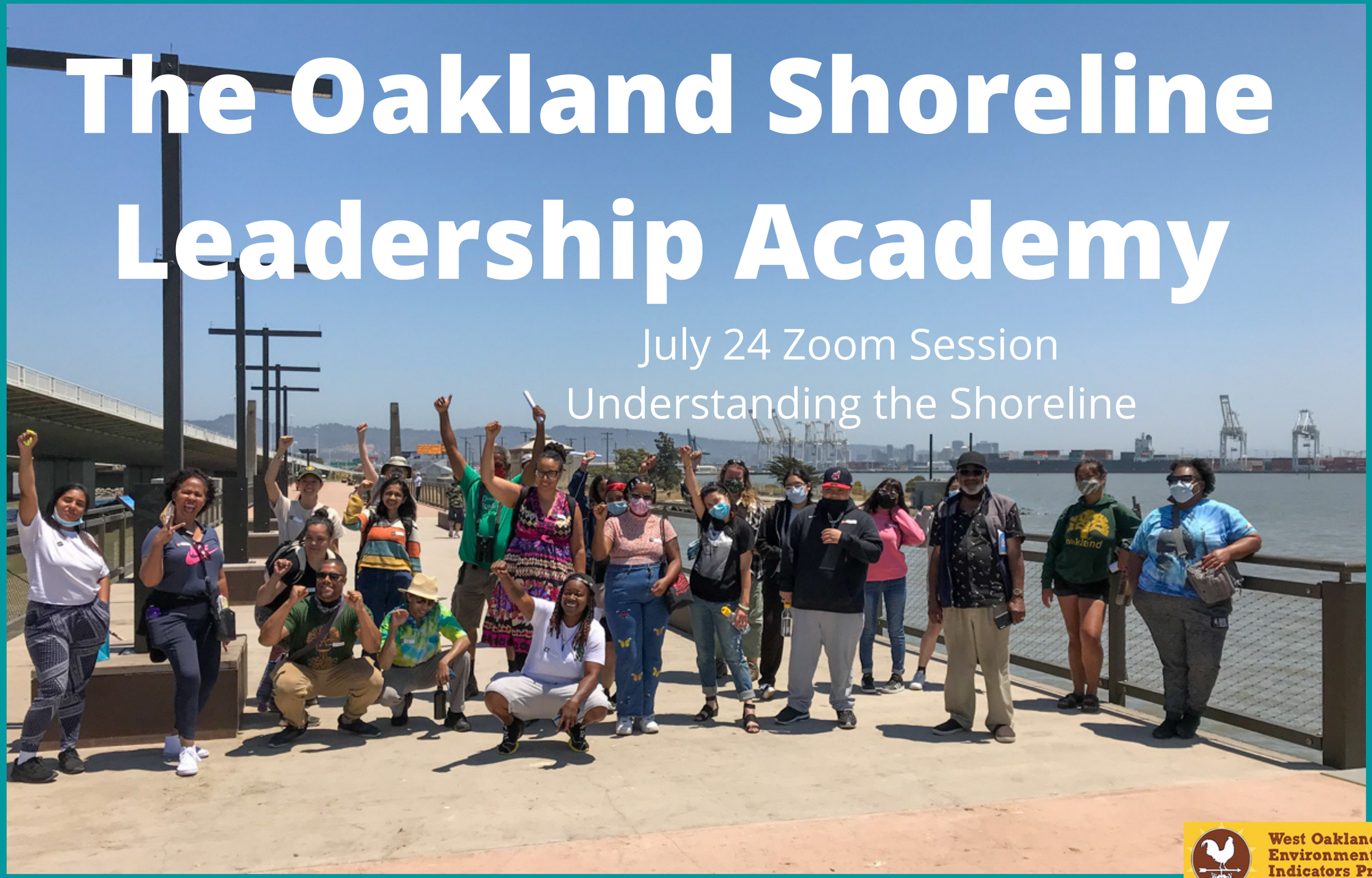
The Oakland Shoreline Leadership Academy

July 24 Zoom Session

Understanding the Shoreline



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Today's Agenda

10-10:15am Welcome and check-ins, Zoom Setup
10:15-11am Overview of the Climate Crisis-Teron McGrew, Climate Reality Project
11-12am Mapping the problems-Phoenix Armenta, WOEIP
12-1pm Lunch Break
1-2pm The Solutions-Phoenix Armenta and Prescott Reavis
2-3pm The Elements of a Plan-Marquita Price
3-4pm Overview of WOEIP Communications-Jess Sand and Phoenix Armenta
4-5pm Developing a Sea Level Rise Plan-Jessica Ludy and Alev Bilginsoy, US Army Corps of Engineers

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Community Agreements

1. Be on time
2. One person, one mic
3. Be respectful...take space and make space
4. Practice self-focus, use "I" statements/ speak your truth
5. Be an active listener, closely and with curiosity
6. Honor confidentiality
7. Lean in to discomfort
8. Take care of yourself

