

HydroSuction Dredge

Cebadilla Reservoir, Costa Rica

Challenge

Cebadilla Reservoir provides daily storage for the 40 MW La Garita Hydropower Plant and provides daily storage for peak power production. Over time, approximately 300,000 m³ of cohesive sediments accumulated in the reservoir, with half of the deposits located in the live storage volume. The sediment build-up reduced valuable peak generation capacity and required an efficient dredging solution capable of removing cohesive sediments and organic material.



Sediment accumulation prior to dredging



SediCon HydroSuction Dredge in operation

Solution

SediCon supplied and demonstrated a customized HydroSuction Dredge equipped with high-efficiency water jetting, specifically designed for the reservoir sediment conditions. The floating platform was manufactured locally while the dredging equipment was supplied from Norway, allowing rapid mobilization and installation.

The gravity-driven dredging system delivers efficient removal of cohesive sediments with low water consumption while preserving normal reservoir operation.



Project Location

Project facts

Client: Instituto Costarricense de Electricidad (ICE)
Project: Cebadilla Reservoir
Location: Costa Rica
Technology: HydroSuction Dredge
Installed capacity: 40 MW
Annual production: 115 GWh
Reservoir volume: 500,000 m³

Results and benefits

- Removal capacity up to 120 m³/h
- Removes cohesive sediments
- Handles organic material
- Restores live storage capacity
- Low water consumption
- Rapid two-week mobilization

For more than 30 years, SediCon has developed and supplied proprietary sediment handling technologies from Trondheim, Norway. Our solutions for reservoirs, intakes, desanders and tunnels have been successfully implemented in hydropower projects in more than 20 countries across five continents.