

# Promoting a Bonefish Tag and Recapture Program in Los Roques Archipelago National Park: A Collaborative Effort Between Professional Fishing Guides and Scientists

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## ABSTRACT

Bonefishes, *Albula* spp., are highly valuable game fish that supports economical important recreational fisheries throughout the wider Caribbean Sea. Since 1998, the University of Miami Rosenstiel School of Marine and Atmospheric Science has been leading a collaborative tag and recapture research program that involves scientist and professional fishing guides. To date, more than 4,000 bonefish have been tagged and an annual bonefish population census has been conducted for the past five years in South Florida. A similar research program is being developed at Los Roques Archipelago National Park, a location considered one of the most popular recreational fishing destinations in the Caribbean for bonefish. With the economical support from the UNEP-Caribbean Environmental Program, a knowledge exchange initiative between fishing guides and scientists was conducted at the archipelago in June, 2008. Workshops, seminars, open discussions and field trips were conducted during five days of intensive activities in order to inform the local fishing guides about the scientific findings on the biology and population dynamics of this species in the area, provide training on tagging and visual census methodology, and exchange ideas on the sustainable use of this important resource. Similar programs could be conducted in other location within the region to promote the co-responsibility in the resources management.

KEY WORDS: Recreational fishery, bonefish, tag and recapture, Los Roques, Venezuela

## Promoviendo el Programa de Marcaje y Recaptura para el Pez Ratón en el Parque Nacional Archipiélago de Los Roques: Un Esfuerzo de Colaboración entre Guías de Pesca e Investigadores

El pez ratón, *Albula vulpes*, es un recurso altamente apreciado en las pesquerías recreativas del Caribe y base de una importante actividad económica. Desde 1998, la Escuela Rosenstiel de Ciencias Marinas y Atmosféricas (Universidad de Miami) lleva a cabo un programa de investigación sobre el pez ratón que involucra la activa participación de los guías de pesca deportiva del sur de La Florida. A la fecha, más de 4.000 peces ratón han sido marcados y un censo poblacional anual se ha venido desarrollando a lo largo de los últimos 5 años. Un programa similar esta empezando a ser implementado en el Parque Nacional Archipiélago Los Roques, considerado uno de los destinos más populares del Caribe entre los pescadores deportivos de la especie. Gracias al apoyo económico del Programa Ambiental del Caribe de las Naciones Unidas (UNEP-CEP, por sus siglas en Inglés), en Junio de 2008 se llevó a cabo una iniciativa para fomentar el intercambio de conocimiento entre guías de pesca deportiva e investigadores. Talleres, seminarios, discusiones abiertas y salidas de campo fueron llevadas a cabo durante cinco días de intensas actividades, con el objetivo de informar a los guías locales sobre el conocimiento que se tiene sobre la biología y la dinámica poblacional de este recurso en el área, así como para entrenar a los guías locales en técnicas de marcaje y realización de censos visuales. Programas similares podrían ser implementados en otras localidades de la región, con la idea de promover la co-responsabilidad en el manejo de los recursos.

PALABRAS CLAVES: Pesquería recreativa, pez ratón, marcaje y recapture, Los Roques, Venezuela

## En Promouvant le Programme Marquage et Recaptura pour le Poisson Souris dans le Parc National Archipel des Roques : Un effort de Collaboration entre des Guides Pêche et Chercheurs

