

WATER DIVERSION AND DISCHARGE POINTS
ALONG THE TUOLUMNE RIVER:
HIGHWAY 99 BRIDGE TO SAN JOAQUIN RIVER

California Regional Water Quality Control Board
Central Valley Region
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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SUMMARY

Little information is available on the extent and magnitude of diversions of water from the Tuolumne River. Discharges from agricultural and other nonpoint sources are also poorly documented. To develop the data that is needed to establish beneficial uses and water quality objectives on the San Joaquin and Tuolumne Rivers, a study was conducted in 1986 to gain information on the hydrologic influences on the Tuolumne River. A 16-mile section of the Tuolumne River was surveyed from the Highway 99 Bridge to the river mouth at the San Joaquin River. There are 14 discharge points with the most significant occurring from three discharge sites, all of which are operational spills from irrigation canals.

There are 18 points of water diversion for beneficial use within the 16-mile section of river studied. The density of diversion points is half that of the Merced River to the south (James and Westcot, 1989) and similar to the Stanislaus River to the north (James et al., 1989b).

INTRODUCTION

The State Water Resources Control Board hearings on the problems at Kesterson Reservoir identified the need to control the discharges of agricultural subsurface drainage into the San Joaquin River and its tributaries. The main east side tributaries are the Stanislaus, Tuolumne and Merced Rivers. Programs on the federal, State and local levels have been initiated to investigate the impacts this agricultural drainage may be having on the beneficial uses in the San Joaquin River and its tributaries. The Central Valley Regional Water Quality Control Board (Regional Board) has the primary responsibility for regulating the discharge of drainage water. As part of the development of this regulatory program, the Regional Board intensified monitoring of agricultural discharges including gathering data on the geographic distribution of sources of discharge and users of San Joaquin, Stanislaus, Tuolumne and Merced River water.

The majority of the subsurface agricultural drainage pollutant load is discharged to the San Joaquin River via Mud Slough (north) and Salt Slough in Merced County (James et al., 1988a and 1988b). The impact of these discharges, however, is highly modified by numerous diversions and discharges up and down stream of these two sloughs. The importance of these other discharges and diversions is manifested by the finding that the majority of the river in many months of the year is made up entirely of agricultural return flows, both surface and subsurface. Little information is available on the extent and magnitude of the diversion and discharge points along the San Joaquin River and its three major east side tributaries. These east side tributaries play a key role in downstream water quality (James et al., 1988a). Discharges and diversions in these tributaries thus play a key role in water quality downstream. This study was initiated to gain information about the hydrology of the Tuolumne River as it relates to agricultural water use and inflows to the San Joaquin River. The objective of the study was to physically characterize the Tuolumne River from the Highway 99 Bridge to its inflow to the San Joaquin River by identifying the surface hydrologic influences on it. The goals were a) to develop information that could be used in identifying the beneficial uses and appropriate water

quality objectives for both the San Joaquin and Tuolumne Rivers; b) to identify the need for regulatory actions; and c) to provide a data base for the flow model being developed for the San Joaquin River. A similar discharge and diversion survey has been conducted for the San Joaquin River downstream of the Tuolumne River inflow (James, et al. 1989a).

STUDY AREA

The study area consists of the 16-mile section of the Tuolumne River extending from the bridge at Highway 99 to its mouth where it flows into the San Joaquin River. Due to major differences in the intensity of use along its length, the river was divided into two segments for analysis in this study. The river segments chosen are from the Highway 99 Bridge at mile 15.8 to mile 3.6 at the Shiloh Bridge Gage Station. The second section is then from mile 3.6 at the Shiloh Bridge Gage Station to its mouth at the San Joaquin River. The river segments are shown in Figures 1 through 3. The river miles shown throughout this report are those used on the U.S. Geological Survey (USGS) 7.5 minute series quadrangles.

STUDY METHODS

The study was initiated in spring 1986 with all field work completed by end of the summer 1986. The initial river survey was by air in February 1986. Additional information was obtained from USGS Topographical Survey Maps, Modesto and Turlock Irrigation District Records, and Regional Board files. This was followed by an on-the-ground inspection of the entire length of the Tuolumne River.

The on-the-ground survey of the Tuolumne River consisted of traveling its entire length, noting the location and type of all discharges and diversions. In addition, the source of the discharge was identified. Detailed photographs of each site are available in the Regional Board files.

RESULTS

The river segment discussion that follows will describe the discharge and diversion data from east to west or upstream to downstream. The river miles are assigned, however, from the lowest miles downstream to the highest values upstream (denotes miles from the River terminus). This discussion will only present a summary of each river segment and more detailed supporting information is presented in Appendix A. The information in the Appendix A is arranged by river segment for ease of access. The supporting information within each river segment identifies each site by a unique site number, locates the site along the Tuolumne River and provides a brief site description. The unique site number assigned to each site describes the site location. For example, site #TRN00.5D; the first two letters describe the site as being on the Tuolumne River (TR) while the next letter describes whether the site is on the north (N) or south (S) side of the river. The three-digit numeric designation (00.5) describes the river miles as defined by the USGS Maps. The final letter designation describes whether the site is a discharge (D) to the river or a diversion (P) from the river. A schematic diagram with site name and number has been compiled for each river section and are shown in Figures 4 and 5.

