Title

Restoring Social Connection to the Salinas River: For Who, Where, and How?

Authors

BooydeGraaff, Madeira
Sepulveda, Florencia
Timsina, Shrabya

Publication Date

2023-10-01

Restoring Social Connection to the Salinas River: For Who, Where, and How?

Madeira BooydeGraaff, Florencia Sepulveda, Shrabya Timsina

Landscape Architecture - Restoration of Rivers and Streams 227
Professor Mathias Kondolf
University of California Berkeley
December 2023

ABSTRACT

River restoration projects can be designed to cultivate a diversity of human interactions with the riverscape, alongside the fulfillment of traditional biophysical objectives. The Salinas River is a major river in an agricultural valley in California, where restoration projects could address annual concerns of winter flooding while facilitating more human interactions throughout the riverscape. We conducted a study to investigate (i) who currently interacts with the river, (ii) where the sites of these interactions are, and (iii) how we can restore them for ecological and socio-cultural benefits. We combined site visits and evaluations, informal interviews, and GIS analyses to answer our questions. We find the Salinas River largely disconnected from public life, out of view and physical access. Nonetheless, there is a desire to connect with the water and riverfronts. Among the five sites we evaluated, Arroyo Seco is a well-frequented public area with amenities and ease of access to the banks and streams. The other sites require illicit passage through private property, but vary with regards to visual and physical accessibility, and site conditions, such as quantity of trash. Nonetheless, all sites inspire visions for restoration projects. such as floodable parks and linear riverfront parks, to yield biophysical and socio-cultural benefits .

1.0 INTRODUCTION

1.1 River-culture and Restoration

Historically, people have been attuned and adapted to the rhythmic nature of hydrological and biological processes in rivers. Diverse human traditions ranging from the worship of rivers as a divine life-giving force to the formation of seasonal floodplain farming and fishing cultures recognized the dynamism of river systems (Wantzen 2022a, Paine 2019). Such socio-cultural interactions with the biophysical and and hydrological properties of river systems give shape to a ‘river-culture’ (Wantzen et al. 2016). However, following widespread technological interventions in regulating river systems, such as damming and channelization, we face an unprecedented loss of this historical socio-cultural connectivity to riverscapes (Kondolf and Pinto 2017, Wantzen 2022b). This has triggered a loss of ‘river culture’ — beginning with the disappearance of livelihoods directly dependent on river resources, and sometimes ending with the burial of rivers (Wantzen 2022b).

River restoration can cultivate ‘river culture’ by increasing the quality and connectivity of the riverscape. Well-informed restoration projects can stir socio-cultural change, by encouraging ecological citizenship (Light 1994) or by bringing communities together to repair fractured relationships among themselves and other species (Parsons et al 2021). Improvements in water quality can attract swimmers and anglers into the streams while removing obstructive walls and vegetation allows people to gather at riverfronts (Kondolf and Pinto 2017).

The state of California, known for its history of intensive technological interventions in river systems, is now also a hotspot of restoration activity in the global restoration movement to both reintroduce the lost hydrological and biophysical dynamics of river systems and foster and renew

‘river cultures’ (Kondolf and Yang 2008). In the 1990s, the daylighting of Strawberry Creek in Berkeley helped set off a global trend of physically uncovering buried streams for public access and use (Pinkham 2000). Through the early 2000s, vineyard owners and restoration practitioners collaborated to restore thirteen miles of the Napa River, for multiple goals: reduction of bank erosion, flood risk mitigation, and habitat improvement for high-value salmonids (Collison 2016).

Situated in Central California, the Salinas River is a highly altered system that inspires various visions of restoration. The Salinas Valley, known as “America's Salad Bowl,” produces half of the nation’s lettuce and a third of its spinach (Croke 2023), with a total pre-pandemic crop value of $3.4 billion (Taylor 2016). The Salinas River has been intensively modified and regulated to be a ‘working river’ for the Salinas River Valley’s agriculture industry (Gonzalez 2022). In its upper reaches, all major tributaries are dammed, forming the Nacimiento, San Antonio, and Santa Margarita Reservoirs. The reservoirs store rainfall in the winter and recharge the Salinas Groundwater Basin throughout the dry season. The recharged aquifer is pumped at will for the irrigation of largely corporate farmland. The year-round recharge of the aquifer also helps to maintain the agricultural productivity of the Salinas River Valley by counteracting saltwater intrusion into the aquifer from the Monterey Bay (NWSC & CCSCI 2008). (Fig.1)

The river historically formed a braided network of channels on the valley floor that migrated with annual winter flooding. Today, levees restrict channel migration and cut off the main river from most of its historic floodplain (MCWRA 2019). The remnant riparian habitat forms a narrow corridor, almost entirely adjacent to fenced-off private property, invisible and inaccessible to local communities (Gonzalez 2022).

Despite efforts to contain it, the Salinas River continues to express its seasonal rhythms, and existing flood mitigation approaches do not consider the ‘river culture’ of the modified and inaccessible Salinas River. Quite frequently, after winter storms, the river spills over flooding farms, highways, and settlements in the Salinas Valley (MCWRA 2023). In early 2023, floods affected 15,000 acres of cropland with damages valued at $1 billion, including lost wages (Taylor 2023). The current restoration approach, led by the Stream Maintenance Program (SMP) of the Resource Conservation District of Monterey County, facilitates growers who want to remove vegetation (primarily invasive *Arundo donax*) and sediment in remnant secondary channels to mitigate flood risks by increasing flow capacity. Due to the negative impact of this clearance on the remnant habitats of steelhead trout, this intervention is now prevented by a cumbersome permitting process and the threat of litigation by conservation groups (Taylor 2014, 2023). The Monterey County Water Resources Agency (MCWRA), the primary authority managing the water resources of the Salinas River, is currently pursuing a comprehensive long-term plan to yield multiple socio-ecological benefits with a focus on habitat management (MCWRA 2019).

Maria Gonzalez, who grew up in the city of Salinas, challenges the narrow goals of existing projects in the Salinas River (Gonzalez 2022). She first argues for more space for the Salinas River, in the form of conversion of land zoning from ‘agriculture-flood overlay’ to ‘park-flood

overlay.' There is precedence supporting her argument. In 1998, Monterey Country acquired residential parcels in the town of Las Lomas to serve as floodplains (MCWRA 2023). Gonzalez further suggests this new public space should serve seasonally as a place to encourage gathering and activity in the riverscape while serving as a floodplain in the winter.

In this study, we borrow Gonzales' locally-informed vision, to identify opportunities for improving river culture along the rest of the Salinas River via ecological restoration and social connectivity. We ask:

1. Who currently relates or does not relate to the river and for what reasons? What is the current river culture in Salinas Valley?

2. Where are the sites of physical connection with the river? To what degree do the physical properties and stream profiles encourage social interaction/facilitate river culture at these sites?

3. How can the Salinas River and its floodplain be restored to enhance river culture while achieving conventional restoration goals such as flood management, water quality improvement, and ecological composition?

