

Alameda Creek Watershed Center Multi-Touch Table

Across from the history alcoves, visitors come across the Ideum Platform 46 tables. Consisting of a flat panel monitor embedded beneath the top of a table, this system can detect touch in multiple locations on the display, allowing several visitors at once to manipulate and share material on the table.

These touch tables will present storylines that are not fully explored in other areas of the exhibit. The touch table will house at least five modules, each focusing on a different storyline. The storylines can be experienced in any order, and within each storyline, the content is designed for visitors to explore in any order or pace they desire.

The touch table will present photographs, illustrations, three-dimensional photographs of artifacts, and caption text. As visitors approach the table, they are greeted with a plain surface on which floating circles move, much like a screen saver. Inside each circle is an image and subject word. For example, one will say “trout” over a close-up of a steelhead’s body; another will say “trains” over a map of the Niles Canyon Railway.

Visitors tap on a circle to open a module. Content delivery will vary, depending on the subject. Different visitors can open different modules, and within each module, different visitors can open different pieces of content. This is a visual medium. It is a way for visitors to interact with images and artifacts and choose their own interpretive path. Text will be as minimal as possible.

We propose five storylines¹ to start:

- 1) Morphological changes in steelhead trout
- 2) Ranching in the Sunol Valley
- 3) Virtual watershed wildlife trading cards
- 4) Changes to the Alameda Creek watershed over time
- 5) Niles Canyon Railroad

One element that could be incorporated into this touch table is the ability to “send an e-postcard.” Visitors could select any available image, or possibly choose from a handful designated for this purpose, type a message, and email it to themselves or others. The postcard would be branded with the Alameda Creek Watershed Center’s logo, and the process could capture the email address for marketing or demographic study purposes.

¹ We anticipate development of a sixth module that focuses on the history of Sunol once we understand what images and artifacts are available for inclusion. The Muwekma Ohlone have also expressed interest in developing a module to advance their story.

Storyline 1

Morphology changes in steelhead

Significance:

Steelhead trout are central to the story of the Alameda Creek Watershed recovery. This module explores a fascinating aspect of their lives: the transition from freshwater to ocean fish.

The illustrations in this module are all three-dimensional. They can be flipped and turned so visitors can see the differences on all parts of the fish, as well as over time as the fish change.

Each illustration in this section will show a progression of the steelhead as it changes from juvenile to ocean-ready adult. The captions will be presented as call-outs that point to specific areas of the fish under discussion. A static illustration of an adult resident rainbow trout will be used as for comparison.

Asset suggestions and significant storylines to be covered:

This section to be illustrated with rendered graphics

- A rendered image of a juvenile rainbow/steelhead trout. Call-outs point out that juvenile steelhead and juvenile rainbow trout are the same. They remain indistinguishable for a few years, and at this stage, they're all called rainbow trout. The illustration call-outs will also show the parr marks on the sides and top of the fish, and other distinguishing markings.
- A rendered fish just prior to smolting, or preparation for life at sea, will have call-outs that mention smolting as an energy-intensive process. Call-outs point out that pre-smolting steelheads store fat and carbohydrates in preparation for this process.
- A rendered image of a smolt will show it becoming increasingly silver and beginning to lose its parr marks as it starts to smolt. Call-outs explain that as juveniles smolt, they lose their parr marks. Call-outs will also illustrate other changes to coloration and fins. Call-outs explain that the coloration changes will help the steelhead better camouflage in the open-water ocean ecosystem.
- An illustration of the fish's mouth will show that steelheads at this stage grow back-slanted teeth to better catch prey in the ocean.
- An illustration of a smolt will be used to explain that through this process the body is preparing to ingest saltwater and process and expel the salt through the gills and mouth. Call-outs will point to the gills and kidneys here. Call-outs to

the circulatory system will mention that the blood changes to accommodate lower oxygen levels in the water.

- Because steelheads undergo behavioral changes, too, a two-dimensional illustration will show a group of steelheads together. Call-outs explain that while rainbow are solitary, steelhead seek groups to migrate to the ocean for protection in the harsh environments they face, both in migration downstream and life in the ocean.
- The three-dimensional rendering will also show the size difference between ocean-ready steelhead and resident rainbows of similar ages. Also, the illustration will show coloration differences, such as steelheads' dark spots.
- The series of renderings will end with an image of an adult steelhead as it is ready to enter the ocean.

