

STREAM SURVEY

Name: Bidwell Creek

County: Sonoma

Stream Section: Complete. From: Mouth. To: Headwaters.

Length: 5 miles.

Tributary to: Franz Creek

Township: 9N Range: 8W Section: 24 SE

Other Names: Unknown. River System: Russian River

Sources of Data: Personal observations of Charles Pinkham and conversations with local residents.

Extent of Observation: The stream was surveyed on foot on August 20 and 23, 1976

Relation to Other Waters: Bidwell Creek is the major tributary to Franz Creek.

GENERAL DESCRIPTION

Watershed and Immediate Drainage Basin: Bidwell Creek heads in the moderately steep Mayacmas Mountains. The stream discharges in a southerly direction for 1½ miles—thence easterly through the flat land of Knights Valley to it's mouth. Most of the four square miles of drainage basin lies within the grassy-woodland and vineyards of Knights Valley, while oak savannah predominates in the headwaters. The sparse riparian canopy covering the streambed consists primarily of oak, bay, and alder.

Altitude: Headwaters, 1100 feet. Mouth, 360 feet.

Gradient: Moderate in the headwaters above Foss Hill Road, averaging seven feet per 100 feet of stream. Slight from Foss Hill Road down to the mouth, averaging one foot per 100 feet of stream.

Width: Narrow in the mid-section near the Spencer Lane road crossing while large, long pools were frequent near the mouth. Range: 1 to 15 feet. Average: 4 feet.

Depth: A few inches to two feet, averaging four inches.

Flow and Velocity: Most of the upper reaches of the creek and tributaries were dry. A streamflow of 0.32 cubic feet per second as measured with a Pygmy Flow Meter was recorded 1-¾ miles upstream from the mouth. The source of streamflow was believed to be a non-mandatory bypass release from a reservoir on the second unnamed tributary.

Bottom: The headwaters above Foss Hill Road averaged 50% boulder, 40% rubble, 5% gravel, and 5% silt. The remaining 3½ miles of stream were generally 25% boulder, 35% rubble, 15% gravel and sand, and 25% silt.

Spawning Areas: Potential spawning areas appeared to be minimal in the headwaters due to the lack of gravels, low streamflow, and rocky barriers. In the lower 1½ miles of the stream gravels appeared fair for spawning purposes.

Pools: Pool formation was best developed in the lower section of the stream. The pools averaged 50 feet long, 12 feet wide, and 1½ feet deep. The pool to riffle ratio was about three to one in this lower section. Little pool formation was noted elsewhere.

Shelter: Adequate, composed of undercut banks, overhanging vegetation and boulders.

Barriers: A bedrock falls 12 feet in height, was found 4½ miles upstream from the mouth. This falls stops all upstream steelhead migrations. A concrete dam (considered to be a partial barrier) was found about four miles above the mouth. The dam was 3½ feet high. Three dams and reservoirs were found in the headwaters of the unnamed tributaries.

Diversions: The three reservoirs located in the headwaters of the unnamed tributaries divert water for frost protection purposes, to vineyards during the late winter and early spring months.

Temperatures: Air temperature, 80°F.; water temperature, 64°F.

Food: Fairly abundant. Adult dipterans and stonefly larvae appear to be the dominant forms.

Aquatic Plants: Duckweed and algae was plentiful.

Winter Conditions: Generally, the winter water level would appear to be about three feet higher than summer levels.

Pollution: The stream has been adversely impacted by siltation and pollution associated with livestock use.

Springs: None observed.

Fishes Present and Success: Although no steelhead were observed in the creek, conversations with local residents supported by photographs of fish taken from the stream serves as evidence that steelhead once flourished in Bidwell Creek. Green sunfish and roach were plentiful along the watered portions of the drainage. Green sunfish generally numbered about 75 fish per 100 feet of stream, while the roach population averaged 200 fish per 100 feet of stream.

Other Vertebrates: Cattle, deer, dove, turtles, Western fence lizards, newts and frogs.

Fishing Intensity: Unknown.

Other Recreational Use: Unknown.

Accessibility: The headwater region is accessible off Highway 128. The
raid- and lower sections can be reached from Spencer Lane and Franz
Valley Road.

Ownership: Private ownership.

Posted or Open: Posted.

Improvements: None observed. Bypass flows from the three reservoirs
during the summer months would definitely improve steelhead nursery
habitat.

Past Stocking: Unknown.

General Estimate: Bidwell Creek may be regarded as a once viable
anadromous stream. The condition of the stream was poor,
demonstrating little if any anadromous fishery value.

It appears that successive diversions and impoundments of water
have permitted a buildup of siltation from agricultural
developments. In addition, channelization and the drought this year
has had an adverse affect upon the stream.