Flow in the Tuolumne River within the study area is highly regulated and strongly influenced by discharges or diversions into the river. The 16-mile section of the Tuolumne River surveyed in this study (Highway 99 to mouth) has 14 discharge points. The greatest concentration of discharge points occurs near the mouth of the river (mile 0-2.8). In this 2.8 mile section there are 7 discharge points the most significant of which is the operational spill from Modesto Irrigation District Lateral No. 5 (TRN01.6D). The other significant discharge occurs from Turlock Irrigation District Supply Lateral No. 1 (mile 10.4). The 16-mile section has 18 points of water diversion for beneficial use. The greatest density of diversion points occurs on the northern bank of the river. Twelve (12) of the 18 diversion points occur on the northern bank. The density of diversion points is similar between the two sections of the river. The density of diversion points along the Tuolumne River is half that of the Merced River to the south (James and Westcot, 1989) and similar to the Stanislaus River to the north (James, et al., 1989b). The discussion that follows will briefly describe the significant surface hydrological influences on the Tuolumne River within the two river segments. Each segment description is supported by a flow diagram shown in Figures 4 and 5. Discharge and diversion descriptions are found in Appendix A.

RIVER SECTIONS

River Section 1 - Highway 99 Bridge to Shiloh Bridge Gaging Station

This 12.2-mile section of the Tuolumne River has 14 diversion pumps, 10 of which are on the north bank (Figure 4). There are 4 discharge points, the most significant of which is the Turlock Irrigation District Lateral No. 1 spill at mile 10.4. The majority of the discharge and diversion sites occur from mile 3.6-10.4. No discharge or diversions are found within mile 10.4-15.8.

River Section 2 - Shiloh Bridge Gaging Station to Mouth at the San Joaquin River

This 3.6-mile section of the Tuolumne River is not highly developed (Figure 5). There are 4 diversion pumps, 2 on each bank. The 2 north bank diversion points serve land in the Lyon's Maze Ranch while the 2 southern bank pumps serve Bank of America land.

There are 7 discharge sites within this 3.6-mile section. The most significant discharges occur from the north bank approximately river mile 1.5. At this point, both the Arnaldo Drain (TRN01.4D) and Modesto Irrigation District Lateral No. 5 (TRN01.6D) discharge to the Tuolumne River. Both drains carry a significant amount of both tail water and operation spills from irrigation district canals. The Modesto Irrigation District Lateral No. 5 discharge occasionally carries dairy wastewater discharged from the Arnaldo Dairy adjacent to the spill. The remaining discharges in this section carry only tail water from irrigation operations.

REFERENCES

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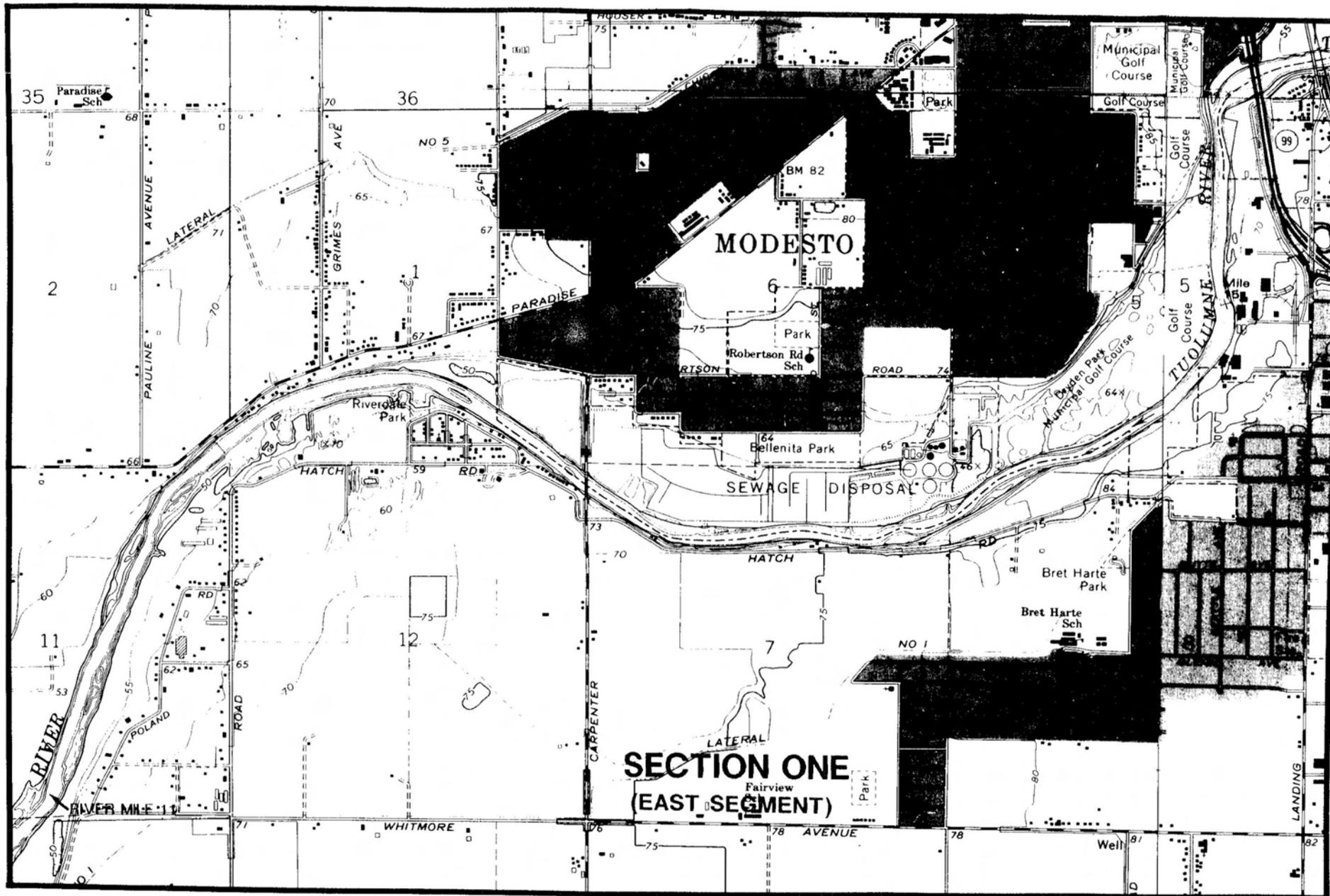


Figure 1 Diversion and Discharge Sites Along the Tuolumne River from the Highway 99 Bridge to Gaging Station at Shiloh Road Bridge (East Segment).

