

Vendor Technical Specifications and Approval Process for the Southeast Electronic For-Hire Integrated Reporting Program Software Applications

National Marine Fisheries Service Southeast Regional Office



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INTRODUCTION

All owners or operators of vessels issued a charter vessel/headboat permit (for-hire permit) from the National Marine Fisheries Service (NMFS) Southeast Region must report landings, effort, and other data through NMFS-approved software applications. The Southeast For-Hire Integrated Electronic Reporting (SEFHIER) program will use third-party vendor developed applications that will enable these fishers to submit their data to a data warehouse. Fishers will be able to choose an application that meets the requirements of the program as well as their individual needs.

This document provides technical specifications and the approval process for software applications to ensure that software meets the reporting requirements, such as file layouts, security, and submittal protocols that are specified by the SEFHIER program. SEFHIER staff will review and ensure the software applications are in compliance with regulatory and technical requirements. Beyond the requirements contained in this document, the layout and feature set of the product will be left to the vendor.

Further information regarding the SEFHIER Program can be found at: <https://www.fisheries.noaa.gov/southeast/southeast-electronic-reporting-technologies>.

To guide vendors in their efforts to develop electronic reporting applications, technical specifications are provided that all software applications must meet to be approved for use in the SEFHIER Program. These technical specifications define the requirements, processes, and best practices that need to be addressed and met during the development and implementation of the for-hire electronic reporting applications.

REGULATORY REQUIREMENTS

The regulatory requirements for fishers with a federal for-hire permit in the South Atlantic or Atlantic or Gulf of Mexico (Gulf) can be different. For purposes of this document, references to a South Atlantic for-hire permit include a federal for-hire permit for Atlantic coastal migratory pelagics (CMP), Atlantic dolphin and wahoo, or South Atlantic snapper-grouper; references to a Gulf for-hire permit include a federal for-hire permit for Gulf CMP or Gulf reef fish .

The proposed rule to implement the South Atlantic Fishery Management Council's electronic for-hire reporting amendment can be found here:

<https://www.federalregister.gov/documents/2018/04/04/2018-06794/fisheries-of-the-caribbean-gulf-of-mexico-and-south-atlantic-electronic-reporting-for-federally>.

The proposed rule to implement the Gulf of Mexico Fishery Management Council's electronic for-hire reporting amendment can be found here:

<https://www.federalregister.gov/documents/2018/10/26/2018-23348/fisheries-of-the-caribbean-gulf-of-mexico-and-south-atlantic-electronic-reporting-for-federally>.

South Atlantic Electronic For-Hire Reporting:

Under the SEFHIER program, an owner or operator of a charter vessel with a South Atlantic for-hire permit must submit trip-level electronic logbook reports **weekly**, or at shorter intervals if notified by NMFS, through hardware and software approved for the SEFHIER program. Fishers must submit “no fishing reports” during any weeks when no fishing occurred. The electronic fishing report will include required data elements. These requirements are a condition of the federal for-hire permits and are required regardless of where fishing is occurring.

Gulf of Mexico Electronic For-Hire Reporting

Under the SEFHIER program, an owner or operator of a charter vessel with a Gulf for-hire permit must submit trip level electronic logbook reports through hardware and software approved for the SEFHIER program. These reports must be submitted **prior to offloading** any fish. The Gulf reporting requirements differ from the South Atlantic reporting requirements in that the Gulf requires reporting prior to offloading catch, a trip declaration (hail out) be made before leaving the dock, and an operating location tracking device be permanently affixed to the vessel. Fishers must comply with these requirements regardless of where fishing is occurring. Vendors must develop applications that can gather and transmit both logbook and hail-out forms. Software and hardware for location tracking devices has a separate approval process.

Vessels with Federal For-Hire Permits from Multiple Regions

Once the SEFHIER program is fully implemented, vessels with both South Atlantic and Gulf federal for-hire permits will need to comply only with the more stringent reporting requirements of the Gulf electronic for-hire reporting program.

