

FFI input to SBCX 2016

Workshop III (2014) – D. Tollefsen

Equipment:

- FFI-array: fixed HLA at seabed.

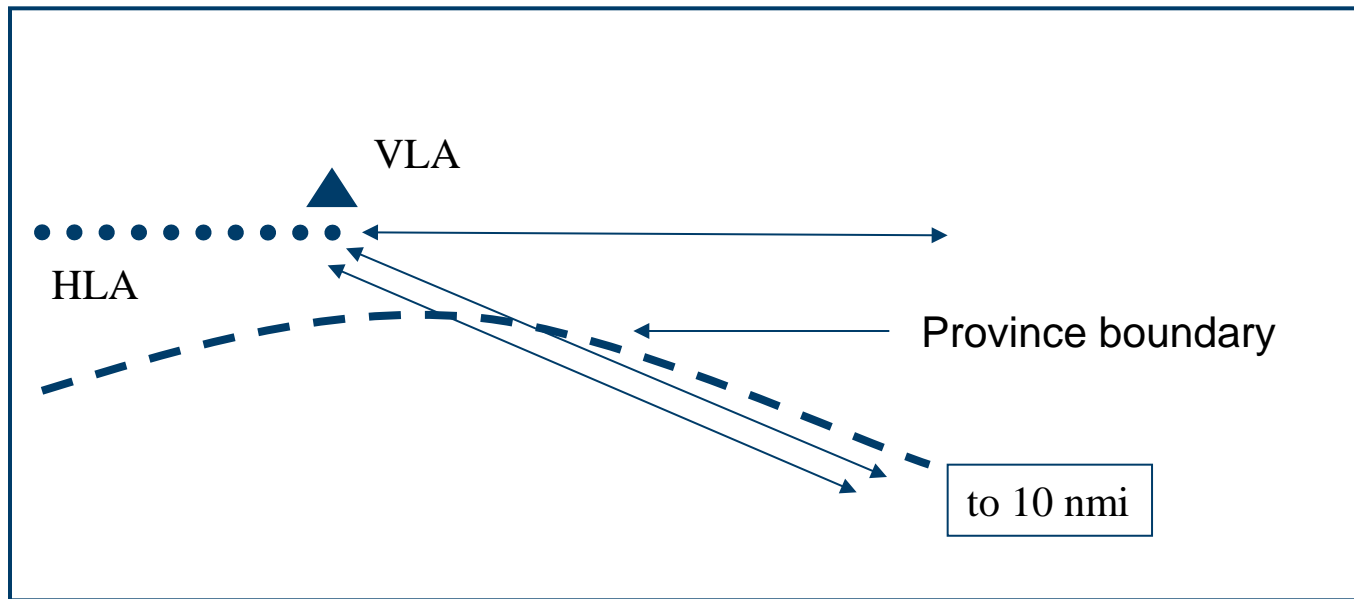
Interests:

- Effects of variable seabed on long-range (cross-province) propagation
- Quantify uncertainties → sonar prediction, array processing.

Research:

- In collaboration with Univ. of Victoria:
- probabilistic inversion of ship-noise for layered seabed properties
- self-adapting 2D irregular node grid (seabed/water-column) MC sampling.

Experiment 2016



Acoustic data:

- Ship noise: long-range transects & tracks of opportunity.
- Towed source: multiple runs for convergence, model verification.

Support data:

- Bathymetry: mb in deployment box, and along a transect.
- Geophysical, oceanographic, short-range acoustic: as available.
- Other: AIS for ship tracks.

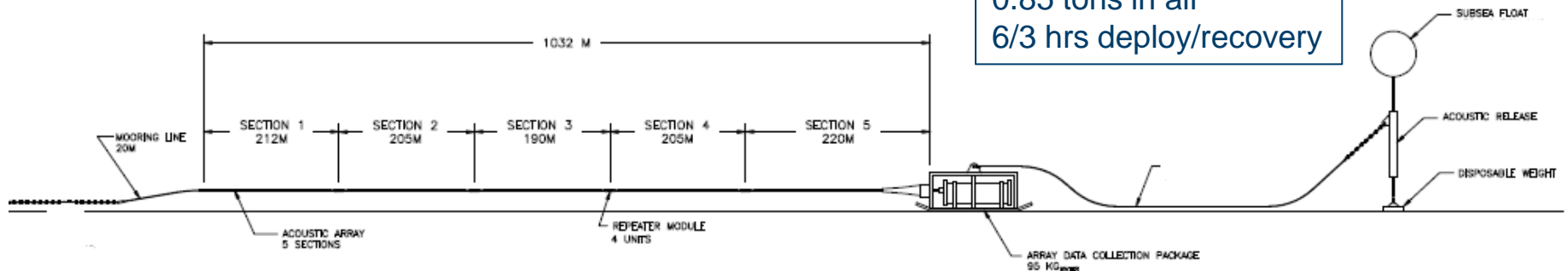
FFI-array

Specifications:

- Length 1032 m
- 64 hydrophones (5 segments)
- Spacing: 72,6 to 0,8 m
- 10 Hz – 2 kHz
- 24-bit ADC, 5 kHz sampling
- 5 Tb memory, 6 weeks endurance
- Acoustic link (status/gain ctrl)



2x10 m deck space
0.85 tons in air
6/3 hrs deploy/recovery



Logistics

Deck signature on R/V of equipment	Need approx 10x2 m on deck for layout of cable and DCU sledge before deployment. In addition 2-m diameter capstan (FFI) and sledge (FFI).
Approximate weight in tons	0.85 Tons in air
Lab space requirements	1 office space for laptop and modem control unit.
Assistance required from ship personnel	Min. 2 persons (FFI) on deck during deployment and recovery. In addition 2 ship engineers.
Time needed to load and off-load equipment on R/V	Approx 6 hrs deploy. In addition 1 day onshore for unpacking (4 wooden crates) and assembly.
Deployment time required	6 hours
Recovery time required	4 hours (dependent on deployment depth)
Time required after recovery to ready system for second deployment	2 hours on-deck inspection time after recovery. For battery and disk replacement, allot 1 day (requirement depends on total length of deployment)
Number of deploy and recovery personnel	2 FFI engineers (4 total, see above)
Can your engineering team assist other groups with deployment, recovery and operations	Yes
Other	Handling of Li batteries.