2.0 METHODS

We sought to answer our questions through a combination of literature review, ethnographic methods, and geospatial analysis. After contextualizing the history of alterations and use of the Salinas River, we conducted semi-structured interviews and observation fieldwork to assess public perception of the Salinas River and identify places and types of interaction with river-fronts and streams.

2.1 Informal Interviews

We conducted informal interviews to gauge public perception of the Salinas River and learn about local river culture. We spoke to seven people at Oak Park in Greenfield, three bikers roadside heading through Arroyo Seco, and a waitress at a local restaurant in Soledad. Our guiding questions were: What takes you to the river? What deters/obstructs you from visiting? How do other people interact with the river? However, the conversational nature of these interviews did not always align with a rigid question-answer structure.

2.2 Site Selection and Evaluation Framework: Social Connectivity and Site Quality

We obtained coordinates of major access points frequented by the public from salinasriver.org, a recreation-oriented website created by Salinas local, Kevin Miller. We first visited pre-identified access points near the towns of Gonzalez, Soledad, and Greenfield. From our on-site observations and conversations, we explored and analyzed additional sites including Arroyo Seco and Riverview Estates. At all sites, we noted observations of public use of the river, and,

where possible, talked to people. We documented and photographed the conditions of each site, categorized our observations into site quality and social connectivity, and rated each site “Good,” “Okay,” and “Poor” according to their physical compositions.

By ‘site quality’ we refer to site-level features such as amenities, water quality, and the quantity of garbage. This category accounts for the physical and ecological conditions that may promote or deter one’s inclination to recreationally interact with the river in a particular site. The ‘social connectivity’ framework borrows established concepts of ecological and hydrological connectivity that occurs along the lateral, vertical, and longitudinal axes of the stream (Kondolf and Pinto 2017). The lateral axis maps people’s visual and physical access to and use of water-fronts, which can be altered by interventions such as the removal of obstructive walls and low-lying vegetation. Once at the waterfront, the vertical axis maps access and use from the top of the bank, along its slopes, and down to the water itself. Daylighting is an emblematic intervention that can restore access to water, encouraging instream uses such as fishing or swimming. The longitudinal axis maps access and use along the stream channel, in the form of navigability instream or along streamside paths. Interventions, such as the removal of dams, can restore social connectivity in this longitudinal axis by facilitating recreational navigation by kayakers and rafters. (Fig.2)

2.3 Site Evaluation Framework: **GIS Land Use and Suitability Analysis**

Our fieldwork helped us identify a shortlist of potential restoration sites. With geospatial data from Monterrey County Open Data, we analyzed these sites in terms of their hydrology (existing water bodies, flood area hazard area, surface-level hydrological pathways), geology (alluvial, fluvial, overbank, and floodplain areas), and social use (land use, land value, roads, and railroads).

To synthesize our data, we created a Suitability Map. We used the flowchart (fig.3) to select and organize the appropriate data for the most suitable sites for increasing the socio-ecological connectivity at Salinas River. For the opportunities, we modified the data by adding a 500 ft buffer to the flood hazard area, a 50 ft buffer to the roads, and a selection of the least land value parcels (>240,000). For the constraint, we selected sites where the slope was greater than 10%, because we needed to find flat places. And also, to ensure the safety of medical resources and public services we created a 300 ft buffer.

We classified the land use of the parcels in the flood zone to figure out if there were already existing open and public spaces near the flood zone and the river, areas that would be a public right-of-way, and therefore a promising opportunity for a successful restoration intervention. All the parcels in the flood zone were for agricultural use, so to understand the possibility of actionable interventions on this land, we filtered the affordable parcels, those with less than $12,000 in land value per acre. We controlled for parcel size. Some parcels were large but their per-acre value was low, so evaluating the land parcels in this method opened up more

possibilities for purchasing, such as opportunities to buy portions of parcels from the current owner.

3.0 RESULTS AND DISCUSSION

3.1 For Whom? Public Perceptions of the Salinas River

General Observations

We found no one to talk to right by the river at any of the sites and had to find people to interview elsewhere. While we recognize these sites may be more popular as a place to cool off on a hot summer day instead of either of the two 80-degree fall weekend days we visited, we were not surprised that we encountered very little evidence of human activity near the river. We drove along much of the Central Salinas River and its Arroyo Seco tributary, and found them both mainly out of view with limited physical access. Most of the length of both channels ran along private property with either fencing or “No Trespassing” signs. Besides Arroyo Seco, none of the sites we evaluated are accessible without unauthorized passage through private property. Along much of the main Salinas River, welcomingly steep levees line the interface between the channels and croplands

Insights from Interviews

After not finding anyone present by the Greenfield access point, a bridge crossing the Salinas River, we visited the nearby Oak Park. The entrance to the park is just a few hundred feet down Elm Road from the bridge, but the premises are separated from the riverbanks by other private parcels of land. The entrance fee is $1.5 per person or $5 per car. Most guests arrive by car.

Our interviews in Oak Park, Greenfield provided varied and nuanced insights into the community's relationship with the Salinas River. We documented a range of attitudes and perceptions regarding the river and its environment among the individuals interviewed. (Fig. 4)

The janitor of the park, a 60-year-old man, shared with us that he had seen people swimming in the Salinas River nearby at the access point we visited. He referred to the Greenfield access point as ‘the sandy area beside the bridge.’ He further mentioned the presence of wild boars in the vicinity which prompts frightened people on the river to sometimes climb up trees. He was not concerned about the river flooding because it has never impacted the park, even though adjacent properties are susceptible to inundation.

A couple, in their mid-30s, expressed concerns about the river’s water quality, believing it was unsafe for swimming due to the pollution from agricultural run-off and pesticides. They preferred going to a cleaner upstream site on the Arroyo Seco tributary, a forty-minute drive away, to swim and escape the summer heat. They also believed that local people are generally aware of the existence of the Salinas River because floods block the bridge.

A 35-year-old mother visiting with her family shared with us that most people are not familiar with the river. She did not even know about the floods. With regards to swimming, she felt the water was too shallow and did not know anyone who had swum in the river. We also met three men, in their early 20s, who similarly professed they did not know much about the river, and believed no one swam there. They preferred to swim in public pools and avoid the river because they had heard about drowning accidents at sites like Arroyo Seco.

Two brothers from Mexico, in their late 20s, hired for the lettuce cultivation season from March to November, had come to work in Greenfield. They usually had no time to visit rivers or parks because of their busy work in the fields and were at Oak Park that day to celebrate the end of the lettuce season with a barbecue.

On the way to Arroyo Seco, we met two bikers, and their friend who drove them to different trails. They were visiting, for the second time, from outside the Salinas Valley. Their direct interaction with any stream in the Valley is limited to biking across the bridge at Arroyo Seco, where there is a scenic view. However, they informed us that they have observed families enjoying picnics near the Greenfield access point. (Fig. 5)

Later at Soledad, we met a waitress, originally from Mexico, who was surprised to learn that we were exploring sites along the Salinas River. She was not aware of any place along the river worth visiting and preferred to stay in an air-conditioned room to escape the heat.

