

Appendix D.4

Santa Cruz County Environmental Health Services has sampled the Estuary for conductivity. The stations sampled for conductivity are shown in the figure below and are used to determine the Estuary boundary. The figure below shows stations sampled for conductivity.

Table 1. Summary of Santa Cruz County Conductivity Data

Station	Number of Samples	Minimum	Average	Maximum	Start Date	End Date
San Lorenzo River Lagoon @ Trestle	170	4.12	13,136	52,600	10/29/01	02/28/05
San Lorenzo River Lagoon @ Broadway/Laurel Bridge	172	2.86	4,145	44,400	10/29/01	02/28/05
San Lorenzo River @ Soquel Avenue Bridge	29	163	697	4,400	11/24/86	02/19/97
San Lorenzo River @ Water Street Bridge	49	7.72	403	1,000	06/28/88	10/16/01
San Lorenzo River @ Sycamore Grove	229	0.415	402	4,690	10/29/01	07/11/05
Branciforte Creek @ San Lorenzo River	4	404	1,036	3,240	12/20/00	02/26/02
Branciforte Creek @ Carbonera Creek	7	299	484	657	06/28/88	01/24/02
Branciforte Creek @ Isbel Drive	232	100	509	980	08/44/77	06/15/05
Carbonera Creek @ Branciforte Creek	4	435	472	500	10/24/03	10/08/04

Staff concluded the Soquel Avenue Bridge is the approximate inland Estuary boundary. The next further inland station, “San Lorenzo River @ Water Street,” exhibits nonsaline conditions. Table 2-1 above indicates: 1) decreased conductivity concentrations relative to the downstream Broadway/Laurel Street Bridge station and 2) increased conductivity relative to the Sycamore Grove station. Therefore, this station is subject to stagnate flows. Bacterial growth may be a factor contributing high concentrations at this station.

(One station, Branciforte Creek @ San Lorenzo River had high conductivity. This is attributed to one conductivity sample of 3,240 mg/L. This station only had four total samples. Staff considers this one high reading to be an anomaly.)