



**Community
Centered
Design
&
Mormon Slough**

Who Is This For?

Stockton Community Members:

If you're near Mormon Slough, or you are interested in the project, this is meant to be an invitation to dream about the project and the future of our city.

Mormon Slough Restoration Association:

If you're a part of the Mormon Slough Restoration Association, this document can serve as a field guide for pilot sites and the area as a whole. We also outline strategic actions that can both benefit the region and move this project forward.

Policy Advocates & Decision Makers:

If you're involved in Public Policy in any way, this is meant to be a representation of community goals and values around this larger project. We advocate for deepening investments into this region, and intentionality around how the funds are allocated, in order to keep dollars AND change-makers local.

Fight for the waterways!

Artists/Scientists & Creatives:

Every plan that reaches implementation needs artists, scientists and creatives working in collaboration to have lasting benefits. Don't just accept the future, be a part of building it here in Stockton. If you have a vision for art, bring it forward! If you have a science or restoration goal, bring it forward! This is a call to action.

Dear Reader, this is for you.

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HATCH Workshop is a nonprofit organization in Stockton dedicated to awakening the craftsperson in everyone through open access to equipment, resources, and training. We have been contracted to create this design guide by Restore the Delta, a nonprofit organization dedicated to protecting the Sacramento-San Joaquin Bay-Delta Estuary. Thank you to the team at Restore the Delta for their dedication to community, and perseverance in the face of great challenges. HATCH Workshop is a proud member of the Mormon Slough Restoration Association.

Mormon Slough

What is a Slough?

A slough is defined by the National Oceanic and Atmospheric Administration (NOAA) as a swamp or shallow lake/stream system, usually a backwater to a larger body of water.

How long is Mormon Slough? Where is it?

Mormon Slough is 6.3 miles long, and connects the Deep Water Channel in Downtown Stockton to the Diverting Canal, passing through South and East Stockton. The longer waterway is also called Mormon Slough, and that extends up to Bellota Weir (more on the water flow pages). **The 6.3 miles labeled will be referred to as the “restoration area”.**

Who Used it First?

Before settlers from Europe and Asia arrived in the region, the region and the waterways were home and lifeblood for the Northern Yokuts and Valley Miwok. The founding of Stockton as a city is forever tied to the native peoples who stewarded the land and waterways and taught the settlers tribal knowledge.

When was it Built? What is the History?

Before any construction projects, Mormon Slough was a small natural waterway. Around 1860 a channel or ditch, known as Mormon Slough, was “dug or deepened”. A 1902 Congressional Act authorized the “Stockton Diverting Canal”. The Diverting Canal broke ground in 1908 and was completed in 1910. In 1913 the flow of water in the westerly portion of Mormon Slough was cut off. Stockton pumped raw sewage into Mormon Slough until the first sewage plant was built in 1916. A culvert from Commerce Street to Wilson Way was built in the early 1950s as a flood control measure.



What is the Goal?

