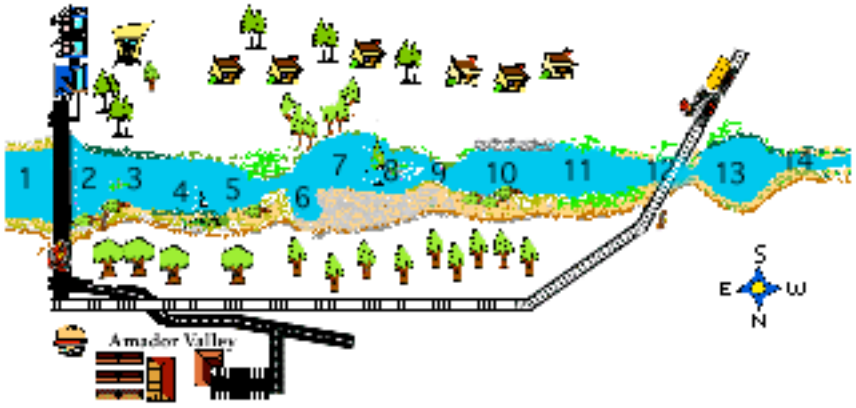
Creek Organism Collection / Observation

Date: 08/30/2016



The data below represents Five Class Periods of Data
Remember that there are many MICRO HBITATS within the study site

Very Sensitive to Pollution	√	#	**Somewhat Tolerant to Pollution**	√	#	**Very Tolerant of Pollution**	√	#
Caddis Fly Larvae		64+	Crayfish		5	Pouched Snail		18
Mayfly Larvae		5	Amphipod		15	Orb Snail		7
Helgremite (Dobsonfly)		1	Damselfly Nymph		18	Flatworms		4
Stonefly Larvae		0	Dragonfly Nymph		7	Nematode (not segmented)		2
Riffle Beetle		0	Cranefly Larvae		1	Leech (segmented)		17
Water Penny		0	Soldierfly Larvae		1	Oligochaete (segmented – bristles)		1
Gilled Snail		4	Daphnia		5	Blackfly Larvae		9
Frogs/Tadploes		1	Volvox		0	Midge Larvae		5
Water Mite		2	Mosquito Fish		0	Clams		6
Creek Chub		0	Carp		0	Spirogyra		+++
Trout		0	Blue Gill		0	Rotifer		11
Sacramento Squawfish		?	Black Bass		6+	Rat Tail Maggot		0

Unknowns	√	#	Description (legs / segmented / appendages / shape / appx. Size / movement / shell / color)
A		1	Bottom Dwelling fish called a Sculpin – non tolerant of pollution
B		?	Sighting of a fish with reddish colored fins – Squawfish? – If so, native and not tolerant of pollution
C		5	Mallard Ducks
D		++	Duckweed – abundant in seen in some amount throughout study site

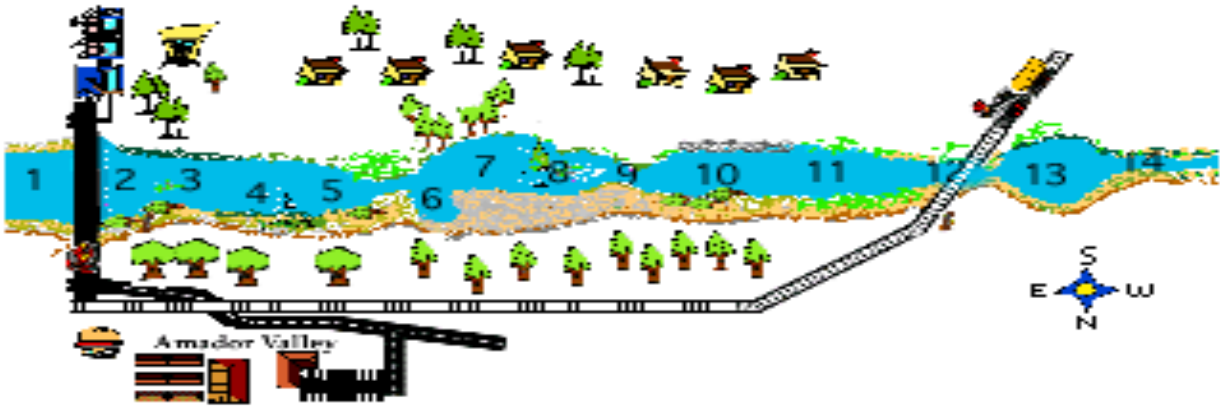
Limited Phytoplankton and zooplankton – amphipods significantly reduced in number compared to previous studies

+ Black bass = Several small black bass were seen in the study area but not captured

Weather (circle): sunny/hot sunny/cool overcast/cool

Date: 08/30/2016 no wind light breeze very windy

Air Temp(C):17.9C – 29.4C Rel Humid(%): 63% - 27% Bar Pres(mmHg): 755mm – 742mm



Flow Rate Options: (stag=stagnant…… slow=barely recognizable…… fast=rapidly moving)
Exposure Options: (brt= bright sunlight on water…..mxd= mixed shade and sun…..shd=shsded)
Depth Options: (surf= 0-10cm……mid=20-30cm mid forearm……elb= >30cm up to elbow)