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Community Agreements

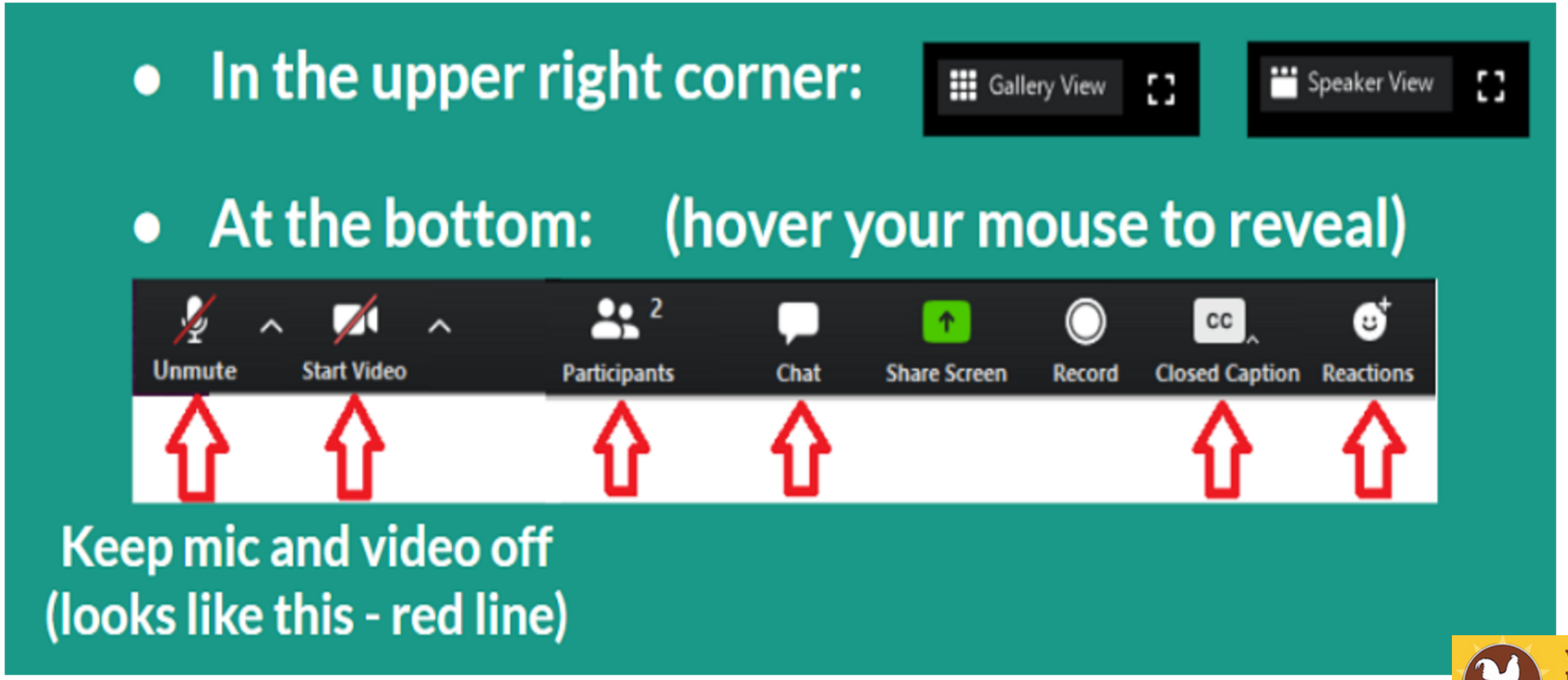
1. Assume best intentions
2. Notice power dynamic
3. Share gratitude for feedback
4. Provide respectful feedback
5. Center learning and growth

1. Here are the general controls you will see once you enter a Zoom meeting.

a) Click on either **Gallery View** or **Speaker View** to change your screen setting:

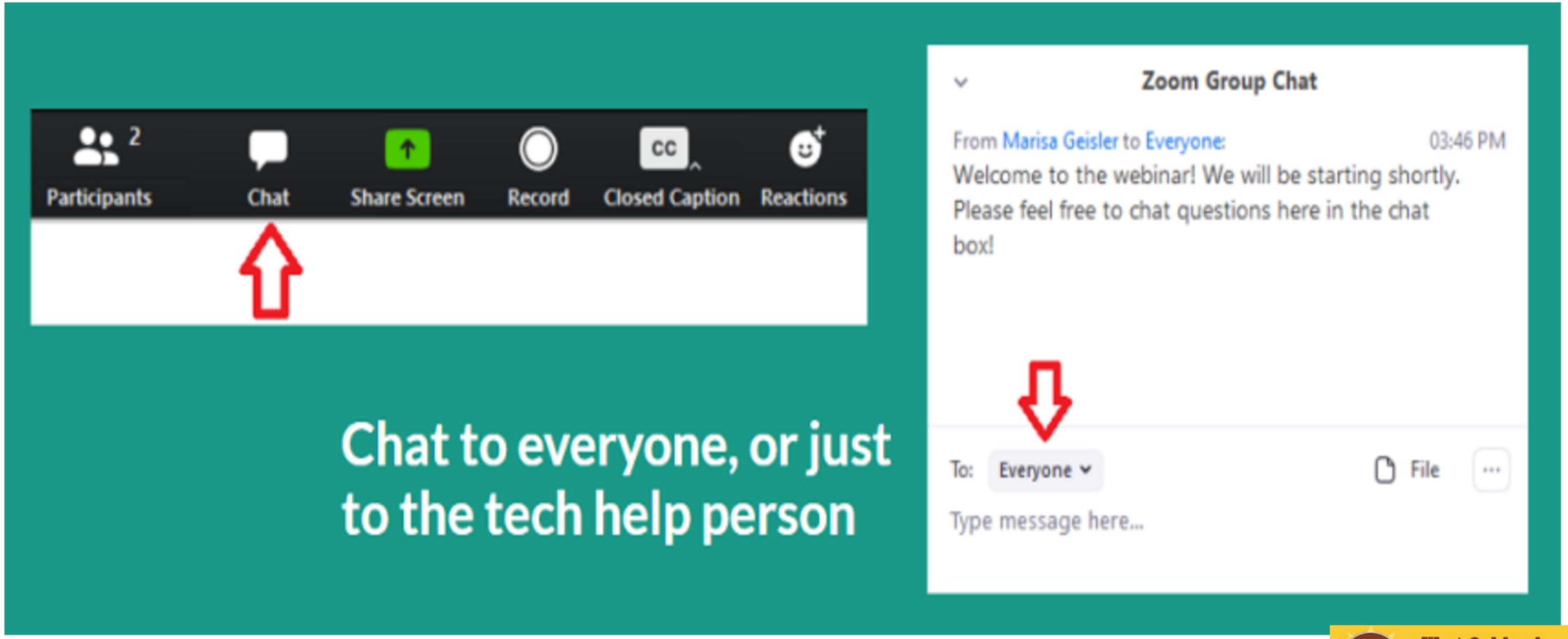
- **Gallery View** allows you to see everyone's video.
- **Speaker View** shows you only the video of the person speaking.

b) Please keep your **mic and video off** unless the presenter asks you to turn them on.



2. Be sure to open your Chat box when you join the meeting.

Click on **Chat** in your toolbar to open the Chat box. Note that at the bottom of the box, you can choose to chat to everyone or just to someone specific, such as the tech help person.



