**Alaska Fisheries Information Network**

**Comprehensive Observer Electronic Monitoring**



**Version History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Author** | **Change Comments** | **Version** |
| 2020 | J. Lee | Initial | 1.0 |
| 5/31/2021 | M. Callahan | AKRO/AKFIN data flow | 1.1 |
| 6/4/2021 | M. Callahan | Clarification regarding longline pots | 1.2 |
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**Fixed Gear Electronic Monitoring (EM) Data**

# Overview

TheAKFIN COMPREHENSIVE\_OBS\_EM data mart was developed to make fixed gear electronic monitoring (EM) data available to AKFIN users. COMPREHENSIVE\_OBS\_EM is sourced primarily from a set of NMFS Alaska Regional Office (AKRO) tables containing haul-level and species composition fixed gear EM data that have been processed by the Fisheries Monitoring and Analysis Division (FMA) at the Alaska Fisheries Science Center (AFSC) and further enhanced by AKRO.

In 2018, EM for fixed gear catcher vessels became a NMFS-regulated program in Alaskan waters. Vessels eligible to carry EM equipment are those that fish with longline and/or pot gear. These vessels are part of the partial coverage observed fleet, which is limited to vessels greater than or equal to 40 feet LOA (length overall). Vessels who wish to carry EM equipment in lieu of an observer must first make a request to NMFS to be considered for EM. Once NMFS approves a vessel to be in EM, the vessel will remain in the EM pool for a minimum of one calendar year. Vessels remain in the EM pool until they request to opt out. As part of the approval process, each vessel must submit a vessel monitoring plan (VMP) to NMFS that describes the specific layout of the EM system on board the vessel and outlines vessel responsibilities, such as catch handling, approved discard locations, and procedures if there is a problem with the EM system.

When a vessel wants to fish, the vessel operator must first log the EM trip into the Observer Declare and Deploy System (ODDS). ODDS will randomly choose if the vessel operator must turn on the EM system for this trip, thus making it an EM-selected trip. If the trip is randomly selected for EM coverage, the EM system will record all the fishing activity for the duration of the fishing trip. Once the fishing trip is complete, the vessel operator is responsible for removing the hard drive and mailing it to the Pacific States Marine Fisheries Commission, where the data is reviewed by an EM reviewer.

When the EM reviewer starts reviewing the trip, they first will come up with a random sampling number to determine which hauls/sets to sample. Due to time constraints and other factors not all hauls in an EM trip are reviewed (i.e., sampled). Sampled hauls are those where an EM reviewer counts and identifies all fish/organisms on all hooks or pots for the haul.

In general, an EM reviewer will record the following information during the review of the EM video and EM data.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Trip | Sampled hauls | Unsampled hauls |
| Trip start and trip end | Y |  |  |
| Gear type of a haul |  | Y | Y |
| Haul begin retrieval date/time and position |  | Y | Y |
| Haul end retrieval date/time and position |  | Y | Y |
| Count of fish/organisms |  | Y | N |
| ID of fish/organisms |  | Y | N |
| Dispositon (retained/discarded) and fate (depredation) of fish/organisms |  | Y | N |

Once a hard drive has been reviewed, the EM data are then imported to the AFSC Oracle database. FMA then transforms the data so that the EM-reviewed data can be fed into the catch accounting system (CAS) at AKRO. The following information is added by FMA during the transformation process.

* NMFS area
* Weights of fish/organisms (based on average weights of observer-collected data)
* Total hauls in trip
* Total sampled hauls in trip
* Vessel type (e.g., catcher vessel)
* Haul purpose code (for catch accounting)
* Whether the vessel operator requested EM coverage for the trip (there is an option for vessels to request to turn on the cameras, even if the trip wasn’t selected – to comply with an IFQ enforcement provision)
* Whether EM coverage for the trip was inherited from a prior trip (because the prior selected trip was canceled)
* ODDS number
* ODDS random number used

AKRO adds the following values to the EM data processed by FMA to generate the base *V\_OBS\_EM\_HAUL* and *V\_OBS\_EM\_HAUL\_SPECIES* tables.

