

Project Title: DRDC – Northern Watch Technology Demonstration Project

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Project Location: Gascoyne Inlet, NU

Water Use Licence 1BC-NWT1113

The DRDC Northern Watch Technology Demonstration Project will demonstrate an Arctic maritime surveillance capability to the Department of National Defence and other concerned federal departments. This is a multi-year undertaking and is based at Gascoyne Inlet.

The surveillance demonstration system will be unmanned, semi-autonomous, and remotely controlled through a satellite system connection to one of the DRDC centres. The project plan will culminate in a 6 month capability demonstration between August 2014 and August 2015.

Northern Watch Technology Demonstration Project (NWTDP) will be conducting further trials in Nunavut, based out of the Gascoyne Inlet Camp (GIC) and from Canadian Forces Auxiliary Vessel (CFAV) Quest in July & August 2012.

Description of 2012 Activities

Gascoyne Inlet Camp Based Activities

1. NWTDP Sensors

- The underwater sensor will be deployed and operated from the Quest in 2012. In addition to these sensors a satellite communications system will be used.

2. Unmanned aerial vehicles

- Vehicles will include both fixed wing and rotary wing aerial vehicles.

3. Camp maintenance and research platform construction

- A hillside platform will be constructed approximately 500m from the camp on a slope. A tent will be setup on the platform in July / August 2012 and a number of scientific sensors will be setup and operated from this location. The scientific equipment will be removed at the end of the trial; the platform will be left in place for use in future years. The new fuel berm is a permanent berm replacing a temporary berm south-east of the generator building and will house a maximum of 16bbl of fuel and two 900L fuel tanks will be installed.

CFAV Quest Based Activities

1. Research equipment will be transported onboard to and from the NWTDP camp in Gascoyne Inlet.
2. Unmanned System operations (UXV), including surface, subsurface and aerial
3. Identification and characterization of the benthic (or ocean floor) Vulnerable Marine Ecosystems (VMEs) and Ecologically and Biologically Significant Areas (EBSAs) in the Canadian Eastern Arctic
4. Execution bathymetric measurements within the Lancaster Sound area to validate and complement existing bathymetric data.
5. Trialing a low power laser system to detect "Growlers" during the transit from Nuuk, Greenland to Gascoyne Inlet, NU.