

Van Duzen River Studies Data Report

Main Stem Van Duzen River at Riverside Park July 26, 2017



River Flow

River Flow = (channel width) X (average depth) X (average water velocity)

Channel Width= 35 ft.

River Depth measured at six sites across the channel:

1. 0.55 ft.
2. 0.8 ft.
3. 0.8 ft.
4. 1.0 ft.
5. 0.45 ft.
6. 0.04 ft

Average Depth = 0.6 ft.

Average water velocity was estimated by measuring the average time it took orange peels to travel 20 feet downstream along six paths in the flowing channel. Time measurements (in seconds) were made twice (t1 and t2) along each path:

<u>Path</u>	<u>t1</u>	<u>t2</u>
1.	8	10
2.	2.5	5
3.	11.6	12.3
4.	8.2	7.9
5.	12.6	13.3
6.	12.8	14.2

Average = 10 seconds

Ave. water velocity = 20 feet/10 seconds= 2 feet per second

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River Flow = (35 feet) X (0.6 feet) X (2 feet per second) = 42 cubic feet per second



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Air and Water Temperature

Air temperature was 70.6 F and water temperature was 72.3 F. Our Van Duzen River salmonid species generally prefer summer water temperatures between 60 and 68F. Salmonids avoid areas or may become stressed if water temperature is above 70F. No salmonids were observed during this field study.

Dissolved Oxygen

Dissolved Oxygen was 8 parts per million (ppm), which is good for fish. When oxygen levels in the water fall below 5 ppm, most fish are stressed and may die.

pH

pH is a measure of how acidic or basic the water is. pH can vary both daily and seasonally. Three samples of pH were analyzed with both paper pH strips and a pH meter: pH Strips 8.1, 8.1, 8.4 Average = 8.2 pH Probe 8.60, 8.13, 8.36 Average = 8.3 Water pH is critical to fish habitat. The ideal stream water pH range is 7-9.



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Turbidity

Turbidity is a measure of water clarity which is generally related to dissolved or suspended sediments or algal blooms. Three water samples were analyzed with a turbidity meter for NTU: 1) 0.66, 2) 0.50, 3) 0.48 and average 0.55 NTU. These results show the water was clear and good for fish. Turbidity of more than 25 NTU may cause stress to fish.



Aquatic Organisms

Aquatic insect larvae and one worm were observed in two dip net samples. Seven stoneflies, three mayflies, and one caddis fly were identified. A few fish (California roach and Sacramento pikeminnow) and yellow legged frog tadpoles were also observed from the river shoreline and while students explored the river with mask and snorkels.



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