



AUWA was hired by Stanley Consultants of Tampa Florida to conduct an underwater investigation of the downstream dam apron of the Coon Rapids dam in Coon Rapids Minnesota. The investigation was conducted from November 22- 25, 2009.

The original dam at this location was built in 1913. It was constructed as an earth and concrete structure resting on wood and steel piles. Demand for hydro power dropped in the 1960s, and the dam was abandoned on December 31, 1966. The dam was taken over by the county park districts to be used as a regional recreation area. The dam and the overhead pedestrian bridge was removed and rebuilt over a two year period from 1995 to 1997.

The underwater imaging was conducted using the MS 1000 sector scanning sonar and was assisted by a surface supplied air diving team. The underwater imaging was conducted using the MS 1000 sector scanning sonar and was assisted by a surface supplied air diving team.

AUWA as able to identify all structural defects with the dam apron and the amount of sediment load on the dam apron. NMGI identified an area 120 feet X 150 feet that has structurally failed. The failure has caused the dam apron to become under mined.

The second component of the project was to image the scour hole under the dam apron and to determine the relative size of the undermined scour hole. The MS 1000 was placed in a previously known under mined location of the dam apron by a surface supplied air diver. In this scour hole two types of images were conducted i.e. plan view and vertical view. Imaging ranges of 22.5 to 45 feet were used to determine the size of the hole.

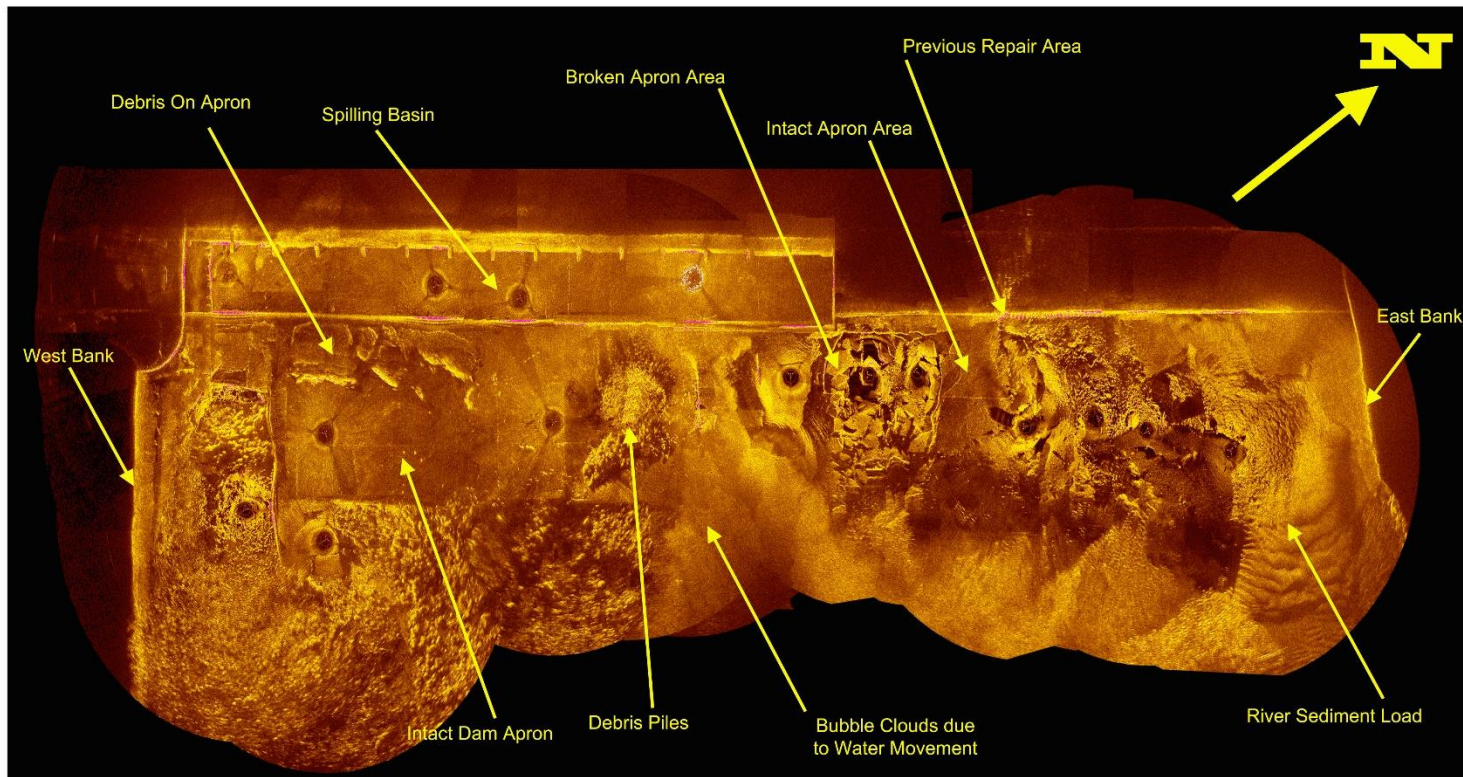


FIGURE # 1
Plan View of the Coon Rapids Dam Apron
Coon Rapids, Minnesota



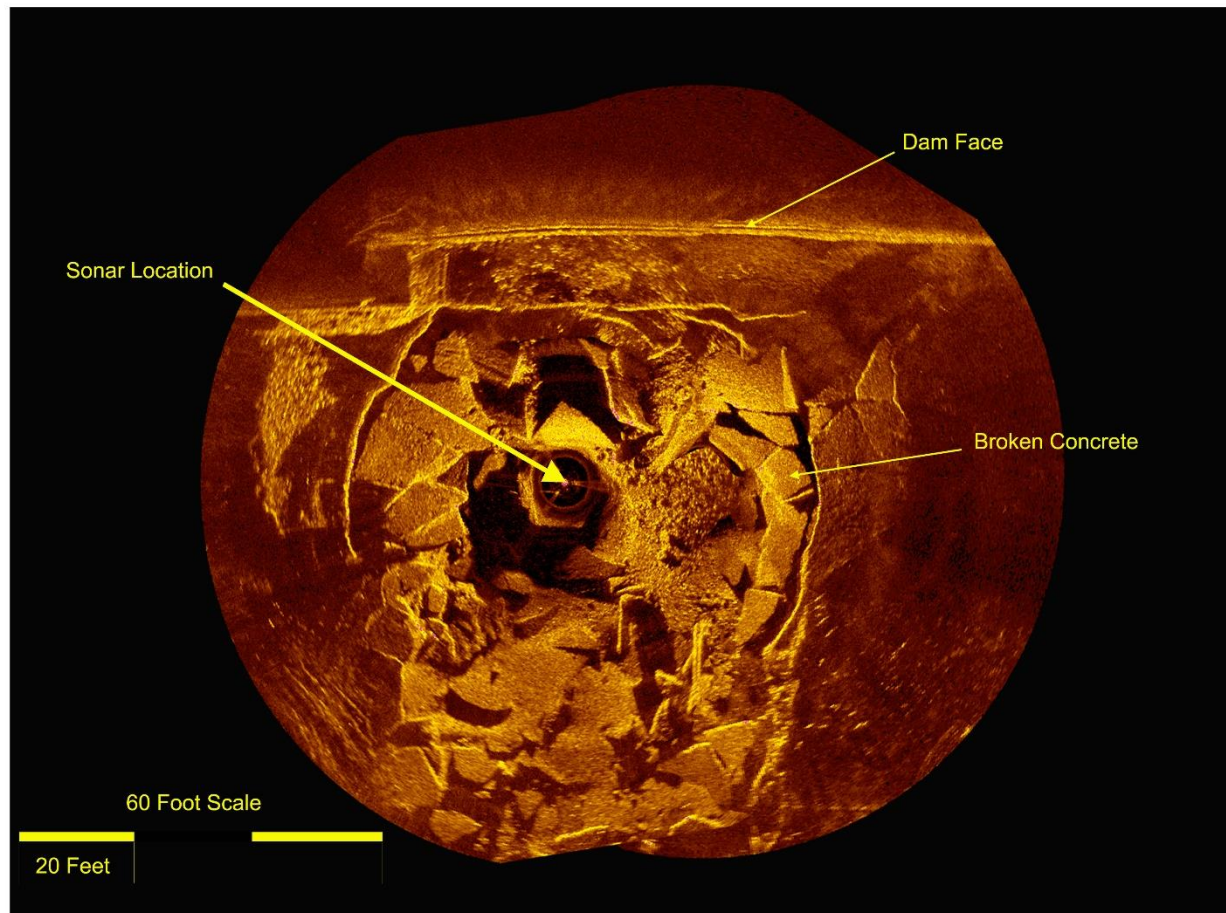


FIGURE # 2
Broken Apron Area of the Coon Rapids Dams
Coon Rapids, Minnesota