Recommended Management: Management as an anadromous stream is not
recommended. The stream should be managed for contribution of
discharge to Franz Valley Creek.

Sketch Map: See Attachment.

References and Maps; U.S.G.S. 7½ minute series, Mark West Springs
Quadrangle, 1958.

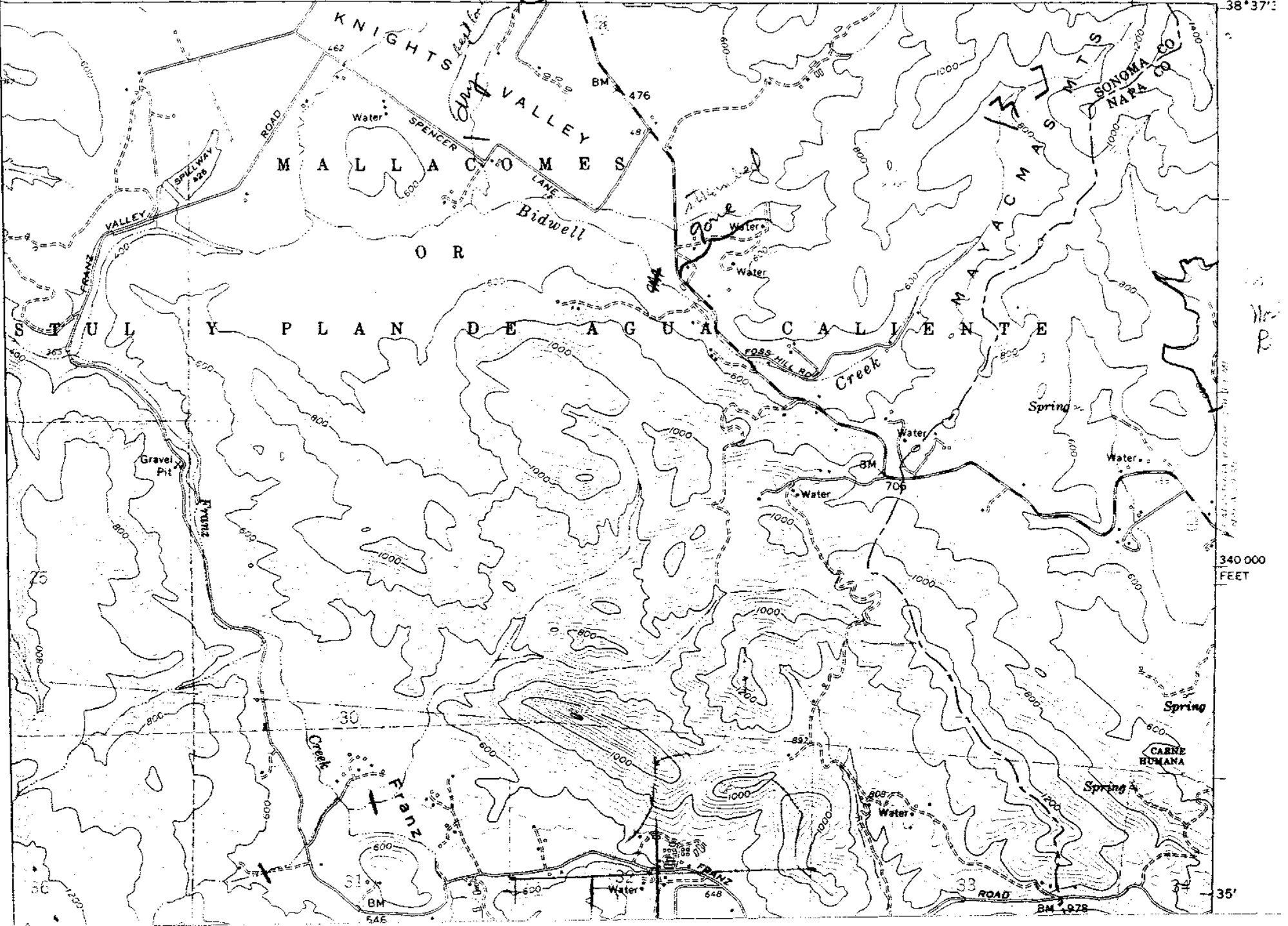
O. BANKS, DIRECTOR OF WATER RESOURCES

(MOUNT ST. HELENA)

7.5 MINUTE SERIES (TOPOGRAPHIC)
SW/4 CALISTOGA 15' QUADRANGLE

1 820 000 FEET

122°37'30"
38°37'0"



340 000
FEET

35'

IDET

No. B