

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD SAN
FRANCISCO BAY REGION**

BOARD SUBCOMMITTEE SUMMARY REPORT:
Jayne Battey and Andy Gunther

MEETING DATE: May 12, 2021

ITEM: 4A

Board Climate Action Subcommittee - Status Report

DISCUSSION:

At its regular meeting on November 18, 2020, the Board re-established a Climate Action Subcommittee to build on the work of an earlier climate subcommittee (October 2017 – July 2018). This document provides a brief report to the full Board and other interested parties on the activities of the new Subcommittee.

The reality of climate change. The global climate under which human civilization evolved has changed. That stable climate, where global average temperature varied by only 1°F over ten thousand years, has been replaced by a climate that has warmed by almost 2°F in just two hundred years. This is happening because human emissions of greenhouse gases have altered the chemical composition of the atmosphere, causing energy that used to be radiated into outer space to be radiated back down to the surface of the earth. There is no other explanation for the changes we are observing on the planet, nor is there an explanation for why greenhouse gas accumulation is not the cause of the changes we observe.

These changes are disruptive to our society. They are threatening water supply; increasing the frequency and severity of forest fires and rain storms which can destabilize or damage infrastructure; increasing the acidity of the ocean which damages aquatic life, particularly many creatures at the foundation of the food chain; and increases the distribution of pests and diseases leading to declines in human and environmental health. Climate changes will lead to vast economic and humanitarian consequences, including mass migration, threatening the security of nations.

Consequently, it is essential that human civilization transition away from burning fossil fuels and make other changes that reduce the concentration of greenhouse gases in the atmosphere. Despite such efforts, our climate will continue to change throughout this century. This is because the rate of emission of greenhouse gases has yet to decline, and the gasses already in the atmosphere will be there decades. We must prepare for this new future.

Among the changes that will occur in California are a decline in the snowpack, an increased fraction of precipitation arriving in extreme events, a shorter rainy season and longer dry season, a higher frequency of extremely wet and extremely dry years, more “whiplash” years (where an extreme dry year follows an extreme wet year or vice versa), rising sea level, a longer and more intense fire season and increased ambient water temperature.

These climatic alterations will adversely affect the current and future environmental and human uses and water quality conditions of the creeks, bays and aquatic habitats in the San Francisco

Bay Region (referred to collectively as “beneficial uses”). Examples of water quality impacts include dry periods and drought that lower stream flow and may reduce dilution of pollutant discharges and adversely change chemical and physical conditions in estuaries where the streams meet the Bay or the ocean; harmful algal blooms and lower dissolved oxygen concentrations caused by warmer waters (in conjunction with nutrient pollution); excessive or ineffective erosion and sedimentation (changes in geomorphic processes) caused by intense rainfall events and increased velocity of stream flow along with alternating long, dry periods; potential sewer overflows due to more intense precipitation and increased stormwater runoff; rising sea levels inundating lowlands, displacing wetlands, altering tidal ranges, and increasing areas subject to saltwater intrusion into groundwater; and water pollution and increased absorption of carbon dioxide creating coastal zone “hotspots” of acidification and hypoxia.

The Board has the legal obligation and authority pursuant to the California Water Code to act in the face of this threat to the waters of the state. This need for action is further underscored by the State Water Resources Control Board Resolutions 2007-0059 and 2017-0012. Resolution 2007-0059 directed staff to consider strategies to address Greenhouse Gas emissions that address climate change impacts in coordination with the Department of Water Resources, Cal/EPA, the Climate Action Team, the Air Resources Board and other stakeholders. Resolution 2017-0012 laid the groundwork for a more robust response to climate change that will support California’s ongoing climate leadership, address impacts on California’s hydrology and water systems comprehensively, and integrate the response into all Water Boards’ actions.

Agency Action to Date: The Board has recognized the reality of climate change and the need to act for many years. The scope of the Board clearly includes the protection of resources and beneficial uses from sea level rise, severe storm events, drought, and the impacts of wildfire. Background and published reports about the Board’s climate action can be found [here at the Board's climate action website](#).

In 2015, the Board added a priority project to develop a climate change and water resources policy as an update to the San Francisco Bay Basin (Region) Water Quality Control Plan (Basin Plan). The Basin Plan is the Board’s master water quality control planning document and establishes the authorities, plans and policies on which the Board relies to protect beneficial uses in the Region. The project’s purpose is “to reflect the relationship between climate change and water quality regulation...a narrative description...to explain how climate change could lead to physical and biological impacts...to identify specific ways that Water Board programs might integrate consideration of climate change into permitting and other implementation actions.” This project is underway and several permitting and other implementation actions have already been initiated. For example, most of the regulated facilities along the shoreline of San Francisco Bay, including landfills, wastewater treatment plants, and refineries have been required or have voluntarily agreed to submit climate change and sea level rise vulnerability assessments and/or adaptation strategies.