* Additional area designations (ADF&G statistical area, special area, critical habitat area, fisheries management plan (FMP) area, and FMP sub-area)
* Total and retained groundfish weight for the haul
* Sectors (harvest and processing)
* Species group
* Target codes (trip and haul)

On a weekly basis, AKFIN sources the *V\_OBS\_EM\_HAUL* and *V\_OBS\_EM\_HAUL\_SPECIES* data tables from AKRO to populate the *AKFIN\_MARTS.COMPREHENSIVE\_OBS\_EM* datamart. In addition to fields from the base table, COMPREHENSIVE\_OBS\_EM includes auxiliary fields from other data sources or calculated by AKFIN. Full metadata for base and auxiliary data fields are provided in the Base Data Sources and Auxiliary Data Sources sections.

## Data Usage Notes

Users of EM data should note that EM data are different from observer-collected data and may not necessarily be used in the same ways as observer-collected data. Below are main attributes that EM-reviewed data does not contain.

* Total gear (i.e., number of skates) deployed is not recorded
* Total hooks retrieved is not recorded
* Soak time of gear is not recorded
* Weights are not determined by the EM reviewer or the EM software

*Weight data*Because weights are not determined by the EM reviewer or the EM software, FMA instead appends average weights sourced from observer-collected data. FMA initially uses the EM species code, EM gear type, and EM NMFS area for the previous year to determine the average weight for that specific grouping.  Previous-year data is used because it is complete and finalized. If no average weight is found at this first level of aggregation, the transformation logic calculates and appends average weights at increasingly aggregated levels of stratification until a match is made. In order of application, the strata for calculating and applying average weights are as follows:

1. Previous year – species code, gear type, and NMFS area
2. Previous year – species code, gear type, and area (BSAI or GOA)
3. Previous year – species code and gear type (Alaska-wide)
4. Most recent year with available data – species code

*Trip attributes*Trip start and end attributes (time and location) are usually determined by the EM reviewer from the vessel’s onboard GPS unit. A trip usually begins when the GPS/speed sensor spikes upward at a port, and usually ends when the GPS/speed sensor ends at a port. However, in instances where the system wasn’t powered on in port (e.g., the GPS unit was turned on shortly after leaving port), the trip may not start and/or end precisely at a port. In these cases, the trip may be determined by the EM reviewer to start and end where the GPS/speed sensor starts/ends. The EM reviewer may alternatively opt to use information from the vessel logbook to make a better determination of trip start and end attributes.

*Depredation*Beginning in 2020, EM reviewers began flagging catch from sampled hauls for evidence of depredation. EM reviewers code for a combination of disposition (retained/discarded) and type of depredation, as shown below. With the exception of predation by sand fleas, reviewers are unable to determine the specific cause of depredation (such as predation by marine mammals).

|  |  |  |  |
| --- | --- | --- | --- |
| FateID | Fate | Disposition | Description |
| 18 | DepredatedDiscarded | Discarded | Discarded - Depredated |
| 19 | DepredatedRetained | Retained | Retained - Depredated |
| 20 | SandFleasPredatedDiscarded | Discarded | Discarded - Sand Flea Predated |
| 21 | SandFleasPredatedRetained | Retained | Retained - Sand Flea Predated |

*Longline Pots*

Longline (string) pots are multiple pots attached to a longline and are deployed and retrieved together. Pots, including longline pots, were approved to target sablefish Gulf of Alaska Sablefish in 2017, and have been authorized for Bering Sea and Aleutian Island Sablefish since 2008. EM reviewers do not count individual pots if they are tied/strung together. In cases where longline pots are used, an entire string of pots is counted as a single haul.

# Base Data Sources

The following observer sources from AKRO are used as the basis for the COMPREHENSIVE\_OBS\_EM view.

1. V\_OBS\_EM\_HAUL: Haul level information such as date, time, location, and gear type for years 2015 and later.
2. V\_OBS\_EM\_HAUL\_SPECIES: Species details for each haul including extrapolated weight and number for years 2015 and later.

