BEST PRACTICES GUIDE FOR **TOURIST AND SPORT FISHING** IN COSTA RICA

FECOP
FEDERACIÓN COSTARRICENSE DE PESCA

MarViva

WITH THE COLLABORATION OF THE INTER INSTITUTIONAL COMMSSION ON MARINAS AND TOURIST PIERS, AND THE COSTA RICAN TOURISM INSTITUTE

2023

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Photography credits: Cover (© souvenirpixels / Freepik), Pat Ford, Tom Olivo, page 1 (© wollertz / Depositphotos), page 3 (© peter77 / Depositphotos), pages 6 & 7 (© Marina Pez Vela), page 8 (© FECOP), page 9 (© Pat Ford), page 10 (© / Depositphotos), page13 (© Crocodile Bay), page14 (© Tom Olivo), pages16 & 17 (© Pat Ford), pages 28 & 29 (© Pat Ford), page 32 (© Marina Pez Vela), pages 34 & 35 (© mathes / Depositphotos), page 37 (© mathes / Depositphotos), pages 38 & 39 (© cookelma / Depositphotos), page 41 (© Pat Ford), page 42 (© Tom Olivo), page 43 (© Tom Olivo), page 44 (© Pat Ford), page 45 (© Tom Olivo), pages 46 & 47 (©), page 48 (© Tom Olivo), page 55 (© lunamarina / Depositphotos), back cover (© Fesenko / Depositphotos).

Design: Ingenio, Arte y Comunicación, S.A.

Illustrations of fish species: Ronald Durán, Ingenio, Arte y Comunicación, S.A.

Printing: Ingenio, Arte y Comunicación, S.A.

Cite publication as: Marín Sandoval, H. y Villalobos Rojas, F. (2023). Best Practices Guide for Tourist and Sport Fishing in Costa Rica. Federación Costarricense de Pesca and Fundación MarViva. San José, Costa Rica. 54 pp.

799.12
M337b Marín Sandoval, Henry

Best Practices Guide for Tourist and Sport Fishing in Costa Rica / authors Henry Marín Sandoval and Fresia Villalobos Rojas; FECOP, MarViva, with the collaboration of the Inter Institutional Commission on Marinas and Tourist Piers and the Costa Rican Tourism Institute, San José, Costa Rica : FECOP, 2023
54 pages, color illustrations, color photographs, PDF.

ISBN 978-9930-611-22-7

1. SPORT FISHING. 2. FISHING - MANUALS. 3. FISHING- SPECIMENS. 4. FISHING – SOCIO-ECONOMIC ASPECTS. 5. RECREATION. 6. TOURISM. I. Villalobos Rojas, Fresia. II. Federación Costarricense de Pesca. III. MarViva. IV. Inter Institutional Commission on Marinas and Tourist Piers. V. Costa Rican Tourism Institute. VI. Title

CONTENT

Acronyms and abbreviations

ACMC: Coco Marine Conservation Area (Área de Conservación Marina Coco)

AMM: Marine Management Areas (Áreas Marinas de Manejo)

AMMB: Bicentennial Marine Management Area (Área Marina de Manejo del Bicentenario)

AMPR: Marine Area for Responsible Fishing (Área Marina de Pesca Responsable)

CANATUR: Costa Rican Tourism Board (Cámara Nacional de Turismo)

CCSS: Costa Rican Social Security Agency (Caja Costarricense del Seguro Social)

CIMAT: Inter Institutional Commission on Marinas and Tourist Piers (Comisión Interinstitucional de Marinas y Atracaderos)

cm: centimeters

CRC: Costa Rican colones

EEZ: Exclusive Economic Zone

EN: English

FECOP: Costa Rican Fishing Federation (Federación Costarricense de Pesca)

FL: Fork length

GDP: Gross Domestic Product

H: Wetland (Humedal)

ICT: Costa Rican Tourism Institute (Instituto Costarricense de Turismo)

INCOPESCA: Costa Rican Fisheries and Aquaculture Institute (Instituto Costarricense de Pesca y Acuacultura**)**

IUCN: International Union for Conservation of Nature

kg: kilograms

m: meters

MINAE: Ministry of Environment and Energy (Ministerio de Ambiente y Energía)

n/a: not available

PN: National Park (Parque Nacional)

PNIC: Isla del Coco National Park (Parque Nacional Isla del Coco)

RB: Biological Reserve (Reserva Biológica)

RNVS: Wildlife Natural Refuge (Refugio Natural de Vida Silvestre)

RNA: Absolute Natural Reserve (Reserva Natural Absoluta)

SINAC: National System of Conservation Areas (Sistema Nacional de Áreas de Conservación)

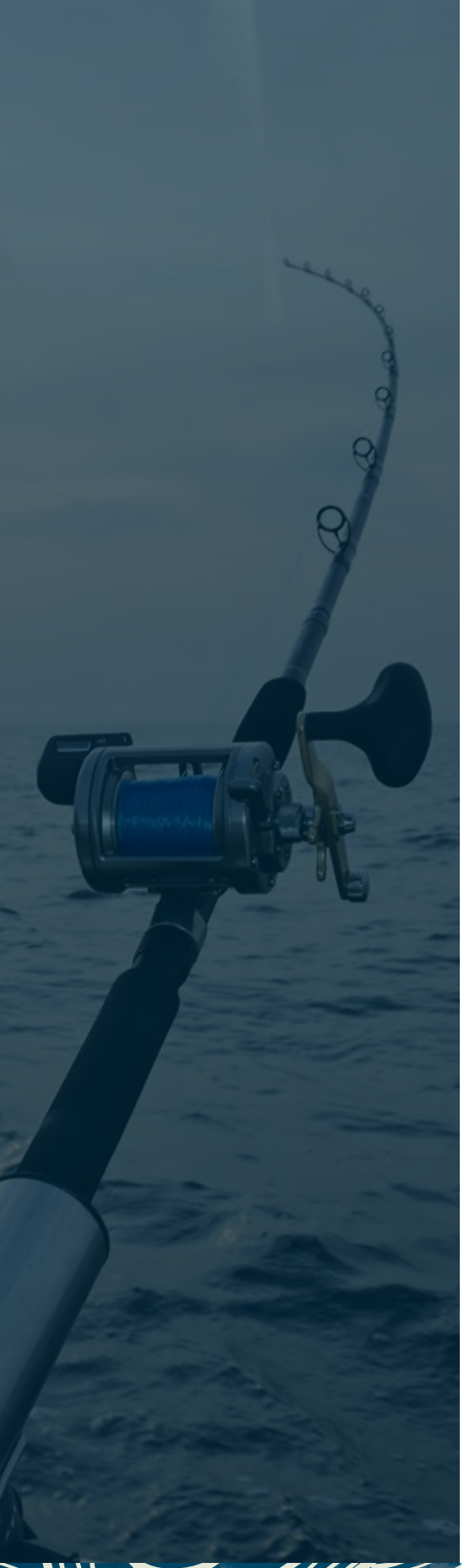
SITADA: Integrated System for Processing and Attention to Enviromental Complaints (Sistema Integrado de Trámite y Atención de Denuncias Ambientales)

SNG: National Coast Guard Service (Servicio Nacional de Guardacostas)

SP: Spanish

TL: Total length

USD: US dollars



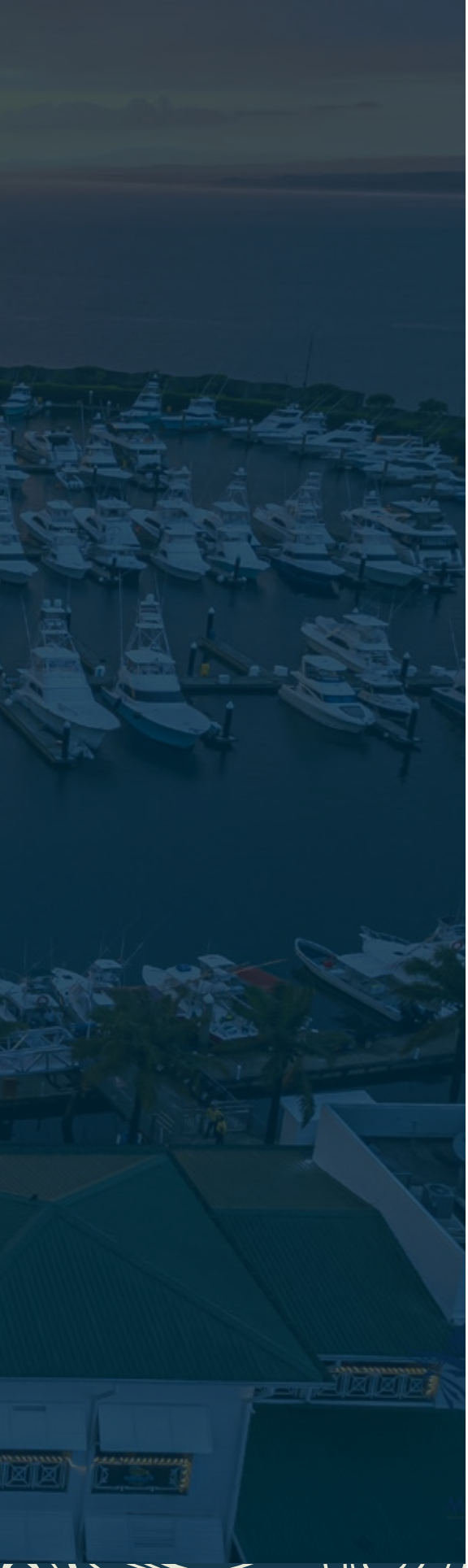
Presentation

Nautical recreation includes a great number of activities, such as cetacean watching, snorkeling, diving, and tourist and sport fishing, which highlight the appeal of countries as tourist destinations and end up becoming a considerable source of income. In the case of Costa Rica, it is estimated that close to USD 1,000 million are generated annually thanks to the use of marine and coastal resources by the recreation industry (Cascante and Marín, 2019). Specifically, tourist and sport fishing attracted around 150,000 tourists in 2019, generating USD 520 million (Cascante and Marín, 2019). Given the economic and social importance of the activity, it is necessary to promote responsible practices to ensure the sustainability of the resources in the long term and minimize the negative impact on the species of interest to this activity.

This **Best Practices Guide for Tourist and Sport Fishing in Costa Rica** is a document with relevant information on the socioeconomic contextualization of the activity, the existing regulations, and the description of the most representative species. It also offers a series of recommendations for voluntary application by anglers, vessel crews, marinas, and the public in general, in order to promote responsible actions to enhance the participants' experience and safety and, in turn, minimize risk to the marine environment and the species used for recreational purposes.

Introduction

01



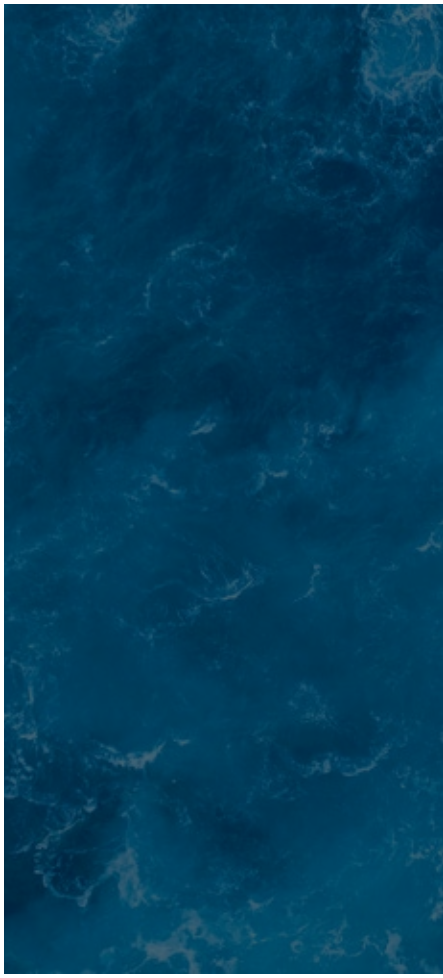
Recreational fishing has been defined as a fishing activity that is not carried out to supply the population's basic nutrition needs, or for the domestic or international trade of the captured fish (FAO, 2012). On the contrary, it is particularly linked to the tourism and sports sector, and it has a major social and economic impact worldwide, generating about USD 190 billion annually, and involving around 700 million people (FAO, 2012).

