

**Review of Product Form Conversion Ratios
for the Hawaii Billfish Catch ¹**

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The Pacific Islands Fisheries Science Center (PIFSC) collaborated with the State of Hawaii, Division of Aquatic Resources (DAR) to collect market data from the United Fishing Agency (UFA) fish auction from 1986 through 2001. These market sample data included species and numbers of fishes, weight (in pounds), condition of the catch (e.g., effects of processing or damaged from shark bites), price, and buyer. These data were used in extrapolations to estimate annual pelagic landings.

Until December 2004, most of the pelagic catch in Hawaii was landed whole. The exceptions were swordfish, which were landed headed, gutted, and with the tail from the caudal peduncle removed, and sharks, which were landed headed and gutted. The nominal weight of processed catch was then raised to account for weight loss (Table 1). Raising factors were species specific and increased with a higher degree of processing.

The market sample data collection program was replaced by UFA's electronic submission of Commercial Dealer to the DAR in 2000. The electronic data, at least for the longline fishery, have been almost complete, with very high coverage (~95%) since 2000. The coverage of the troll and handline fisheries is uncertain.

There are two principal caveats concerning the conversion factors used by the PIFSC. The first is that the conversion factors were probably obtained from market standards used by the fish auction rather than a scientific document. The second is that the conversion factors probably did not take into account biological factors, e.g., sexual dimorphism, temporal fluctuations (seasonality), spatial differences, or other effects of reproduction state on the condition factor.

Table 1.—Product conversion factors for Hawaii billfish catches.

	Processed catch					Damaged catch	
	Gutted	Gilled and gutted	No head	Headed and gutted	Headed, gutted, no tail	Shark bitten	Chunk
Swordfish	1.09	1.14	1.25	1.39	1.45	1.11	2.50
Striped marlin	1.15	1.23	1.25	1.37	1.41	1.11	2.50
Blue marlin	1.15	1.25	1.28	1.47	1.54	1.11	---
Black marlin	1.15	1.20	1.20	1.43	1.45	1.11	---
Spearfish	1.05	1.11	1.10	1.32	1.33	1.11	---
Sailfish	1.08	1.12	1.37	1.52	1.56	1.11	---
Low <----- Degree of processing -----> High							