

# Fast-1 Completes 27 Day Sea Trial



FAST-1 platform in shallow water. (Darren Pitmann/ImagesEast Photo)

By Maurice Rees

In mid-July FORCE recovered FAST-1, an underwater monitoring platform, after a 27-day sea trial at the FORCE site, and analysis of sensor data is now underway. The Fundy Advanced Sensor Technology (FAST) program encompasses three separate underwater platforms, onshore radar, meteorological instruments, and a tide gauge. Headlining the program is FAST-1. At 4.5-tonnes and 4 metres in length, this platform is designed for frequent deployment and recovery to

enable instrument testing and monitoring.

The recovery was possible because a team comprised of staff at the Fundy Ocean Research Center for Energy (FORCE) working in concert with crew on the Dominion Victory successfully recovered an underwater monitoring platform, known as FAST-1.

The platform's current sensor array includes: Acoustic Doppler current profilers (ADCP) and the Vectron (measuring current speed and turbulence); Acoustic zooplank-

ton and fish profiler (assessing zooplankton and fish density and depth distribution); Water quality sensors (measuring water conductivity, temperature, and salinity); Optical sensor (measuring sedimentation size, distribution and volume concentration using laser diffraction); Tide, turbidity, and current sensors.

Orientation sensor (measuring pitch, roll and heading - crucial to platform placement and the analysis of all other instruments) includes the Aanderaa SeaGuard Platform, the Sequoia LISST, ASL Acoustic Profiler, Nortek Signature 500, and the TRDI Sentinel V s100.

Tony Wright, General Manager said, "These sensors will add to our understanding of site conditions, including the presence and vertical distribution of fish at the site, and help inform our research and monitoring programs as they continue to evolve."

"Many ocean sensors have not been designed to operate in extreme high flows like those at the FORCE site in the Minas Passage," said FAST lead Andrew Lowery. "The platforms are designed to help us advance our ability to capture data in these challenging, complex conditions."

The FAST program is in addition to FORCE's regulated environmental effects monitoring programs, which in 2016 focus on fish, lobster, marine mammals, seabirds, and marine noise.

Many companies and several Atlantic Canada universities have been involved in work with the FAST platform. A partial list of institutions and businesses and their contributions includes: ABCO Industries (Lunenburg, NS) - large platform construction; Acadia University - tidal current modeling; Acadia University (Wolfville, NS) - fish distribution analysis;

acoustic sensor work; Blue C designs (Halifax, NS) - custom onboard orientation technology with acoustic interrogation design; CulOcean Consulting (Halifax, NS) - hydrodynamics (currents, turbulence, and wave) analysis; Dalhousie University (Halifax, NS) - sediment analysis; Dalhousie University, (Halifax, NS), and Memorial University (St. John's, NL) - acoustic Doppler instrumentation innovation (the Vectron)

Other companies participating include: Dominion Diving (Dartmouth, NS) - project component mobilization and assembly; Dynamic Systems Analysis (Halifax, NS) tidal flow loadings and platform deployment modeling; Earle MacAloney Excavation Ltd. (Parrsboro, NS) on-land platform management; EMO Marine Technologies Ltd. (Dartmouth, NS) - fibre optic system design and build; JASCO Applied Sciences (Dartmouth, NS) - passive acoustic science and technology.

Platform final design was provided by Lenkeek Vessel Engineering (Dartmouth, NS) while Ocean Networks Canada (Victoria, BC) provided initial concept development, ongoing online data management; OceanMoor Technical Services (Falmouth, NS); OceanWorks International (Vancouver, BC) - preliminary design of FAST-1 platform and recovery system; Open Seas Instrumentation (Musquodoboit Harbour, NS) - FAST-2 platform design and construction; Seaforth Geosurveys Inc. (Dartmouth, NS) - platform deployment location evaluation and selection; Velocity Machining & Welding (Dartmouth, NS) - high precision components for FAST-1 platform fabrication and WPV Designs (Fall River, NS) - instrument mount fixtures design and fabrication.

Video of the sensor trials in the Minas Passage can be viewed at: <https://vimeo.com/178472214>



Dr. Alex Hay examines acoustic sensor on FAST-1 before a four week underwater deployment. (Darren Pitmann/ImagesEast Photo)



Acoustic sensors on the FAST-1 monitoring platform are protected by special cages on all corners of FAST1 platform. (Image: FORCE)



FAST-1 platform transported to Parrsboro Harbour. (Darren Pitmann/ImagesEast Photo)

South Cumberland NEWS  
Community Group News Wanted

# Don Yorke Memorial

July 22-24th was the 31st Don Yorke Memorial softball tournament at Parrsboro. At one point between the two ball fields over 200 folks were enjoying the games. Don & Cora Yorke's grandchildren have agreed to carry on this wonderful tradition. The weekend included METRO performing on Saturday at the Parrsboro Lions Arena.



A portion of the crowd enjoying the 31st Annual Don Yorke Memorial tournament.



A third baseman throws to 1st base attempting to catch the batter.



On the weekend of July 22-24th Parrsboro played host to the 31st Annual Don Yorke slo-pitch softball tournament, using both fields to get in all the games. On Saturday night, METRO played at the Parrsboro Lions Arena.

# Historical Society Receives \$1,786

By Maurice Rees

Parrsboro Shore Historical Society is receiving \$1,786 from the Provincial Archival Development Program, an initiative funded and administered by the Department of Communities, Culture and Heritage, with the Council of Nova Scotia Archives assisting in the adjudication of the program.

It allows smaller institutions like the Parrsboro Shore Historical Society achieve archival goals which would otherwise be beyond the capacity of volunteer-run institutions. Up to \$50,000 is available annually from the program.

The other five groups receiving funding in 2016 include: Halifax Regional Municipality Archives, \$15,000; Cole Harbour Heritage Farm Museum, \$5,800; Beaton Institute, Cape Breton University, \$14,755; Dalhousie University Archives, \$7,736 and Eastern Shore Archives, \$4,500.



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