

Highly Migratory Species Recreational FisheriesCatch Card Pilot Program in Puerto Rico

Final Report

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1. Executive Summary

Atlantic Highly Migratory Species (HMS) are fisheries of great recreational importance in Puerto Rico. Since 2001, NOAA has implemented a mandatory reporting program in which anglers are required to report all landed billfish and swordfish through telephone or the internet. However, compliance with this mandatory requirement has been very low.

In an attempt to increase the data collection of billfish landings, The University of Puerto Rico Sea Grant College Program (UPRSGCP) and NOAA Fisheries established a pilot HMS Catch Card Pilot Program (CCPP). Sixteen reporting stations were placed at boat marinas and nautical clubs, providing anglers and captains with access to landings tags, catch cards and outreach materials. These reporting stations were in operation from early May 2011 through December 31, 2011. Participation in the pilot program, although strongly encouraged, was still considered voluntary since the mandatory phone/Internet reporting system and mandatory reporting by tournaments was still in effect.

Before and during the implementation of the CCPP, the UPRSGCP's staff provided adequate outreach and education services to anglers and appointed staff at the reporting stations. Some of the outreach efforts included: letters and emails to HMS permit holders, meetings with the staff of boat marinas and nautical clubs, UPRSGCP had a booth with the CCPP material at every fishing tournament, the creation of an informative page within the UPRSGCP web site, the creation of a Facebook group, information about the CCPP was published in newspapers and fishing blogs, and educational brochures and posters were broadly disseminated.

Despite educational and outreach efforts, only four billfish were reported in the CCPP; all of which were blue marlin. Three out of four of the reports were submitted during tournaments, only one of which was also reported by the tournaments to the Recreational Billfish Survey (RBS). All four CCPP blue marlin were caught along the North Coast.

Although a very low number of fish were reported in the CCPP, we still recommend implementation of a modified CCPP design since it has significant advantages over the existing system. One recommended design change is the elimination of reporting stations. During the pilot came to our attention that most Reporting Stations were not operating as intended; therefore, we propose a system similar to that of the Massachusetts Recreational Bluefin Landings Tag Pilot, where anglers will have the catch cards and landings tags in their possession to report billfishes.

2. Overview

Billfish are one of the most important target species groups for recreational and sport fishermen in Puerto Rico. Therefore, it is imperative to accurately assess the fishery and to manage it responsibly in order to conserve these valuable fish stocks. The NOAA Fisheries mandatory reporting program is one source of HMS recreational data from Puerto Rico. HMS permit holders must report all recreationally landed non-tournament blue marlin, white marlin, roundscale spearfish, sailfish, and swordfish to NOAA Fisheries via phone or internet within 24

hours of landing at the dock. However, compliance with this mandatory requirement is thought to be extremely low, particularly in Puerto Rico. The primary objective of this project was to improve the accuracy of billfish and swordfish landings data in Puerto Rico.

The University of Puerto Rico Sea Grant College Program (UPRSGCP) and NOAA Fisheries established a Catch Card Pilot Program (CCPP), which gathers data on the landings of Highly Migratory Species (HMS) in Puerto Rico. The species covered under the CCPP were: sailfish, swordfish, blue marlin, and white marlin. Roundscale spearfish were not distinguished from white marlin for the CCPP but would be added if the pilot is continued as a more long-term data collection program. Anglers and captains were asked to fill out a catch card providing information about landed billfish. Once the recreational fisherman filled out and handed in the catch card to the reporting station, he received a plastic tag to place around the fish's caudal peduncle. Participation in the pilot program, although strongly encouraged, was still considered voluntary since the mandatory phone/Internet reporting system and mandatory reporting by tournaments was still in effect.

For the implementation of the CCPP, the staff of the UPRSGCP established sixteen (16) Reporting Stations in boat marinas and nautical clubs along Puerto Rico's coasts (for geographical distribution, see illustration 1). These Reporting Stations have been operating since May 2011. UPRSGCP staff held meetings with the directors of boat marinas and nautical clubs in order to: provide them with CCPP materials (i.e. the reporting kit, posters, and brochures) and educate their staff. Educating boat marinas and nautical staff was of critical importance, not only because they are in charge of the reporting stations, but also because they become a pivotal source of information for stakeholders.

3. Outreach and Education

The educational process started prior to the implementation of the CCPP. A notice explaining the program was sent via postal mail and electronic mail to all HMS permit holders. Moreover, an educational web page was created within the UPRSGCP website where anglers could find valuable information about the project (http://www.seagrantpr.org/outreach/hms/index.html).

