Alaska Fisheries Information Network

AKFIN Exclusion Process
Running and Existing Analysis

**Exclusion Process Documentation for Combining
ADF&G or CFEC-compiled Groundfish Fish Ticket Data
with AKR Blend/Catch Accounting Data**

Date	Author	Change Comments	Version
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Introduction

The AKFIN Exclusion Process was developed to identify processors in the ADF&G or CFEC-compiled groundfish tickets who operate as catcher/processors and/or mothership processors in the federal groundfish fishery. This process populates the AKFIN_EXCLUSION table in the AKFIN database; a table used when consolidating the groundfish ticket data with the NMFS AKR Blend or Catch Accounting (CA) System data sources.

The AKFIN Exclusion Process requires several steps to complete the product:

1. Load compiled State and Federal groundfish and processor data sources
2. Apply standardized exclusion rules to flag catcher/processors and motherships
3. Research exceptions and manually update flags based on research findings

Once the AKFIN_EXCLUSION table is complete for the given reporting year, it is combined with the ADF&G or CFEC-compiled groundfish tickets to remove catcher/processor and/or mothership data as needed.

Load Compiled State and Federal Data

Both State and Federal fisheries sources are combined to define the operations of a processor in a given year. These include:

Compiled State Data Sources

- **Groundfish Tickets** – Both the ADF&G in-season groundfish tickets, and CFEC-compiled groundfish tickets are used as a basis for the list of operating processors and their groundfish catch magnitude in a given year. Two lists are loaded each year: the first is the in-season list used for PacFIN reporting, sourced by the ADF&G groundfish tickets (WHERE AGENCY = 'ADFG'), the second is that used for historic reporting and is sourced by the CFEC-compiled groundfish tickets (WHERE AGENCY = 'CFEC').
- **Processor Registration Information** – The historic Intent to Operate (ITO) and more current Commercial Operator's Annual Report (ENCOAR) system data sources are queried to obtain the processor's state registration information to include processor name, type, vessel, plant etc. ITO records are searched for the current year and five year's prior to pick up processor information on older ITO codes that might be used in a later fish ticket year.

Compiled Federal Data Sources

- **Blend and Catch Accounting Data** – The Blend (2002 and earlier) and Catch Accounting System Data (2003 and later) are queried to obtain catch magnitude, federal processing sector, and federal harvesting sector activities in the federal groundfish fishery.
- **Federal Fisheries Permitting Information** – The federal vessel licenses are used to obtain a translation of the federal fisheries permit number to Vessel ADF&G number and name for the federal processing vessels.
- **Federal Fisheries Endorsement Information** – The endorsement information is used to obtain a list of federal processing vessels with mothership endorsements.
- **Federal Vessel Information** – The federal vessel information is used as an auxiliary source to obtain the Vessel ADF&G number and name for the federal processing vessels.

These sources are combined and loaded to the AKFIN_EXCLUSION table providing a single source for viewing the State and Federal operations of these groundfish processors.

Resulting AKFIN_EXCLUSION Table

The results of the compiled State and Federal data sources are loaded to the AKFIN_EXCLUSION table. The following describes the AKFIN_EXCLUSION source.

AKFIN_EXCLUSION Table Definition		
Column Name	**Type**	**Description**
AGENCY	VARCHAR2(4)	Agency that sourced the State groundfish ticket information and with which the exclusion record should be combined. Domain: ADFG, CFEC
ITO_SOURCE	VARCHAR2(6)	ITO source used to obtain the State processor registration information. Domain: ITO, ENCOAR
AKR_SOURCE	VARCHAR2(5)	NMFS AKR source of groundfish data, Blend or Catch Accounting. Domain: Blend, CA
ITO_YEAR	NUMBER(4)	Year of ITO registration, this could be different from the AKFIN year if a processor used an old ITO code. ITO registration is check for the current year and five year's prior.
AKFIN_YEAR	VARCHAR2(4)	Effective year for exclusion record and the year upon which a join should be made. This reflects the year for which any catch operations are observed.
PROC_CODE	VARCHAR2(5)	Fish ticket processor code