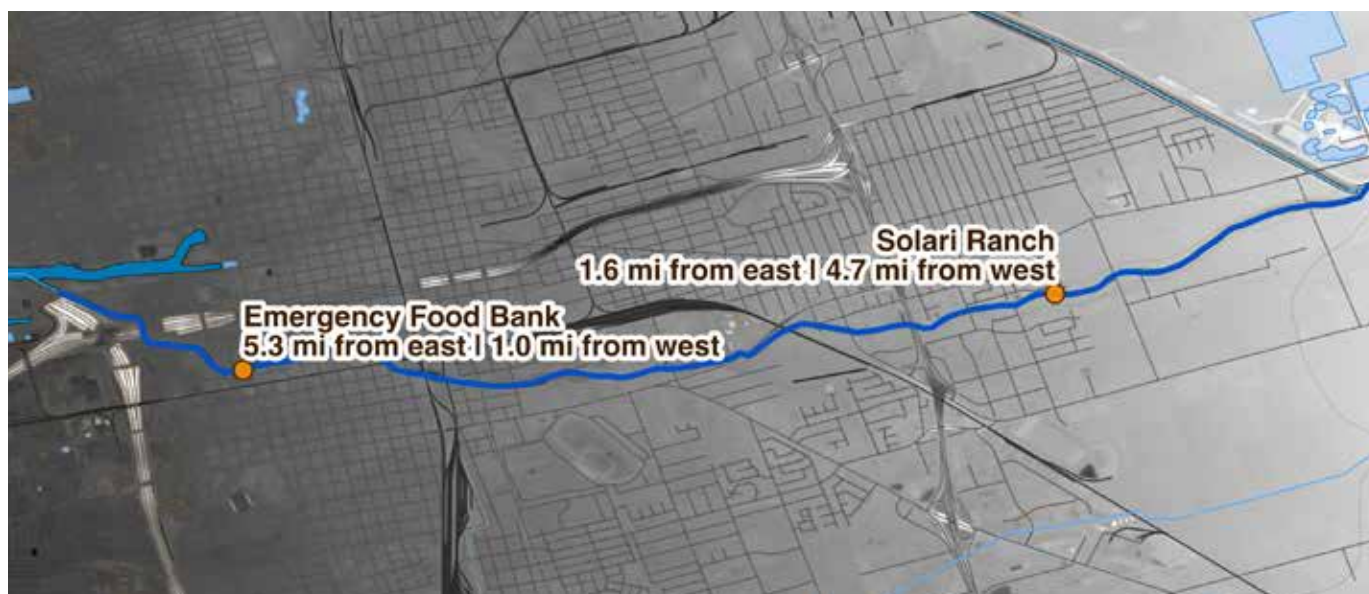
Honestly, this is a great question! It's not totally clear, but the vision is long term. Is the goal to have water in the slough, so you can kayak the whole 6.3 mile restoration area? Do we want to see fish swimming clear from the delta up through the diverting canal along Mormon Slough? A salmon run past the Food Bank? Something like that doesn't happen overnight.

Can we make the area nicer for folks around there today? Are there opportunities to beautify, educate, or inspire? Do residents in Stockton take pride in their land and waterways? These questions highlight the true opportunity here.

Where do we Start?

The Mormon Slough Restoration Association has identified two “Pilot Sites”, locations they intend to see serve as focused projects with targeted improvements that can focus project management, and ideally draw in further investment. Residents of Stockton will recognize many opportunities that fall outside the scope of these two pilot sites, and that’s a good thing! These pilot sites were selected through a complex decision making process around land ownership, accessibility, community impact and environmental feasibility.

From our perspective, there is a significantly greater opportunity available in the short and medium term to think about the entire waterway as connected. Developing this vision has the opportunity to build community ownership of the project through pride in their land and waterways. While we collectively envision restoration of the two sites, we encourage community to review the technical reports provided by the San Francisco Estuary Institute (SFEI), available from Restore The Delta by request.



What is this Report About?

This is a design guide. Effective design starts with an understanding of the design constraints.

This report aims to provide background information, provide a general catalog of types of sites along the slough and what can be done with them, show an example of how signage can be used to further the project, highlight structural opportunities and challenges with the identified pilot sites, and give food for thought.

A design that is grounded in community is a design the community understands and supports. Actual implementation of big ideas takes many years. Community can continue to develop improvements, while planners continue to move implementation forward.

This report is about good design through informed decision making.