Four monitoring rounds of the reporting stations occurred during the implementation of the CCPP. The purpose of these visits was two-fold: 1) to make sure that the project's educational brochures and posters were displayed in a way that would reach the resource users, and 2) to collect and replace catch cards as needed. After the first visits, we discovered that brochures and posters were not displayed in the most visible locations and in some cases they were absent. We proceeded to place (in those reporting stations where the educational materials were non-existent) or rearrange the CCPP's educational materials in areas where anglers could easily have access to the project's information.

In addition to making the educational materials more accessible in the sixteen (16) reporting stations operating in boat marinas and nautical clubs, we looked for alternative strategies to educate billfish anglers about the pilot program:

- A Facebook group (*Reporta Las Aguajas Capturadas*) was created in an attempt to reach more anglers. The group has accumulated 131 members.
- Educational material was distributed among key fishing tackle shops.
- Information about the project has been consistently published in *La Regata* (the most widely distributed nautical newspaper in Puerto Rico).
- Dr. Michelle Schärer offered a presentation at the bi-annual meeting of the Puerto Rico Sportfishing Association. This was a great opportunity to inform an important group of billfish anglers about the CCPP.
- The staff of Puerto Rico Sea Grant has been present in billfish tournaments explaining the mechanics, scope, and goals of the project.
- An announcement explaining the project was posted in sport fishing forums/blogs
 (www.fishcaribe.com and www.sportfishingpr.com) that are frequented by Puerto Rico's billfish anglers.

4. Findings

The CCPP resulted in four billfish reports, all of which were blue marlin (for the complete data as reported on the catch cards see Table 1). The four specimens were captured off the north coast. The reports are geographically distributed as follows: two in the Club Náutico de Vega Baja, one in the Club Náutico de Arecibo, and one in the San Juan Bay Marina.

Swordfish are targeted by far fewer recreational fishermen in Puerto Rico compared to marlin. However, there is a small group of anglers that target and keep swordfish. Pictures of swordfish caught in Puerto Rico's waters can be seen at fishing tackle shops, in newspapers, and in online forums. None of the recreational swordfish landings were reported in the CCPP.

All four CCPP reports were from private boats. The number of HMS-permitted charter boats in Puerto Rico (27) is considerably smaller than the number of private boats (873) with HMS angling category permits. Also, charter boat operations in Puerto Rico typically practice catch and release of marlin.

Three out of the four reports were from fish landed in tournaments. Personnel from Puerto Rico's Department of Natural and Environmental Resources (PRDNER) are present at HMS

tournaments, where they collect biological data about landings. After measuring and weighing the specimens, the PRDNER's staff guided the anglers through the process of filling out the CCPP reports. In short, during tournaments, there was a degree of assistance towards compliance with the project.

Of the three tournament landed blue marlin, only one was also reported by the tournament director to the Recreational Billfish Survey (RBS) as is required by NOAA Fisheries. This was the only RBS reported blue marlin landing in 2011 for Puerto Rico. Two Puerto Rico tournament sailfish landings were also reported to the RBS in 2011, neither of which was captured in the CCPP. The one non-tournament CCPP blue marlin was not also reported to the mandatory non-tournament phone/online system. In fact, in 2011 no fish (of any species) were reported to the non-tournament reporting system for Puerto Rico.

All CCPP reports were from the North Coast of Puerto Rico. The three tournament fish were reported during two tournaments, the Club Náutico de Vega Baja Blue Marlin Tournament and the Club Náutico de Arecibo Blue Marlin Tournament. The format of those tournaments favors landings over tag and release. The point system employed better rewards weighed fish than tagged fish, plus there are prizes for the heaviest landed fish overall. No CCPP reports were made from Puerto Rico's South and West coasts. Tournaments in these regions are typically light tackle tournaments where the anglers try to tag and release a large number of smaller fish (that in most cases do not meet the minimum length). On average, the South and West coasts produce a higher rate of hook ups when compared to the North coast, but these involve smaller billfish.

Additional anecdotal information about the billfish recreational fishery in Puerto Rico was obtained through outreach activities, web searches, and informal conversations with anglers, captains, and other interested stakeholders. One trend identified during the last decade is that "catch/tag and release" fishing has become a more popular practice among sectors of Puerto Rico's sport fishing. It is thought that because of this, landings of billfish have dropped in recent years. Furthermore, a growing number of sport fishermen view the killing of billfish as violating social norms associated with conservation ethics.

