

## **Illegal Shark Fishing off the coast of Texas by Mexican Lanchas**

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Karyl Brewster-Geisz  
National Marine Fisheries Service  
Highly Migratory Species Management Division  
Silver Spring, MD

and

Lt. Mark Eytcheson  
U.S. Coast Guard  
Fisheries Enforcement  
Washington, DC

### **1.0 Background**

Since the mid-1990s, the United States Coast Guard (USCG) has been aware of Mexican fishing vessels fishing for sharks and other species in the U.S. Exclusive Economic Zone (EEZ) off the coast of Texas. These vessels are usually open fiberglass-hulled with an outboard engine and are approximately 25 to 35 feet in length. Each vessel has a crew of approximately three people. The vessels originate from Matamoros, Mexico, and fish in the area surrounding South Padre Island, Texas, anywhere from zero to twenty miles offshore. These vessels, or lanchas, are believed to participate in illegal fishing during the day and drug and migrant smuggling during the night.

The lanchas fish with gillnet and longline gear in U.S. waters for shark and red snapper, which are believed to be more prevalent in the U.S. EEZ off Texas than in the Mexican EEZ near Matamoros.

In addition to interdicted lanchas, the USCG also finds lost fishing gear left behind in the area (150+ sets of abandoned gillnet and longline gear), which still “ghost fish” even if there are no parent vessels in the area. The USCG believes the gear is left behind by lanchas that are fleeing the USCG. The number of fish caught in the lost gear is unknown.

Vessels that are interdicted are brought to the USCG Smallboat Station at South Padre Island for storage until Mexican officials take back the vessel. The crew is turned over to

Customs and Border Protection officials for processing. The catch is returned to the sea or disposed. The USCG, NOAA General Counsel, and the State Department are working with Mexico to develop a strategy to stop this problem.

The previous large coastal shark (LCS) stock assessments have included Mexican catches and have considered open population models. However, the Mexican catches included in the stock assessment have not included this illegal catch and do not represent the full number of sharks that are taken by Mexican fishermen. The Highly Migratory Species Management Division is providing this catch information for possible inclusion in the stock assessment and/or the sensitivity analyses of the models to changes in this catch. The Highly Migratory Species Management Division is also interested in working with USCG and other interested parties to collect additional information for use in future stock assessments.

## **2.0 Mexican Catches Used in the 2002 LCS Stock Assessment**

In the 2002 LCS stock assessment (Cortes et al, 2002), NMFS included estimates of Mexican shark catches. For the LCS complex, these estimates (found in Tables 4, 5, and 6 of the 2002 stock assessment) ranged from 52,057 fish in 2000 and 2001 to 122,220 fish in 1990. For sandbar sharks, the estimates ranged from 6,962 fish in 1987 to 11,822 fish in 1982. For blacktip sharks, the estimates ranged from 45,006 in 2000 and 2001 to 111,482 fish in 1990.

All of these estimates were based on data presented in SB-02-3, Bonfil and Babcock (2002). That paper presented information on the traditional Mexican shark fishery in the southern Gulf of Mexico. The data for that fishery is reported as “small” or “large” sharks. Bonfil and Babcock attempted to estimate landings by species for each Mexican State. The authors of this paper estimated that the total catch of small and large blacktips from all Mexican States range from 16,833 fish in 1970 to 275,441 in 1990. The estimate for 2000 was 118,599 fish. The Mexican State closest to Texas is Tamaulipas. The authors of this paper estimate that the number of small blacktip sharks (there were no large blacktip shark estimates for this State) range from 16,905 fish in 1971 to 163,063 fish in 1981. The estimate for 2000 was 60,870 fish.

## **3.0 Estimated Illegal Mexican Catches Based on USCG Data**

USCG vessels and aircraft routinely patrol the area surrounding South Padre Island, Texas. They often witness incursions of Mexican vessels into U.S. waters. When this happens, the USCG attempts to interdict the lancha(s), however, not every incursion into U.S. waters is seen. Not every incursion that is witnessed by the USCG is successfully interdicted. The most prevalent period for lancha incursions is between October and April of each year. Table 1 indicates the number of USCG detected fishery-related incursions from Fiscal Year (FY) 2000 through FY 2005. Pictures of the typical vessel, gear, and catch are shown in Figures 1 through 4 below. At the end of the document are pictures of species, other than sharks, that have been found on interdicted lanchas.

**Table 1 USCG Detected Fishery-Related Lancha Incursions from FY2000 to FY2005**

Fiscal Year	Number of Detected Incursions
2000	100
2001	147
2002	139
2003	131
2004	212
2005	157

USCG intelligence estimates that the total number of incursions per year, including drug and migrant smuggling, is over 1,900.

The sharks found on interdicted lanchas are mostly blacktip and hammerhead sharks. Usually, 20 to 30 sharks are found onboard each lancha. Some vessels are caught with fewer and some with more sharks dependent on the length of time the lancha was fishing. The estimate of 20 to 30 sharks is derived from the different Situation Reports (SITREPs) that the USCG receives from units in the region which have interdicted lanchas over the years. The sharks found onboard interdicted lanchas are usually between 10 and 30 lb whole weight (ww) ( 7 to 22 lb dressed weight (dw)) each. This estimate is also derived from the SITREPs. These SITREP data are not currently entered into a database that would be useful for stock assessment purposes, however the USCG is working to develop a system which would accurately track catch totals and sizes of fish caught by lanchas.