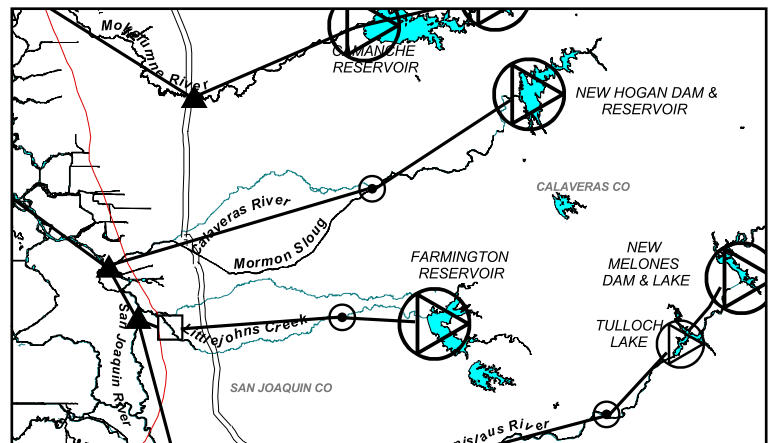
Water Flow

The Bigger Watershed Picture

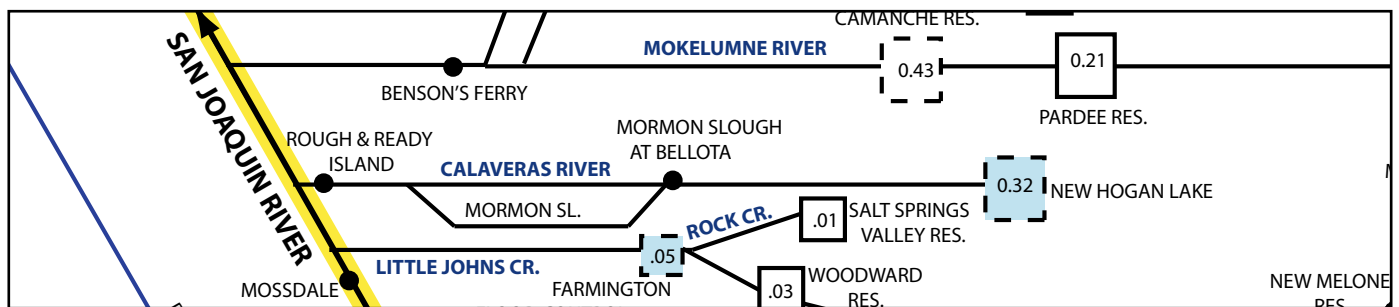
Our restoration area is but a small piece of the larger San Joaquin River Basin. From upstream, flows are controlled through the New Hogan Dam, down the Calaveras River, diverted at Bellota Weir to a waterway labeled Mormon Slough, which meets the Diverting Canal and follows it up to reconnect with the Calaveras. Because this region of the Delta is also tidal, there is potential for water to flow into the restoration area from the Deep Water Channel. The Army Corps of Engineers has previously studied the San Joaquin and Sacramento Rivers, and included in all that was Mormon Slough.

Where is the Restoration Area?

In the image on the right we can see the diverting canal where Mormon Slough cuts towards the Calaveras River with a straight line. In the bottom image, the amount of water and flow route are generally depicted, these diagrams are showing water flow and volume. The restoration area is referred to as “Old Mormon Slough” by the Army Corps in their reports, and is not identified in either of these two images.