5. Factors that Affected CCPP Data Collection

Several issues associated the CCPP reporting stations were identified as possible deterrents to reporting. The reporting stations were not established until early May, and some did not have their outreach materials (CCPP poster and flyers) properly displayed during the first few months of operation. It is unclear what, if any, impact this may have had on CCPP landings reports of billfish landed early in the season. Perhaps a bigger hindrance to reporting was fact that some reporting stations were not accessible to anglers on certain days. For instance, the reporting station located in the Club Náutico de Vega Baja was open most, but not all, weekends during

the marlin season and was mostly closed during weekdays. By contrast, the reporting station at the Club Náutico de Parguera was closed on Saturdays and Sundays. In the case of Cangrejos Yacht Club, the catch cards and tags were held in the President's office, which was not always open. During their last visit to Puerto del Rey Marina, CCPP staff discovered that the reporting kits had been misplaced. These issues indicated that some marinas and nautical clubs did not operate efficiently as reporting stations. In fact, some of the reporting stations did not exhibit a clear commitment to the CCPP. In theory, they were cooperating with the project, but field visits and conversations proved that some of these stations were not properly implementing the CCPP. At these locations, real alternatives will be needed to provide the anglers with reliable and accessible reporting stations.

According to nautical club members, marina staff, and recreational fishermen, some anglers did not participate in the project due to its non-mandatory nature. Although our staff emphasized the importance of reporting harvested billfish through outreach and education efforts, some fishermen did not respond favorably to non-mandatory data collection projects. By making the catch card program mandatory and enforceable, it is likely that there will be an increase in the number of reports.

Two other issues with the pilot design were brought to our attention by fishermen. First, the plastic landing tag was too small for billfish and did not fit around the caudal peduncle of even small blue marlin. Alternatively, fishermen placed the tag around the fish's pectoral fin. Second, the CCPP states that before removing the fish from the boat it should have a landing tag attached, which means the catch card must be filled out with the fish on the boat. Two of the items to be filled in are the length and weight of the fish. It is virtually impossible to weigh the fish and, in the case of smaller boats, difficult to measure the fish while inside the boat.

It should be noted that there may be other factors, not directly related to the CCPP design, which contributed to the difficulty of obtaining an accurate census count of all landed billfish in Puerto Rico. The CCPP design was aimed primarily at improving the accuracy of recreational billfish landings counts by HMS permitted vessels returning to the major marinas and nautical clubs where reporting stations were established. However, there is a segment of the billfish fishery that trailer their boats and utilize boat ramps or dock at smaller nautical clubs widely dispersed throughout the island. Since reporting stations were not established at these smaller access sites, any billfish landed at these sites would not be included in the CCPP. Anecdotal information from well known Puerto Rico billfish fishermen also suggests that other illegal activities are occurring in the fishery including fishing without a valid HMS permit and landing sub-legal fish. Anglers who do not comply with basic permit requirements and minimum size limits are also not likely to participate in data collection programs, whether they are voluntary or mandatory in nature.

6. Recommendations

After considering the outcome of the CCPP, we still recommend a catch card program over the existing phone and internet reporting system in Puerto Rico. Despite the preliminary shortcomings outlined in this report, there are a number of promising aspects and potential improvements that can be implemented with the CCPP.

We suggest that the low number of landings reports received through the CCPP was due, in part, to the voluntary nature of the program. By making the catch card program mandatory, we expect that the number of reports will grow, and compliance will be enforceable. An HMS catch card program in Puerto Rico will allow NOAA and/or PRDNER agents to better track and enforce reporting compliance because anglers must complete a catch card and attach a matching tag (linked by serial number) to landed billfish prior to departing from the marina, nautical club, or boat ramp. In the past, anglers had no such responsibility before removing the fish from the landing location. Further, the catch cards must be mailed back to NOAA within 24 hours of landing, making it possible for enforcement to track the catch card compliance status with the use of the HMS permit number, vessel name, and tag number. Enforceability is a major advantage of a catch card program over the existing system.

For a Puerto Rico catch card program to work more efficiently, we strongly recommend a stakeholder-centered approach and elimination of the reporting stations. Instead of relying on marinas and nautical clubs as reporting stations, NOAA could send reporting kits (tags and catch cards) to HMS Angling or Charter/headboat permit holders. With this approach, each vessel with an HMS permit would need to have the reporting kit onboard at all times when targeting billfish. Because the reporting kit would be available on the vessel, any billfish intended for landing could be immediately tagged and recorded with a catch card without the hassle of obtaining supplies from a reporting station. The catch card would then be mailed by the angler back to NOAA Fisheries (or a designated Contractor). For added convenience, the angler could complete an electronic card via the internet with the same information on the paper catch card. A similar system is currently being pilot tested for bluefin tuna landings in Massachusetts (Recreational Bluefin Landings Tag Pilot Program). If successful, this system for bluefin tuna could serve as a model for reporting billfish landings in Puerto Rico. A significant advantage to this approach is that it eliminates the need for marina or fishing club staff as intermediaries, which proved in most cases to be more of an obstacle than an advantage in the CCPP. The logistics and additional cost associated with distribution of HMS reporting kits to vessels targeting billfish and swordfish in Puerto Rico would still need to be worked out.

