Launch and Recovery of a UUV from a MH-60S Helicopter

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UUV Launch and Recovery

• Navy is increasing its use of Underwater Unmanned Vehicles (UUV)
• Current delivery methods include launching from shore or from small craft
UUV Launch and Recovery

- The Fleet is requesting the ability to launch and recover a UUV from an aircraft platform
  - UUV base of operation not limited to port locations
  - UUV can be operationally deployed at longer ranges
  - Battery power can be conserved
  - Decreases mission timeline
  - Allows faster exploitation of data
  - Allows deployment and recovery in higher sea states
  - Removes the man from the mine field
Challenges of Helicopter Launch and Recovery

• NAVAIR crash loading requirements
• Interface to the aircraft
• Automated docking device
• Winching
• AN/ALQ-223A Carriage Stream Tow and Recovery System
  • ALMDS
  • AMNS
ASQUID

- Airborne Surface Quad-thruster Underwater Interface Device
- Developed under 219 funding also called Naval Innovative Science and Engineering (NISE) program
- Prototype level only
- Sized to deploy and recover a MK-18 Mod 2 Kingfish
ASQUID Operation

- Operated by air crewman with a control device (Xbox game controller)
- UUV is unpowered and floating on surface
- Aircraft maneuvers ASQUID to front of UUV
- Air crewman drives ASQUID onto UUV
- UUV locks into place
- Crewman winches UUV to side of aircraft
Flight Test

- September 27, 2018
- Patuxent River Naval Air Station, HX-21
Video
Path Forward

- Incorporate sub-surface active docking
  - MK-18 Mod2 teams currently working various technology for automated docking
- Incorporate scalability to accommodate various UUV sizes
  - Limited by CSTRS and aircraft envelope and power
- Develop standards for UUV docking features