Comparison of Systems Certified by NOAA to Submit Electronic Vessel Trip Reports (see below for additional information provided by vendors)

System Name	Organization	Basic Equipment Needed	Optional Equipment	Mobile Version	Other	Cost	Training
All mobile systems must be able to record and store data while on-the-water and without internet connection							
eTRIPS/mobile	ACCSP	Tablet; Smart Phone;PC	Mounting system; Power or power converter	Apple iOS (phones or tablet), Android (phones or tablet), Windows 10 (mobile for tablet or PC)	Can move logbook from one device to another if you get a new device. May be used for dual state and federal reporting requirement (check states)	Free	24x7 help desk (speak with someone from the US, most likely from your fishing area). Written manuals, step by step videos http://www.harborlight software.com/etrips-support ; In-person training; On-line Webinars
Fish Online	NOAA (GARFO)	Tablet; Smart Phone		Apple iOS (iPads and iPhones)	Must have internet connection for web version to be used on the water.	Free	Limited personal instruction; in process of developing video tutorials.
Dynamic Data Logger	Olrac	Tablet or PC		Microsoft operating systems on PC or tablet – with an Android version expected in 2020.	Value added utilities can be purchased as add-ons	$500 per year for a basic unit with no added utilities.	User manuals, help features built into the software, remote telephone and web support. A local support and distribution partner will soon be available as well.

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FACTS - Fishing Activity and Catch Tracking System[1]	Electric Edge Systems Group Inc.	Tablet or PC	GPS device to make acquiring coordinates easier and less error prone (PC or laptop); tablets have GPS built-in	Mobile app being developed (Apple iOS, Android, Windows Mobile); web-based data entry if internet connection is available	Desktop version works offline; mobile application in development	Annual fee which includes basic eVTR submission and premium features (see description below)	User Manuals, group online training, help lines (within west coast business hours), planned online videos.
eLog[1]	Ecotrust Canada	PC (Windows), Apple Computer, Tablet, Smart Phone	Ecotrust Canada Electronic Monitoring system required; after mobile app is finished then just a mobile device.	Windows XP, Windows 7, Windows 10, Apple iOS, Android, Windows Mobile (when completed)	Web browser based. The interface on the vessel is served from our EM box as a webpage.	Costs are included in standard electronic monitor - ing service. Stand-alone cost ~$1,000 (including cost of tablet); $100 -$300 annual after.	In-person training
FLDRS	NOAA	Available to those already using it, those participating in Northeast Fishery Science Center Cooperative Research, and those needing to report from the ocean quahog and clam fishery.					
All systems store and can retrieve reports for 3 or more years (an enforcement requirement) and have a reporting function and a "summary report" listing dates, times, confirmation numbers, etc. for reports that are submitted.							
* Fish Online and eTrips both have a web-based version but require an internet connection for use.							
1 Information current as of 2017.							

System Descriptions

ACCSP eTRIPS/mobile SAFIS (Standard Atlantic Fisheries Information System) is offered by the Atlantic Coastal Cooperative Statistics Program developed in conjunction with captains in the northeast. The eSAFIS/mobile was the first system certified by NOAA for submitting VTRs from a mobile device The mobile-based system was built working with fishermen and incorporates years of feedback and development from them. We continue to get feedback from users and their thoughts and considerations are taken into account making the product better. The system will allow the captains to retrieve their own data at any time, and update it either on-line or through the mobile app. Once a user enters their profile prior to the first trip (vessel information, permit numbers, etc.) there is no need to enter it again as long as it does not change – just log in and complete your catch record. Additionally, some states accept reports submitted through eTrips to meet their state reporting requirements.

Supported Devices:
Android phones and tablets
iOS (Apple) phones and tablets
Windows 10 tablets and PCs
The app is available to download in each of the "stores" of Android, iOS, or Windows.

Cost: Free

Support:
- 24x7 helpdesk is available for you to call anytime you need assistance.
- Video tutorials are available to watch to help you complete your report.
- Written material will walk you through each area of the application.
- Offices in Rhode Island, where staff will work with you one on one.
- Training classes available for group training.