In Costa Rica, the Fishing and Aquaculture Act (Law No. 8436, 2005) defines recreational fishing and classifies it into sport and tourist fishing. Sport fishing is defined as "that which is carried out by individuals, either nationals or foreigners, for the purpose of capturing, with their adequate personal fishing gear, aquatic species in continental or jurisdictional waters, or in the exclusive economic zone (EEZ), for non-profit purposes and for sport, entertainment, pleasure, recreation, tourism, or pastime purposes" (Section 68 of Law No. 8436, 2005).

As for tourist fishing, it is "that which is carried out by individuals, either nationals or foreigners, for the purpose of capturing, with adequate personal fishing gear, aquatic fishing resources in continental or jurisdictional waters, or in the EEZ, for commercial purposes and exclusively tourist purposes, on a permanent basis" (Section 79 of Law No. 8436, 2005).

In Central America, Costa Rica is the country with one of the largest recreational fishing fleets and specialized infrastructure development. There is great diversity in recreational fishing, including different types of equipment, and it is carried out from vessels (boats, kayaks, "pangas") in the sea, from the shore, in rivers, lakes, and other continental bodies of water. As a result, there is a great variety of captured species.

It is essential to carry out this activity in a responsible manner, and the users' involvement is required so that they contribute to the sustainable use of the fishing resources they enjoy. In addition to this, there are other factors affecting the tourist and sport fishing activity, such as the interaction with commercial fleets, which has led to a fall in catch-and-release rates of some species by the tourist and sport fleet in the last few years (Marrari et al., 2023).

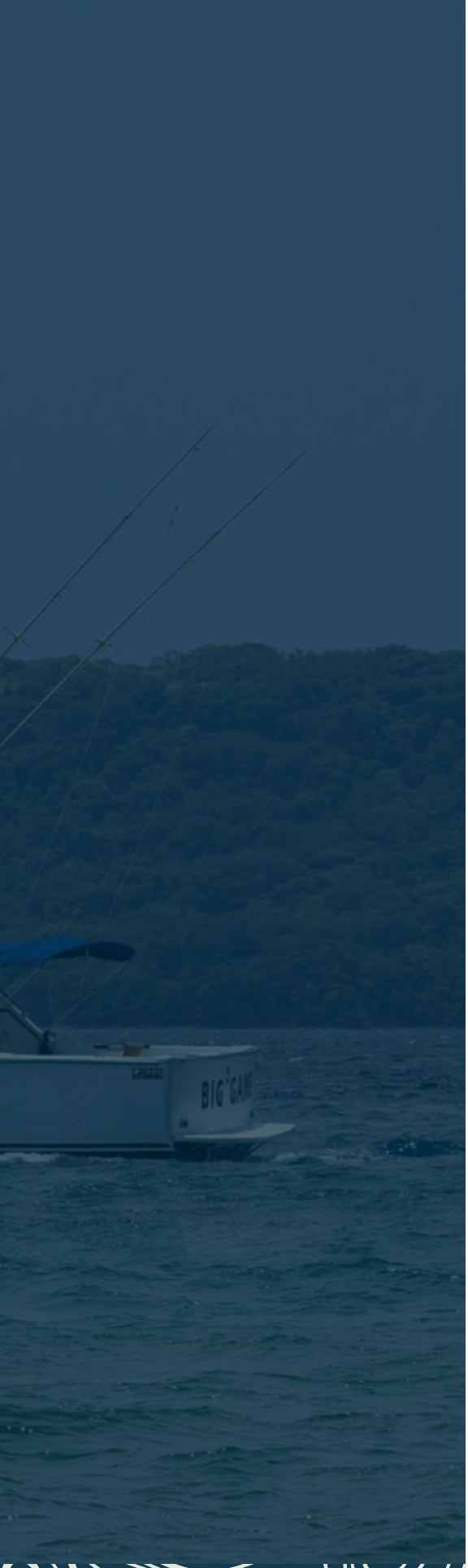


Fishing sustainability, in general, will depend on the responsibility of the participants who have direct contact with the resources and on the way we all take care of the environment where they develop. The main aim of this publication is to motivate all recreational anglers to contribute by enhancing their practices in order to guarantee the future of the activity and the health of the fish populations it depends on.

The efforts to link and train sport fishers are an efficient mechanism to preserve species and ecosystems. Therefore, the socialization of this document and its voluntary application during the various actions carried out at the different stages of tourist and sport fishing are of utmost relevance.

The importance of tourist and sport fishing in Costa Rica

02



There are between 675 and 700 registered tourist and sport fishing vessels operating in the Costa Rican Pacific and Caribbean waters (INCOPESCA, 2021). The small and medium-sized vessels (8 meters long, on average) employ two people (a captain and a sailor), on average, while other larger vessels (over 10 meters long) may employ around four people (Cascante and Marín, 2019).

The tourist and sport fishing sector comprises multiple subsectors, including hotels, transport, marinas and tourist piers. These subsectors generate employment through ancillary services, such as fishing gear stores, motor and air conditioning repair services, boat maintenance, etc. In addition, the tourist and sport fishing sectors include both Costa Rican families that have invested in boats and ancillary businesses and foreign people who invest in the sector for recreational or business purposes.

In Costa Rica, tourist and sport fishing is concentrated on the Pacific coast, mainly in the towns of Flamingo, Papagayo, Herradura, Quepos, Golfito and Puerto Jiménez, which are areas that offer infrastructure (marinas or piers, roads, hotels, and restaurants) where the activity and its ancillary services can be carried out easily.

As to the Caribbean, the activity is concentrated in areas such as Barra del Colorado and Tortuguero, with fewer tourists but equal importance because of the economic impact of the Atlantic tarpon *(Megalops Atlanticus),* the most relevant activity that has drawn attention to this region of the country.

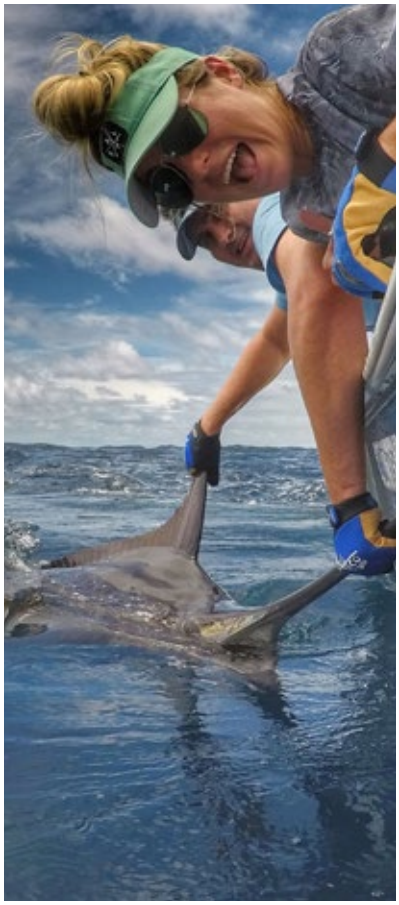
Several studies have determined the impact of tourist and recreational fishing at different levels of the economy (communal, national, and regional) by using a series of methodologies and indicators (equilibrium model, quality of life, travelling cost, Gross Domestic Product breakdown, value chain, and primary information gathering) (Soto Jiménez et al., 2010; Cascante and Marín, 2019) (Table 1).

Table 1. Summary of the most relevant results in socio-economic research related to tourist and sport fishing

Source	Most relevant results
Soto Jiménez et al. (2010)	• Contribution of USD 599.1 million, equal to 2.13%, to the Gross Domestic Product (GDP) in 2010.
CIMAT/ICT (2011)	• Average expenses of USD 7,505 per fishing tourist. • USD 56,667 in annual expenditure on tourist and sport fishing boat maintenance.
Cascante and Marín (2019)	• USD 500 to 520 million in revenues generated to the country. Family income 45% higher than the average family income in the study area. • A 1.15% of the national payroll (direct, indirect, induced). About 33,000 jobs. • Direct correlations are determined between better quality of life and infrastructure such as piers and marinas; better quality of life and job specialization; better quality of life and awareness of the availability of fishing resources.
Moreno Díaz and Jiménez Elizondo (2022)	• USD 21 million generated in the Marine Management Area (AMM, by its acronyms in Spanish) of Isla del Coco National Park (PNIC, by its acronym in Spanish). • USD 11,203 average expenses of tourists fishing in the AMM-PNIC.
CIMAT/ICT (2021)	• A 1,500 direct and 8,000 indirect jobs in the marinas sector (before COVID 19). • A 84 % of fishing tourists are accompanied by family or friends, and spend in other sectors.

> “The profile of the tourist coming to Costa Rica to carry out tourist and sport fishing activities has an annual income of over USD 100,000 and invests an average USD 7,505 during their stay, distributed between accommodation, transport, and fishing-related expenses”

(CIMAT/ICT, 2011)



At a macroeconomic level, Soto Jiménez et al. (2010) determined that tourist and sport fishing activities contributed around USD 599.1 million to the GDP in 2009, equal to 2.13%, by contributing about USD 77 million to Costa Rica’s internal revenue service. Moreover, they indicate that, in 2019, tourist and sport fishing activities contributed USD 70 million more to the GDP than commercial fishing (USD 527 million).

On the other hand, Cascante and Marín (2019) calculated that revenue from the activity at national level fluctuated between USD 500 and 520 million in 2019. According to these authors, this amount went into sectors like transport (USD 200 million) and hotels (USD 210 million), generating an economic relationship in the tourism value chain. In particular, and within the Coco Marine Conservation Area (ACMC, by its acronyms in Spanish), it is calculated that tourist and sport fishing is the activity that generates the largest economic contribution, with approximately USD 21 million annually and a positive impact on the national economy (Moreno Díaz and Jiménez Elizondo, 2022).

The tourist and sport fishing value chain in the country starts with the airlines and the agents selling tourist packages before tourists enter the country. Later, they are joined by other sectors, such as marinas and piers, hotels, restaurants, transport, supply stores, tours, and ancillary services such as those related to boat maintenance. It has been estimated that around 33,000 people (1.5% of the country's total payroll) work directly or indirectly in the tourist and sport fishing sector (Cascante and Marín, 2019).

In 2021, the value chain was analyzed together with the socio-economic impact of four marinas located in the Costa Rican Pacific (Los Sueños, Pez Vela, Banana Bay and Papagayo). It was determined that, before the pandemic, they contributed some 1,500 direct jobs, destined to women (33%) and men (67%). This job contribution decreased during the pandemic, but differently in each of the analyzed marinas. Thus, in Marina Los Sueños, employment was significantly reduced by 45% whereas in Marina Pez Vela it fell by 24%.

On the other hand, indirect employment generated in hotels, food, and other areas accounted for around 8,000 jobs in the four marinas, but decreased to approximately 5,500 after the

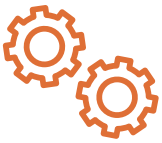
COVID 19 pandemic (CIMAT/ICT, 2021).

Tourists coming to Costa Rica for sport fishing purposes have annual incomes of over USD 100,000, and spend an average USD 7,505 on accommodation, transport, food, and other fishing-related expenses during their stay in the country. This same study established that the tourists' fishing targets are mahi-mahi *(Coryphaena hippurus),* sailfish *(Istiophorus platypterus),* marlins *(Makaira nigricans, Tetrapturus angustirostris, Istiompax indica, and Kajikia audax),* and roosterfish *(Nemastistius pectoralis).*

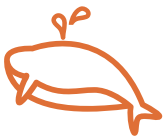
In a more specific geographical area, it was determined that the tourists visiting the Bicentennial Marine Management Area (AMMB, by its acronym in Spanish) belong to a high economic stratum, spend an average USD 11,203, and are interested in fishing striped marlins *(K. audax),* sailfish *(I. platypterus),* black marlins *(I. indica)* and white/blue marlins *(M. nigricans),* as well as carrying out supplementary activities that include tours combined with snorkeling and shark watching (Moreno Díaz and Jiménez Elizondo, 2022). In addition, it was determined that tourists owning boats have an annual average spending of USD 56,667 on maintenance, which includes fuel, repairs, captain and crew wages, insurance, taxes, etc. (CIMAT/ICT, 2011).