| **COLUMN\_NAME** | **TYPE** | **COL NO** | **DESCRIPTION** | **SOURCE** |
| --- | --- | --- | --- | --- |
| EM\_HAUL\_PK | NUMBER(18) | 1 | Unique identifier of this EM haul version row. This value is used to locate related catch accounting transactions. | AKRO: V\_OBS\_EM\_HAUL.CA\_REFERENCE\_KEY |
| VESSEL\_ID | NUMBER(6) | 2 | Federal permit number of the vessel on which the EM gear is on board. | AKRO: V\_OBS\_EM\_HAUL.VESSEL\_ID |
| ORIGINAL\_EM\_TRIP\_NUMBER | VARCHAR2(50 CHAR) | 3 | EM trip number assigned to this haul the first time it was imported. | AKRO: V\_OBS\_EM\_HAUL.ORIGINAL\_EM\_TRIP\_NUMBER |
| EM\_TRIP\_NUMBER | NUMBER(6,2) | 4 | Unique trip identifier, used to aggregate hauls at the "trip" level. | AKRO: V\_OBS\_EM\_HAUL.EM\_TRIP\_NUMBER |
| ODDS\_TRIP\_NUMBER | NUMBER(9) | 5 | Trip number assigned by the North Pacific Groundfish and Halibut Observer Program's Observer Declare and Deploy System (ODDS) to vessels greater than 40 feet length overall in partial coverage fisheries. | AKRO: V\_OBS\_EM\_HAUL.ODDS\_TRIP\_NUMBER |
| TRIP\_START\_DATE | DATE | 6 | The date/time the vessel left port or a tender to start the fishing trip | AKRO: V\_OBS\_EM\_HAUL.TRIP\_START\_DATE |
| EM\_HAUL\_NUMBER | NUMBER(9) | 7 | Unique fishing event created by the EM reviewer. | AKRO: V\_OBS\_EM\_HAUL.EM\_HAUL\_NUMBER |
| RETRIEVAL\_START\_DATE | DATE | 8 | Date and time that fishing gear started to be retrieved. | AKRO: V\_OBS\_EM\_HAUL.DEPLOYMENT\_DATE |
| RETRIEVAL\_END\_DATE | DATE | 9 | Date and time pot came out of the water or for longline gear the date/time of when the end anchor came out of the water. | AKRO: V\_OBS\_EM\_HAUL.RETRIEVAL\_DATE |
| SAMPLED\_FLAG | VARCHAR2(1 CHAR) | 10 | Indicates whether the EM reviewer did or did not review the haul or set. On 12/18/2017, sampled\_flag was removed from the source data, so this column was changed to nullable. | AKRO: V\_OBS\_EM\_HAUL.SAMPLED\_FLAG |
| AGENCY\_GEAR\_ID | NUMBER(6) | 11 | Unique identifier of the AGENCY\_GEAR record representing the three-character gear code used by the Alaska Region. | AKRO: V\_OBS\_EM\_HAUL.AGENCY\_GEAR\_ID |
| AGENCY\_GEAR\_CODE | VARCHAR2(5) | 12 | The three-character gear code used by the Alaska Region. | AKRO: V\_OBS\_EM\_HAUL.AGENCY\_GEAR\_CODE |
| EM\_GEAR\_CODE | NUMBER(6) | 13 | Gear code used by the EM reviewer. | AKRO: V\_OBS\_EM\_HAUL.EM\_GEAR\_CODE |
| OBS\_VESSEL\_TYPE | NUMBER(2) | 14 | One-digit numeric code that identifies the type of fishing operation performed by the vessel: 1 = catcher/processor; 2,4 = mothership; 3,5,6 = catcher vessel. | AKRO: V\_OBS\_EM\_HAUL.OBS\_VESSEL\_TYPE |
| HAUL\_PURPOSE\_CODE | VARCHAR2(3) | 15 | Code describing the function of this haul. Defaults to CA (catch accounting) but may contain codes specifying any special project. See OBS\_HAUL\_PURPOSE table for more information. | AKRO: V\_OBS\_EM\_HAUL.HAUL\_PURPOSE\_CODE |
