

San Francisco Bay Regional CHARG: Coastal Hazards Adaptation Resiliency Group
July 24, 2014 Stakeholder Meeting Summary + Action Items
Location: FEMA Region IX Headquarters, downtown Oakland

Action Items

Action	Who	When
Invite Terri Wegener, DWR back to CHARG for Q&A session after the Investment Strategy published.	Ellen to schedule	When Report is complete 2015
Announce two online training webinars hosted by the Bay Area Climate and Energy Resilience project on August 27 and September 3 10am-11am.	Ellen to post	
HOMEWORK 1: send an email to Ellen to share any ideas or thoughts about what would you like to improve.	All to send to Ellen Cross e.cross@conveyinc.com	
HOMEWORK 2: Prepare for 9/25 meeting which will be interactive and collaborative: plot your project(s) on a series of maps of the Bay and give a summary of your project, including the implementation challenges. Concurrently, discuss CHARG goals.	All	
Consider hosting a CHARG meeting that will accommodate ~65 Stakeholders. Available meetings to host include: <ul style="list-style-type: none"> November 20 Stakeholder Meeting 	All – please let Ellen know	asap

Next Meeting

The next stakeholder meeting will be hosted by the Port of San Francisco on Thursday, September 25, at the South Beach Harbor Services Building in the 1st floor conference room (north end). The building is located on the waterfront just north of AT&T Park off of 2nd Street.

July 24, 2014 Meeting Summary

Kathy Schaefer – Introduction + CHARG history

- The idea for the working group name CHARG came from Norma Camacho during our first stakeholder meeting in May.
- The purpose of this group is to improve regional coordination for agencies addressing adaptation resiliency and flood hazards. CHARG members consists of the implementers of flood control solutions; the ones at the heart of it all.
- Some shared focuses of stakeholders: levees that need to be improved or increased, infrastructures around the bay that need to be adapted to rising tides, mapping modeling, and policy initiatives.

- How do we fund all of this? How do we coordinate? Another purpose for CHARG: to identify the projects that people are working on around the bay. Homework for the next meeting: be prepared to show on a map where and what your project is. CHARG was formed for agencies to coordinate, communicate, and work together.

Terri Wegener, DWR

Program Manager for Statewide Flood Management Planning Program

Presentation on Statewide Investment Strategy as a follow up to the Flood Future Report

- Terri has 20 years of experience with flood and storm water management planning and emergency response on the state and local levels.
- Overview of what the state of CA is doing in relation to integrated water management, integrated flood management, and flood risk management.
- We know that CA is at risk. We are amidst an unprecedented drought and still at risk of potential flood damage this winter.
- The CA Flood Future Report was published last November, and it was first time DWR looked from a statewide point of view. DWR worked jointly with the USACE. The intention of the Flood Future Report is to help create policy and investment opportunities to address flood risk.
- Today’s flood management challenges: major system deficiencies, lack of funding for operations and maintenance, aging infrastructure, over 1300 flood management agencies at different levels.
- CA has invested over \$11 billion in the last decade, but this is still not sufficient. DWR went around statewide to make a list of projects and found that the need to address flood risk in CA is over \$50 billion; future flood risk need based on a conservative estimation is over \$100 billion.
- Seven recommendations from the Flood Futures Report:
 1. Conduct more regional flood risk assessments to understand statewide flood risk.
 2. Increase public and policymaker awareness about flood risks at all levels to facilitate informed decisions; making messages consistent.
 3. Increase support for flood emergency preparedness, response, and recovery programs to reduce flood impacts.
 4. Encourage land use planning practices that reduce consequences of flooding.
 5. Implement flood management from regional, system-wide level and drawing from statewide perspectives to provide multiple benefits
 6. Increase collaboration among public agencies to improve flood management planning policies and investments
 7. Establish sufficient and stable funding mechanisms to reduce flood risk
- Flood management faces significant and different challenges compared to other water management entities.
- CA Water Management Investment Strategy
 - CA flood management expenditures are significantly lower than expenditures for water supply and wastewater treatment.

- The intent is that flood is addressed in the same conversation as other types of water management; that we establish a level playing field and coordinate using the limited resources available.
- Declining local, state and federal resources, reduced federal cost shares, challenging revenue structure
- Necessary projects and regular O&M are often deferred indefinitely
- Flood management and water management can be complex. Need to convey needs effectively and provoke enough interest using an understandable message
- Governance and Finance
 - Now in a constrained era of funding. How do we address and find stable funding. Need to identify priorities then develop an easy to understand plan of financing needed.
- Describe states investment priorities for all aspects of water management and offer guidance on how to organize and pay for the work needed to address those priorities.
- Align with the priority to find stable funding from the CA Water Action Plan issued by the governor in February 2014.
- Answering important questions:
 - How much money is needed?
 - What are the states investment priorities?
 - What are the financing options?
 - How do we achieve sustainable funding?
 - How do we improve agency alignment and inefficiencies?
- Want to build on the info collected from the information gathering sessions we held for local agencies involved with all types of water management.
 - What's working and what's not working throughout the state?
- What does the public value in regards to water management on the local, state, and regional level? They value public safety, environmental stewardship, economic stability, and other enriching experiences
 - Want to find a way to track value to assess whether investments been worthwhile
- DWR will have our first draft by this coming winter and will be reaching out to local agencies to go over what is in the draft.
- Q&A
 - Q: Is investment strategy going to include recommendations for changes in federal state legislations to make it easier to get funding and implementing projects and actions?
 - A: YES. One, if not main, target audience is legislators. DWR wants to work with more local agencies to figure out how to implement recommendations.
 - Q: How do you measure "quality"?
 - A: ADWR our team is working on it because it's more than just the cost of the fish. We are working to come up with the next steps in terms of resilience and reliance.
 - Q: Will the plan address streamlining processes through multiple agencies?