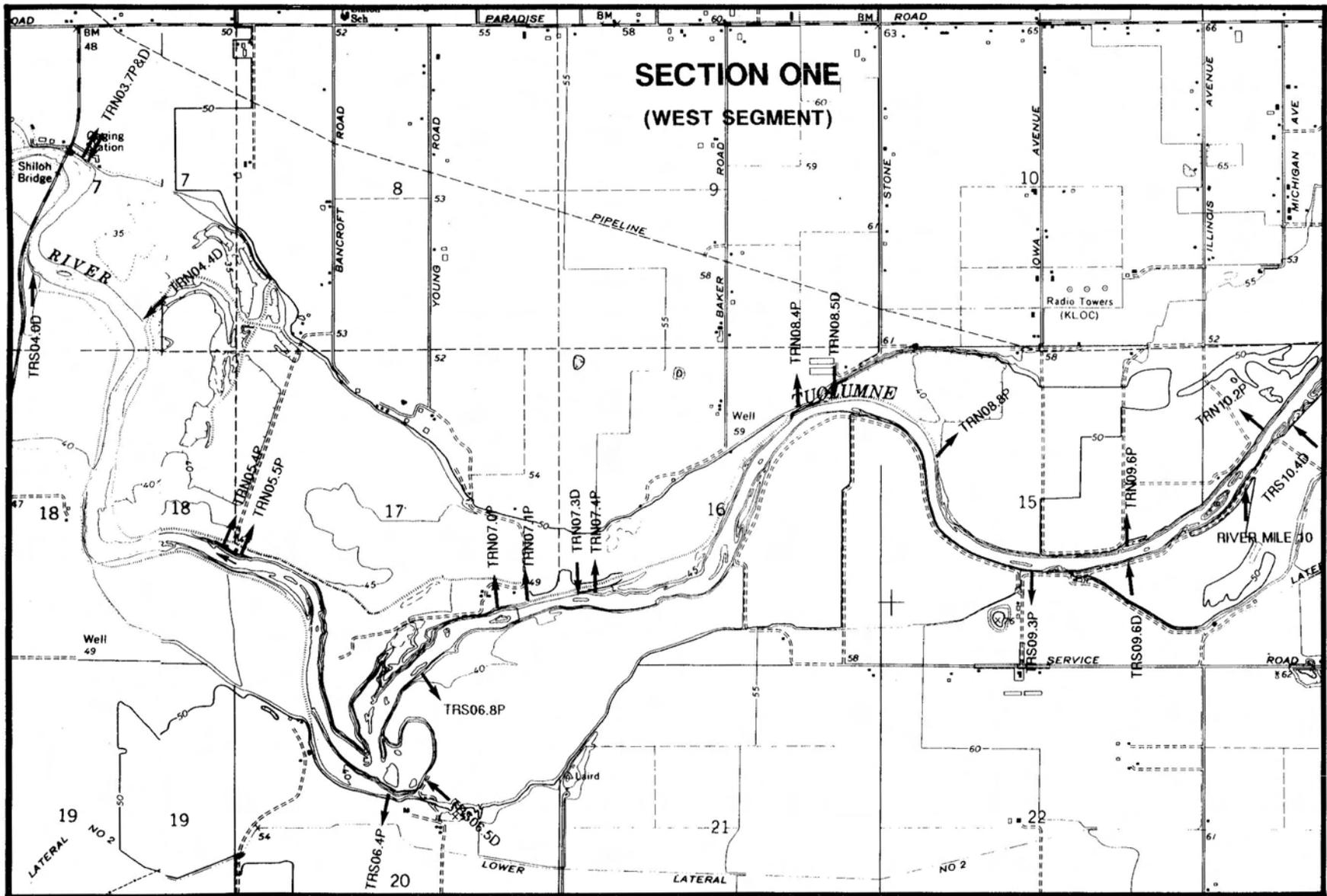


Figure 2 Diversion and Discharge Sites Along the Tuolumne River from the Highway 99 Bridge to Gaging Station at Shiloh Road Bridge (West Segment).

TUOLUMNE RIVER SECTION 1

Highway 99 Bridge to Gaging Station at Shiloh Bridge
 Tuolumne River Miles 15.8 - 03.6

