Problem ("Opportunity")

- Sentry has substantially better data quality (Navigation) and more capability (acoustic comms intervention) when tended by the vessel
- Vessels are expensive and it is supposed to be an Autonomous Underwater Vehicle so we should be able to do more than one thing with the vessel

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AUV Tending

- CONOPS
  - AUV/ASV deployed and recovered from ship
  - AUV performs mission as usual
  - ASV, with knowledge of AUV mission plan, “tends” AUV
- ASV as navigation aid
- ASV as force-multiplier:
  - Provides operators with real-time data and re-tasking capability
  - Frees ship to perform other over-the-side operations, concurrent vehicle operations
- Status:
  - Pilot project funded internally completed Oct. 2012
  - seeking cruise-of-opportunity and modest development funds

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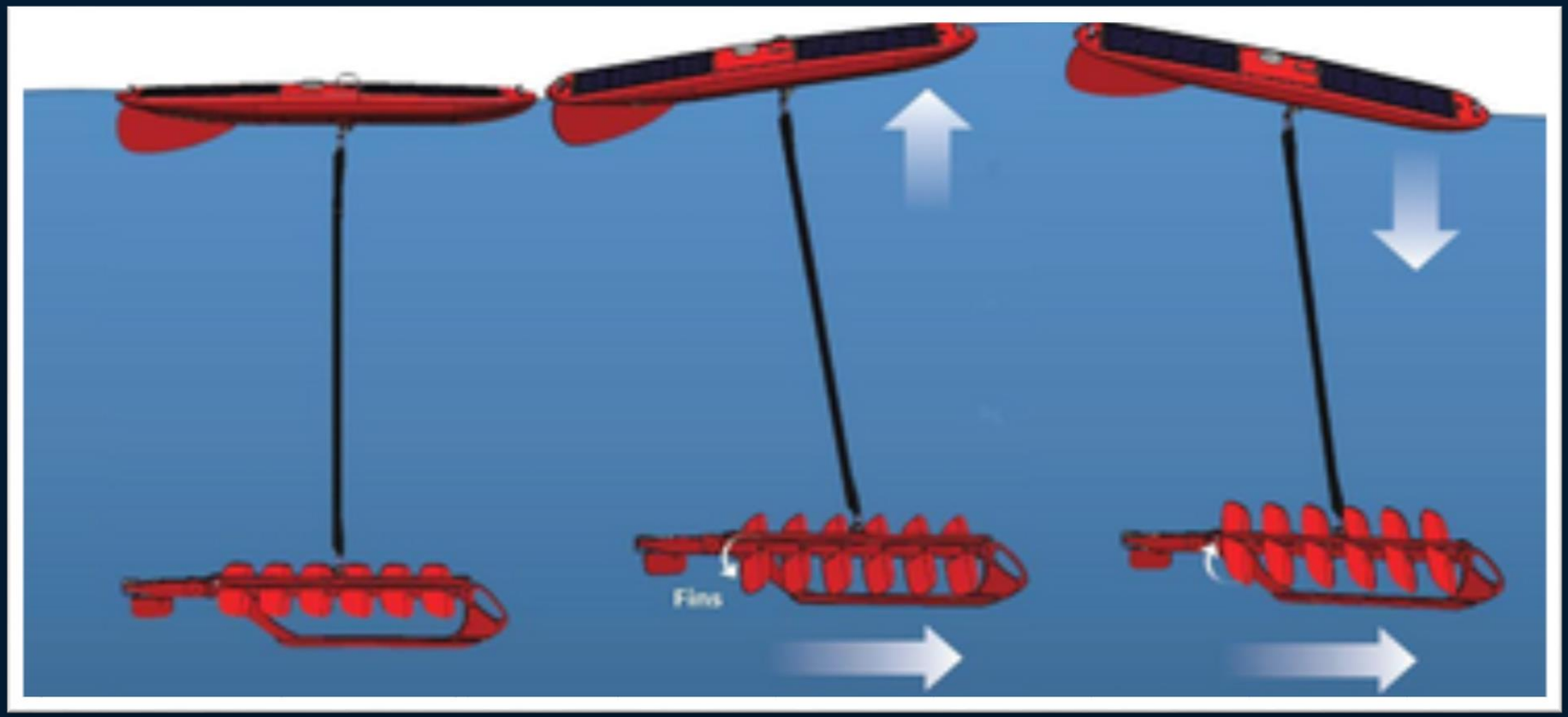
The WaveGlider ASV (Liquid Robotics, Inc.)