Le poisson souris, *Albula vulpes*, est une ressource hautement appréciée dans les pêcheries récréatives de Des Caraïbes et du de base d'une importante activité économique. Depuis 1998, l'École Rosenstiel de Sciences Marines et Atmosphériques (Université de Miami) mène à bien un programme de recherche sur le poisson souris qui insère la participation active des guides de pêche sportive du sud de la Floride. À la date, plus de 4.000 poissons souris ont été marqués et un recensement démographique annuel a été développé tout au long des dernières 5 années. Un programme semblable commence à être mis en oeuvre dans le Parc National Archipel les Roques, considérés un des destins les plus populaires que les Caraïbes entre les pêcheurs sportifs de l'espèce. Grâce à l'appui économique du Programme Environnemental des Caraïbes des Nations Unies (UNEP-CEP, par ses sigles en Anglais), en juin 2008 on a mené à bien une initiative pour favoriser l'échange de connaissance entre des guides de pêche sportive et investigateurs. Des ateliers, séminaires, discussions ouvertes et sorties de domaine ont été menés à bien pendant cinq jours d'activités intenses, dans le but d'informer aux guides locaux sur la connaissance qu'on a sur la biologie et la dynamique démographique de cette ressource dans le secteur, ainsi que pour former aux guides locaux dans des techniques marquage et réalisation de recensements visuels. Des programmes semblables pourraient être mis en oeuvre dans d'autres localités de la région, avec l'idée de promouvoir CO- la responsabilité dans le maniement des ressources.

MOTS CLÈS: Pêcherie récréative, poisson souris, marquage et recapture, les Roques, le Vénézuéla

## INTRODUCTION

Bonefish, *Albula* spp., is a highly valuable game fish that supports economical important recreational fisheries in the wider Caribbean Sea. Despite its importance throughout the region, various aspects of bonefish's population dynamics, that are essential to improve the management of these fisheries, are poorly understood.

In the state of Florida, the University of Miami Rosenstiel School of Marine and Atmospheric Science has developed a multi-year tag and recapture research program that involves both scientist and professional bonefish guides in a cooperative efforts to obtain management-relevant information on population dynamics. This program has resulted in more than 4,000 tagged bonefish, providing a wealth of information on Florida's stocks-wide movements.

The aim of this study was to extend this successful initiative to Los Roques Archipelago National Park, a location considered one of the best destinations in the Caribbean for bonefish recreational fishing.

## MATERIALS AND METHODS

With the economical support from the UNEP-Caribbean Environmental Program, a knowledge exchange between professional fishing guides from Los Roques and Florida and scientists was conducted in Los Roques in June, 2008.

A professional fishing guide from the Biscaine Bay in Florida, Captain Joe Gonzalez, visited Los Roques to participate in the exchange program with the local fishing guides and scientist from the Universidad Simón Bolívar. Workshops, seminars, open discussions and field trips were conducted during five days of intensive activities.

Capt. Joe Gonzalez shared his experiences of collaborating with scientist of the University of Miami in bonefish research studies and conducted a workshop to train the local fishing guides on tag and recapture methods. Also, another workshop was conducted by the scientist to inform the local fishing guides about the biology and population dynamics of bonefish in Los Roques. After the workshops, scientist, fishing guides, and the Park's authorities, exchanged ideas in an open discussion on the sustainable use of this important resource.

Indicators of success of this knowledge exchange included opinion polls that were carried out to all the participants, before and after the event.

## RESULTS AND DISCUSSION

Fifty percent of the local fishing guides participated in all the activities that were programmed for this knowledge exchange. None of them had previously received any information about the biology of the bonefish. Although the opinions polls revealed that the expectations before the event were not high, and that the fishing guides were reluctant to participate in discussions with the Park's managers, 80% of them were very satisfied with the results

and lessons learned. Also, 100% of the local fishing guides that participated in the program are now committed to collaborate with scientist and managers in research studies, as well as in the design of a management plan for the bonefish recreational fishery in Los Roques.

As a result of this initiative, the scientist engaged in this project were awarded a research grant by Bonefish and Tarpon Trust to start a bonefish-tagging program with the collaboration of the local recreational fishing guides and the managers of Los Roques Archipelago National Park. Also, a documentary film about this initiative was produced to promote a sustainable bonefish recreational fishery as an alternative livelihood for other fishermen in Los Roques and the rest of the Caribbean.

This knowledge exchange programme has exceeded our expectations, since most of the activities were accomplished successfully, and perhaps more importantly, this initiative opened an effective communication channel between local fishing guides, scientists and managers. Similar programs could be conducted in other locations within the region to promote the co-responsibility in the resources management.

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