Table 1. Billfish reports

Permit	Vessel	Date	Tournament	Trip type	Reporting	Species	LJFL*	Weight*
holder	name				station			
Luis	Lady	n/a	no	private	San Juan	Blue	104.0	422
Umpierre	Magic				Bay	Marlin		
Victor	Gio	07/30/11	yes	private	Náutico	Blue	102.5	374
Rivera					Arecibo	Marlin		
Miguel	Grand	08/06/11	yes	private	Náutico	Blue	99.0	320
Saldana	Illusion				Vega Baja	Marlin		
Jorge	Mariquita	08/07/11	yes	private	Náutico	Blue	101.5	344
Rosado					Vega Baja	Marlin		

^{*} LJFL = lower jaw fork length in inches; Weight = whole weight in pounds

Estaciones de Reporte para las capturas de Especies Altamente Migratorias

- 1. Cangrejos Yacht Club 787-791-1015
- 2. Club Deportivo del Oeste 787-851-8880
- 3. Club Náutico Arecibo 787-878-8465
- 4. Club Náutico de Boquerón 787-851-1336
- 5. Club Náutico de Guayama 787-866-3162
- 6. Club Náutico de La Parguera 787-899-5590

- 10. Isleta Marina

Para más información visite: http://www.seagrantpr.org/hms/

- 11. Marina Pescadería 787-851-4200
- 12. Marina Puerto del Rey 787-860-1000
- 13. Palmas del Mar Yacht Club 787-656-7300
- 14. Ponce Yacht and Fishing Club787-842-9003

Reportato

- 15. San Juan Bay Marina 787-721-8062
- 16. Villa Marina Yacht Harbour 787-728-2450

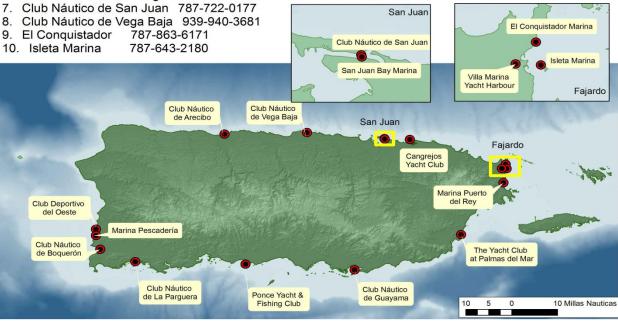


Image 2. Catch Cards

Programa piloto de tarjetas de captura para especies altamente migratorias (EAM) Puerto Rico catch card pilot program for highly migratory species (HMS) FECHA: DATE: # PERMISO EAM: HMS PERMIT#: De be mantener este recibo mientras el pez de pico esté en su posesión.	Programa piloto de tarjetas de captura para especies altamente migratorias (EAM) Puerto Rico catch card pilot program for highly migratory species (HMS) FECHA: DATE: DED/MM/ 2011 WIMERO DE MARCA: LANDING TAG NUMBER: PERMISO EAM: HMS PERMIT #: Debe mantener este recibo mientras el pez de pico esté en su posesión.
Anglers should keep this receipt while in possession of the fish. Programa piloto de tarjetas de captura para especies altamente migratorias (EAM) Puerto Rico catch card pilot program for highly migratory species (HMS) PECHA: DATE: DD/MM/ 2011 NOMBRE DE EMBARCACIÓN: Vessel Name:	Programa piloto de tarjetas de captura para especies altamente migratorias (EAM) Puerto Rico catch card pilot program for highly migratory species (HMS) PECHA: DATE: DD/MM/ 2011 NUMBRE DE EMBARCACIÓN: VESSEL NAME:
Nombre Del Dueño de Permiso: Permit Holder Name: # Permiso EAM: HMS Permit #: Torneo: Tournament: Si / Yes □ No □ ESTACIÓN (PUERTO) DE REPORTE:	No mare del dueño de Permiso: Permit Holder Name: # Permiso EAM: HMS Permit #: ESTACIÓN (PUERTO) DE REPORTE:
TIPO DE VIAJE: Chárter / Privado Charter / Privado Charter / Privado Charter / Private Select a species: Select a species: Aguja azul / Blue Marlin Aguja blanca / White Marlin Pez vela / Sailfish Pez espada / Swordfish Lugarde marca passica Lugarde L	REPORTING STATION: TIPO DE VIAIE: TRIP TYPE: Charter / Private Tamaño LQI (pulgadas): LIFL Size (inches): Peso (libras): Weight (pounds): Pez vela / Sailfish Pez espada / Swordfish
LQ1- largo quijada inferior LJFL - lower jaw forked length This information collected is approved under OMB Control# 0648-0328 and expires on 02/28/2013	LQI - largo quijada inferior LJFL - lower jaw forked length This information collected is a pproved under OMB Control # 0648-0328 and expires on 02/28/20