As to the impact on the communities, families, and people linked to the sector, Cascante and Marín (2019) established that a family with one member working in this value chain receives up to 45% more income than families with no connection to it. Moreover, the study revealed that the people related to this activity highly appreciate their enhanced quality of life (3.2 in a scale of up to 4 points) based on three aspects:

1. Possibility of having access to different health, education, and entertainment services.



2. Improvement in their technical skills, thanks to the specializations they can have access to.



3. Awareness of the fact that the healthy condition of the marine resources results in a better personal economic situation.

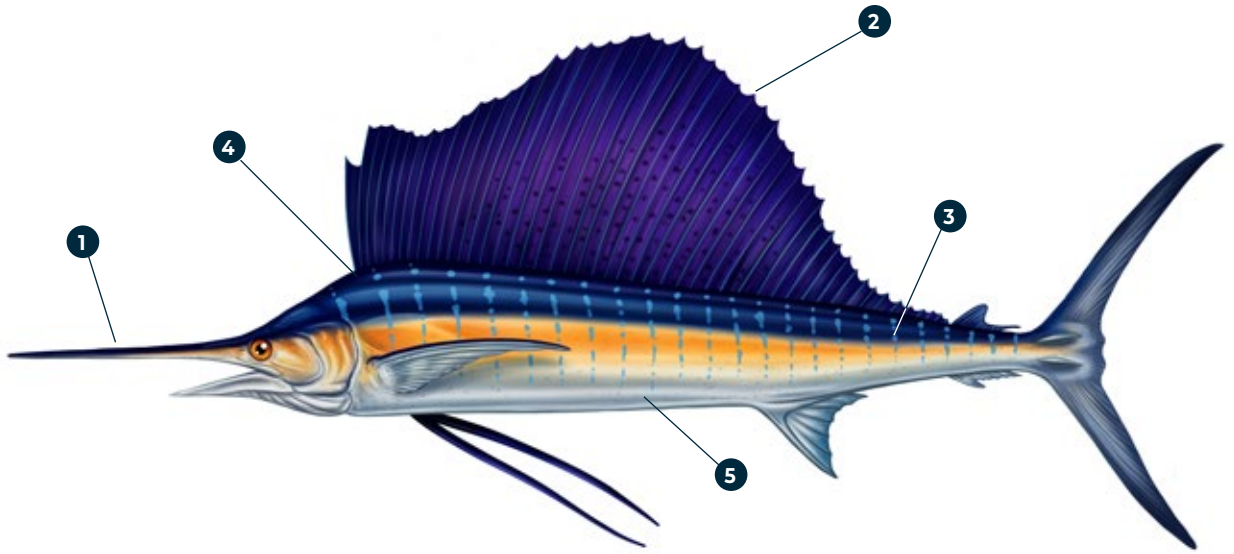
Species of interest to tourism and sport fishing

03

At least 16 fish species have been identified in connection with tourist and sport fishing in the country. These include billfish, tuna, mahi-mahi, tarpon, and snook (Ross Salazar et al., 2017). Costa Rica has implemented certain measures to protect some of these species. For instance, in 2005, the sailfish *(I. platypterus),* the blue marlin *(M. nigricans),* the black marlin *(I. indica),* the striped marlin *(K. audax),* and the tarpon *(Megalops atlanticus)* were declared species of interest to tourist and sport fishing in Costa Rica (Section 76 of Law No. 8436, 2005). Later, the roosterfish was included through Incopesca's Board of Directors Agreement (Section 69 of AJDIP 086, 2014). The following section includes a guide to recognize the species of greater interest, focusing on their most relevant ecological features. Except where otherwise indicated, all the information is from (Ross Salazar et al., 2017).

3.1. Indo-Pacific sailfish (EN), Pez vela (SP)

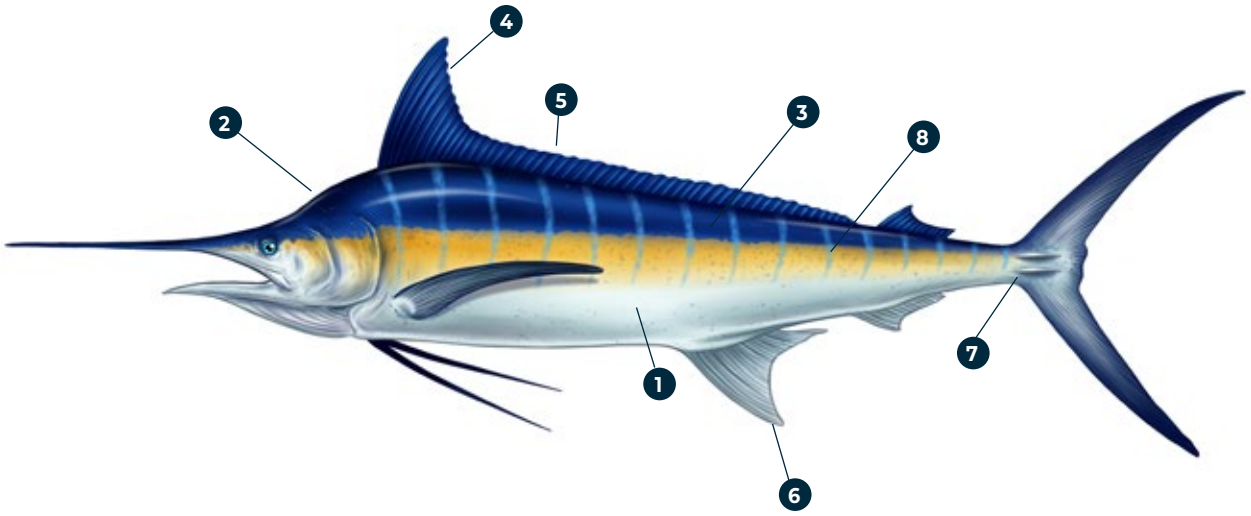
Species:	*Istiophorus platypterus* (Shaw, 1792)	Family:	Istiophoridae



Maximum size:	360 centimeters (cm) TL	**Habitat:**	Pelagic, oceanic, and coastal
Common size:	270 cm TL	**Depth:**	0-100 meters (m)
Maximum weight:	100.2 kilograms (kg)	**Fishing gear:**	Longline, hand line, purse seine, rod and reel (catch and release).
Maximum age:	13	**Peak in abundance:**	From Nicoya to Burica: November to May. First 80 miles from the coast.
Size at maturity:	166 cm TL	**Commercial value of its meat:**	Low, due to its dark color. Technical Labelling Regulation RTCR 449:2010 indicates that it should be labelled as "sailfish".
General description:	Long body compressed on the sides. 1 Very long bill. 2 Sail-like dorsal fin with dark spots. 3 Body covered with bluish spots or stripes in some individuals. 4 Dark dorsal body, with around 20 vertical bluish bars on the sides. 5 Dark gray or pale silver belly and sides.		
Degree of threat:	Vulnerable, according to the International Union for Conservation of Nature (IUCN, 2022). The main threat is incidental industrial fishing with longlines and purse seine. In Costa Rica, commercial fishing of this species is banned. In the event of incidental fishing, commercialization might be allowed exclusively in the domestic market, and incidental fishing must not exceed 10% of the total catch (AJDIP/017-2023).		
Distribution and habits:	In Costa Rica, it can be found on both coasts (Fundación MarViva, 2022). It is a carnivore, and feeds mainly on octopus, squid, crustaceans, and bony fish.		

3.2. Blue marlin (EN), Marlín azul (SP)

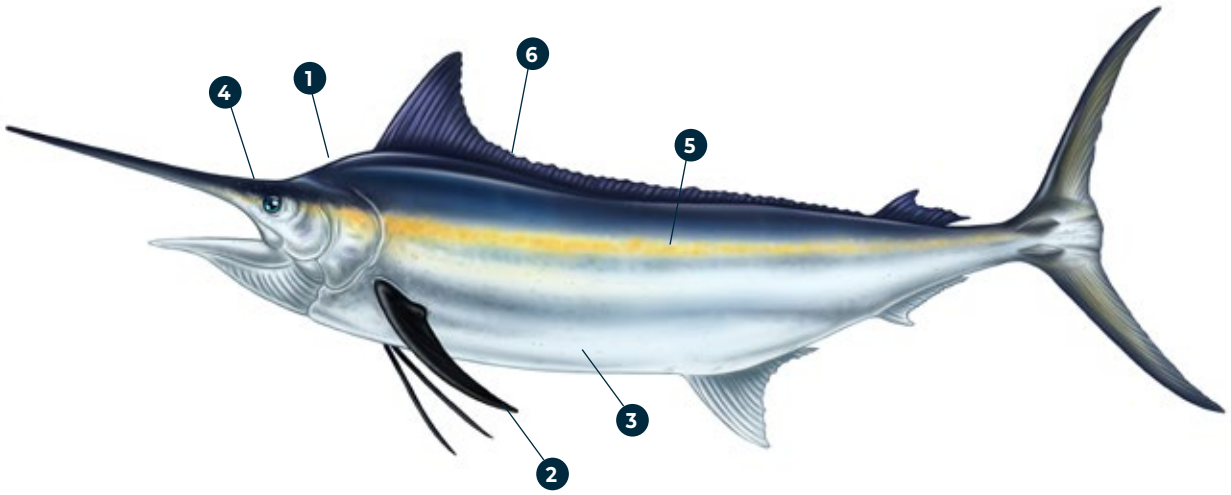
Species:	*Makaira nigricans* (Lacepède, 1802)	Family:	Istiophoridae



Maximum size:	500 cm TL	**Habitat:**	Pelagic, oceanic
Common size:	350 cm TL	**Depth:**	0-200 m
Maximum weight:	636 kg	**Fishing gear:**	Longline, hand line, purse seine, rod and reel (catch and release).
Maximum age:	28	**Peak in abundance::**	From May to September. It is found in the first 80 miles during moon phases.
Size at maturity:	221.9 cm TL	**Commercial value of its meat:**	In Costa Rica, its meat has a high commercial value because of its whitish color. It is sold as white marlin in the market.
General description:	1 Long, fusiform body; bluish or blackish back and dark gray or silver in the ventral section. 2 Very high nape. 3 Body with sharp scales. 4 High first dorsal fin not in the shape of a sail. 5 Reduced second dorsal fin. 6 Pelvic fins with 2 short radials that do not surpass the anus. 7 Caudal peduncle with two keels and no pinnula. 8 Bluish lengthwise spots or stripes on the body of some individuals.		
Degree of threat:	Vulnerable (IUCN, 2022). Incidental fishing has been recorded as the main threat to this species, basically associated with fishing with longlines and targeting swordfish. In spite of this, current white/blue marlin stocks in the Pacific show no overfishing and remain stable ISC (2021).		
Distribution and habits:	In Costa Rica, it can be found on both coasts (Fundación MarViva, 2022). It is a carnivore species whose diet includes bony fish, shrimp, and octopus.		