How to obtain the system: A user ID must be obtained and is based on operator permit. Users can make an account at https://safis.accsp.org:8443/safis_prod/f?p=SAFIS:101

NOAA Fish Online iOS App Reporting This app is made for operators of federally regulated fishing vessels in the Greater Atlantic Region of the USA who are required to submit Vessel Trip Report (VTR) reports electronically. This app makes the reporting process faster, clearer, and eliminates the need to download references for port and species codes. All data is submitted directly and securely to

NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO). Use of this app complies with any GARFO mandated requirement for electronic reporting (eVTR).

Cost: Free

How to obtain the system
   Users must contact NOAA Fisheries at 978-281-9188 for credentials to use this app. Users must possess a valid GARFO Vessel Operator Permit. NOAA Fish Online App Quick Start Card - Provides basic assistance for using the NOAA Fish Online app
    Search for "NOAA EVTR" in the Apple App Store; email nmfs.gar.helpdesk@noaa.gov.

Olrac DDL is a touch-screen ready eLog application that captures any fishing related data in real time and/or after the fishing activity took place. Data collected can be compiled into reports in a variety of formats such as: XML, CSV, text, PDF, HTML, etc. The Olrac eLog verifies and validates all reports before sending them. It keeps a complete log of all collected and sent information and tracks any changes to data entered or reports sent. It also includes complete integration to EM systems if they are installed on board. It includes a variety of added value functionality for fishers utilising a built in mapper utility (GIS) which allows a user to explore fishing performance under a variety of filtering and grouping scenarios. A version of the software is presently used on 100's of vessels all around the world and is a well tested and mature system. Our eVTR system is already certified by NOAA.

One of the strengths of the Olrac software is its adaptability to the needs of each client; the Olrac software license includes the cost of standard initial customization, which includes setting up user specific data fields. Significant customization will incur an additional fee. For example, adaption of the software to an onboard communication system, email system or authentication and encryption solution not already used by Olrac, the migration of non-Olrac created data into the Olrac database, or the development of a new report form or additional reporting requirements for commercial or scientific reasons.
Onsite services including; installation, training, and technical support are available upon request. These services will incur an additional fee.

Olrac SPS offers two main versions of their vessel based solution, the full Olrac Dynamic Data Logger (OlracDDL) and the basic OlracDDL. Both are able to send eVTR reports but the basic version of the OlracDDL does not include additional modules such as collection and reporting of additional commercial and scientific information (data not required by the eVTR reports), any GIS mapping component, or customization which adds additional value for fishers and fleet managers.

OlracDDL interfaces with NMEA standard GPS devices to make acquiring location, time and date information easier and less error prone. The OlracDDL can interface with McMurdo (formerly Boatracs), Skymate and other VMS systems. The OlracDDL is also offered as a component of an integrated Electronic Monitoring/Electronic Reporting system offered by Advanced Fishing Monitoring and Observation System (AFMOS). More information at http://afmos-usa.com/.

Below is a list of utilities available.

- The Form Maker Utility allows any paper-based log-sheet to be scanned, incorporated into, and completed within OlracDDL, and then to be printed out and delivered to the relevant authority. The paper logsheet can be populated automatically by the form maker utility if data have been entered using Olrac (this utility, will be available on specific request, for specific forms only).
- The Inspector Utility is a small program which can reside on the compliance inspector's USB drive. This utility allows permitted inspectors to extract certain (predefined) information from the user's OlracDDL without the need to give them access to the full software.
- Change Control is an administrative, password protected auditing utility, that allows authorities or other authorized users to view/track all changes made to data stored in OlracDDL
- OLSPS also offers the Olrac Dynamic Data Manager (OlracDDM), a database and reports management tool for fleets. The OlracDDM manages reports generated by vessels and allows users to access their sent reports via the internet. The system verifies and validates the vessel reports, sends positive or negative acknowledgment, and automatically forwards landing reports to authorized managers and compliance agents, based on predefined criteria. The OlracDDM can also be customized with other utilities, such as bycatch avoidance and quota tracking. Olrac Dynamic Data Manager together with Olrac Dynamic Data Logger form a complete electronic logbook software solution to monitor and track all vessel and fleet related activities

How to purchase system: The Olrac Dynamic Data Logger (OlracDDL) can be purchased by contacting Heidi Henninger, Olrac's U.S. based business development consultant at heidi@olsps.com or 603-267-0583. Additionally, OLSPS has partnered with a U.S. based fisheries management firm and is in the process of building up a sales force for each region. Additional information about OlracDDL electronic logbook and the OLSPS company at www.olsps.com/elog.

