Collaborative Research Phase

Week 2
Reports from the Field

Collaborative Research Phase // BionicTeam
Week 2 // October 2, 2017

Locations // Mare Island & Vallejo
**Tour // Solano / 10/2/2017**

**Mare Island Shoreline Heritage Preserve**
Citizen-run and funded trust designed to manage and maintain publicly accessible preserve, heritage center, and events on southern tip of Mare Island.
Myrna Hayes / Mare Island Shoreline Heritage Preserve

“Let’s preserve where we can.” - Supervisor Monica Brown

**Mare Island Historic Museum**
Vallejo Economic Development Division and Developers plan to transform Vallejo into an economic development repository by attracting new businesses, creating jobs (50,000 lost with close of naval shipyard), adaptive reuse, infill, form based code for tenant flexibility, and planning for sea level rise through policy. The city has its own water treatment plant and currently has 25% excess capacity for smart growth.
Mark Hoffheimer / City of Vallejo Senior Planner
Jose McNeil / Economic Development Division
Tom Sheaff / Lennar Mare Island Developer
Joe Callahan / Vallejo waterfront master developer

“How do we grow right?” - Mark Hoffheimer

**Ecology Professor Fraser Shilling, Solano Transportation Authority Bob McCauley, and State Water Resources Control Board Steven Moore discuss the joint effort underway to redesign Highway 37 to address congestion, accessibility, sea level rise, and proper tidal marsh functioning.**

**SUMMARY**

“What would nature do in absence of development and infrastructure?”
“Preserve function not just the structure.” “Do it once and do it right.” - Steven Moore

**Downtown / Masonic Temple**
A downtown Vallejo tour revealed the existing community and culture, and development potential. Vallejo is the first city to allow citizens 14 yrs + to vote on how a percentage of the budget is applied for city improvements.
Annette Taylor / City of Vallejo Senior Community Development Analyst
Steve Dunsky & Amanda Cundiff / US Forest Service
Dominique Gutierrez – Artiszen Gallery Director

“Vallejo is not yet the jewel it will one day be.” – Annette Taylor

**Artiszen Cultural Arts Center**
Active community members explain the citizen-led initiatives to protect their health, communities, and environment including opposition to the Cement Factory and proposal for adaptive reuse, the Citizen Air Monitoring Network and asthma mapping, and watershed activism to prevent toxic firework use in Lake Chabot.
Peter Brooks / Fresh Air Vallejo
Dr. Kay Flavell / Save Historic Vallejo and Mare Island
Ben Eichenberg / San Francisco Baykeeper
Doug Darling / Friends of Lake Chabot
Other Community Members

“Enforcement needs data.” – Ken Szutu

“We need everyone to work together to stop toxic developments from coming into our community. We need to stand together. What is now my neighborhood may be yours someday.” – Community Member
“Vallejo is potentially the release valve for the development of the Bay Area.”

MARK HOFFHEIMIER / City of Vallejo Senior Planner

“Vallejo is the nation’s most diverse city.”

http://www.timesheraldonline.com/article/ZZ/20130711/NEWS/130717134
Vallejo’s citizens and volunteers are active and dedicated to improving daily life. They see potential for their city and do not want to be left behind.

Vallejo is prime for growth. Economic development must embrace the existing communities, cultures, and heritage. It needs to be affordable, smart, sustainable, and forward-thinking.

Highway 37 is a critical piece of infrastructure connecting Vallejo and north bay communities to job centers. The redesign of HWY 37 is critical for the success of North Bay cities in the greater economy and for the health of the extensive tidal marsh.
In the morning we all gathered at the Vallejo Marina and embarked on a boar tour through Suisin Bay. We passed the Mare Island waterfront and observed war time relics along the navy yard, which included the Coal Sheds, ship building cranes, as well as the last remaining piece of the USS Vallejo submarine. We had a close encounter with an industrious tugboat, and continued our way through the Carquinez Strait. Along this portion of the waterfront, we observed the active CH Sugar Refinery as well as railway infrastructure that links the various industrial economies along the water’s edge.

