Electronic Vessel Trip Reporting (eVTR) Technical Requirements Guide

For eVTR Application Developers

Rev. 1.5

Greater Atlantic Regional Fisheries Office (GARFO)

Analysis & Program Support Division (APSD)

Gloucester, MA

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1 Introduction

This guide provides the technical information that you need to satisfy the programming requirements for electronic reporting. The guide comprises three principal sections:

- The basics of GARFO’s Electronic Vessel Trip Report (eVTR)
- Application Programming Interface (API) requirements for software application developers

NOTE: The Federal Register outlines the regulatory requirements that eVTR software must meet. See the proper references in the section Regulatory References in this guide.

- Reference information

Use the links in the Table of Contents or the links embedded throughout this guide to quickly navigate to the information you want.

1.1 Audience

This guide is intended for programmers whose expertise ranges from intermediate to advanced. This guide is not intended for novice programmers who do not have a working knowledge of APIs. Novice programmers should refer to API tutorials. More experienced users should feel free to use the Table of Contents in order to look up specific information as needed.

1.2 Product Support

GARFO must endorse your product’s adherence to regulatory and technical requirements. To request assistance, contact the IT Service Desk by phone or by e-mail:

- Phone: 978-281-9188
- E-mail: nmfs.gar.helpdesk@noaa.gov

1.3 Note Concerning Revision History

When GARFO changes eVTR technical requirements, we also update the information in this guide to reflect those changes. To obtain important information about updates to the technical requirements at this release, or to obtain information about updates at previous releases, please consult the section Document Revision History elsewhere in this guide.
2  eVTR Composition

The fishing vessel’s owner/operator files a Vessel Trip Report (VTR) after a fishing trip. If the owner/operator files the report electronically, the report is called an eVTR. The report includes but is not limited to information about the trip duration, the fishing effort expended (gear used, location, and duration fished), the species that were caught, and their landed weight. VTR data are the definitive source of fishing effort information (gear and area) which is a critical input to ensure accurate catch monitoring.

Information in this section includes the following topics:

- How GARFO Organizes eVTR Information
- Subtrips
- eVTR Unique Trip Identifier (UTID)
- File Format
- Electronic Signature
- File Transfer
- Error Checking
- eVTR User Interface Requirements

2.1  How GARFO Organizes eVTR Information

GARFO internally organizes the fishing trip data in an eVTR as follows:

1)  Trip
    Identifies the vessel, trip type (commercial, party, charter or recreational), number of crew/anglers and the dates and times for when it departed and returned to port (sailed and landed respectively).

2)  Effort
    Identifies subtrip information (see the section Subtrips). This portion of the VTR captures the location where the vessel fished, gear information, haul/soak time, number of hauls/sets/strings, etc.

3)  Catch
    Identifies the species and the amount of the catch (kept and discarded) for each subtrip.

4)  Sales
    Identifies the dealer(s) that bought the catch (or the ultimate disposition of the catch), and also the date and port of the offload associated with each subtrip.

5)  Signature
    Provides the verification by the vessel owner / operator that the information being submitted on the report is correct.
2.2 Subtrips

A subtrip represents the effort and catch associated with a unique combination of the following:

- Chart area
- Gear type
- Mesh size

If any of these elements change during the course of a trip, a new subtrip starts, and the vessel owner/operator must record additional catch and effort information.

A well-designed eVTR program or application has the ability to significantly reduce the amount of time required for a vessel operator to comply with their VTR reporting requirements by eliminating the need to fill out information that stays the same throughout the trip (for example, vessel permit, date sail and land, trip type).

This means that the application programmer must code the application so that the user supplies data for the fields in the Trip and Signature information only once, since these fields apply to the entire trip.

2.3 eVTR Unique Trip Identifier (UTID)

The eVTR application must build and generate a unique trip identifier (UTID) that serves as the key by which all fisheries data systems are referenced from a specific fishing trip.

2.3.1 UTID Composition

The eVTR application must build the UTID from the following numeric data:

- Vessel Permit Number (6 digits) as listed on the vessel’s Federal fishing permit
  
  The Vessel Permit Number is also referred to as the VPN.
- Year (2 digits)
- Month (2 digits)
- Day (2 digits)
- Hour (2 digits, based upon 24 hour clock / military time)
2.3.2 UTID Example

A single numeric string constitutes the eVTR UTID, such as the following example:

12345621063023

Figure 1 shows how to read the eVTR UTID:

![Figure 1: Reading the eVTR UTID](image)

NOTE: The year, month, day and hour portion of the eVTR UTID represent the time at which the trip report was initiated.

2.3.3 UTID Usage Notes

Be aware of the following information in accounting for the eVTR UTID:

- Once the eVTR application generates the value of the eVTR UTID, the value cannot change.
- The eVTR UTID shall be readily available to the vessel owner/operator. The UTID:
  - Must be available when the trip report is initiated.
  - Is required by the seafood dealer before the catch can be purchased from the vessel.
- If two duplicate trip IDs are created by starting trips in rapid succession, it is acceptable to increment the last two digits.
- NMFS uses the eVTR UTID to link a fishing trip to other Fisheries Dependent Data (FDD) systems that collect and process data, such as Dealer reports and Observer reports.

2.4 File Format

An eVTR application must fulfill the following file format requirements:

1) Produce a data file in the specified standard format.

   Such a format allows a successful file upload into the GARFO databases. Find the valid file format in the section eVTR Form Specification in this guide.

2) Meet GARFO data collection requirements.

   GARFO provides support tables for standard industry information that a programmer needs to build into the application. Find a list of the valid support tables in the section labeled Support in this guide.

   **NOTE:** A value of NA in a table cell indicates that there is no value or instruction from GARFO concerning that particular instance.
2.5  **Electronic Signature**

Immediately upon completion of a trip report, the vessel owner/operator must have the means to digitally sign the eVTR. The eVTR application must provide the following for electronic signature:

- A way for the vessel owner/operator to verify the operator name and Vessel Permit Number (VPN).
- The display of the following text during the signing ceremony:

  "I certify that the vessel trip information I am providing is true, complete and correct to the best of my knowledge, and made in good faith. Making a false statement is punishable by law (18 U.S.C. 1001)."

2.6  **File Transfer**

GARFO requires that you submit trip report files using the HTTPS POST method. Use the API URL to submit the eVTR. For information, refer to the section JSON API Requirements in this guide.

2.7  **Error Checking**

When the vessel owner/operator submits a trip report to GARFO, the audit engine checks the report against a set of audit rules. The audit engine flags any eVTR that fails one or more audit rules. GARFO subsequently instructs the vessel owner/operator to first correct, then resubmit the report. GARFO requires your application to contain the same error checking logic as the GARFO QC checks in order to prevent the rejection of the report. Find a list of the GARFO QC audits in the section Quality Control Audit Rules later in this guide.

