

NovelEsolutions

Engineering | Environment | Earth

USACE FY20 Water Quality Data

20 Louisville District Reservoirs

Relevant Services

Planning, Permitting and Compliance Surface Water Sampling Quality Control GIS Mapping

Challenges

Expedited field activities Rugged terrain and sampling conditions Daily field reporting

Contract Number W912QR20P0026

OVERVIEW

NovelE is conducting surface water sampling to support the Water Quality Team objectives of the Louisville District Water Quality Program. NovelE was contracted by the U.S. Army Corps of Engineers (USACE), Louisville District, to complete work activities consisting of four major components including scheduling, aquatic physical/chemical/biological data and sample collection, quality control, and reporting. This was a competitive Small Business Award to NovelE as Prime Contractor.

NovelE's utilized a multiparameter sonde system to measure water temperature, specific conductivity, turbidity, oxidation reduction potential (ORP), dissolved oxygen (DO), blue green algae (BGA) and chlorophyll and collect associated surface water samples. At reservoir sampling locations, NovelE measured water temperature, pH, specific conductivity, DO, turbidity, and ORP at one-foot increments beginning at the surface (0') to reservoir

bottoms of up to 90 feet. The water chemistry sample depth selection process was determined by characteristics of the thermocline. The thermocline is the portion of the water column through which water temperature changes greater than or equal to (\geq) 1.7 degrees Celsius (°C) over a 5 foot depth or \geq 0.34 °C over a 1 foot depth. The ability to identify the presence and extent of the thermocline throughout the water

column was imperative to proper sample collection. Water chemistry samples at reservoir stations were collected at three depths: one above the thermocline (AT), one within the thermocline (MT), and one below the thermocline (BT).

Sampling is currently ongoing with the eight Kentucky reservoirs completed by June 11, 2020. Four Ohio reservoirs will be completed in June with the remaining eight Indiana reservoirs completed in July 2020.



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