

Report No. S2

Fishery National Totals

1. Definition of the Commodity Flow Data Gap

1.1. General Description

Although the tonnage from fish shipments from fishing vessels to processing centers is relatively small, fish is a high-value commodity and thus is important to the Freight Analysis Framework (FAF) base case database development. It is expected that this missing component of the Commodity Flow Survey (CFS) could have relatively important regional impacts, particularly for local economies in some coastal regions. The CFS out-of-scope shipments under consideration are those fishery shipments that go from fishing vessels to processing/distribution centers. Fish and fish products that are shipped from processing/distribution centers to markets are in-scope and should have been captured by the 2002 CFS.

Note that farm-raised fish (such as catfish, trout, hybrid striped bass, and crawfish) are included under the “farm-based agricultural shipment” out-of-scope area. Fishery shipments to be addressed as a CFS data gap, therefore, exclude farm-raised fish. Furthermore, the distance between a fishing ground and the dock/port where the vessel lands is not included in this analysis.

1.2. Commodities involved in the data gap

1.2.1. SCTG codes

The two-digit SCTG code covering fish is “01 - Live animals and fish.” Although commodity “05” which is “Meat, fish, and seafood, and their preparations” also involves the fish industry, shipments of this type are likely to be processed fish or fish products and should have been captured within the CFS.

1.2.2. STCC codes

Under STCC coding, fish as a commodity is included in “09 - Fresh fish or other marine products.”

1.3. Establishments involved in the data gap

1.3.1. NAICS codes

Establishments involved in this data gap are within the NAICS category 114 (fishing, hunting and trapping). Industries in this NAICS sector harvest fish and other wild animals from their natural habitats and are dependent upon a continued supply of the natural resource.

1.3.2. NAICS-SIC conversion issues

No special impacts are expected from the NAICS-SIC conversion.

2. Importance of the Data Gap

2.1. Value and tonnage as a share of national shipments

Based on statistics published in the *Fisheries of the United States, 2002*, an annual report prepared by the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA), commercial landings by U.S. fishermen at ports in the 50 states were totaled at approximately 5 million tons and valued at over \$3 billion in 2002. Commercial landings by U.S. fishermen at ports outside the 50 states along with Internal Water Processing agreements provided an additional small amount, less than 0.2 million tons valued at slightly over \$118 million in 2002.

For marine recreational fishing, it was estimated that the total harvested catch was about 228 million pounds in 2002. About 58% of the recreational catch came from inland waters, 30% from state territorial seas, and 12% from the U.S. Exclusive Economic Zone (EEZ). Under this study, only commercial fisheries are considered as a CFS data gap, however.

Clearly, fishery is not a significant data gap for the CFS when compared to freight totals. The national total of freight shipments, as captured by the CFS, is about 12 billion tons and over \$8 trillion in value.

2.2. Value and tonnage as a share for individual modes

As stated previously, the CFS omits fishery shipments that move from vessels at the dock/port to the first point of processing or distribution centers. It is assumed that this activity is mostly local and shipments are transported via trucks. This fishery shipment gap is clearly not a significant component for the U.S. trucking industry, with its estimated national totals of about 5 million tons and \$3 billion in value.

2.3. Geographic concentration: dispersed versus concentrated, local versus long distance

Clearly, fishery shipments from boats/vessels to either the first-point of processing or to a distribution center are concentrated along coast lines and waterways. Movements in this data gap are assumed to be local, rather than long hauls.

2.4. Importance to international trade

Based on NMFS statistics, total imported edible and non-edible fishery products were over 2 million tons and worth about \$19.7 billion in 2002. Imported fishery is not included under this fishery shipment data gap study.

3. Data Sources

3.1. Coverage in CFS

Fishery shipments that are out-of-scope for the CFS are those that occur prior to the first-point of processing or before arrival at a distribution center. Once the fish shipments reach these points they become in-scope commodity activities for the CFS.

3.2. Coverage in other data sources

The main data sources used in filling these fishery shipment data gaps are:

Fisheries of the United States 2002

Fisheries of the United States, an annual report prepared by the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA) contains statistics on commercial and recreational fisheries of the United States with landings from U.S. territorial seas, the U.S. Exclusive Economic Zone (EEZ), and on the high seas.