Storyline 2

Ranching in the Sunol Valley

Significance:

The area's settlers raised cattle in this valley and ranchers continue to do so today.

Description:

This section will be presented as a pile of photographs that visitors can spread out and tap to enlarge and read the caption. Images will shrink when tapped a second time, or they will all shrink together and return to the module when the module is tapped to close.

Asset suggestions and significant storylines to be covered:

- Photograph of a 19th century ranch to illustrate that some of the area's earliest settlers found rich grasslands and plentiful water to sustain herds.
- Photographs or map showing the area's major ranching families and where their ranches were located throughout the valley.
- Illustration, if one exists, of cattle at Mission San José to show that cattle were part of the landscape before the land was part of America.
- Image of document that the Mexican government used to grant land titles in the area with the explanation that many of those grants became cattle ranches.

- Map showing fewer large-scale ranches prior to the Gold Rush as compared to more small-scale ranches afterwards. The maps will animate to transition from one to the other.
- Three-dimensionally rendered image of a cattle brand artifact – one used in the Sunol Valley. Associated text could either discuss a specific ranching family, or it could discuss the practice of branding the calves each spring, separating the cattle ready for market, etc.
- Illustrations of brands used in the area and the names of the ranches that used them. If appropriate, show a visual dictionary of the brand symbols.
- Images and three-dimensional renderings of ranching equipment as available, such as saddles, bridles, or cowboy boots.
- Image of cattle in the Sunol Valley today near hiking trails with an explanation that land is leased back from the SFPUC for cattle.
- A photograph of cattle today with a caption highlighting sustainable ranching practices.

Storyline 3

Virtual watershed wildlife trading cards

Significance:

The Alameda Creek Watershed is a biologically diverse region with many species that we were not able to highlight on exhibit panels. This touch table element will capture the flora and fauna critical to the area's ecosystem.

Description:

This section will be presented as a pile of trading cards that visitors can spread out and tap to enlarge and flip to read the caption. Images will shrink when tapped a second time, or they will all shrink together and return to the module when the module is tapped to close.

Major Storylines:

The assets for this element will identify common plants and animals that visitors to the region might see, as well as rare, shy, or endangered species visitors are unlikely to see. The card collection will include a selection of plants and animals beyond what we were able to feature in the exhibits and exterior panels and sculptures.

The species will be displayed like virtual baseball cards. The front of the “card” will have an image of the plant or animal with the animal’s common name. The back of the card will have a few interesting facts about the species plus one “wow” factor. Visitors can tap the card to flip it from one side to the other. Visitors will be able to look through and sort the cards in any way they please to find the information they are most interested in.

The information is not intended to take long to read, but rather to give visitors just a bit of information about species they may be interested in. The specifics will vary from species to species to highlight interesting points. For instance, a card about a migratory bird might note annual distance covered, while a card about coyote might compare its hunting behavior to that of a fox. Photographs will show the plants or animals in different seasons to reflect the year-round biodiversity of the area.

Storyline 4

Watershed changes over time

Significance:

Two centuries of human modification and water diversion has altered the Alameda Creek watershed. This module shows how.

Description:

This section will be presented with a series of before and after maps and illustrations to show the difference between the watershed then and now. Visitors can spread out and tap to enlarge each pair of maps or illustrations (which will be stacked on top of one another) and use a slider to transition between the two. Images will shrink when tapped a second time, or they will all shrink together and return to the module when the module is tapped to close.

These assets will focus on three major changes in the watershed: channel connectivity, channel form, water transport and storage.

Asset suggestions and significant storylines to be covered:

- *Channel connectivity:* Over the past 200 year, channels in the Alameda Creek watershed have transformed from highly discontinuous to tightly connected. Figure 9.11 from SFEI’s Alameda Creek Watershed Historical Ecology Study can be used to illustrate this. Captions will explain that this change influences erosion, sediment transport and deposition, and flooding, and that these changes influence habitat availability for both aquatic and terrestrial species, including invasive species. Because these changes shape the ways in which the watershed supports local wildlife today, associated photographs of an area will illustrate this point. The caption will explain the habitat it now supports, but would not have supported historically.