Similarly, vessels with federal for-hire permits from both the South Atlantic and Greater Atlantic Region will need to meet the more stringent reporting requirements with respect to both timing and required data elements. The Greater Atlantic Region requires electronic reports from federal for-hire vessels to be submitted within 48 hours following a fishing trip, which is a greater frequency relative to the South Atlantic requirements. However, the data elements between the two programs are slightly different. All data elements for both programs must be displayed for dual permit holders. To avoid multiple reports, approved software must provide the South Atlantic data elements for vessels with both South Atlantic and Greater Atlantic federal for-hire permits. Greater Atlantic fishers would be required to submit the combined report at the frequency specified by the Greater Atlantic Region.

REQUIRED DATA ELEMENTS

Logbook Form (South Atlantic and Gulf):

The data collected in the electronic logbook will contain trip information, trip effort, and trip catch information. The complete list of required data elements is available in Appendix A. These fields must contain values within the provided range before the report is allowed to be submitted. Vendors must provide an error message describing any missing/incorrect fields if submission is denied.

Trip Information

The trip information in the electronic logbook must identify the vessel (state and/or U.S. Coast Guard registration depths and areas fished, and the dates and times for when the vessel departed and returned to port. The departing and returning ports might not be the same port for some vessels or some trips. In addition, vendors may implement autofill for some data elements (see Appendix A).

Fishermen with South Atlantic for-hire permits must submit “no fishing reports” during the weeks that no fishing occurred. Software applications must be capable of these weekly no-fishing reports. No-fishing reports can be submitted for up to 30 days in advance.

Effort and Location Information

The effort information captures information on gear type, target species, number of anglers, number of crew, hours fished, location, and depth.

Captains must report the primary area where the vessel fished. Software applications must capture a single location to a one-minute grid by providing a map application or by allowing entry of latitude/longitude degrees and minutes.

Catch Information

The catch information must include the species caught, including number of kept and discarded fish.

Economic Information

The economic information must include number of paying passengers, price of charter, cost of fuel, and amount of fuel used.

Declaration (applies to Gulf permit holders only):

The Trip Declaration must be completed and submitted prior to leaving on a trip. The trip declaration includes trip activity type, trip type, landing location, trip start date and time, trip end date and estimated time, and time zone. The complete list of required data elements for the trip declaration is available in Appendix B. These fields must contain values within the provided range before the report is allowed to be submitted. Vendors must provide an error message describing any missing/incorrect fields if submission is denied.

Note: The vessel operator will need to know the landing location codes. Approved landing location codes will be published at: <https://www.fisheries.noaa.gov/southeast/southeast-electronic-reporting-technologies>

Location Tracking Device (applies to Gulf permit holders only):

Approval of a location tracking device, either satellite- or cellular-based, and associated forms, for use in the SEFHIER program will be completed through the NOAA Office of Law

Enforcement Vessel Monitoring System Program. The approval process for cellular-based devices is currently under development.

For more information, contact the OLE help desk at: ole.helpdesk@noaa.gov.

DATA TRANSMISSION

For-hire electronic reports will be required to be submitted to the Atlantic Coastal Cooperative Statistical Program (ACCSP) using the Standard Atlantic Fisheries Information System (SAFIS) Unified Application Programming Interface (API) via tablet, smart cell phone, or online direct transfer.

Trip declaration and logbook data submitted to the electronic reporting program must conform to the SAFIS Unified API, which can be found here:

https://www.accsp.org/safis_unified_api_reference_prod/

The API is used by remote applications to communicate with the SAFIS backend database server. Data are passed in Java Script Object Notation format, and returned the same way. A remote application using this API can be either web-based or a mobile application in an embedded device or a phone, so the term “device” is used to refer to the remote application.

OTHER REQUIREMENTS

Quality Assurance and Quality Control (QA/QC)

For-hire electronic reports submitted to ACCSP, are subject to numerous QA/QC range limits and audits. Any software or application must contain the same QA/QC range limits and audits as listed in Appendices A, B, and D, and reject any field that does not meet the requirements. Any rejection should include an error message stating the reason for the error. This will inform the vessel operator the error must be corrected before submitting the report. Reports should be prevented from being submitted until all errors are corrected.