Collectively, these interviews illustrate a range of perspectives concerning the river, from familiarity and acceptance to distrust and lack of knowledge. Nonetheless, they all point towards a general paucity of direct interactions with the main Salinas river stem. The familiarity with Arroyo Seco points to a cultural desire to connect with streams. But for several reasons, including a perceived lack of safety, the Salinas River welcomes very few people onto its banks and into its waters. (Fig. 6)

3.2 Where?

3.2.1 Site Analysis - Social Connectivity and Site Quality

S1: Arroyo Seco (Arroyo Seco Day Use Picnic Area)

Arroyo Seco is a stream that feeds into the Salinas River. Those we interviewed on our first day of fieldwork at Oak Park named Arroyo Seco as a popular location to interact with the river, so we decided to visit this site. Though the area was closed to the public when we visited, we took note of the lateral, vertical, and longitudinal connectivity and other features of the floodplain that would make this area amenable to river culture.

With the only access point to the park from Salinas closed, there were no alternative entrance routes by car. We briefly (and illegally) parked on the side of the road and

walked to the park entrance to evaluate the site. However, the gated private drives leading to member-only resorts and the abundant “No Trespassing” and “No Parking” signs (fig. 7) marking the surrounding private property created an unwelcoming environment that we assume discouraged anyone else from accessing the park the same manner, especially if they were looking to spend a long time by the river on that hot day. This assumption was confirmed by the bikers’ driver who wanted to cool off in the river but was deterred by all the “No Parking” signs.

Public amenities, such as BBQs, picnic tables, pergolas, restrooms, and water spigots encouraged social use of the park and ecological heterogeneity encouraged a diversity of use. We imagined kids jumping off the large boulder in the river, watching the trout in the crystal clear river, lounging in the shade of the native sycamore and white oak, and wading in the water from the sandy and cobbled banks. (Fig.8)

Lateral Connectivity

Lateral connectivity is good. The river is accessible from the floodplain on the West side, from the Arroyo Seco Day Use Park. From the higher zone of the parking lot and permanent amenities of bathrooms, water spigots, and pergola with picnic tables, more picnic tables and barbeques were scattered throughout the riparian zone of native sycamore onto the wide 50-foot cobblestone bank of the river.

Vertical Connectivity

Vertical connectivity is good and the site has good water quality as well. The West embankment sloped slightly, making it easy to traverse from the parking lot, through the riparian zone, and down to the large cobbles of the floodplain, and the narrow strip of sand before entering the clear water.

Longitudinal Connectivity

Longitudinal connectivity is good. It was easy to walk along the 1500 ft meander of the river that encompassed Arroyo Seco Day Use Park.

S2: Greenfield

We pulled off to the side of the country road to the shoulder littered with dirty diapers, other trash, and vegetables that we infer fell off of transport trucks speeding by. The ground surface on either side of the river is composed of a matrix of bare sandy sediment with patches of willows, cottonwoods, and phragmites. The bridge at this access point displays evidence of recent floods with freshly deposited sandy sediment on the eastern side of the bridge. (Fig. 9)

Lateral Connectivity

Lateral connectivity is good with access to the river on one side and a network of trails in the woods on the other side, however, a ‘No Trespassing - Penal Code 602’ sign indicates this area is private property. You could potentially access the river from both sides and can see across its entirety.

Vertical Connectivity

There is good vertical connectivity as the access from the road is directly onto the floodplain and there is no slope to get to the water.

Longitudinal Connectivity

Longitudinal connectivity is good. It is slightly impeded by the bridge to the North, but one could easily traverse along the river to the South for some distance. Tire tracks ran along the floodplain from one side of the road to the other, perhaps from trucks used in nearby agricultural fields.

S3: Riverview Estates

Driving from Greenfield to Soledad, we stopped at this location where the road and railroad lines ran parallel to the Salinas River. A development called Riverview Estates was perched in the hills on one side of the road, and a steep slope dropped down to the river. (Fig. 10)

Lateral Connectivity

There is poor physical lateral connectivity at this site, but good visual lateral connectivity. Due to its topography, this site provided an impressive view of the large floodplain and wetland from above. Next to the road was a fence with a narrow entrance, followed by a steep grass-covered hill that led down to the floodplain.

Vertical Connectivity

Vertical connectivity is poor. The road was at least one hundred feet above the floodplain and the slope of the grassy hill was too steep to traverse and was

Longitudinal Connectivity

Longitudinal connectivity is good with a rail line running along the length of the Salinas River for miles.

S4: Soledad

A side road connecting vacant lots and a few commercial buildings dead ends into an agricultural field and the Salinas River here in Soledad. A noisy busy highway crosses over the river at this location. There is an existing presence of people here in informal housing and encampments along the river. The river is supporting a major social function which will require a more intricate discussion if any restoration efforts were to take place here. (Fig. 11)

Lateral Connectivity

Lateral connectivity is okay. From the road, the floodplain is easily accessible and supports encampments.

Vertical Connectivity

Vertical connectivity is poor because a very steep slope descends to the floodplain.

Longitudinal Connectivity

Longitudinal connectivity is good. We saw a person biking between encampments along an informal trail on the flat portion of the embankment.

S5: Gonzales

In a remote location, the Gonzales access point was a bit off the main road in an area with some residences, and many agricultural fields growing cauliflower and brussels sprouts. This location was listed as an access point, but there was no sign of the “clear trail” indicated on the website. The floodplain was littered with trash including rubber tires. (Fig. 12)

Lateral Connectivity

Lateral connectivity is poor due to a fence that lines the entire area. A sizeable floodplain at this location with large sand bars connects the river to its banks.

Vertical Connectivity

Vertical connectivity is okay. There is no accessible path through the vegetation to get down to the river, but it is only slightly sloped. The water quality was lower in this location and the river was an opaque murky green color.

Longitudinal Connectivity

Longitudinal connectivity is good with nothing blocking access along this reach of the Salinas River.

3.2.2 Summary of Connectivity

We did not see any human interaction with the river in any of the sites, except for the encampments at the Soledad site. Though no one was at Arroyo Seco Day Use Park due to the road closure, from our interviews and observations, we know it is a place that is usually populated. It has the social connectivity and public amenities to support human interaction with the river.

Public access to the Salinas River is often prohibited by private land. This disrupts the lateral connectivity of the larger community of residents with the river. At most sites, there was either a fence or a “No Trespassing” sign deterring entrance. The access required for vertical connectivity to the water is prohibited because of steep banks at Riverview Estates and Soledad, or water quality at Gonzales. Because there is little development in the Salinas River Valley, apart from agricultural land, there is good longitudinal connectivity that is only temporarily blocked at the Greenfield site. There is an opportunity to improve lateral connectivity to these sites by working with the Trust for Public Land and private landowners, to allow some private land to be converted for public use. Built interventions such as floodable bathing platforms, or steps can enable vertical connectivity and connect residents to the river.

