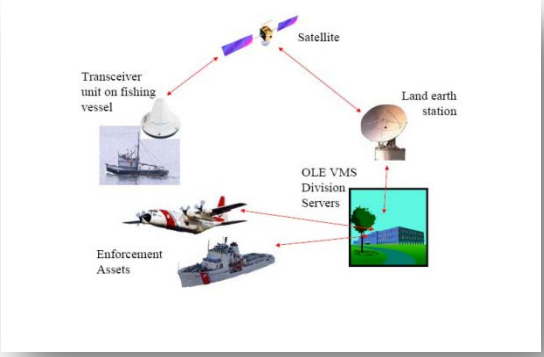
Vessel Monitoring Systems – What You Need to Know (DRAFT)

The reauthorization of the Magnuson Stevens Act put in place the requirement for better monitoring of fisheries. Monitoring has been deemed necessary to allow managers to assess the health of fish stocks and also better understand the activities and operation of the fishery - the fleet and the communities that rely on harvesting fish. Various types of monitoring are being tested within the United States and even within the South Atlantic region. One type of monitoring method currently in use in some fisheries in the region is a Vessel Monitoring System, commonly referred to as VMS. The Council is considering the use of VMS as a monitoring tool for all federal commercial snapper grouper vessels in the region. As the Council moves forward with developing options for use of this technology, stakeholders throughout the region have begun to ask questions about VMS. What is it? How does the system work? Why is this being considered for this fishery? What are the benefits and challenges of using VMS? Here are a few facts to help answer these questions and more.



What is VMS?

A Vessel Monitoring System (VMS) is a satellite-based program installed on vessels in a fishing fleet that assists with monitoring vessel movement and fishing activity in the fleet in real-time.

How does the system work?

The system consists of a mobile transceiver unit placed on the vessel, a communications service provider that supplies the wireless link between the unit on the vessel and the NMFS Office of Law Enforcement (OLE), and a secure OLE facility where staff can monitor compliance.

Who monitors the data collected by VMS and who has access to the data?

VMS data is monitored by OLE. The data are kept secure and confidential and is only accessible by staff with clearance to access confidential VMS data. The privacy and sensitive nature of VMS data is taken very seriously therefore, the data are not public information and are not available to the public.

How does the system report data?

The system is programmed to send a signal once an hour 24-hours, 7 days a week. The VMS system can be turned off under certain circumstances, in which case the vessel permit holder must apply for a power-down exemption. NOAA Fisheries Service may define buffer zones of one nautical mile around some restricted fishing areas. Once a vessel enters a defined buffer zone, the VMS reporting rate will increase to every 15 minutes at the vessel owner's expense. If the vessel departs the buffer zone and enters the restricted area, the VMS reporting rate increases to every 10 minutes until the vessel departs the restricted area and/or buffer zone.

What fishery in the South Atlantic region is being considered for the use of VMS?

Currently, the Council is developing Amendment 30 to the Snapper Grouper Fishery Management Plan to address a VMS requirement. Amendment 30 is considering a requirement for fishing vessels with a *Federal Unlimited or trip-limited Commercial Snapper Grouper Permit* to be equipped with VMS. The South Atlantic rock shrimp fishery already has a VMS requirement in place and has been using VMS since 2003.

Why is VMS being considered for the commercial snapper grouper fishery?

The Council wants to improve commercial data collection methods to better quantify fishing locations and to improve compliance in South Atlantic fisheries, specifically in the commercial snapper grouper fishery.

Who will pay for VMS in the commercial snapper grouper fishery?

NOAA Fisheries OLE has a fund to pay for the hardware costs of VMS units. However, the fund only pays for the cost of the hardware (up to $3,100, assuming an owner has not previously been reimbursed for another VMS unit on the same vessel). All South Atlantic

Snapper Grouper Permit holders (both the Unlimited Permit and the 225-lb Permit) would have to pay for the installation, maintenance (including replacement), and communication charges associated with having VMS. Installation costs are approximately $300 per unit depending upon location of the vessel and installer. Maintenance costs are difficult to estimate and are dependent on use of the equipment. Table 1 and 2 provide information about the cost of approved VMS units and monthly maintenance and communication costs:

Table 1: NMFS-approved VMS units and costs.

Brand and Model	Cost
Boatracs FMCT-G	$3,095
Thrane and Thrane TT-3026D	$2,495
Faria Watchdog KTW304	$3,295
CLS America Thorium TST	$3,095

Source: Data provided by NMFS Office of Law Enforcement, July 2012.

Table 2: NMFS-approved VMS communications costs.

1. Qualcomm (for Boatracs units) • *$30/mo satellite fee* • *$.30/message* • *$.006 per character for messaging (average price estimated $35/month which includes 24/7 operations center support)*
2. Telenor (for Thrane units) • *$.06 per position report or $1.44 per day for 1 hour reporting.* • *If in the "In Harbor" mode, then $.36 per day.* • *Messaging costs $.24 per e-mail. ($30/mo average)*
3. Iridium/Cingular Wireless (for Faria units) • *$50.25 per month which includes 12,000 Iridium bytes and 35,000 GSM bytes for email and e-forms reporting.*
4. Iridium (for CLS America units) • *$45 per month for hourly reporting, $1.75 per Kbyte for e-mail or forms submission.*

Source: Data provided by NMFS Office of Law Enforcement, July 2012.

What are some of the potential benefits of implementing VMS?

- Improve Commercial Data Collection: *Having real-time tracking of vessel movement and location will help determine how much fishing effort is actually occurring throughout the fishery and how fishing pressure is distributed throughout the fishing grounds. VMS data will also help managers understand fishing behavior, identify productive fishing areas, and potential impacts to habitat that would improve stock assessments for species within the fishery management unit.*
- Increase Fishery Compliance: *Knowing vessel location in real-time will improve compliance of specific fishery regulations related to area closures and seasonal closures. Specifically in the snapper grouper fishery, VMS would help monitor compliance around designated Marine Protected Areas, Special Management Zones and Marine Sanctuaries in the region. Monitoring of these areas through the use of VMS would take away the unfair advantage to fishermen who do not comply with regulations and fish when and where it is not allowed.*

What are some of the potential challenges of implementing VMS?

- Installation and Maintenance Costs: *While reimbursement of equipment cost may be available to fishermen, the cost of installation and monthly/yearly maintenance (including replacement) costs are the responsibility of individual fishermen. There are additional potential challenges that may affect fishing business profits through ongoing transmission costs, future unit replacement, and lost fishing opportunities due to fishing trips that would need to be ended early should the VMS unit fail to operate properly once the vessel has left port.*
- Funding Availability for Equipment Reimbursement: *Historically, NMFS has maintained a reimbursement fund to subsidize the purchase of VMS units allowing fishermen to be reimbursed for the purchase of VMS equipment. Currently, there is still funding available in this fund. However, as the federal budget continues to experience cuts and as more fisheries consider implementation of VMS and other monitoring activities the funding may decrease and eventually cease to exist.*
- Accessing Funds for Initial Purchase: *Fishermen have expressed concerns about personally having available revenue to purchase the VMS units until reimbursement funds are available. The cost of the VMS unit may be cost prohibitive for some fishermen that may not have access to approximately $3,000 to make the initial purchase. Fishermen have also voiced concerns that bank loans may not be an option.*

Additional information is available at www.safmc.net or by contacting:

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