| FMP\_AREA\_ID | NUMBER(6) | 16 | Unique identifier of the aggregated Fishery Management Plan (FMP) area in which the haul took place: 22 = BSAI (Bering Sea Aleutian Islands), 31 = GOA (Gulf of Alaska). | AKRO: V\_OBS\_EM\_HAUL.TARGET\_FISHERY\_AREA |
| FMP\_SUB\_AREA\_ID | NUMBER(6) | 17 | Unique MANAGEMENT\_AREA identifier of the specific Fishery Management Plan (FMP) area in which the haul took place: 20 = BS (Bering Sea), 21 = AI (Aleutian Islands), 31 = GOA (Gulf of Alaska). | AKRO: V\_OBS\_EM\_HAUL.FMP\_AREA\_ID |
| FMP\_SUB\_AREA\_CODE | VARCHAR2(6) | 18 | Code used by the Alaska Region to identify the Fishery Management Plan area in which the gear was retrieved. | AKRO: V\_OBS\_EM\_HAUL.FMP\_AREA\_CODE |
| REPORTING\_AREA\_ID | NUMBER(6) | 19 | Unique MANAGEMENT\_AREA identifier of the federal reporting area code. | AKRO: V\_OBS\_EM\_HAUL.REPORTING\_AREA\_ID |
| REPORTING\_AREA\_CODE | VARCHAR2(6) | 20 | Three-digit code used by the Alaska Region to identify the federal reporting area in which the gear was retrieved. | AKRO: V\_OBS\_EM\_HAUL.REPORTING\_AREA\_CODE |
| ADFG\_STAT\_AREA\_ID | NUMBER(6) | 21 | Unique MANAGEMENT\_AREA identifier of the ADFG state statistical area. | AKRO: V\_OBS\_EM\_HAUL.ADFG\_STAT\_AREA\_ID |
| ADFG\_STAT\_AREA\_CODE | VARCHAR2(6) | 22 | Six-digit code used by ADFG to identify the state statistical area in which the gear was retrieved. | AKRO: V\_OBS\_EM\_HAUL.ADFG\_STAT\_AREA\_CODE |
| CRITICAL\_HABITAT\_AREA\_ID | NUMBER(6) | 23 | Unique MANAGEMENT\_AREA identifier of the Atka mackerel critical habitat area in the Aleutian Islands. This value is based on the VMS datapoints that were transmitted during the haul. | AKRO: V\_OBS\_EM\_HAUL.CRITICAL\_HABITAT\_AREA\_ID |
| CRITICAL\_HABITAT\_AREA\_CODE | VARCHAR2(6) | 24 | Alphanumeric code used by the Alaska Region to identify the critical habitat area in which the gear was retrieved or through which the vessel passed, according to its VMS data. | AKRO: V\_OBS\_EM\_HAUL.CRITICAL\_HABITAT\_AREA\_CODE |
| SPECIAL\_AREA\_ID | NUMBER(6) | 25 | Unique MANAGEMENT\_AREA identifier of the special regulatory area in which the gear was retrieved or through which the vessel passed, according to its VMS data. For fixed gear, value is null if vessel passed through COBLZ or CVOA. | AKRO: V\_OBS\_EM\_HAUL.SPECIAL\_AREA\_ID |
| SPECIAL\_AREA\_CODE | VARCHAR2(6) | 26 | Alphanumeric code of the special regulatory area in which the gear was retrieved or through which the vessel passed, according to its VMS data. For fixed gear, value is null if vessel passed through COBLZ or CVOA. | AKRO: V\_OBS\_EM\_HAUL.SPECIAL\_AREA\_CODE |
| COBLZ\_FLAG | CHAR(1) | 27 | Flag indicating whether or not the gear was retrieved (based on the retrieval lat/long) in the C.Opilio Crab Bycatch Limitation Zone. | AKRO: V\_OBS\_EM\_HAUL.COBLZ\_FLAG |
| RETRIEVAL\_START\_LATITUDE\_DD | NUMBER(10,6) | 28 | Latitude (in decimal degrees) when the fishing gear starts getting retrieved. | AKRO: V\_OBS\_EM\_HAUL.DEPLOYMENT\_LATITUDE\_DD |
| RETRIEVAL\_START\_LONGITUDE\_DD | NUMBER(11,6) | 29 | Longitude (in decimal degrees) when the fishing gear starts getting retrieved. | AKRO: V\_OBS\_EM\_HAUL.DEPLOYMENT\_LONGITUDE\_DD |
