

EchoBoat Used for Delta Levee System Survey



The SEAFLOOR EchoBoat USV is on the job for the California Department of Water Resources (CADWR) and R.E.Y. Engineers surveying the fragile delta region levee system. The [EchoBoat](#) is Seafloor's 1.8m remotely controlled survey platform, which is also capable of autonomous and semi-autonomous operation. Integrated to the vehicle are a [Norbit iWBMSc multibeam echosounder](#) and a Velodyne Puck Lidar sensor. The laser-multibeam combination allows the customer to scan the levee structure for integrity above and below the water line simultaneously.

Since 1900, there have been over 160 levee failures in the Sacramento-San Joaquin River Delta. These numbers include multiple failures of a single levee structure. Levee failures, also known as breaches, can be caused by overtopping or structural failure. In January 2017 many levees were breached, this was mostly due to extremely high flow conditions from rainfall followed by rapid snow melt delivering tremendous amounts of water through the levees' structures. Several sections of the Levee system were identified by the CADWR as high risk for failure and a contract was let to R.E.Y. Engineers of Folsom, CA to survey the levee both above and below the waterline for integrity.