AKFIN_EXCLUSION Table Definition		
Column Name	**Type**	**Description**
SUM_OF_POUNDS	NUMBER	Fish ticket sum of whole groundfish pounds
ITO_CODE	VARCHAR2(6)	State processor code from the ITO data, indicates that an effective join was made on the ITO source
ITO_TYPE	VARCHAR2(1)	State processor type, translated to the historic processor type codes (see AKFIN.AKFIN_ENCOAR_TYPE_LU_V view)
ITO_NAME	VARCHAR2(50)	State processor name from the ITO data
ITO_VESSEL	VARCHAR2(50)	State processor vessel name from the ITO data
ITO_ADFG	VARCHAR2(6)	State processor vessel ADFG number from the ITO data
ITO_PLANT	VARCHAR2(3)	State processor plant code from the ITO data
FFP_NAME	VARCHAR2(60)	Federal processor name from the FFP data
FFP_PN	NUMBER	Federal processor permit number from the FFP data
FFP_ADFG	VARCHAR2(6)	Federal processor vessel ADFG number from the FFP data
AKR_PERMIT_ID	NUMBER	AKR processor permit number from the Blend/CA data
AKR_ONSHORE_DATA	VARCHAR2(1)	AKR onshore data flag from the Blend/CA data. 'O' when processor has records with: • CA data sourced by something other than shorebased processor logs or weekly production reports, or • Blend data with a designation other than 'S' for shorebased plant
AKR_OFFSHORE_DATA	VARCHAR2(1)	AKR offshore data flag from the Blend/CA data. 'S' when processor has records with: • CA data sourced by shorebased processor logs or weekly production reports, or • Blend data with a designation of 'S' for shorebased plant
AKR_BSAI_P	VARCHAR2(1)	AKR Bering Sea/Aleutian Islands catcher/processor flag from the Blend/CA. 'P' when a processor has records with: • CA data with BSAI processing sector of 'CP' for catcher/processor, or • Blend data with a designation of 'P' for catcher/processor in BSAI areas

AKFIN_EXCLUSION Table Definition		
Column Name	**Type**	**Description**
AKR_BSAI_M	VARCHAR2(1)	AKR Bering Sea/Aleutian Islands catcher/processor flag from the Blend/CA. 'M' when a processor has records with: • CA data with BSAI processing sector of 'M' for mothership, or • Blend data with a designation of 'M' for mothership in BSAI areas
AKR_BSAI_S	VARCHAR2(1)	AKR Bering Sea/Aleutian Islands catcher/processor flag from the Blend/CA. 'S' when a processor has records with: • CA data with BSAI processing sector of 'S' for shoreside processor, or • Blend data with a designation of 'S' for shoreside in BSAI areas
AKR_GOA_I	VARCHAR2(1)	AKR Gulf of Alaska inshore processor flag from the Blend/CA. 'I' when a processor has records with: • CA data with GOA processing sector of 'I' for inside, or • Blend data with a designation of 'S' for shoreside in Gulf areas
AKR_GOA_O	VARCHAR2(1)	AKR Gulf of Alaska inshore processor flag from the Blend/CA. 'O' when a processor has records with: • CA data with GOA processing sector of 'O' for inside, or • Blend data with a designation other than 'S' for shoreside in Gulf areas
AKR_CP_SECTOR	VARCHAR2(2)	AKR catcher/processor harvesting sector flag from the Blend/CA. 'CP' when a processor has records with: • CA data with harvest sector of 'CP' for catcher/processor, or • Blend data with a designation of 'P' for catcher/processor
AKR_CV_SECTOR	VARCHAR2(2)	AKR catcher/processor harvesting sector flag from the Blend/CA. 'CV' when a processor has records with: • CA data with harvest sector of 'CV' for catcher/vessel, or • Blend data with a designation other than 'P' for catcher/processor
AKR_SUMOFPOUNDS	NUMBER	AKR Blend/CA sum of whole groundfish pounds (converted from metric tons)
PCT_DIFFERENCE	NUMBER	Percent difference between fish ticket and AKR groundfish sum of pounds
MOTHERSHIP_FLG	VARCHAR2(1)	Mothership endorsement flag from FFP endorsement data.