2.7.1  **Corrections to a Previously Submitted eVTR**

GARFO can identify most syntax errors in a submitted eVTR before processing that eVTR. However, GARFO can only identify other types of errors, such as discrepancies between VTR and dealer data sets, after processing the eVTR in the audit rules engine.

If the audit returns one or more errors against the submission, GARFO notifies the vessel owner/operator of the problem(s) so that they may correct the eVTR, and then resubmit. This action requires that eVTR vendors provide a method for copying and then modifying, sometimes significantly, a previously submitted eVTR. The vessel owner/operator must then have the ability to submit the amended eVTR in the same manner as the original submission.

**CAUTION:** The vessel owner/operator must use the trip identifier from the original submission when submitting the revised eVTR.

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2.8 eVTR User Interface Requirements

The eVTR application shall adhere to the following requirements for user interface design:

- Record fishing data accurately as entered.
- Transmit data to GARFO that is an accurate representation of what was reported by the vessel owner/operator.
- Store data entered by owners/operators even if no internet connection is available.
- Enforce the submission of a valid value for each data element required on a particular fishing trip.
- Allow the owner/operator to enter, choose, or confirm all data elements.
- Prevent data element auto-population, or default value generation, without confirmation.
- Generate a unique trip identifier (UTID) as soon as a new trip report is initiated.
- Provide the ability to display all previously submitted reports submitted on that device.

When requested by authorized personnel, eVTR applications must have the capability to display a facsimile of the paper VTR form, including a separate ‘page’ for each subtrip. Ideally, the eVTR software should enable print, export, or email VTR facsimiles.

- Allow the manual entry of latitude/longitude coordinates while also optionally supporting the coordinates to be automatically populated from the device or vessel’s GPS system.

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3 JSON API Requirements

GARFO uses a JavaScript Object Notation (JSON) based API for 3rd-party communications with the eVTR server. JSON is a lightweight, open standard data exchange format, uses a natural language coding scheme, and can work with any framework or platform. Topics in this section include:

- JSON API Generic Sequence
- API Authentication Protocol
- Send eVTR Form to GARFO

3.1 JSON API Generic Sequence

Data is passed and returned in JSON format over the HTTPS protocol by means of requests and responses. You code a request to obtain a resource that’s stored on a remote server, or to transmit data to a remote server, and the remote server responds with the requested information or message. Each action requires a separate request and response.

The following sequence describes a generic request and return exchange between the 3rd-party application and the database server:

1) A 3rd-party application submits an authentication request (if needed) from the device to the API by means of a URL.
2) The application receives a server STATUS message as a JSON object.
   If authentication is successful, that response will include a token string.
3) The bundle of the request (for example, an eVTR form) is passed in the POST header of the HTTPS request using the JSON object format.
4) The API returns the requested data or response as a JSON object.
   The return includes a STATUS indicator.

3.1.1 Base URL

The base URL link is as follows:
https://apps-garfo.fisheries.noaa.gov/base_api/

This URL forms the basis of all requests to the eVTR API module. Create specific requests by appending request strings on this URL.

3.1.2 JSON API Usage Notes

Be aware of the following before you begin to use the GARFO eVTR API module:

- All errors return a STATUS as a JSON object that contains a description of the error.

  See the section named Quality Control Audit Rules for a list of valid codes.

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3.2 API Authentication Protocol

This section describes how to properly submit an authentication request to the system.

3.2.1 Prerequisite: Obtain Valid Username and Password

A Federally-permitted vessel owner / operator must obtain a valid username / password combination from the IT Service Desk before being able to submit a VTR electronically:

- IT Service Desk phone: 978-281-9188
- IT Service Desk e-mail: nmfs.gar.helpdesk@noaa.gov

3.2.2 Authentication

The API authenticates the user's credentials and returns an alphanumeric token that represents the validation of credentials. The token is valid for 45 minutes after it is issued, and may be included in a VTR within that time period.

- The authentication values are in the submitted JSON.
- The order of the fields does not matter.

```json
{
    "authorization": {
        "username": "Thetis",
        "password": "Thetis_password",
        "vendor_id": "1234567",
        "vendor_software_version": "1.1.0.1",
        "vendor_app_name": "ReallyNeat FishingApp",
        "vendor_app_platform": "ANDROID"
    }
}
```

3.2.2.1 App Platform

The field vendor_app_platform key should describe the operating system or environment that the app is running on. This might be used to identify and remedy an issue in a certain version of an app, or if the codebase is shared between platforms, it is not necessary to identify the platform to fill out this field. For example, a JavaScript app that runs on multiple platforms could use BROWSER. Recommended values:

- BROWSER
- IOS
- IPAD
- IPHONE
- MAC CATALYST
- MAC OS
- ANDROID
- WINDOWS

Or any value deemed reasonable for your application.
3.2.3 Returns from Authentication Request

Authentication attempt returns one of two possible results.
- Return from correct authorization
- Return from incorrect authorization

3.2.3.1 Return from Correct Authorization

Following is a representation of the return from a correct authorization request. The values themselves are for example purposes only.

```
{
    "user_app_status": "TEST",
    "user_full_name": "user_full_name",
    "Status": "Logged In",
    "token": "a_very_long_cryptic_string",
    "token_expires": 1609941713,
    "client_id": "id of user",
    "operator_key": "operator key"
    "vtr_preferences": [],
    "broadcast_message": [],
    "entitlements": [
        {
            "vessel": "555555"
        },
        {
            "vessel": "555556"
        }
    ]
}
```

3.2.3.2 Return from Incorrect Authorization

Following is an example of the return from an incorrect authorization request.

```
{
    "Status": "Logged Out"
}
```

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3.3  **Send eVTR Form to GARFO**

This call submits an eVTR form for a logged in, authenticated user to the GARFO eVTR database.

3.3.1  **Request Format**

Following is the JSON format. The values in the examples in this section are placeholders only. The order of the fields is your choice.

3.3.2  **Endpoints**

Following are the supported endpoints for each submission request. Be aware that adding the string test to the end of the URL directs the request to a test system, and does not affect the vessel owner/operator’s reporting compliance in any way. Use the test endpoint to verify your code.

**WARNING:** *DO NOT* submit test data to the production endpoint!

- [Production](https://apps-garfo.fisheries.noaa.gov/base_api/evtr/v_1_sales)
- [Test](https://apps-garfo.fisheries.noaa.gov/base_api/evtr/v_1_sales/test)

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3.3.3 JSON Format (Test)

**WARNING:** *DO NOT* submit test data to the production endpoint!

### 3.3.3.1 URL

https://apps-garfo.fisheries.noaa.gov/base_api/evtr/v_1_sales/test

### 3.3.3.2 Description

The user designs the eVTR submit request so that Sales and Catch are self-contained units of data. The separate arrays method means that you don't have to link Sales to a specific Effort.