3.3 How?

3.3.1 Observations and results based on GIS maps analysis.

Based on the analysis conducted during our fieldwork and utilizing Monterrey County Open Data, we have pinpointed a selection of potential restoration sites. Leveraging geospatial data encompassing various layers such as water bodies, flood hazard areas, surface-level hydrological pathways, geology, roadways, and railroad networks, we have gained significant insights into these areas.

Our examination of parcels in the flood hazard areas revealed a dominance of agricultural and private ownership, with an absence of designated open or public spaces near the Salinas River flood zone. However, promising opportunities have emerged, particularly in spaces adjacent to bridges and the railroad, indicating potential connectivity points for people to access the river.

To explore the prospects for intervention in these lands, we focused on parcels valued at less than $12,000 per acre (fig. 13). The process of creating a Suitability Map lets us identify specific locations with minimal land value on floodable lands, with less than a 10% slope, near roads, and far from medical facilities and public services that should not flood. Overlaying these factors

presents prospects for the transformation of certain areas into open and public spaces that could foster community connections with the river.

In conclusion, our analysis of geospatial data has identified potential restoration sites within the flood zone, offering an avenue to repurpose underutilized farmlands into accessible public spaces that encourage engagement with the natural environment along the Salinas River. This insight serves as a foundation for future interventions aimed at enhancing public access and connectivity to the river while promoting environmental restoration efforts. (Fig. 14-18)

4.0 CONCLUSIONS AND RECOMMENDATIONS

Our general observations, interviews, and site evaluations all point towards limited social connection to the Salinas River in the sites we visited. Similar to Gonzalez (2022), we find the river largely obstructed from view and physical access. Most of the river is adjacent to private property with fencing or no trespassing signs. Many people are further discouraged from exploring the river because of the poor water quality and quantities of garbage.

Nevertheless, the establishment of a Salinas recreational website and our findings about Arroyo Seco suggest to us that it is possible to find people by and on the river, at least in the summer. We conclude that the answer to the first of our titular questions “For Who?” is primarily found within the Salinas Valley - the communities working in the exposed agricultural landscape who would benefit from a natural escape from the heat. Some restoration projects may also have to contend with finding solutions for homeless people living by rivers.

Despite being surrounded by industrial cropland or commercial property, the riverside access points we visited all have the potential to provide some natural refuge to the people of Salinas - answering in part our second question “Where?”.

We partially explored our third question “how” in our GIS analysis, and we now conclude by describing the opportunities for design interventions to foster more social connection to the Salinas River while pursuing conventional restoration goals. To design these interventions, we use Arroyo Seco as a reference site. It is a place where the people of the Salinas River Valley already connect, as a community, with water. It is a well-maintained, well-serviced, and accessible natural refuge, especially in the summer heat.

Floodable Parks: Greenfield & Gonzalez

The access sites at both Greenfield and Gonzalez are similar in that they feature floodplains adjacent to a bridge over the Salinas. For most of the year, streamflow is low enough that there is sufficient space to walk, sit in groups, and enjoy a scenic riverside. Both these sites have the potential to serve as spaces for residents in the form of floodable parks, as envisioned by Gonzalez (2022). The parks could function as a space for the river to predictably flood, erode,

and deposit sediment in the wet season, and over drier periods, as a place for people to gather by the river. Both sites would require support from municipal authorities for the acquisition of private riverside property, and long-term management for site maintenance and public safety. They could be made more inviting through design interventions such as the clear demarcation of entrances, removal of garbage, and installation of seating amenities to encourage longer visits. The informal parking space available at both sites could be upgraded with signage to attract visitors. (fig.19)

The site at Greenfield is a major flood hazard area, where the river can spill over the bridge. This site would need specialized planning and management to use the park as a green infrastructure to mitigate the risk of road closure across the bridge.

Linear Riverfront Parks: Riverview Estates and Soledad

The vantage point at Riverview Estates and the encampments on either side of the bridge at Soledad both inspire visions of linear riverfront parks.

The site at Riverview Estates overlooks a length of the Salinas River between Greenfield and Soledad, where the riparian corridor and floodplains are conspicuously wider than elsewhere immediately upstream and downstream. This stretch can be combined into a network of riverside trails and boardwalks passing through a mixture of land uses including (i) existing floodplain and wetlands on public land, (ii) strips of land beside the railroad track, and (iii) connections through private cropland via public acquisitions or easements (fig.20). The overlooks would need to become viewpoints with seating that serve as entry points with stairs and pedestrian bridges to safely cross over the train tracks and walk onto the trails. These new points of access could then serve as loci to facilitate ecological restoration activities, including invasive species and erosion management.

The linear park we envision at Soledad is a much smaller project in terms of spatial extent (fig.21). However, it involves the challenging task of addressing the needs of the people presently living informally. We imagine a restoration project to form a linear park across the bridge serving as the impetus to offer housing and employment opportunities to homeless people. In addition to riparian vegetation restoration interventions, the linear park could promote recreational activities we observed at the site such as ‘stunt-biking’ along the river.

5.0 REFERENCES
References

Wantzen, Karl Matthias, et al. "River Culture: An eco-social approach to mitigate the biological and cultural diversity crisis in riverscapes." Ecohydrology & Hydrobiology 16.1 (2016): 7-18. https://www.sciencedirect.com/science/article/pii/S1642359315000762

Wantzen, Karl M. "River Culture – Life as a dance to the the rhythm of the waters." (2022). https://unesdoc.unesco.org/ark:/48223/pf0000382775

Paine, Lincoln. "River Cultures in world history—rescuing a neglected resource." Fudan Journal of the Humanities and Social Sciences 12.3 (2019): 457-472. https://link.springer.com/article/10.1007/s40647-018-0220-4

Wantzen, Karl Matthias. "River culture: How socio‐ecological linkages to the rhythm of the waters develop, how they are lost, and how they can be regained." The Geographical Journal (2022). https://rgs-ibg.onlinelibrary.wiley.com/doi/10.1111/geoj.12476

Kondolf, G. Mathias, and Chia-Ning Yang. "Planning river restoration projects: social and cultural dimensions." *River restoration: Managing the uncertainty in restoring physical habitat* (2008): 43-60.

Light, Andrew. "The Politics of Restoration: I. Hegemony and Democracy: How Politics in Restoration Informs the Politics of Restoration." Ecological Restoration 12.2 (1994): 140-144.

Parsons, Meg, et al. "Decolonising river restoration: Restoration as acts of healing and expression of Rangatiratanga." Decolonising Blue Spaces in the Anthropocene: Freshwater management in Aotearoa New Zealand (2021): 359-417. https://link.springer.com/chapter/10.1007/978-3-030-61071-5_9

Kondolf, G. Mathias, and Pedro J. Pinto. "The social connectivity of urban rivers." *Geomorphology* 277 (2017): 182-196.

