Alaska Fisheries Information Network

Processor Code

Cross Reference Sources

Version History

Date	Author	Change Comments	Version
11/1/2007	CKohler	First version of documentation for this data product	0.1

Processor Code Cross Reference Sources

A Processor Code Cross Reference procedure, AKFIN_PROC_CODE_XREF_PRC, was developed by the Alaska Fisheries Information Network (AKFIN) to populate a processor code cross reference table that translates the State Intent to Operate Code (ITO) to the Federal Permit Number (PN) and vice versa in a given year. This procedure takes lists of processors from both the Alaska Department of Fish and Game (ADFG) Fish Tickets as compiled by the Commercial Fisheries Entry Commission (CFEC) and National Marine Fisheries Service Alaska Region (AKR) Blend/Catch Accounting data sources to produce a list that translates the processor codes for combining and cross-analyzing data from both agencies.

The whole process is completed through an iterative run of the procedure and manual research and revisions to update and populate the following sources:

1. **AKFIN.NPFMC_NMFS_PROC_KEY** – This processor key is a list of correlated ITO and PN codes that originated at AKR and was passed on to the North Pacific Fisheries Management Council (NPFMC) who in turn passed it on to AKFIN in May of 2005 for continued maintenance. This table acts as the master key used by the cross reference procedure and is updated manually.
2. **AKFIN.AKFIN_PROC_CODE_XREF** – This contains all possible processor code correlations in a given year and is the base table referenced by the final view, AKFIN.AKFIN_PROC_CODE_XREF_V. As some processing entities retrieve several correlations with valid codes in a given year, an algorithm is run against this table, through the code cross reference procedure, to identify the primary translation code for an agency in a year.
3. **AKFIN.AKFIN_PROC_CODE_XREF_V –** This view is the final view source used in reporting and queries the base AKFIN.AKFIN_PROC_CODE_XREF table to retrieve a single code translation by agency by year.

The fields and descriptions for these processor code cross reference sources are below. The AKFIN.AKFIN_PROC_CODE_XREF_V view is a replica of the base table filtered to retrieve the primary codes by YEAR/AGENCY and therefore the fields for both sources are the same.

Table Description: AKFIN_NPFMC_NMFS_PROC_KEY		
Column Name	**Data Type**	**Description**
PROCESSOR_ITO_CODE	VARCHAR2(5)	Processors State Intent to Operate Code (ITO)
PROCESSOR_NMFS_PN	VARCHAR2(5)	Processors Federal Permit Number (FFP)
PROCESSOR_NAME	VARCHAR2(60)	Processor or Vessel Name
PROC_VESS	CHAR(1)	Flag denoting whether or not the processor is a vessel or shorebased plant. Domain ('V' – Vessel, 'P' – Plant)
EDIT_DATE	DATE	Date of record entry or edit
EDIT_USER	VARCHAR2(15)	Last user that entered or edited record

Table Description: Base Table AKFIN_PROC_CODE_XREF and Reporting View AKFIN_PROC_CODE_XREF_V		
Column Name	**Data Type**	**Description**
YEAR	VARCHAR2(4)	Reporting year from base processor code source: ADFG_B_BATCH_YEAR from the Fish Tickets, converted year from WED from the Blend, and TARGET_FISHERY_YEAR from the Catch Accounting system. This is also the year that should be specified during a join operation or translation. For instance, when placing an ITO code on a 2003 CA data set, one would join on or choose records where YEAR = '2003'.
AGENCY	VARCHAR2(4)	Reporting agency for the base processor code source: CFEC for data sourced from the Fish Tickets, NMFS for data sourced from the Blend/CA. This is also the agency that should be used during a join or translation. For instance, when placing an ITO code on a CA data set, one would join on or choose records where AGENCY = 'NMFS'.
ITO_CODE	VARCHAR2(5)	State processor code as obtained from the Fish Ticket source for records where AGENCY = 'CFEC'. State processor code as translated through the cross reference procedure for records where AGENCY = 'NMFS'.
ITO_NAME	VARCHAR2(60)	Processor name from the ADFG ITO or ENCOAR data sources.
ITO_TYPE	VARCHAR2(1)	Processor type from the ADFG ITO or ENCOAR data sources. (Based on the historic ITO type codes not the new)
ITO_YEAR	VARCHAR2(4)	Processor ITO year or most current year of the codes registration from the ADFG ITO or ENCOAR data sources.
FFP_PN	VARCHAR2(5)	Federal permit number as obtained from the Blend/CA source for records where AGENCY = 'NMFS'. Federal permit number as translated through the cross reference procedure for records where AGENCY = 'CFEC'.
FFP_NAME	VARCHAR2(60)	Processor name from the Federal Fisheries processor or vessel sources.
FFP_YEAR	VARCHAR2(4)	Last valid year of registration in the FFP_VESSEL_HISTORY or FFP_PROCESSOR_HISTORY data source.
PROC_KEY_NAME	VARCHAR2(60)	Processor name from the NPFMC_NMFS_PROC_KEY table.
PROC_KEY_PROC_VESS	VARCHAR2(1)	Processor/Vessel flag from the NPFMC_NMFS_PROC_KEY table.
PROC_KEY_EDIT_DATE	DATE	Record entry date from the NPFMC_NMFS_PROC_KEY table.
PROC_KEY_EDIT_USER	VARCHAR2(15)	Record entry user from the NPFMC_NMFS_PROC_KEY table.
CFEC_TONS	NUMBER	Tons associated with PROCESSOR_ITO_CODE from the CFEC compiled Fish Tickets.
NMFS_TONS	NUMBER	Tons associated with the FFP_PN from the Blend/Catch Accounting Data.

