Stream Team Data Report Ventura River Watershed

Water Year 2014 (October 1, 2013-September 30, 2014)

CHANNELKEEPER*

About Stream Team



Overall Results

Santa Barbara Channelkeeper launched the Ventura River Stream Team Program in partnership with the Ventura Chapter of the Surfrider Foundation in 2001, and we have been collecting water quality data throughout the watershed monthly ever since. The program engages volunteers in conducting monthly water quality sampling at 15 sites on the Ventura River as well as its major

tributaries. Our ultimate goal is cleaner, healthier water and a more environmentally responsible citizenry that is actively engaged in addressing the pollution problems plaguing our waterways.

This report is based on a comparison of data collected during the 2014 Water Year (October 1, 2013—September 30, 2014) to applicable water quality standards. These standards were created to ensure that recreation, agriculture, wildlife, and other beneficial uses are not impacted by poor water quality.







In 2014, a higher percentage of samples failed to meet water quality standards than in the history of our Stream Team Program. This increase is primarily due to more frequent exceedances of dissolved oxygen, E. coli, and Total Coliform. The Ventura River watershed had a lower percent of total exceedances than Carpinteria (29%) and Goleta (34%), although this may be partially attributed to the more stringent standards that apply in those watersheds.

| THE STANDARDS | | |
|------------------|--------------------|----------------------------------|
| Parameter | Standard | Source |
| Conductivity | < 3,000 µS/cm | Central Coast Basin Plan |
| Dissolved Oxygen | > 7 mg/L | LA Basin Plan |
| рН | > 6.5 and <8.5 | LA Basin Plan |
| Turbidity | <50 NTU | LA Basin Plan |
| E. Coli | <235 MPN/100 mL | LA Basin Plan |
| Total Coliform | <10,000 MPN/100 mL | CA Department of Health Services |



The graph above shows exceedances of water quality standards by site. In general, sites in the upper Ventura River (12.9, 14, 15) experienced far fewer exceedances than sites lower in the watershed. Alternatively, sites along the tributaries of the Ventura River - San Antonio Creek (7A, 17, 10, 9) and Canada Larga Creek (4) - often failed to meet the standards. Site 6 had the highest percentage of exceedances at 50%. However, this site was only sampled once as it was a stagnant pool the rest of the year.





Bacteria

The presence of indicator bacteria like E. coli and Total Coliform suggests that other illness-causing pathogens may be present. On the Ventura River, every site failed to meet the state standard for Total Coliform at least once. Additionally, every site except for two in the upper watershed (12.9 and 14) failed to meet the E. coli standard at least once. Other than Site 6, which only had one sample taken, Site 6.1 had the highest percent of exceedances, with 42% of samples failing to meet the E. coli standard of 235 MPN/100 mL. Sites along San Antonio Creek also had consistent E. coli exceedances, with Sites 9 and 17 failing to meet the standard 33% and 27% of the time, respectively. Overall, bacteria levels in the Ventura River appear to be a concern primarily during rain events, when runoff carries bacteria from urban, agricultural, and other sources, to the river. Horses and livestock in the watershed are two likely sources.

Conductivity

Conductivity measures water's ability to conduct electricity. As substances dissolve in water, conductivity increases, along with its salinity. Therefore, measuring conductivity indirectly indicates the amount of total dissolved solids (TDS) in the water. It is not a perfect measure, because some substances, particularly organic compounds like oil, alcohol, or sugar, do not conduct electricity well and have low conductivity. However, in general, a higher conductivity value indicates that there are more chemicals dissolved in the water. While each waterway has a natural level of conductivity, significant changes in conductivity may indicate that a discharge or some other source of pollution, such as agricultural or urban runoff, has entered a stream.



26 14 15 20 12.9 33 Ventura River Mein Oak Ojai 9 145 Mira 12 10 10 150 85 17 Legend % of samples that Lake exceeded the E. Casitas Coli standard of 6.3 235 MPN/100 mL 58 26 7A Site was dry (no samples taken) <20% 6 6.1 5475 20-30% 148 Canada Larga 3.5(114) 30-50% 76 4 50% or more Only 1 sample 33 taken at this site Median E. coli concentrations are shown in the 101 middle of each circle 26 Ventura 0 2 Miles 00 84 MapmyIndia, © OpenStreetMap contributors Esri, HERE, DeLor

of less than 3,000 µS/cm to protect agricultural uses. In 2014, the highest median conductivity in the Ventura River was about 1,700 µS/cm, well below the standard but above the average for most rivers in the U.S. Higher than average conductivity in the Ventura River is attributed to high concentrations of readily-dissolved minerals present in loose marine sedi-



ments that form the coastal mountains in the region, and are not indicative of a discharge. There were no exceedances for the conductivity standard in the watershed. However, VR17, the site with the highest median conductivity at 1,782 μ S/cm, is experiencing a long-term trend of increasing conductivity. As displayed on the graph to the left, conductivity at this site has steadily increased since 2011. This trend can be observed at many sites throughout the watershed during consecutive dry years as the dissolved mineral content increases over time due to lack of fresh rainwater inputs.

Issue Spotlight: Dry Times on the Ventura River



Site 1, Lower Ventura River, October 2013



Site 1, Lower Ventura River, October 2014

2014 was an incredibly dry year on the Ventura River, perhaps the driest in recorded history. By the end of 2014, only 7 of the 15 sites we monitor continued to flow. Additionally, during our October 2014 sampling event (a few days past the end of 2014 Water Year used in this analysis), two more sites had stopped flowing. Of particular concern is that the lower reach of the Ventura River, just above Main Street, went dry and lost connection to the lagoon, a previously unrecorded occurrence.

Low surface flows can significantly degrade water quality. Where flow is insufficient, water temperatures rise, algae proliferate and suck oxygen out of the river, and fish and other aquatic species that depend on a clean, flowing river suffer. Record drought conditions combined with the City of Ventura's excessive pumping and diversions have put the Ventura River in a dire state.

In 2014, Channelkeeper filed a lawsuit against the State Water Resources Control Board in attempts to restore flow to the Ventura River. Even though the State of California has designated the river as impaired because of excessive pumping and diversions, the City of Ventura has for decades pumped and diverted hundreds of millions of gallons of water from the river each year with little regard for the consequences. This consistent over-pumping and diversion has put the health of the river - and the life it sustains – in serious jeopardy. Channelkeeper hopes that the outcome of this lawsuit will guide the City in better balancing the various demands for the river's water with the health and vitality of the river and lead to more sustainable and integrated ways to manage and meet the community's water needs.



Foster Park, once a popular swimming hole, was dry for the majority of 2014.

Acknowledgements

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For historical and more detailed analysis of Stream Team data, visit: www.sbck.org/StreamTeam/Reports