**CAUTION:** The total of the *kept* value **must equal** the total *sold* value for the entire trip.

```json
{
    "vendor_id": 22222,
    "vendor_software_version": "0.0.0",
    "vendor_app_name": "ReallyNeat FishingApp",
    "vendor_app_platform": "ANDROID",
    "token": "ABC123ABC123ABC123ABC123",
    "client_id": 99999,
    "vendor_message_id": "",
    "trip_id": 11111114091913,
    "vessel_permit_num": 111111,
    "vessel_registration": "11",
    "date_sail": 2109190739,
    "date_land": 2109190739,
    "trip_type": 1,
    "number_of_crew": 10,
    "number_of_anglers": null,
    "operator_first_name": "test",
    "operator_last_name": "operator",
    "operator_permit_number": 90000001,
    "no_effort_trip_reason": 0,
    "trip_comments": "",
    "subtrips": [{
        "gearcode": "403LLB",
        "mesh_size": "6",
        "gearqty": "120",
        "gearsize": "1.2",
        "latitude_or_loran1": "42:17",
        "longitude_or_loran2": "-068:51",
        "chart_area": 521,
        "fishing_depth": 50,
        "fishing_depth_uom": "fa",
        "number_of_hauls": 4,
        "tow_soak_time": "5:30",
        "catch": [{
            "species": "cod",
```
"kept": 1000,
"discarded": 100,
"uom": "pounds"
}]},

"sales": [{
"species": "cod",
"sold": 1000,
"uom": "pounds",
"dealer_permit_number": 1621,
"dealer_name": "a & a seafood inc",
"date_sold": 210920
"offloading_port": 220101
}]
4 eVTR Reference

Use this section to obtain reference information on eVTR format and content. Topics include:

- **Support**
- **eVTR Form Specification**
- **Quality Control Audit Rules**
- **Mandatory Use of a Field in eVTR Based on Trip Activity Type**
- **Gear Code and Soak Time Interdependence**
- **Regulatory References**

**NOTE:** A value of **NA** in a table cell indicates that there is no value or instruction from GARFO concerning that particular instance.

### 4.1 Support Files

The eVTR Support Files provide information and codes that you need to build your application. The support JSON files can be found here:

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/Dealers.json**
  Provides dealer permit number, dealer name, and dealer codes for Home Consumption, Bait, etc.

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/Gear.json**
  Provides valid gear codes along with additional information that can be used for range checking values such as mesh size, quantity, soak time etc. associated with a given gear code.

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/Port.json**
  Provides the port code for a specified port and state combination.

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/Species.json**
  Provides synonym(s), species code and common name for species in GARFO. The synonyms provide for lookups using colloquial names. For example, DAB = American Plaice Flounder

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/Activity.json**
  Subcategories used to refine a trip activity type.

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/TripTypes.json**
  Valid trip types

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/ChartArea.json**
  Valid chart areas

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/Operators.json**
  Operator Permits

- **https://apps-garfo.fisheries.noaa.gov/fol/assets/Permits.json**
  Vessel Permits

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### 4.2 eVTR Form Specification

The information presented in Table 1 provides the data specifications (such as data type and numeric precision) for each field used in the eVTR form.

<table>
<thead>
<tr>
<th>FIELD NAME</th>
<th>TYPE</th>
<th>LENGTH OR PRECISION</th>
<th>PARENT</th>
<th>NULLABLE</th>
<th>FORMAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>vendor_id</td>
<td>INTEGER</td>
<td>NA</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>vendor_software_version</td>
<td>VARCHAR</td>
<td>NA</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>vendor_app_platform</td>
<td>VARCHAR</td>
<td>NA</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>token</td>
<td>VARCHAR</td>
<td>500</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>client_id</td>
<td>NUMBER</td>
<td>10</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>vendor_message_id</td>
<td>INTEGER</td>
<td>150</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>trip_id</td>
<td>INTEGER</td>
<td>14</td>
<td>NA</td>
<td>NO</td>
<td>Exactly 14 digits</td>
</tr>
<tr>
<td>vessel_registration</td>
<td>VARCHAR</td>
<td>10</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>date_sail</td>
<td>DATE</td>
<td>12</td>
<td>NA</td>
<td>NO</td>
<td>YYMDDHH24MI</td>
</tr>
<tr>
<td>date_land</td>
<td>DATE</td>
<td>12</td>
<td>NA</td>
<td>NO</td>
<td>YYMDDHH24MI</td>
</tr>
<tr>
<td>trip_type</td>
<td>INTEGER</td>
<td>1</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>number_of_crew</td>
<td>INTEGER</td>
<td>2</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>vessel_permit_num</td>
<td>INTEGER</td>
<td>6</td>
<td>NA</td>
<td>NO</td>
<td>Exactly 6 digits</td>
</tr>
<tr>
<td>number_of_anglers</td>
<td>INTEGER</td>
<td>3</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>operator_first_name</td>
<td>VARCHAR</td>
<td>17</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>operator_last_name</td>
<td>VARCHAR</td>
<td>17</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>operator_permit_number</td>
<td>INTEGER</td>
<td>8</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>no_effort_trip_reason</td>
<td>INTEGER</td>
<td>1</td>
<td>NA</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>trip_comments</td>
<td>VARCHAR</td>
<td>150</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>subtrips</td>
<td>Array</td>
<td>NA</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>gearcode</td>
<td>VARCHAR</td>
<td>3</td>
<td>subtrips</td>
<td>NO</td>
<td>Exactly 3 characters</td>
</tr>
<tr>
<td>mesh_size</td>
<td>NUMBER</td>
<td>6.1</td>
<td>subtrips</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>gearqty</td>
<td>NUMBER</td>
<td>5</td>
<td>subtrips</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>gearsize</td>
<td>NUMBER</td>
<td>6.1</td>
<td>subtrips</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>FIELD NAME</td>
<td>TYPE</td>
<td>LENGTH OR PRECISION</td>
<td>PARENT</td>
<td>NULLABLE</td>
<td>FORMAT</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------</td>
<td>---------------------</td>
<td>---------</td>
<td>----------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>latitude_or_loran1</td>
<td>VARCHAR</td>
<td>8</td>
<td>subtrips</td>
<td>NO</td>
<td>(-)DD.DDDD or (-)DD:MM</td>
</tr>
<tr>
<td>longitude_or_loran2</td>
<td>VARCHAR</td>
<td>9</td>
<td>subtrips</td>
<td>NO</td>
<td>(-)DDD.DDDD or (-)DDD:MM</td>
</tr>
<tr>
<td>chart_area</td>
<td>NUMERIC STRING</td>
<td>3</td>
<td>subtrips</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>fishing_depth</td>
<td>INTEGER</td>
<td>4</td>
<td>subtrips</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>fishing_depth_uom</td>
<td>VARCHAR</td>
<td>3</td>
<td>subtrips</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>number_of_hauls</td>
<td>INTEGER</td>
<td>4</td>
<td>subtrips</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>tow_soak_time</td>
<td>VARCHAR</td>
<td>7</td>
<td>subtrips</td>
<td>YES</td>
<td>9999:59</td>
</tr>
<tr>
<td>catch</td>
<td>Array</td>
<td>NA</td>
<td>NA</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>species</td>
<td>VARCHAR</td>
<td>10</td>
<td>catch</td>
<td>NO</td>
<td>NA</td>
</tr>
<tr>
<td>kept</td>
<td>INTEGER</td>
<td>8</td>
<td>catch</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>discarded</td>
<td>INTEGER</td>
<td>8</td>
<td>catch</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>uom</td>
<td>VARCHAR</td>
<td>3</td>
<td>catch</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>dealer_permit_number</td>
<td>INTEGER</td>
<td>5</td>
<td>catch</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>dealer_name</td>
<td>VARCHAR</td>
<td>40</td>
<td>catch</td>
<td>YES</td>
<td>NA</td>
</tr>
<tr>
<td>date_sold</td>
<td>DATE</td>
<td>6</td>
<td>catch</td>
<td>YES</td>
<td>YYMMDD</td>
</tr>
<tr>
<td>offloading_port</td>
<td>NUMERIC STRING</td>
<td>6</td>
<td>catch</td>
<td>YES</td>
<td>NA</td>
</tr>
</tbody>
</table>
4.3 **Mandatory Use of a Field in eVTR Based on Trip Activity Type**