3.3. Black marlin (EN), Marlín negro (SP)

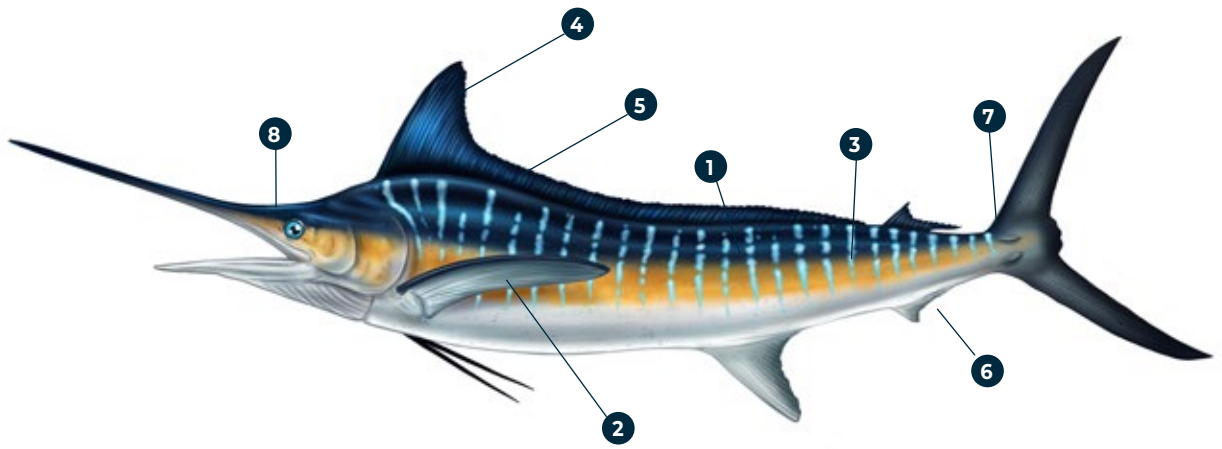
Species:	*Istiompax indica* (Cuvier, 1832)	Family:	Istiophoridae



Maximum size:	465 cm TL	**Habitat:**	Pelagic, oceanic
Common size:	380 cm TL	**Depth:**	0-915 m
Maximum weight:	750 kg	**Fishing gear:**	Longline, hand line, purse seine, rod and reel (catch and release).
Maximum age:	n/a	**Peak in abundance:**	From May to October.
Size at maturity:	208.1 cm TL	**Commercial value of its meat:**	In Costa Rica, its meat has high commercial value to the commercial fleet, and high tourist value to sport and tourist fishing.
General description:	1 Very high nape. 2 Rigid pectoral fins (they do no fold against the body). 3 Dark blue back and silvery white belly. Adults do not show any dark bars or stripes. 4 Head ends in a bill. 5 Lateral line distributed as a mesh or pore tissue. 6 First dorsal fin is blackish to dark blue. The others are dark brown, with a blue hue.		
Degree of threat:	Data deficient (IUCN, 2022). In spite of this, as it is commercially important, it faces pressure in the areas where marine resources are overexploited, mainly by the use of longlines and purse seine.		
Distribution and habits:	In Costa Rica, it is located in the Pacific, both in oceanic waters and near the coast and islands. It is a carnivore whose diet includes bony fish, octopus and squid, cuttlefish, and crustaceans.		

3.4. Striped marlin (EN), Marlín rosado/rayado (SP)

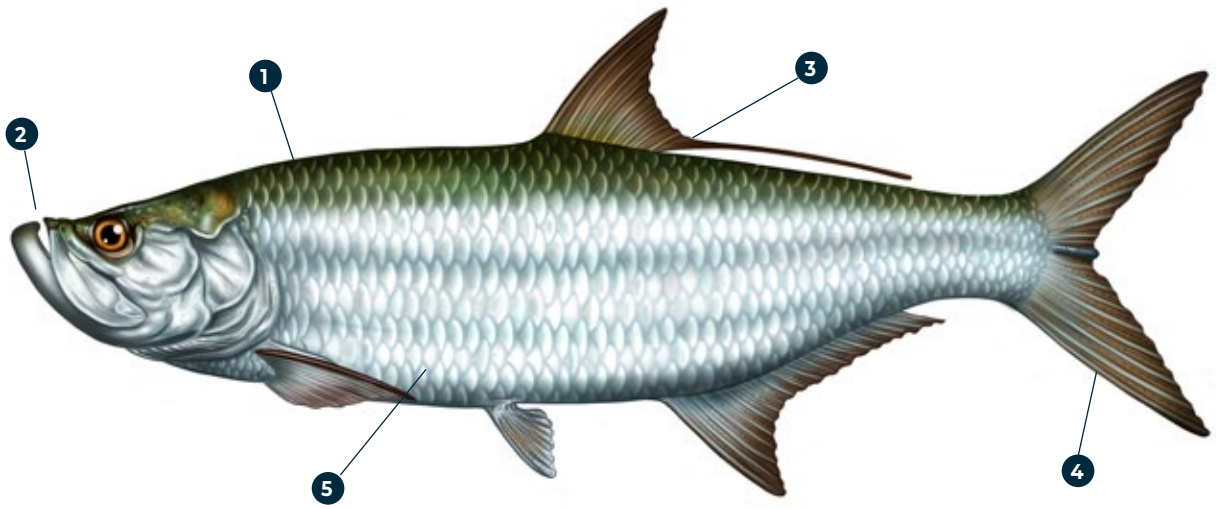
Species:	*Kajikia audax* (Philippi, 1887)	Family:	Istiophoridae



Maximum size:	420 cm TL	**Habitat:**	Pelagic, oceanic
Common size:	290 cm TL	**Depth:**	0-289 m
Maximum weight:	490 kg	**Fishing gear:**	Longline, hand line, purse seine, rod and reel (catch and release).
Maximum age:	n/a	**Peak in abundance:**	Guanacaste and Isla del Coco: annual. Central and South Pacific: July to October.
Size at maturity:	190.2 cm TL	**Commercial value of its meat:**	It is commercialized at intermediate prices due to the pink color of its meat, and is sold as pink marlin filet.
General description:	1 Long, fusiform body. Bluish or blackish in the dorsal area and gray or silver ventrally. 2 Mobile pectoral fins. 3 Body covered with blue lengthwise spots or stripes. 4 High first dorsal fin not shaped like a sail. 5 Reduced second dorsal fin. 6 Pelvic fins in two short radials that do not surpass the anus. 7 Caudal peduncle with two keels and no pinnula. 8 Head ends in a bill.		
Degree of threat:	Least concern (IUCN, 2022).		
Distribution and habits:	In Costa Rica, it is located in the Pacific oceanic waters (Fundación MarViva, 2022). It is a carnivorous species whose diet includes bony fish, octopus and squid, cuttlefish, and crustaceans.		

3.5. Tarpon (EN), Sábalo real (SP)

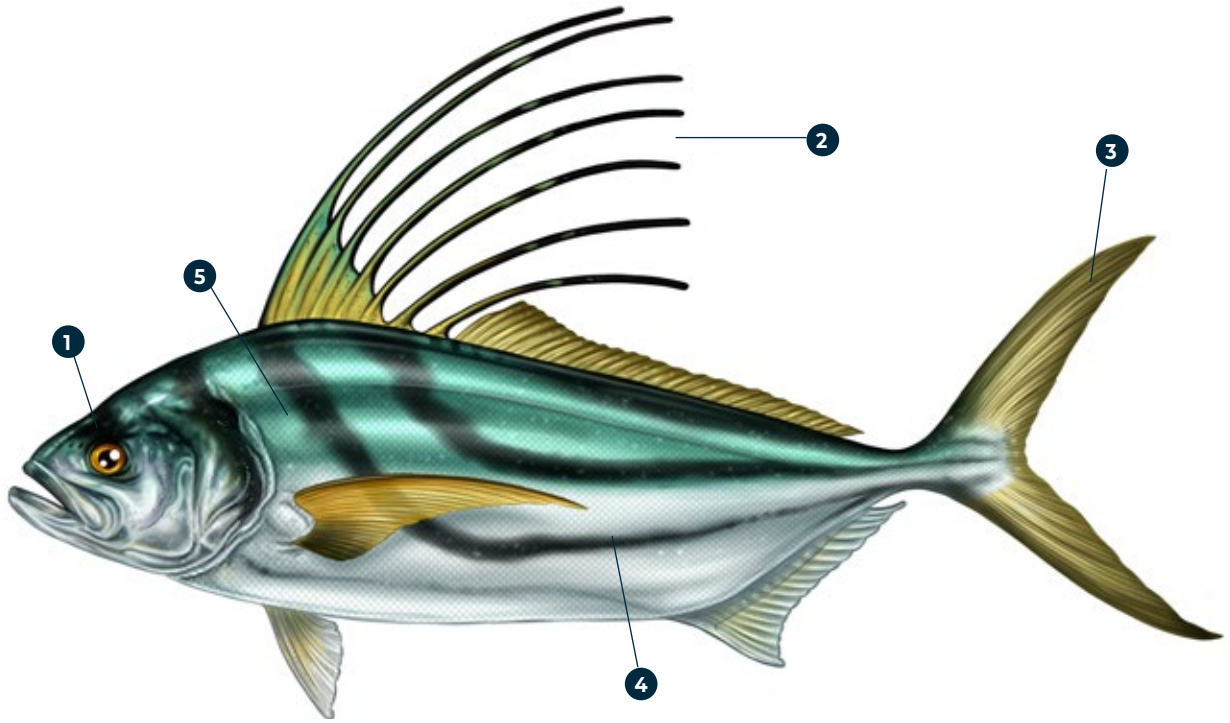
Species:	*Megalops atlanticus* (Valenciennes, 1847)	Family:	Megalopidae



Maximum size:	250 cm TL	**Habitat:**	Estuaries, near reefs, where there is fresh water.
Common size:	n/a	**Depth:**	0-30 m
Maximum weight:	161 kg	**Fishing gear:**	Hand line, purse seine, rod and reel (catch and release).
Maximum age:	55	**Peak in abundance:**	n/a
Size at maturity:	160 cm TL	**Commercial value of its meat:**	Low. It is considered a species of interest to sport fishing.
General description:	1 Long oblong body with a short, high head. 2 Large oblique mouth. 3 Single gray dorsal fin in the middle of the body, with long filamented last radial. 4 Large caudal fin, gray or blackish, and deeply forked. 5 The body is silver-colored, with a darker back and gray fins.		
Degree of threat:	Vulnerable (IUCN, 2022), with a downward population trend, associated with habitat loss and degradation, and incidental fishing.		
Distribution and habits:	In Costa Rica, it is naturally found in coastal waters, bays, estuaries, and rivers on the Caribbean coast. However, its current distribution has extended to the Eastern Tropical Pacific, and it is believed that it has reached the Pacific by crossing the Panama Canal. It is a carnivorous species that feeds on crustaceans and bony fish.		

3.6. Roosterfish (EN), Pez gallo (SP)

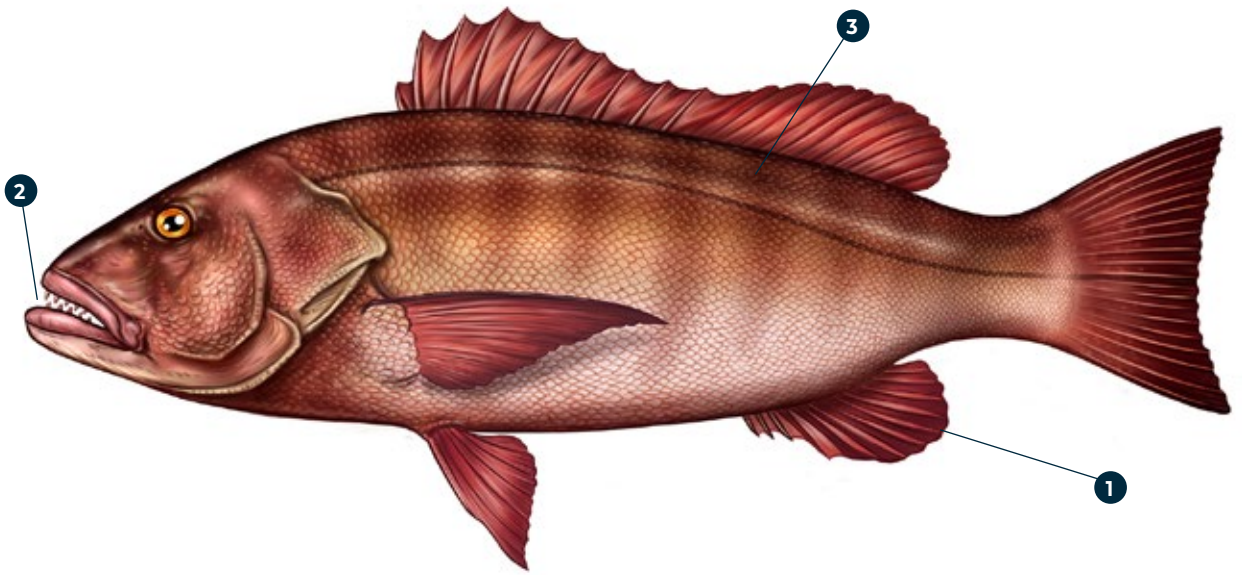
Species:	*Nematistius pectoralis* (Gill, 1862)	Family:	Nematistiidae



Maximum size:	191 cm TL	**Habitat:**	Shallow coastal waters.
Common size:	60 cm TL	**Depth:**	0-20 m
Maximum weight:	51.7 kg	**Fishing gear:**	Longline, hand line, gill net, purse seine, rod and reel (catch and release).
Maximum age:	n/a	**Peak in abundance:**	All year round.
Size at maturity:	94.8 cm TL	**Commercial value of its meat:**	Low commercial value. It is not commercialized. It is sought by sport and tourist fishers due to its fighting behavior during capture.
General description:	1 Long flat body with pointed head and large eyes. 2 Dorsal fin has seven long spines forming a comb with black and yellow lines. 3 Caudal fin is strongly hairpin-shaped. 4 Bluish gray with silver reflections. 5 Four black bars on the sides (two on the head and two on the body).		
Degree of threat:	Not evaluated (IUCN, 2022).		
Distribution and habits:	It is found in the Pacific Ocean, from the coast of California to Peru, including the Galápagos Islands (Fundación MarViva, 2022). It is a carnivorous species that feeds mainly on bony fish.		