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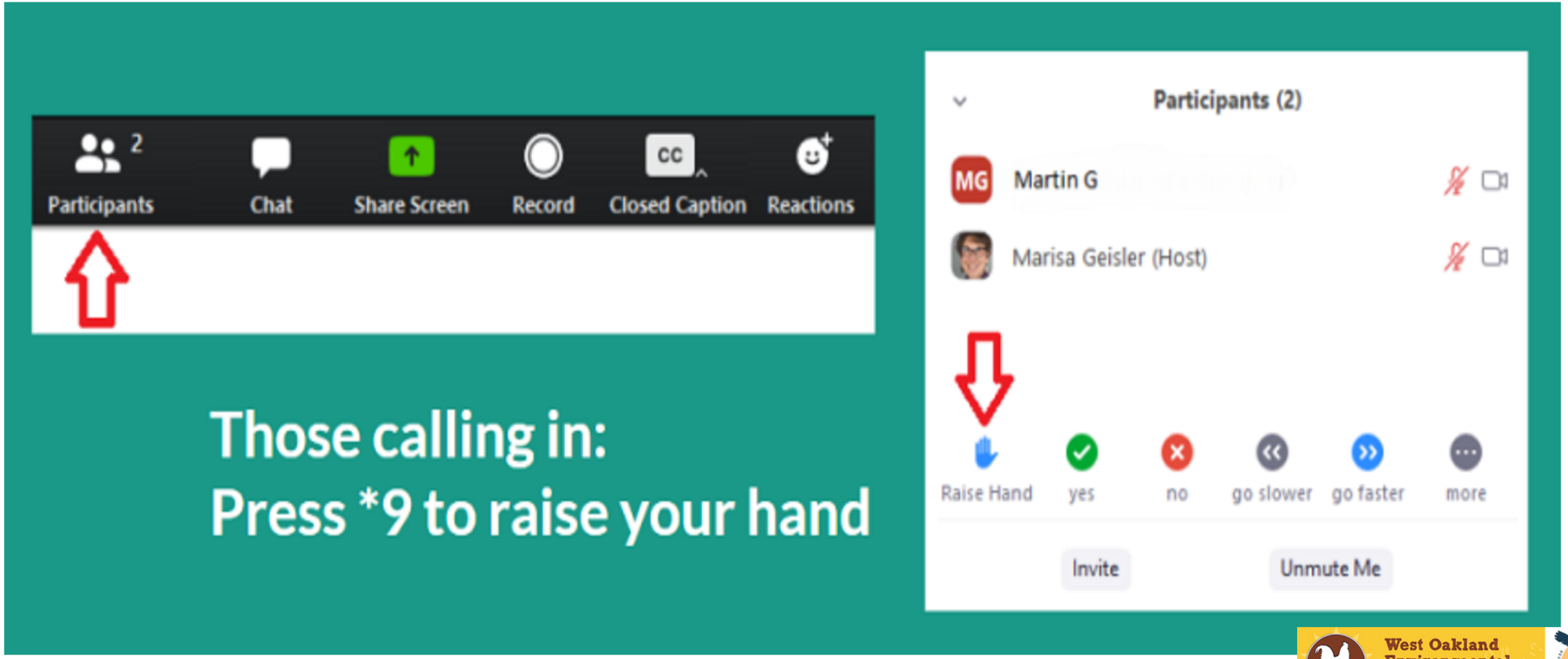
3. The presenter may ask you to raise your hand.

If so, click on **Participants** in the toolbar and then **Raise Hand**. *(Note: Not all presenters will use this function, especially if there is a large number of attendees.)*



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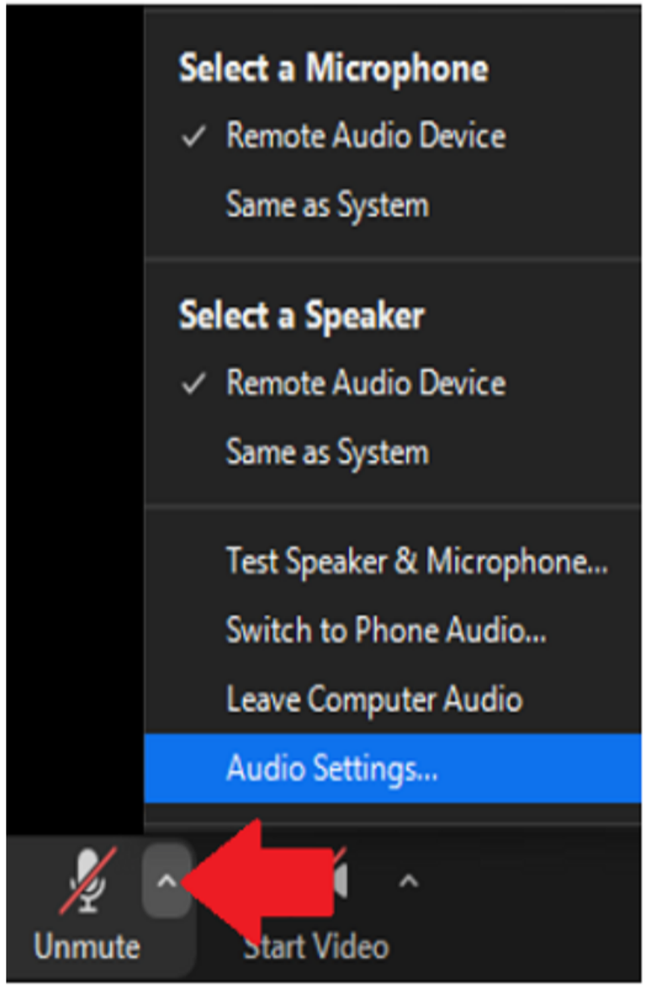
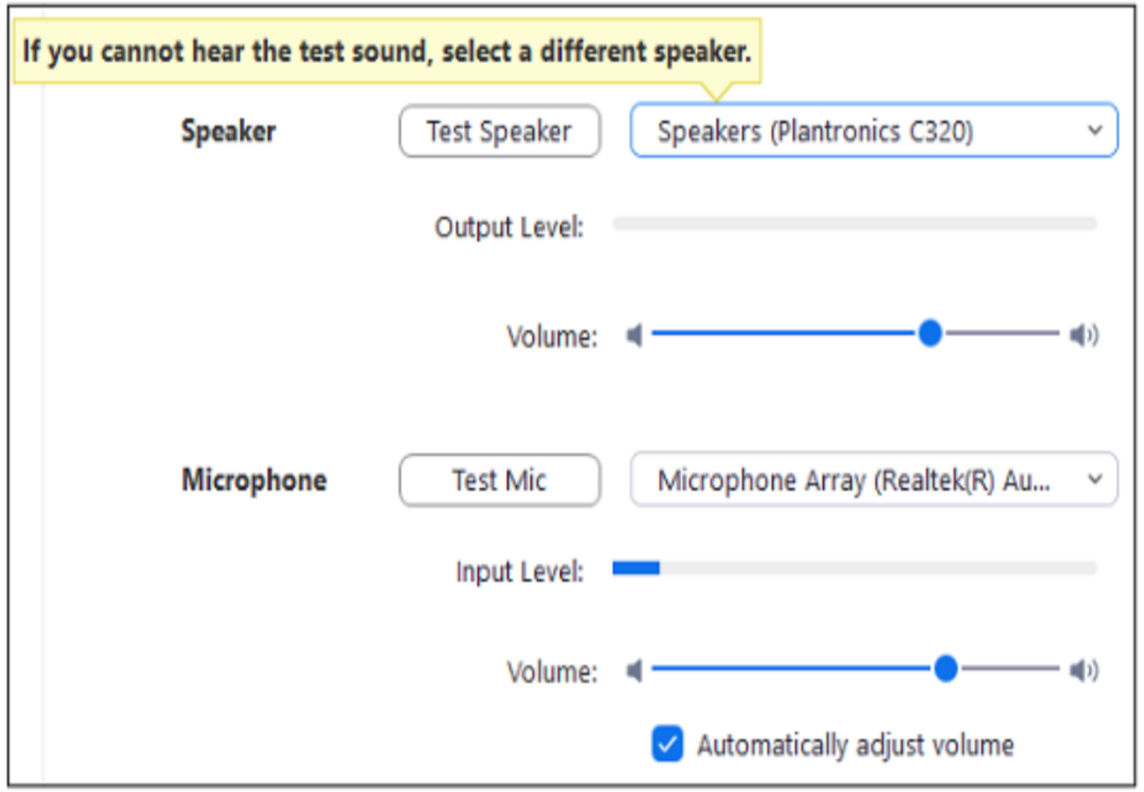
4. If you cannot hear any sound, you may need to adjust your audio settings.