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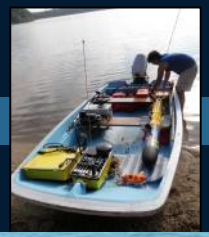
Phase 1 Pilot Project



- WHOI funded project to demonstrate basic feasibility in shallow water
  - Wave-Glider ASV
  - Iver2 AUV
- Focus is developing algorithms not hardware
  - Develop software that coordinates ASV trajectory with the AUV
  - Investigate performance of different ASV trajectories
- Status: Project complete
  - Buzzards Bay demonstration Oct 3-5, 2012
  - Coordinator recommends ASV trajectories that maintain navigation and communications.
  - Navigation solution constrained by acoustic ranges
  - AUV successfully retasked; AUV data telemetered topside

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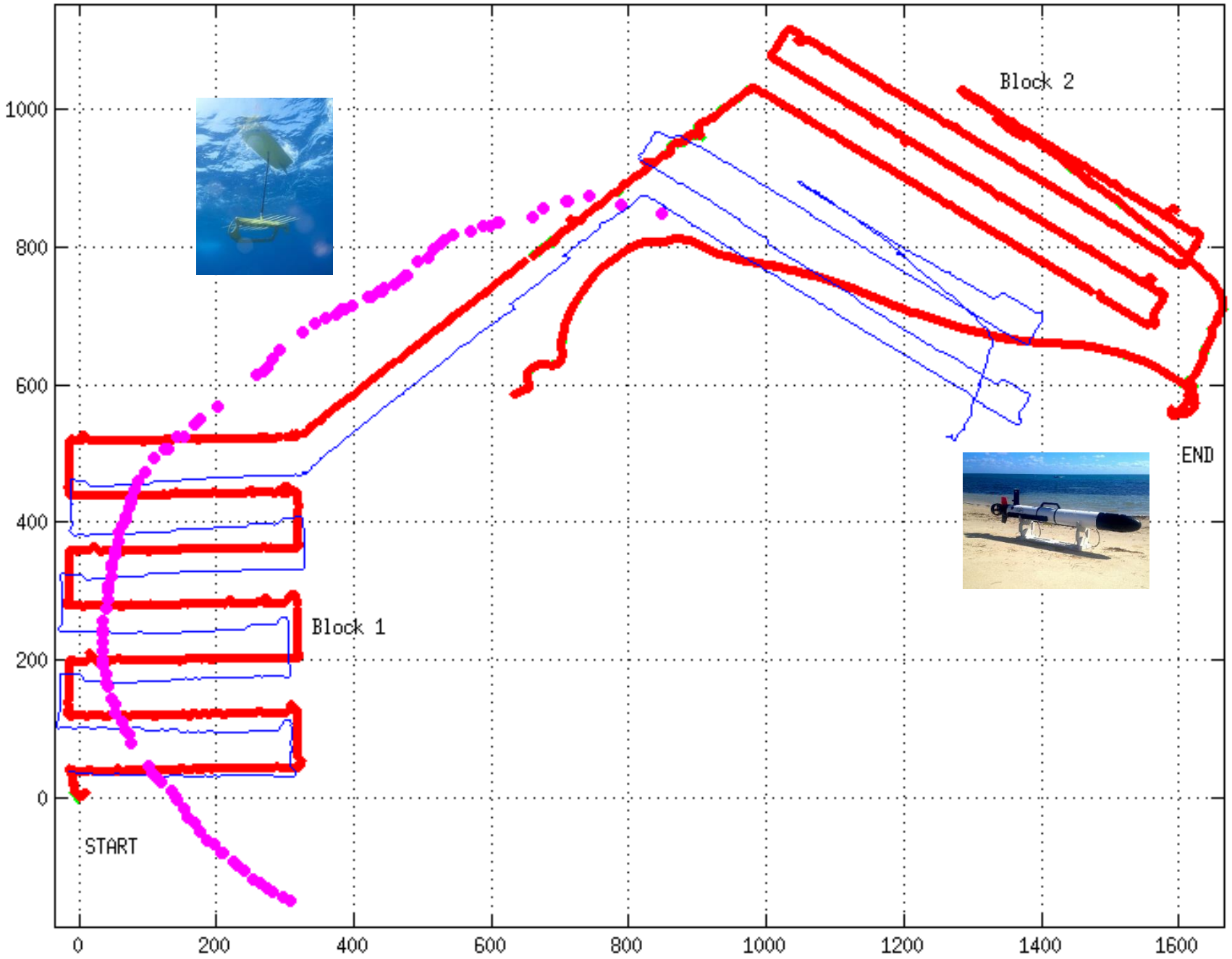
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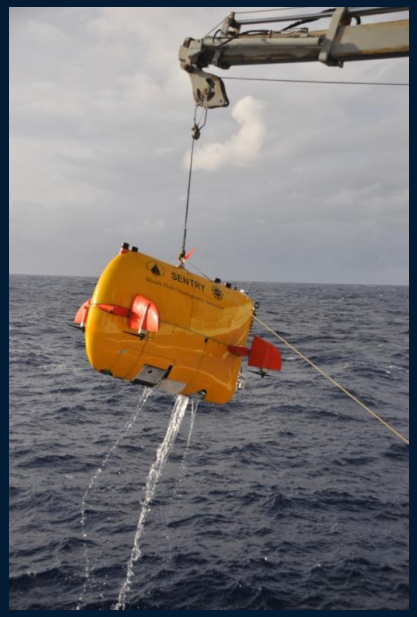
Sentry Integration

- Can provide over the horizon interaction and nav
- Dramatic force multiplier for vessel
- Big benefit when integrated with anchoring
- Many possibilities with telepresence
- We believe the time is ripe to add this to the NDSF



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