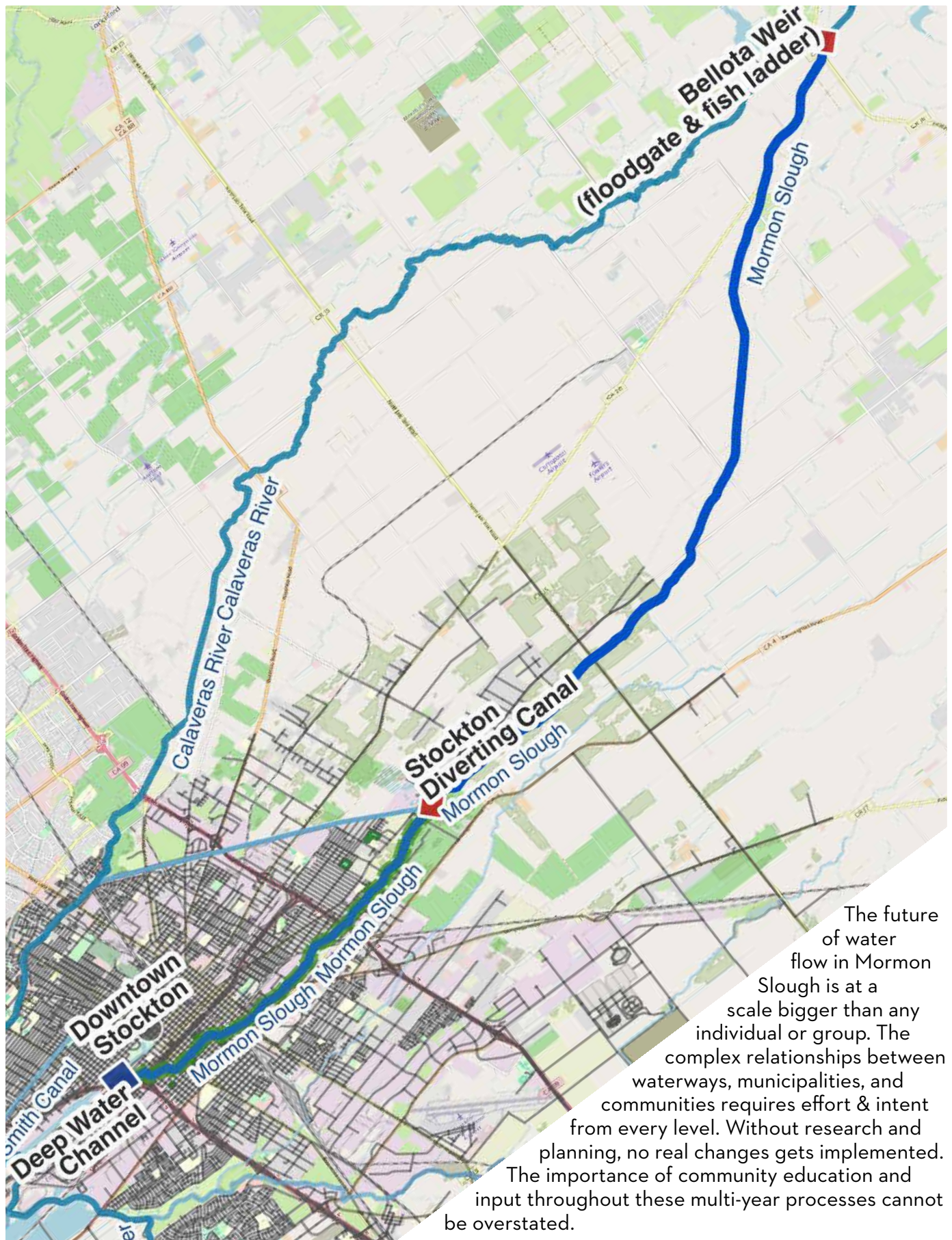
Lower Basin Model Schematic, Plate 18. Lower San Joaquin River Feasibility Study (USACE).



Basin Systems Schematic, Plate 17. Lower San Joaquin River Feasibility Study (USACE).

Tidal Waterways, Flash Flooding & The Importance of Levees

Stockton sits in a uniquely delicate region, along with the greater San Joaquin Delta. Not only are water levels affected by the ocean, but the soil type absorbs water very slowly and is prone to flash flooding. Additionally, wide regions are populated below sea level, and only have levees to keep them safe. Having waterways that are able to handle more water than typical is a method of flood control, and the Army Corps of Engineers report explores the usage of “Old Mormon Slough” as a temporary flood control measure. This would mean that year-round water in the restoration area may or may not be realistic, and is ultimately tied to the watershed management depicted here.



The future of water flow in Mormon Slough is at a scale bigger than any individual or group. The complex relationships between waterways, municipalities, and communities requires effort & intent from every level. Without research and planning, no real changes gets implemented. The importance of community education and input throughout these multi-year processes cannot be overstated.