| RETRIEVAL\_END\_LATITUDE\_DD | NUMBER(10,6) | 30 | Latitude (in decimal degrees) at which pot came out of the water or for longline gear when the last anchor for the haul came out of the water. | AKRO: V\_OBS\_EM\_HAUL.RETRIEVAL\_LATITUDE\_DD |
| RETRIEVAL\_END\_LONGITUDE\_DD | NUMBER(11,6) | 31 | Longitude (in decimal degrees) at which pot came out of the water or for longline gear when the last anchor for the haul came out of the water. | AKRO: V\_OBS\_EM\_HAUL.RETRIEVAL\_LONGITUDE\_DD |
| PROCESSING\_SECTOR | VARCHAR2(3) | 32 | Code representing the processing sector as defined for prohibited species rate creation: CP = Catcher/Processor, M = Mothership, S = Shoreside. | AKRO: V\_OBS\_EM\_HAUL.PSCNQ\_PROCESSING\_SECTOR |
| HARVEST\_SECTOR | VARCHAR2(3) | 33 | Code indicating type of vessel that harvested the catch: CP = catcher/processor (if OBS\_VESSEL\_TYPE = 1), CV = catcher vessel (for all other OBS\_VESSEL\_TYPEs). | AKRO: V\_OBS\_EM\_HAUL.HARVEST\_SECTOR |
| TOTAL\_GROUNDFISH\_WEIGHT | NUMBER(20,10) | 34 | Total weight (in metric tons) of the groundfish species (both retained and discarded) in the haul. | AKRO: V\_OBS\_EM\_HAUL.TOTAL\_GROUNDFISH\_WEIGHT |
| RETAINED\_GROUNDFISH\_WEIGHT | NUMBER(20,10) | 35 | Total number of metric tons of the groundfish species that were retained for this haul. | AKRO: V\_OBS\_EM\_HAUL.RETAINED\_GROUNDFISH\_WEIGHT |
| TARGET\_FISHERY\_CODE | VARCHAR2(1 CHAR) | 36 | Code representing the target fishery calculated for the HAUL. | AKRO: V\_OBS\_EM\_HAUL.TARGET\_FISHERY\_CODE |
| TRIP\_TARGET\_CODE | VARCHAR2(1 CHAR) | 37 | Code representing the target fishery calculated for the week (for catcher/processors and motherships) or the trip (for catcher vessels). | AKRO: V\_OBS\_EM\_HAUL.TRIP\_TARGET\_CODE |
| TRIP\_TARGET\_DATE | DATE | 38 | Week end date for catcher/processors and motherships; fishing start date for catcher vessels delivering shoreside. | AKRO: V\_OBS\_EM\_HAUL.TRIP\_TARGET\_DATE |
| YEAR | NUMBER(6) | 39 | Four-digit calendar year in which the gear was retrieved. | AKRO: V\_OBS\_EM\_HAUL.YEAR |
| FILE\_IMPORT\_DATE | DATE | 40 | The date this version of the haul was imported. | AKRO: V\_OBS\_EM\_HAUL.FILE\_IMPORT\_DATE |
| IMPORT\_PROCESSED\_DATE | TIMESTAMP(6) | 41 | Date and time the import processing was completed for this haul record. | AKRO: V\_OBS\_EM\_HAUL.IMPORT\_PROCESSED\_DATE |
| LAST\_MODIFIED\_DATE\_HAUL | TIMESTAMP(6) | 42 | Date the haul was last modified. | AKRO: V\_OBS\_EM\_HAUL.LAST\_MODIFIED\_DATE |
| USER\_REQUESTED\_COVERAGE | VARCHAR2(1 CHAR) | 43 | Indicates the user wants EM coverage for this trip even if not randomly selected. | AKRO: V\_OBS\_EM\_HAUL.USER\_REQUESTED\_COVERAGE |
| INHERIT\_OBSERVER\_COVERAGE | VARCHAR2(1 CHAR) | 44 | Indicates the trip will be EM covered due to a prior EM selected trip being cancelled. | AKRO: V\_OBS\_EM\_HAUL.INHERIT\_OBSERVER\_COVERAGE |
