

## Geog 647: Water Resources – Field Trip Itinerary, 2008

### Friday, May 2

**7:15 am** Meet in SFSU's Lot 2\*, a small parking lot at the corner of 19<sup>th</sup> Avenue and Holloway Avenue. Load cars, put food in ice chests, etc.  
(Emergency contact: Nancy's cell = 650/302-0904.)

**\*NOTE: DO NOT LEAVE A VEHICLE PARKED HERE.**

**8:00 sharp** **Depart for Marysville:** Take 19<sup>th</sup> Ave south to Brotherhood Way east. Brotherhood to **Aleman Blvd.** Turn left, stay in the left lane. Enter **I-280** and proceed to **I-80** and across the **Bay Bridge**. Stay on I-80 towards Sacramento, approx. 85.8 miles. Approximately 10 miles past Davis exits, follow **I-80 toward Reno**. In about 4 miles, take **I-5 North/Hwy 99 North toward Marysville**. In about 34 miles, **take Hwy 70 toward Marysville**.

*Marysville was named after Mary Murphy Covillaud, a survivor of the Donner Party. Its levees (you're driving on them) were begun after hydraulic mining tailings raised the riverbed 20 feet. Marysville became a "walled city" at the confluence of the Yuba and Feather rivers. Its dikes now stand 35' above city streets. In 1955, a flood killed 40 people here; the tragedy increased support for the construction of Oroville Dam. Rice grows on poorly-drained soils in this region.*

Follow Hwy 70 across the river into Marysville.

**Stay on the highway when it turns RIGHT at 9th Street (@ Carl's Jr.)**

At the next light, turn **LEFT on D Street**.

Go north to 14th Street. **Turn left on 14<sup>th</sup> Street and park.**

Yuba County Water Agency is on the NW Corner of D & 14th Street, in a two-story gray house. Restrooms and cool drinks await us inside.

**11:00 am** **Bag lunch and orientation to Yuba County Water Agency facilities.** *They'll supply cold drinks and cookies. Yuba County Water Agency is responsible for flood hazard management, agricultural water supply and hydroelectric power generation.*

*Time permitting: visit Oroville's Joss house dedicated to the worship of Bak Kai, god of dams, levees and waterworks. A **Joss house** or **Miu** (廟) is a place for worshiping supernatural beings from Taoist, Buddhist and Confucian traditions. In western North America during frontier times, joss houses were established by villagers or fishermen to pray for good luck.*

*We'll have a talk on flooding, dam reoperation and energy issues by Steve Onken, Power Systems Manager (530-692-3400/sonken@ycwa.org) and visit Charlie Mathews' rice dryer and Pat Marmon's duck egg rescue facility.*

**3:00 pm**      **Depart Marysville for Oroville SRA:** Return to Hwy 70 northbound.

*Be the first in your car to spot Oroville Dam, which looks like a big flat-topped ridge between two hills. The four peaks clustered to the west are the Sutter Buttes – the eroded remnants of ancient volcanoes.*

*Twelve miles north of Marysville on the Feather River is Oroville, a gold rush town where dredging operations on the Feather River yielded \$30 million in gold between 1898 & 1918. One dredge company allegedly offered to move and rebuild the entire town if it could have the right to mine the gold-bearing gravel beneath it.*

Take the **Oroville Dam Blvd** exit from Hwy 70.

Turn **RIGHT on Oroville Dam Blvd.**

Proceed 1-1/2 miles to the AM-PM Market. Turn **RIGHT on Olive Hwy (Hwy 162.)** Proceed to **Lake Oroville SRA Visitor Center.**

**4:00 pm**      **Meet John Ford, State Water Project Tour Dir, (530/534-2303/2306, [jford@water.ca.gov](mailto:jford@water.ca.gov))** Film of dam construction and hydrology, tour exhibits, drive across **Oroville Dam.**

*At 770' tall, **Oroville Dam** (1968) is the tallest dam in the US. It spans 6,920 feet across the crest and was built of 80 million cubic yards of tailings--enough to build a two-lane highway around our planet. Its powerhouse's six generators produce up to 678,000 kw, enough to power the cities of Sacramento & Oakland. **Lake Oroville** stores 3.5 maf of **Feather River** water for release to the Sacramento River and the **State Water Project** pumps in the Delta. The **California Aqueduct** carries water for San Joaquin Valley irrigation and municipal use as far south as San Diego.*

**Thermalito Diversion Dam** and related downstream facilities allow water to be pumped back into Lake Oroville for peaking power generation. Thermalito also warms irrigation water for application to rice fields.