Click the small **upward arrow** next to your mic icon and choose **Audio Settings**. Then click **Test Speaker** and choose the option from the dropdown menu that enables you to hear the test sound. *(In the example below, that option is "Speakers [Plantronics C320].")*





THE SOLUTIONS

Ways to prepare for sea level rise

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GREY INFRASTRUCTURE

... usually refers to the traditional methods of managing water, using man-made, constructed assets, most often water tight and designed to avoid any type of ecosystem to grow on it. Grey infrastructure is so-called because it is often constructed of concrete.

Types of grey infrastructure

Gray infrastructure refers to structures such as dams, seawalls, roads, pipes or water treatment plants.

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SEAWALLS

A seawall is a structure made of concrete, masonry or sheet piles, built parallel to the shore at the transition between the beach and the mainland or dune, to protect the inland area against wave action and prevent coastal erosion. Seawalls are usually massive structures designed to resist storm surges.

In years past, engineers may have taken the hard, "grey" design approach of installing a concrete seawall away from shore to break the impact of oncoming waves or "hold the line" of rising tides.

In fact, according to a study in 2015, "22,842 km of continental US shoreline—approximately 14% of the total US coastline—has been armored[i]" in this fashion. While this approach may have been the best solution at the time, the tide is changing.

Green Infrastructure

Incorporates the environment with constructed systems that mimic natural processes in an integrated network to benefit nature and society. The term green infrastructure most often refers a cost-effective, resilient approach to managing wet weather impacts using techniques such as low impact development (LID) approaches. However, the concepts and principles of green infrastructure span the scale of landscape-level watershed-based management planning.

https://www.epa.gov/green-infrastructure/coastal-resiliency

Living Shorelines = Ecosystem

Natural ecosystems provide multiple benefits to people, including food and water production, improved air and water quality, and recreation and spiritual inspiration.

https://www.northeastoceancouncil.org/wp-content/uploads/2019/01/Intro-Green-Infrastructure-NOAA.pdf

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Issues

- Rising Sea Levels
- Increased storm surges
- Increase of frequency and intensity
- Flooding

SOLUTIONS

- Native wetland plants
- Stone and rock structures
- Oyster reefs & mussels beds
- Submerged water vegetation
- Sand fill & Reef Balls

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Planning concepts

1. What scale are you working at?
2. What is the context ?
3. Use Ecosystem approach to get the best results
4. Solutions and methods must be ground in proven science

Design Concepts

1. Multifunctional
2. BasedonResilience
3. Connect with the place
4. Cost effect = ROI

Shore UP: San Mateo Water Treatment Plant

- Native wetland plants used to naturally clean water
- Teired seawall
- New Public walking Space
- New Educational space
- Connect people and the enviroment

https://vimeo.com/146718724

Resilience Hubs

Community-serving facilities augmented to:

1. support residents and
2. coordinate resource distribution and services before, during, or after a natural hazard event.