**Figure 1 Typical Mexican lancha and fishing gear. Lanchas fish with either gillnets or long lines.**



**Figure 2 Longline gear used by Mexican fishermen.**





**Figure 3** Catch from one interdicted lancha with 100+ sharks. Note the small, juvenile size of the sharks.



**Figure 4** Shark catch from an interdicted lancha.

#### **4.0 Comparison of U.S. LCS Commercial Quota, Mexican Catches Used Previously, and Estimated Illegal Catches**

Including the potential harvest of these illegal Mexican lanchas could have an impact on the amount of commercial quota allocated to U.S. fishermen and may have an impact on the rebuilding plan. Table 2 below indicates the percent of the quota taken by the Mexican lanchas if 20 LCS are taken per incursion. Table 3 below indicates the percent of the quota if 30 LCS sharks are taken per incursion. These tables indicate that, depending on the number of shark per incursion and the average weight per shark, approximately 3 to 56% of the total U.S. commercial shark quota and between 6 and 108 percent of the Gulf of Mexico regional commercial quota for U.S. fishermen. In addition to the usual weights observed by the USCG, we also presented the data using the average weight for blacktip sharks given in Cortes (2005; actual average weights ranged from 19.2 to 33.5 lb dw but was around 20 lb dw for most years). These tables also indicate that the estimates of total Mexican catches used in the 2002 LCS stock assessment, at least for recent years, are likely low.

**Table 2 Estimates of the number of sharks and the percent of the U.S. commercial quota taken annually assuming 20 sharks are taken per trip.**

<b>Scenario</b>	<b>1/4 of Estimated Incursions</b>	<b>1/2 of Estimated Incursions</b>	<b>All of Estimated Incursions</b>
Number of Incursions per year	475	950	1,900
Catch per trip (number of fish)	20	20	20
Estimated total number of sharks taken per year	9,500	19,000	38,000
2001 Mexican LCS catches used in 2002 stock assessment	52,057	52,057	52,057
2001 Mexican blacktip catches used in 2002 stock assessment	45,006	45,006	45,006
2001 Mexican sandbar catches used in 2002 stock assessment	7,051	7,051	7,051
Total shark weight (lb dw) using an average weight of 10 lb ww ( 7 lb dw) (USCG average)	66,500	133,000	266,000
Gulf of Mexico regional LCS quota (lb dw)	1,165,881	1,165,881	1,165,881
% of Regional quota	6%	11%	23%
Total LCS quota (lb dw)	2,242,078	2,242,078	2,242,078
% of Total quota	3%	6%	12%
Total shark weight (lb dw) using an average weight of 20 lb dw (Cortes, 2005)	190,000	380,000	760,000
Gulf of Mexico regional LCS quota (lb dw)	1,165,881	1,165,881	1,165,881
% of Regional quota	16%	33%	65%
Total LCS quota (lb dw)	2,242,078	2,242,078	2,242,078
% of Total quota	8%	17%	34%
Total shark weight (lb dw) using an average weight of 30 lb ww (22 lb dw) (USCG average)	209,000	418,000	836,000
Gulf of Mexico regional LCS quota (lb dw)	1,165,881	1,165,881	1,165,881
% of Regional quota	18%	36%	72%
Total LCS quota (lb dw)	2,242,078	2,242,078	2,242,078
% of Total quota	9%	19%	37%

**Table 3 Estimates of the number of sharks and the percent of the U.S. commercial quota taken annually assuming 30 sharks are taken per trip.**

<b>Scenario</b>	<b>1/4 of Estimated Incursions</b>	<b>1/2 of Estimated Incursions</b>	<b>All of Estimated Incursions</b>
Number of Incursions per year	475	950	1,900
Catch per trip (number of fish)	30	30	30
Total number of sharks taken per year	14,250	28,500	57,000
2001 Mexican LCS catches used in 2002 stock assessment	52,057	52,057	52,057
2001 Mexican blacktip catches used in 2002 stock assessment	45,006	45,006	45,006
2001 Mexican sandbar catches used in 2002 stock assessment	7,051	7,051	7,051
Total shark weight (lb dw) using an average weight of 10 lb ww ( 7 lb dw) (USCG average)	99,750	199,500	399,000
Gulf of Mexico regional LCS quota (lb dw)	1,165,881	1,165,881	1,165,881
% of Regional quota	9%	17%	34%
Total LCS quota (lb dw)	2,242,078	2,242,078	2,242,078
% of Total quota	4%	9%	18%
Total shark weight (lb dw) using an average weight of 20 lb (Cortes, 2005)	285,000	570,000	1,140,000
Gulf of Mexico regional LCS quota (lb dw)	1,165,881	1,165,881	1,165,881
% of Regional quota	24%	49%	98%
Total LCS quota (lb dw)	2,242,078	2,242,078	2,242,078
% of Total quota	13%	25%	51%
Total shark weight (lb dw) using an average weight of 30 lb ww ( 22 lb dw) (USCG average)	313,500	627,000	1,254,000
Gulf of Mexico regional LCS quota (lb dw)	1,165,881	1,165,881	1,165,881
% of Regional quota	27%	54%	108%
Total LCS quota (lb dw)	2,242,078	2,242,078	2,242,078
% of Total quota	14%	28%	56%



## References

Bonfil, R. and E. Babcock. 2002. SB-0203. Estimation of catches of sandbar (*Carcharhinus plumbeus*) and blacktip (*C. limbatus*) sharks in the Mexican fisheries of the Gulf of Mexico - DRAFT. Wildlife Conservation Society, Bronx, New York. 18 p.

Cortes, E., L. Brooks, and G. Scott. 2002. Stock assessment of large coastal sharks in the U.S. Atlantic and Gulf of Mexico. Sustainable Fisheries Division Contribution SFD-02/03-177. Panama City, FL. 222 p.

Cortes, E. 2005. Updated catches of Atlantic Sharks. Sustainable Fisheries Division Contribution SFD-2005-054. Panama City, FL. 57 p.

**Photos of other species found on interdicted lanchas**

