AKFIN_EXCLUSION Table Definition		
Column Name	**Type**	**Description**
EXCLUDE_CP	CHAR(1)	Marks federal groundfish catcher/processors for exclusion evaluation where equal to 'Y'
EXCLUDE_CP_RULE	NUMBER	Rule used to mark federal groundfish catcher/processors for exclusion evaluation
EXCLUDE_CP_MSHIP	CHAR(1)	Marks federal groundfish catcher/processors and motherships for exclusion evaluation where equal to 'Y'
EXCLUDE_CP_MSHIP_RULE	NUMBER	Rule used to mark federal groundfish catcher/processors and motherships for exclusion evaluation
COMMENTS	VARCHAR2(500)	AKFIN comments on exclusion flags, most often for manually researched processors
CORRECTED_F_PROCSS	VARCHAR2(5)	Corrected fish ticket processor code, if found
AKFIN_RUNDATE	DATE	Date the record was created

Once the AKFIN_EXCLUSION table is populated the exclusion rules are applied to flag the catcher/processors and motherships.

Apply Exclusion Rules

The second part of the AKFIN Exclusion Process is applying the exclusion rules that flag processors based on their federal groundfish activity. Two flags are assigned during this process: the EXCLUDE_CP flag that identifies federal groundfish catcher/processors and the EXCLUDE_CP_MSHIP flag that identifies the federal groundfish catcher/processors and motherships. Along with the exclusion flags, two fields are also populated that indicate by which rule the exclude flag was updated.

These flags can take on one of three values:

1. **Y** if the processor needs to be evaluated for exclusion
2. **N** if the processor does NOT need to be evaluated for exclusion
3. **X** if an exception is determined and the processor's records require manual research

If an important piece of data is missing from the one of the three auxiliary sources, ITO, FFP, or Blend/CA, then the record is marked as an exception for further research. A record is only flagged if all necessary data is available and the processor's operations are conclusive.

These rules are applied in the order that they appear below. Once a flag is set, that record is no longer evaluated. For example, if a processor is marked for EXCLUDE_CP = 'Y' during exclusion rule 2, it is not re-evaluated for subsequent rules. The rules for EXCLUDE_CP and EXCLUDE_CP_MSHIP are the same, with the exception of Rule 3 as noted below. The exclusion rules are listed in the following table.

Exclusion Rules	
Exclude Rule	**Exclusion Criteria**
Rule 1	Set to **'N'** if: • ITO type code denotes a shorebased plant
Rule 2	Set to **'Y'** if: • ITO type code does not denote a shorebased processor, and • AKR CA Catch Report Type code is not a shorebased log (SLOG) or shorebased WPR (SWPR), or • AKR Blend processor designation is not shorebased plant, and • AKR CA Harvest Sector is catcher/processor
Rule 3	For EXCLUDE_CP, set to **'N'** if: • ITO type code does not denote a shorebased plant, and • AKR CA BSAI processing sector is mothership, or • AKR Blend processing designation is mothership For EXCLUDE_CP_MSHIP, set to **'Y'** if: • ITO type code does not denote a shorebased plant, and • AKR CA BSAI processing sector is mothership, or • AKR Blend processing designation is mothership
Rule 4	Set to **'N'** if: • ITO type designates a catcher/exporter or catcher/seller, and • FFP data has been populated, indicating that federal processor information was retrieved successfully but they were not previously evaluated as a federal catcher/processor
Rule 5	Set to **'N'** if: • ITO type does not designate a shorebased plant, and • AKR CA Catch Report Type code is a shorebased log (SLOG) or shorebased WPR (SWPR), or • AKR Blend processor designation is shorebased plant, or • AKR CA harvesting sector is catcher/vessel
Rule 6	Set to **'Y'** if: • ITO type denotes an EEZ only operator, and • The last four characters of the processor's ITO code are greater than 4000

Exclusion Rules	
Exclude Rule	**Exclusion Criteria**
Rule 7	Set to **'Y'** if: • The first two characters of the processor's ITO code are 'F9'
Rule 8	Set to **'N'** if: • Federal processor data has been populated, and • Sum of pounds from the AKR CA or Blend data sources is NULL or zero
Rule 9	Set to **'X'** if: • ITO code or FFP code are NULL, indicating that no processor information has been retrieved for those codes
Rule 10	Set to **'X'** if: • ITO type does not denote a shorebased plant, and • Federal processor data has been populated, and • AKR CA or Blend Sum of pounds is NOT NULL

Once these rules are applied to the data, all records marked as an exception are researched and manually updated.