| RANDOM\_NUMBER\_USED | NUMBER(7,4) | 45 | ODDS generated random number; if less than or equal to effective rate then will be selected for EM coverage. | AKRO: V\_OBS\_EM\_HAUL.RANDOM\_NUMBER\_USED |
| EFFECTIVE\_RATE | NUMBER(7,4) | 46 | The current selection rate for EM coverage effective at the time of the trip. | AKRO: V\_OBS\_EM\_HAUL.EFFECTIVE\_RATE |
| TRIP\_TOTAL\_HAULS\_POTS | NUMBER(6) | 47 | Indicates the total number of hauls or pots (both sampled and unsampled) that were retrieved for the associated EM trip. In cases where longline (or string) pots are used, an entire string of pots is counted as a single haul. | AKRO: V\_OBS\_EM\_HAUL.TRIP\_TOTAL\_HAULS\_POTS |
| TRIP\_SAMPLED\_HAULS\_POTS | NUMBER(6) | 48 | Indicates the total number of sampled hauls or pots that were retrieved for the associated EM trip. In cases where longline (or string) pots are used, an entire string of pots is counted as a single haul. | AKRO: V\_OBS\_EM\_HAUL.TRIP\_SAMPLED\_HAULS\_POTS |
| CATCH\_REPORT\_SPECIES\_FACT\_PK | NUMBER(18) | 49 | Unique identifier of this species composition row. This value is used to locate related catch accounting transactions. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.CA\_REFERENCE\_KEY |
| OBS\_SPECIES\_CODE | NUMBER(4) | 50 | Code used by the Observer Program to represent the species. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.OBS\_SPECIES\_CODE |
| AGENCY\_SPECIES\_ID | NUMBER(6) | 51 | Unique identifier of the AGENCY\_SPECIE record representing the three-digit species code used by the Alaska Region. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.AGENCY\_SPECIES\_ID |
| AGENCY\_SPECIES\_CODE | VARCHAR2(5) | 52 | The three-digit species code used by the Alaska Region. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.AGENCY\_SPECIES\_CODE |
| SPECIES\_GROUP\_ID | NUMBER(6) | 53 | Unique identifier of the SPECIES\_GROUP record representing the four-character species group code used by the Alaska Region. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.SPECIES\_GROUP\_ID |
| SPECIES\_GROUP\_CODE | VARCHAR2(5) | 54 | The four-character species group code used by the Alaska Region. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.SPECIES\_GROUP\_CODE |
| EXTRAPOLATED\_WEIGHT\_MT | NUMBER | 55 | Total weight in metric tons of the species in the haul, as extrapolated from the EM-reviewed sample(s). | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.EXTRAPOLATED\_WEIGHT |
| EXTRAPOLATED\_NUMBER | NUMBER(20,10) | 57 | Total number of animals of the species in the haul, as extrapolated from the EM-reviewed sample(s). | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.EXTRAPOLATED\_NUMBER |
| PERCENT\_RETAINED | NUMBER(3) | 58 | Percentage of the total catch of the species that was retained on this haul. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.PERCENT\_RETAINED |
| LAST\_MODIFIED\_DATE\_SPECIES | TIMESTAMP(6) | 59 | Date the species record was last modified. | AKRO: V\_OBS\_EM\_HAUL\_SPECIES.LAST\_MODIFIED\_DATE |