3.7. Pacific dog snapper, Pacific cubera snapper (EN), Pargo dientón, pargo negro (SP)

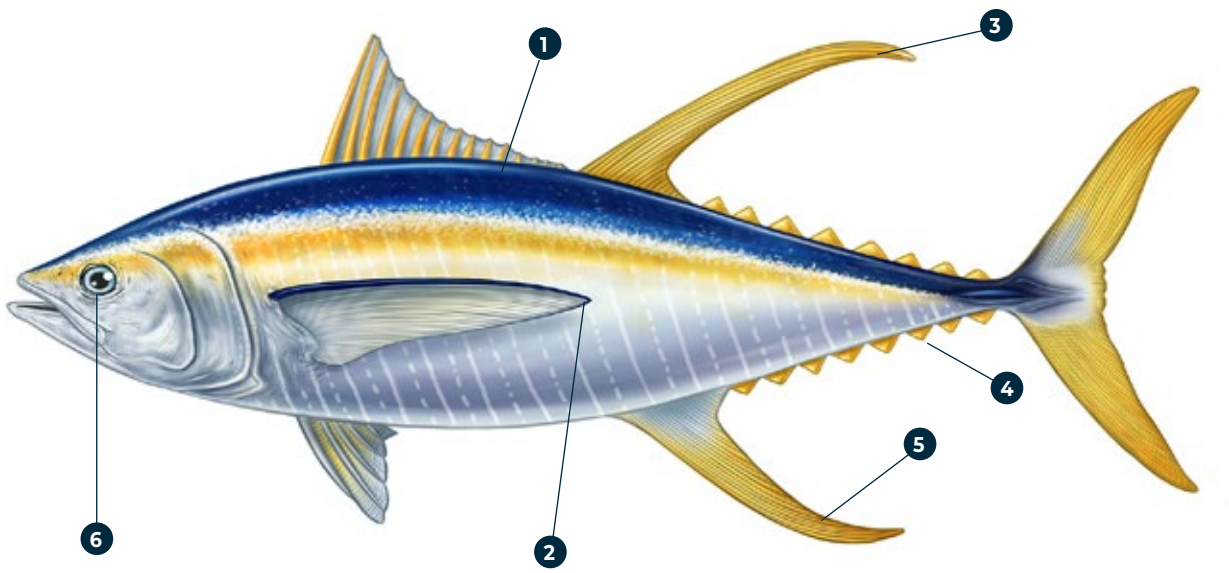
Species:	*Lutjanus novemfasciatus* (Gill, 1962)	Family:	Lutjanidae



Maximum size:	170 cm TL	**Habitat:**	Rocky reefs, wetlands. Adults can swim up to 20 km upstream.
Common size:	n/a	**Depth:**	2-60 m
Maximum weight:	45 kg	**Fishing gear:**	Longline, hand line, fishing crossbow, gill net, purse seine, rod and reel (catch and release).
Maximum age:	n/a	**Peak in abundance:**	n/a
Size at maturity:	70 cm TL	**Commercial value of its meat:**	n/a
General description:	Oblong body. (1) Sharp snout. Rounded soft parts in dorsal and anal fins. Caudal fin with straight edges. (2) Conical teeth in the front part of jaws are usually larger and canine-shaped. (3) Dark olive to copper-red on the back and sides, fading to silver-white in the ventral area. Young fish and adults have 8-9 brown-ash gray bars on their upper half, which are sometimes dark in larger fish with dark fins.		
Degree of threat:	Least concern (IUCN, 2022).		
Distribution and habits:	Endemic in the Eastern Tropical Pacific. It is carnivorous and feeds mainly on octopus, squid, crustaceans, and bony fish.		

3.8. Yellowfin tuna (EN), Atún aleta amarilla (SP)

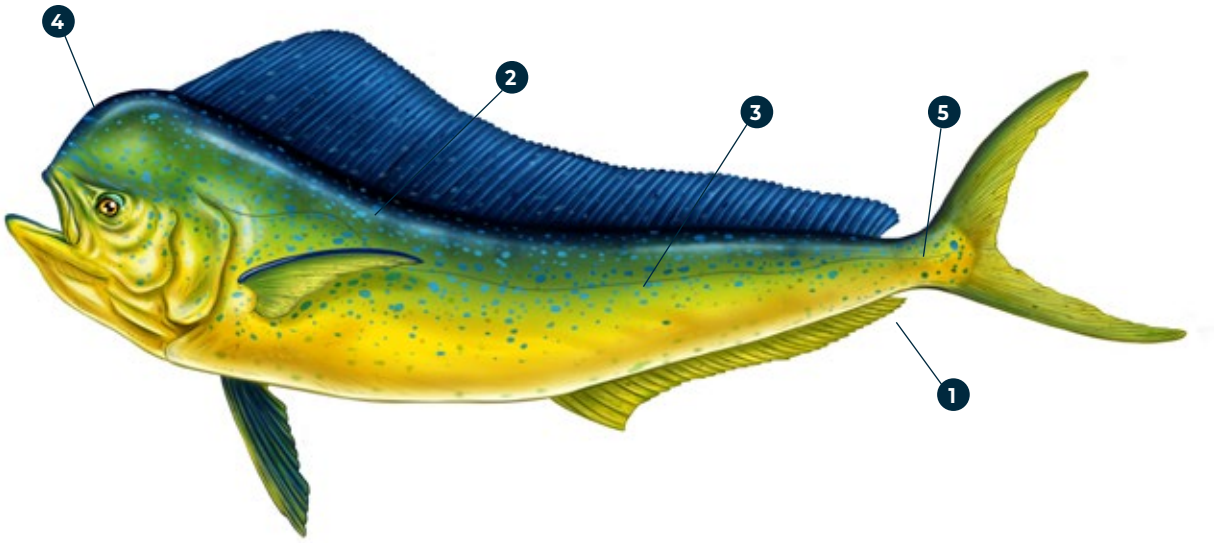
Species:	*Thunnus albacares* (Bonnaterre, 1788)	Family:	Scombridae



Maximum size:	239 cm TL	**Habitat:**	Oceanic and pelagic
Common size:	n/a	**Depth:**	0-464 m
Maximum weight:	200 kg	**Fishing gear:**	Longline, hand line, purse seine, rod and reel (catch and release).
Maximum age:	9	**Peak in abundance:**	Constant all year round. It is the most common species of the Thunnus genus captured in Costa Rican pelagic waters.
Size at maturity:	75 cm TL	**Commercial value of its meat:**	It has high commercial value and is sold, according to the weight of the individuals and the freshness of its meat, in four categories: 1) <15 kg, 2) 15-20 kg, 3) 20-30 kg and 4) >30 kg. It has also recently become a species of interest to recreational fishing.
General description:	1 Metallic, dark blue back, fading to yellow and silver on the sides and belly. 2 End of pectoral fin often surpasses the origin of the second dorsal fin. 3 Dorsal and anal fins are bright yellow. 4 Dorsal and anal finlets are bright yellow with narrow black edges. 5 Second dorsal fin and anal fin are long in adults. 6 Small eyes.		
Degree of threat:	Least concern (IUCN, 2022).		
Distribution and habits:	It is highly migratory, and can be found on both coasts of Costa Rica (Fundación MarViva, 2022). It is carnivorous and feeds on octopus, squid, crustaceans, and bony fish.		

3.9. Mahi-Mahi/Dolphinfish (EN), Dorado (SP)

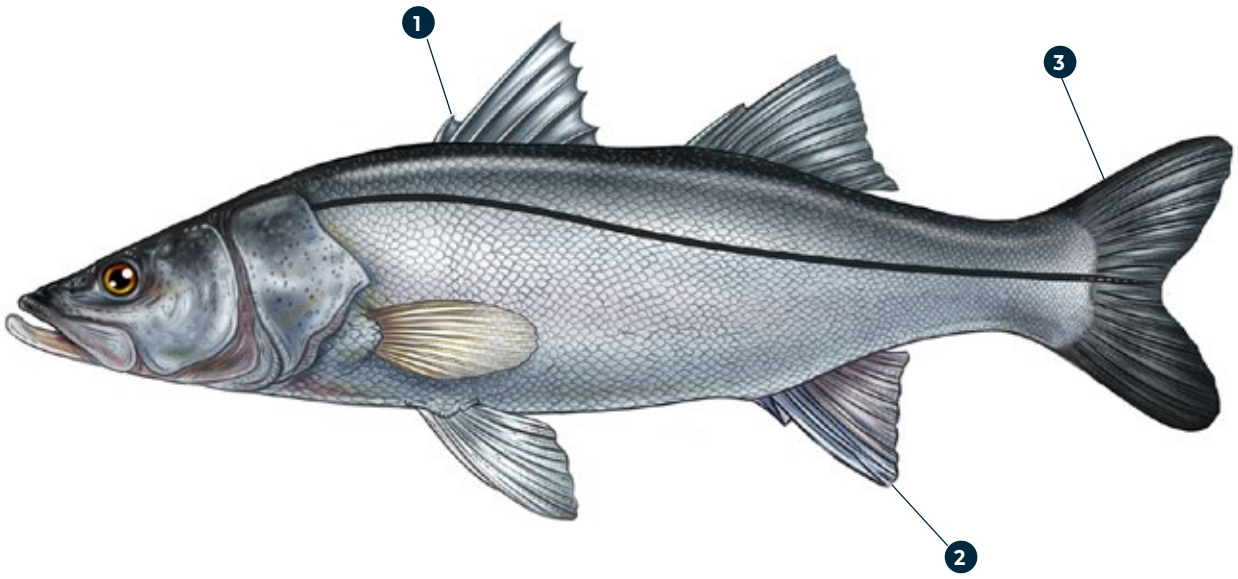
Species:	*Coryphaena hippurus* (Linnaeus, 1758)	Family:	Coryphaenidae



Maximum size:	230 cm TL	**Habitat:**	Coastal and oceanic waters.
Common size:	100 cm TL	**Depth:**	0-85 m
Maximum weight:	40 kg	**Fishing gear:**	Longline, hand line, purse seine, rod and reel.
Maximum age:	4	**Peak in abundance:**	Abundant captures in Costa Rican pelagic waters, mainly from October to February.
Size at maturity:	80 cm Fork length (FL)	**Commercial value of its meat:**	High commercial value. It is commercialized in different categories according to its weight and the freshness of its meat.
General description:	Flat body. 1 Dorsal and anal fins extended almost up to the caudal peduncle. 2 Grayish in the dorsal area, and yellowish ventral section. 3 Black spots on the body. 4 Crest on head of adult males. 5 Caudal peduncle with no keels. Bright blue-green back, fading to golden yellow on the belly with scattered blue-green spots.		
Degree of threat:	Least concern (IUCN, 2022).		
Distribution and habits:	It is highly migratory, and can be found on both coasts of Costa Rica. It is carnivorous and feeds on squid, crustaceans, and bony fish.		

3.10. Black snook (EN), Róbalo negro (SP)

Species:	*Centropomus nigrescens* (Günther, 1864)	Family:	Centropomidae



Maximum size:	123 cm TL	**Habitat:**	Bays, wetlands, and low areas of rivers.
Common size:	45 cm TL	**Depth:**	0-25 m
Maximum weight:	26.2 kg	**Fishing gear:**	Hand line, gill net, rod and reel (catch and release).
Maximum age:	n/a	**Peak in abundance:**	
Size at maturity:	64.3 cm TL	**Commercial value of its meat:**	
General description:	Oblong body. 1 First long spine of the first dorsal fin is shorter than the rest. 2 Second and third spines of the anal fin are relatively short for the genus. 3 Dark fins.		
Degree of threat:	Least concern (IUCN, 2022).		
Distribution and habits:	It can be found from the south of California to Ecuador, in coastal and shallow waters. (Fundación MarViva, 2022). It is carnivorous and feeds on crustaceans and bony fish.		

