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Proposal to Modernize Shrimp Effort Data Collection

Southeast Fisheries Science Center

Gulf of Mexico Fisheries
Management Council
June 2023

3 part approach:

- Phase-out 3G cELB system (2023-2025).
- Implement side-by-side testing of potential replacement devices (2023).
- Install or Early Adopter Phase (2023-2024)

This three-part approach will establish a modernized electronic location recording program to monitor trawling effort in the Gulf of Mexico shrimp fishery by 2025.

It will inform both Framework Action Alternatives 2 and 3.

Timeline

- **2023:** Begin phase-out of 3G units, Test cVMS and other non-type approved cellular devices, Install units successfully passing testing (during and after testing) on ~100-200 vessels.
- **2024:** Rulemaking and final action on Framework Amendment, install on more vessels.
- **2025:** Amendment goes into effect and implementation of new program, 3G system phased out. Install on remaining vessels (possible OLE reimbursement or fleet covers costs)

Spend Plan

1. Shrimp Effort Algorithm Vetting Meeting and related travel.	\$3,000
2. Contract for Rebuilding Shrimp Data Management System/Application	\$120,000
3. SEFSC Data Management and program administration.	\$41,000
4. Hardware/Travel costs for testing of 3 cVMS on five vessels.	\$30,000
5. Application Development Staff. Staff time will go to developing the system to collect and process data from the unit vendors for the testing and install phases and to evaluate costs for a longer-term solution.	\$82,000
6. Outreach to shrimpers (20% of 1 SEFSC staff working with industry)	\$27,000
7. Contract for early adopter program to include installation, 2 years of cellular data and reimbursement for units. Minimum requirement would be to outfit 150 vessels. During the early adopter program the data would be transferred directly to the SEFSC from the unit vendors.	\$360,000
8. Management & Administrative (M&A) costs (22% reduction of 850K)	\$187,000
Total programmatic funds available	\$663,000
Total	\$850,000 (663,000 with M&A)

Location Recording Devices For Testing

Unit	Manufacturer	Info
NEMO	Woods Hole Group	https://thoriumvms.com/nemo
Zen VMS LTE	Atlantic Radio Telephone	https://www.atlanticrt.com/zenvms-lte-vesselmonitoring-system.html
Insight XS VMS	Nautic Alert	https://nauticalert.com/noaavms/
cELB (existing 3G units)	Unused 3G ELB units	These would be provided by NMFS
Boat Command VMS	Viatrix Automation Corporation	https://boatcommand.com/products/boat-command-vms-ri-black-sea-bass-bundle-airtime-included
Other units in consideration by ASMFC for the lobster fishery (to possibly be considered but SEFSC cannot promise are possible to test)		
Succorfish SC2	Succorfish	https://succorfish.com/products/sc2-gen2/
Tracker One	Particle Industries	https://store.particle.io/products/tracker-one-lte-m1
Smartellite Dynamic Ku Termina	Network Innovations/ hiSky*	https://hiskysat.com/wp-content/uploads/2023/03/Smartellite%E2%84%A2-Dynamic-Ku-band.pdf

*Meeting with hiSky on May 30th and discussions with other vendors are ongoing



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Testing Plan

- Identify five volunteer shrimp vessels
- We have several volunteer vessels in Palacios, near Galveston, Texas.
- NEMO, ZenVMS, cELB and Boat Command will be on all five vessels. Two Tracker One units may also be deployed. Ongoing discussions with other vendors
- Devices will record time, location at 10-minute intervals.
- Test duration will be a full fishing trip of at least 18 days, port-to-port.
- Data will be sent by vendors to the SEFSC for analysis.
- Data will be run through Dettloff effort algorithm and will be assessed for quality.
- Vessel operators will be asked to record set and haul times to provide an independent assessment of vessel activity.

Testing Timeline

Activity	Estimated Time Needed	Potential Dates (not based on working days)
Securing VMS from vendors	21 days (at least 2.5 week lead time is known for one vendor)	June 4 to June 24
Installation of VMS units	7 days	June 25 to July 1
At-sea testing	min 18 days	July 15 to Aug 1
Retrieval of data	7 days	Aug 1 - 8
Return of extra VMS, vessel should keep at least one unit to be part of the 'early adopters'	7 days (not included in time estimate)	Aug 8 - 15 July 31 to August 6
Data analysis and presentation development	21 days	Aug 1 to August 21
Present to Shrimp AP	1	Early October ³
Present to Gulf Council	1	October 23-26
Total Time	81 days	

³ Deployment dates will correspond with Gulf shrimp fishery reopening in July and volunteer vessel schedules.

⁴ Presentation to the October AP and October Council will be weather dependent. If, for some reason, testing is not completed the presentation can be made to the January Council meeting with an Dec/Early January Shrimp AP meeting immediately prior.



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