Resilience Hubs
Program Pillars

COMMUNITY PROGRAMMING

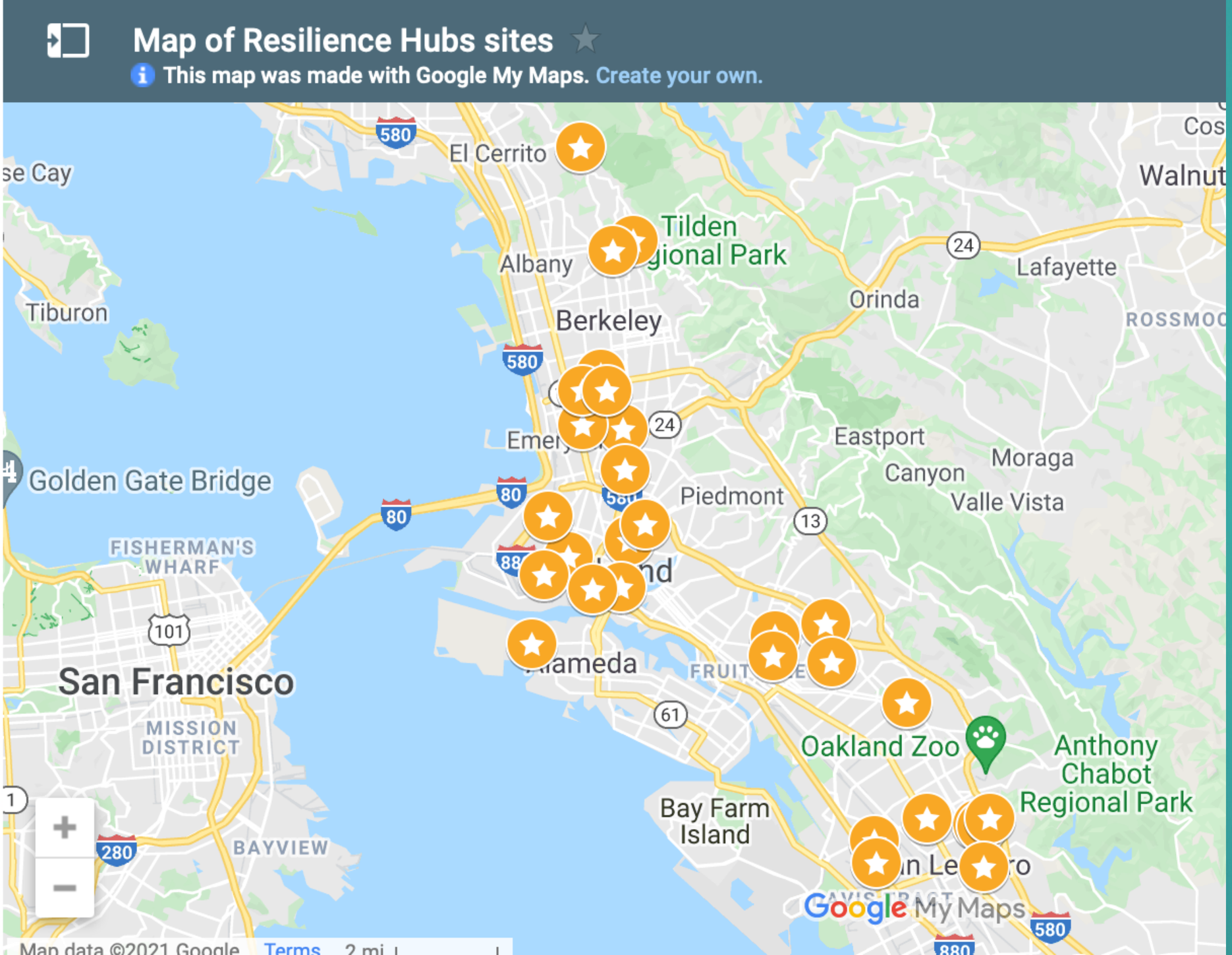
Providing regular culturally appropropriate programming for community members, from workshops to gatherings
Promoting resource sharing – from tools to cars
Working with community members to organize resilience-building

REGENERATIVE ECOLOGICAL FEATURES

Save Water: greywater, rainwater catchment, drip irrigation
Grow Food: Edible landscaping, from food forests to garden boxes
Go toxin-free: no or low-VOC paints, green cleaning products
Save Energy: double-pane windows, solar panels, bike riding, electric cars

DISASTER PREPAREDNESS & RESPONSE

A robust supply of water, food and supplies on hand for earthquakes and other disasters
An emergency plan for when a disaster does hit
Carbon monoxide detectors, fire extinguishers, first aid kits and other products ready for use



https://norcalresilience.org/leadership-training/

NORCAL RESILIENCE NETWORK

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Public Access

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POLL #1

What Shoreline park you know in Oakland and Beyond?

https://www.menti.com/u914tebj8z
Access code 1792 3605

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POLL #2

How do you access the shoreline?

https://www.menti.com/r918qgxryy
Access code 3254 8000

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AGENCIES

1. City of Oakland
2. Port of Oakland
3. East Bay Munciapl Utility District
4. San Francisco Regional Water Quality Control Board
5. The San Francisco Bay Conservation and Development Commission
6. San Francisco Bay Restoration Authority
7. East Bay Regional Parks District
8. California Environmental Protection Agency
9. Department of Toxic Substance Control
10. US Environmental Protection Agency
11. US Army Corps of Engineers

TRANSPORTATION

Hours

PARK/AREA	OPEN	CLOSES
Judge John Sutter Park	7:00 AM	5:00 PM
Middle Harbor Shoreline Park	8:00 AM	7:30 PM
Jack London	24 HRS	24 HRS
Estuary Park	6:00 AM	10:00 PM
Brooklyn Basin	24 HRS	24 HRS
Jingletown/Union Point Park	6:00 AM	7:00 PM
MLK Shoreline Park	8:00 AM	9:00 PM

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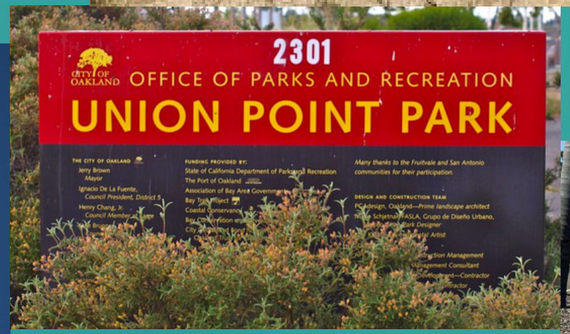
DIRECTIONS AND SIGNAGE



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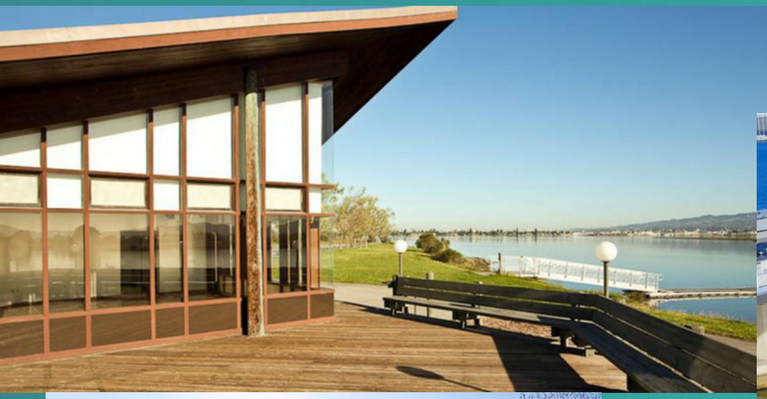

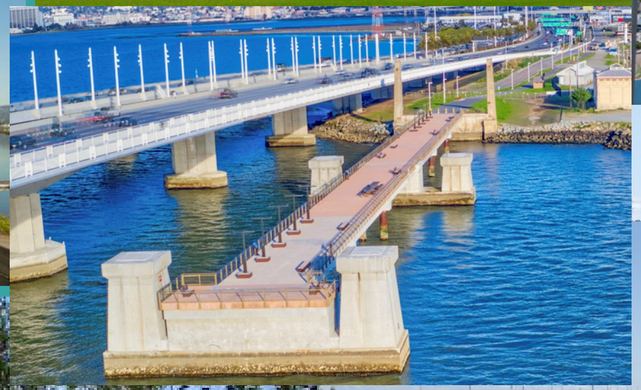

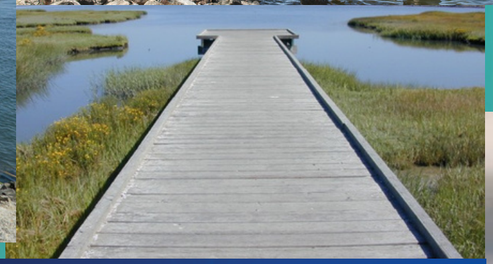

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ADAPT OAKLAND

- A UNQUIE GREEN PLAN WHICH IDENTIFIES ENVIRONMENTAL HAZARDS AND MATCHES THEM WITH ADAPATION STRATEGIES
- BUILDS ON GREEN INFRASTRUCTURE
- LESSENS EXTREME TEMPATURES
- REDUCES RISK OF FLOODING + CONTAMINATION

http://www.adaptoakland.org

URBAN TYPOLOGIES

Waterfronts

- **Protect waterfronts**
  - Sea level Rise
  - Flood Storage
  - Erosion Control
  - Improve Wildlife Habitat
  - Integrations of Recreation

- **Low Impact Soultions**
  - Modular Wetlands
  - Living Shorelines
  - Floating Wetlands
  - Reef Balls

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ADAPTION STRATEGIES

Adaptive Strategies: Set of green infrastructures that are most suited to perform multiple environmental functions

- **Construsted Wetlands**: Aquatic environments designed to filter wastewater or stormwater runoff through natural processes, while providing a space for biodiversity to thrive.
- **Living Shoreline**: Coastal barriers that utilize vegetation and living organisms to prevent coastal erosion, while reducing pollution and creating habitat for biodiversity. Living shorelines also create natural buffers to climate change induced sea-level rise.
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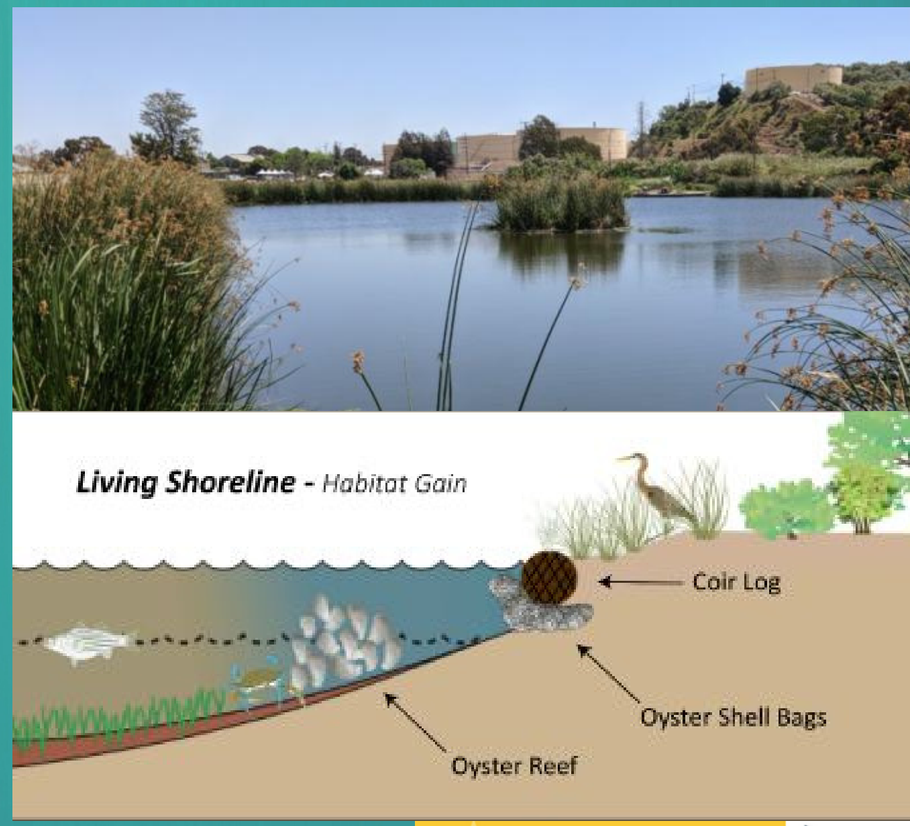

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Ecosystem Services: Developing a greening plan brings together the diversity of urban ecosystem structures available, the urban ecosystem functions needed, and the urban ecosystem services that are possible.

- **Water**
  - Clean Polluted Water
  - Prevent Flooding

- **Solutions**
  - Surface Swales
  - Rain Gardens

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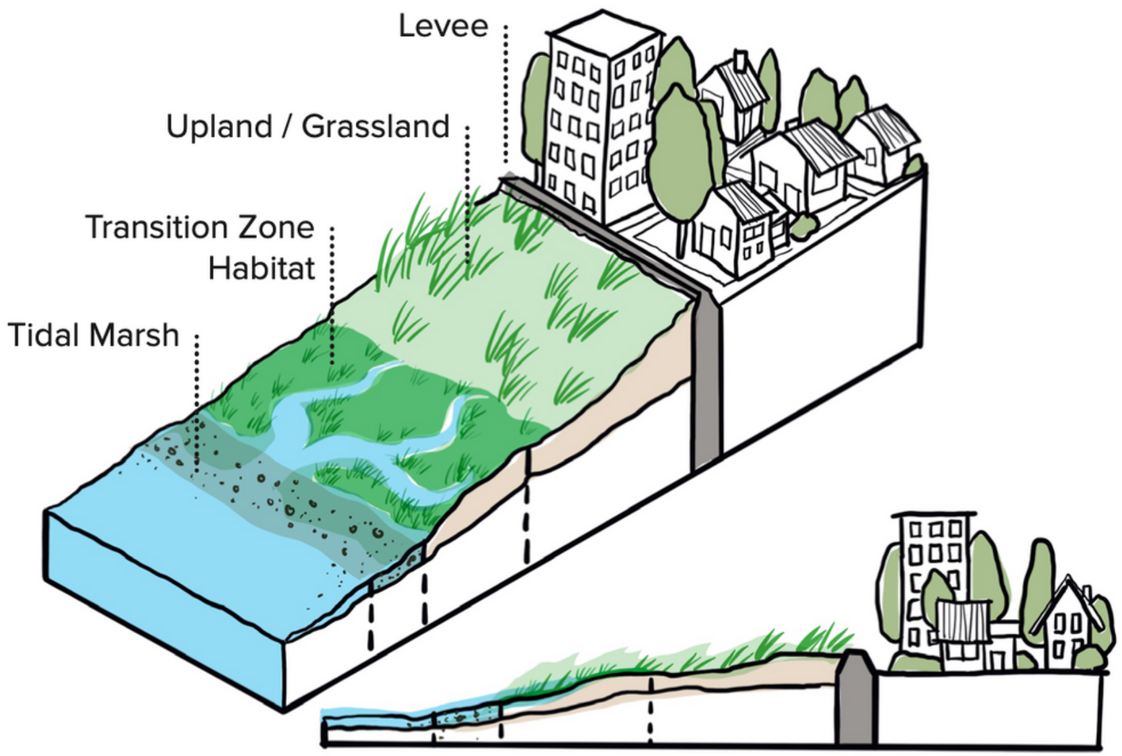
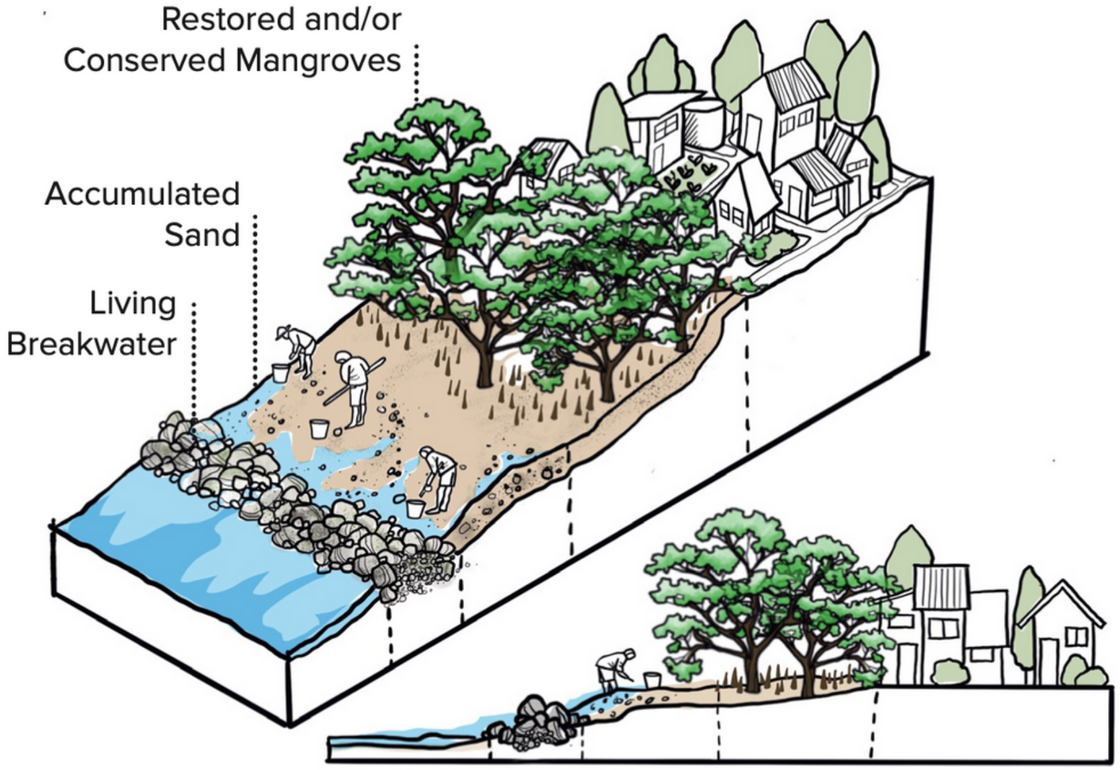
Ecosystem Services Ecomomics: challenge of financing infrastructure is the weak link between the costs and benefits. New infrastructure funds often do not include revenues for ongoing maintenance.

- **Funding**
  - Taxes
  - Impact Fees
  - Regulatory Fees (Cap & Trade)
  - Fines & Penalties
  - Infrastructure and ecosystem trust
  - Impact Investing
  - Climate Insurance