Table 2 lists each field in the eVTR. An X indicates that the field must have a provided value, based on the trip activity type, as presented in the eVTR Trip Activity Types support table.

**NOTE:** A value of NA in a table cell indicates that there is no value or instruction from GARFO concerning that particular instance.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>MANDATORY FIELDS FOR TRIP ACTIVITY TYPE 0 (FISHING TRIP WITH EFFORT(S))</th>
<th>MANDATORY FIELDS FOR TRIP ACTIVITY TYPES 1-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>trip_id</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>vessel_permit_num</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>vessel_registration</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>date_sail</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>date_land</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>trip_type</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>number_of_crew</td>
<td>Mandatory when trip_type reported as 1 (commercial), 2 (party) or 3 (charter)</td>
<td>Mandatory when trip_type reported as 1 (commercial), 2 (party) or 3 (charter)</td>
</tr>
<tr>
<td>number_of_anglers</td>
<td>Mandatory when trip_type reported as 2 (party), 3 (charter) or 6 (private/recreational)</td>
<td>Mandatory when trip_type reported as 2 (party), 3 (charter) or 6 (private/recreational)</td>
</tr>
<tr>
<td>operator_name</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>operator_permit_number</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>no_effort_trip_reason (Trip Activity Type)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>gearcode</td>
<td>X</td>
<td>NA</td>
</tr>
<tr>
<td>mesh_size</td>
<td>Mandatory depending on gear_code reported. See Table 3 in this guide.</td>
<td>NA</td>
</tr>
<tr>
<td>gearqty</td>
<td>Mandatory depending on gear_code reported. See Table 3 in this guide.</td>
<td>NA</td>
</tr>
<tr>
<td>gearsize</td>
<td>Mandatory depending on gear_code reported. See Table 3 in this guide.</td>
<td>NA</td>
</tr>
<tr>
<td>latitude_or_loran1</td>
<td>X</td>
<td>NA</td>
</tr>
<tr>
<td>longitude_or_loran2</td>
<td>X</td>
<td>NA</td>
</tr>
<tr>
<td>chart_area</td>
<td>X</td>
<td>NA</td>
</tr>
<tr>
<td>fishing_depth (UOM = Fathoms)</td>
<td>X</td>
<td>NA</td>
</tr>
<tr>
<td>Field Name</td>
<td>MANDATORY FIELDS FOR TRIP ACTIVITY TYPE 0 (FISHING TRIP WITH EFFORT(S))</td>
<td>MANDATORY FIELDS FOR TRIP ACTIVITY TYPES 1-8</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>number_of_hauls</td>
<td>Mandatory depending on gear_code reported. See Table 3 in this guide.</td>
<td>NA</td>
</tr>
<tr>
<td>tow_soak_time</td>
<td>Mandatory but tow_soak_time reported may or may not exceed trip duration, depending upon gear_code reported. See Table 3 for requirements.</td>
<td>NA</td>
</tr>
<tr>
<td>species</td>
<td>X</td>
<td>NA</td>
</tr>
<tr>
<td>kept</td>
<td>Mandatory unless species reported is NC (no catch). If species value equals NC, kept can be NULL or 0.</td>
<td>NA</td>
</tr>
<tr>
<td>discarded</td>
<td>Mandatory when kept is NULL or 0 and species code is not NC (no catch). If kept is 1 or greater, the field can still be populated by the user.</td>
<td>NA</td>
</tr>
<tr>
<td>uom</td>
<td>Mandatory; uom for trip_type 1 = pounds, uom for trip_type 2, 3 and 6 = count.</td>
<td>NA</td>
</tr>
<tr>
<td>dealer_permit_number</td>
<td>Mandatory unless the value reported for kept is NULL or 0.</td>
<td>NA</td>
</tr>
<tr>
<td>dealer_name</td>
<td>Mandatory unless the value reported for kept is NULL or 0.</td>
<td>NA</td>
</tr>
<tr>
<td>date_sold</td>
<td>Mandatory unless the value reported for dealer_permit_number is 99998, 1, 4, or 8.</td>
<td>NA</td>
</tr>
<tr>
<td>offloading_port</td>
<td>X</td>
<td>NA</td>
</tr>
</tbody>
</table>

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### 4.4 Gear Code and Soak Time Interdependence

Table 3 shows how the validity of the soak time value depends upon the gear code that was reported.

