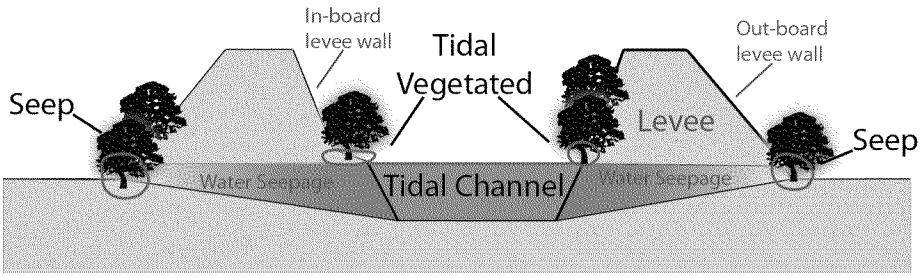
Notes for Delta WRAMP mapping

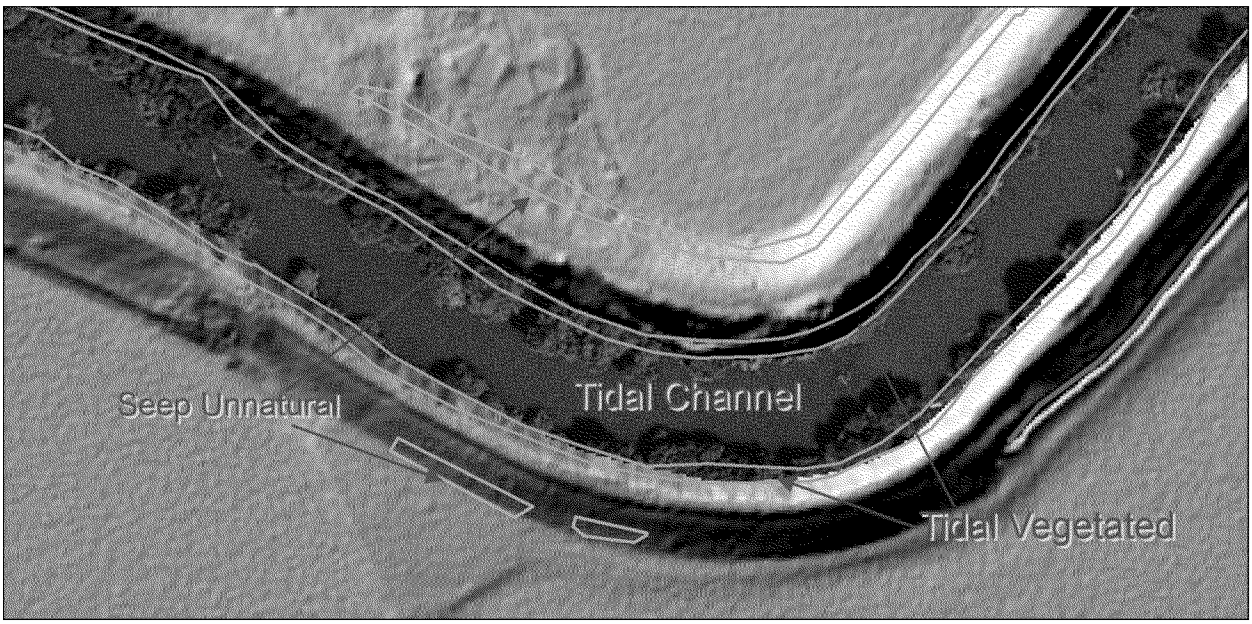
These are notes to guide the mapping process and are compiled from several mapping meetings and discussions.- May 10, 2012 -

