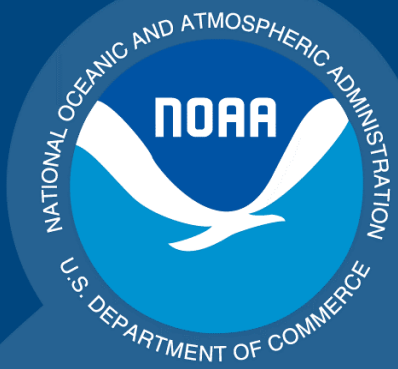


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FISHERIES**

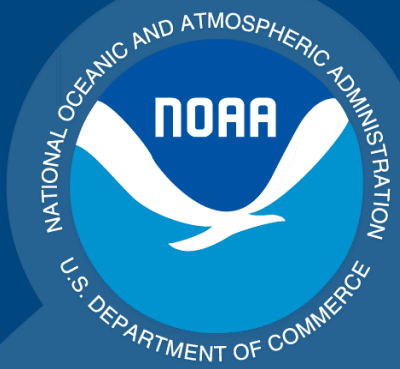
NOAA PIT Tag Research and Development 2021



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GRS direct fish release evaluation

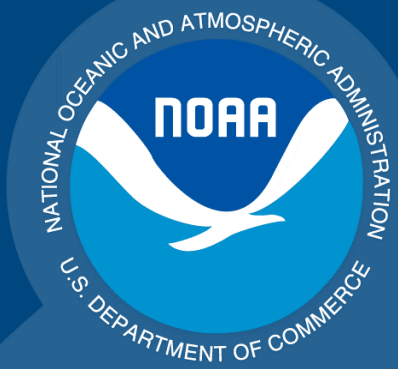
- Mid-March
- Using Clearwater Hatchery yearling Chinook smolts (7,000)
- Evaluating detection efficiency at 2 depths for 3 locations across the bay using 9-mm and 12-mm PIT tags
- Funded by USACE



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Bonneville Ice and Trash Sluice PIT development

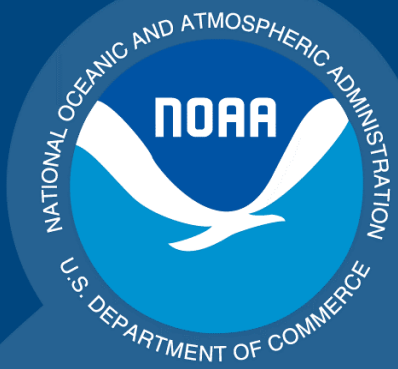
- Alternative selection was made using USACE decision matrix in 2019
- Awaiting funding availability to build prototypes and test



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Develop a multiplexer PCBA (IS1001-ASB, Antenna Switching Board)

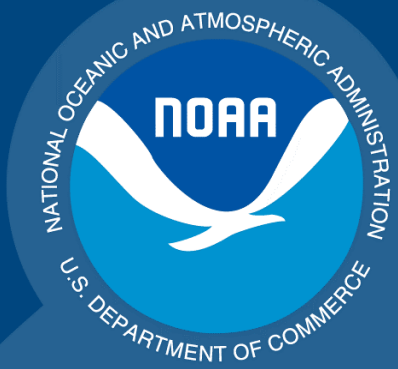
- Allows connecting an IS1001 to up to six (6) antennas in sequential order, one at a time.
- The system should provide equal or greater performance than FS1001-MUX system and utilize all applicable functionalities of an IS1001 standalone reader
- Reduce overall equipment cost from \$11,900 to \$5-7,000 for a 6 antenna system
- Detect full and half duplex tags as well as half telegram tags
- Star topology instead of daisy chain
- Completed summer 2022



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Flexible trawl updates and testing

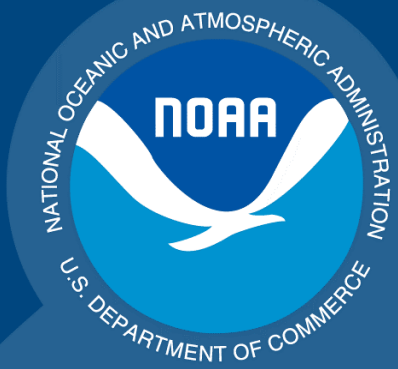
- Trawl doors will extend system from 85' to 105' of sampling width
- Cable fairing to reduce drag and vortex induced vibration which aids in tuning
- Net reel
- Updated enclosures
- Synchronization over fiber



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Update PD7 (Pile Dike 58)

- Install 6 antennas on upstream side to boost juvenile detection
- Permitting is set through 2028



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New Pile Dike across from PD7

- Permitting exists for up to 7 total sites through 2028
- Upstream facing antennas to target juvenile detections
- May be used as a platform for testing advanced power systems (ie. lithium, solar, wind)



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