5.J RIO GUADALUPE

The Rio Guadalupe Basin is a sub-basin of the Jemez River Basin, located in northcentral New Mexico. The Jemez River Basin, approximately 1043 mi^2, is dominated by both forest and rangeland (Figure 1) on mostly U.S. Forest Service, Tribal, and private land. The Rio Guadalupe from its mouth at the Jemez River to the confluence of the Rio de las Vacas and Rio Cebolla is a 52 mi^2 watershed. Both the study basin and the Jemez River Basin are located primarily on U.S. Forest Service land.

Photo 16. Rio Guadalupe streambed at the confluence with the Jemez River

Stations were located throughout the Jemez River Basin to evaluate the impact of tributary streams. As a result of this monitoring effort, several exceedances of New Mexico water quality standards for metals (dissolved aluminum) were documented on this segment of the Rio Guadalupe. The Rio Guadalupe is listed in the 2000-2002 §303(d) list of impaired waters for this constituent only and TMDL calculations can be found in Section 7 of this document.

Table describes of the locations of the sampling stations and shows that stations 13 and 14 are both on the Rio Guadalupe. A subset of Table 3, for Rio Guadalupe, is shown on Table 5-10 on the following page. These locations can be seen on Figure 4. The Rio Guadalupe above the confluence with the Jemez River (Station 13) showed an average dissolved aluminum concentration for the four days during the Spring of 1998 as 262.5 μg/L, which is an exceedance of the chronic criterion of 87 μg/L. There were also several exceedances for turbidity, stream bottom deposits, and total phosphorus. While not witnessed by the sampling crew in 1998, a localized rain event may be inferred because increases in these three constituents were seen at this station but not at the two stations upstream of it. This would indicate localized inputs from runoff into the Rio Guadalupe, which includes the mineral district at Gilman.