Return to Olive Highway. Turn **LEFT** into Loafer Creek Campground. We have Gray Squirrel and Quail Group Sites (prepaid \$67.50 ea, **confirmation** #2-2000372 and 2-2247991.) Visitor Center: 530/538-2200. (Reservation = RAICA Parks Host 800-444-7275; Ranger Paul Holman 530-538-2297.) **Make camp, eat dinner, relax. Max. 25 people and 8 vehicles per site.**

## **Day Two: Saturday, May 3**

**8:00 am**      **Reveille. Breakfast, pack a bag lunch.** Shower if you have time (you'll need several quarters.) **Break camp, pack vehicles.**

**9:00 am**      **Depart for Feather River Fish Hatchery** (approx driving time = 1/2 hr)  
Retrace steps. Turn **LEFT** on **Oro Dam Blvd (CA-162.)**

**9:30-10 am**    **Tour *Feather River Fish Hatchery*** (1967), built as a mitigation for loss of spawning areas beneath Lake Oroville. About 9,000 salmon & 2,000 steelhead are artificially spawned here every Fall. Young fish hatch in incubators and live in raceways until large enough for release. Their instincts will guide them back to the hatchery when they mature.

**10:30 am**      **Depart for *Tehama County River Park***  
Take **MONTGOMERY ST** to **CA-70 N**.  
Stay on **CA-70 N** 5.7 miles to **CA-149**.  
Take **CA-149** 4.6 miles to the **CA-99 N** exit. Stay straight.  
Take **CA-99 N** 45 miles to Vina. Take South Avenue towards Woodson Bridge State Recreation Area. The County Park is across the street.

**11:30 am**      **Arrive at Tehama County River Park. Rest stop and lunch.**  
The 14-acre Tehama County River Park is located on the inside curve of a very sharp bend in the Sacramento River, at approximately River Mile 218-L, 6 miles east of Corning

*The adjoining SRA protects native riparian forest that is winter home to the Bald Eagle, summer nest site for the Yellow Billed Cuckoo, and displays some of the last remaining riparian habitat to be found in California. Over 100 plant species occur in the area; most prominent is the Valley Oak. We stop at the county park because it's free, and because it provides better access to the river.*

**12:30 pm**      **Depart for Whiskeytown.**  
**Return to CA-99 N and proceed about 5 miles to I-5 N.**  
Proceed 28.7 miles, stopping for gas/rest rooms if needed.

Take **CA-299 W/HILLTOP DR/CA-44 exit** towards  
EUREKA/LASSEN PARK/CENTRAL REDDING/  
WEAVERVILLE. **Keep LEFT at the fork in the ramp.**  
**Merge onto CA-299 W.** It's 8 mi. to **Whiskeytown Visitor Center.**

*Whiskeytown Reservoir (CVP) stores **Trinity River** water delivered from Claire Engle Lake via a tunnel through the Trinity Mountains. From here, water flows down the Sacramento to the Delta. Before the CVP, this*

*water would have flowed to the Pacific via the Klamath River, a north coast stream.*

**3:30 pm**      **Meet Jim Milestone, Head Ranger & SFSU Geography M.A.** (530-242-3460/945-6123 cell/Jim\_Milestone@nps.gov), at **Whiskeytown NRA Visitor Center**. Tour a dam removal project & discuss restoration and recreation issues. Hike to Whiskeytown Falls.

**6:00 pm**      **Proceed to Dry Creek Group Campground. Lower site.** Direction to be provided by Ranger. **Make camp. Make dinner. Relax.**

### **Day Three: Sunday, May 4**

**7:00 am**      **Reveille. Breakfast, pack lunch and break camp.**

**8:30 am**      **Depart for Shasta Dam** (approx 18 miles, 35 minutes)  
Turn left (east) **on CA-299** (back towards Redding.)

Proceed through Shasta City. Turn **LEFT** on **Iron Mtn Road**.

*The Iron Mountain mine produced iron, silver, gold, copper, zinc and pyrite until its closure in 1963. Mining exposed minerals in the mountain to surface water, ground water and oxygen, producing the most acid mine drainage ever measured. Until 1994, when a treatment plant went online, the mine was draining an average of one ton of toxic metals daily into streams that flow to the Sacramento River. A settlement in 2000 provided half a billion dollars for cleanup over the next 30 years. The EPA expects cleanup to cost a billion dollars and take much longer.*

**Turn RIGHT** on **Keswick Dam Blvd.** Cross Keswick Dam.

**Turn LEFT** on **Lake Boulevard.**

Proceed to Shasta Dam. Park in the Visitor Center parking lot.

**10:00 am**      **Film Presentation on Shasta Dam (“Golden Valley”)**

**11:00 am**      **Tour Shasta Dam. (Hal @ 530/275-4463)**  
*Shasta Dam, 600 feet tall, completed in 1938. Tallest dam in the world when it was completed. Lake Shasta is the CVP’s and the state’s largest reservoir: 4.5 maf. Water released through the dam’s turbines flows down the Sacramento River. Shasta power helps subsidize the CVP’s pumps at Tracy, which lift water nearly 200 feet into the **Contra Costa Canal** and the **Delta-Mendota Canal**.*

**12:00 noon**      **Picnic lunch at the Visitor Center; cold drinks available for purchase.**

**1:30 pm**      **Depart for home via I-5, I-505 and I-80. Meet up at SFSU’s Lot 2.**