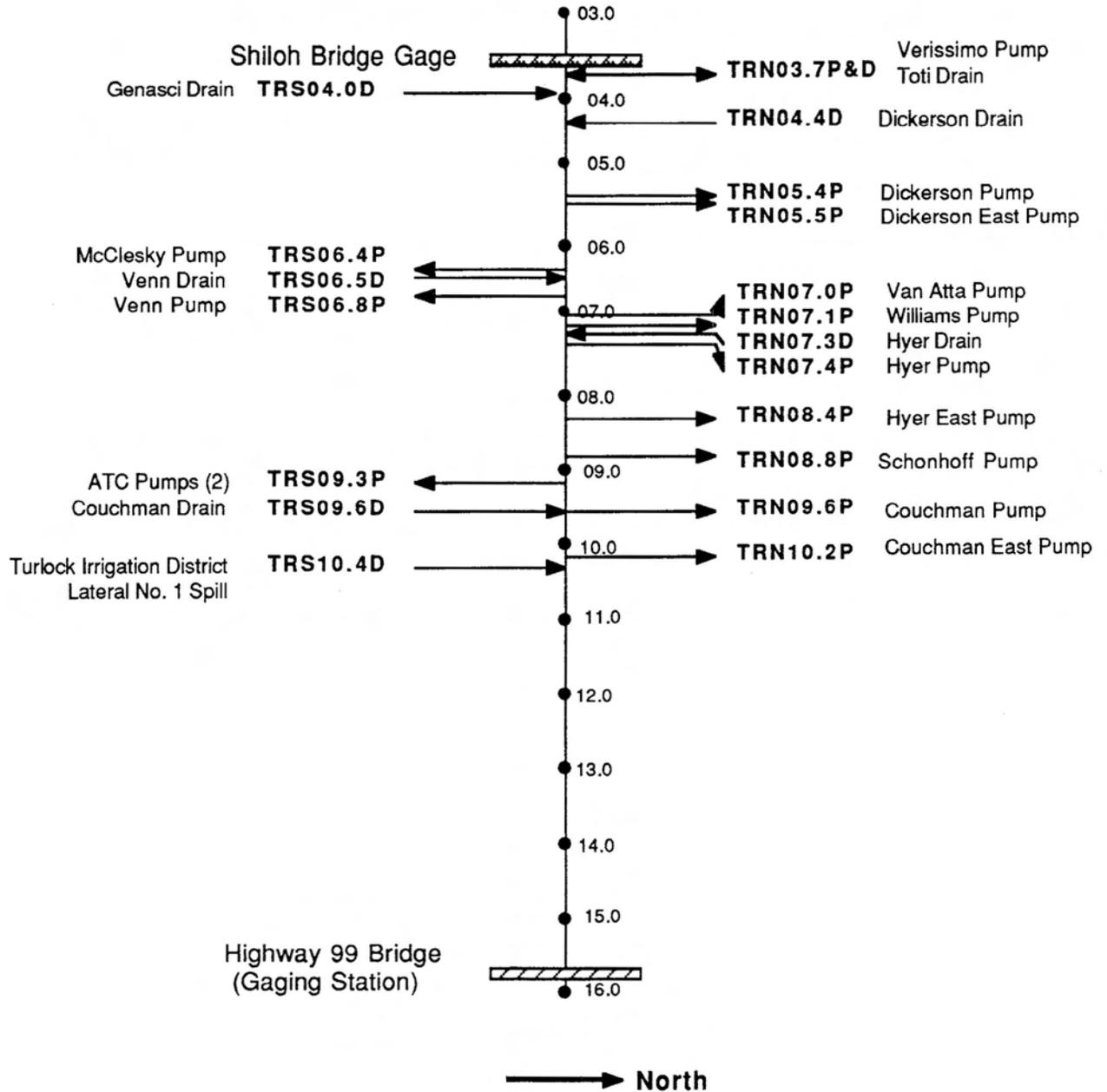


Figure 4 Schematic Diagram for Water Diversions and Discharges on the Tuolumne River from the Highway 99 Bridge to Gaging Station at Shiloh Road Bridge (River Section 1).

TUOLUMNE RIVER SECTION 2

Gaging Station at Shiloh Bridge to San Joaquin River
 Tuolumne River Miles 03.6 - 00.0

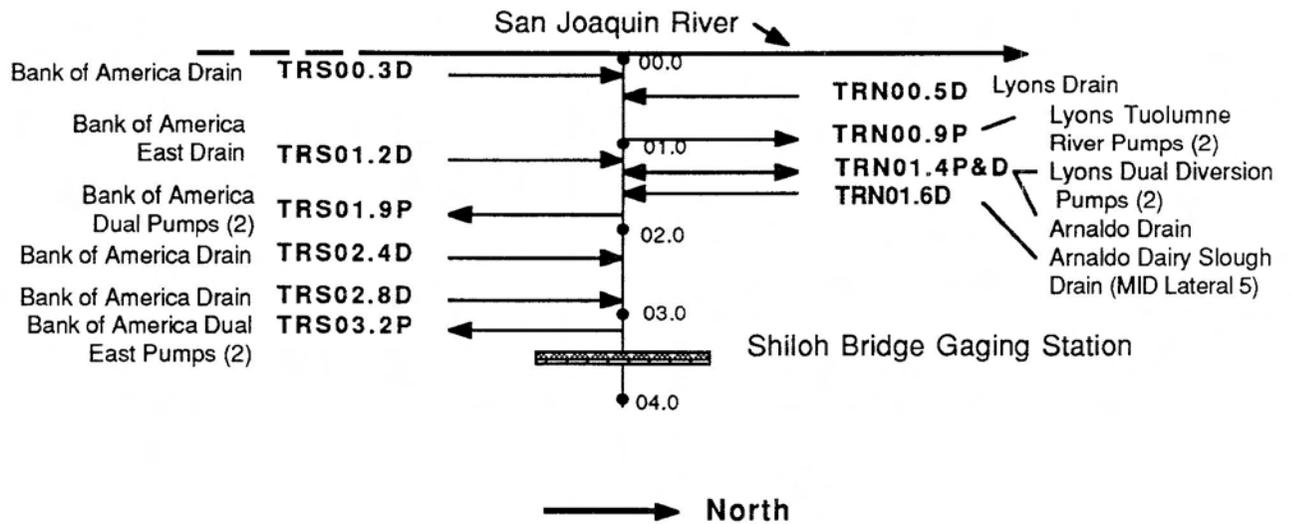


Figure 5 Schematic Diagram for Water Diversions and Discharges on the Tuolumne River from Gaging Station at Shiloh Road Bridge to the San Joaquin River (River Section 2).