In 2017, after a series of severe storms and wildfires, the Board took further action to formally establish climate change as a clear organizational priority. The Board assigned a Climate Action Subcommittee to ensure greater focus on climate across the organization, encourage cross-organizational collaboration and initiate permitting and policy actions to prioritize climate related work. These activities were originally described in the Executive Officer’s report of July 11, 2018. On August 8, 2018, the Water Board held a workshop with staff and stakeholders to solicit input and recommendations for climate action. The workshop outcomes affirmed the activities reported by the Executive Officer on July 11, 2018 and recommended additional activities. The workshop

outcomes are available for review on [pages 4 and 5 of the minutes for the August 8, 2018 Board Meeting](#). Additional and more recent activities were described in the Executive Officer's report on [Strategic Priorities](#), including climate action, on November 18, 2020. Priority activities described in that report include (1) building partnerships across sectors, among agencies and with a diverse array of public and private stakeholders, (2) updating wetland policies, (3) contributing to regional planning for shoreline resilience, (4) permitting habitat restoration designed to address future climate change impacts, (5) encouraging on-land resilience and adaptation strategies that consider green infrastructure approaches, and (6) providing technical guidance on climate change risk assessments and adaptation measures.

Climate Action Subcommittee of the Board. The Climate Action Subcommittee was reconstituted on November 18, 2020. Vice Chair Battey and Board Member Gunther were appointed to the Subcommittee, and Assistant Executive Officer Lisa Horowitz McCann was assigned as staff liaison. The Subcommittee has held three meetings, establishing its operating schedule, mission, and goals. The Subcommittee's mission is to "facilitate Board Member leadership opportunities to influence, guide and achieve action in the San Francisco Bay Region that protects beneficial uses from the impacts of climate change." The Subcommittee plans to work for at least one year, and then will evaluate its effectiveness and consider extending its term as needed or desired.

The Subcommittee will (1) set goals to achieve its mission, (2) hold staff accountable to these goals as part of a continuing effort to implement and adaptively manage climate actions, (3) identify effective roles to complement the work of agency staff and other organizations, (4) strengthen partnerships in the region to help achieve goals, particularly those related to collaborative regional planning (including Board representation at the Association of Bay Area Governments [Battey] and the Bay Conservation and Development Commission [Gunther]), and (5) seek additional resources the agency can use to pursue and achieve its climate action goals.

Climate Action Team. The agency launched the staff Climate Action Team (Team) in April 2021. The Team's kick-off meeting was held on April 21, 2021 and was attended by the Subcommittee members. Team members were selected (by managers and executive officers) because they have demonstrated a strong interest in the topic and can be expected to be effective team members.

The Team is charged with the following tasks/projects (as currently envisioned, with the expectation that these will evolve in response to new information, developments, and resource availability):

(1) Develop and support a communication plan to foster coordination and collaboration among team members, the Team Sponsor (Assistant Executive Officer Lisa Horowitz McCann), the executive management team, other staff members, the Board Climate Action Subcommittee and other Board members, interested stakeholders and the general public.

(2) Identify current priority issues, recommend actions and implementation strategies. A current example is how to evaluate existing sea level rise vulnerability plans developed by local agencies and guide their implementation. (Note: multiple regulated facilities located near the shoreline are preparing or have submitted such plans pursuant to updated permit requirements).

(3) Identify future priority threats to beneficial uses that will require agency attention. Examples include how to address groundwater rise impacts in addition to sea level rise; how to address increased fire frequency and intensity; how to address drought threatening water quality and habitats.

(4) Identify and implement approaches for outreach and assistance to communities in the region that are most vulnerable to climate impacts. Developing technical, financial, and permitting assistance as necessary, particularly for communities that are under-resourced.

Team members (with their subject expertise) are: Guy Gutterman (team lead), Samantha (Sami) Harper (planning, green-gray infrastructure engineering), Kathryn (Katie) Hart (wetland protection and permitting), James Parrish (wastewater permitting, nutrients, watershed and Bay management), Melissa Gunter (water recycling and use efficiency), Joseph Martinez (stormwater, green infrastructure), Alyx Karpowicz (groundwater cleanup, waste management facility permitting, groundwater rise), Christina Toms (wetlands and shoreline resilience, climate science and climate change impacts). An additional staff member with expertise in dredging and beneficial reuse of sediment is being recruited.

As we move forward, the overall intent of the Climate Action Subcommittee is to work collaboratively with the Team using an integrative, interdisciplinary, cross-division and cross-program approach to implement actions that will minimize adverse impacts of climate change on the San Francisco Bay Region's wetlands, water quality and other beneficial uses.