about the location and specific needs of people with disabilities. People with disabilities are more likely to rely on delivered medical supplies and services and need continued electricity for the functioning of equipment and are therefore more vulnerable to power outages.²⁶⁰

7. **Single Parent Families** ^{261 262 263 264}

Single-parent households are often more stressed financially and socially, impacting many aspects of livelihood, including the ability to cope during and after an emergency or hazard. As the single-parent must balance work with care for dependents, their ability to continue to meet the specific care needs of dependents is lowered, which may be problematic both during an emergency or hazard event and during recovery. Single-parent households are more likely to require public assistance, more affected by a disruption of services, more at risk of income loss, and face other obstacles during recovery. There can be limited information available about the locations and specific needs of single parent household families, and they can experience more difficulties in evacuation, particularly if they have young children.

²⁵⁵ Climate-Related Migration and Displacement. (2018, September 26). Retrieved from <https://wid.org/2018/09/26/climate-related-migration/>

²⁵⁶ Kailas, J. I., & Enders, A. (2007). Moving Beyond “Special Needs”: A Function-Based Framework for Emergency Management and Planning. *Journal of Disability Policy Studies, 17*, 230-237. doi:10.1177/10442073070170040601

²⁵⁷ World Institute on Disability (WID). (2016, September). *Climate Change & Disability: Existing Online Resources: Resilience for Emergencies Disability Initiative (REDI)* (Rep.). Retrieved from <https://worldinstituteondisabilityblog.files.wordpress.com/2016/12/climate-disability-existing-resources-sep-16.pdf>

²⁵⁸ Wolbring, G., & Leopatra, V. (2012). Climate Change, Water, Sanitation and Energy Insecurity: Invisibility Of People With Disabilities. *Canadian Journal of Disability Studies, 1*(3), 66-90. doi:10.15353/cjds.v1i3.58

²⁵⁹ Nick, G. A. et al. (2009). Emergency preparedness for vulnerable populations: People with special health-care needs. *Public Health Reports, 124*(2), 338-343. doi:10.1177/003335490912400225

²⁶⁰ Jan, S., & Lurie, N. (2012). Disaster Resilience and People with Functional Needs. *New England Journal of Medicine, 367*, 2272-2273. doi:10.1056/NEJMp1213492

²⁶¹ Similar characteristic used in Communities of Concern designation by MTC

²⁶² Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly, 84*, 242-261. doi:10.1111/1540-6237.8402002

²⁶³ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction, 14*, 470-486. doi:10.1016/j.ijdrr.2015.09.013

²⁶⁴ Similar characteristic used in the Public Health Alliance of Southern California’s California Healthy Places Index (HPI) tool

8. Limited English Proficiency^{265 266 267 268 269 270 271 272 273 274 275 276 277 278}

Limited English proficiency can impact community members in various ways, such as reducing people's ability to participate in decision-making. Limited English proficiency has been found to result in racial discrimination, and discrimination combined with language communication difficulties have been associated with reduced socioeconomic status and quality of life, and stress.²⁷⁹ Linguistically isolated households face disproportionate environmental hazard risks, and have been independently related to cancer risk and proximity to toxic facilities.²⁸⁰ Limited English speakers are more likely to report difficulties in accessing medical care, accessing health-related information, and are more likely to delay access to care.²⁸¹ Planning activities and materials are often not conducted and prepared in appropriate languages, restricting the political power of limited English proficiency communities, and putting them at greater risk during hazard events. Other materials are frequently English-only, including communication during emergencies and information about aid available during disaster recovery. In the Bay Area, many limited English proficiency communities are also resource-constrained renters often

²⁶⁵ Characteristic identified in [Stronger Housing, Safer Communities project](#)

²⁶⁶ Similar characteristic used in [Communities of Concern](#) designation by MTC

²⁶⁷ Similar characteristic used in [CalEnviroScreen3.0](#)

²⁶⁸ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

²⁶⁹ Zoraster, R. M. (2010). Vulnerable populations: Hurricane Katrina as a case study. *Prehospital and Disaster Medicine*, 25, 74-78. doi:10.1017/S1049023X00007718

²⁷⁰ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

²⁷¹ U.S. Global Change Research Program, Climate Health Assessment Chapter 9: Populations of Concern. (2016). Retrieved from <https://health2016.globalchange.gov/populations-concern>

²⁷² Fazeli, B. (2009, October). *Cumulative Impacts: Changing Regulatory Culture to Address Environmental Injustice and Environmental Racism* (Communities for a Better Environment Rep.). Retrieved <https://www.cbecal.org/wp-content/uploads/2012/05/Cululative-Impacts-report.pdf>

²⁷³ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

²⁷⁵ Pastor, M., Wander, M., & Auer, M. (n.d.). *Equity Issue Brief: Advancing Environmental Justice through Sustainability Planning* (PolicyLink, OSU Kirwan Institute for the Study of Race and Ethnicity, USC Program for Environmental and Regional Equity Rep.). Retrieved https://dornsife.usc.edu/assets/sites/242/docs/EQUITY_ISSUE_BRIEF_Env_Just_Full.pdf