Signage

Technical Recommendations

Unified Design Philosophy (Where Titles, Content & Logos Get Placed)

Include Distance Markers to both sides of restoration area on every sign

Consider milestones along the route defined by hard infrastructure and community use (schools, main streets, notable historical features)

Pilot sites serve as strong opportunities to “prototype” sign concepts and receive feedback

Signs can include small solar setups with a light—signs should not block primary eyelines along paths to support perceptions of safety.

Consider signage either with multiple languages, or multiple signs with dedicated languages. Consider historical names as well as Indigenous names.



Slough Restoration in the Public Eye

For those that haven't been exposed to the project planning or concepts, introducing the concept of the whole waterway is an important early stage in understanding personally the potential scale and impact of this long-term restoration process.

The “Restoration Trail” becomes an opportunity for interpretative activities with members of the community. People in the region can actually “adopt” sections of the restoration trail to maintain, and it gives the opportunity for holistic perception of how the waterway fits into the region.

A community art project could develop a mascot for the project—for example “Morris the Otter” or “The Restoration Salmon”... let the community dream about it!

Morelli Park Opportunity Planning

Three blank hardscape sign posts at Morelli Park provide a near-term community impact project. They are currently sitting blank, having faded over the years. They are pre-built and ready.

We propose 3 distinct sign concepts—one regarding traditions and customs of Northern Yokuts and Valley Miwok communities, one regarding fish and bird species (wildlife) that can be seen or found there, and a third about the physical history of Mormon Slough and the future opportunities. Right now, there are 3 blank concrete panels ready for these signs (or any signs) to be installed.



In the figure shown above, we would propose: (1) a sign representing the past and continuing presence of Indigenous communities and practices, (2) a sign about the fish in the area, and (3) a sign about the physical Slough itself and history around it.

The tribal customs and land memory sign should only be created with direct engagement and leadership from within local Indigenous communities.

The wildlife sign should include information focused on fishers, acknowledging and reinforcing the current community uses around the park.

The built history sign should include information about both the Mormon Slough Restoration Association and the City of Stockton, highlighting the value of conceptual partnership.



Photo: Fly Fishers of Idaho

2 examples of fish signs from other projects—in a world of increasingly sterilized art, we highly recommend working with a real artist for the illustration work.



Photo: NPS / Claire Hassler

These signs should be approached as a bundle, and explore the minimal permitting pathway for full installation. Can we provide the City with signs they will install themselves? Do they have material constraints or technical requirements? Each sign has the same problem case, so solving one can solve all three.

City Parks

Highlights

6 Months

- Chalk art events and competitions
- Trash cleanup and beautification

5-10 Years

- Art installations related to restoration project

Eventually

- Clean & inviting waterways
- Free power charging hubs

Signage on existing infrastructure, with a priority on deteriorated/faded hardscaping.

Use existing concrete pads for Sculptures, partner with City of Stockton to show work from their collection or create new commissioned works.

Partnership with Little Manila Rising or other local/regional partners for tree planting or native landscaping.

Explore opportunities for regular community programming and highlight existing community programming.

Private Buildings

Highlights

Private property comes along with different opportunities and constraints due to fewer permitting requirements. The property owner should be platformed in the opportunity for creative expression.

Intentional facades or exterior elements can help create a unified aesthetic—for example, painting fish on buildings along the slough on business walls facing the waterway.

Property owners on private property have a different responsibility to maintain improvements, if they take pride in the work it is more likely to last.

6 Months

- “Lawn Picket” signs and banners are easily deployed

5-10 Years

- Privately owned murals and sculptures

Eventually

- Conservation areas identified and maintained

Paved Areas

Highlights

6 Months

- Chalk art events and competitions
- Invitation to skaters & BMXers

5-10 Years

- Solar powered lighting
- Installed trash cans, signs, and public art (sculptures)

Eventually

- Fishing areas with cleaning stations

What impact does pavement have on the land below it, what does remediation look like? It is important to understand how the timelines all weave together.