FACTS is far more than just an electronic logbook as is being discussed in this survey. It is intended to provide for the data collection and reporting around ALL aspects of a fishing trip. Essentially we provide fishery IT department in a box. All data reported via FACTS is available in our central website (via reports and in downloadable formats for personal

Record keeping) so that it is clear what has been submitted to whom (NMFS or otherwise) and when. Wherever possible we allow for revisions to previously submitted data to allow for easy corrections (as long as those revisions do not break business rules of the fishery). All revisions are identified in our central website, so it is clear what was changed and when. As part of our regular fee, we handle all regulatory changes that require changes to be made to the system for free. When we can work with a group of vessels (which allows for broad discussions about changes/enhancements to FACTS as opposed to individual conversations) we will add/modify reports and make enhancements based on feedback for free. We have a great deal of flexibility in our pricing and use that flexibility to come up with a fee that makes sense for the fishery and the participants. As a side note, Electric Edge has recently completed a report for NOAA that analysed federal commercial fishery dependent data collection in all regions and suggested ways in which those efforts could be modernized to make data collection far less error prone and reduce the burden of reporting on fishers. We are both fishery and systems experts with over 15 years of experience At it's core, FACTS™ is more than just a data collection tool and is instead a complete data collection, management, and reporting platform Every eVTR submission is stored in our system and constitutes a "trip". We provide a trip search that allows past submissions to be found and once found, the full trip details can be accessed (including revisions made to the data following NMFS rules on data revisions). FACTS™ is a constantly evolving system based on our own perception of required changes/enhancements and more importantly from feedback from our customers. Although we cannot anticipate every possible useful report, we do add reports to the system for free as part of our annual subscription fee. It is also possible for us to add other useful features such as catch hot spot reporting to all customers and similar information to aid in conducting successful trips. We encourage feedback and prefer to hear complaints so that we can address them as quickly as possible. It is anticipated that reports (which will be viewed in FACTS™ as well as can be downloaded) will be added to provide information to aid in business analysis for charter/head boat operators. Really it comes down to what our customers ask for - if it is doable without increasing prices charged - we'll add it...simple as that.

Cost: Electric Edge has not yet conducted the market research required to determine a price. Pricing for FACTS™ has historically been for an entire fishery (or multiple fisheries) as opposed to individual operators. If any charter/head boat groups/associations exist and can provide a single or limited number of individuals to communicate with in terms of our support and their desired changes/enhancements over time, a discounted rate to the members of such groups may be possible. Contact bryan@fisheryfacts.com or 1-250-920-8830.

How to purchase system: Via a secure online subscription form we will added to website (www.fisheryfacts.com) for charter/head boat operators.

eLog - Our system has been developed and updated with direct input from the fishermen that use it and we perform updates to

continuously improve the usability and user experience. eLog can be used as a personal fishing log – data can be saved/stored as well as being delivered to regulators. Also eLog can be fully integrated into electronic monitoring systems and is interoperable with ThisFish, a world class traceability system. Designed to be extensible and with features that can be added on demand, we are committed to making an easy to use handheld eLog for on-deck catch tracking.

Cost: Currently the elog software is integrated into our electronic monitoring systems (which cost between $2,900 - $6,000 depending on the number of cameras and sensors needed). We are currently testing an application version of the elog software that would run on a tablet with cellular capabilities. The tablet with the software installed would cost ~$1,000.00 and would include a year of service (i.e. assurance of delivery to regulators, software maintenance and technical support). In subsequent years the service costs would be somewhere between $100 - $300 depending on amount of tech support.

How to purchase system: To purchase a system contact amanda@ecotrust.ca.

 FLDRS (Fisheries Logbook and Data Recording Software) is designed for those commercial operators participating in the NOAA Northeast Fishery Science Center's (NEFC) Cooperative Research Program. FLDRS also satisfies the requirements for submitting eVTRs. If you are already using FLDRS to submit VTRs electronically, you should continue to do so, If you are interested in participating in cooperative research with the Northeast Fishery Science Center you may also be interested in using this program (note that this research involves collecting additional data, including location-specific fishing data). Additionally, **the only application that will currently allow you to comply with reporting guidelines for ocean quahog and clams is the FLDRS software (previously called eClams for surfclam and ocean quahog reporting)**. Contact Dominique St. Amand, NEFSC, at (508) 495-2121 or dominique.st.amand@noaa.gov for information on how to enroll.