- A: DWR also looking into this. The draft this winter will build on the governor’s water action plan which has some recommendations around agency alignment. Know that this is a big challenge but we hope to advance to the next step.
 - Q: Can you shed some more light on the slide highlighting “today’s management challenges” and how they can be overcome?
 - A: Can’t currently speak in more specifics. Would like to come back and have more specific conversations about this. DWR recognizes that this is a significant challenge at many levels and it is costing a lot.

**David Behar, SFPUC
Climate Program Director**

Presentation on Incorporating SLR into Capital Planning, an Overview of Draft Guidance in the City and County of San Francisco

- David chairs the Sea Level Rise (SLR) Committee for the City and County of San Francisco; is the founding chair of the Water Utility Climate Alliance; is the co-chair of the Advisory Committee on Climate Change and Natural Resource Science.
- The environment for climate change planning that exists in the US is not unlike the “wild wild west”; there are no best practices in SLR, the standards unclear, the science is often contradictory with new articles coming out every day that say something different. It is an inconsistent and lawless environment.
- Current SLR estimates by SFMTA, SFO, PUC (SSIP), TI/YBI, Port (URS) and Ocean Beach are very inconsistent.
- CA is a leader in SLR efforts: Ocean Protection Council and Ocean Science Trust Sea Level Rise Guidance Document, California Coastal Commission Draft SLR Policy Guidance, BCDC Adoption of Bay Plan Amendment no. 1-08
- Focus set by mayor of SF:
 - The first thing we want to coordinate in SF is how to accommodate SLR in our capital planning
 - Bring draft guidance to Capital Planning Committee (CPC) for consideration
 - Enable CPC and departments to better understand and prioritize projects with reference to sea level rise
 - Coordinate and encourage collaboration among all CCSF departments
 - Maintain responsibility for assessment and adaptation within departments, with review and coordination by entity to be developed.
- An SLR committee was formed and met from the beginning of September for 8 months. Began with benchmarking review of other jurisdictions: local, state and national, survey of CCSF activities with SLR nexus (many found), in-depth review of the science, survey of regulatory context, one half-day workshop, and then writing Draft Guidance.
- Ranges of estimated SLR by 2100 by the National Climate Assessment (2013), National Research Council (2012), and the IPCC (2013) illustrate the inconsistencies between organizations.
 - Large gaps between low and high end are not helpful and are confusing

- Committee decided on a process focusing on the reports by the NRC (2012) and IPCC (2013) and decided to adopt the NRC numbers.
 - Middle range number characterized as likely called “projection”
 - Accurate numbers are important
- CCSF Draft Guidance SLR Figures include estimates for 2030, 2050, and 2100 with the most likely projection
- SLR Is not the only water level issue. Extreme tide matrix...
 - Inundation maps are a great tool to evaluate...
 - Maps used in the Sewer System Improvement Program are the latest and greatest of SLR maps seen so far because it is based on one meter resolution horizontal lidar data, which is the highest we know of. It’s fully hydraulic...
 - Recommendation to use these maps in conjunction with the SLR guidance so that we maintain consistency throughout our various agencies
- The steps in the SLR guidance process:
 1. SLR Science Review: Involves process of looking at the adopted numbers in report and assessing how they impact your assets (lifecycle, location, what kind of scenarios you need to prepare for)
 2. Vulnerability assessment: Which assets are vulnerable to SLR?
 - A. Exposure
 - B. Sensitivity
 - C. Resilience is it able to bounce back and recover.
 3. Risk assessment: which vulnerable assets are at the greatest risk?
 - A. Likelihood
 - B. Consequence
 - The focus should be on the consequence with an assumed likelihood of 1.0
 4. Adaptation planning: For those assets at risk, what will we do to increase their resilience to SLR?
 - We should neither put all faith into the estimated likely levels of SLR nor should we build for the worst case scenario today.
 - Building on previous steps to create resilience
 - Adaptive capacity and adaptive management
 5. Permitting and regulatory considerations
 - a. Coastal Commission
 - b. BCDC
 - c. CCSF General Plan
- Adaptive Capacity
 - Inherent resilience: asset will be flooded but not be harmed, or flooding will not be a problem.
 - Adaptive capacity relates to adaptive management by forcing you to think about the footprint of your asset, its nature and its adaptation measures that you want to take in the short term, and whether they can be adapted in the future.