APPENDIX A

Detailed Descriptions of Discharge and
Diversion Points Along the Tuolumne River
Highway 99 Bridge to San Joaquin River

Explanation of the Unique Site Identification Numbers
Used Throughout the Report and Appendices

TR	N	00.5	P
1	2	3	4

1. The first two letters designate the river
TR = Tuolumne River
2. The third letter designates the bank of the river
N = north bank
S = south bank
3. The 3-digit number designates the river mileage as described by the USGS Maps
4. The final letter designates the type of site
P = water diversion
D = discharge to the river

Tuolumne River Section #1

Highway 99 Bridge to Gaging Station at Shiloh Bridge

River Miles 03.6 - 15.8

TUOLUMNE RIVER SECTION 1

Highway 99 Bridge to Gaging Station at Shiloh Bridge
 Tuolumne River Miles 15.8 - 03.6

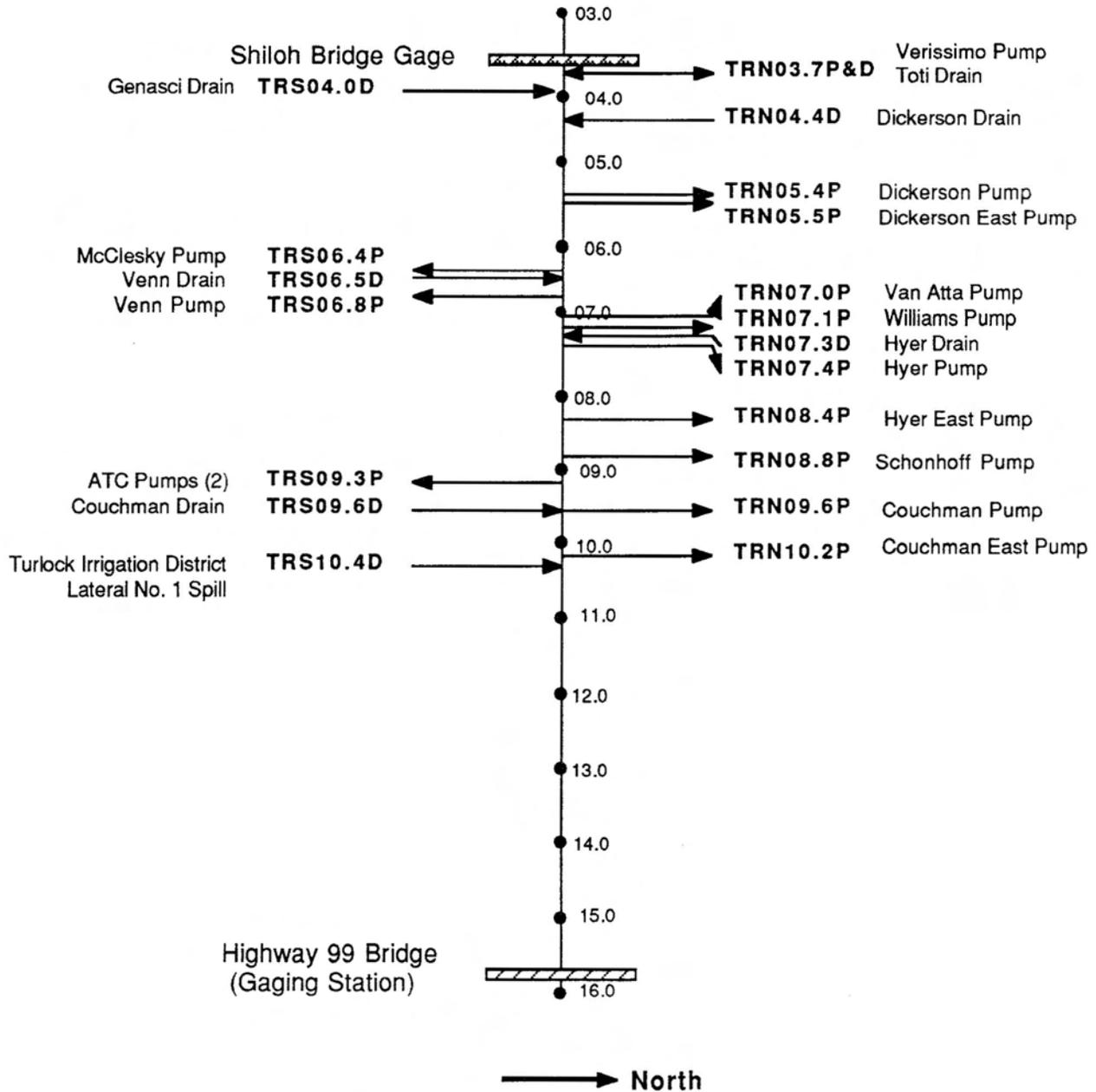


Figure A-1. Schematic Diagram for Water Diversions and Discharges on the Tuolumne River from the Highway 99 Bridge to the Gaging Station at Shiloh Road Bridge (River Section 1).

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN3.7P

Site Name: Verissimo Pump

River Mileage: 3.7

Site description, location and access: Abandoned (?) intake pump located in a small sheet metal shed in heavy tree growth area. No power supply observed. Access via Paradise Road, south on dirt road at section line to levee.

Township/Range/Section: SW 1/4, SW 1/4, NE 1/4, Section 7, T4S, R8E (DWR #4S/8E-7G)

Latitude/Longitude: 37° 36' 18"/121° 7' 45"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRN3.7D

Site Name: Toti Drain

River Mileage: 3.7

Site description, location and access: Discharge pipe on platform. Access via Shiloh Road, address 2500 Shiloh Road.

Township/Range/Section: SW 1/4, SW 1/4, NE 1/4, Section 7, T4S, R8E (DWR #4S/8E-7G)

Latitude/Longitude: 37° 36' 18"/121° 7' 45"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS4.0D

Site Name: Genasci Drain

River Mileage: 4.0

Site description, location and access: Discharge pipe behind octagon shaped home drains the field east of the road. Access via Shiloh Road to home driveway to levee.

Township/Range/Section: SE 1/4, NE 1/4, SW 1/4, Section 7, T4S, R8E (DWR #4S/8E-7L)

Latitude/Longitude: 37° 35' 53"/121° 7' 56"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRN4.4D

Site Name: Dickerson Drain

River Mileage: 4.4

Site description, location and access: Slough discharge pump access via Bancroft Road, turn west on dirt road, drive south of dairy to dirt road traveling west. Stay on dirt road that goes north of the slough to discharge site. Discharge pump out of service on 9 July 1986. Pump is located in an open top sheet metal shed next to a square cement structure.