As we made our way to Suisin Marsh, we passed the Mothball Fleet, ships and tugs anchored in reserve for the US Navy. Once past the ships, we entered Montezuma Slough where the shore edge condition progressively increased in the amount of tidal and diked baylands. Through this extensive ecological system, we observed various levee conditions as well as salt gate infrastructure to allow for tidal fluctuation within the diked baylands. Backhoes for dredging and levee fortification were also within the wetland complex. Making our way further up the sloughs, duck clubs were seen sprinkled throughout the landscape. Finally arriving at Suisin City, we docked and continued on a walking tour of the downtown.

On our way to lunch we were able to walk through the marina and get a short tour from John Kearns, the Senior Planner in Suisin City. We had lunch with John and during this time he spoke about coastal flooding threats faced by the city.

On our tour in Benicia we were able to engage with the mayor of the city and talk about how the community is considering sea level rise risks along with king tide and storm surge events. Victor Randall spoke on behalf of the parks and waterfront master plan and discussed how Benicia is really ahead of the curve in terms of their resilience efforts. Many fisherman could be seen along the shore trying to catch salmon with seals swimming around as well. It was clear this was a place that had a deep connection to the water and looked to maintain that connection in the future.
"120,000 acres marsh, most managed with levees and control gates, but a couple of thousand acres of unmanaged marsh, what it would have been historically“

"The marsh acts as a protector for the smelts as they come down from the spawning areas upstream. this is a growing up area for the salmon"

BARBARA JORDAN, Dolphin Charters
Extensive marsh land in Suisin Bay provides diverse ecological habitat and ties communities to the landscape. 80 percent of wild salmon grow in Suisin Marsh and then travel out to the ocean. Fishing/hunting opportunities in this marsh connect people to the various species that thrive in this productive ecosystem.

The waterfront has experienced a range of uses and remains a critical intersection point for industry, infrastructure, and economy. Edge conditions along the shore significantly varied and showcased historical relics, active industries, railway transportation, and marshlands.

King tide events within the city of Benicia have increased awareness around sea level rise threats. As flooding occurs with the community, impacts reveal the need to address future risks associated with living adjacent to the water.
Reports from the Field

Collaborative Research Phase // The Home Team

Week 2 // October 4, 2017

Locations: Napa & Sonoma Counties

Hwy 37, the key transportation connection across the four North Bay counties, lies just a few feet above intertidal marshes and is already being significantly impacted by flooding.

Tour // Napa & Sonoma / 10/4/2017
Tour // Napa / 10/4/2017

Agriculture and Climate Change: This is a foggy area, the fog is increasing because increased temperatures in Central Valley pulls the cooler air up the valley. They have done climate studies and anticipate challenge on agriculture in the future.

“The highway flyway” – not just because its in the Pacific coast flyway but also because it is an obstacle to tidal flow for thousands of acres of tidal marsh restoration to the north.

“Could there be a regional sediment control board that helps direct available sediment to priority projects?”. – Allison Brooks

“Do not try to interpret the tribal history without Native Americans.” There were different linguistics in each established community – about 20 miles apart – they were not nomadic – they were very much rooted in place and had to respect their neighbors.”

– Chuck Stiplen, PhD, Amah Mutsun Tribal Member, Environmental Scientist

SUMMARY

Restoration of former salt ponds in North Bay less are known but they are connected to a larger mosaic of marshlands, Salmon spawning grounds and the Pacific Flyway. Managed ponds create a different type of habitat than marsh or fringing marshes that help manage flows. The connectivity of these large areas is of huge value.

MTC provided an overview of how the various boards, counties and city agencies interact, highlighting Plan 2040. Jake Mackenzie, Mayor, Rohnert Park and Chair, Metropolitan Transportation Commission

Scalable and Replicable: California Fish and Wildlife applied the lessons learned in the 9,000 acre Napa River restoration and were able to do the Napa Plant work in 3-5 years, about half the typical timeframe.

Resident who has been in Napa since the early 80’s says “we all watch our tide tables”. He has not seen the tide level change much but he sees subsidence as the significant issue – dropping 12” per year
“We have significant pride in the rural character of the county. The river runs through us. We live and die by the boundaries.....(growth management boundaries).”