Research and Update Exceptions

Two types of exceptions are found in the results of the AKFIN Exclusion Process run: the first occurs when either the ADF&G ITO or Federal Processor data is not available, the second occurs when the ADF&G ITO and Federal Processor data is found, but no data is retrieved from the AKR Catch Accounting or Blend data sources.

This research is a manual query process that involves crosschecking different tables in the database and validating codes. Checks are run against the:

- ADF&G or CFEC-compiled Fish Ticket
- CFEC Vessel Licensing
- ADF&G ITO (2004 and earlier) or ENCOAR (2005 to present)
- AKR Blend (2002 and earlier) or Catch Accounting (2003 to present)
- AKR Processor (2002 and earlier)
- AKR Federal Fishing and Processing Permits (1996 and later)
- NORPAC Observer Data

All sources are searched to see if any pertinent pieces of information from one of the processor/vessel translation sources are missing or incorrect. When a call is made to update the status of the EXCLUDE_CP or EXCLUDE_CP_MSHIP fields, then the following actions are taken:

- Update the EXCLUDE_CP or EXCLUDE_CP_MSHIP flag
- Insert a corrected processor code to the CORRECTED_F_PROCSS field (if applicable)
- Change the ITO_ADFG field if applicable (this happens only when the processor vessel was incorrect from the ADF&G ITO data source)
- Insert a comment to the COMMENTS field to describe corrections

Some records will remain marked as exceptions in the AKFIN_EXCLUSION table. These processors are excluded based on the combination of processor code and the delivering vessels ADFG number. Examples of these might be the default processor codes of '00000' or 'M9999' where the delivering vessel appears to be a federal groundfish catcher/processor. These exception codes, along with the delivering vessel ADFG numbers, are loaded to the EXCLUSION_EXCEPTIONS table where they're evaluated during the exclusion process.

Employ AKFIN_EXCLUSION Table

Once the AKFIN_EXCLUSION table is populated the exclusion flags, EXCLUDE_CP and EXCLUDE_CP_MSHIP, may be used to determine if a processor's record in the ADF&G or CFEC-compiled groundfish tickets should be excluded during consolidated reporting. The data in AKFIN_EXCLUSION can be used to remove only federal groundfish catcher/processors or to remove both federal groundfish catcher/processors and motherships.

Excluding Only Federal Groundfish Catcher/Processors

Federal groundfish catcher/processor data is often removed from the groundfish ticket source during consolidated reporting for year's 1998 and later. Once removed, it can safely be combined with catcher/processor groundfish from the AKR Blend or Catch Accounting systems.

The AKFIN_EXCLUSION table should be filtered or joined on three fields:

1. **AGENCY** – The agency groundfish ticket data source used for reporting should be specified. When combining with the in-season, ADF&G groundfish data, filter for AGENCY = 'ADFG'. When combining with the historic, CFEC-compiled groundfish data, filter for AGENCY = 'CFEC'.
2. **AKFIN_YEAR** – The reporting year should be used in the join or filter.
3. **PROC_CODE** – The processor code should be used in the join; this is the code that is loaded directly from the groundfish ticket source.

