**Technology Demonstration Facility Case Study**

**Ocean Sonics - icListen LF Smart Hydrophone**

In a review of digital hydrophones on the global market, Ocean Sonics’ Smart Hydrophone technology was identified as an ideal candidate to meet the observatories requirements. The icListen LF hydrophone was the first model tested, to assess the feasibility of detecting underwater landslides on the Fraser river delta.

**Hydrophone Applications:**
- Detection of earthquakes, underwater landslides & turbidity currents
- Detect vessel traffic
- Measure ocean ambient and anthropogenic noise
- Marine mammal detection classification and tracking
- Fish noise monitoring
- Flow noise measurements

To verify the manufacturer’s specifications, the hydrophone was calibrated from 0.02 to 100 Hz in Ocean Networks Canada (ONC)’s custom-built VLF digital hydrophone calibration system. From 300 Hz and upwards, the calibration took place in open water, where noise floor testing and power consumption were also tested. Finally, the icListen LF was deployed on the ONC observatory for nine months. Following deployment, the hydrophone was retested for long term drift.

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**Manufacturer** | **Instrument Concepts/GeoSpectrum Technologies**
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**Frequency range** | 0.1 to 1600 Hz (LF) 1 Hz to 250 kHz (HF)
**A to D converter** | 24 bit
**Dynamic range** | >120 dB
**Timing** | IEEE-1599 PTP (1 μs)

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**For more information:**

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