Site	Temp (C)	DO (ppm)	Nitrate (ppm)	pH	Cond (*us*)	Turbid (NTU)	Flow	Expos	Depth
1	20.1	6.9		7	982	0.9	Stag	Mxd	surf
1	23	6.2		7.5	458	3.0	Slow	Brt	surf
1	23.3	5.1		8	468	6.4	Stag	Shd	surf
1	23.4			7	470	2.0	Stag	Shd	elb
1	20.9	7.1		6	446	4.7	Slow	Shd	surf
2	20.7	6.4		6	440	152.8	Slow	Shd	surf
2	20.3	6.8		7	278	1.2	Slow	Mxd	surf
2	23.4			7.5	475	0	Stag	mxd	surf
2	21.9	6.4		7	458	2.4	Stag	Mxd	surf

3	24.1	5.6		8	466	0	Slow	Shd	surf
3	25.5			7	465	0	Slow	Mxd	elb
3	20.7	6.1		6	446	152.8	Slow	Shd	surf
4	24.5			7.5	466	0	Stag	Bet	surf
5	24.4	6.0		8	474	33.4	Slow	Brt	surf
5	20.6	6.3		6	448	.2	Slow	Shd	surf
6	20.5	6.8		6.5	450	6.6	Slow	Brt	surf
6	22.4			7	459	9.1	Stag	Mxd	surf
6	23.6	7.1		8	463	0	Slow	Brt	surf
6	24.1			7	460	0	Fast	Mxd	mid
7	22.2	6.6		6.5	456	1.3	Fast	Brt	surf
7	20.5	7.3		7.5	453	0	Fast	Shd	surf
8	24.4	6.0		7.5	428	18.1	Fast	Mxd	surf
9	22.8	7.2		7	419	8.2	Stag	Mxd	surf
9	20.9	7.7		7.5	448	7.0	Fast	Sunny	surf

10	20.8	6.4		8	387	16.4	Slow	Mxd	surf
10	26.7	6.7		8	469	30.0	Fast	Mxd	mid
10	23.7	7.2		7.5	460	3.6	Slow	Shd	surf
11	25.5	6.2		7	467	0	Med	mxd	elb
11	23.2	6.9		7.5	432	12.2	Med	Mxd	surf
12	27.7	6.1		8	467	0	Fast	Shd	elb
14	24.1	7.8		7.5	460	12.2	Fast	Brt	mid
14	18.7	8.1		7	396	8.6	Fast	Shd	surf
14	21.1	7.6		7.5	401	7.4	Fast	Shd	surf
WB	19.8	8.3		7	461	5.9	Slow	Shd	surf
WB	20.9	7.9		7	487	6.8	Slow	shd	elb

Notes: (WB = Walk Bridge Pool)

Nitrate probe was non responsive. Qualitative assessments will be needed.

Lots of Duckweed on the surface but no floating mats of algae which is fairly typical in August

Identification of a Helgremite is questionable. These fly larva are rarely in the study site this time of year.

Significant spirogyra growth on the creek bottom attached to rocks and covering aquatic plants –

Large amount of accumulated organic matter on the bottom

Plankton net samples showed minimal zooplankton and phytoplankton which would suggest that nitrate levels were in an acceptable range.

Some issues with the DO probe were cited but data seems to correspond to what would be expected with increasing temperatures. Values are at the low end but in the acceptable range for steelhead even at the time when adults would not be present.

Majority of caddis fly larva were collected in fast moving water from under the railroad tressel

6 of the 7 black bass as well as the sculpin were collected from a knee deep pool with slow moving water just beyond site 14 and well before the concrete walk bridge

Most of the black fly larva were collected by kicknet at the walk bridge on the western side of the bridge in close proximity to the outflow pipe of the storm drain.

Other Points:

Noticeable stages of succession as a result of last summer and the summer before absence of water in the month of August.

The Life cycle of the steelhead would have the adults present in the fall and winter when water flow is greater than what we witnessed on Tuesday.

Be clear on the requirements for spawning.

The babies would move back down stream in mid to late Spring making their way to the bay and adjusting to the difference between fresh and salt water as they go.

Resources:

Creek Watch - http://www.pleasanton.k12.ca.us/avhsweb/thiel/creek/index.html
Alameda Creek Alliance - http://www.alamedacreek.org/
California Department of Fish & Game - http://www.dfg.ca.gov/fish/Resources/SteelHead/
Google Earth - https://www.google.com/earth/

Format:
Title Page
Question
Literature Review
Hypothesis
Clearly Defined Protocol to test Hypothesis
Prediction – "If…….. then……."
Raw Data
Graphed Data – only make a graph or graphs that you will need to reference to justify conclusions
Conclusions – composed of three parts

- Supports, refutes, or inconclusive regarding your hypothesis – adequately justify your belief(s) by referencing what you know and what the data revealed
- Concerns – any issues that may make you hesitant regarding your conclusion(s)
- Suggestions – if more time and or resources were available what would you like to do and why - how could another team confirm/expand on/advance the knowledge that you believe you have gained from this study