Paved areas are naturally very skate-able, areas under bridges often have unique acoustics. If there is perceived safety, these spaces can be used with basic improvements for local recreation.

If the pavement is thick enough, it can be used as a base for art or other things that need to be anchored down. Vertical elements can provide anchor opportunities for art or lighting etc.

Green Spaces

Highlights

Native plantings with a focus on riparian wetlands and oak woodland species.

Bio-remediating species and heavy metal concentrators are great restorative choices.

Wildlife is already rich in some of these areas, stay mindful of where birds are nesting and work in support of existing local and native wildlife.

A large percentage of the Slough's unsheltered population is residing in the green spaces. When engaging with unsheltered population, remember mutual dignity and prioritize supportive services.

6 Months

- Provide services for unsheltered residents of the Slough

5-10 Years

- Community picnic areas on slough sides

Eventually

- Educational and interpretive installations

Food Bank Site

Opportunities

- Already a busy area due to Food Bank pickups, there are often lines of cars who are people that can benefit from improvements.
- Naturally low lying area provides reservoir of ground water for restoration plants.
- Large physical infrastructure (bridge, overpass elements) provide space for community art. Prioritizing commissioned art on unreachable/unsafe areas allows local artists to decorate accessible surfaces.
- Very close to actual culvert entrance/exit, can serve as educational piece and visual for the history and future of the waterway.
- Emergency Food Bank takes great care of their area, and has a beautiful garden already. They should be supported in expanding existing operations instead of duplicating their services.

Challenges

- Stray dogs have been known to be aggressive in the area, contributing to perceptions of an unsafe area.
- There is a large unsheltered population in Stockton that uses areas inside the dry waterway to set up camp. These folks need to be considered and supported in the process, even while their very existence contributes to the optics of an “unsafe area”. Installations or plants that block lines of sight contribute to feeling “unsafe”.
- Naturally low lying area is more flood prone than other areas, proximity to industry and high use Food Bank creates sporadically high vehicle use, both of which make the whole site less friendly to pedestrians.
- Standing water brings mosquitoes. Holistically managing their population is an issue across the region, but is concentrated near wetlands such as this.

Goals

- Support neighborhood in beautification, maintenance, and providing services.
- Support development of bio-remediation in slough channel.
- Activate built infrastructure with murals or chalk art.
- Install sign(s) that allude to full waterway.
- Highlight pedestrian pathways.

Solari Ranch

Opportunities

- The area is maintained and undeveloped in the middle of a new neighborhood that is still being built. Future impact is tremendous.
- Area currently has population of Valley Oak trees, an important native species.
- Many art installation opportunities, from large sculpture to structures to gardens etc. Work within neighborhood for content.
- Destination opportunity for those interested in refuge and a natural location in town.
- Major school nearby (Henry Elementary School) has potential daily users.
- The property owner and developer takes great pride in his work and area. Having a developer who cares about the community and has a stake in the region make a difference for long-term feasibility.

Challenges

- Many community uses (and destination uses in particular) bring cars and possible noise. This may create conflicts with the neighbors if not treated respectfully.
- The undeveloped nature of the site is both an opportunity and a challenge—there will be necessary permits and long timelines for many of the most “exciting” opportunities.
- Many students of Henry Elementary actively traverse the site as part of their route to school. While not a traditional challenge, they must be considered in any construction or development projects, and their path is one of the first ones to support the development of.
- Standing water brings mosquitoes. Holistically managing their population is an issue across the region, but is concentrated near wetlands and in low-lying areas.

Goals

- Support neighborhood and surrounding community with planning and investment.
- Develop educational opportunities around Valley Oak trees and life cycles.
- Integrate opportunities with Henry Elementary staff and students.
- Install sign(s) that allude to full waterway.
- Highlight pedestrian pathways.

Mormon Slough isn't going anywhere.

There's no need to rush the environment, just as there's no need to rush a good design, or an effective education.