Levee Slope Unnatural (SU) is an area of at least 500 m^2 (about 3 oaks size) that is densely covered with shrubs and/or trees and that exists along the out-board base or the in-board base of a levee. Areas on the out-board side of a levee that are probably higher in elevation than the usual high water mark of the tidal waters or that are probably higher than the frequent (1-5 year) riverine high water events should not be mapped as wetlands; these areas are likely riparian. Similarly, areas on the in-board side of a levee that are likely to be higher in elevation than leakage are seepage through the levee should not be mapped as wetlands; these areas are riparian. To map the expected or likely extent of these SU areas, only map the canopy of the first line of trees or dense shrubs overlapping the base of the levee or adjoining it on the uphill surface of the levee. Furthermore, no polygon of wetlands on the out-board side of the levee should include areas that differ in elevation by more than 2 meters. In other words, use elevation information to reduce the risk of mapping as wetlands any areas that are too high to be significantly influenced by high tides or frequent flooding. Areas of oak and other trees that lack any likely source of surface water, other than purposeful irrigation, and that are associated with buildings or other structures should be regarded as landscaping and should not be mapped as wetlands.



Levee structure diagram.

Areas along the outside base of the levee with vegetation over 500m^2 are mapped.

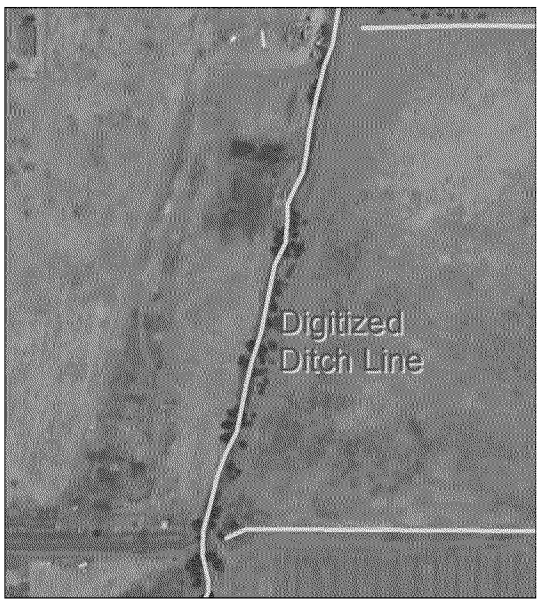


A very narrow band of vegetation along the in-board side of the levee was mapped to capture the first tree line of tree vegetation. For this the canopy was not mapped but an estimation of the first 2 meters of elevation above water level.

Here on the water side of the levee there is a large flat area of low slope that possibly receives water from the tidal channel. This area should be mapped. Also the seeps should be mapped on the landward base of the levee.

Smaller ditches: These oaks are not within the ditch and are at a higher elevation. Because they are not within the channel and are not inundated by water, they are riparian and should not be mapped.

Ditch with associated vegetation



Mapped with line and assigned a buffer

Buffered based on ditch width

Farmed Wetlands (FW): are wetlands that persist in farmed areas. These wetlands exist due to

persistent groundwater and wetland plant growth. Use the color signature relative to the surrounding area. Farmed wetlands will differ from their surrounding environment. They will be brown (evidence of oversaturation) while the surrounding areas are green. This can also be the reverse, where farmed wetland will be green (evidence of saturation) while the surrounding area is brown. Make sure the area is not caused by varying irrigation practices; some fields are irrigated pastures which look like wetlands. Examine similar fields in the area.

Only map the obvious farmed wetlands. These are areas that are clearly not farmed due to saturation. Varying color of crops should not be mapped. The wetland should be digitized based on the most recent image where the wetland signature is discernible. They must exist in at least two of the imagery datasets. Areas should not be mapped if they have been hydrologically modified (drainage ditches constructed) in 2010 and no longer show a wetland signature.