Corrections to Previously Submitted Reports

Software applications can only allow for corrections by a vessel representative up to 48 hours after submission. Certain errors in an electronic report can only be discerned after the report is submitted and its data elements are compared to other data sources. Developers must allow the SEFHIER program to correct errors to reports. These corrections must be updated in the original report and made accessible to the vessel representative once corrected.

Display of For-Hire Electronic Reports

The application must allow the vessel operators to display electronic reports from any previous trips when requested by authorized personnel for enforcement and compliance verification. The electronic report display must show that the trip was successfully submitted (e.g., submission confirmation number or check mark) and the date and time of submission.

Helpdesk and Vendor Support

Vendors must provide helpdesk support to the users of the software application. During the approval process, vendors are required to specify the details of their helpdesk support such as days, hours, and available services.

Useful Features

Although not required, the following features should be considered by vendors for use in software for the application.

- Tutorials and other outreach materials related to how to use the application;
- 24-hour support via chat, email or toll-free phone number;
- Ability to select favorites i.e., ten most common species in catch
- Autofill for repeat items (see Appendix A and B).

APPROVAL OF SOFTWARE APPLICATIONS

The SEFHIER program has developed an approval process to identify which applications have met the technical specifications. The approval process for software applications described in this section is the same for both South Atlantic and Gulf electronic logbooks, and Gulf trip declarations.

The review of the software application will be coordinated with the vendor, and the SEFHIER program will use the application created in its testing phase as the primary review materials. It is expected that this process will involve multiple discussions between SERO staff and the vendor.

To augment the approval of a software application based on vendor submitted required materials, the SEFHIER program reserves the right to carry out application quality assurance reviews, at their discretion.

Requesting Review of Software Applications

To initiate the approval process, interested parties must submit a completed software application to the SEFHIER program.

The software application packet must contain the following information:

- Name of the software application vendor;
- Name of the individual from the vendor who will act as the point of contact in all communication with SERO;
- Mailing address;
- Phone number;
- Email address;
- Test version of the software application and test usernames and passwords;
- User help guides;
- Description of helpdesk support availability;

- Letter attesting that the technical specifications were followed during the development of the vendor software application and will continue to be met;
- Signature block and signature of signing authority.

This software application can be mailed to the following address:

Southeast Regional Office—Electronic Reporting Program

Attention: SEFHIER Vendor Approval

263 13th Ave SW

St. Petersburg, Florida 33701

Email: ser.electronicreporting@noaa.gov

Subject: SEFHIER Vendor Approval

Upon receipt of the software application packet, the SEFHIER staff will send an email containing information related to timing of the review, and may request more information.

Review of Software Applications

SEFHIER staff will work with the vendor to test and affirm that the software application meets the technical specifications. Specifically, SEFHIER staff will review the software application to ensure that:

- The software application is capable of meeting the minimum regulatory and SEFHIER Program requirements (e.g. weekly reporting, trip-level reporting);
- The software application collects the appropriate data elements in the format specified by the technical specifications;
- The software application complies with NMFS data security requirements and confidentiality standards including: login credentials, password protection, and data encryption;
- The software application is able to transmit data to ACCSP through the API specified in the technical specifications;
- The vendor provides appropriate documentation and help on how to use the application; and
- The vendor describes the level of technical support available and how to access it.

Review of software applications by SEFHIER staff will take at least four to six weeks. To review an application, SEFHIER staff will need to have access to a test version of the application and may require webinar or in-person discussions with the vendor to understand and provide guidance on needed changes. During the review period, SEFHIER staff may request additional information and/or materials at its discretion to help facilitate the review and approval process.

Development of a software application is the sole responsibility of the vendor. SEFHIER staff will only provide limited technical assistance to the vendor.

Approval of Software Application

Upon completion of the review of the software application, vendors will be notified by email of the SEFHIER program's decision on approval. Vendors that meet the qualifications of the

program will be listed on the SERO Electronic Technologies web page (<https://www.fisheries.noaa.gov/southeast/southeast-electronic-reporting-technologies>).