**Table 3: Gear Code and Soak Time Interdependence**

<table>
<thead>
<tr>
<th>GEAR CODE</th>
<th>GEAR NAME</th>
<th>GEAR CODE DEPENDENT MESH_SIZE</th>
<th>GEAR CODE DEPENDENT GEARQTY</th>
<th>GEAR CODE DEPENDENT GEARSIZE</th>
<th>GEAR CODE DEPENDENT NUMBER OF HAULS</th>
<th>Soak Time Evaluation (RULE ID 169)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST</td>
<td>CASTNET</td>
<td>X</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DIP</td>
<td>&quot;DIP NET, COMMON&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DIV</td>
<td>DIVING GEAR</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td><code>tow_soak_time</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DRM</td>
<td>&quot;DREDGE, MUSSEL&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DRC</td>
<td>&quot;DREDGE, OCEAN QUAHOG/SURF CLAM&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DRO</td>
<td>&quot;DREDGE, OTHER&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DRS</td>
<td>&quot;DREDGE, SCALLOP,SEA&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DSC</td>
<td>&quot;DREDGE, SCALLOP-CHAIN MAT&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DRU</td>
<td>&quot;DREDGE, URCHIN&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DTC</td>
<td>&quot;DREDGE,SCALLOP,CHAIN MAT,MOD&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>DTS</td>
<td>&quot;DREDGE,SCALLOP,TURTLE DEFLECT&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time * number_of_hauls</code> cannot exceed time at sea</td>
</tr>
<tr>
<td>FYK</td>
<td>FYKE NET</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time</code> can exceed time at sea</td>
</tr>
<tr>
<td>GND</td>
<td>&quot;GILL NET, DRIFT,LARGE MESH&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td><code>tow_soak_time</code> can exceed time at sea</td>
</tr>
<tr>
<td>GEAR CODE</td>
<td>GEAR NAME</td>
<td>GEAR CODE DEPENDENT MESH_SIZE</td>
<td>GEAR CODE DEPENDENT GEARQTY</td>
<td>GEAR CODE DEPENDENT GEARSIZE</td>
<td>GEAR CODE DEPENDENT NUMBER OF Hauls</td>
<td>Soak Time Evaluation (RULE ID 169)</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>GNT</td>
<td>&quot;GILL NET, DRIFT, SMALL MESH&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>GNO</td>
<td>&quot;GILL NET, OTHER&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>GNR</td>
<td>&quot;GILL NET, RUNAROUND&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>GNS</td>
<td>&quot;GILL NET, SINK&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>HND</td>
<td>HAND LINE/ROD &amp; REEL</td>
<td>NA</td>
<td>X</td>
<td>NA</td>
<td>NA</td>
<td>tow_soak_time cannot exceed time at sea</td>
</tr>
<tr>
<td>RAK</td>
<td>HAND RAKE</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>tow_soak_time cannot exceed time at sea</td>
</tr>
<tr>
<td>HRP</td>
<td>HARPOON</td>
<td>NA</td>
<td>X</td>
<td>NA</td>
<td>Mandatory unless value reported for species is NC (no catch)</td>
<td>tow_soak_time cannot exceed time at sea</td>
</tr>
<tr>
<td>LLB</td>
<td>&quot;LONGLINE, BOTTOM&quot;</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>LLP</td>
<td>&quot;LONGLINE, PELAGIC&quot;</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>OTB</td>
<td>&quot;OTTER TRAWL, BEAM&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OTF</td>
<td>&quot;OTTER TRAWL, BOTTOM, FISH&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OTO</td>
<td>&quot;OTTER TRAWL, BOTTOM, OTHER&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OTC</td>
<td>&quot;OTTER TRAWL, BOTTOM, SCALLOP&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OTH</td>
<td>&quot;OTTER TRAWL, BOTTOM, SHRIMP&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OHS</td>
<td>&quot;OTTER TRAWL, HADDOCK SEPARATOR&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>GEAR CODE</td>
<td>GEAR NAME</td>
<td>GEAR CODE DEPENDENT MESH_SIZE</td>
<td>GEAR CODE DEPENDENT GEARQTY</td>
<td>GEAR CODE DEPENDENT GEARSIZE</td>
<td>GEAR CODE DEPENDENT NUMBER OF HAULS</td>
<td>Soak Time Evaluation (RULE ID 169)</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>OTM</td>
<td>&quot;OTTER TRAWL, MIDWATER&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OTR</td>
<td>&quot;OTTER TRAWL, RUHLE&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>TTS</td>
<td>&quot;OTTER TRAWL,BOTTOM,SHRIMP,TWIN&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OTT</td>
<td>&quot;OTTER TRAWL,BOTTOM,TWIN&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>OBP</td>
<td>&quot;OTTER TRAWL,LGMESH BELLY PANEL&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>PTB</td>
<td>&quot;PAIR TRAWL, BOTTOM&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>PTM</td>
<td>&quot;PAIR TRAWL, MIDWATER&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>PTW</td>
<td>&quot;POT, CONCH/WHELK&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTC</td>
<td>&quot;POT, CRAB&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTE</td>
<td>&quot;POT, EEL&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTF</td>
<td>&quot;POT, FISH&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTH</td>
<td>&quot;POT, HAG&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTL</td>
<td>&quot;POT, LOBSTER&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTO</td>
<td>&quot;POT, OTHER&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTS</td>
<td>&quot;POT, SHRIMP&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>PTX</td>
<td>&quot;POTS, MIXED&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>SED</td>
<td>&quot;SEINE, DANISH&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>GEAR CODE</td>
<td>GEAR NAME</td>
<td>GEAR CODE DEPENDENT MESH_SIZE</td>
<td>GEAR CODE DEPENDENT GEARQTY</td>
<td>GEAR CODE DEPENDENT GEARSIZE</td>
<td>GEAR CODE DEPENDENT NUMBER OF HAULS</td>
<td>Soak Time Evaluation (RULE ID 169)</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------</td>
<td>-------------------------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>SEH</td>
<td>&quot;SEINE, HAUL&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>PUR</td>
<td>&quot;SEINE, PURSE&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>SES</td>
<td>&quot;SEINE, SCOTTISH&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>STS</td>
<td>&quot;SEINE, STOP&quot;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time * number_of_hauls cannot exceed time at sea</td>
</tr>
<tr>
<td>TRP</td>
<td>TRAP</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
<tr>
<td>TGS</td>
<td>&quot;TROLL LINE, GREEN STICK&quot;</td>
<td>NA</td>
<td>X</td>
<td>NA</td>
<td>NA</td>
<td>tow_soak_time cannot exceed time at sea</td>
</tr>
<tr>
<td>WEI</td>
<td>WEIR</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>tow_soak_time can exceed time at sea</td>
</tr>
</tbody>
</table>

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## 4.5 Quality Control Audit Rules

Table 4 provides a list of audit rules. The audit rules engine checks the input data against the rules and, if there is an error, returns to the user an error notification as well as a text description of the error.

Find the error text descriptions also in Table 4 in the column Rule Description.