All year, processor code, delivering vessel ADFG combinations, found in the EXCLUSION_EXCEPTIONS table, should be removed from the groundfish ticket data. These are records with default processor codes where the delivering vessel

ADFG appears to be a federal groundfish catcher/processor either based on their activity in the AKR Blend/CA sources or based on a port code of 'FCP' – Floating Catcher/Processor. The EXCLUSION_EXCEPTIONS table has just three fields:

- **YEAR** – The year in which the exception processor code has occurred
- **CODE** – The exception processor code, most often '00000' and 'M9999'
- **ADFG** – The delivering vessel ADFG that should be removed from the

Once the AKFIN_EXCLUSION and EXCLUSION_EXCEPTIONS tables are merged with the groundfish ticket, several pieces of information are required to determine exclusion status of a groundfish catch record to include:

1. Delivering Vessel ADFG from the groundfish ticket
2. Exclude CP (EXCLUDE_CP) and AKR mothership (AKR_BSAI_M) flags along with the ITO_ADFG fields from the AKFIN_EXCLUSION table
3. Processor Code and Delivering Vessel ADFG from the EXCLUSION_EXCEPTIONS table

With these pieces of information, the following rules are applied to exclude records from the ADF&G or CFEC-compiled groundfish tickets.

1. **If EXCLUDE_CP for the processor is 'N', do not exclude.**
   This indicates that the processor is NOT a federal groundfish catcher/processor; do not remove from the groundfish ticket data.
2. **If EXCLUDE_CP for the processor is 'Y' and AKR_BSAI_M is NULL, exclude.**
   This indicates that the processor is a federal groundfish catcher/processor and has not recorded mothership records in the AKR Blend or CA data sources, remove this processors records from the groundfish ticket data.
3. **If EXCLUDE_CP for the processor is 'Y' and AKR_BSAI_M is 'M' and processor's ADFG (ITO_ADFG) matches the fish tickets Delivering Vessel ADFG, exclude.**
   This indicates that the processor is a federal catcher/processor but also operates as a mothership. Only the catcher/processor records, where processing vessel and delivering vessel are equal, are removed from the groundfish ticket data; the mothership records for this entity should *not* be removed.
4. **If EXCLUDE_CP for the processor is 'X' and the fish tickets Delivering Vessel ADFG matches the exclusion exceptions Delivering Vessel ADFG, exclude.**
   This indicates that the processor code is most likely a default or exception code ('00000' or 'M9999') and that the delivering vessel appears to be a federal catcher/processor. These records should be removed from the groundfish ticket data.

Once all federal groundfish catcher/processor records have been removed from the fish ticket source, the summary data can be combined with catcher/processor groundfish from the AKR Blend/CA data.

Excluding Federal Groundfish Catcher/Processors and Motherships

Consolidated reporting for 1997 and earlier, as well as reporting for the PacFIN system, requires the exclusion of both the federal groundfish catcher/processors and motherships from groundfish ticket data. Once removed, it can safely be combined with catcher/processor and mothership groundfish from the AKR Blend or Catch Accounting systems.

After merging the AKFIN_EXCLUSION and EXCLUSION_EXCEPTIONS with the groundfish ticket, several pieces of information are required to determine exclusion status of a groundfish catch record to include:

1. Delivering Vessel ADFG from the groundfish ticket
2. Exclude CP/Mothership flag (EXCLUDE_CP_MSHIP) from the AKFIN_EXCLUSION table
3. Processor Code and Delivering Vessel ADFG from the EXCLUSION_EXCEPTIONS table

With these pieces of information, the following rules are applied to exclude records from the ADF&G or CFEC-compiled groundfish tickets.

1. **If EXCLUDE_CP_MSHIP for the processor is 'N', do not exclude.**
   This indicates that the processor is NOT a federal groundfish catcher/processor or mothership; do not remove this processor's records from the groundfish ticket data.
2. **If EXCLUDE_CP_MSHIP for the processor is 'Y', exclude.**
   This indicates that the processor is a federal groundfish catcher/processor or mothership; remove this processor's records from the groundfish ticket data.
3. **If EXCLUDE_CP_MSHIP for the processor is 'X' and the fish ticket Delivering Vessel ADFG matches the exclusion exceptions Delivering Vessel ADFG, exclude.**
   This indicates that the processor code is most likely a default or exception code ('00000' or 'M9999') and that the delivering vessel appears to be a federal catcher/processor; these records should be removed from the groundfish ticket data.

Once all federal groundfish catcher/processor and mothership records have been removed from the fish ticket source, the summary data can be combined with catcher/processor and mothership groundfish from the AKR Blend/CA data.