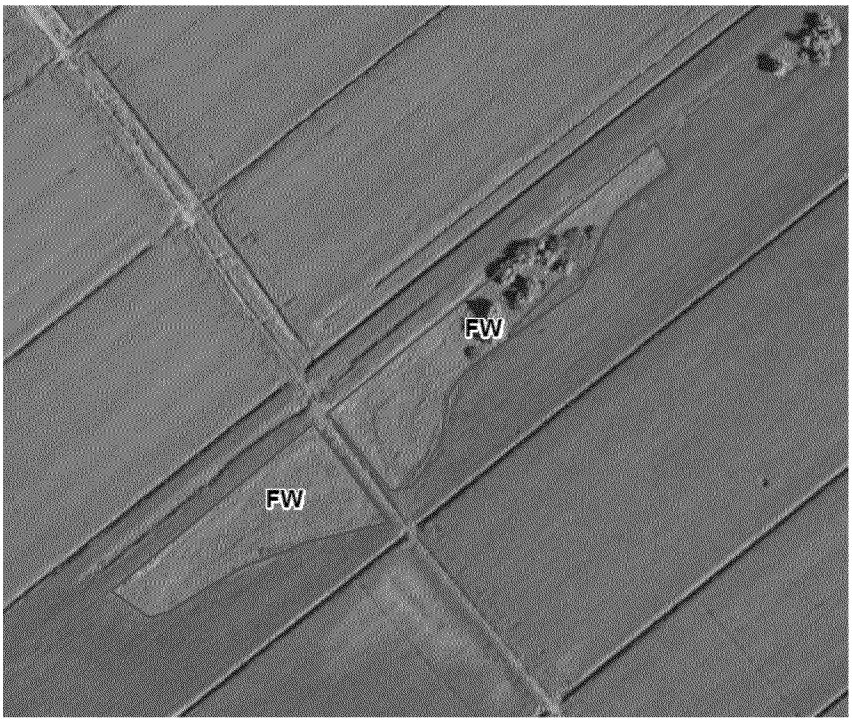


Figure 5: Farmed wetland

<u>Fluvial Vegetation</u> (FV): When there are tree canopies over open water, the open water should be extrapolated into a straight line when the canopies obscure the water's edge.

Methodology notes:
Tidal features are those that are connected to the Sacramento or San Joaquin rivers. They can be traced back downstream without any barriers interrupting their flow. Muted features will be called tidal and noted in the notes field. These features may become non-tidal after an

initial review and a finalization of the methodology

Vernal pool mapping will be completed by the end of January. Individual vernal pools will be mapped inside the vernal pool complex. DWR field work will be used to identify vernal pool areas. A vernal pool review will be conducted early February.

Data:

- Soils
  - Need to get this from Jean. Will either put the file on the FTP or direct us to a download site.
  - Possible future evaluation fully attributed narrative data to pull out indicator soils.
- Imagery
  - Primary Imagery: Use 2010 NAIP, 2009 NAIP, 2006 DWR, and 2005 NAIP.
  - Secondary Imagery: Use imagery circa 2002 in Google earth if necessary
  - LiDAR: use to determine depressions, slopes, ditches, etc.
- Vegetation
  - Use as an ancillary source
  - Use when the initial image search is not conclusive
  - Only useful in non-Agriculture fields

Mapping flow:

1. Map the feature in the most recently visible image if the wetland is present in 2 or more primary images.
2. Use the 2006 image to identify more ephemeral wetlands (farmed and seasonal wetlands). Do not map from this image was from an abnormally wet year.
3. If looking through the primary imagery does not prove conclusive enough, look at 2002 imagery in Google Earth. (Download the export to kml tool: http://bit.ly/h0peFh)
4. Use the Vegetation data if the field is fallow.
5. Soil data usage to be determined later.

Ditch and Stream Mapping:

1. Split lines where they intersect and snap the end point. (for proper topology)
2. Possibly attribute ditches with width classes.

General Mapping methods:

1. Map open waters when a line buffer will not work, when the water is not linear.
2. Start on the inside of a feature (open water) then map the other parts attached (vegetation) using the autocomplete tool
3. You can cut out features inside a polygon using the cut tool and re-attributing the cut feature.
4. You can also draw the feature on top and use the clip tool to erase the overlapping area.
5. SFEI will provide with the map feature template for editing.
6. For attributing the source only a two digit year is necessary. We will field calculate the full year and source after.