

HYDRO DAMS & RESERVOIRS



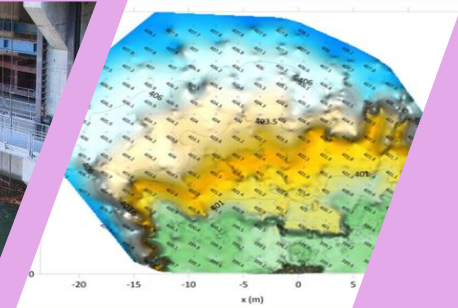
Sink Hole Survey



Cliff Face Survey



Rock Trap Survey



Rock Trap Survey Data

WE ARE AN INFRASTRUCTURE PRE-ENGINEERING FIRM
WE PROVIDE UNIQUE DATA & SURVEY SOLUTIONS

ESSENTIAL DATA FOR INTELLIGENT
DECISIONS



3D Sonar Survey through Ice, from a single position. This was a multi year study.

AquaCoustic
REMOTE TECHNOLOGIES INC.

- PLUNGE POOLS
- HEADPONDS
- TRASH RACKS
- INUNDATION STUDIES
- ROCK TRAPS
- SPILLWAY GATE SLOTS
- INTAKES AND INTAKE TOWERS
- PENSTOCKS
- SHAFTS, BOREHOLES

**SINCE 1993 OUR GOAL HAS BEEN TO PROVIDE
EASILY UNDERSTOOD DIGITAL SURVEY REPORTS**



Multi year
reservoir
inundation study

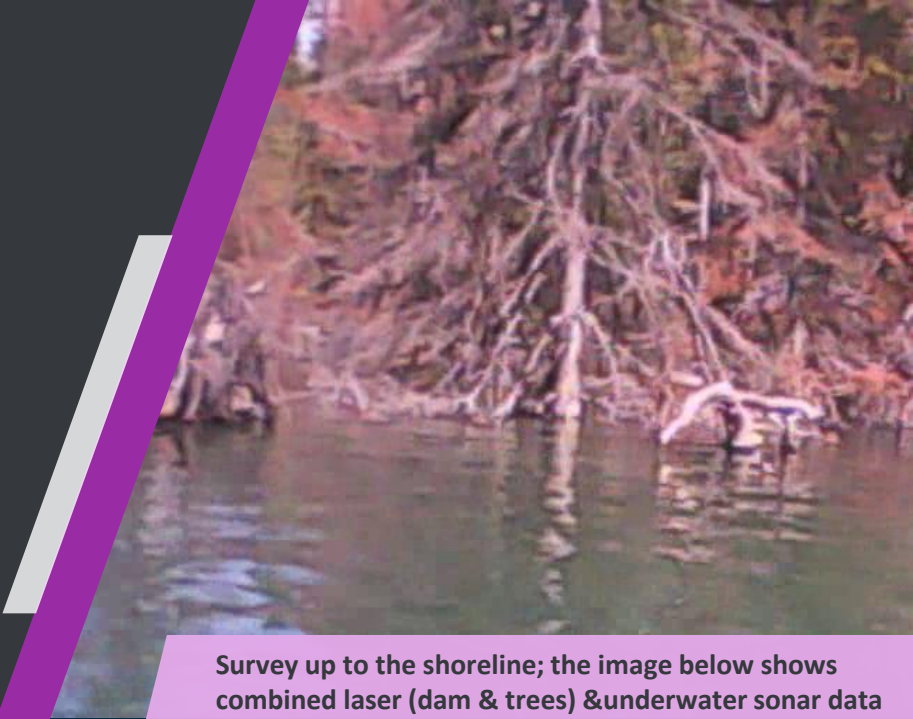
SENSORS CAN BE TAILORED TO FIT YOUR NEEDS

- Time of flight lasers to 10 mm accuracy for above water structures
- 3D laser systems for above water surveys, can be pole mounted
- Digital profiling sonars for below water surveys
- 3D profiling sonar systems used on a surface mounted pole or our underwater robot (ROV)
- Digital scanning sonars to image bottom conditions such as slides or debris
- RTK GPS for cm accuracy
- High-resolution, low light digital marine cameras
- Additional sensors are easily incorporated