COASTAL GREEN-GRAY EXAMPLES

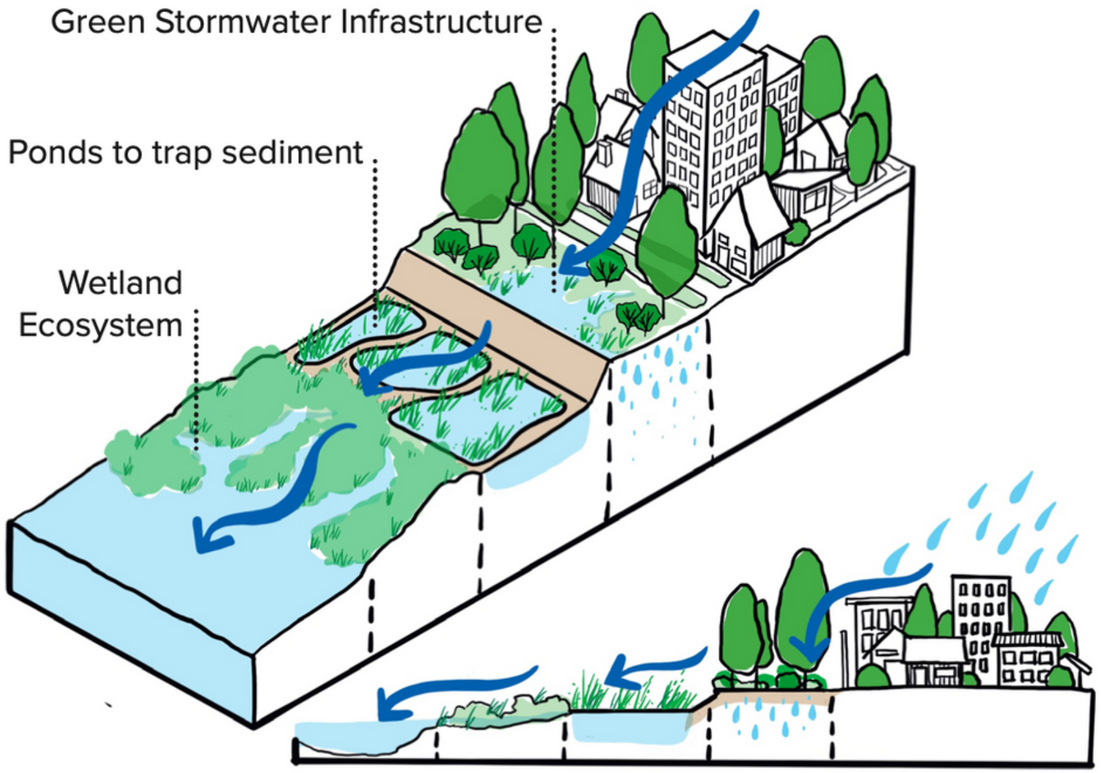


HORIZONTAL LEVEES integrate coastal ecosystem restoration and/or conservation with traditional levee design to achieve greater protection from floods and sea level rise than if either solution was applied alone.

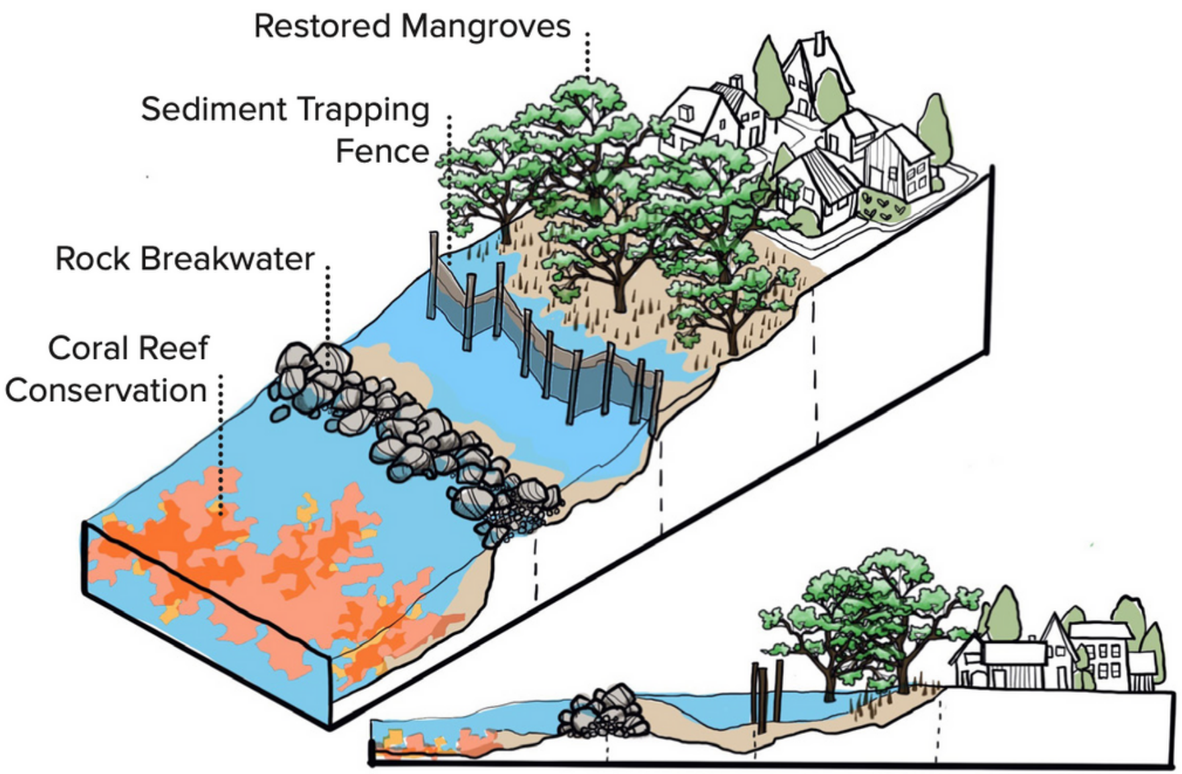


LIVING BREAKWATERS reduce wave energy, facilitate sediment accumulation and promote natural colonization by shellfish to diversify local livelihoods.

https://www.conservation.org/docs/default-source/publication-pdfs/ggi-intro_190924.pdf?Status=Master&sfvrsn=d10bfe09_2



CONSTRUCTED WETLANDS use natural processes to clean stormwater, graywater and/or wastewater, resulting in improved habitat and biodiversity benefits. Stormwater wetlands clean runoff from urban spaces, reduce flooding and create spaces for people to access nature.



BREAKWATERS reduce wave energy to buffer impacts of weather events to vulnerable communities and facilitate sediment accumulation for ecosystem restoration, such as for mangroves.

QUESTIONS

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TITLE / ISSUE

Sub Issue

Subject

Presentations are communication tools that can be used as demonstrations, lectures, speeches, reports, and more. It is mostly presented before an audience. It serves a variety of purposes, making presentations powerful tools for convincing and teaching.

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Other font colors

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