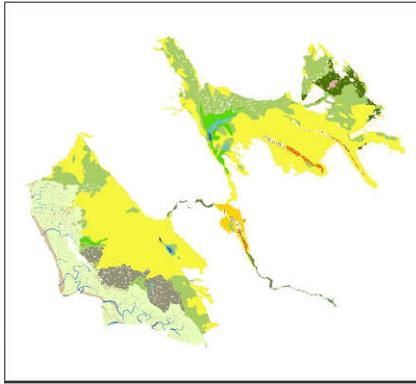


## Historical\_Habitats

### File Geodatabase Feature Class



#### Tags

Historical ecology, San Francisco Bay, Alameda Creek, Alameda County, Contra Costa County, Fremont, Mission San Jose, Newark, Union City, Alvarado, Hayward, Sunol, Pleasanton, Dublin, Livermore, San Ramon, Springtown, Niles, Niles Canyon, Niles Cone, Sunol Valley, Livermore Valley, Tri Valley, Pleasanton Marsh, San Antonio Creek, Mission Creek, Calaveras Creek, Crandall Slough, Sanjon de los Alisos, Agua Caliente, Arroyo del Valle, Arroyo las Positas, Arroyo de la Laguna, Arroyo Seco, Frick Lake, Calaveras Reservoir, Del Valle Reservoir, San Antonio Reservoir, SFPUC, San Francisco Public Utilities Commission, Alameda County Flood Control and Water Conservation District, California, USA, bay, creek, channel, slough, tidal, habitat, meadow, savanna, riparian, pond, marsh, alkali, sink scrub, lake, wetland, alkali flat, interior dune scrub, chaparral, oak, woodland, grassland, historical condition, ecology, landscape ecology, pre Euro-American

#### Summary

Geospatial data describing historical (mid-1800s) characteristics of the Alameda Creek watershed and adjacent tidal marshlands were developed to provide information for flood protection, watershed management, habitat restoration, local education, and research. The study area boundary encompasses over 120,000 acres and includes Livermore Valley, Sunol Valley and Niles Cone/Fremont plain.

#### Description

This geodatabase contains several feature classes representing a reconstruction of the historical landscape and prevailing conditions of the Alameda Creek watershed prior to Euro-American modification. This dataset integrates many sources of data describing the historical features of the Alameda Creek watershed.

Extensive supporting information, including bibliographic references, analyses, and research methods, can be found in the Alameda Creek report: (Stanford B, RM Grossinger, RA Askevold, R Leidy, EE Beller, M Salomon. 2012. Alameda Creek Watershed Historical Ecology Study. Prepared for the San Francisco Public Utilities Commission and the Alameda County Flood Control and Water Conservation District. A report of SFEI's Historical Ecology program, SFEI Publication #679. San Francisco Estuary Institute, Richmond, CA). The project report and GIS data area available at the project website: <http://www.sfei.org/projects/AlamedaCreekHE>

A geographic information system was used to collect, catalog, and analyze the spatial components of the study area. Historical maps and aerial photography were georeferenced, allowing us to compare historical layers to each other and to contemporary aerial photography and maps. Additionally, the georeferenced maps were used as a means to geographically locate information gathered from surveyor notes, early explorers' journals, travelers' accounts, and newspaper

articles.

The GIS was also used to capture a synthesis of the historical landscape as GIS vector layers. By using the various georeferenced maps and photographs combined with narrative sources, we constructed a synthesis layer representing the historical landscape. Polygons, lines, and point layers were developed to depict features in the historical landscape. The layers making up the historical habitat map include Historical\_Habitats, Historical\_Creeks, Historical\_Distributaries, Historical\_Tidal\_Channels, and Historical\_Springs.

Historical habitats mapped as polygons include Alkali Meadow, Alkali Playa Complex, Alkali Sink Scrub-Vernal Pool Complex, Alkali Vernal Pool Complex, Bay Associated Tidal Flat, Confined Riparian Woodland/Savanna, Grassland, Marsh Associated Tidal Flat, Oak Savanna, Panne, Pond, Salina, Shallow Bay, Shallow Channel, Sparsely Vegetated Braided Channel, Sycamore Alluvial Woodland, Tidal Marsh, Valley Freshwater Marsh, Wet Meadow, and Willow Thicket. See the Alameda Creek watershed Historical Ecology Study for a detailed description of the historical habitats and the methods that were used to map them.

Historical creeks and their distributaries were mapped as polyline features in two distinct layers. Distributary channels mark the endpoints of historically discontinuous channels. Historical springs were mapped from a limited number of sources, and as a result the layer does not show all springs that were historically present.

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Habitats attribute table fields:

Name: The historical and/or contemporary name of selected ecological features

Habitat Type: land cover type. Symbolize on this layer to see our land cover type.

Habitat Class: allows habitat types to be grouped into alkali, tidal wetland, Grassland, Oak, Perennial wetland, Riparian, Seasonal wetland, and willow categories.

S\_Digitize: Source data used to digitize a feature.

S\_Interp1: Interpretation Source 1 - Primary data used to interpret a mapped feature if other than the digitizing source – often the earliest historical documentation/evidence found

S\_Interp2: Interpretation Source 2 - Data used to support mapping of a feature – additional documentation/evidence other than Interpretation Source 1

Interp\_Cert: coded H (high): feature definitely present before Euro-American modification; M (medium): feature probably present before Euro-American modification; or L (low): feature possibly present before Euro-American modification.

