

REPORT ON THE 1994 FLORIDA TAXIDERMIST VOLUNTARY SURVEY FROM CAPE CANAVERAL TO KEY WEST

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SUMMARY

A minimum estimate of sailfish (Istiophorus platypterus) landings along the southeast Florida coast during 1994 was made based on a survey of Florida taxidermists. There were 111 taxidermists, or their representatives, identified and contacted in the state to participate in a voluntary survey. A total of 1,277 sailfish were reported to have been killed in the target area in 1994 and sent to taxidermists for processing (i.e., mounting). The objective of this survey was to obtain a minimum estimate of sailfish mortality from the recreational fishery between Cape Canaveral and Key West for 1994. This estimate was compared with other estimates of sailfish mortality from this general area in an attempt to assist NMFS in evaluating current billfish sampling programs. Additionally, fish smokehouses were also contacted to evaluate their potential as a resource in estimating sailfish landings.

RESUME

Une estimation minimum des débarquements de voilier (Istiophorus platypterus) le long de la côte sud-est de Floride en 1994 a été réalisée à partir d'une prospection auprès des naturalistes de Floride. On a contacté 111 naturalistes, ou leurs représentants, dans l'état pour participer à une prospection volontaire. Il a été établi qu'en 1994 1.277 voiliers au total ont été tués dans la zone ciblée et remis aux taxidermistes pour être traités (c'est à dire montés sur pied). Le but de cette prospection était d'obtenir une estimation minimum de la mortalité du voilier par pêche sportive pour 1994 entre le Cap Canaveral et Key West. Cette estimation a été comparée à d'autres estimations de mortalité du voilier provenant de cette zone générale, afin d'apporter son concours au NMFS pour l'évaluation des programmes actuels d'échantillonnage des istiophoridés. En outre, des fumoirs de poisson ont aussi été contactés pour évaluer leur potentiel comme moyen d'estimation des débarquements de voilier.

RESUMEN

Se hizo una estimación mínima de los desembarques de pez vela (Istiophorus platypterus) a lo largo de costa sudeste de Florida durante el año 1994, basada en una encuesta realizada entre los taxidermistas de Florida. Se contactaron 111 taxidermistas, o sus representantes, que participaron voluntariamente en la encuesta, según la cual en la zona en estudio se habían pescado 1.277 peces vela que fueron enviados a los taxidermistas para ser disecados. El objetivo de esta encuesta era hacer una estimación mínima de la mortalidad del pez vela causada por la pesquería de recreo entre Cabo Cañaveral y Cayo Hueso en 1994. Esta estimación de mortalidad del pez vela se comparó con otras realizadas en esta misma zona, en un intento de colaborar con el "National Marine Fisheries Service" en la evaluación de los programas de muestreo de marlines en curso. Además, también se contactaron las empresas de ahumado de pescado, para evaluar su potencial como fuentes de estimación de desembarques de pez vela.

1. INTRODUCTION

The National Marine Fisheries Service's (NMFS) Southeast Fisheries Science Center (SEFSC) has been reporting annual U.S. billfish landings to the International Commission for the Conservation of Atlantic Tunas (ICCAT) as part of an international agreement to monitor billfish stocks in the Atlantic Ocean. Landings of billfish from the U.S. recreational fishery have historically been very difficult to estimate, and continue to be considered to be "minimum estimates." For example, minimum estimates of sailfish mortality are generated from: (a) the Recreational Billfish Survey, which samples billfish catches at most tournaments; and (b) the voluntary Billfish Landings Survey, which tabulates non-tournament

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billfish landings compiled by cooperating marina operators along the Florida East Coast from Cape Canaveral to Key West. These surveys only partially sample the actual landings of sailfish and other billfishes. The landings of sailfish from charter boats and private recreational boats not fishing in tournaments, or from the 13 marinas sampled in the Billfish Landings Survey, are not fully sampled in either of these surveys.

A voluntary survey of Florida taxidermists was made to identify a minimum estimate of sailfish mortality from this source for the Florida East Coast (Cape Canaveral through Key West) in 1994. Conducting such a survey would act as a point of reference in evaluating different approaches to estimating sailfish landings in this geographical region, which represents an area that is known to have relatively high catches of sailfish. One additional approach attempted was to identify fish smokehouses to possibly supplement this taxidermist survey by estimating the numbers of sailfish processed by these smokehouses.

2. METHODS

A list of 113 taxidermists within the State of Florida was generated from a computerized phone and address book available on the Internet World Wide Web. It seemed reasonable to assume that sailfish caught and landed off the East Coast of Florida would be processed by taxidermists within Florida and not shipped, at considerable additional expense, out of state. It is also believed that our list of taxidermists and taxidermist representatives accounted for all taxidermists in the state. The list was condensed to 111 records after visual examination revealed two companies were listed with two phone numbers. The list was imported to a custom-made Microsoft Access 2.0 database for data storage and ease of interface with Microsoft Word 6.0 which allows for the production of personalized mass-generated letters.

2.1 First Mailing

We initially mailed 111 letters on December 5, 1995 (attachment 1), explaining the goal of the enclosed questionnaire (attachment 2), and requesting responses by January 10, 1996. A self-addressed postage paid envelope was also included for convenience. Thank you letters were sent on January 22, 1996, to the taxidermists who had responded to the first mailing (attachment 3). We relied upon taxidermy records to distinguish between live- or phone-mounts, where sailfish were caught and released, and dead-mounts, where the sailfish were actually boated. The "Taxidermist Survey of 1994 Sailfish" questionnaire specified that we were "interested only in sailfish reportedly caught between Cape Canaveral and Key West in 1994." The form requested a response to both the number of telephone orders from released sailfish and the number of dead sailfish mounts that were processed. We attempted to minimize the double-counting of fish by requesting information to help determine if the addressee was acting as an agent for another taxidermist.

2.2 Second Mailing

Follow-up letters, with questionnaires and self-addressed postage paid envelopes, were sent on January 18, 1996, to the taxidermists who did not respond by the January 10th deadline of the first mailing (attachment 4). This mailing requested responses by January 31, 1996. Thank you letters were sent to taxidermists, who responded with completed questionnaires, as they were received.

2.3 Phone Calls

Phone calls were made to the remaining taxidermists who did not respond to either of the first two written requests. Verbal responses were requested at that time.

3. RESULTS

3.1 First Mailing

Of the 111 letters sent during the first mailing on December 5, 1995, 9 letters came back as bad addresses with no forwarding address. Forty one taxidermists responded by completing the questionnaire. A total of 1,090 sailfish were reported killed for processing (i.e., mounting by the taxidermist) by these 41 responses. This left a total of 61 non-respondents.

3.2 Second Mailing

Of the 61 follow-up letters sent on January 18th, 15 taxidermists responded by completing the questionnaire. A total of 158 sailfish were reported killed for processing from these 15 responses.

3.3 Phone Calls

After the first two mailings, a total of 56 of the 111 taxidermists had responded. Phone calls were made to the remaining 46 taxidermists on February 6, 1996, of which 44 were either personally reached by phone or had messages left on answering machines. (The 9 bad addresses had no forwarding phone numbers either). A total of 29 sailfish were reported killed for mounting by 22 respondents. The other 22 taxidermists did not respond.

4. DISCUSSION

There were a total of 1,277 sailfish reported as killed from the 78 responses received in this survey of 111 taxidermists: 56 responses by mail and 22 via telephone. This represents a 70.3% response rate. There were 1,248 dead sailfish reported processed between the two mailings, with zero reported by 41 taxidermists. Most of these zero reports were taxidermists located inland or in the Florida Panhandle that generally would not be expected to do much business with anglers associated with marine fish caught off southeast Florida. The remaining 29 sailfish were tabulated via phone calls from 2 taxidermists. The other 20 phone responses reported zero dead sailfish processed and also were mostly located inland or in the Florida Panhandle.

Assuming an average weight of 50 lb for sailfish killed in this region, the 1,277 sailfish in the taxidermist survey would represent approximately 29 MT. In 1994, the reported sailfish landings from the recreational fishery included an estimated 7.4 MT from the 328 sailfish counted in the Billfish Landings Survey (a voluntary reporting of billfish landings compiled by marina operators along the Florida East Coast from Cape Canaveral to Key West), and 17 dead sailfish (0.3 MT) tabulated by the Recreational Billfish Survey (RBS), which sampled billfish tournaments, where the vast majority of billfish catches are released. Additionally, the Marine Recreational Fishery Statistics Survey (MRFSS) estimated landings of 8,365 sailfish from the Florida East Coast (Farber 1998). Obviously, the magnitude of the differences in these estimates is large. Indeed, that magnitude of difference motivated the need for this study and an evaluation of the MRFSS data (Nelson, 1998).

The estimated total landings from the Billfish Landings Survey and the RBS cannot be added together as there is the possibility of considerable overlap. At the same time, neither of these surveys can be considered tallies of sailfish mortality. In other words, there is no way of determining if the fish reported by the Billfish Landings Survey, which are non-tournament landings, are included in this Taxidermist Survey. Further, the Taxidermist Survey may include fish caught and landed during tournaments and recorded by the RBS. It appears that this first attempt at estimating the Florida East Coast sailfish catches from a Taxidermist Survey was worthwhile and did document a greater sailfish mortality than the combined landings estimated from the Billfish Landings Survey and the Recreational Billfish Survey. Therefore, it appears that the Taxidermist Survey gave a better minimum estimate of recreational sailfish mortality in 1994 than the other survey methods. Correcting the landings estimate for only the one year 1994 would not be considered as improving the landings database. This exercise has established that a taxidermist survey may serve as a possible basis for revising the historical sailfish database. A determination should be made to see if other year's landings can be estimated via a similar survey of Florida taxidermists in order to revise the historical database series. To accomplish this, it is recommended that a questionnaire be sent to the same list of taxidermists along with a copy of this report. The questionnaire should be designed to determine if similar estimates of dead sailfish processed in years prior to 1994 could be derived. Further study and considerations should be made with respect to the overall design, possible expansion, and extrapolation of results. Additionally, a methodology could possibly be developed to account for additional catches landed but not accounted for in the Taxidermist Survey, Recreational Billfish Survey, or Billfish Landings Survey sent to taxidermists.

4.1 Smokehouses

We attempted to supplement a Taxidermist Survey with a survey of fish smokehouses, but met with no success. The list of fish smokehouses developed was almost exclusively for processing smoked salmon (commonly called "lox" or "nova"), whitefish, sable, or sturgeon. Virtually none declared that they smoked sailfish commercially, and if they did it was on very rare occasions, with no numbers forthcoming. It is commonly known that individuals that land a sailfish often smoke them at home, or take them to a smokehouse where they would either pay (by the pound) to have the sailfish smoked or barter by giving the processor half the fish in return for the smoking. This is almost exclusively a cash business with no records being kept. Additionally, selling Atlantic sailfish in the State of Florida is against the law and our query

of smokehouses was undoubtedly influenced by legal considerations. Hence, it seems impractical to try to develop any estimate of sailfish landings through a fish smokehouse survey.

5. LITERATURE CITED

FARBER, M.I., 1998. A Report Documenting the Calculations for Estimating the Florida Sailfish Catch in 1994 Using the National Marine Recreational Fishery Statistics Survey (MRFSS). Inter. Comm. Cons. Atl. Tunas, *Col. Vol. Sci. Pap.* This volume.

NELSON, R.S. and M.I. Farber. 1998. An Evaluation of the National Marine Recreational Fishery Statistics Survey (MRFSS) Estimates of Sailfish Catch. Inter. Comm. Cons. Atl. Tunas, *Col. Vol. Sci. Pap.* This volume.

ATTACHMENT 1:

Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, FL 33149
(305) 361-4235
[fax:(305)361-4478]

December 4, 1995

{{taxidermist}}
{{address}}
{{city}},{{state}} {{postal code}}

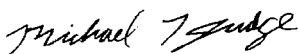
Dear Taxidermist:

The National Marine Fisheries Service is conducting a voluntary survey of all Florida taxidermists in order to assist us in evaluating our current sampling programs for western Atlantic sailfish stocks. Precise mortality numbers, along with accurate biological information, from the western Atlantic sailfish stock are needed to accurately define their populations. **Our objective is to estimate the total number of sailfish killed in 1994 along the Florida East Coast from Cape Canaveral to Key West.** This information will then be used by fishery scientists to better determine the status of the sailfish stock in order to manage this fishery effectively.

The information you provide will only be used for the above stated objective. We are not requesting size data or angler information that could be used for enforcement. We only want to know the number of sailfish you have processed that were caught and killed in 1994 between Cape Canaveral and Key West. Please fill out the enclosed questionnaire to the best of your ability and return to our Miami Laboratory in the self-addressed envelope that has been enclosed for your convenience. If you need further assistance or clarification please contact me at the above address or call me collect at (305)361-4235. Copies of publications that explain our sampling programs, including results from this survey when completed, or scientific publications addressing the status of West Atlantic or East Atlantic sailfish stocks, can also be obtained by contacting me.

I thank you in advance for your assistance. Your response by January 10, 1996 would be greatly appreciated.

Sincerely,



Michael T. Judge
Fishery Biologist
National Marine Fisheries Service

ATTACHMENT 2:

**TAXIDERMIST SURVEY
OF 1994 SAILFISH**

Please respond by January 10, 1996.

We are interested only in sailfish reportedly caught between Cape Canaveral and Key West in 1994.

{{taxidermist}}
{{address}}
{{city}},{{state}} {{postal code}}
{{phone number}}

TOTAL number of sailfish mounts you processed in 1994. _____ (estimated) (exact)

Number of "telephone orders" from released sailfish in 1994. _____ (estimated) (exact)

Number of DEAD sailfish mounts you processed in 1994. _____ (estimated) (exact)

Note: We are working from a computer list of "taxidermists in the state of Florida," which we must assume is not complete nor necessarily accurate. Because we do not want to double-count any fish, please specify if you are an agent that sent the sailfish carcass to a taxidermist for processing.

Have any of these mounts been sent to another taxidermist? (yes) (no).

If yes, how many? _____ (estimated) (exact), and where were they sent?

_____ (name)

_____ (phone number)

If needed, can exact capture locations be obtained? _____ (yes or no)

Thank you for your cooperation.



Michael T. Judge, Fishery Biologist
(305) 361-4235
[FAX: (305) 361-4478]

ATTACHMENT 3:

Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, FL 33149
(305) 361-4235
[fax:(305)361-4478]

January 22, 1996

{{taxidermist}}
{{address}}
{{city}},{{state}} {{postal code}}

Dear Taxidermist:

I have received the data package that you have recently submitted regarding the number of sailfish killed in 1994 between Cape Canaveral and Key West that your business has encountered. I would like to thank you for responding to our survey. I apologize for the delay in sending you this confirmation letter, however, the ongoing budget battles in Washington has affected our agency's ability to do business.

The information you provided will be used to assist us in evaluating our current sampling programs for the western Atlantic sailfish stocks. Precise mortality numbers, along with accurate biological information, are needed by fishery scientists in order to accurately define the sailfish populations from the western Atlantic sailfish stocks as part of an international effort to document sailfish catches in the Atlantic Ocean. This type of international effort will help fisheries scientists better determine the status of the sailfish stocks.

As I mentioned in my initial letter, copies of publications that explain our sampling programs, including results from this survey when completed, or scientific publications addressing the status of West Atlantic or East Atlantic sailfish stocks, can be obtained by contacting me at the above address.

I thank you for your assistance. Your response is greatly appreciated.

Sincerely,



Michael T. Judge
Fishery Biologist
National Marine Fisheries Service

ATTACHMENT 4:

Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, FL 33149
(305) 361-4235
[fax:(305)361-4478]

January 18, 1996

{{taxidermist}}
{{address}}
{{city}},{{state}} {{postal code}}

Dear Taxidermist:

This is a follow-up letter in regard to the letter I sent on December 4, 1995. The general response has been good, however, my records indicate that I have not received your questionnaire.

As Stated in my previous correspondence, the National Marine Fisheries Service is conducting a voluntary survey of all Florida taxidermists in order to assist us in evaluating our current sampling programs for western Atlantic sailfish stocks. Precise mortality numbers, along with accurate biological information, from the western Atlantic sailfish stocks are needed to accurately define their populations. **Our objective is to estimate the total number of sailfish killed in 1994 along the Florida East Coast from Cape Canaveral to Key West.** These tabulations can then be compared to statistical estimates in order to help us evaluate our sampling programs.

The information you provide will only be used for the above stated objective. We are not requesting size data or angler information. We only want to know the number of sailfish you have processed that were caught and killed in 1994 between Cape Canaveral and Key West. Please fill out the enclosed questionnaire to the best of your ability and return the data to the Miami Laboratory in the self-addressed envelope that has been enclosed for your convenience. If you need further assistance or clarification please contact me at the above address or call me collect at (305) 361-4235. Copies of publications that explain our sampling programs, including results from this survey when completed, or scientific publications addressing the status of West Atlantic or East Atlantic sailfish stocks, can also be obtained by contacting me.

I thank you in advance for your assistance. Please respond by January 31, 1996 so that your information can be included in the results of this study.

Sincerely,



Michael T. Judge
Fishery Biologist
National Marine Fisheries Service