Information contained in the *Fisheries of the United States* comes from field offices of the NMFS with cooperation of the coastal states. Statistics on U.S. commercial landings are available for major U.S. ports, regions (New England, Middle Atlantic, Chesapeake, South Atlantic, Gulf, Pacific Coast, Great Lakes, and Hawaii), and states. Quantity (in million pounds) and value of these commercial fishery landings are also available.

2002 Vehicle Inventory and Use Survey (VIUS)

As a part of the Economic Census, the Bureau of Census collects information on the physical and operational characteristics of the private and commercial truck

population in the United States. The VIUS is conducted in the same year as the CFS (also a part of the Economic Census). The latest data is for 2002, which was released recently on CD-ROM.

Information from the 2002 VIUS was used to derive ton-mile estimates required for this study.

3.3. Data quality

The main sources of data used in estimating statistics for this data gap are from government published data sources and, therefore, are expected to be reasonably reliable. The tons and value of U.S. commercial fishery landings are estimated directly from the NMFS data. Shipment mileage is estimated using VIUS data from the U.S. Census along with some simple assumptions (e.g., movement by local truck). The national estimates of tons, value, and ton-miles are reliable, relative to other estimates in these out-of-scope studies. However, estimates at the sub-state level of geography may be subject to a higher degree of uncertainty, particularly the ton-mile estimates.

3.4. Other issues

The method by which ton-mile estimates are made requires an assumption about the location of trucks that transport fish from port to processing center. Due to the lack of better data, the VIUS home base state was assumed to be the operating-state for the purpose of estimating average trip length.

4. Estimation Methods

4.1. General description of estimation method

National totals of tons and value for this set of CFS out-of-scope shipments are estimated based on statistics published in the *Fisheries of the United States, 2002*. With several assumptions and the use of VIUS data, it is also possible to estimate aggregate ton-miles at the national level.

4.2. Method for estimating the national total

Based on information published in the *2002 Fishery of the United States*, commercial fishery landings in the U.S. totaled approximately 4.7 million tons and were worth over \$3 billion in 2002. Table 1 shows the 2002 statistics, ranked by value, for all states with commercial fishery landings. Total tonnages and values by state from the 2002 CFS are also presented in Table 1 to provide a size perspective for those fishery statistics.

In order to estimate ton-miles for fishery shipments, information on the length of movement for these shipments (or haul length) is needed. Since this mileage information is not readily available, it has to be estimated. In general, trip distance will vary depending on the type of commodities, where the product is harvested or raised, where the processing center or storage facility is located, and how it is shipped. Estimating haul distances at this level of detail would be cumbersome. Since fishery shipments account for only a small portion of total freights, such elaborated methods were not adopted. Under the assumption that fishery shipments are mainly a local activity transported by truck, the preliminary estimates of national total ton-miles reported in this document are based on mileage estimated using VIUS data.

VIUS trip length information is given in categories such as: off-the-road, 50 miles or less, 51 to 100 miles, 101 to 200 miles, 201 to 500 miles, 501 miles or more, not reported, and not applicable (vehicle not in use). Because the primary interest of the FAF¹ is on those utilizing national transportation systems, off-the-road activities are not considered in this study. Furthermore, with the exception of the State of Alaska and possibly Texas, the within-state operating range for all other states in the United States should all be within 500 miles. Therefore, the category of “501 miles or more” is eliminated from this study. Using midpoints of the remaining range categories and the distribution of operating ranges, a weighted average trip length is estimated from trucks specifying their principal product carried was “live animal and live fish.” The resulting weighted average trip length for this commodity group (i.e., live animal and live fish”) is about 55 miles.

Note that the trip length estimate from VIUS (i.e., 55 miles) is likely to be overstated for live fish shipments that are transported from docks to processing centers – (although the 55 mile estimate may be reasonable for live animals). Due to the lack of available data, this VIUS-based estimated mileage is used in calculating the preliminary national ton-miles for fishery shipments.