This community isn't going anywhere either. Whether or not funding shows up to support planning and implementation at the scale required to do things quickly, things can still be done now. Small improvements add up, people can move the needle with informed action.

Consider not just what is, but what could be possible! Access to waterways is one of the great treasures Stockton has to offer.

The future of Mormon Slough lives with you.

Citations

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NHDPlus HR Raster

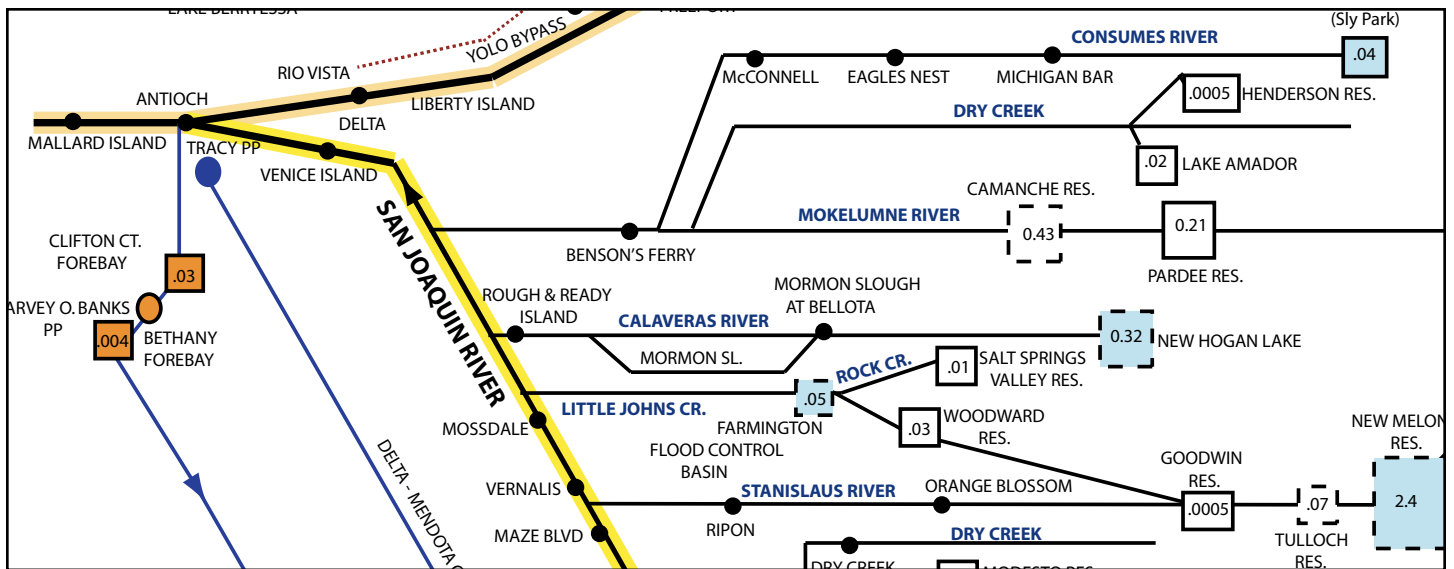
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<https://www.usgs.gov/national-hydrography/nhdplus-high-resolution>

	City Parks	Private Buildings	Paved Areas	Green Spaces
Visual Installations 2D				
Banners / Temporary Signage				
Murals / Painted Infrastructure				
Chalk Art				
Mosaics				
Sculpture				
Small Sculpture (Under 2 sq ft)				
Life Sized Sculpture (Human Scale)				
Large Sculpture (10+ ft)				
Infrastructure				
Installed Signage				
Solar Lights / Call Boxes				
Landscaped Pathways				
Bridges				
Restrooms / Picnic Areas				
Nature (Native Plantings)				
Wildflowers & Pollinators				
Restoration Wetland Species				
Medicinal Herbs & Edibles				
Trees				
Farming				
Raised Beds				
In Ground Farming				

Fill in this chart to think about Priorities—not every idea needs to go in every location.

Use whatever system makes sense to you.



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