Township/Range/Section: SE 1/4, SW 1/4, SE 1/4, Section 7, T4S, R8E (DWR #4S/8E-7Q)

Latitude/Longitude: 37° 35' 42"/121° 7' 33"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN5.4P

Site Name: Dickerson River Pump

River Mileage: 5.4

Site description, location and access: Diversion pump access via Bancroft Road, turn west onto dirt road which meets the levee, then go west. Control panel, with three control boxes on it, is on the ground near the pipe.

Township/Range/Section: NE 1/4, NE 1/4, SE 1/4, Section 18, T4S, R8E (DWR #4S/8E-18J)

Latitude/Longitude: 37° 35' 9"/121° 7' 22"

County: Stanislaus

USGS Quad Map: Westley

Meter Number: Modesto I.D. P411-32

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN5.5P

Site Name: Dickerson East Pump

River Mileage: 5.5

Site description, location and access: Diversion pump in a small wooden pump house, 4" diameter pipe draws water from the river. Access via Bancroft Road, west on dirt road to levee.

Township/Range/Section: SW 1/4, NW 1/4, SW 1/4, Section 17, T4S, R8E (DWR #4S/8E-17M)

Latitude/Longitude: 37° 35' 7"/121° 7' 14"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: Not visible at pump

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRS6.4P

Site Name: McClesky Pump

River Mileage: 6.4

Site description, location and access: Pump pulled, not in use; possibly in future. Access via Grayson Road, north on dirt road to McClesky Farm levee.

Township/Range/Section: NE 1/4, SE 1/4, NW 1/4, Section 20, T4S, R8E (DWR #4S/8E-20F)

Latitude/Longitude: 37° 34' 32"/121° 6' 46"

County: Stanislaus

USGS Quad Map: Brush Lake

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS6.5D

Site Name: Venn Drain

River Mileage: 6.5

Site description, location and access: Discharge into Tuolumne River Drain receives flow from area flood plain, water discharges to river. Access via Grayson Road north on dirt road to levee.

Township/Range/Section: NW 1/4, SW 1/4, NE 1/4, Section 20, T4S, R8E (DWR #4S/8E-20G)

Latitude/Longitude: 37° 34' 32"/121° 6' 36"

County: Stanislaus

USGS Quad Map: Brush Lake

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRS6.8P

Site Name: Venn Pump

River Mileage: 6.8

Site description, location and access: Silver pump at the end of a walkway platform above the river; large cement stand pipe near the dirt road. Access via Grayson Road; turn north on dirt road and travel to the levee.

Township/Range/Section: NW 1/4, NW 1/4, NE 1/4, Section 20, T4S, R8E (DWR #4S/8E-20B)

Latitude/Longitude: 37° 34' 48"/121° 6' 35"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: TID 46457

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN7.0P

Site Name: Van Atta Pump

River Mileage: 7.0

Site description, location and access: Diversion pump on a concrete platform. Access via Young Road, turn east on Easton Road and drive to levee.

Intake pipe approximately 2' above water level on 9 July 1986.

Township/Range/Section: NE 1/4, SW 1/4, SE 1/4, Section 17, T4S, R8E (DWR #4S/8E-17Q)

Latitude/Longitude: 37° 34' 57"/121° 6' 25"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: Modesto I.D. P211-1858

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN7.1P

Site Name: Williams Pump

River Mileage: 7.1

Site description, location and access: Diversion pump is in a pump house on the north side of the river, and pulls water from the river. Access via Young Road to Easton Road then travel east on the levee.

Township/Range/Section: NE 1/4, SE 1/4, SE 1/4, Section 17, T4S, R8E (DWR #4S/8E-17R)

Latitude/Longitude: 37° 35' 00"/121° 6' 14"

County: Stanislaus

USGS Quad Map: Brush Lake

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRN7.3D

Site Name: Hyer Drain

River Mileage: 7.3

Site description, location and access: Drain from (north-east) field cuts through the levee to the river side. A nearby (NW) disposal pond may discharge to this field and drain. The dirt road between the pond and field which leads to the levee, is severely undercut. Access to this area is via Stone Avenue, turn west on dirt road and travel to the levee.

Township/Range/Section: SW 1/4, NE 1/4, NE 1/4, Section 16, T4S, R8E (DWR #4S/8E-16A)

Latitude/Longitude: 37° 35' 33"/121° 5' 12"

County: Stanislaus

USGS Quad Map: Brush Lake

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN7.4P

Site Name: Hyer Pump

River Mileage: 7.4

Site description, location and access: Diversion pump access via Stone Avenue turn southwest on dirt road to levee road. There is a large concrete stand pipe near the levee road; the pump is supported by pilings. Pump used for silage irrigation for dairy.

Township/Range/Section: SW 1/4, NW 1/4, SW 1/4, Section 16, T4S, R8E (DWR #4S/8E-16M)

Latitude/Longitude: 37° 35' 2"/121° 6' 3"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: P211-348

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN8.4P

Site Name: Hyer East Pump

River Mileage: 8.4

Site description, location and access: Diversion pump access via Stone Avenue to dirt road, turn west (right) to meet the levee. There is a concrete stand pipe near the levee road, the pump system is semi-enclosed by concrete walls.

Township/Range/Section: SW 1/4, NE 1/4, NE 1/4, Section 16, T4S, R8E

Latitude/Longitude: 37° 35' 30"/121° 5' 18"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: Modesto I.D. P211-1096

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN8.8P

Site Name: Schonhoff Pump

River Mileage: 8.8

Site description, location and access: Silver diversion pump (40 Hp) access via Iowa Avenue which becomes a dirt road that meets the levee, turn west (left) at the levee and follow it to the pump.