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>RULE ID</th>
<th>RULE NAME</th>
<th>RULE DESCRIPTION</th>
<th>RULE DETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/A</td>
<td>VALID OPERATOR PERMIT NUMBER</td>
<td>Evaluates a trip record to determine if operator permit number is 8 digits or null.</td>
<td>operator_permit_number must contain valid 8-digit Operator Permit number. If operator_permit_number does not contain valid 8-digit Operator Permit number, operator_permit_number should be NULL when sent to GARFO. See Section 4.1 Support Files for operator permits.</td>
</tr>
<tr>
<td>TRIP</td>
<td>3</td>
<td>DATE LAND BEFORE DATE SAIL</td>
<td>Evaluates a trip record to determine if the land date occurs before the sail date.</td>
<td>date_land must be greater than date_sail.</td>
</tr>
<tr>
<td>TRIP</td>
<td>4</td>
<td>DATE LAND AFTER TODAYS DATE</td>
<td>Evaluates a trip record to determine if the land date occurs more than three hours in the future.</td>
<td>date_land must not be greater than three hours past the submission datetime.</td>
</tr>
<tr>
<td>TRIP</td>
<td>5</td>
<td>DATE SAIL AFTER TODAYS DATE</td>
<td>Evaluates a trip record to determine if the sail date occurs in the future (after todays date - date trip reported).</td>
<td>date_sail must not be greater than the submission datetime.</td>
</tr>
<tr>
<td>TRIP</td>
<td>14</td>
<td>TRIP ID DOES NOT MATCH VESSEL PERMIT NUMBER</td>
<td>Evaluates a trip record to determine if the trip ID matches the vessel permit number reported.</td>
<td>The first six digits of trip_id must be identical to vessel_permit_num.</td>
</tr>
<tr>
<td>TRIP</td>
<td>23</td>
<td>TRIP MISSING SUBTRIP RECORDS</td>
<td>Evaluates a trip record to determine if it is missing required subtrip records. All trips where no effort reason (trip_activity_type) equals 0 or 1 or is null require a subtrip record. Trips with an trip activity type equal to 2,3,4,5,6,7 are not required to submit a subtrip record. However, a trip activity type 5 (for Herring Carrier Vessel) may or may not submit a subtrip record.</td>
<td>If no_effort_trip_reason is 0, a subtrip array must exist.</td>
</tr>
<tr>
<td>TRIP</td>
<td>27</td>
<td>VESSEL PERMIT NUMBER SUBMITTED INVALID</td>
<td>Evaluates a trip record to determine if the vessel permit number provided is a six-digit integer and has been a valid Federal permit. Does not determine if the permit is valid during the trip dates.</td>
<td>vessel_permit_num must exist in the available list of vessels. This list includes vessels with valid Federal permits or which had valid Federal permits in the past year. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>LEVEL</td>
<td>RULE ID</td>
<td>RULE NAME</td>
<td>RULE DESCRIPTION</td>
<td>RULE DETAIL</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>-----------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>TRIP</td>
<td>34</td>
<td>DUPLICATE OF EXISTING TRIP WITH SAME PERMIT AND DATE SAIL</td>
<td>Evaluates if a trip with the same permit number and date sail are already entered into the production CID system. Evaluates the unique constraint defined by DOC_PNUM_DSAIL unique index. On 24-AUG-15 added code to account for re-submitted trips - so only valid where there is a duplicate trip but they do not have the same trip IDs.</td>
<td>A submitted trip may not have the same date_sail and vessel_permit_num as a previously submitted trip which does not have the same trip_id. A resubmitted trip must use the same trip_id as the trip record it is meant to update.</td>
</tr>
<tr>
<td>TRIP</td>
<td>39</td>
<td>SOAK TIME EXCEEDS LENGTH OF TRIP</td>
<td>Evaluates the gear, number of hauls and soak time to determine if the total soak time exceeds the length of the trip.</td>
<td>date_sail and date_land must represent a span of time that is greater than or equal to the sum of all tow_soak_time values in the given trip or the total value of tow_soak_time multiplied by number_of_hauls for all efforts. See Section 4.4 Gear Code and Soak Time Interdependence.</td>
</tr>
<tr>
<td>TRIP</td>
<td>69</td>
<td>TRIP DATE SAIL OVERLAPS AN EXISTING TRIP</td>
<td>Evaluates a trip record to determine if the vessel permit number submitted a trip that overlaps (date_sail is between another trip’s date sail and land dates) with an existing trip in CID.</td>
<td>For the given vessel_permit_num, the timespan described by date_sail and date_land must not in any way overlap a previously submitted trip which does not have the same trip_id. A resubmitted trip must use the same trip_id as the trip record it is meant to update.</td>
</tr>
<tr>
<td>TRIP</td>
<td>155</td>
<td>INVALID TEST EVTR SUBMISSION</td>
<td>Evaluates a trip record to determine if it is a test submission.</td>
<td>In the production API, operator_last_name must not be a known test user. Test submissions must only be submitted to the test API endpoints.</td>
</tr>
<tr>
<td>TRIP</td>
<td>160</td>
<td>INVALID TRIP TYPE</td>
<td>Evaluates a trip record to determine if a valid trip type has been provided.</td>
<td>trip_type must exist in the available list of trip types. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>TRIP</td>
<td>161</td>
<td>INVALID OPERATOR NAME LENGTH</td>
<td>Evaluates operator first and last name for acceptable length.</td>
<td>The combined length of operator_first_name and operator_last_name must not exceed 35 characters.</td>
</tr>
<tr>
<td>TRIP</td>
<td>168</td>
<td>MINIMUM TRIP LENGTH NOT MET</td>
<td>Compares date_sail and date_land to determine that the length of the trip is possible</td>
<td>date_sail and date_land must represent a span of time that exceeds 29 minutes.</td>
</tr>
<tr>
<td>TRIP</td>
<td>177</td>
<td>INVALID OPERATOR NAME</td>
<td>Evaluates a trip record to determine if the operator name contains unexpected characters.</td>
<td>The fields operator_first_name and operator_last_name must not contain special characters other than apostrophe, ampersand, or hyphen.</td>
</tr>
<tr>
<td>TRIP</td>
<td>179</td>
<td>INVALID NUMBER OF CREW</td>
<td>Evaluates a trip record to determine if the value of number of crew is not empty or zero.</td>
<td>number_of_crew must be an integer greater than zero.</td>
</tr>
<tr>
<td>LEVEL</td>
<td>RULE ID</td>
<td>RULE NAME</td>
<td>RULE DESCRIPTION</td>
<td>RULE DETAIL</td>
</tr>
<tr>
<td>-------</td>
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<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>6</td>
<td>GEARCODE INVALID</td>
<td>Evaluates a subtrip record to determine if the gear code is a valid gear code.</td>
<td>gearcode must exist in the available list of gear. (link to the JSON file or the Excel download).</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>7</td>
<td>AREA INVALID</td>
<td>Evaluates a subtrip record to determine if the area is a valid area.</td>
<td>chart_area must exist in the available list of areas. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>8</td>
<td>GEAR REPORTED WITHOUT A SPECIES</td>
<td>Evaluates a subtrip record to determine if gear has been reported without reporting a species catch - except when gearcode = CAR which is exempt from this requirement OR a set only trip which will report gear and not species.</td>