²⁷⁶ Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

²⁷⁷ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

²⁷⁸ Similar characteristic used in [UC-Davis' Regional Opportunity Index \(ROI\)](#)

²⁷⁹ Gee, GC, & Ponce, N. (2010). Associations between racial discrimination, limited English proficiency, and health-related quality of life among 6 Asian ethnic groups in California. *Am J Public Health*, 100(5), 888-895. doi:10.2105/AJPH.2009.178012

²⁸⁰ Pastor, M., Morello-Frosch, R., & Said, R. (2010, May 03). *Air Pollution and Environmental Justice: Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability into Regulatory Decision-Making* (Rep. No. Contract No. 04-308 for California Environmental Protection Agency, Air Resources Board, Research Division). Retrieved <https://ww3.arb.ca.gov/research/apr/past/04-308.pdf>

²⁸¹ Shi, L., Lebrun, L. A., & Tsai, J. (2009). The influence of English proficiency on access to care. *Ethn Health*, 14(6), 625-642. doi:10.1080/13557850903248639

living in overcrowded housing, resulting in intensified risk.²⁸² Limited English proficiency is often found in immigrant communities, further heightening risk.

9. Without a High School Degree^{283 284 285 286 287 288 289 290 291 292 293 294 295}

Higher educational attainment relates to many aspects of resilience and wellbeing, including but not limited to, higher access to government services and the political system, greater lifetime earnings, greater mobility, and has been associated with better health outcomes.²⁹⁶ Hazard warning information, recovery materials, and planning processes are often not written for audiences with lower educational attainment.

²⁸² Brechwald, D., Kroll, C., Goodfriend, W., & Lowe, L. (2015, March). *Stronger Housing, Safer Communities* (Rep.). Retrieved from http://resilience.abag.ca.gov/wp-content/documents/housing/FinalReport/StrongerHousingSaferCommunities_SummaryReport.pdf

²⁸³ Characteristic identified in [Stronger Housing, Safer Communities project](#)

²⁸⁴ Similar characteristic used in [CalEnviroScreen3.0](#)

²⁸⁵ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

²⁸⁶ Rufat, S., Tate, E., Burton, C. G., & Maroof, A. S. (2015). Social vulnerability to floods: Review of case studies and implications for measurement. *International Journal of Disaster Risk Reduction*, 14, 470-486. doi:10.1016/j.ijdrr.2015.09.013

²⁸⁷ Fazeli, B. (2009, October). *Cumulative Impacts: Changing Regulatory Culture to Address Environmental Injustice and Environmental Racism* (Communities for a Better Environment Rep.). Retrieved <https://www.cbecal.org/wp-content/uploads/2012/05/Cumulative-Impacts-report.pdf>

²⁸⁸ Foster, K. A. (n.d.). Resilience Capacity Index. Retrieved from <http://brr.berkeley.edu/rci/> University of Buffalo Regional Institute, State University of New York

²⁸⁹ Schwind, K. (2013). *Mapping Our Future: A work plan for public engagement & equity in Climate Adaptation Planning in the San Francisco Bay Area* (Bay Localize Rep.). Retrieved <http://www.baylocalize.org/files/EquityReportFinal041213v11.pdf>

²⁹¹ Pastor, M., Wander, M., & Auer, M. (n.d.). *Equity Issue Brief: Advancing Environmental Justice through Sustainability Planning* (PolicyLink, OSU Kirwan Institute for the Study of Race and Ethnicity, USC Program for Environmental and Regional Equity Rep.). Retrieved https://dornsife.usc.edu/assets/sites/242/docs/EQUITY_ISSUE_BRIEF_Env_Just_Full.pdf

²⁹² Beyers, M. et al. (2008, August). *Life and Death from Unnatural Causes, Health and Social Inequity in Alameda County* (Alameda County Public Health Department Rep.). Retrieved <http://www.acphd.org/media/53628/unnatcs2008.pdf>

²⁹³ Similar characteristic used in the California Department of Public Health's [California Building Resilience Against Climate Effects \(CALBRACE\) tool](#)

²⁹⁴ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

²⁹⁵ Similar characteristic used in UC-Davis' [Regional Opportunity Index \(ROI\)](#)

²⁹⁶ Cutler, D. M., & Llernas-Muney, A. (2006). Education and Health: Evaluating Theories and Evidence. *National Bureau of Economic Research Working Paper Series*, 12352. doi:10.3386/w12352