Township/Range/Section: NE 1/4, SW 1/4, NW 1/4, Section 15, T4S, R8E (DWR# 4S/8E-15E)

Latitude/Longitude: 37° 35' 28"/121° 4' 52"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: Modesto I.D. P411-393

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRS9.3P

Site Name: ATC Pumps

River Mileage: 9.3

Site description, location and access: Two diversion pumps, blue and orange, on a platform. Top of pilings are orange and an orange pipe leads to the blue pump. Site access via Service Road; turn north on dirt road and travel to the levee.

Township/Range/Section: SE 1/4, NE 1/4, SW 1/4, Section 15, T4S, R8E (DWR# 4S/8E-15L)

Latitude/Longitude: 37° 35' 5"/121° 4' 35"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: TID 57463

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS9.6D

Site Name: Couchman Drain

River Mileage: 9.6

Site description, location and access: Yellow pump (7-1/2 Hp?) on circular tile drain cement structure; white discharge pipe protrudes from the river bank over the river. Bean crop nearby. Access via west end of Whitmore Avenue; turn south on dirt road which leads to the levee.

Township/Range/Section: NE 1/4, NE 1/4, SE 1/4, Section 15, T4S, R8E (DWR #4S/8E-15J)

Latitude/Longitude: 37° 35' 12"/121° 3' 57"

County: Stanislaus

USGS Quad Map: Brush Lake

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN9.6P

Site Name: Couchman Pump

River Mileage: 9.6

Site description, location and access: Diversion pump access Illinois Avenue; turn west on dirt road at end of Illinois. This dirt road turns south and meets the levee. The pump is supported by pilings.

Township/Range/Section: NE 1/4, NW 1/4, SE 1/4, Section 15, T4S, R8E (DWR# 4S/8E-15K)

Latitude/Longitude: 37° 35' 8"/121° 4' 13"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: Modesto I.D. P411-393

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN10.2P

Site Name: Couchman East Pump

River Mileage: 10.2

Site description, location and access: Silver diversion pump (40 Hp) access via Illinois Avenue; travel south, and continue south on dirt road to levee, turn northeast (left) at levee. Log platform leads to pump; brick wall supports pump.

Township/Range/Section: SE 1/4, NW 1/4, NW 1/4, Section 14, T4S, R8E (DWR# 4S/8E-14D)

Latitude/Longitude: 37° 35' 30"/121° 3' 42"

County: Stanislaus

USGS Quad Map: Brush Lake

Meter Number: Modesto I.D. P211-240

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS10.4D

Site Name: Turlock Irrigation District
Lateral No. 1 Spill

River Mileage: 10.4

Site description, location and access: Discharge pipe, square cement structure on crop side of dirt road in a corn field. Irrigation water in cement structure from lateral No. 1. Water coming out of pipe very fast; EC 250. Site access via west end of Whitmore Avenue to dirt road which leads to the levee road.

Township/Range/Section: SW 1/4, NE 1/4, NW 1/4, Section 14, T4S, R8E (DWR #4S/8E-14C)

Latitude/Longitude: 37° 35' 33"/121° 3' 34"

County: Stanislaus

USGS Quad Map: Brush Lake

Tuolumne River Section #2

Gaging Station at Shiloh Bridge to San Joaquin River

River Miles 00.0 - 03.6

TUOLUMNE RIVER SECTION 2

Gaging Station at Shiloh Bridge to San Joaquin River
 Tuolumne River Miles 03.6 - 00.0

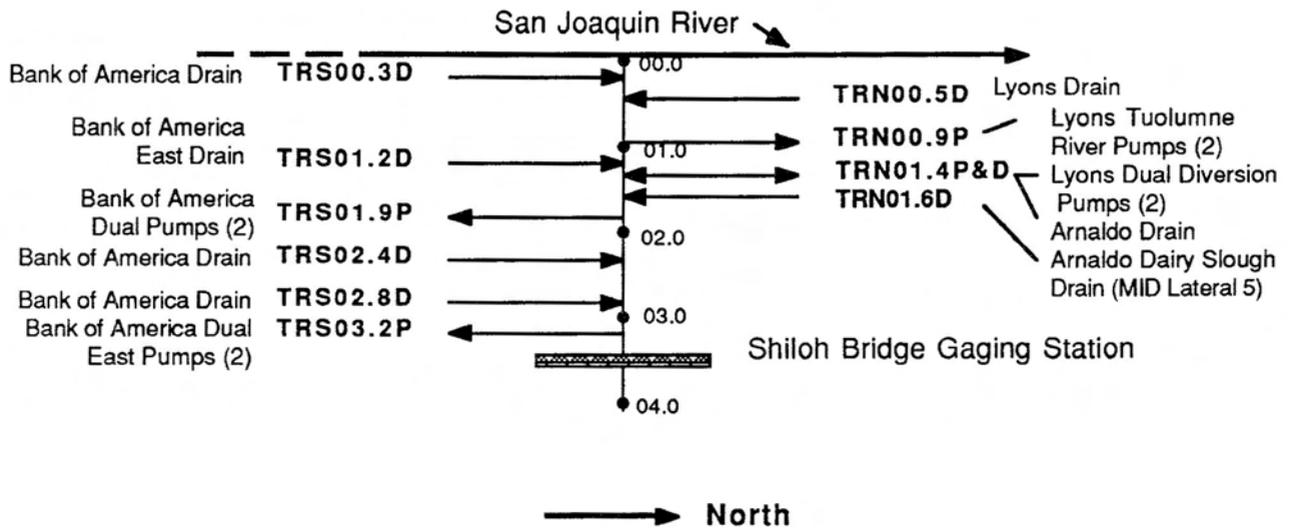


Figure A-2. Schematic Diagram for Water Diversions and Discharges on the Tuolumne River from the Gaging Station at Shiloh Road Bridge to the San Joaquin River (River Section 2).