Table Description: Base Table AKFIN_PROC_CODE_XREF and Reporting View AKFIN_PROC_CODE_XREF_V		
Column Name	**Data Type**	**Description**
CFEC_PRIMARY	NUMBER	Flag indicating the primary translation for a CFEC record in a given year. Domain ("1" - primary, "0" - secondary)
NMFS_PRIMARY	NUMBER	Flag indicating the primary translation for a NMFS record in a given year. Domain ("1" - primary, "0" - secondary)

Identifying Processor Code Translations

The process for identifying potential ITO/PN code translations requires several steps:

1. Compiling Data Sources – Completed within the PL/SQL procedure
2. Identifying Primary Codes – Completed within the PL/SQL procedure
3. Researching Missing or Older Data – Manually research by querying agency data sources

The update of the main cross reference sources requires iterative runs of the PL/SQL procedure along with manual research to identify ITO/PN correlations.

Compiling Data Sources

The processor code cross reference procedure begins by combining several data sources and loading the results to the base AKFIN_PROC_CODE_XREF table. The following sources are compiled and loaded to the cross reference table for further analysis.

- **CFEC Compiled Fish Tickets** – The base source of processor ITO codes for the CFEC translations and for obtaining total tons by processor ITO code.
- **NMFS AKR Blend/Catch Accounting Data** – The base source of federal PN numbers for the NMFS translations and for obtaining total tons by federal PN number.
- **NMFS AKR FFP Processor History Data –** An auxiliary source to further define the federal PN number for processing plants.
- **NMFS AKR FFP Vessel History Data** – An auxiliary source to further define the federal PN number for processing vessels.
- **ADFG ITO/ENCOAR Data –** An auxiliary source to further define the processor ITO code for both processing plants and vessels.
- **NPFMC NMFS Processor Key Data** – The source used to identifying correlated processor ITO codes and federal PN numbers.

Two loads are performed: the first, a load using the CFEC compiled Fish Tickets as the base source for processor ITO codes (AGENCY = 'CFEC'); and the second, a load using the NMFS AKR Blend/Catching Accounting data as the base source for Federal PN Numbers (AGENCY = 'NMFS').

Identifying Primary Codes

Once the combined data has been loaded to the base cross reference table, a process is run to flag the primary translation for an agency in a given year. Translations are identified by using the

NPFMC NMFS processor key data that has entries for correlated codes. Sometimes multiple codes correlations are found in a given year for instances when a single federal PN is associated with multiple processor ITO codes. In these instances a primary translation is identified where:

1. The processor registration is most recent – For instance if a single PN is correlated with two processor ITO codes in 2006 and one ITO code has the most current ITO_YEAR of 2006 while the other is 2005, then the 2006 code is marked as the primary.
2. The tonnage is greatest – For example, if a single PN is correlated with two processor ITO codes in 2006 and both have an ITO registration of 2006, then the code with the greatest tonnage is marked as the primary.

The above algorithm is only applied to a small subset of the data in a given year. Most often, only one valid correlation per code per year is found.

Researching Missing or Older Data

Once this database procedure for compiling the related data sources and flagging the primary translation has completed, the resulting data in AKFIN_PROC_CODE_XREF is manually reviewed and researched.

This process involves:

1. Identifying codes that did not receive a translation
2. Identifying codes that received a translation with an older registration year (this helps to find new correlations based on newly registered processors)
3. Researching for possible translations by manually querying the federal and state processor data sources
4. Adding the correlations to the NPFMC NMFS Processor Key
5. Rerunning the processor code cross referencing procedure to update the AKFIN_PROC_CODE_XREF table based on these new correlations

New correlations are added to the NPFMC NMFS Processor Key only when the relationship between a processor ITO code and federal PN are fairly certain. As new correlations are identified throughout time, they may be added to the key and the procedure rerun.