- Belia Ramos, Chair, Napa County Board of Supervisors
Napa and Sonoma see their counties as providing valuable rural and agricultural land to the region. They don't feel it's easier to solve issues because it is less urbanized - the open space has purpose in vineyards, recreation and contiguous ecological services that is unparalleled in acreage and habitat quality.

Highway 37 came up with every group as a concern and an opportunity. The flooding and closing of this major route last winter accelerated the planning process and options are being discussed. The SMART train is parallel to the highway on the Bay side and also creates an obstacle to tidal flow and sedimentation.

“Do not try to interpret the tribal history without Native Americans.”
- Chuck Stiplen, PhD, Amah Mutsun Tribal Member, Environmental Scientist

This area was vast, rich, productive tidelands up to Petaluma and up the Napa River. The projected SLR takes the region back to that scenario and Sonoma Land Trust is working with others to support that vision.
Reports from the Field

Collaborative Research Phase

Week 2, October 5th

Locations: Tiburon, San Rafael, Marin City, Richardson Bay
We began the day at the Romberg Tiburon Center with short “speed-dating” meetings with members of the Research Advisory Committee.

Guided by Douglas Mundo and other community leaders, policy experts, and scientists, we toured San Rafael creek, from the marshes of the estuary at Pickleweed Park to the canal district extending inland beyond Highway 101. Many of San Rafael’s most vulnerable residents live in the low-elevation canal district, and flood events overtop seawalls and back water up through storm drains.

We were welcomed to Marin City by Terrie Green of Shore Up Marin along with other county and city government officials and community members. Marin City’s legacy of industrial contamination, redlining and discrimination, and elevated rates of chronic disease and other health disparities are now compounded with vulnerability to flooding at the only access ramp to Highway 101, infrequently but acutely severing the community from the outside world and emergency services. With +2 ft. of sea level rise, much of Marin City up to Drake Ave. would be regularly flooded.

We briefly visited the houseboat communities of the Richardson Bay marina before walking along a portion of the Bay Trail adjacent to the Pickleweed Inlet. Mill Valley’s wastewater treatment plant, middle school, community center, fire station, and police station are located on filled marshlands that will be subject to sea level rise.

Our day concluded with a community reception back in Marin City, where we learned about the board games that are used as tools to discuss the impacts and environmental tradeoffs of different approaches to sea level rise.
Tour: Marin County, October 5th

San Rafael Creek Estuary/Pickleweed Park

Board Games Simulate Scenarios, Stakeholders, Strategies

Marking Future Sea Level Rise

Scenes from the Day
Tour: Marin County, October 5th

Key Takeaways

- Many of the Marin communities most vulnerable to sea level rise are also already underserviced and subject to economic pressures and resource discrimination.

- North/South transportation infrastructure is particularly important in Marin, and its disruption is proportionately significant.

- Sea level rise is already having a major impact in Marin, and the communities that feel its effects directly are highly motivated to address it.
Reports from the Field

Collaborative Research Phase

Week 2, October 6th

Hamilton Wetlands
In 1999, the State Coastal Conservancy signed an agreement with the Army for the transfer of the Airfield parcel of Hamilton Wetlands as a no-cost, public benefit transfer for wildlife.

In 2014, the Hamilton Bayfront levee was breached to allow bay water to move in and out of the site through daily tidal action.

Over time, it is expected that the site will become thickly vegetated in most areas with a complex network of tidal channels, providing critical tidal wetland habitat for several threatened and endangered species.

Hamilton Wetlands project will act as a horizontal levee, making it a pioneering project for considering habitat transition zones and climate change on such a large scale.

Tour: Marin County, October 6th

Summary:

Residents using public access trail at Hamilton.

Viewers along the trail allow residents to watch birds in the wetland habitat.
Tour: Marin County, October 6th

Key Takeaways

- GHG emissions needed for implementation must be considered when designing, planning, and implementing resilient solutions.

- Public access concerns and habitat restoration can be addressed effectively on a large scale to create comprehensive multi-benefit outcomes.
Funders