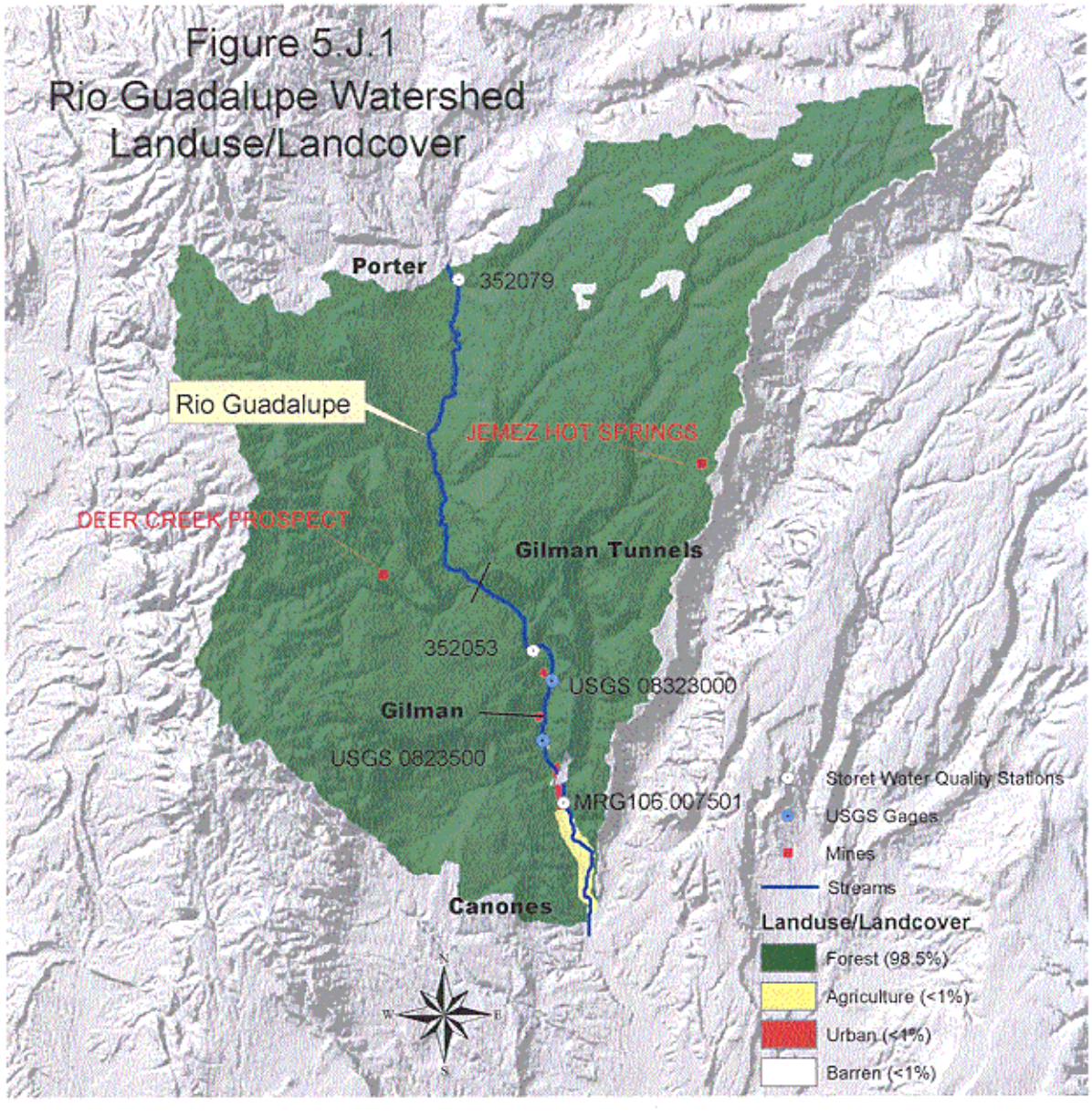
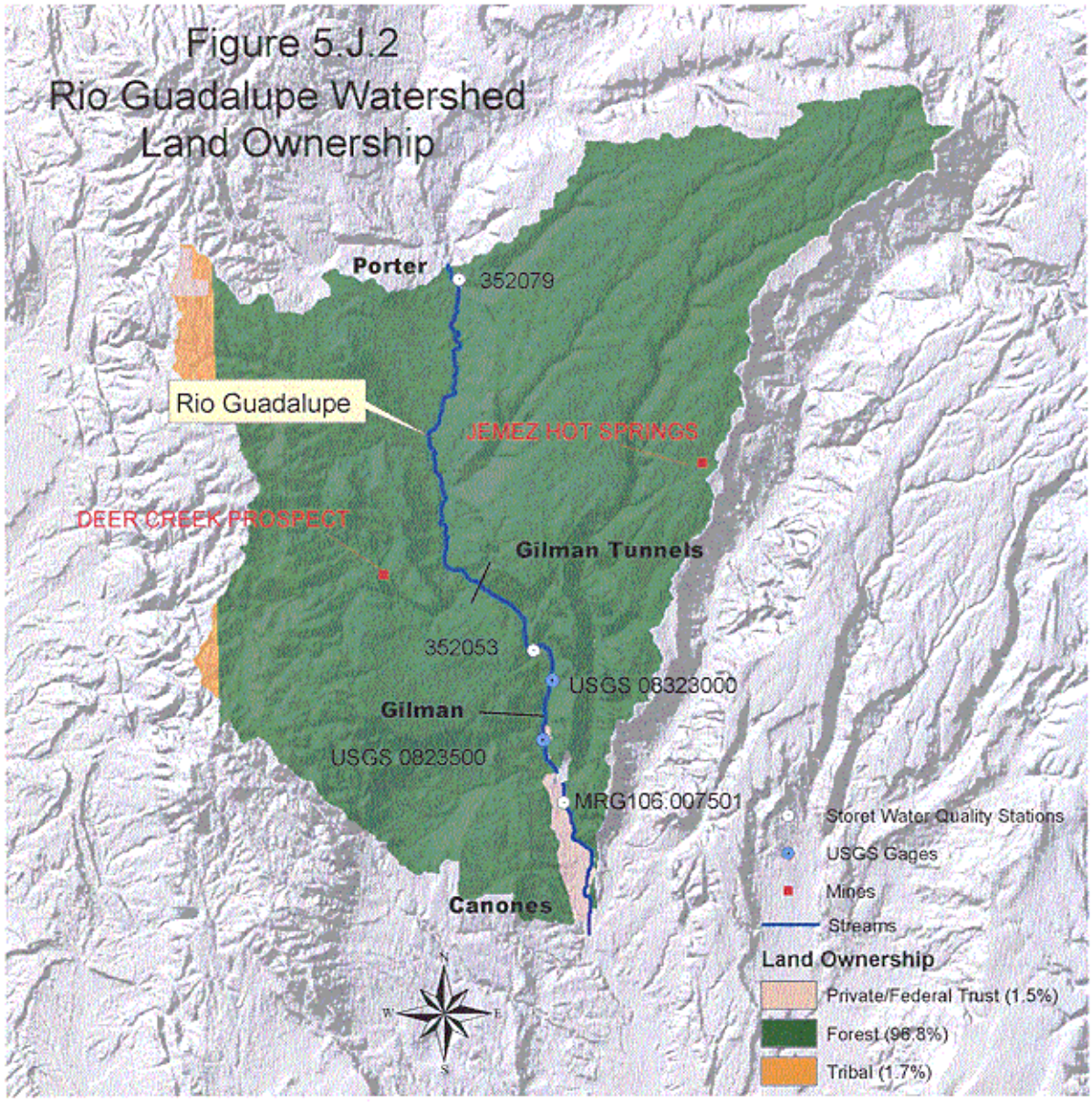
Table 5-10: Rio Guadalupe Station Identification

SWQB/NMED STATION ID	STORET CODE	SWQB/NMED Thermograph Location ID	Location
13	MRG106.007501	N/A	Rio Guadalupe upstream from confluence with Jemez River.
14	MRG106.007502	N/A	Rio Guadalupe at Box Canyon.

The Rio Guadalupe at Box Canyon (Station 14) was also sampled and all results were well below applicable criteria.

As previously stated, several exceedances of New Mexico water quality standards for turbidity and stream bottom deposits (SBD) were documented on the Rio Guadalupe (from its mouth at the Jemez River to the Gilman Tunnels. Stream bottom deposits were assessed using techniques in the SWQB/NMED draft Protocol for the Assessment of Stream Bottom Deposits (SWQB/NMED 2000). Some level of impairment due to embeddedness was seen on both reaches. NMED has written a TMDL document addressing stream bottom deposits and turbidity (October 1999) as well as plant nutrients (SWQB/NMED, 2001) and can be found on the www.nmenv.state.nm.us/swqb website.

STORET STATION I.D.	NMED/SWQB STATION I.D.	LOCATION
MRG106.007501	13	Rio Guadalupe upstream from confluence with Jemez River.
352079	-----	Guadalupe River below Rio de las Vacas
352053	14	Rio Guadalupe at Box Canyon



STORET STATION I.D.	NMED/SWQB STATION I.D.	LOCATION
MRG106.007501	13	Rio Guadalupe upstream from confluence with Jemez River.
352079	-----	Guadalupe River below Rio de las Vacas
352053	14	Rio Guadalupe at Box Canyon