Current legislation related to tourist and sport fishing

04

In this section, we summarize the most relevant regulations related to tourist and sport fishing in Costa Rica. It is recommended to use this section as a general guide. In case further details are required on some particular topic, check the original documents related to the laws or agreements summarized here.

The Costa Rican Fisheries and Aquaculture Institute (INCOPESCA, by its acronyms in Spanish) is the authority in charge of fostering and regulating the practice and development of tourist and sport fishing in the country (Section 68 of Law No. 8436, 2005). One of its functions is to watch over the conservation of species of interest to sport fishing by conducting technical and scientific studies and promoting sustainable management policies (e.g., release captured species), as well as laws and regulations on seasons, areas, and minimum sizes of the catch. In addition, it is responsible for defining the maximum number of specimens that a recreational fisher can capture (Sections 72 and 73 of Law No. 8436, 2003).

On the other hand, INCOPESCA is in charge of promoting and passing the regulations that are deemed convenient to establish the practice of releasing captured species, as well as regulations that ensure the sustainability of the primary species of interest to this activity (Section 66 of Executive Decree No. 36782, 2011). It is also in charge of regulating the national and international fishing tournaments held in Costa Rican waters; therefore, it must coordinate with the Costa Rican Tourism Institute (ICT, by its acronym in Spanish) or the sport fishing associations duly registered in the National Registry. It must also encourage agreements with organizations and service providers, so that sport fishers protect the species that are the object of their activity (Section 69 of Law No. 8436, 2005).

Lastly, INCOPESCA must coordinate with the different tourist marinas in order to conduct marine tourist or sport fishing activities and collect and keep record of the information associated with catches (Section 133 of Executive Decree No. 36782, 2011).

Regarding the National System of Conservation Areas (SINAC, by its acronym in Spanish), it is competent in the subject when the activity takes place within the protected wildlife areas it administrates. In this context, the SINAC may authorize game fishing tournaments for organized groups as long as its management plan allows it. In addition, the Ministry of Environment and Energy (MINAE, by its acronym in Spanish) is responsible for monitoring fishing in protected wildlife areas, and can coordinate operations with the National Coast Guard Service (SNG, by its acronyms in Spanish).

4.1. Licenses and permits

4.1.1. Fishing permit

The Fishing and Aquaculture Act stipulates that the owner or licensee of the vessel used for **sport fishing** must have a license to carry out the activity. In addition, it stipulates that the crew and the tourists, regardless of their age, who practice sport fishing on board the vessel or underwater must have a **fishing permit** issued by INCOPESCA (Section 75 of Law No. 8436, 2005; Section 117 of Executive Decree 36782, 2011). Sport fishing is only authorized to individuals over 16 (Section 69 of Executive Decree No. 36782, 2011).

In the case of **tourist fishing,** national or foreign individuals practicing the activity on board a vessel with a tourist fishing license require a fishing permit issued by INCOPESCA (Section 79 of Law No. 8436, 2005; Sections 62, 63 and 65 of Executive Decree No. 36782, 2011).

4.1.2. Boat licenses

The Fishing and Aquaculture Act Regulation (Executive Decree No. 36782, 2011) establishes all the requirements that individuals and legal entities must comply with if they wish to opt for a **license for vessels** dedicated to tourist and sport fishing, either maritime or continental, as well as for aquatic species watching. The following are some of these requirements:

- Register the vessel with the National Vessel Registry.
- Submit a copy of the current sailing certificate.
- Current fishing permit of the owner or captain and crew.
- Keep worker - employer obligations with the Costa Rican Social Security Agency (CCSS, by its acronym in Spanish) up to date.

In addition, any owner or licensee of a **vessel used for sport fishing** is obliged to:

- Hold a current license.
- Comply with the minimum

sizes, capture limits, and closed season bans established by the fishing authority.

- Verify that the people to whom they provide services comply with the legal provisions on the subject.
- Train on the ways in which sport fishing should be carried out.
- Support programs for repopulation and enhancement of the places where they carry out their activities and participate in them, as well as contribute to the maintenance and conservation of species and their habitat.

“The **vessels involved in tourist fishing** must be registered with the ICT and have a license issued by INCOPESCA. Such license can be extended, with INCOPESCA’s authorization, after an annual study and revision in order to determine whether the vessel is being used for such purpose. (Section 79 of Law No. 8436, 2005; Sections 62 and 117 of Executive Decree No. 36782, 2011) (Table 2). INCOPESCA may extend the tourist fishing license for the joint or alternative practice of this fishing activity on a small scale, based on the sustainability of the resources (Section 63 of Executive Decree No. 36782, 2011). In addition, it is indicated that INCOPESCA will establish different types of tourist fishing permits, which will be used in all the national territory, considering the time of their use (Section 79 of Law No. 8436, 2005).”

Table 2. Summary of requirements to apply for vessel registration

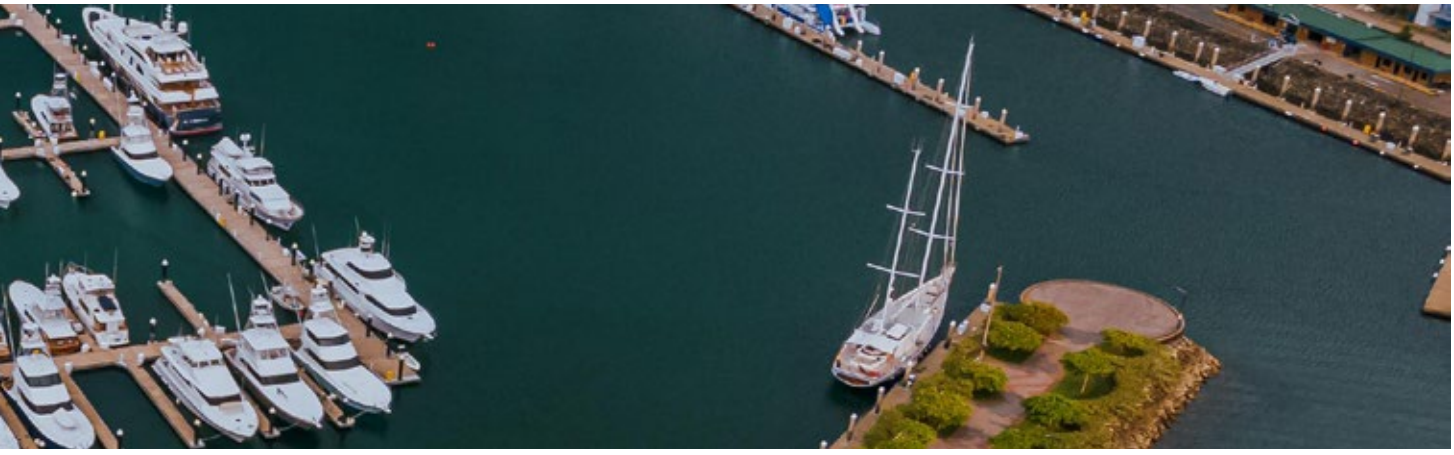
Requirements for tourist fishing vessels
Registration application form signed by the vessel owner and duly certified.
For vessel owners who are legal entities:
• Certification of legal personality of the company owning the vessel to be registered, issued less than three months before. • Certified copy, true to the original, of the current identity card, residence card, or passport of its legal representative(s).
For vessel owners who are individuals:
• Certified copy, true to the original, of the current identity card, residence card, or passport of the owner of the vessel to be registered. • Registration or notarial certification of vessel ownership issued less than three months before, showing that it is registered in the applicant's name. • Certified copy, true to the original, of the special license for tourist fishing issued by INCOPESCA to the applicant, which must be valid, or else original certification issued by INCOPESCA, stating that the applicant has such license and that it is still valid (Sections 65 and 117 of Executive Decree No. 36782, 2011).

Regarding **continental sport fishing,** it must be practiced with a valid license issued by the SINAC. Fishing species that are not contemplated on the lists of authorized species, using the allowed fishing methods such as rod and reel or hand lines, is prohibited. In addition, the activity must only be carried out within a period ranging between 6 am and 6 pm (Sections 64 and 67 of Law No. 7317, 1992; Sections 31, 32, 33, 36 and 42 of Executive Decree No. 32633, 2005).

The costs associated with the grant of fishing licenses, permits and cards are regulated by INCOPESCA and are annually decided by the institution's Board. The rates related to these permits have remained unchanged since 2018 (AJDIP 384, 2017) (Table 3).

Table 3. Types of licenses and their rates, established by INCOPESCA for 2023 (AJDIP 279, 2022)

Licenses for domestic and foreign tourist and sport fishing vessels	
	Rates
License for domestic vessel, range of 5 miles or more, annual license.	92,700 CRC
License for domestic vessel, range of 40 miles or less, annual license.	278,100 CRC
License for domestic vessel, range of over 40 miles, annual license.	473,800 CRC
License for foreign vessel, any length (for 3 months), quarterly license.	400 USD
Sport and tourist fishing permits	
National, Resident or Foreigner practicing sport fishing from boat (8 days), 8-day permit	15 USD
National, Resident or Foreigner practicing sport fishing from boat (one month), 30-day permit	25 USD
National, Resident or Foreigner practicing sport fishing from boat (one year), annual permit	50 USD
National, Resident or Foreigner practicing underwater fishing (one year), annual permit	50 USD
National or Resident practicing sport fishing from land or kayak (one year), annual permit	5,500 CRC
National or Resident practicing marine or continental sport fishing from land during tournament or similar fishing event (five days)	2,500 CRC
Licenses for vessels used for marine mammal watching	
Vessels up to 8 meters long	17,000 CRC
Vessels from 8.01 to 12.0 meters long	34,000 CRC
Vessels over 12.01 meters long	45,000 CRC
Identification card used for marine mammal watching	
Nationals or Residents	6,800 CRC
Foreigners	11,300 CRC
Crew	3,400 CRC



4.2. Bans

A series of bans have been established to regulate the activities associated with tourist and sport fishing. The restrictions refer to the use of bait, commercialization of the catch, use of certain fishing gear, number of pieces allowed on board, and specimen handling (Table 4).

4.2.1. Closed and protected areas

It is important that both tourists and the sport fishing fleet respect the zoning established in the marine and coastal areas of the country. In this section, we describe the areas where tourist and sport fishing are allowed, and the areas where there are restrictions to carry out the activity. Nevertheless, it is recommended to seek specific and more detailed information on each area of interest.

National parks, natural monuments, and biological reserves:

Fishing activities for commercial purposes and sport fishing are banned in **national parks, natural monuments, and biological reserves** (Section 9 of Law No. 8436, 2005).

Wildlife Refuges:

Sport or subsistence fishing in **Wildlife Refuges** is only allowed pursuant to the pertinent fishing bans decree, in terms of species allowed, authorized methods, and times (Section 31 of Executive Decree No. 32633, 2005). In addition, the activity will only be allowed when there are Management Plans, supported by technical and scientific studies that back them up, which will be prepared by the MINAE, considering INCOPESCA's technical criteria (Section 9 of Law No. 8436, 2005; Section 9 of Executive Decree No. 36782, 2011).

The list of the marine and coastal areas in Costa Rica where it is possible to practice tourist and sport fishing pursuant to the established regulations (Table 5 and Figure 1) is shown below. Checking the regulations of use or the zoning plan and their provisions is recommended before carrying out the activity in these areas. In the case of protected areas within the scope of competence of SINAC, prior booking and payment are required.