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS0.3D

Site Name: B of A Drain

River Mileage: 0.3

Site description, location and access: White discharge pipe, 8" diameter, only 1' long on crop side of road, only about 4' long on river side of road. Area drain receives tail water from farm land on flood plain. Access via Shiloh Road to levee.

Township/Range/Section: SW 1/4, NE 1/4, NW 1/4, Section 11, T4S, R7E (DWR #4S/7E-11C)

Latitude/Longitude: 37° 36' 22"/121° 10' 7"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRN0.5D

Site Name: Lyons Drain

River Mileage: 0.5

Site description, location and access: Washed out pipelines of tail water discharge drains. No access.

Township/Range/Section: NE 1/4, NE 1/4, NW 1/4, Section 11, T4S, R7E (DWR #4S/7E-11C)

Latitude/Longitude: 37° 36' 29"/121° 10' 3"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRNO.9P

Site Name: Lyons Tuolumne River Pump

River Mileage: 0.9

Site description, location and access: Fifty (50) Hp diversion pump in square cement frame. Access via Paradise Road to dirt road, two miles NW of Huntington Road, turn SW then turn SE at dirt road intersection. Travel to the levee then turn west (right) and drive along the levee to the pump.

Township/Range/Section: SW 1/4, NW 1/4, SW 1/4, Section 2, T4S, R7E (DWR #4S/7E-2K)

Latitude/Longitude: 37° 36' 50"/121° 10'

County: Stanislaus

USGS Quad Map: Westley

Meter Number: Modesto I.D. P406-64

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS1.2D

Site Name: Bank of America East Drain

River Mileage: 1.2

Site description, location and access: Eighteen inch (18') diameter pipe drains tail water to the river. EC 1800. Access via Shiloh Road to levee.

Township/Range/Section: SE 1/4, NE 1/4, SE 1/4, Section 2, T4S, R7E (DWR #4S/7E-2J)

Latitude/Longitude: 37° 36' 52"/121° 9' 36"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRN1.4P

Site Name: Lyons Dual Diversion Pumps

River Mileage: 1.4

Site description, location and access: Two (2) diversion pumps access via Paradise Road; turn SW on dirt road, 2 miles north of Huntington Road; turn SW at 4-way dirt road intersection and travel to levee. Wooden rail leads to pumps which are in an open shed and elevated above the river.

Township/Range/Section: NW 1/4, NW 1/4, SW 1/4, Section 1, T4S, R7E (DWR #4S/7E-1M)

Latitude/Longitude: 37° 36' 56"/121° 9' 30"

County: Stanislaus

USGS Quad Map: Westley

Meter Number: Modesto I.D. P411-113

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRN1.4D

Site Name: Arnaldo Drain

River Mileage: 1.4

Site description, location and access: Large pipe drain just east of pump TRN1.4P, reddish tint in discharged water. Access via Paradise Road, turn SW on dirt road .2 miles north of Huntington Road; turn SE at 4-way dirt road intersection and travel to levee.

Township/Range/Section: NW 1/4, NW 1/4, SW 1/4, Section 1, T4S, R7E (DWR #4S/7E-1M)

Latitude/Longitude: 37° 36' 56"/121° 9' 28"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRN1.6D

Site Name: Arnaldo Dairy Slough Drain (MID Lateral 5) **River Mileage:** 1.6

Site description, location and access: Slough discharge into river; site not accessed. Water at this site is mostly operational spill water from Modesto Irrigation District Lateral No. 5.

Township/Range/Section: SE 1/4, NW 1/4, SW 1/4, Section 1, T4S, R7E
(DWR #4S/7E-1M)

Latitude/Longitude: 37° 36' 49"/121° 9' 16"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRS1.9P

Site Name: Bank of America Dual Pump **River Mileage:** 1.9

Site description, location and access: Two diversion pumps, orange and blue, on a platform. Water discharges into a square concrete structure. Access via Shiloh Road to levee road.

Township/Range/Section: SE 1/4, SW 1/4, SW 1/4, Section 1, T4S, R7E
(DWR #4S/7E-1N)

Latitude/Longitude: 37° 36' 33"/120° 9' 18"

County: Stanislaus

USGS Quad Map: Westley

Meter Number: 35653
14110

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS2.4D

Site Name: Bank of America Drain

River Mileage: 2.4

Site description, location and access: Pipe discharges tail water from corn field, EC 2200. Access via Shiloh Road to levee.

Township/Range/Section: SW 1/4, NW 1/4, NE 1/4, Section 12, T4S, R7E (DWR #4S/7E-12B)

Latitude/Longitude:

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DISCHARGE SITE

SITE ID# TRS2.8D

Site Name: Bank of America Drain

River Mileage: 2.8

Site description, location and access: White pipe discharges tail water from corn field. Access via Shiloh Road, turn west on dirt road to levee road.

Township/Range/Section: SW 1/4, NE 1/4, NE 1/4, Section 12, T4S, R7E (DWR #4S/7E-12A)

Latitude/Longitude: 37° 36' 23"/120° 9' 2"

County: Stanislaus

USGS Quad Map: Westley

TUOLUMNE RIVER DIVERSION SITE

SITE ID# TRS3.2P

Site Name: Bank of America East Pumps

River Mileage: 3.2

Site description, location and access: Two discharge pumps, orange and blue, on pilings at the end of a walkway, above the river. Concrete standpipes at site. Access via Shiloh Road, travel west on dirt road to levee.

Township/Range/Section: NW 1/4, NW 1/4, SW 1/4, Section 7, T4S, R8E (DWR #4S/8E-7M)

Latitude/Longitude: 37° 36' 5"/120° 8' 18"

County: Stanislaus

USGS Quad Map: Westley

Meter Number: TID 56052
TID 56053