10. Severely Housing-Cost Burdened^{297 298 299 300 301 302 303 304 305}

Housing affordability is important to health, resilience, and wellbeing.^{306 307} Housing affordability for both renters and owners is an existing challenge in the Bay Area that will compound the number of community members displaced by a natural disaster. Much of the region is cost-burdened with regard to housing already, spending 50 percent or more of income on housing. After a disaster, if many housing units are lost, a constrained market may drive up the cost of housing even further. Loss or damage of housing that results in increased costs to either renters or home-owners will likely increase the number of permanently displaced Bay Area residents, as locating housing that is affordable and near jobs, schools, medical facilities, and other services will be challenging.³⁰⁸ Rental households which are housing cost-burdened have been associated with adverse health conditions and lower educational outcomes in children.³⁰⁹ Conditions where many households are severely housing cost-burdened and other unaffordable housing situations can contribute to community instability and crime.³¹⁰

²⁹⁷ When looking at housing cost burden, CoC and CES only consider renters, while the ART method calculates housing cost burden for renters and owners, and also includes renters as its own category to layer with the other characteristics. Other social vulnerability mapping, including CES, uses the poverty measure. Geographic differences in housing costs are not accounted for in the official poverty measure calculated by the US Census Bureau. Therefore, using income and housing cost-burden are more representative of local conditions

²⁹⁸ Characteristic identified in [Stronger Housing, Safer Communities project](#)

²⁹⁹ Similar characteristic used in [Communities of Concern](#) designation by MTC

³⁰⁰ Similar characteristic used in [CalEnviroScreen3.0](#)

³⁰¹ Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly*, 84, 242-261. doi:10.1111/1540-6237.8402002

³⁰² Foster, K. A. (n.d.). Resilience Capacity Index. Retrieved from <http://brr.berkeley.edu/rci/>
University of Buffalo Regional Institute, State University of New York

³⁰³ Beyers, M. et al. (2008, August). *Life and Death from Unnatural Causes, Health and Social Inequity in Alameda County* (Alameda County Public Health Department Rep.). Retrieved <http://www.acphd.org/media/53628/unnatcs2008.pdf>

³⁰⁴ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

³⁰⁵ Similar characteristic used in UC-Davis' [Regional Opportunity Index \(ROI\)](#)

³⁰⁶ Pollack, C. E., Griffin, B. A., & Lynch, J. (2010). Housing Affordability and Health Among Homeowners and Renters. *American Journal of Preventative Medicine*, 39(6), 515-521. doi:10.1016/j.amepre.2010.08.002

³⁰⁷ Braubach, M. (2011). Key challenges of housing and health from WHO perspective. *International Journal of Public Health*, 56(6), 579-580. doi:10.1007/s00038-011-0296-y

³⁰⁸ Brechwald, D., Kroll, C., Goodfriend, W., & Lowe, L. (2015, March). *Stronger Housing, Safer Communities* (Rep.). Retrieved from http://resilience.abag.ca.gov/wp-content/documents/housing/FinalReport/StrongerHousingSaferCommunities_SummaryReport.pdf

³⁰⁹ Meltzer, R., & Schwartz, A. (2015). Housing Affordability and Health: Evidence From New York City. *Housing Policy Debate*, 26(1), 80-104. doi:10.1080/10511482.2015.1020321

³¹⁰ Anderson, L. M., St. Charles, J., Fullilove, M. T., Scrimshaw, S. C., Fielding, J. E., & Normand, J. (2003). Providing affordable family housing and reducing residential segregation by income. A systematic review. *American Journal of Preventive Medicine*, 24(3), 47-67. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/12668198>

11. Not U.S. Citizen^{311 312 313 314}

In the recent U.S. political climate, anti-immigrant rhetoric from the federal government as well as stringent immigration policy has created an environment of constant fear and anxiety among many immigrant families and communities across the U.S. This constant state of elevated stress can reduce one's ability to cope with external shocks such as natural disasters. Additionally, rules proposed by the federal government could jeopardize people's ability to qualify for citizenship and/or put people at an increased risk for deportation. In fear of what these rules could mean, many immigrant families are disenrolling from these crucial public programs, cancelling medical appointments, and requesting to have their information purged from all systems.^{315 316 317 318} If this retreat from public services continues, many immigrant families will not be able to meet their basic needs, rendering them more vulnerable to any hazard. Additionally, many of the people targeted by these potential policies are low-income and in poor health, both additional vulnerability characteristics. As mentioned above, many non-U.S. citizen communities have limited English proficiency, adding to their vulnerability to hazards.

Rankings of social vulnerability were assigned by looking at the distributions of the data. Block groups labeled "**Highest social vulnerability**" have:

- 8 or more social vulnerability indicators with rates in the 70th percentile, relative to nine-county Bay Area; *and/or*
- 6 or more social vulnerability indicators with rates in the 90th percentile, relative to nine-county Bay Area

Block groups labeled "**High social vulnerability**" do not meet criteria in "Highest" category, and have:

- 6-7 indicators in the 70th percentile; *and/or*
- 4-5 indicators in the 90th percentile

³¹¹ This characteristic was not originally included in the [Stronger Housing, Safer Communities project](#) but members of both the [ART Bay Area Project Working Group](#) and the [BCDC Environmental Justice Commissioner Working Group](#) both felt it was advisable to include.

³¹² U.S. Global Change Research Program, Climate Health Assessment Chapter 9: Populations of Concern. (2016). Retrieved from <https://health2016.globalchange.gov/populations-concern>

³¹³ Similar characteristic used in the Public Health Alliance of Southern California's [California Healthy Places Index \(HPI\) tool](#)

³¹⁴ Similar characteristic used in UC-Davis' [Regional Opportunity Index \(ROI\)](#)

³¹⁵ Holpuch, A. (2018, September 27). US immigrants stop using public benefits over fears of new Trump rule. *The Guardian*. Retrieved from <https://www.theguardian.com/us-news/2018/sep/27/us-immigrants-trump-proposals-rule-public-charge>

³¹⁶ Elejalde-Ruiz, A. (2018, February 22). Fear, anxiety, apprehension: Immigrants fear doctor visits could leave them vulnerable to deportation. *Chicago Tribune*. Retrieved from <https://www.chicagotribune.com/business/ct-biz-immigration-fears-hurt-health-care-access-0225-story.html>

³¹⁷ Baumgaertner, E. (2018, March 6). Spooked by Trump Proposals, Immigrants Abandon Public Nutrition Services. *The New York Times*. Retrieved from <https://www.nytimes.com/2018/03/06/us/politics/trump-immigrants-public-nutrition-services.html>

³¹⁸ Torbati, Y. (2018, February 8). Exclusive: Trump administration may target immigrants who use food aid, other benefits. *Reuters*. Retrieved from <https://www.reuters.com/article/us-usa-immigration-services-exclusive/exclusive-trump-administration-may-target-immigrants-who-use-food-aid-other-benefits-idUSKBN1FS2ZK>

Block groups labeled “**Moderate social vulnerability**” do not meet criteria in “Highest” and “High” categories, and have:

- 4-5 indicators in 70th percentile; and/or
- 3 indicators in the 90th percentile

Block groups labeled “**Low social vulnerability**” do not meet any of the criteria above, and those labeled “**Not calculated**” contained characteristics that were not estimated in the American Community Survey, due to low population and other factors leading to low survey response. The spatial distribution of both social and contamination vulnerability in region are included in Figure 4 and Figure 5 below.

The following chart details the percentage thresholds for block groups to be considered in the 70th or 90th percentiles for each socioeconomic characteristic in the nine-county Bay Area. The two percentiles were used to determine level of vulnerability.

Table 1: Socioeconomic Characteristics and 70th and 90th Percentile Thresholds including data descriptions and units (Source: BCDC, ART)

Socioeconomic Characteristics and 70 th and 90 th Percentile Thresholds					
Populations or households that are:	Measure	70th pctl rate	90th pctl rate	2012-2016 American Community Survey (ACS) table number	ACS Universe
Renters	% Renter occupied households	58%	81%	B25003: Tenure	Occupied housing units
Under 5	% People under 5	7%	10%	B01001: Sex by age	Total population
Very low-income	% People under 200% poverty rate; and/or % Households with income less than 50% of Area Median Income	30%; 35%	50%; 52%	C17002: Ratio of income to poverty level in the past 12 months; and/or B19001: Household income in the past 12 months (in 2016 inflation-adjusted dollars) with Dept. of Housing and Community Development State Income Limits for 2016 ³¹⁹	Population for whom poverty status is determined & Households
Not U.S. citizens	% People not U.S. citizens	17%	26%	B05002: Place of birth by nativity and citizenship status	Total population

³¹⁹ [California Dept. of Housing and Community Development State Income Limits for 2016](#)

Socioeconomic Characteristics and 70 th and 90 th Percentile Thresholds					
Without a vehicle	% Households without a vehicle	9%	22%	B25044: Tenure by vehicles available	Occupied housing units
People with disability	% Households with 1 or more persons with a disability	26%	35%	B22010: Receipt of food stamps/snap in the past 12 months by disability status for households	Households
Single parent families	% Single parent families	11%	21%	B11004: Family type by presence and age of related children under 18 years	Families
Communities of Color	% People of Color	70%	91%	B03002: Hispanic or Latino origin by race	Total population
65 and over living alone	% Households with 1 or more people 65 years and over	11%	19%	B11007: Households by presence of people 65 years and over, household size and household type	Households
Limited English proficiency	% Limited English-speaking household	11%	21%	C16002: Household language by household limited English speaking status	Households
Without a high school degree	% People 25 years and older without a high school degree	15%	30%	B15003: Educational attainment for the population 25 years and over	Population 25 years and over
Severely housing cost burdened	% Households spending greater than 50% income on housing; renter-occupied and/or owner-occupied	32%; 20%	47%; 33%	B25070: Gross rent as a percentage of household income in the past 12 months & B25091: Mortgage status by selected monthly owner costs as a percentage of household income in the past 12 months	Renter-occupied housing units & Owner-occupied housing units

Table 2: Methodology for Determining Highest, High, and Moderate Vulnerability (Source: BCDC, ART)

