

## Tribal Water Quality Database Client: A Small Tribe's Journey – Implementation to VES

### Redwood Valley Rancheria

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**What was innovative about this project?** Once we understood the potential of the TWQD we began looking at various business process that use the environmental data we collect. We are now looking at ways to streamline these processes, i.e. reporting and analysis.

**What were some challenges you faced?** The National Environmental Exchange Network assumes that those implementing it have both a big-picture and detailed understanding of the system. Redwood Valley Rancheria did not have either. Therefore, the hardest part was knowing where to start, and what questions to ask. The available documentation was scattered, and the domain of knowledge required to implement the solutions was vast. We are overcoming these issues, but initially, RVR was overwhelmed.

#### **What is a noteworthy lesson you learned that you'd like to share?**

The Exchange Network is a really great solution for handling tribal environmental program data and can enhance a tribe's overall capacity. The best way a tribe can overcome the learning curve is to connect to those with reliable, and sustainable solutions. Redwood Valley Rancheria connected to Northwest Indian Fisheries Commission, and this made a world of difference. They are available, they communicate well, and their TWQD is sustainable. By selecting their solution early on RVR was able to focus on navigating vast documentation developed by the Exchange Network.

**Project Overview:** Redwood Valley Rancheria (RVR) was awarded an EN grant in 2015 to implement VES to exchange environmental data in regards to RVR's CWA-106, NPS-319, Safe Drinking Water, and Wastewater Treatment programs. We connected with Northwest Indian Fisheries Commission at the 2017 Tribal Exchange Conference and were given access to their Tribal Water Quality Database Client (TWQD). This solution saved RVR resources by reducing development costs. Data is now STORET compatible and easily exchanged via EN Services. This rigorous framework of the TWQD lends itself to being used for VES

**Was the project multi-media or did it focus on one particular media?** The main media is water quality data formatted for WQX. RVR is also utilizing GIS for other aspects of the project.

**What are some of the results or outcomes of your EN project?** RVR datasets are not large, due to the small size of the Rancheria. Our largest dataset is the Wastewater Treatment system, which includes daily sums for various parameters going back to 2013. Recently this data has been used to assess damages to the WWT system caused by fires, and by construction.

**When did the tribe begin planning this project?** After we received access to the TWQD, we began a period of learning. The first issue we had was that our "Firewall" was too restrictive. This meant my desktop was not a suitable place to store the SQL database. Luckily we had an IT professional on retainer. He assisted in developing a work-around solution for securely holding and accessing data. Our next issue was with ETL processing of raw data, meaning that we wanted to automatically transform data that we received from our lab into a format that the TWQD would accept. Finally, we are in the process of developing services within VES to extract data from the TWQD. All of these processes involved independent learning, research, and time.