Unsuccessful vendors are required to address issues identified in the written notification to restart or continue the approval process. If an issue is identified after approval of the software application, SEFHIER staff will communicate with the vendor to address the situation. Approval may be revoked at the discretion of SEFHIER staff, including removing the software application from the approved list of vendor applications on the SEFHIER webpage.

Quality Assurance Review

To ensure the continued accuracy and integrity of the approval process, SEFHIER staff reserves the right to carry out quality assurance reviews after approval of the software application, which may include one or more of the following:

- Testing of the software application on various platforms;
- Access to the production copy of the software application;
- Access to the vendor's test environment;
- Confirmation of successful data transmission;
- Confirmation of continued compliance with data architecture and security best practices;

Failure to adequately respond to the SEFHIER program's request for a quality assurance review or failure to meet technical specifications during a quality assurance review is grounds for removal of a software application from the approved list for use in the SEFHIER Program.

Changes and Updates to Existing Approved Software Applications

NOAA Fisheries may amend the requirements for the SEFHIER program and may require vendors to make changes to their software based on new requirements. These changes would have to be made within 60 days of being notified of the required changes in order to remain approved.

Upgrades to existing software applications, or changes to address bugs, are part of the application development cycle and are the responsibility of the vendor. To ensure that SERO staff is fully aware of all changes made to the application, and to be able to effectively communicate with fishers about the proper qualified version, application vendors who make changes are required to notify SERO with the following:

- Title of the software application;
- Updated version number;
- List of updated changes;
- Date of effective changes.

Failure to follow these procedures is grounds for approval revocation and can result in removal from the list of approved software applications for use in the SEFHIER program. If issues with the approved software arise due to updates or other reasons, SERO may require the vendor to go through the software application approval process again.

APPENDIX A: REQUIRED DATA ELEMENTS AND FORMAT FOR THE CHARTER/HEADBOAT LOGBOOK

DATA ELEMENT	UNITS
USCG Vessel ID or State vessel ID	
Vessel Name	
Captain Name	
First Name	
Last Name	
Start Port	
Landing Location	
Trip Start Date	
Trip Start Time	24-hour clock
Trip End Date	
Trip End Time	24-hour clock
Fishing Hours	hours
Primary Target Species	
Primary Gear	
Species Caught on Trip	

Name	
Number Kept (by species)	
Number Released (by species)	
Area Fished	
Latitude	degrees and minutes
Longitude	degrees and minutes
Primary Fishing Depth	feet
Minimum Fishing Depth	feet
Maximum Fishing Depth	feet
Number of Anglers	
Number of Paying Passengers	
Number of Crew	
Trip Fee	dollars
Fuel Used	gallons
Price of Fuel	dollars/gallon

General Processing:

- Fields without a value provided by the permit holder should result in an error message and denial of submission.
- Any commas places in an entry field must be removed prior to transmission.
- Must have Date/Time stamp for message (UTC)

US Coast Guard Documentation Number or State Registration Number:

Populated by vendor through account set-up.

Autofill OK

Vessel Name

Populated by vendor through account set-up

Autofill OK

Captain's First Name

Type: Alpha

Valid Values: A-Z

Captain's Last Name

Type: Alpha

Valid Values: A-Z

Start Port

Type: Numeric (5 digits)

Valid values: 0-9

Range checks: See Appendix C

Note - This list will be added to over time.

Autofill OK

Landing Location

Type: Numeric (5 digits)

Valid values: 0-9

Range checks: See Appendix C

Note - This list will be added to over time.

Autofill OK

Trip Start Date

Trip Start Month

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 01 – 12

Trip Start Day

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 01 – 31

Trip Start Year

Type: Numeric, 4 Digits

Valid Values: 0-9

Range Checks: 2020-2030* (*revise this in 10 years)

Trip start Time

Trip Start Hour

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-23

Trip Start Minute

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-59

Time Zone

Type: Alphabetic

Valid values: AST, EST, CST

Trip End Date

Trip End Month

Type: Numeric, 2-Digits

Valid Values: 0-9

Range Checks: 01 – 12

Trip End Day

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 01 – 31

Trip Start Year

Type: Numeric, 4 Digits

Valid Values: 0-9

Range Checks: 2020-2030* (*revise this in 10 years)

Trip End Time

Trip End Hour

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-23

Trip End Minute

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-59

Time Zone

Type: Alphabetic

Valid values: AST, EST, CST

Number of Hours Fished

Type: Numeric, 2 Digits

Valid values: 0-9

Range checks: 00-999

Primary Target Species

Type: Numeric 6 digits (ITIS Species Number)

Valid values: A complete listing of ITIS (Integrated Taxonomic Information System) numbers are listed in Appendix C.