Pinkham, Richard. Daylighting (2000).

Gonzalez, Maria Fernanda . Reshaping borders (River-people reciprocities in the Salinas Valley) (2022)

Croke, Dean. Bellying up to ‘America’s Salad Bowl’ (2023)

https://www.dat.com/blog/bellying-up-to-americas-salad-bowl#:~:text=It%20may%20be%20a%20relatively,the%20nation's%20strawberries%2C%20it%20also

Taylor, Dennis. Salinas Valley growers say much of flood damage due to choked river (2023) https://www.montereyherald.com/2023/04/16/salinas-valley-growers-say-much-of-flood-damage-due-to-choked-river/

NWSC (Nacitone Watersheds Steering Committee) & CCSCI (Central Coast Salmon Enhancement, Inc.). San Antonio and Nacimiento Rivers Watershed Management Plan (2008) https://creeklands.org/wp-content/uploads/2020/02/Nacitone-Watershed-Plan-v1.pdf

Neely, Christopher. New drought realities will shift how the county prioritizes Salinas River steelhead trout (2022) https://www.montereycountyweekly.com/news/local_news/new-drought-realities-will-shift-how-the-county-prioritizes-salinas-river-steelhead-trout/article_5c790c22-1363-11ed-b274-b3a7082405e4.html

MCWRA (Monterey County Water Resources Agency). Historical Flooding (2023) https://www.co.monterey.ca.us/government/government-links/water-resources-agency/programs/floodplain-management/historical-flooding

Taylor, Dennis. Ruling may affect Salinas River steelhead (2014) https://www.thecalifornian.com/story/news/local/2014/03/13/ruling-may-affect-steelhead/6403067/

MCWRA (Monterey County Water Resources Agency). Salinas River Long-Term Management Plan (2019) https://www.salinasrivermanagementprogram.org/ltmp_doc.html

Collison, Andy Restoring the Napa River: lessons learned from a long term private-public project (2016) https://www.calandtrusts.org/wp-content/uploads/2016/06/The-Napa-River-Restoration-Project.pdf

6.0 FIGURES

Figure 1:

Figure 2:

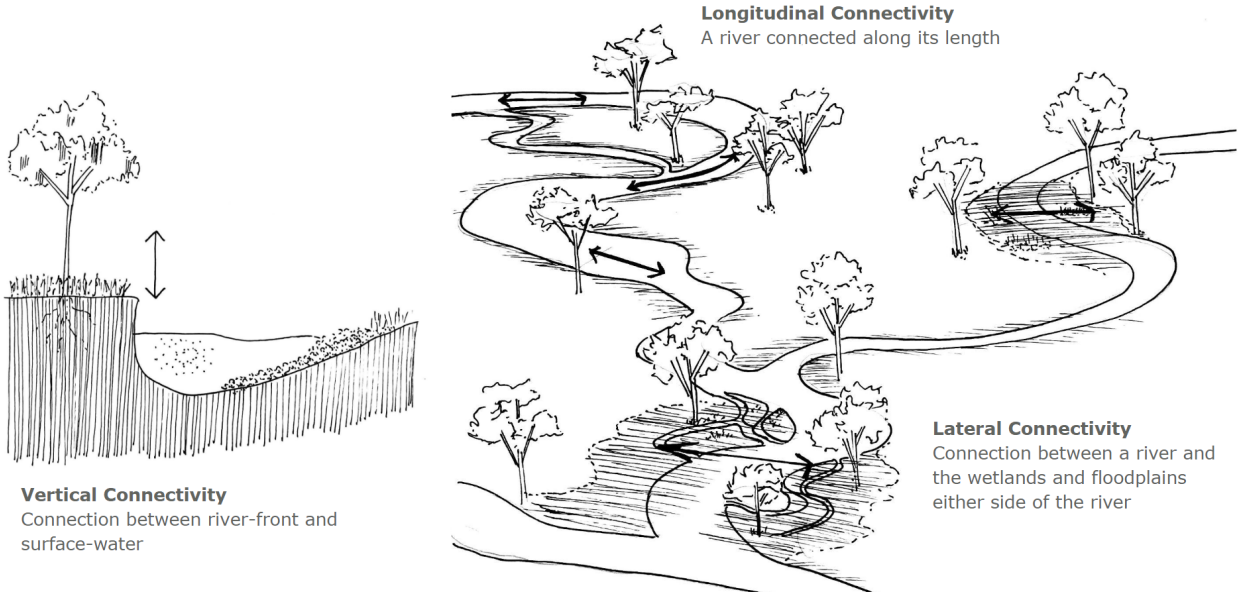

Figure 3:

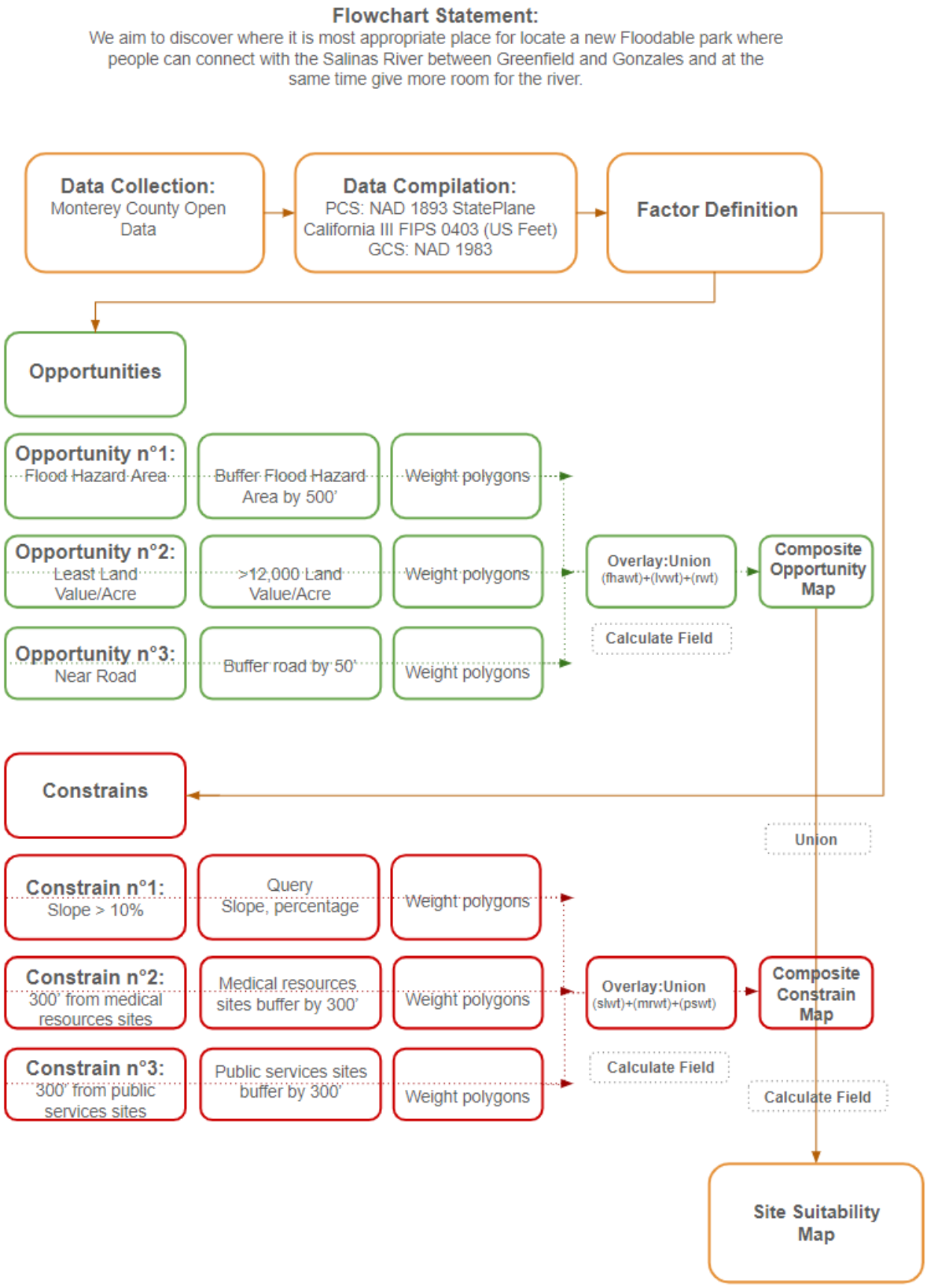
Flowchart Statement:
We aim to discover where it is most appropriate place for locate a new Floodable park where people can connect with the Salinas River between Greenfield and Gonzales and at the same time give more room for the river.
Data Collection:
Monterey County Open Data
Data Compilation:
PCS: NAD 1893 StatePlane California III FIPS 0403 (US Feet)
GCS: NAD 1983
Factor Definition
Opportunities
Opportunity n°1:
Flood Hazard Area
Buffer Flood Hazard Area by 500'
Weight polygons
Opportunity n°2:
Least Land Value/Acre
>12,000 Land Value/Acre
Weight polygons
Opportunity n°3:
Near Road
Buffer road by 50'
Weight polygons
Overlay:Union
(fhawt)+(lvwt)+(rwt)
Calculate Field
Composite Opportunity Map
Constrains
Union
Constrain n°1:
Slope > 10%
Query
Slope, percentage
Weight polygons
Constrain n°2:
300' from medical resources sites
Medical resources sites buffer by 300'
Weight polygons
Constrain n°3:
300' from public services sites
Public services sites buffer by 300'
Weight polygons
Overlay:Union
(slwt)+(mrwt)+(pswt)
Calculate Field
Calculate Field
Composite Constrain Map
Site Suitability Map

Figure 4:

Figure 5:

Figure 6:

Site	Lateral	Vertical	Longitudinal	Site Quality
Arroyo Seco in Los Padres NP	**Good** Stepped banks from parking lot and amenities, to picnic tables and bbqs on cobbled floodplain to the Arroyo Seco River	**Good** Traversable slight slope on the river bank connecting parking lot entrance to the relatively flat floodplain	**Good** Can walk along the meander of the river for around 1500 ft	**Good** Clear water, fine sediment Amenities: Picnic tables BBQs Parking lot Seating areas under Pergolas Bathrooms Water Spigot
Greenfield	**Good** Illegal "No Trespassing - Penal Code 602" and fenced off along bridge portion Easy access to floodplain on both sides (from road and from trail network)	**Good** No slope, access directly from road	**Good** Tire tracks following the river as evidence of a possible path	**Poor** Littered with trash, e.g. diapers, plastic Patchy vegetation Bridge is high flood risk area
Riverview Estates	**Poor** Good view Physical access blocked by railroad, discouraged by partial fence between road and banks	**Poor** Very steep slope descends to the floodplain and river	**Good** Railroad runs the length of the stretch	**Okay** Grasses with brambles along hill
Soledad	**Okay** Accessible from one side	**Poor** Steep slope to the river	**Good** An informal trail lined the bank about halfway	**Poor** Encampments as an alternate use on this site Presence of trash
Gonzales	**Poor** A fence lines the entire stretch of floodplain from the bridge into agricultural land	**Okay** Slight slope Vegetation dense at times	**Good** Evidence of former trail, now overgrown	**Poor** Floodplain and river littered with trash, e.g. rubber tires Murkier water

Figure 7:

Figure 8:

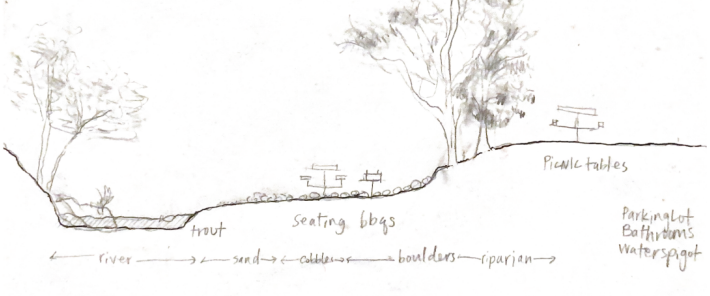

Figure 9:

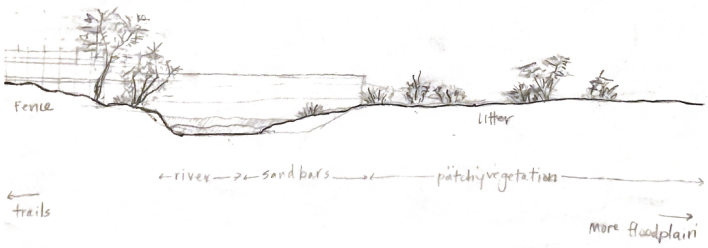

Figure 10:

Figure 11:

Figure 12:

Figure 13:

Site	Coordinates	Coordinates	Parcel ID	Land use	Land value	GIS Acres	Land value
Arroyo Seco Day Use Park in Los Padres NP	36°14'09.21" N	121°28'40.89" W					
Greenfield	36°20'16.50" N	121°12'17.43" W	109779	Farmlands 40 - 160 Ac Min|Rivers and Water Bodies	$130,033.00	148.6	$875.05
			119242	Farmlands 40 - 160 Ac Min|Rivers and Water Bodies	$1,755.00	33.5	$52.39
			115661	Farmlands 40 - 160 Ac Min|Rivers and Water Bodies	$174,225.00	148	$1,177.20
Riverview Estates	36°24'19.37" N	121°15'09.95" W	113228	Farmlands 40 - 160 Ac Min|Permanent Grazing 10 - 160 Ac Min	$72,712	13.95	$5,212.33
Soledad	36°24'45.79" N	121°19'03.54" W	3312	Farmlands 40 - 160 Ac Min	$934	3.5	$266.86
Gonzalez	36°29'25.77" N	121°28'06.12" W	113480	Farmlands 40 - 160 Ac Min|Rivers and Water Bodies	$8,484	12.26	$692.01
			119751	Farmlands 40 - 160 Ac Min	$77,382	6.6	$11,724.55
			119751	Farmlands 40 - 160 Ac Min|Rivers and Water Bodies	$8,484	14.3	$593.29
			118319	Farmlands 40 - 160 Ac Min|Rivers and Water Bodies	$2,616	8.4	$311.43
			119586	Farmlands 40 - 160 Ac Min|Rivers and Water Bodies	$1,768	22.6	$78.23