- The capacity to add additional adaptation measures on top of the ones you want to build today is a very important adaptive capacity concept that relates to every asset and footprint
- Adaptive management: asset can be made resilient to shorter term SLR, and planning/footprint can allow future resilience measures when more is known
- The reason we spent a lot of time understanding what the science tells us today about short medium and long term is to enable an adaptive management approach.
- Q&A
 - Q: Tell us about financing
 - What they will do is use Mello-Roos financing to extract funds from those who will live and establish commercial businesses on the island to raise money between initial occupancy to the future point at which you might want to invest in new adaptation strategies so that the San Francisco tax payers are not on the hook for Treasure Island private development being in danger of SLR
 - Q: Have you considered a groundwater level rise?
 - A: There are several issues related to this that we have not done yet, the answer is no but we will. The other issue is figuring out how to combine the freshwater storms/urban flooding from upstream and SLR from offshore occurring at the same time and how that can add to vulnerability.
 - Q: Are there examples in SF that are not protecting an asset but are protecting all of the ocean-side. How is SF dealing with the properties needing immediate protection and strategies?
 - The easy way to answer is I don't know because we haven't done it yet. In the ocean beach process its multi-interest multi-user multi-risk factors related to PUC MTA assets we are in lengthy conversations with coastal commission in regards to how to approach. Mayors directive included making sure we encourage collaboration between the cities and counties so that reflect the needs of all agencies.
 - Q: How will you deal with adaptation?
 - As San Francisco moves forward and figures out how to update replace upgrade seawall that protects all of downtown area 100 yrs old that is one option that will be looked at. This is highly speculative, but at some point there will probably be federal money for adaptation, Money will flow most easily to regions that collaborate. If anyone is interested in that type of collaboration then we should follow that up to figure out where those dollars are and then go get them
 - Q: What did the west Antarctica glacier study do to your thinking?
 - The fuse is lit and it can't be unlit. West Antarctica will go under the ocean. That is not the end of the story for us. If it goes under in full by 2620, it is not relevant to me today. What we need to know is what the effect of this dynamic response of the ice sheet is going to be by whatever period you want to do infrastructure planning for. The answer is that they already considered it in their estimates, but I haven't received confirmation.

- Q: How do you plan when the numbers aren't accurately proven?
 - If we look at CA's guidance over the past four years they've changed from one thing to another, our guidance and all guidance needs to provide for some kind of regular revisiting to update the numbers. I don't know of an alternative to using numbers, and if there are ways without using numbers I'd love to hear them. If not, we have to make sure that the perfect is not the enemy of the good.

Kelly Higgason, Our Coast-Our Future Coordinator

- Update on the *Our Coast our Future* project to highlight our goals to provide SF Bay area coastal resource and land use managers and planners with accessible locally relevant online maps and tools to help understand visualize and anticipate vulnerabilities to SLR
- What is unique about this project are the localized projections provided by the USGS Coastal Storm Modeling System to predict coastal hazards for the full range of sea level rise and storm possibilities (combination of 40 different SLR and storm scenarios plus King Tide scenario for SF Bay) using the most sophisticated global climate and ocean modeling tools; takes into account total water levels which include wave run-up, wave set-up, storm surge, seasonal effects, tides, and sea level rise, also included for SF Bay: vertical land motion, levees, river discharge, and wind waves
- In addition to the science, have also been through an ongoing stakeholder engagement process since 2011 to help determine the type of questions Bay area planners and managers need answered using data and tools of this type and how best we can then develop our online flood maps, website and user interfaces to meet these needs.
- Currently have the north-central CA coast from Half Moon Bay to Bodega Head and can be found at Pointblue.org/OCOS
- Exciting news, mid-August launch which includes the entire SF Bay and new flood map features.
- Two online training webinars hosted by the Bay area climate and energy resilience project on August 27 and September 3 10am-11am. More details can be provided by Ellen Cross.
- We will have a one hour presentation at 9/25/14 CHARG meeting with a more detailed model overview and demo of online flood maps tailored to the attendees. Discussion on potential application of data and tools, local projects, and possible collaboration with our project or with others throughout the bay area.
- More details to come. We will have a representative from USGS and Point Blue Conservation Science to go through the models and online mapping tools.
- Please be ready for a three hour CHARG meeting on 9/25/14 from 12-3pm, mapping exercise breakout sessions, post current and future coastal hazards on maps.

Kathy Schaefer – Closing Thoughts

- How do we use the tools and relationships and ideas to help get things implemented?
- One idea was flash mobs—coming together about a specific issue maybe independently of this group. CHARG is a safe space to reach out and find those colleagues with similar interests.
- Flood Plain Managers Association meeting on the day after Labor Day in Santa Clara. Special sessions on SLR, sediment management, and navigating the regulatory gauntlet (9/3-9/5)