- *Channel form:* The watershed once held a variety of interconnected channel forms in relatively close proximity, but this diversity has been lost. Today’s channels are generally deep, single-thread cannels. This point will be illustrated using the cross-section illustrations of Arroyo de la Laguna and Alameda Creek shown in figures 9.12 and 9.13 from SFEI’s Alameda Creek Watershed Historical Ecology Study, which will be animated to fade between each other.
- *Water transport and storage:* The final set of before-and-after illustrations will illustrate the “big picture” by showing how natural water storage has changed. Historically, under more natural flow conditions, the watershed worked as a unit with some areas primarily conveying water downstream while others recharged groundwater or spread into wetlands during wet periods. Before these changes, storm and flood flows once spread across floodplains, slowing and sinking back to groundwater. Now, peak flows are piped quickly into flood control channels. This conforms to human needs (residential, agricultural, etc.), but adds stress to streams and increases erosion from riverbanks. See figure 9.15 in SFEI’s Alameda Creek Watershed Historical Ecology Study.
- The reasons for these changes are complex, but can be attributed to human intervention for many different reasons. Photographs and associated captions of dams, reservoirs, storm drains, hard surfaces, and irrigated agriculture fields will be used to illustrate some of the reasons why these changes were made.
- The consequences of these changes have been positive for humans by allowing for development, flood protection, and augmented drinking water supplies. However, they have also changed sediment deposition that in turn adversely affects habitat, such as riparian corridors and tidal marshes. Photographs of a positive and negative impact will illustrate this point.

Storyline 5

Niles Canyon Railroad

Significance:

From the first train to travel through Niles Canyon in 1866 to the modern day Niles Canyon Railway’s living history program, the railroad has been an important part of the Alameda Creek experience. The Western Pacific Railroad company built its tracks in Niles Canyon three years before the transcontinental railroad was completed in 1869. Once that east-to-west route was complete, all trains running in and out of the Bay Area traveled through Niles Canyon.

Description:

This section will be presented as a pile of photographs that visitors can spread out and tap to enlarge and read the caption. Images will shrink when tapped a second time, or

they will all shrink together and return to the module when the module is tapped to close.

Asset suggestions and significant storylines to be covered:

- Selection of Niles Canyon as a route, and why it won out over others. Represented with an image of an original surveyor's map of the area, early diagram of track construction, or produced graphic map showing the other routes that were considered.
- The railway's influence on the area as a tourist destination. Represented with a photograph of nineteenth century picnickers, a diary entry or letter that mentions an excursion to the area, a photo of downtown areas and railroad-dependent stores that became established.
- A map showing the original transcontinental railroad with the Niles Canyon portion in a different color. Caption will explain that while the transcontinental railroad was technically complete in May of 1869, it only went from Omaha to Sacramento. The completion of the Niles Canyon railroad four months later extended the route to San Francisco Bay and therefore the Pacific Ocean.
- Postcards, brochures, maps, advertisements for travel to Niles Canyon, Sunol, or other areas by train with an explanation that the train offered city residents a way to escape for a day.
- A still from one of the Charlie Chaplain movies from the early 20th century filmed in Niles with the explanation that the area attracted movie-makers and was the backdrop for Charlie Chaplain's movies, westerns, and other films.
- Images of several of the significant steam and diesel engines to travel through Niles Canyon, along with information on each. Many photos are from the mid-twentieth century.
- Image of a loaded freight train to discuss the economic impact that the transcontinental railway had by allowing goods from elsewhere to come to San Francisco and goods from the Bay Area to travel to other parts of the country.
- Why the rail route was abandoned, illustrated with a photo of rail beds stripped of tracks leaving only ties.
- Photographs of the restoration work done in the 1980s to illustrate the work of dedicated volunteers who have restored the area's tracks.

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- Photographs from the Niles Canyon Railway's excursion rides between Sunol and Niles to illustrate the organization and its volunteers who interpret the role railroads had in shaping California's history.