Figure 14:

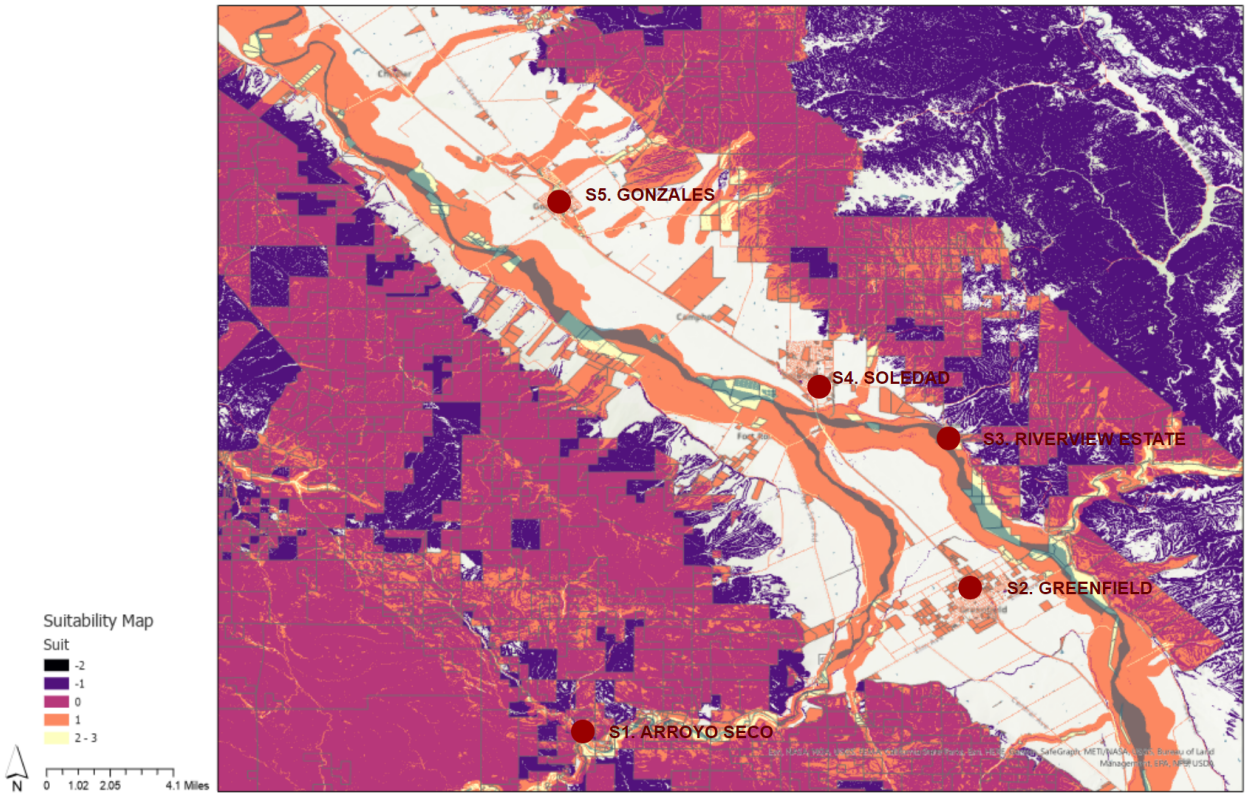

Figure 15:

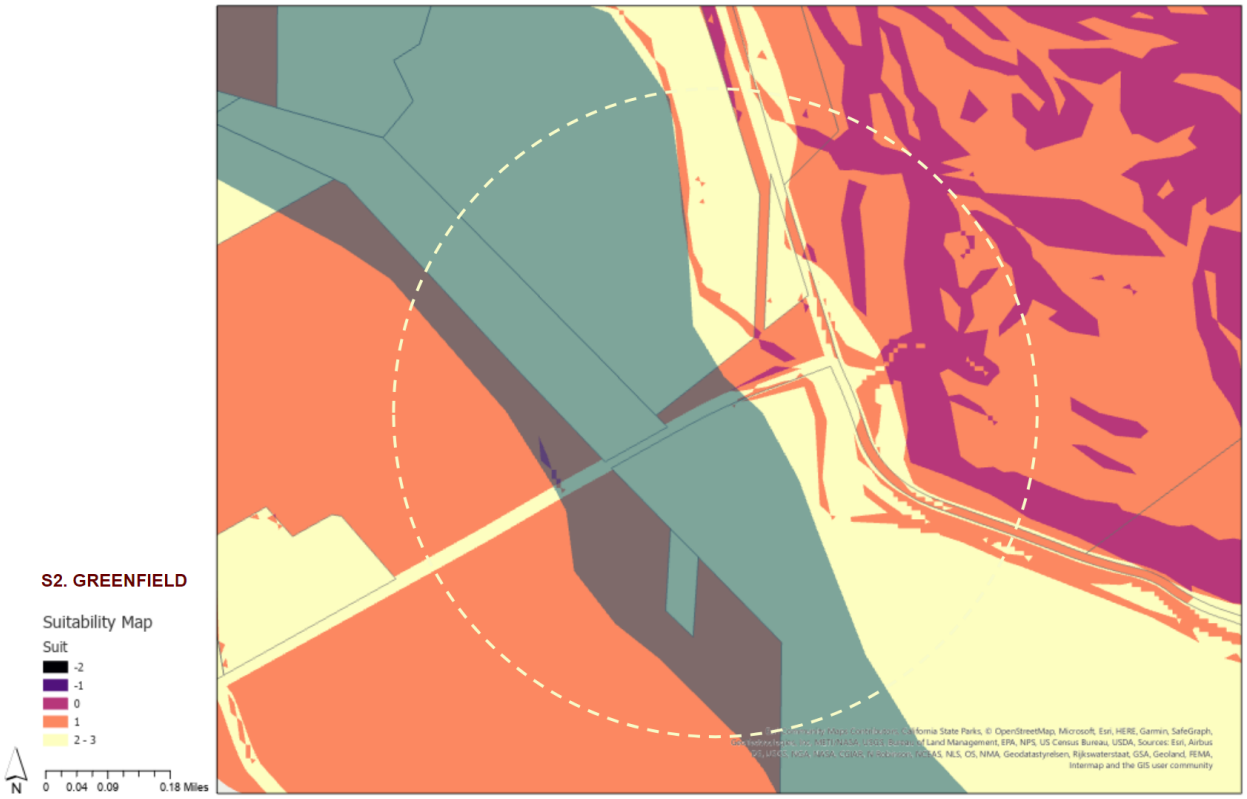

Figure 16:

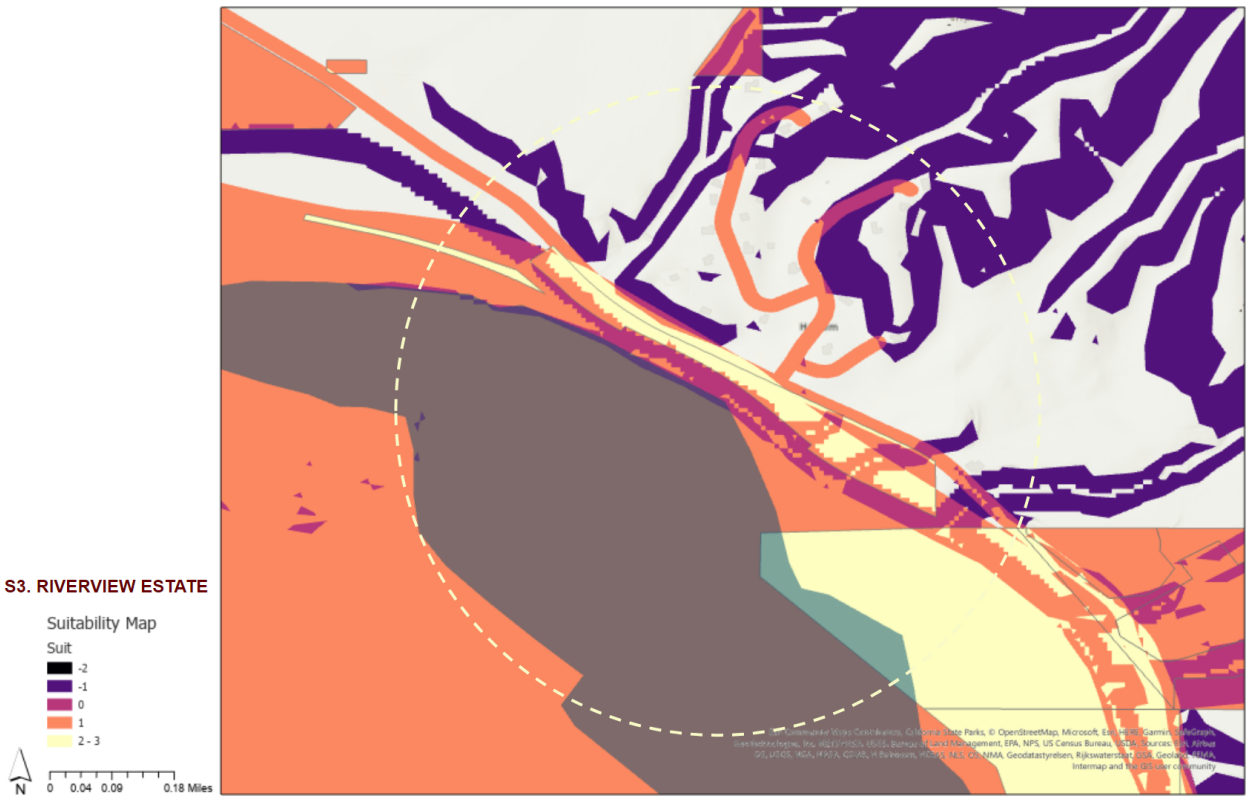

Figure 17:

Figure 18:

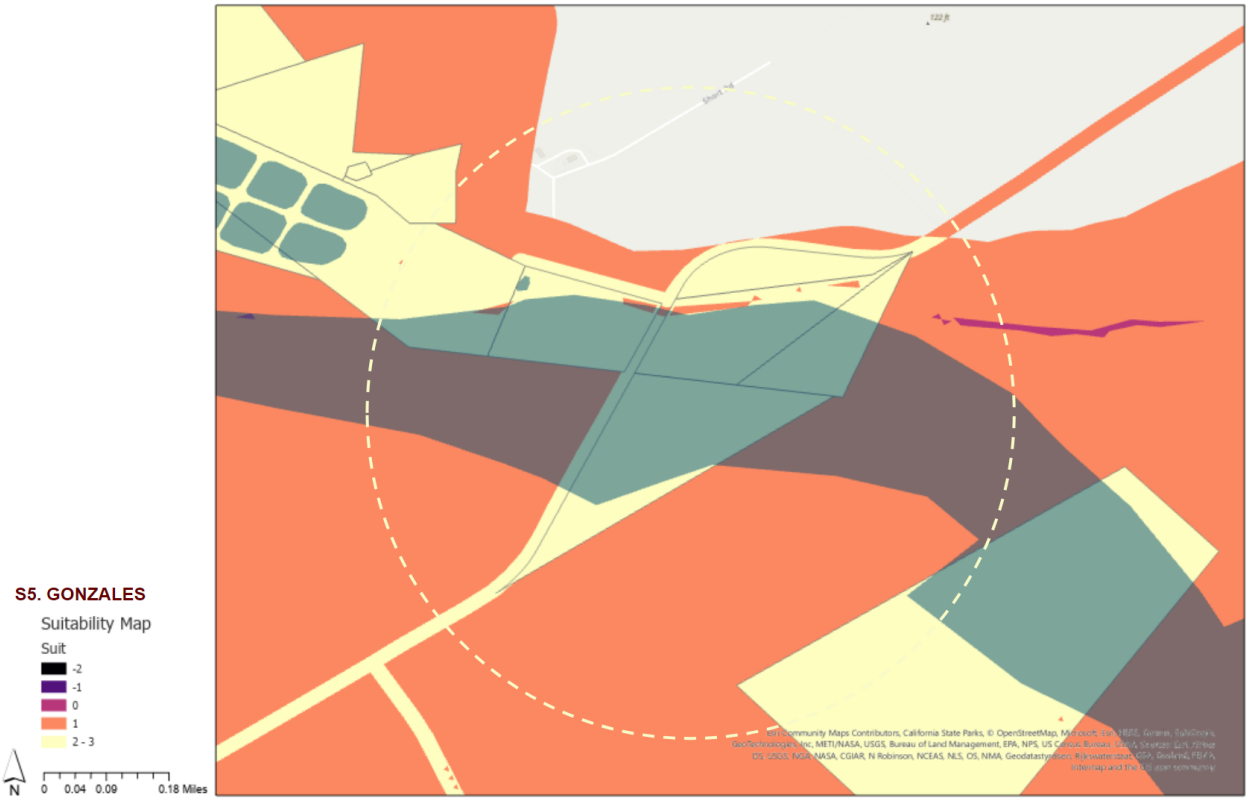

Figure 19:

Figure 20:

Figure 21: