Biological Surveys to Assess the Relative Abundance and Distribution of Coastal Sharks and Teleosts of the Mexican Gulf of Mexico, 1997, 1998, 2001 and 2002

MARK A. GRACE, DAVID E. DE ANDA FUENTES[1] and LEONARDO CASTILLO-GENIZ[2]
NOAA/NMFS, Mississippi Laboratories
P.O. Drawer 1207
Pascagoula, Mississippi 39568-1207 USA
[1] *Instituto Nacional de la Pesca*
CRIP Yucalpeten
A.P. #73 Progreso
Yucatan, Mexico C.P. 97320
[2] *Laboratorio de Ecologia Pesquera*
CICESE
Ensenada, Baja California
Mexico C.P. 22800

In an effort to maintain viable shark populations in U.S. waters, the National Marine Fisheries Service (NMFS, an agency of NOAA) developed the 1993 Fisheries Management Plan (FMP) for Sharks of the Atlantic Ocean (NOAA 1993). To determine the efficacy of the1993 FMP for sharks, NMFS Mississippi Laboratories instituted field surveys (1995 - 2002) to assess the distribution and relative abundance of coastal sharks in the western U.S. North Atlantic Ocean and U.S. Gulf of Mexico. In order to expand survey coverage for several shark species, NMFS and the Instituto Nacional de la Pesca (INP) initiated a series of cooperative research projects (1997, 1998, 2001 and 2002) within Mexican territorial waters of the Gulf of Mexico. The primary objective of the Mexican Gulf of Mexico project was to develop a fisheries independent data base for shark management species (i.e., large and small coastal sharks) and important teleosts (i.e., snappers and groupers). Secondary objectives included tagging studies and biological sampling. Two-hundred and three bottom longline stations were completed during 44 survey days. Captures included 97 sharks (11 species), 63 other elasmobranchs (3 species) and 246 teleosts (30 species).

KEY WORDS: Bottom longline, fisheries-independent, Mexico

Estudios Biológicos para Evaluar la Abundancia Relativa y Distribución de Tiburones Costeros y Teleósteos del Golfo de México, 1997, 1998, 2001 Y 2002

En un esfuerzo para mantener viables las poblaciones de tiburón en aguas de los Estado Unidos, el Servicio Nacional de Pesquerías Marinas de los Estados Unidos

(the National Marine Fisheries Service, NMFS) implemento a partir de 1993 un Plan de Manejo Pesquero para los Tiburones del Océano Atlántico. Para evaluar la eficacia del plan, el Laboratorio de la NMFS en Mississippi condujo una serie de cruceros de prospección (1995 - 2002), para evaluar la distribución y abundancia relativa de tiburones costeros en la costa occidental de los E.U. del Océano Atlántico Norte y del Golfo de México. Para extender la cobertura de los estudios para varias especies del tiburón, la NMFS y el Instituto Nacional del la Pesca (INP) iniciaron una serie de cruceros de investigación conjuntos (1997, 1998, 2001 y 2002) dentro de las aguas territoriales mexicanas del Golfo de México. El objetivo fundamental del proyecto del Golfo de Mexico fue desarrollar una base de datos de pesquerías independiente para el manejo de las diferentes especies de tiburón (tiburones costeros grandes y pequeños) y teleósteos de importancia comercial (huachinangos y meros). Los objetivos secundarios incluyeron estudios de marcado y muestreo biológico para el conocimiento de las historias de vida de las principales especies.. En cuatro cruceros conjuntos de investigación se realizaron 203 estaciones de palangre de fondo durante 44 días del estudio. Las capturas incluyeron 97 tiburones (11 especies), 63 de otros elasmobranquios (3 especies) y 246 teleósteos (30 especies).

PALABRAS CLAVES: Tiburones, distribución estacional, palangre, marcado, pesquerias, Golfo de Mexico

A Comparison of Age Estimates from Sagittal Otoliths and the First Dorsal Spine for Cobia (*Rachycentron canadum*) from the Northern Gulf of Mexico

J. READ HENDON, JAMES S. FRANKS, and DYAN P. GIBSON
[1]*The University of Southern Mississippi, College of Marine Sciences*
Center for Fisheries Research and Development
703 East Beach Drive
Ocean Springs, Mississippi 39564 USA

Cobia, *Rachycentron canadum*, are migratory, coastal pelagic fish that are distributed worldwide in tropical and subtropical seas, except for the eastern Pacific. Previous research established that cobia from the northern Gulf of Mexico recreational fishery could be exactly aged using sectioned sagittal otoliths. The collection of sagittae from cobia harvested by fishers typically requires removal of the entire head for subsequent otolith extraction and sectioning in the laboratory, often a difficult and time consuming process. We conducted a comparison of age estimates obtained from analyses of whole and sectioned sagittal otoliths and sectioned first dorsal spines. Whole sagittae contained growth zones assumed to be annual events, and dorsal spine sections revealed a succession of alternating opaque