Shape\_Cert: coded H (high): mapped feature expected to be 90%-110% of actual feature size; M (medium): expected to be 50%-200% of actual size; L (low): expected to be 25%-400% of actual size.

Loc\_Cert: H (high): expected maximum horizontal displacement less than 50 m; M (medium): less than 150 m; L (low): less than 500 m.

Notes: additional documentation about the feature

Historical\_soil\_type: For selected features, the soil type indicated in Holmes and Nelson's 1914

"Reconnaissance soil survey of the San Francisco Bay Region" (USDA, published 1917)

Alkali: descriptions of alkali soil types from Holmes and Nelson 1917

Holland\_VP: Vernal pool presence data from Holland RF, Placer Land Trust. 2009 Great Valley vernal pool distribution (VP\_2005). Geospatial data.

Holland\_VP\_assessment: Descriptive text from Holland (2009)

Region: geographic subset of the study area. Includes: Livermore Valley, Sunol-Niles (incl. Niles Canyon), Niles Cone, South San Francisco Bay (for tidal habitats)

HEProject: date and project in which the feature was originally mapped.

Acres: area of the feature in acres (derived from Shape\_Area)

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Creeks attribute table fields:

Name: The historical and/or contemporary name of selected stream channel

Habitat Type: Channel type

S\_Digitize: Source data used to digitize a feature.

S\_Interp1: Interpretation Source 1 - Primary data used to interpret a mapped feature if other than the digitizing source - often the earliest historical documentation/evidence found

S\_Interp2: Interpretation Source 2 - Data used to support mapping of a feature - additional documentation/evidence other than Interpretation Source 1

Interp\_Cert: coded H (high): feature definitely present before Euro-American modification; M (medium): feature probably present before Euro-American modification; or L (low): feature possibly present before Euro-American modification.

Shape\_Cert: coded H (high): mapped feature expected to be 90%-110% of actual feature size; M (medium): expected to be 50%-200% of actual size; L (low): expected to be 25%-400% of actual size.

Loc\_Cert: H (high): expected maximum horizontal displacement less than 50 m; M (medium): less than 150 m; L (low): less than 500 m.

Notes: additional documentation about the feature

Flow: The flow regime of the creek reach: perennial, intermittent, ephemeral or unknown

Valley: The portion of the study area in which the stream is located

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Distributaries attribute table fields

Habitat Type: (Distributary)

Primary\_Source: source data used to digitize and interpret a feature.

Secondary\_Source: supplementary source data used to interpret a feature

Interp\_Cert: coded H (high): feature definitely present before Euro-American modification; M (medium): feature probably present before Euro-American modification; or L (low): feature possibly present before Euro-American modification.

Shape\_Cert: NA - Tributaries are point features and are mapped as polylines to for symbology only.

Loc\_Cert: H (high): expected maximum horizontal displacement less than 50 m; M (medium): less than 150 m; L (low): less than 500 m.

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Springs attribute table fields\*

\*Historical springs were mapped from a limited number of sources, and as a result the layer does not show all springs that were historically present.

Habitat Type: (Spring)

Primary\_Source: source data used to digitize and interpret a feature.

Secondary\_Source: supplementary source data used to interpret a feature

Interp\_Cert: coded H (high): feature definitely present before Euro-American modification; M (medium): feature probably present before Euro-American modification; or L (low): feature possibly present before Euro-American modification.

Shape\_Cert: coded H (high): NA - Springs are mapped as point features

Loc\_Cert: H (high): expected maximum horizontal displacement less than 50 m; M (medium): less than 150 m; L (low): less than 500 m.

Notes: additional documentation about the feature

### Credits

San Francisco Estuary Institute 2012

### Use limitations

As with any map or GIS layer, confidence or certainty varies geographically due to differences in source data or methods. This geodatabase provides direct information about the certainty level of different areas and features to allow the user to intelligently assess the applicability of the data for the chosen technical question. The Interp Cert, Shape Cert, and Loc Cert fields provide information about the certainty of classification type (feature existence), size/shape, and location, rated as high, medium, or low. For more detail about methods refer to: -- Grossinger, RM, Striplen CJ, Askevold R, Brewster E, Beller EE. 2007. Historical landscape ecology of an urbanized California valley: wetlands and woodlands in the Santa Clara Valley. *Landscape Ecology*.:103-120. -- Technical users are strongly encouraged to read the full study report (Stanford et al. 2012 – available at <http://www.sfei.org/projects/AlamedaCreekHE>) to gain a stronger understanding of the strengths and limitations of the dataset. -- In no event shall the creators, custodians, or distributors of this information be liable for any damages arising out of its use (or the inability to use it). These data are not legal documents or of survey quality and are not intended to be used as

such. Although extensive effort has been made to produce error-free and complete data, all geographic information has limitations due to the scale, resolution, date and interpretation of the original source materials. Users should consult available data documentation (metadata) for these particular data to determine limitations and the precision to which the data depict distance, direction, location or other geographic characteristics. Data may be subject to change without prior notification. If this data is modified, changes should be documented in a metadata record that should accompany all redistributed data. If data is transmitted or provided in any form to another user, the data must be accompanied by a copy of this disclaimer and all documentation provided with the original data set, including the full metadata record. SFEI requests that the use of these data in any map, publication, or report should cite the data source(s) used and give proper attribution and credit to the originators of the data.