Vulnerability Level	Social Vulnerability	Contamination Vulnerability
Highest	<p><u>At least one:</u></p> <ul style="list-style-type: none"> • 8 or more social vulnerability indicators with rates in the 70th percentile, relative to nine-county Bay Area • 6 or more social vulnerability indicators with rates in the 90th percentile, relative to nine-county Bay Area 	<p><u>At least one:</u></p> <ul style="list-style-type: none"> • 4 or more contamination indicators with rates in the 90th percentile, relative to the state • Total contamination score above 90th percentile, relative to the state
High	<p>Doesn't meet criteria in "Highest" category, and <u>at least one:</u></p> <ul style="list-style-type: none"> • 6-7 indicators in the 70th percentile • 4-5 indicators in the 90th percentile 	<p>Doesn't meet criteria in "Highest" category, and <u>at least one:</u></p> <ul style="list-style-type: none"> • 5 indicators in the 70th percentile • Total contamination score between 80th – 90th percentile
Moderate	<p>Doesn't meet criteria in "Highest" and "High" categories, and <u>at least one:</u></p> <ul style="list-style-type: none"> • 4-5 indicators in 70th percentile • 3 indicators in the 90th percentile 	<p>Doesn't meet criteria in "Highest" and "High" categories, and <u>at least one:</u></p> <ul style="list-style-type: none"> • 4 indicators in the 70th percentile • Total contamination score between 70th-80th percentile

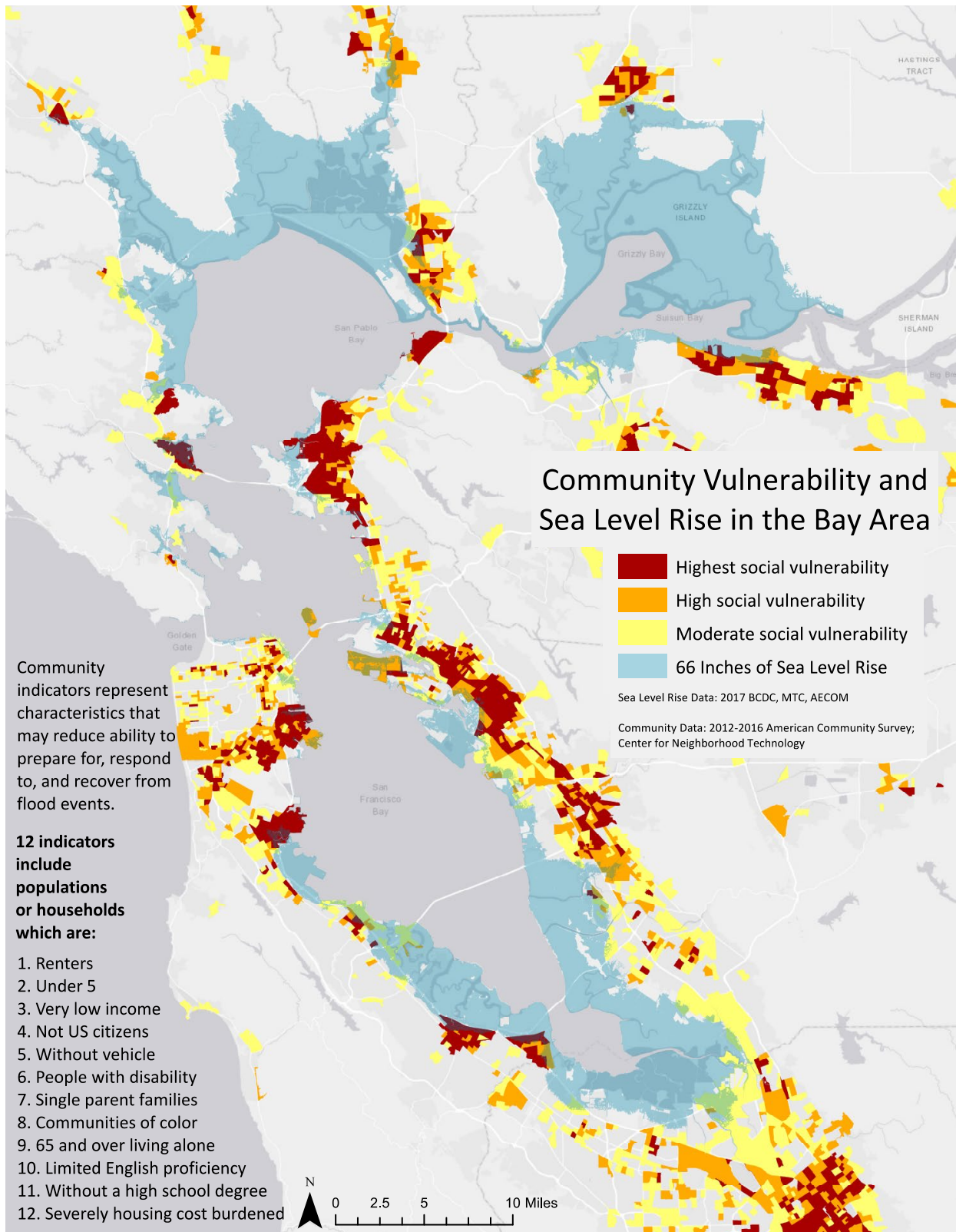


Figure 2: Social Vulnerability Ranking and 66" Total Water Level (TWL) in the Bay Area (Source: BCDC, ART)