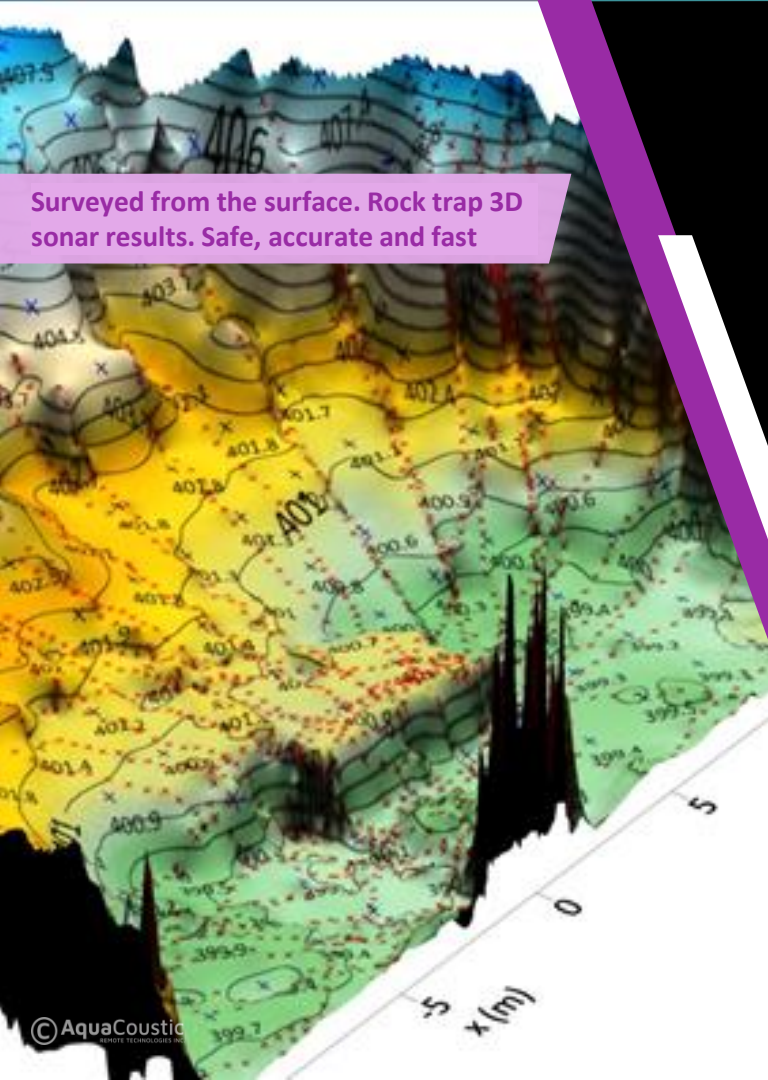
**ADD SPECIFIC SENSOR FOR MISSION CRITICAL
INFORMATION ON YOUR STRUCTURE**

HOW WE DELIVER THE DATA YOU NEED

- Our design team build innovative robotic systems to help position the sensors and solve challenging inspection and survey problems
- CAD drawings above and below the water line. We concurrently collect LiDAR above the water and SONAR below
- We can also combine the HD video with point cloud data
- Measure pipes, openings, trash racks to 1/2" accuracy
- Civil engineers have used our data to prioritize remedial work for fixed assets since 1993



Survey up to the shoreline; the image below shows combined laser (dam & trees) & underwater sonar data



Surveyed from the surface. Rock trap 3D sonar results. Safe, accurate and fast

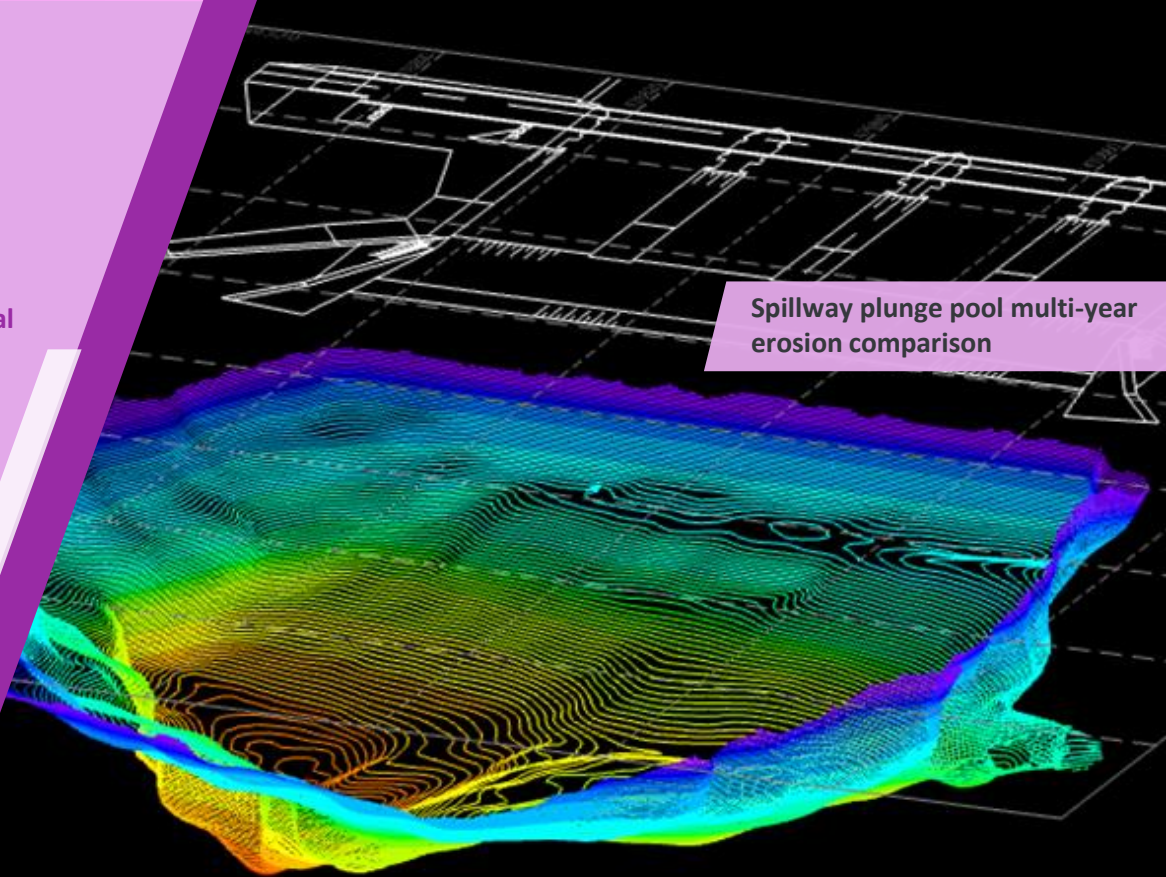
AVAILABLE WORK PLATFORMS

- 14' Achilles inflatable boat with electric or gas outboard motor
- Vessels of convenience
- Pole mounted systems deployed from the surface
- Six wheel drive amphibious vehicle
- Four wheel drive steerable tractors
- Inspection class ROV (robotic submarine)
- Fiber optics for clear images & high capacity data

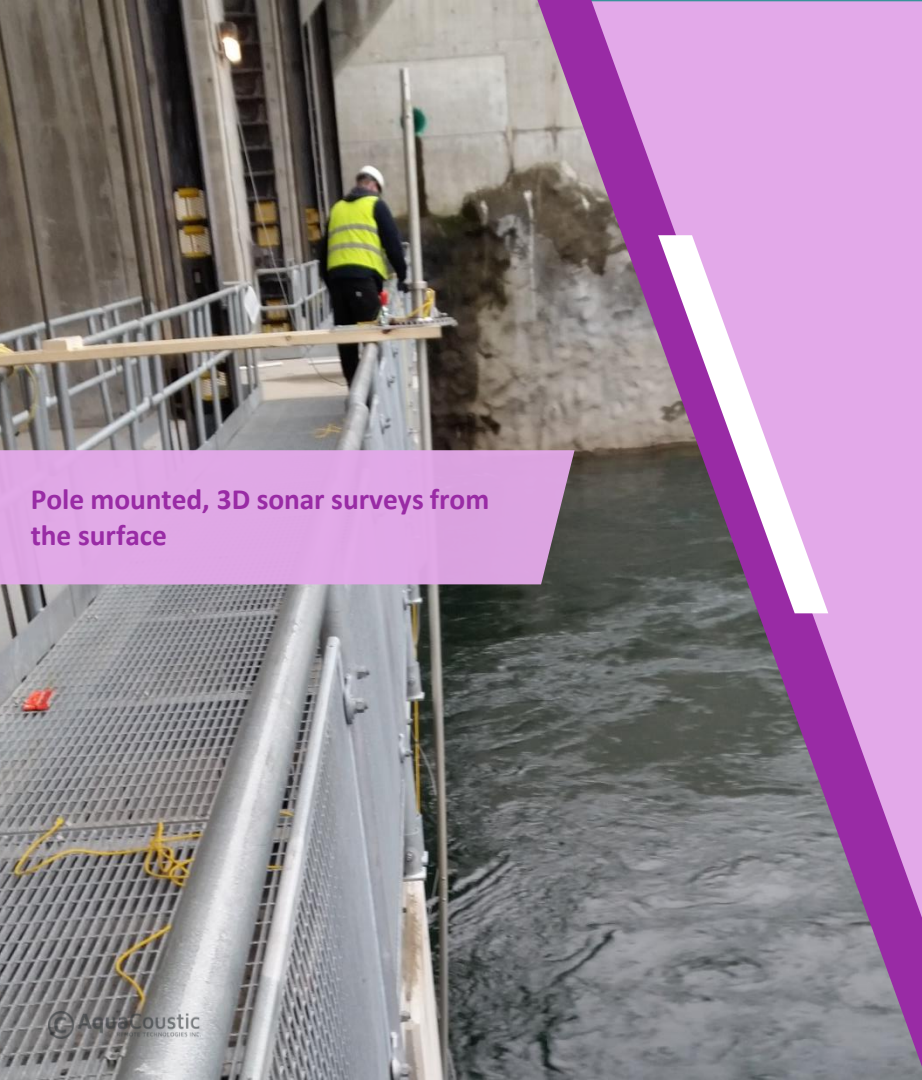
3D SONAR SYSTEM POLE MOUNTED

IN-HOUSE DESIGNED SONAR 3D ARM

- Horizontal & vertical positions are recorded using a Total station, local co-ordinates or RTK GPS on the service
- The system is typically pole mounted from the surface or underwater on an ROV
- Designed to pass through a 6" (150 mm) pipe or hole
- Receive detailed underwater 3D surveys
- Overlapping surveys are performed
- Depth rated to 5,000 ft. of water



Spillway plunge pool multi-year erosion comparison



Pole mounted, 3D sonar surveys from the surface

AQUACOUSTIC'S KEY POINTS

- We are a geomatics pre-engineering firm that develops unique data gathering solutions
- Our data helps engineers prioritize areas of concern and can be instrumental in reducing costs of repairs
- We design and build robotic systems to position our sensors accurately and develop software that transforms data into useful information
- We control the data from collection to deliverables without outsourcing; therefore, we respond to our client's input directly and completely
- Our technological solutions generate actionable information that reduces costs
- If you have any technical questions please phone or email us and we'd be happy to help with our 3 decades of experience

AREAS OF INFRASTRUCTURE INSPECTIONS

IF YOU HAVE A PARTICULAR INTEREST OR CHALLENGE, WE CAN DISCUSS SOLUTIONS ON THE PHONE OR WE CAN SEND ADDITIONAL INFORMATION ON THE FOLLOWING:

- ✓ Dams
- ✓ Bridges
- ✓ Tunnels
- ✓ Culverts
- ✓ Manholes
- ✓ Mine Stopes
- ✓ Ports & Marinas
- ✓ Large Diameter Pipes
- ✓ Traffic Control Plans
- ✓ Mine Tailing Ponds
- ✓ Shafts and Boreholes
- ✓ Specialty Sonar/Laser Surveys
- ✓ Pipe and Cable River Crossing Surveys
- ✓ Internal ROV outfall surveys, minimum diameter 450mm (18")
- ✓ Historical Video Re-coding to New Standards or AI Quality Control
- ✓ Processing Client Collected Sonar & Laser Data

AQUACOUSTIC CAN PLAY A SIGNIFICANT ROLE IN YOUR RISK MANAGEMENT STRATEGY



WHAT CAN WE DO FOR YOU



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Cliff face survey for a power
plant cooling water intake
structures