<td>If no_effort_trip_reason =1, and gearcode is not 'CAR', species may not be NULL. 'NC' is the correct species code for an effort with no catch.</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>21</td>
<td>SUBTRIP/HAUL MISSING CATCH RECORDS</td>
<td>Evaluates a subtrip record to determine if the subtrip is missing catch records. Excludes set-only trips.</td>
<td>If no_effort_trip_reason is not either 1 or 2, catch records must exist. 'NC' is the correct species code for an effort with no catch.</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>22</td>
<td>ORPHAN SUBTRIP RECORD</td>
<td>Evaluates a subtrip record to determine if the subtrip is missing a parent trip record.</td>
<td>A subtrip array must exist as the child of a trip array.</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>33</td>
<td>MISMATCH BETWEEN CATCH REPORTED AND CATCH RECORD COUNT</td>
<td>Evaluates a subtrip record to determine if the number of catch records reported match the actual number of catch records.</td>
<td>catch_record_count_by_subtrip must be an integer equal to the number of catch records represented in the given subtrip.</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>35</td>
<td>INVALID SOAK TIME FOR GEAR CODE</td>
<td>The soak time indicated for a gear code is not valid.</td>
<td>If trip_activity_type = 0 then tow_soak_time must be 1 minute or greater.</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>36</td>
<td>INVALID GEAR QUANTITY OR NUMBER OF HAULS</td>
<td>Effort gear quantity or number of hauls invalid for gear code.</td>
<td>If gearcode = 'PTC', 'PTE', 'PTF', 'PTH', 'PTL', 'PTO', 'PTS', 'PTW', 'PTX' then effort gearqty cannot exceed effort gearsize and effort ntows cannot exceed effort gearsize</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>162</td>
<td>INVALID AREA LATITUDE LONGITUDE</td>
<td>Evaluates a subtrip record to determine if the latitude / longitude reported describes a point in an appropriate area</td>
<td>The geographic point represented by latitude_or_loran1 and longitude_or_loran2 must exist within waters off of the U.S. Eastern Seaboard or within the Gulf of Mexico.</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>166</td>
<td>NUMBER OF HAULS MISSING</td>
<td>Evaluates a subtrip record to determine that number_of_hauls has a value when the gear code does not exempt that field from being required.</td>
<td>If gearcode is not 'HND', 'DIV', 'RAK', or 'HRP', number_of_hauls must not be NULL.</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>171</td>
<td>INVALID GEAR VALUES FOR PTL</td>
<td>Evaluates all required gear values, including mesh_size, gearsize, number_of_hauls, and tow_soak_time, are present when gear type is PTL and trip has effort(s).</td>
<td>If gearcode is 'PTL', and no_effort_trip_reason is 0, values for mesh_size, gearsize, number_of_hauls, gearqty, and tow_soak_time must all be greater than zero and not NULL.</td>
</tr>
<tr>
<td>LEVEL</td>
<td>RULE ID</td>
<td>RULE NAME</td>
<td>RULE DESCRIPTION</td>
<td>RULE DETAIL</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>180</td>
<td>MESH SIZE MISSING OR INVALID VALUE FOR GEAR TYPE</td>
<td>If mesh size is required, field cannot be 0 or null. If mesh size is not required, field can only be null or 0.</td>
<td>Based on the available list of gear, if mesh_size is required for the given gearcode, mesh_size must be greater than zero. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>SUBTRIP</td>
<td>181</td>
<td>GEARSIZE MISSING OR INVALID VALUE FOR GEAR TYPE</td>
<td>If gear size is required, field cannot be 0 or null. If gear size is not required, field can only be null or 0.</td>
<td>Based on the available list of gear, if gear_size is required for the given gearcode, gear_size must be greater than zero. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>CATCH</td>
<td>9</td>
<td>SPECIES CODE INVALID</td>
<td>Evaluates a catch record to determine if the species code is invalid.</td>
<td>species must exist in the available list of species. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>CATCH</td>
<td>15</td>
<td>INVALID PORT CODE</td>
<td>Evaluates a catch record to determine if the port ID is valid when species reported catch is greater than 0 and the port code value is not null.</td>
<td>If a catch record indicates a value for kept that is greater than zero, the value for offloading_port must exist in the the available list of ports. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>CATCH</td>
<td>16</td>
<td>PORT CODE IS MISSING</td>
<td>Evaluates a catch record to determine if the port code is missing when species reported catch is greater than 0.</td>
<td>If a catch record indicates a value for kept that is greater than zero, offloading_port must not be NULL.</td>
</tr>
<tr>
<td>CATCH</td>
<td>20</td>
<td>ORPHAN CATCH RECORD</td>
<td>Evaluates a catch record to determine if it has a parent subtrip record - if no parent record is found than the entire trip record should be rejected.</td>
<td>A catch array must exist as the child of a subtrip array.</td>
</tr>
<tr>
<td>CATCH</td>
<td>24</td>
<td>TRIP MISSING CATCH DATA DETAIL</td>
<td>Evaluates a catch record to determine if catch array exists.</td>
<td>If no_effort_trip_reason = 0, a catch array must exist.</td>
</tr>
<tr>
<td>CATCH</td>
<td>25</td>
<td>INVALID DEALER NUMBER</td>
<td>Evaluates a catch record to determine if the dealer number was valid on the date sold.</td>
<td>dealer_permit_number must exist in the available list of dealers. This list includes Federally permitted dealers who own or owned permits valid in the past five years. (link to the JSON file or the Excel download)</td>
</tr>
<tr>
<td>CATCH</td>
<td>28</td>
<td>SPECIES CATCH WEIGHT MISSING IN KEPT AND DISCARDED</td>
<td>Evaluates a catch record to determine if the species reported is missing pounds kept and discarded. Requirement is that at least kept or discarded must report a value greater than zero.</td>
<td>If species is not either 'NC' or 'DCP', a value greater than zero must be entered in either or both of kept and discarded.</td>
</tr>
<tr>
<td>CATCH</td>
<td>72</td>
<td>NO CATCH REPORTED A DEALER</td>
<td>Evaluates a catch record to determine if a dealer was reported for a species code of NC - No Catch</td>
<td>For a given catch record reporting species = 'NC' to indicate no catch, dealer_permit_number must be NULL.</td>
</tr>
<tr>
<td>LEVEL</td>
<td>RULE ID</td>
<td>RULE NAME</td>
<td>RULE DESCRIPTION</td>
<td>RULE DETAIL</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>CATCH</td>
<td>232</td>
<td>SOLD QUANTITY NOT EQUAL TO CATCH QUANTITY</td>
<td>Evaluates the quantity of each species for which a disposition is reported to assure it does not exceed the amount of that species reported kept</td>
<td></td>
</tr>
<tr>
<td>CATCH</td>
<td>233</td>
<td>CATCH QUANTITY NOT EQUAL TO SOLD QUANTITY</td>
<td>Evaluates the quantity of each species for which kept &gt; 0 to assure that it does not exceed the amount of that species for which a disposition is reported.</td>
<td></td>
</tr>
<tr>
<td>CATCH</td>
<td>234</td>
<td>DATE SOLD BEFORE DATE LAND</td>
<td>Evaluates the date sold to determine if it occurs before the date land.</td>
<td>date_sold must be greater than date_land</td>
</tr>
</tbody>
</table>