¹ See http://www.ops.fhwa.dot.gov/freight/freight_analysis/faf/index.htm for further information.

Table 1: Commercial Fishery Landing Statistics (tonnage and value) by State, 2002

Ranked by total value (\$) of commercial landing

State	Commercial Landing value (\$million)	Commercial Landing Tons (thousand)	Total CFS 2002 (\$ million)	Total CFS 2002 (thousand tons)	% of CFS by value	% of CFS by tons
Alaska	812	2,533	8,032	36,498	10.11%	6.94%
Louisiana	305	652	139,843	495,703	0.22%	0.13%
Massachusetts	297	122	200,813	75,123	0.15%	0.16%
Maine	290	101	32,355	32,121	0.90%	0.31%
Florida	184	58	296,989	455,084	0.06%	0.01%
Texas	173	47	589,064	1,082,596	0.03%	0.00%
Washington	145	86	177,395	259,594	0.08%	0.03%
Virginia	123	221	164,557	268,935	0.07%	0.08%
New Jersey	113	81	286,580	237,847	0.04%	0.03%
California	108	250	923,669	903,954	0.01%	0.03%
North Carolina	92	80	293,604	276,004	0.03%	0.03%
Oregon	65	105	102,600	158,053	0.06%	0.07%
Rhode Island	65	52	21,035	19,389	0.31%	0.27%
Utah	60	12	61,515	109,672	0.10%	0.01%
Hawaii	52	12	13,480	23,659	0.39%	0.05%
New York	51	19	318,775	249,551	0.02%	0.01%
Maryland	49	27	121,356	165,399	0.04%	0.02%
Mississippi	48	109	94,897	98,720	0.05%	0.11%
Alabama	36	12	127,727	216,383	0.03%	0.01%
Connecticut	28	8	82,477	48,894	0.03%	0.02%
South Carolina	21	7	143,194	142,708	0.01%	0.00%
New Hampshire	17	12	31,191	33,751	0.05%	0.04%
Georgia	15	5	270,703	339,846	0.01%	0.00%
At-Sea Process, Pac.	9	93	N/A	N/A	N/A	N/A
Michigan	7	5	388,571	331,190	0.00%	0.00%
Delaware	6	3	20,348	30,988	0.03%	0.01%
Wisconsin	5	2	217,451	229,502	0.00%	0.00%
Ohio	3	2	494,278	546,095	0.00%	0.00%
Minnesota	0	0	166,430	336,237	0.00%	0.00%
Pennsylvania	0	0	354,399	399,764	0.00%	0.00%
US TOTAL	3,181	4,714	8,397,210	11,667,919	0.04%	0.04%

4.3. Proposed method for estimating the regional flows

Please refer to Report No. 5, Methodology for FAF Regionalization of Selected Out-of-Scope Truck Commodity Flows.

4.4. Expected quality of the estimates

Estimates of tons and value are directly computed based on data obtained from the NMFS. The expected quality of these estimates will therefore be as good as those of the original data. Estimates of ton-miles, however, require the use of VIUS data and assumptions. As pointed out previously, VIUS data have limitations on geographic details, sample coverage, and are subject to other sampling errors. Mileage estimates produced from this process, therefore, have a higher degree of uncertainty. Consequently, ton-mile estimates for this data gap may be less accurate than those for tons and value.

5. Implications for the Scope and Content of the 2007 CFS

Unless the sampling frame for the CFS 2007 is changed, this data gap will remain out of scope. Since fishery accounts for a very small component in the total U.S. freight activity, changing the CFS 2007 sampling frame to include shipments in this data gap is NOT recommended.

6. Other Issues

None.

7. References

Chin, S. M., J. Hopson, and H. L. Hwang, "Estimating State-Level Truck Activities in America," *Journal of Transportation And Statistics*, Volume I, No. 1, pp 63-74, January, 1998.

National Marine Fisheries Service NOAA, Fisheries Statistics and Economics Division, Fisheries of the United States 2002.

<http://www.st.nmfs.gov/st1/fus/current/index.html>

U.S. Bureau of Census, 2002 Vehicle Inventory and Use Survey, Form TC-9502.