



News for Immediate Release  
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**DWR Monitors Twitchell Island Sinkhole**

SACRAMENTO -- Department of Water Resources (DWR) personnel are monitoring a small sinkhole discovered yesterday in the south (San Joaquin River) levee on Twitchell Island in the Sacramento-San Joaquin Delta.

Engineers for Reclamation District 1601 are leading the repair effort with funding and technical assistance from DWR. An emergency berm approximately 200 feet long, 50 feet wide, and about 3 feet high is already being constructed by the Dutra Construction Company using a barge-mounted crane to place 3,000 tons of aggregate material.

Preliminary repair cost estimates are \$180,000. Initial funding will be provided through DWR's Delta Subventions Program, with additional funding from Special Projects.

The sinkhole is in the levee crown, a few feet landward of the roadway centerline. Approximately three feet long (parallel to the roadway), the hole is about 8 inches wide. It could be probed to a depth of about three feet and appeared to widen as it got deeper. This type of sinkhole is commonly found with levee cracking and/or lateral movement. While no cracking was observed in this case, the levee was depressed a few inches for a distance of about 150 feet, centering on the sinkhole.

DWR engineers believe it's likely that subsurface lateral movement in the deep peaty foundation opened a crack and/or void below the surface which chimneyed up to the levee crown. This particular Twitchell Island levee reach has had previous stability problems and was buttressed in the early 1990's with dredge soil.

Part of Twitchell Island is owned by DWR. Although farming continues, some of the island is in a wetlands restoration program and organic carbon management research projects are being conducted there. Peat soils on Twitchell were gradually lost during the 20th century due to agricultural practices and much of the island is below sea level.

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The Department of Water Resources operates and maintains the State Water Project, provides dam safety and flood control and inspection services, assists local water districts in water management and water conservation planning, and plans for future statewide water needs.

[Back to Top of Page](#)

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