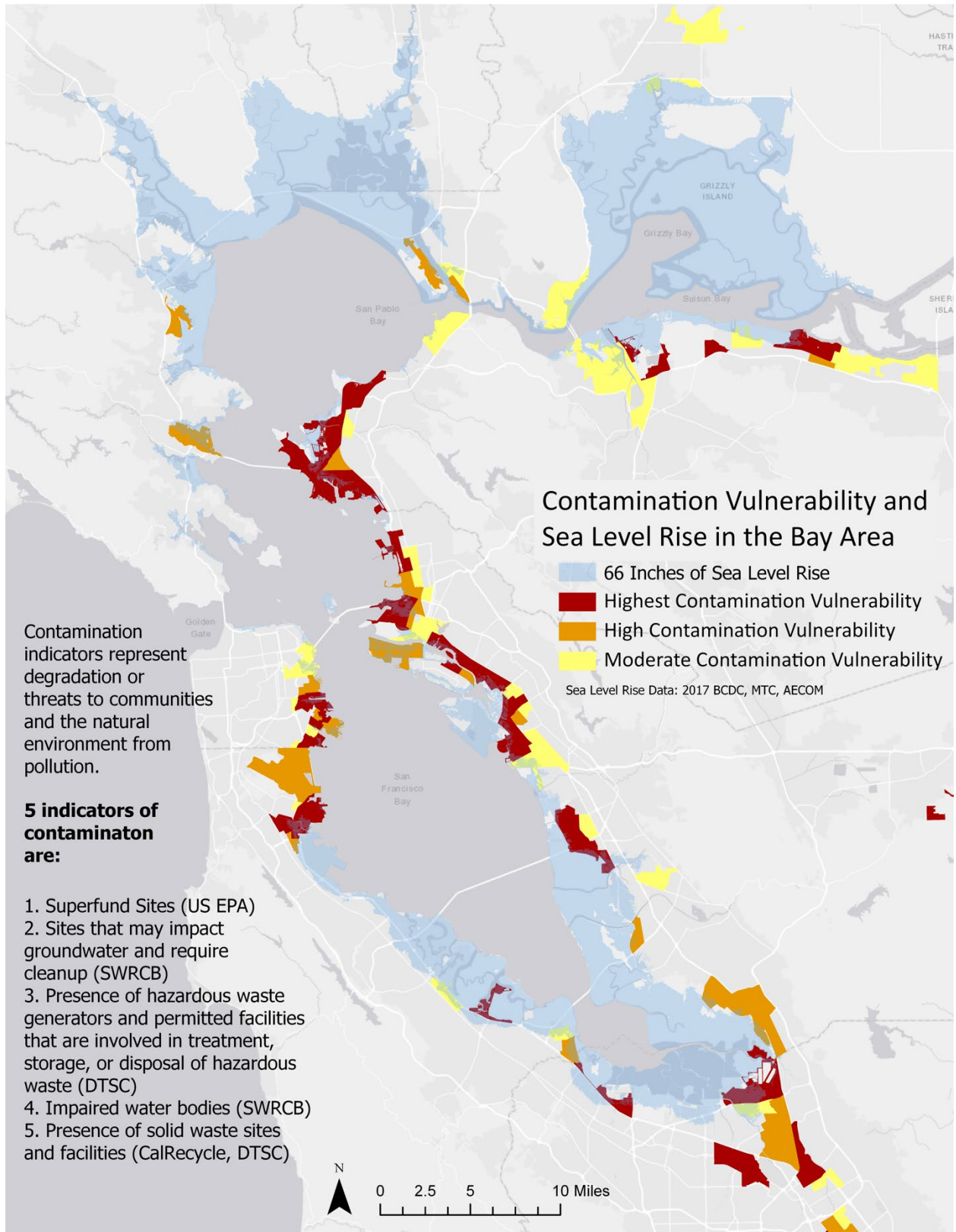


Figure 3: Contamination Vulnerability Ranking with 66" Total Water Level (TWL) in the Bay Area (Source: BCDC, ART)

C. Data and Use Limitations. Characteristics included are only those with publicly-available data that can be consistently compared (quantitatively) across the nine-county Bay Area region. Not all characteristics that influence community vulnerability are included in this dataset. Indicators were developed as a regional screening tool to help identify neighborhoods where community members may be at greater risk. Residential total water level exposure was calculated using the most current data available in 2018, and exposures to very high levels of sea level rise (which correspond with later time horizons) should be used cautiously as they were not calculated using populations projections.

