

San Diego Creek Causal Assessment Stressor-Response from Local Comparator Sites

February 11, 2016

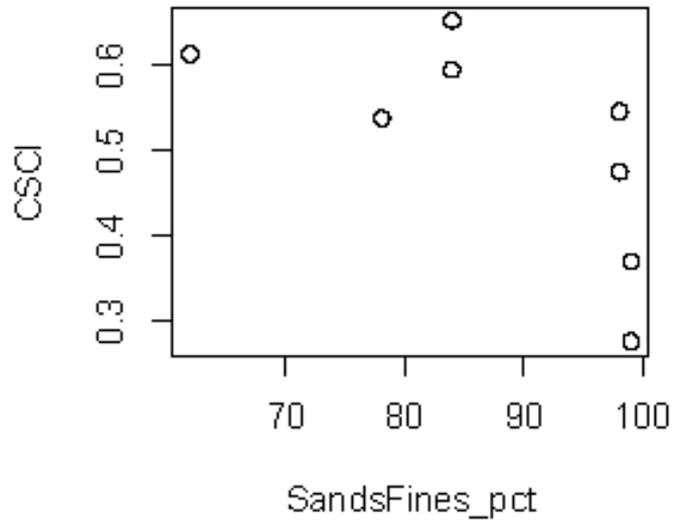
Comparator Sites - Local



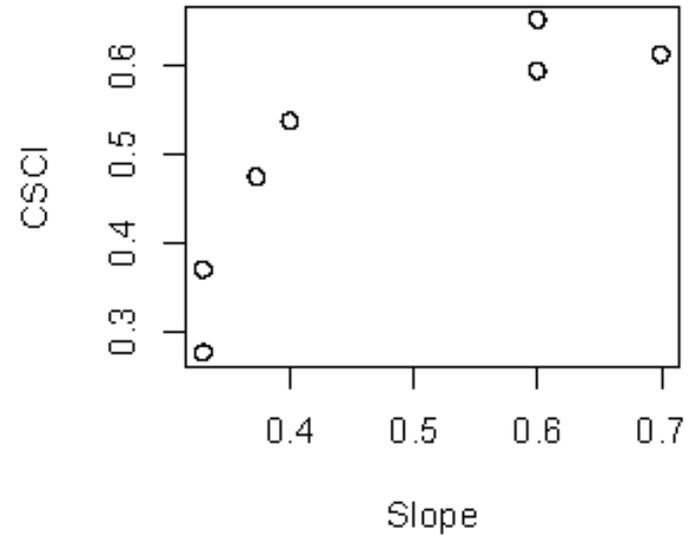
Parameter	Santiago Creek Site 532	Serrano Creek Site 259	San Diego Creek Test Sites
Elevation	205 ft.	404 ft.	54-110 ft.
Sample Year	2012	2012	2006, '09, '11, '13
CSCI	0.61	0.62 (n=2)	0.45 (n=6)
Channel Bottom	Earthen	Earthen	Earthen



Sample Plots



Expected inverse
(negative) relationship



Expected direct
(positive) relationship

Correlation

- Spearman's test statistic (ρ)
- Assumes monotonic relationship (positive or negative slope)
- Data do not need to be normally distributed
- Range of 2 to 9 data pairs for each test (incomplete data)

Stressor	Metric	p.value	ρ	Count Pairs
SandsFines_pct	CSCI	0.027	-0.764	8
Cobbles_pct	CSCI	0.009	0.807	9
	MMI	0.553	-0.229	9
Slope	CSCI	0.003	0.927	7
	Intolerant_pct	0.232	-0.520	7
TDS_mg_L	CSCI	1.000	-1.000	2

Scoring/Interpretation Rules

Expected inverse (negative) relationship
 As sands and fines  CSCI scores 

Direction of correlation coefficient	Rho values	Score	Interpretation
Expected	-1 to -0.9	++	The stressor-response relationship in the case agrees quantitatively with stressor-response relationships from other field studies.
Expected	<-0.9 to -0.75	+	The stressor-response relationship in the case agrees qualitatively with stressor-response relationships from other field studies.
	<-0.75 to <0.75	0	Agreement between the stressor-response relationship in the case and stressor-response relationships from other field studies is ambiguous.
Not expected	0.75 to <0.9	-	The stressor-response relationship in the case does not agree with stressor-response relationships from other field studies.
Not expected	0.9 to 1.0	--	There are large quantitative differences or clear qualitative differences between the stressor-response relationship in the case and the stressor-response relationships from other field studies.

Scoring/Interpretation Rules

Expected direct (positive) relationship
 As slope  CSCI scores 

Direction of correlation coefficient	Rho values	Score	Interpretation
Expected	0.9 to 1.0	++	The stressor-response relationship in the case agrees quantitatively with stressor-response relationships from other field studies.
Expected	0.75 to <0.9	+	The stressor-response relationship in the case agrees qualitatively with stressor-response relationships from other field studies.
	<-0.75 to <0.75	0	Agreement between the stressor-response relationship in the case and stressor-response relationships from other field studies is ambiguous.
Not expected	<-0.9 to -0.75	-	The stressor-response relationship in the case does not agree with stressor-response relationships from other field studies.
Not expected	-1 to -0.9	--	There are large quantitative differences or clear qualitative differences between the stressor-response relationship in the case and the stressor-response relationships from other field studies.

Scores - Sediment

Proximate Stressor	Stressor Parameter	Biological Metric Scores*				
		CSCI	MMI	O/E	% Clinger Taxa	% Coleoptera Taxa
Burial of Fauna	Sands and Fines (%)	+	0	0	0	0
	TSS (mg/L)	0	0	0	0	0
	Turbidity (NTU)	0	0	0	0	0
Loss of Complex Habitat	Cobble Embed (%)	0	+	-	+	++
	Substrate Diversity (H)	0	0	0	0	0

* There are 9 biological metric scores –only 5 are presented in this slide