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December 21, 2016

Indian Wells Valley Stream Monitoring Report **November 25, 2016 - Field Activities and Data Interpretation**

Conclusions and Recommendations

Sand Canyon

1. No surface flow of water in Sand Canyon Creek at recording station between 4/21/16 and 11/25/16.
2. No water was present in the stilling well below the elevation of the spilling point of the standard weir.
3. Download data from stream recording device. No stream flow recorded.
4. De-activate paper recorder (30 day limit), Digital recorder is still active.
5. Cannot calibrate paper chart to staff gage and digital encoder until there is stream flow.
6. Data from the digital data recorders (transducers) has not been delivered to me, this data needs to be analyzed and incorporated into the historic data set.
7. Data from years 2007 through 2012 need to be obtained from the Kern County Water Agency and incorporated into the IWV Stream database.

Grapevine Canyon

1. No surface flow of water in Grapevine Canyon Creek at recording station between 4/21/16 and 11/25/16.
2. Reactivated the Stevens A style recorder.
3. Installed the Standard Sharp Contracted Rectangular Weir in the northern culvert that had been removed in 2011 due to high flows in the creek.
4. **NOTE:** The Standard Sharp Contracted Rectangular Weir was removed by the property owner on 11/29/16 due to concern of damage to bridge if flooding occurs.
5. This station uses a mechanical clock that must be wound at least once per month. The property owner has agreed to keep the mechanical clock wound. It is recommended that this recording unit be re-fitted with an electronic clock like the one at Sand Canyon. Battery life is typically one year.
6. Data from the digital data recorders (transducers) has not been delivered to me, this data needs to be analyzed and incorporated into this report.
7. This recording station uses a combination of a Standard V-notch Weir and Standard Sharp Contracted Rectangular Weir. These weirs were placed on the two 24" Corrugated Metal Pipe (CMP) that run through the concrete bridge over the creek. At some point after 11/01/12, the property owner removed the Standard Sharp Contracted Rectangular Weir as streamflow

threatened to overtop the bridge. This weir needs to be re-installed sometime before flows are predicted for the creek. See note on item 4.

8. Data from years 2007 through 2012 need to be obtained from the Kern County Water Agency and incorporated into the IWW Stream database.

Field Activities

Sand Canyon: (Lat. 35.775978 Long. -117.907538 Elev. 2869 ft. above mean sea level (amsl) [Google Earth])

Date: 11/25/16

Personnel: Tom Haslebacher, Hans Haslebacher.

Arrive Sand Canyon at approximately 1047 hrs. Drive past monitoring station to pond downstream of Old LA Aqueduct. Water in pond appears stagnant with great algal growth. Does not appear to be surface flow downstream of pond. Small springs on north side of road are dry.

Stilling well dry. Download data from stream station. No streamflow recorded. Deactivated paper recorder (30-day limit on paper). Digital recorder is still active.

Grapevine Canyon (Lat. 35.733084 Long. -117.916723 Elev. 3174 ft. amsl [Google Earth])

Date: 04/21/16

Personnel: Tom Haslebacher, Hans Haslebacher

Arrive Sand Canyon at approximately 1151 hrs. Install Standard Sharp Contracted Rectangular Weir in northern culvert. Reactivated Stevens A style recorder. No surface flow in creek.

Note: Standard Sharp Contracted Rectangular Weir was removed by owner of property on 11/29/16 due to concern of possible flood damage to bridge in the event of flooding.

Data Interpretation and Analysis

Sand Canyon, 24-inch/ Standard Sharp Contracted Rectangular Weir
Stream dry, no interpretation or analysis

Discussion:

Note: Stream recording stations do not record flow. The stations record the height of the water above a horizontal crest(H) of known length (L). In the case of Sand Canyon, the weir was set up to handle low flows across a weir of 24-inches length and also higher flows across a length of 48-inches. The height value is averaged over a 24-hour period and entered into a spreadsheet that calculates the flow for each 24-hour day (midnight to midnight). Additionally, peak flows are recorded as these are important for flood control planning. The formula for calculating flow for a "Standard Sharp Contracted Rectangular Weir" is:

$$Q=3.33 H^{3/2}(L-0.2H)$$

Where:

Q=flow in cubic feet per minute (cfs), and

H=gage height in feet.

L=weir length in feet.

(Water Resources Manual; US Dept. of the Interior, 1984)

Note: The formula for the Sand Canyon Recording Station is programmed to compensate for when the water level (H) exceeds .556 feet at which time the flow is both through the 24-inch weir and also through a 48-inch weir.

Grapevine Canyon, Standard 90° Contracted V-Notch Weir

Stream dry, no interpretation or analysis

Discussion:

Note: Stream recording stations do not record flow. The stations record the height of the water between the apex of the V notch weir and the surface of the water. The height value is averaged over a 24-hour period and entered into a spreadsheet that calculates the flow for each 24-hour day (midnight to midnight). The formula for calculating flow for a "Standard 90° Contracted V-Notch Weir" is:

$$Q=2.49 H^{2.48}$$

Where:

Q=flow in cubic feet per minute (cfs), and

H=gage height in feet.

(Water Resources Manual; US Dept. of the Interior, 1984)

Attachments

No Attachments