Vendor must collect this via

- a. Dropdown menu of species names for the SEFHIER program and/or
- b. Direct entry of the words (e.g. "GREATER AMBERJACK")

In addition to collecting via "a" or "b" the vendor may allow direct entry of the ITIS Species Number

Range Checks: _ITIS numbers. See Appendix C

Primary Gear Code

Type: Numeric, 2 or 3 Digits

Valid Values: As listed in Appendix C.

Vendor must collect gear type via dropdown menu of gear type

Species Caught

Species Caught data will be comprised of comma delimited numbers which taken in groups of three (a triune) describe the *ITIS species number*, *number of fish retained*, and *number of fish released*. **Users must be able to input an unlimited number of triunes of data.**

Species Name

Vendor must collect this via:

- a. Dropdown menu of SEFHIER Species List, and/or
- b. Direct entry of the words (e.g. "GREATER AMBERJACK"),

In addition to collecting via "a" or "b" the vendor may allow direct entry of the ITIS Species Number

Data should be transmitted using ITIS Species Number

Valid values: A complete listing of ITIS (Integrated Taxonomic Information System) numbers are listed in Appendix C.

Number Kept

Type: Numeric 3 digits

Valid values: 0-9

Range checks: 0-999

Number Released

Type: Numeric 3 digits

Valid values: 0-9

Range checks: 0-999

Primary Area Fished

Area Fished (AA ° BB' CCC ° DD')

The data represents a geographic coordinate defined by degrees and whole minutes of latitude and degrees and whole minutes of longitude.

- AA represents whole degrees of latitude.
- BB represents whole minutes of latitude.
- CCC represents whole degrees of longitude.
- DD represents whole degrees of latitude.

North latitude and East longitude degrees are expressed as positive numbers, South latitude and West longitude degrees are expressed as negative numbers. Minutes are expressed as positive numbers regardless of their cardinal direction.

The expected format will be two numbers (either positive or negative), a space, two numbers, a space, three numbers (either positive or negative), a space, and two numbers.

Valid Values and Range Checks: Most Area Fished data will represent positions within the Gulf of Mexico or along the Atlantic seaboard, but theoretically, any valid latitude and longitude value from any position in the world should be accepted. Therefore:

AA must be between -90 and 90

BB must be between 00 and 59

CCC must be between -180 and 180

DD must be between 00 and 59

Example: (26 30 -084 30) which translates to 26° 30' North, 084° 30' West.

Primary Fishing Depth

Type: Numeric, 4 Digits

Valid Values: 0-9

Range Checks: 0-9999

**Must be limited to within the range of minimum fishing depth and maximum fishing depth.

Minimum Fishing Depth

Type: Numeric, 4 Digits

Valid Values: 0-9

Range Checks: 0-9999

Maximum Fishing Depth

Type: Numeric, 4 Digits

Valid Values: 0-9

Range Checks: 0-9999

Number of Anglers

Type: Numeric, 3 Digits

Valid Values: 0-9

Range Checks: 0-999

**Number of Anglers cannot exceed Number of Paying Passengers

Number of Paying Passengers

Type: Numeric, 3 Digits

Valid Values: 0-9

Range Checks: 0-999

Number of Crew

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 0-10

Trip fee

Type: Numeric, 5 Digits (decimal point) 2 Digits

Valid Values: 0-9

Range Checks: 0-99999.99

(Vendors, auto populate the decimal before the last two numeric values, representing dollars and cents)

Fuel Used (gallons)

Type: Numeric 4 digits (decimal point) 1 digit

Valid Values: 0-9

Range Checks: 0000.0-9999.9

(Vendors, auto populate the decimal point before the last numeric values, representing the gallons of fuel used during the trip)