Table 4. Bans and other considerations related to tourist and sport fishing

Product commercialization	• Commercialization of the catch from tourist fishing is prohibited, except for small-scale tourist fishing as long as they are not species of tourist or sport interest (sailfish, marlins, tarpon, and roosterfish). • Commercialization of the catch from sport fishing is prohibited. Five specimens can be unloaded per trip for self-consumption or taxidermy. • Simulation of scientific or sport fishing, unloading without permission, etc. in order to profit from the catch is prohibited. In this case, the pertinent permit will be cancelled.
Fishing gear	• The Fishing and Aquaculture Act Regulation (Executive Decree No. 36782, 2011) stipulates that tourist services in external or oceanic marine waters, continental or jurisdictional waters, and in the EEZ will be carried out with hand lines, rods and reels (Section 62 of Executive Decree No. 36782, 2011).
Bait	• As to the use of bait for sport fishing of large pelagic fish, only the following are authorized: use of live or dead natural bait, circle hooks with monofilament gangion, as well as trawling and catch and release, which consists in releasing the fish specimens that are alive after being captured as fast as possible and with the least possible damage (Sections 67 and 68 of Executive Decree No. 36782, 2011). • It is also stated that circle hooks will not be mandatory or required when sport fishing is carried out using fly fishing or trawling with artificial bait, as long as no live or dead natural bait is used in connection with such lures. • Use of commercially important species as bait (Section 12 of AJDIP 280, 2014).
Number of pieces per vessel	• Only five specimens are allowed to be unloaded in each fishing trip for self-consumption or taxidermy purposes (Section 68 of Executive Decree No. 36782, 2011).
Photography	• It is prohibited to place billfish specimens (marlin, sailfish, or swordfish) on board for photography purposes, as well as the use of boat hooks to bring the captured billfish specimens close to the boat (Section 7 of AJDIP 280, 2014). This does not apply in the case of catch that should be registered for world records or in sport and tourist fishing tournaments endorsed by INCOPESCA.
Code of conduct to protect girls, boys, and adolescents from commercial sexual exploitation associated with travel and tourism in Costa Rica	• Pursuant to Section 49 of the Childhood and Adolescence Code (Law No. 7739, 1998), which stipulates that civil servants are obliged to report any suspicion of abuse (intrafamily violence, extra family sexual abuse, commercial sexual exploitation of minors) and Section 281, Subsection a of the Criminal Code of Procedure (Law No. 7594, 1996), and as per Section 135 of the Childhood and Adolescence Code (Law No. 7739, 1998) and Sections 16 and 18 of the Criminal Code of Procedure, the report will be filed with the Prosecutor's Office (Law No. 7594, 1996) **(Annex 1)**.
Sport fishing (foreigners)	• It is recommended to follow the steps in the procedure provided by the Integrated System for Processing and Attention to Enviromental Complaints (SITADA, by its acronym in Spanish) **(Annex 2).**

Table 5. Zones or areas and the possibility of carrying out tourist and sport fishing activities. All acronyms are in Spanish (AMPR: Marine Areas for Responsible Fishing; AMM: Marine Management Areas; H: Wetlands; RNA: Absolute Natural Reserves; RB: Biological Reserves; RNVS: National Wildlife Refuge; PN: National Park)

Area	Sport-tourist fishing is allowed			
	Yes	No	Zoned	Unspecified
AMPR San Juanillo			X	
AMPR Paquera-Tambor			X	
AMPR Isla Caballo				X
AMPR Isla Venado				X
AMPR Palito-Montero				X
AMPR Níspero				X
AMPR Costa Pájaros				X
AMPR Tárcoles	X			
AMPR Dominicalito			X	
AMPR Golfo Dulce			X	
AMPR Papagayo	X			
AMPR Zone 201			X	
AMM Bahía Santa Elena			X	
AMM Cabo Blanco	X			
AMM Montes Submarinos			X	
H Estero de Puntarenas and Associated Mangroves			X	
H Marino Playa Blanca		N/A		
H Nacional Térraba-Sierpe			X	
H Lacustrino Pejeperrito			X	
RNA Cabo Blanco		X		
RB Guayabos and Negritos		X		
RB Isla Pájaros		X		
RB Isla del Caño		X		
RNVS Ostional			X	
RNVS Isla Chora			X	
RNVS Camaronal			X	
RNVS Caletas-Arío			X	
RNVS Cipancí			X	
RNVS Pejeperro			X	
RNVS Río Oro		X		
RNVS Playa Hermosa-Punta Mala			X	
RNVS La Ensenada		X		
PN Santa Rosa		X		
PN Marino Las Baulas de Guanacaste		X		
PN Isla San Lucas		X		
PN Manuel Antonio		X		
PN Marino Ballena		X		
PN Corcovado		X		
PN Piedras Blancas		X		
PN Isla del Coco		X		

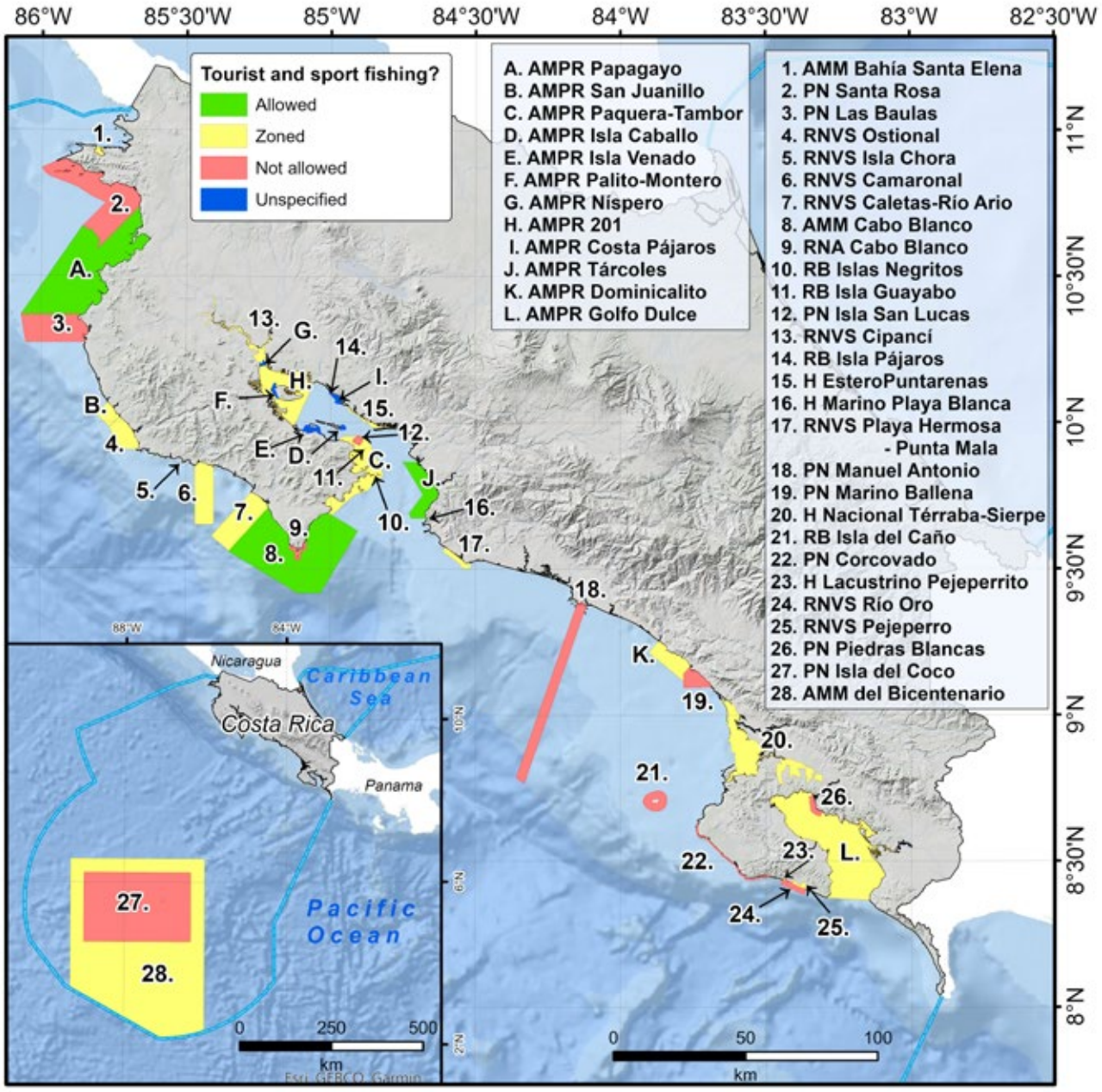


Figure 1. Zones or areas and the possibility of carrying out tourist or sport fishing activities (Source: prepared by the authors)

Recommendations for voluntary application in tourist and sport fishing

05

When carrying out tourist and sport fishing activities, there are important factors that may affect the survival of the fish (for example, the connection to the hook, the type of hook, how the animal is handled in and out of the water, air exposure, etc.), as well as the safety of the people on board (for example, a fish moving out of control in the vessel, depending on its size, may cause bumps and other injuries).

In this section, we suggest certain practices that have been proven to increase the probability of survival of the fish that are the target of tourist and sport fishing once they have been released. In spite of being voluntary recommendations, it is relevant to consider them in order to increase the probability of survival of the fish, which will certainly benefit the sector.

5.1. Hooks

The choice of hooks guarantees a safe capture to the fish and the fisher. Wounds from hooks are considered one of the main causes of death in different fish species of tourist and sport fishing interest. Depending on the type of hook used (J-type, circle, or triple, Figure 2), the fish can be hooked in different parts of the body (e.g., gills, fins, and eyes), which could cause unnecessary physical injuries. Triple hooks are widely used in many types of lures, as it is believed that they are more efficient for effective catch and release. However, they may end up not being the most recommendable, since there are more anchor points and they may unnecessarily injure the fish.

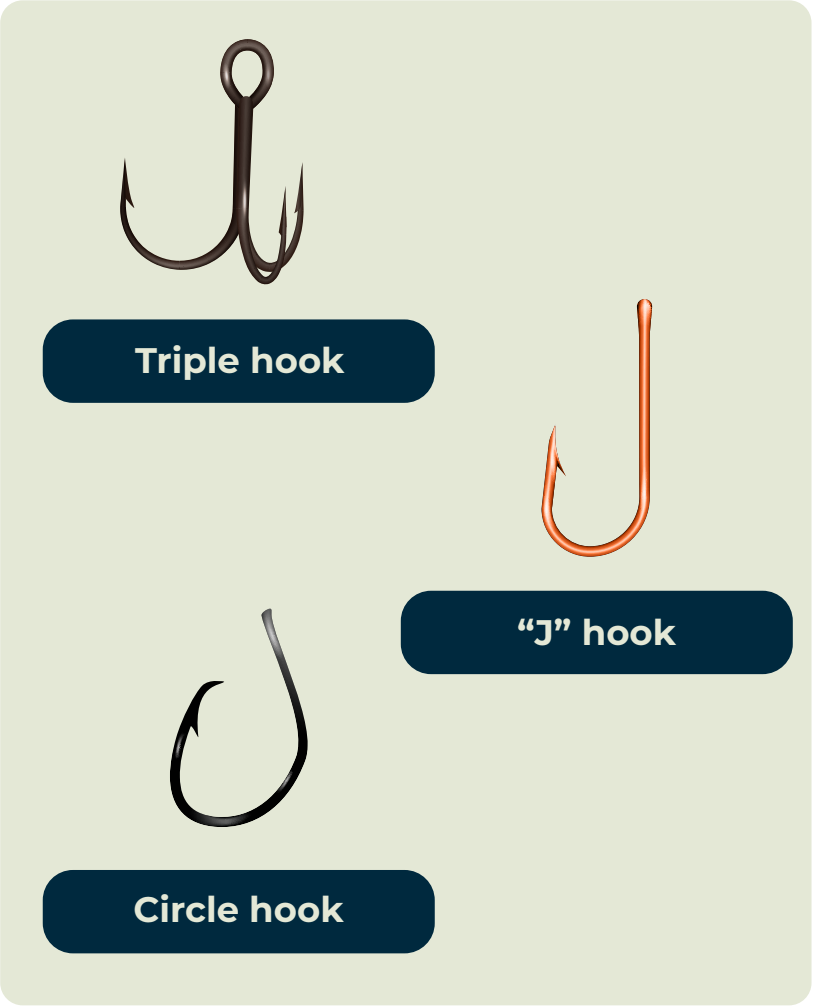


Figure 2. Types of hooks used in tourist and sport fishing. A. Triple, B. "J", C. Circular

In particular, the following elements can be considered (Marviva, 2010):

1. **It is recommended to use circle hooks with live or dead bait.** They have proved to be better when compared with traditional J hooks (Cooke and Suski, 2005), as they tend not to cause so many injuries. Besides, the possibility of hooking the fish from parts of the body other than the mouth decreases, and they largely prevent hooking internal parts when swallowed.