There are several use limitations to consider when working with American Community Survey (ACS) data. ACS estimates are available by geographical unit and do not represent where people actually live within that block group. Statistical testing is recommended to definitively state that values in one block group are significantly different than another block group. Statistical testing was not conducted in this analysis for every block group in the Bay Area, as this dataset functions as a regional screening tool. ACS data are reported with an *estimate* and a *margin of error*, which represents 90 percent confidence that the actual value is within that range. In instances where the *margin of error* represents over half the *estimate*, this data should be treated as unreliable.³²⁰ A value of -9999 indicates “not calculated” due to highly unreliable or unavailable ACS estimates, low population (less than 100 people and/or less than 100 households) and/or unreliable or unavailable parcel data (in sea level rise exposure field). Additionally, ACS data are collected based on residence, and does not capture where people work, play, access services, or worship. Importantly, people experiencing homelessness are extremely vulnerable but are difficult to capture in census data.

Several limitations of the ART vulnerable community methodology exist. There are also many different ways to classify a location as “vulnerable,” which may differ from the methodology used by the ART Program. Therefore, some socially vulnerable areas may not be captured in the ART methodology.

Lastly, environmental justice screening tools need to be regularly updated to capture the most up-to-date and comprehensive data. Additionally, these tools need to be ground-truthed and augmented by people whom this analysis describes. Depending on the policy questions, certain tools may be more appropriate than others. The dataset (described above) created by BCDC’s ART Program will be available to aid BCDC’s regulatory program in implementing the forthcoming environmental justice and social equity policies in the San Francisco Bay Plan.

³²⁰ For more information, refer to: [ACS Handbook for Data Users \(Researchers\)](#)

D. Other Methods of Identifying Vulnerable Communities. Many screening approaches exist to characterize disadvantaged or vulnerable communities. Often in the Bay Area, different designations of disadvantaged/vulnerable communities are located in the same area. BCDC's ART Program staff cross-references its community screening tool with CalEnviroScreen 3.0,³²¹ MTC's Community of Concern (CoC)³²² designation, and the University of California at Berkeley's Displacement and Gentrification Typologies.³²³

There are several complementary tools that have been cross-referenced with the ART vulnerable community identification method. Disadvantaged communities have a specific definition in California law. SB 535 (de León, 2012)³²⁴ and AB 1550 (Gomez, 2016)³²⁵ direct funds from the State's cap-and-trade program to benefit "disadvantaged communities" and tasked CalEPA with the responsibility to develop the method to identify these communities. CalEPA's OEHHA created and updates the CalEnviroScreen tool, which combines pollution burden and population characteristics to generate a percentile score by census tract, relative to other tracts around the state. CalEnviroScreen3.0 is the most recent version. In addition to the 5 contamination indicators described in the previous section, CalEnviroScreen3.0 includes data about direct exposure to drinking water contaminants, diesel PM, PM2.5, Ozone, pesticides, traffic, and toxic releases from facilities. Population characteristics used are rates of asthma, cardiovascular disease, low birth-weight infants, educational attainment, housing burdened low-income households, linguistic isolation, unemployment, and poverty.

MTC is a partner of BCDC's ART Program also working at the regional scale. MTC prepares Plan Bay Area, the integrated Sustainable Communities Strategy and Regional Transportation Plan for the San Francisco Bay Area. Plan Bay Area works to reduce greenhouse gas emissions from passenger vehicles through coordinated transportation, housing, and land use planning, as instructed by SB 375 (Steinberg, 2012).³²⁶ MTC convened a regional equity working group to develop the CoC designation, designed to represent where communities may be disadvantaged or exhibit vulnerabilities now and in response to future growth. The equity analysis of Plan Bay Area 2040³²⁷ analyzes the positive and negative impacts of Plan Bay Area strategies on CoCs, compared with impacts on the remainder of the region. The ART approach includes (and supplements) the same characteristics as CoCs, and CoCs are at the larger geographic unit of census tract.

³²¹ CalEnviroScreen 3.0. (2018, June 26). Retrieved from <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

³²² MTC Communities of Concern in 2018 (ACS 2012 - 2016). (2018). Retrieved from <http://opendata.mtc.ca.gov/datasets/mtc-communities-of-concern-in-2018-acs-2012-2016>

³²³ Urban Displacement San Francisco Map. (2017). Retrieved from <http://www.urbandisplacement.org/map/sf>

³²⁴ CA Senate Bill No. 535, 2011-2012 Leg. (2012) (enacted).

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120SB535

³²⁵ CA Assembly Bill No. 1550, 2015-2016 Leg. (2016) (enacted).

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB1550

³²⁶ CA Senate Bill No. 375, 2007-200 Leg. (2008) (enacted).

