

## Field Activity Advisory Soil Surveys, Hydraulic Conductivity and Staff Gage Surveys May 2, 2016

The San Joaquin River Restoration Program plans to conduct existing conditions technical studies along the length of Reach 4B and portions of the Mariposa and Eastside bypasses as part of efforts to inform development project alternatives and revegetation plans for the Reach 4B, Eastside/Mariposa Bypass Channel and Structural Improvements Project. These studies include soil testing, hydraulic conductivity testing, and installation of staff gages and are anticipated to continue through November 2016.

**Who:** Bureau of Reclamation.

**What:** Soil testing includes collection of soil samples at various intervals to a depth of five feet. Most samples will be collected via a hand auger, with a portion collected by a track-mounted drill rig. Several surface soil samples will be collected within a 100 foot diameter of this location. All samples are sent to a commercial soil testing laboratory for analysis of soil texture, engineering and vegetation properties. Results of soil tests are provided to participating landowners upon request.

Approximately 10 percent of the soil sampling sites will also receive hydraulic conductivity tests to determine the soil's water infiltration rate. The tests will consist of a double infiltration permeameter study, a test that features insertion of two steel casings to a depth of three inches. Water is pumped into both rings over a 24-hour period, with the rate of water infiltrating within the central ring providing the test data. Test may occupy up to eight square feet and all bore holes are backfilled upon completion.

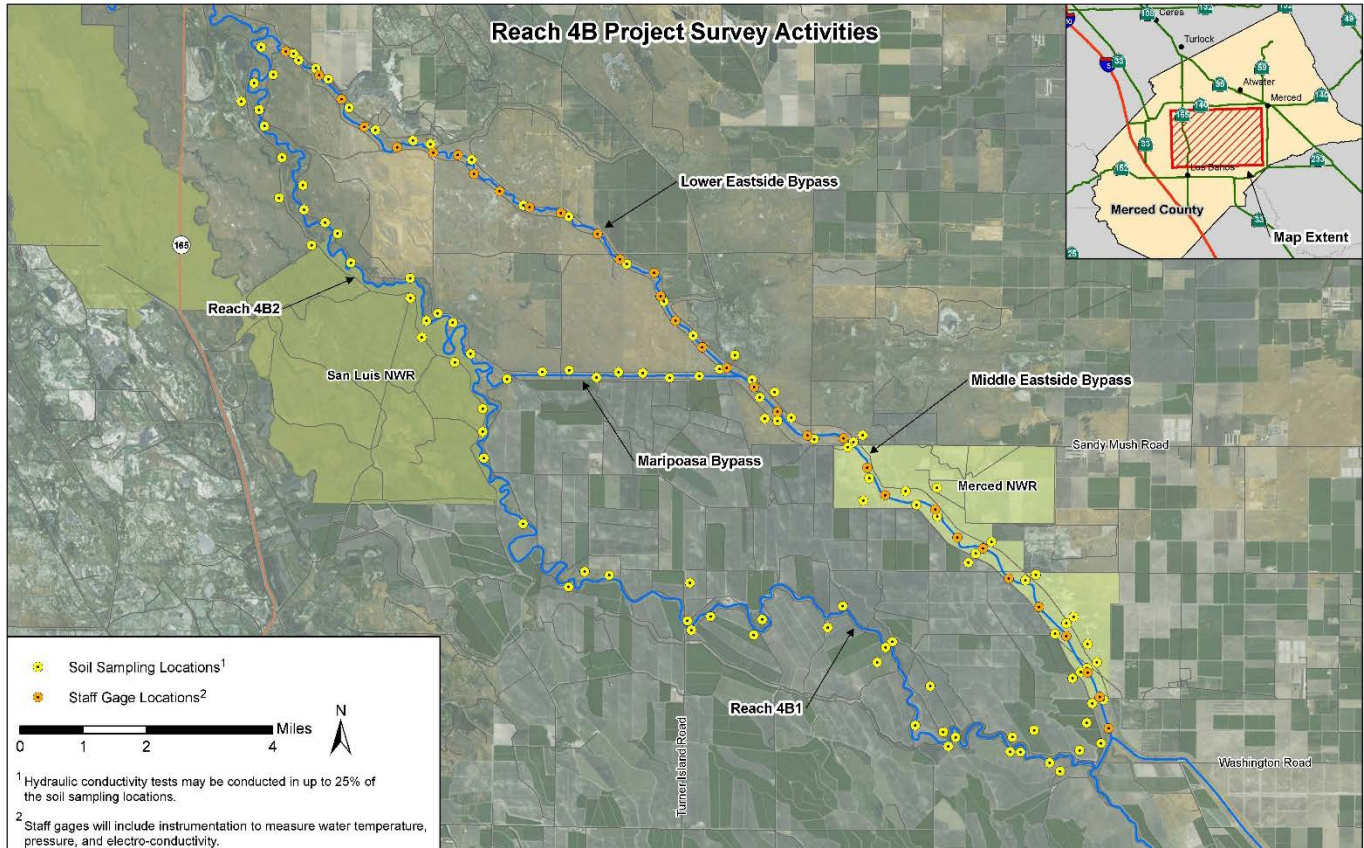
Staff gages are planned for installation at various locations in the Eastside Bypass between Washington Road and Reach 5. The staff gages will be fitted with piezometers and constructed from 2-inch diameter PVC pipe, steel drive-points, and PVC caps. Each will be manually installed in the stream bed with a hand-held slide hammer to three to seven feet. Each piezometer will be screened at various depths to monitor subsurface and water column conditions. Following installation, some piezometer staff gages may be fitted with water temperature sensors.



Track-mounted drill rig creating a bore hole for soil sampling and hydraulic conductivity testing (left), and ring permeameter test (right).

**Where/When:** Potential locations for these surveys are identified in Figure 1. Planned locations include Reach 4B, which starts at the confluence of Sand Slough and continues through to the confluence of Bear Creek, the Mariposa Bypass, and the Eastside Bypass from Sand Slough to the Bear Creek confluence of the San Joaquin River. All locations are subject to change in coordination with private landowners and managers of San Luis National Wildlife Refuge. Soil and hydraulic conductivity testing, and staff gage installation is anticipated to start in June and continue through November.

Figure 1: Proposed locations for soil and staff gage studies.



Questions about the SJRRP's field activities on public and private land should be directed to the SJRRP Outreach Coordinator or Landowner Coordinator using the information provided below.

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**Contact the SJRRP Hotline, 916-978-4398, or email [RestorationFlows@restoresjr.net](mailto:RestorationFlows@restoresjr.net) if you see any problems or have any concerns.**

**For more information, please visit the SJRRP Web site at [www.restoresjr.net](http://www.restoresjr.net).**

**Field Advisories for activities are available at [www.restoresjr.net/activities/field/index.html](http://www.restoresjr.net/activities/field/index.html)**