Price of Fuel per Gal

Valid Values: 0-9

Range Checks: 00.00 to 10.00

(Vendors, auto populate the decimal point before the last two numeric values, representing the price of fuel used during the trip)

APPENDIX B: REQUIRED DATA ELEMENTS AND FORMAT FOR THE GULF DECLARATION

DATA ELEMENT
USCG Vessel ID or State vessel ID
Trip Activity
Trip Type
Landing Location
Trip Start Date
Trip Start Time
Trip End Date
Trip End Time
Gear Code*

*This field is optional for fishermen to answer on the declaration form. The following text should precede this field: “The owner/operator of a for-hire vessel that has for-hire permit AND has a commercial reef fish permit, must answer the following question.”

General Processing:

- Fields without a value provided by the permit holder should result in an error message and denial of submission.
- Any commas places in an entry field must be removed prior to transmission.
- Must have Date/Time stamp for message (UTC)
- Vessels with a Gulf commercial reef fish permit must submit a Commercial Reef Fish declaration if on a commercial trip.

US Coast Guard Documentation Number or State Registration Number:

Populated by vendor through account set-up.
Autofill OK

Trip Activity

Type: Alphabetic

Valid values:

Description	Code
Commercial	C
For-Hire: Charter	A
For-Hire: Headboat	H
Recreational (private angler)	R

If they list a C or R then we do not need to collect anything other fields on this form. The data will be sent with only the date and time stamp, and form name. All other data fields need to populate with zeros or null values.

Trip Type

Type: Alphabetic

Valid values:

Description	Code
Intended Fishing Trip	
Intended Non-Fishing Trip	

Landing Location

Type: Numeric (5 digits)

Valid values: 0-9

Range checks: See Appendix C

Note - This list will be added to over time.

Autofill OK

Trip Start Date

Trip Start Month

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 01 – 12

Trip Start Day

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 01 – 31

Trip Start Year

Type: Numeric, 4 Digits

Valid Values: 0-9

Range Checks: 2020-2030* (*revise this in 10 years)

Trip start Time

Trip Start Hour

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-23

Trip Start Minute

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-59

Time Zone

Type: Alphabetic

Valid values: AST, EST, CST

Trip End Date

Trip End Month

Type: Numeric, 2-Digits

Valid Values: 0-9

Range Checks: 01 – 12

Trip End Day

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 01 – 31

Trip Start Year

Type: Numeric, 4 Digits

Valid Values: 0-9

Range Checks: 2020-2030* (*revise this in 10 years)

Trip End Time

Trip End Hour

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-23

Trip End Minute

Type: Numeric, 2 Digits

Valid Values: 0-9

Range Checks: 00-59

Time Zone

Type: Alphabetic

Valid values: AST, EST, CST

Primary Gear Code

Type: Numeric, 2 or 3 Digits

Valid Values: As listed in Appendix C.

Vendor must collect gear type via dropdown menu of gear type

Appendix C: Look Up Lists

Start Ports: <https://www.fisheries.noaa.gov/southeast/southeast-electronic-reporting-vendor-information>

Landing Locations: <https://www.fisheries.noaa.gov/southeast/southeast-electronic-reporting-vendor-information>

Species: <https://www.fisheries.noaa.gov/southeast/southeast-electronic-reporting-vendor-information>

Gear: <https://www.fisheries.noaa.gov/southeast/southeast-electronic-reporting-vendor-information>

Appendix D – Examples of Quality Control Audit Rules

This list includes examples of quality control audit rules that have been used in electronic reporting systems. The list will change through time based on program needs and includes entry audit rules and post-entry audit checks.

Entries should be rejected if the following are true:

Date Landed After Today's Date

Date Landed Before Start Date of Trip

Start Date of Trip After Today's Date

Start and end date/time do not overlap with existing trip or within a trip

Duplicate Trip Reported

Mismatch Between catch Reported and Catch Record Count

Fishing Hours exceeds time of trip

Minimum Fishing Depth is greater than Primary Fishing Depth

Maximum Fishing Depth is less than Primary Fishing Depth