

BLUEFIN TUNA BIOLOGICAL SAMPLING PROGRAM: COMMERCIAL AND RECREATIONAL FISHERIES

USA scientists

SUMMARY

The Bluefin Tuna Biological Sampling Program started in 2010 with the objective of conducting representative biological sampling of the U.S. bluefin tuna fisheries along the eastern seaboard (the Pelagic Observer program collects samples from bluefin caught in the Gulf of Mexico). This document present a summary of the activities conducted under this research program.

RÉSUMÉ

Le Programme d'échantillonnage biologique du thon rouge a démarré en 2010 dans l'objectif de mener un échantillonnage biologique représentatif des pêcheries des États-Unis ciblant le thon rouge le long de la côte orientale (le programme d'observateurs pélagiques recueille des échantillons de thons rouges capturés dans le golfe du Mexique). Ce document présente un résumé des activités menées dans le cadre de ce programme de recherche.

RESUMEN

*Se estiman índices de abundancia relativa para las capturas de atún rojo (*Thunnus thynnus*) de las almadrabas marroquíes y españolas del estrecho de Gibraltar para el período 1981- 2012. Las CPUE se estandarizaron mediante técnicas de GLM asumiendo un error de tipo binomial negativo.*

KEYWORDS

Research programs, Biological sampling, Growth studies, Bluefin tuna

The Bluefin Tuna Biological Sampling Program started in 2010 with the objectives:

- Primary Objective – Collect bluefin tuna otoliths representative of the catches in each fishery, to permit assignment of stock origin and direct ageing.
- Secondary Objectives –
 - collect additional hard parts (spines, vertebrae) from bluefin tuna
 - collect reproductive and muscle tissues from bluefin tuna, to permit the evaluation of reproductive status
 - collect biological samples from other tunas

This program taking a multi-pronged approach to try to achieve representative biological sampling of the U.S. bluefin tuna fisheries along the eastern seaboard (the Pelagic Observer program collects samples from bluefin caught in the Gulf of Mexico). The SEFSC began funding the Large Pelagic Biological Survey (LPBS), an add-on to the ongoing Large Pelagic Survey covering the rod and reel fishery (both commercial and recreational) from Virginia through Maine, June-October. The SEFSC also began funding an add-on to the ongoing NMFS-NER Port Biological Sampling Program (REMSA Inc., contractor).

A number of obstacles were encountered. Landings of bluefin can be scattered across widely distributed small fishing pressure landing sites, and occur sporadically, making it difficult to efficiently collect samples. Bluefin are landed without heads in the longline fishery, and are frequently landed without heads in the rod and reel and the harpoon fisheries. Even when dealers or fishermen are willing to set aside heads for later processing by the samplers, cuts are frequently made so as to preserve the maximum amount for sale; such cuts often destroy the otoliths. Samplers from the NMFS-NER Port Biological Sampling Program (PBSP) also often found that their sampling efforts overlapped those of academic researchers in the New England area (from the Gulf of Maine Research Institute [GMRI] and the Large Pelagics Research Center [LPRC], who had established a rapport with the local fishermen and dealers.

A number of refinements were introduced in 2011 in order to improve sampling levels:

- Improved coordination of sampling effort (LPBS, PBSP, GMRI, LPRC)
- Opportunistic sampling initiated for LPBS component (samplers could respond to info on BFT landings)
- For the recreational component (covered by the LPBS), large coolers were placed at key sites where anglers could leave fish after cleaning

Collaborative arrangements were made with GMRI and LPRC researchers, with whom NOAA has a history of research collaborations, through which the collected specimens would be shared within a research team coordinated by the SEFSC. The PBSP collections of bluefin samples were suspended beginning in 2012, after deferring to the GMRI/LPRC researchers to collect the bulk of the New England specimens (a judgment was made that it would be impractical to sample the remaining scattered landings not covered by the GMRI/LPRC efforts). Further improvements might be gained by increased outreach, involvement of dealers/fisherman, collaborations with researchers, etc.

2010 & 2011 Commercial Bluefin Fisheries Sampling Results (NMFS-NER Port Biological Sampling Program / REMSA Inc.).

Year	No. Fish	Otoliths	Spines	Vertebrae
2010	160	26	149	18
2011	262	75	196	65
Grand Total	422	101	345	83

NOTE: Sampled fish were landed primarily in Gloucester MA (North Atlantic Traders). A small number were from other ports. 2010 - 2012 Sampling Results, NMFS Large Pelagics Biological Survey (primarily recreational, but may include commercial).

Year	No. Fish	OTOs	Spines	Vertebra	Gonad
2010	32	13	29	27	13
2011	234	218	217	212	58
2012	235	220	206	185	55
Grand Total	501	451	452	424	126

NOTE:

2010: 7 school, 25 large school

2011: 1 young school, 146 school, 69 large school, 17 small med., 1 lrg. med.

2012: 131 school, 83 large school, 20 small med., 1 lrg. med.

Sampled fish 2010-2012 landed in Maryland (38%), Massachusetts (46%), Virginia (8%), New Jersey (5%), New York (2%), and Delaware (1%). The LPBS has also collected hard parts from other tunas, primarily yellowfin.

In addition to these samples, the GRMI/LPRC labs have over 1300 bluefin tuna samples collected 2010-2012. At this time, they have provided ages from 330 specimens from 2010 and 370 from 2011.