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200720080SB375

³²⁷ *Plan Bay Area 2040: Final Equity Analysis Report* (MTC/ABAG Rep.). (2017, July). Retrieved

http://2040.planbayarea.org/sites/default/files/2017-07/Equity_Report_PBA_2040_7-2017.pdf

The University of California at Berkeley’s Center for Community Innovation³²⁸ Regional Early Warning System for Displacement and Gentrification Typologies were developed for use in evaluating gentrification and displacement risks associated with transit-oriented development relevant to the implementation of SB 375 (Steinberg, 2012). The typologies and associated mapping tool³²⁹ are supported by case studies of nine communities³³⁰, developed in collaboration with MTC’s Bay Area Regional Prosperity Plan.³³¹

The Governor’s Office of Planning and Research (OPR) released a guide titled, *Defining Vulnerable Communities in the Context of Climate Adaptation* to provide an overview and comparison of more community vulnerability screening approaches.³³²

E. Vulnerable Communities in the Bay Area. Every city, town, or census designated place (CDP) within the nine-county San Francisco Bay Area region contains at least one “vulnerable” census block group with one social vulnerability characteristic using the ART Program’s methodology described above. The list below includes all cities, towns, and CDPs with at least one census block containing greater than five social vulnerability characteristics:

- Alameda city
- Albany city
- Alum Rock CDP
- American Canyon city
- Antioch city
- Ashland CDP
- Bay Point CDP
- Belmont city
- Benicia city
- Berkeley city
- Bethel Island CDP
- Boyes Hot Springs CDP
- Brentwood city
- Broadmoor CDP
- Burbank CDP

³²⁸ UC Berkeley Center for Community Innovation. (2019). Retrieved from <http://communityinnovation.berkeley.edu/>

³²⁹ Urban Displacement San Francisco Map. (2017). Retrieved from <http://www.urbandisplacement.org/map/sf>

³³⁰ UC Berkeley Case Studies. (2015, July). Retrieved from <http://www.urbandisplacement.org/case-studies/ucb>

³³¹ Bay Area Regional Prosperity Plan. (2014). Retrieved from <https://mtc.ca.gov/our-work/plans-projects/economic-vitality/bay-area-regional-prosperity-plan>

³³² California Governor's Office of Planning and Research (OPR), Integrated Climate Adaptation and Resiliency Program (ICARP). (2018, July). Retrieved from http://opr.ca.gov/docs/20180723-Vulnerable_Communities.pdf

- Burlingame city
- Calistoga city
- Campbell city
- Castro Valley CDP
- Cherryland CDP
- Clayton city
- Cloverdale city
- Colma town
- Concord city
- Corte Madera town
- Cotati city
- Crockett CDP
- Cupertino city
- Daly City city
- Danville town
- Dixon city
- East Palo Alto city
- El Cerrito city
- El Verano CDP
- Emeryville city
- Fairfield city
- Fairview CDP
- Fethers Hot Springs-Agua
- Caliente CDP
- Forestville CDP
- Foster City city
- Fremont city
- Geyserville CDP
- Gilroy city
- Graton CDP
- Guerneville CDP

- Half Moon Bay city
- Hayward city
- Healdsburg city
- Larkfield-Wikiup CDP
- Livermore city
- Los Gatos town
- Marin City CDP
- Martinez city
- Menlo Park city
- Millbrae city
- Milpitas city
- Montalvin Manor CDP
- Morgan Hill city
- Moss Beach CDP
- Mountain View city
- Napa city
- Newark city
- North Fair Oaks CDP
- North Richmond CDP
- Novato city
- Oakland city
- Oakley city
- Pacifica city
- Palo Alto city
- Petaluma city
- Pinole city
- Pittsburg city
- Pleasant Hill city
- Pleasanton city
- Redwood City city
- Richmond city

- Rodeo CDP
- Rohnert Park city
- Rollingwood CDP
- Roseland CDP
- San Anselmo town
- San Bruno city
- San Francisco city
- San Jose city
- San Lorenzo CDP
- San Mateo city
- San Pablo city
- San Rafael city
- San Ramon city
- Santa Clara city
- Santa Rosa city
- Santa Venetia CDP
- Saratoga city
- Sebastopol city
- Sonoma city
- South San Francisco city
- St. Helena city
- Stanford CDP
- Strawberry CDP
- Suisun City city
- Sunnyvale city
- Tara Hills CDP
- Union City city
- Vacaville city
- Vallejo city
- Walnut Creek city
- Windsor town

Additionally, using the indicators described previously, the ART Program identified the vulnerable communities below by identifying most vulnerable census block groups (defined as those with “Highest social vulnerability” and/or “Highest contamination vulnerability”), intersecting those block groups with 66” TWL data, and adding adjacent block groups with the classification of “High social vulnerability” *and/or* have the classification “Highest contamination vulnerability” to identify a guiding boundary for neighborhood/community-scale analysis.

The ART Program has identified the following communities as vulnerable:

- Alviso
- Bay Point
- Bayview-Hunters Point
- Belle Haven
- East Oakland
- East Palo Alto
- Hayward
- Marin City
- Pittsburg
- Redwood City/North Fair Oaks
- Richmond/North Richmond
- San Rafael Canal District
- Suisun City
- Treasure Island
- Vallejo
- West Oakland