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4.6 Regulatory References

In July 2011, the Greater Atlantic Regional Fisheries Office (GARFO) of the National Marine Fisheries Service (NMFS) approved the use of electronic reporting for the completion of Vessel Trip Reports (VTRs) on a limited, voluntary basis.

The Federal Register, in the section indicated, outlines the regulatory requirements that eVTR software must meet:

50 CFR 648.7(b)(1)(i)

Use the following hypertext link to jump to the appropriate section:
[Link to the Federal Register language about eVTR software requirements]

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4.7 Document Revision History

Read this section to obtain revision history information for this guide.

4.7.1 Revision 1.0 Updates

Release Date: November 12, 2019
• No revisions (initial release)

4.7.2 Revision 1.1 Updates

Release Date: December 16, 2019
• Section 4.5: Quality Control Audit Rules
  o Removed the following audit rules from the Quality Control Audit Rules table:
    The above audit rules have been removed from use by eVTR Software Development.
  o Added a column to the Quality Control Audit Rules table.
    The new column, Audit Details, provides additional information about conditions that would violate each referenced audit rule.
4.7.3 Revision 1.2 Updates
Release Date: April 20, 2020

- Section 3.2.3: Returns From Authentication Request
  - Converted the following fields to lowercase: `token`, `client_id`, `operator_key`, `vtr_preferences`
    Code is case-sensitive; fields must be lowercase. (Exception is `Status`)

- Section 3.3.3: JSON Format: Catch and Sales Data Together (Test)
  - Added `client_id` to JSON code example.
    The `client_id` is returned with a correct authorization request, and the value needs to be submitted with the eVTR.

- Section 3.3.4: JSON Format: Separate Arrays for Catch and Sales Data (Test)
  - Added `client_id` to JSON code example.
    The `client_id` is returned with a correct authorization request, and the value needs to be submitted with the eVTR.
  - Removed `operator_password`.
    Deprecated.

- Section 4.2: eVTR Form Specification
  - Added `client_id` entry to specification.
    The `client_id` is returned with a correct authorization request, and the value needs to be submitted with the eVTR.

4.7.4 Revision 1.2.1 Updates
Release Date: July 20, 2020

- Section 4.3: Mandatory Use of a Field in eVTR Based on Trip Activity Type
  - Expanded `number_of_anglers` specification
    Added Trip Type 6 (private/recreational)

4.7.5 Revision 1.3 Updates
Release Date: January 15, 2021

- **Global edit**: Changed value **No Data** to value **NA** throughout the guide.
  
  **Context**: A value of NA in a table cell indicates that there is no value or instruction from GARFO concerning that particular instance.

  **Affected sections in the guide**:
  - Section 2.4: File Format
  - Section 4: eVTR Reference
  - Section 4.2: eVTR Form Specification
  - Section 4.3: Mandatory Use of a Field in eVTR Based on Trip Activity Type
  - Section 4.4: Gear Code and Soak Time Interdependence
Global edit: Changed base URL to https://apps-garfo.fisheries.noaa.gov/base_api/ throughout the guide.

Context: This URL forms the basis of all requests to the eVTR API module. Create specific requests by appending request strings on this URL.

Affected sections in the guide: Section 3.1.1 forward through the API discussion.

- Section 3.2.2: Authentication
  - Added the following fields: vendor_id, vendor_software_version, vendor_app_name, vendor_app_platform
    Values that more precisely identify the app.

- Section 3.2.2.1: App Platform
  - Added the following fields: vendor_app_platform
    More information about the vendor_app_platform field.

- Section 3.2.3.1: Return From Correct Authorization
  - Added the following fields: token_expires, entitlements.
    - token_expires
      Displays date/time expiration of authorization token.
    - entitlements
      Displays vessel(s) that the user is entitled to submit eVTRs for.

- Section 3.3.3.2: Description
  - Added the following fields: vendor_app_name, vendor_app_platform
    Fields to provide more vendor information.
  - Removed the following fields: trip_count, effort_count, catch_count, effort_record_count_by_trip, catch_record_count_by_subtrip, species_count.
    Deprecated.

- Section 3.3.4.2: Description
  - Added the following fields: vendor_app_name, vendor_app_platform
    Fields to provide more vendor information.
  - Removed the following fields: trip_count, effort_count, catch_count, effort_record_count_by_trip, catch_record_count_by_subtrip, species_count.
    Deprecated.

- Section 4.2: eVTR Form Specification
  - Added vendor_app_platform entry to specification.
  - Removed the following fields: effort_count, catch_count, effort_record_count_by_trip, catch_record_count_by_subtrip, species_count.
    Deprecated.
4.7.6 Revision 1.4 Updates

Release Date: December 15, 2021

- Section 2.3.2
  - Updated year in UTID example.

- Section 2.3.3
  - Changed UTID text from “Must be available early in the trip, before the Trip Start Hail” to “Must be available when the trip report is initiated”.
  - **Global edit:** Removed references to Catch and Sales data as one array.

**Context:** Submitting an eVTR form for a logged in, authenticated user to the GARFO eVTR database.

**Affected sections in the guide:**
- Section 3.3 forward
  - Updated date field values to include “21” as year
  - Changed case in value: "vendor_app_platform":"ANDROID",
  - Deleted “vtr_serial_num”:12345619063023,”
  - Deleted “datetime_haul_start: 1409190739,”
  - Deleted “datetime_haul_end: 1409190739,”

- Section 4.1
  - Updated description of support tables.

- Section 4.2
  - Deleted vtr_serial_num
  - Changed INTEGER to NUMERIC STRING in chart_area
  - Changed INTEGER to NUMERIC STRING in offloading_port

- Section 4.3
  - Updated description of number_of_crew field in Table 2: Reporting Fields Based on Trip Activity Type.

- Section 4.5
  - Deleted RULE ID 32 (TRIP)
  - Added RULE ID 232 and 233 (CATCH)

4.7.7 Revision 1.4.1 Updates

Release Date: December 28, 2021

- Section 4.7.6
  - Added Release Date reference (does not affect technical contents of guide).
4.7.8 Revision 1.5 Updates

Release Date: April 15, 2022

- Section 2.3.2
  - Updated year in UTID example.

- Section 4.5
  - Added RULE ID: N/A (1)
  - Added RULE ID: 4 (TRIP)
  - Added RULE ID: 39 (TRIP)
  - Deleted RULE ID: 169 (TRIP)
  - Added RULE ID: 35 (SUBTRIP)
  - Added RULE ID: 36 (SUBTRIP)
  - Added RULE ID: 24 (CATCH)
  - Added RULE ID: 234 (CATCH)