# Auxiliary Data Sources

In addition to base EM observer data, additional fields have been incorporated to augment this view.

1. AKRO- Additional fields from the following AKRO tables add information from other tables and define coded fields in the base data: V\_VESSEL, OBS\_HAUL\_PURPOSE\_CODES, TARGET\_FISHERY, and AGENCY\_GEAR.
2. NORPAC- Fields are incorporated from the North Pacific Observer Program in cases where NORPAC may label data differently than AKRO and those translations may be useful for analysts. Additional information regarding depredation is also drawn from NORPAC
3. ADFG-The common species names used by the Alaska Department of Fish and Game (ADFG) are also included
4. AKFIN- Fields in the Alaska Fish Information Network database describing areas used by the North Pacific Fisheries Management Council are included. AKFIN also calculates several additional fields from base data.

| **COLUMN\_NAME** | **TYPE** | **COL NO** | **DESCRIPTION** | **SOURCE** |
| --- | --- | --- | --- | --- |
| EXTRPOLATED\_WEIGHT\_KG | NUMBER(20,10) | 56 | Total weight in kilograms of the species in the haul, as extrapolated from the EM-reviewed sample(s). Calculated from EXTRAPOLATED\_WEIGHT | AKFIN (Calculated) |
| AKFIN\_VDATE | DATE | 60 | Load date for load of the COMPREHENSIVE\_OBS\_EM datamart table, different from AKFIN\_LOAD\_DATE, which denotes the load date of the underlying AKR source data. | AKFIN (Calculated) |
| OBS\_VESSEL\_ID | VARCHAR2(6) | 61 | Observer program vessel ID | NORPAC: ATL\_LOV\_VESSEL\_V.VESSEL\_CODE |
| ADFG\_VESSEL\_ID | VARCHAR2(6) | 62 | ADF&G vessel number | AKRO: V\_VESSEL.ADFG\_NUMBER |
| OBS\_VESSEL\_TYPE\_DESC | VARCHAR2(50) | 63 | Observer program vessel type description, translated from OBS\_VESSEL\_TYPE | NORPAC: ATL\_LOV\_VESSEL\_TYPE.DESCRIPTION |
| OBS\_GEAR\_CODE | NUMBER | 64 | Observer program gear code.  CASE AGENCY\_GEAR\_CODE  WHEN 'HAL' THEN 8  WHEN 'POT' THEN 6  WHEN 'JIG' THEN 7  ELSE NULL  END | AKFIN (Calculated) |
| OBS\_GEAR\_DESCRIPTION | VARCHAR2(11) | 65 | CASE AGENCY\_GEAR\_CODE  WHEN 'HAL' THEN 'LONGLINER'  WHEN 'POT' THEN 'POT OR TRAP'  WHEN 'JIG' THEN 'JIG'  ELSE NULL  END | AKFIN (Calculated) |
| FMP\_AREA | VARCHAR2(4) | 66 | FMP area, based on REPORTING\_AREA\_ID | AKFIN: COUNCIL.FMP\_AREA\_V.FMP\_AREA |
| FMP\_SUBAREA | VARCHAR2(4) | 67 | FMP subarea, based on REPORTING\_AREA\_ID | AKFIN: COUNCIL.FMP\_AREA\_V.FMP\_AREA |
| OBS\_SPECIES\_NAME | VARCHAR2(30) | 68 | Observer program species name, translated from OBS\_SPECIES\_CODE | NORPAC: SPECIES\_CODES.COMMON\_NAME |
| AGENCY\_SPECIES\_NAME | VARCHAR2(60) | 69 | Species name, translated from AGENCY\_SPECIES\_CODE | ADFG: SPECIES.SPECIES\_COMMON |
| HAUL\_PURPOSE\_DESCRIPTION | VARCHAR2(100) | 70 | Haul purpose description, translated from HAUL\_PURPOSE\_CODE | AKRO: OBS\_HAUL\_PURPOSE\_CODES.HAUL\_PURPOSE\_DESCRIPTION |
| HAUL\_TARGET\_NAME | VARCHAR2(60) | 71 | Haul target name, translated from TARGET\_FISHERY\_CODE | AKRO: TARGET\_FISHERY.NAME |
| TRIP\_TARGET\_NAME | VARCHAR2(60) | 72 | Trip target name, translated from TRIP\_TARGET\_CODE | AKRO: TARGET\_FISHERY.NAME |
| TOTAL\_SPECIES\_DEPREDATED | NUMBER | 73 | Count of retained + discarded species from sampled haul flagged by EM reviewer as depredated (excluding predation by sand fleas). These counts are available beginning 2020. | NORPAC: EM\_DEPRADATED\_AKFIN\_V.TOTAL\_SPECIES\_DEPRADATED |
| EM\_GEAR\_NAME | VARCHAR2(40) | 74 | Name of EM gear, translated from EM\_GEAR\_CODE | AKRO: AGENCY\_GEAR.EM\_GEAR\_NAME |
| NUMBER\_OF\_POTS\_IN\_SAMPLED\_STRING | NUMBER | 75 | Total number of pots retrieved on the sampled string for that EM\_HAUL\_NUMBER | NORPAC: EM\_STRING\_POT\_DETAILS\_V. NUMBER\_OF\_POTS\_IN\_SAMPLED\_STRING |
| NUMBER\_OF\_SAMPLED\_STRINGS | NUMBER | 76 | Total number of retrieved sampled strings for that TRIP\_NUMBER | NORPAC: EM\_STRING\_POT\_DETAILS\_V. NUMBER\_OF\_SAMPLED\_STRINGS |
| NUMBER\_OF\_NON\_STRINGS | NUMBER | 77 | Total number of retrieved strings not sampled for that TRIP\_NUMBER | NORPAC: EM\_STRING\_POT\_DETAILS\_V. NUMBER\_OF\_NON\_STRINGS |
| TOTAL\_STRINGS\_IN\_TRIP | NUMBER | 78 | Total number of retrieved strings (both sampled and unsampled) for that TRIP\_NUMBER | NORPAC: EM\_STRING\_POT\_DETAILS\_V. TOTAL\_STRINGS\_IN\_TRIP |