   INCOPESCA points out the mandatory use of circle hooks when fishing marlins, sailfish, and swordfish with live or dead bait (Section 1 of AJDIP 439, 2003).

2. **Barbless hooks are useful, as they facilitate release and are related to low mortality.** They reduce injuries and unhooking times. Therefore, they are mandatory in many catch and release fisheries (Brownscombe et al., 2016).

3. **Use stainless steel hooks and the right size of lures.** It is preferable to use stainless steel hooks as, if they cannot be removed from the fish body, they will cause less harm (MarViva, 2014).

   Artificial lures are manufactured bait, either hard or soft, to attract fish by means of movement, vibration, brightness, and color. They are used to fish different species. The decision to use a certain kind of lure will depend on each fisher and their experience.

   The size of the lure and hooks used may also affect fish survival. Some fishers think that large lures and hooks will catch large fish and are also more selective, whereas fishing with smaller lures and hooks will allow the fish to attack with more confidence and they will swallow them more easily, thus making them less selective.

5.2. The fight

There are some factors that are out of the fishers' control, such as the movement of the fish, their size and energy, but there are others that can be controlled better. Although the fight represents the fishers' favorite moment, the specific recommendation is to minimize the time it takes. The duration of the fight is directly related to higher post-capture stress levels, which affect the possibility of survival once the fish has been released (Brownscombe et al., 2016).

In this sense, it is important to consider the use of adequate fishing gear, with lines adjusted to the weight of the fish to be caught and released, as well as adequate rods and reels for the target species. When fishing recreationally and not in search of a record, it is recommendable to minimize the fighting time in order to increase the probability of survival (Cook and Suski, 2005).

Other relevant considerations include avoiding hitting the fish against the boat or, if fishing from the shore, against rocks or sand. Additionally, if fishing from a vessel, the boat can be used as a tool to reduce the fighting time (e.g., by maneuvering to shorten the distance between the angler and the fish) (Marviva, 2010).

It is also important to minimize the air exposure time. ***In Costa Rica, it is against the law to raise billfish (marlins, sailfish, and swordfish) on board or manipulate them out of the water*** (Section 7 of AJDIP 280, 2014).

In the case of other species that can be manipulated out of the water, it should be done quickly. It is important to consider the use of nets or "scoops" to keep the fish in the water, prepare to unhook it, measure it, and take photos, among other actions, if necessary.

5.3. Handling the fish

In the case where a species can be manipulated out of the water, there are certain considerations that help maximize their survival, such as avoiding the exposure of the fish to sun block that might cause infections, wearing non-abrasive gloves or directly your wet hands (Brownscombe et al., 2016).

Regarding specimen manipulation, a general recommendation is the use of tools such as grippers for soft-mouthed fish. This is recommended because many species have a protective mucosa that is often lost when touching the fish, and later the animal will be exposed to infections. Likewise, manipulating fish from their gills should be avoided, as this may cause injuries and promote infections. Many fish that are mishandled may suffer from injuries in their vertebrae or internal organs, since their structure is not prepared to remain out of the water (Brownscombe et al., 2016).

5.4. Dehooking the fish

The use of special pliers or dehookers is recommended to remove hooks quickly and safely, as it helps reduce potential wounds in the fish. It is important to value their use, particularly in the case of fish with teeth. If the fish swallows the hook, the line should be cut and the hook left inside, as survival results are better than when trying to remove the hook (Brownscombe et al., 2016).

5.5. The release

Not all anglers decide to release their catch. However, it is important to consider that when healthier individuals are released alive into the ecosystem, this helps maintain the tourist activity in the long term. As described above, there are species that must be released (Section 86 of Law No. 8436, 2005). When the decision is to release the fish, the following should be considered:

- In general, fish are disoriented after having been removed from their marine environment, so they must reorient with their body immersed in water before being released. Depending on the species, it is important to consider this readjustment time before releasing the fish, to prevent it from being a victim of predation.

- Generally speaking, it is important to have water pass through the animal's gills for some seconds before releasing it, ideally near the same place where it was caught, since certain species tolerate less the swell, temperatures, or other ocean conditions (Brownscombe et al., 2016).

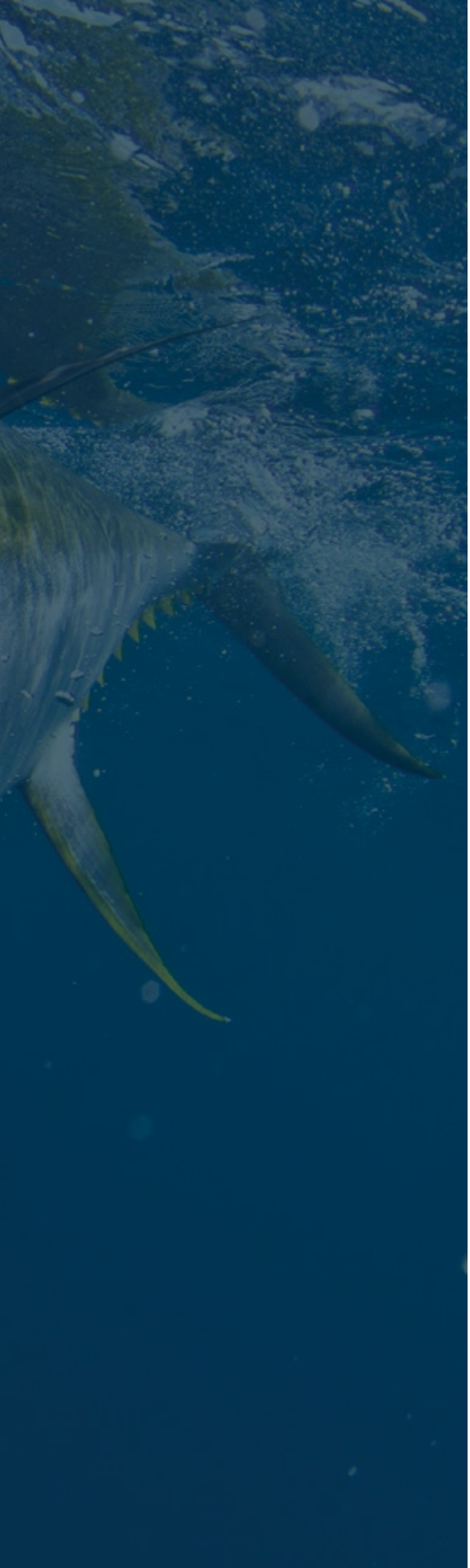
Currently, some of the best practices mentioned are being implemented in the sector and, in general, common practices remain within the parameters established in the current regulations in Costa Rica. In addition, over 90% of the people claim that they use best fishing practices such as catch-and-release of species of interest, use of circle hooks, and they help the fish to recover in the water (Cascante and Marín, 2019) (Table 6). It is important to reinforce these positive practices in the captains and sailors' sector.

Table 6. Practices that people mention they carry out in their daily operations on tourist-sport fishing vessels (Source: prepared by the authors with data from Cascante and Marín, 2019)

Fishing practice	Yes (%)	No (%)	No answer (%)
Catch and release of species of interest	95.4	1.6	3.0
Use of circle hooks	92.4	3.3	4.3
Help the fish recover in the water	95.4	0.7	3.9
Raise sailfish on board	10.9	85.9	3.3
Keep over 5 pieces per trip	27.6	67.4	4.9
Use J hook with live bait	8.2	86.8	4.9

Tourist - sport fishing and science

06



Tourist and sport fisheries are an opportunity to generate technical and scientific knowledge, which is vital to manage resources adequately and attain sustainability. Collaborative efforts between non-governmental organizations, governments, and civil organizations collaborating in the collection and management of this information are essential.

There are information and research gaps that tourist and sport fishing must solve, including monitoring catches and releases, measuring the social and economic share of the activity, contributing to the enhancement of the target species populations, reducing impact, and promoting best fishing practices (Hyder et al., 2020). Moreover, characterizing users, learning about their interests, values, and behaviors is necessary to understand the activity better (Brownscombe et al., 2019).

In the case of Costa Rica, the characterization and research of tourist and sport fishing in terms of its social and economic value is a topic that has been addressed recently.

There is lack of information related to captures (species, areas, sizes, type of tackle); therefore, it is important to promote participative monitoring, where the boat crews collect information that can be used to manage the fisheries, and thus contribute to improving the activity. The consistent collection of data on fishing trips is very relevant; therefore, the use of a log book is suggested to record data **(Annex 3)**.

Domestic and international efforts have been made to collect information; among them is the initiative led by *Grayfishtag Research,* which manages a program to tag different species (See https://grayfishtagresearch.org/research-centers/)

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Glossary

Back: The reverse of a body, especially between the neck and the end of the spine.

Bars: Long strip going from side to side of the surface where it appears, from which it is distinguished by the contrast in color.

Belly: External part of the body corresponding to the abdomen.

Bony fish: Those whose internal skeleton is made up of calcified bones.

Carnivore: Organism having a main or exclusive meat diet.

Circle hook: One whose barbed point is curved perpendicularly towards the shank.

Crest: Protuberance with reduced extension or height.

Crustacean: Invertebrate organism covered with a hard shell (e.g., lobsters, shrimp, and crabs).

Exclusive Economic Zone: Area of the sea where a sovereign State has special rights related to the exploration and use of marine resources, including the production of energy from water and wind.

Finlets: Small fins, usually behind the dorsal and annal fins.

Fishing: Act of extracting, capturing, and collecting aquatic fishing resources, at any stage of their development, in their natural environment, either continental or marine, as well as the previous or subsequent actions related to it.

Fly fishing: Fishing modality that uses a rod and an artificial lure called a fly.

Fork length: Distance between the front of the head and the tail fork.

Forked: Hairpin-shaped.

Gangion: Small, very strong rope, made of hemp and consisting of two twisted branches.

Gill net: Fishing tackle consisting in a nylon net where the organisms get trapped.

Gross Domestic Product: It is the standard measure of added value created by producing goods and services in a country during a certain period. This indicator also measures the revenues obtained from such production, or the total amount spent on goods and services (less imports).

Hairpin-shaped: Caudal fins with a rear outline shaped like a crescent.

Hand line: Fishing gear consisting in a line with a hook and bait at one end.

Incidental: Unintentional catch of fish or marine species.

J hook: One whose barbed point runs parallel to the shank.

Lateral line: Sensory organ of fish used to detect movement and vibration in the surrounding water. They are commonly visible as faint lines going from behind the operculum to the tail base.

Longline: Fishing tackle consisting in a main fishing line with secondary lines with hooks at their ends.

Marina: Functional unit comprising a group of maritime and land facilities destined to protect, shelter and provide all types of services to recreational, tourist, and sport vessels flying any flag and regardless of their size, as well as to their visitors and users, either nationals or foreigners. The building, the facilities, and the services located in private property, destined by their owners to provide services of interest or use to vessels, their users, or visitors will be considered part of the marina.

Nape: Place where the spine joins the head.

Oblong: Object or body that is longer than it is wide.

Pelagic: Organism that lives far from the coast and near the surface, between 0 and 200 meters deep.

Pier: Functional unit comprising a group of facilities such as fixed or floating docks, ramps, and other necessary facilities to allow tourist, recreational, and sport vessels to dock or cast off for the tourists' enjoyment and safety. The building, the facilities, and the services located in private property, destined by their owners to provide services of interest or use to vessels, their users, or visitors, will be considered part of the tourist pier.

Purse seine: Fishing gear that captures fish by surrounding them from the sides and from below, preventing them from going deeper and escaping.

Subsistence fishing: Fishing activity in which the fish caught are consumed directly by the families instead of being sold by intermediaries in the largest neighboring market.

Total length: Distance between the front of the head and the most distant end of the tail.

Trawling: Fishing gear consisting in trolling simple lines with natural or artificial bait from a boat.

Triple hook: One with three wrought legs manufactured together with a single ring or eye.

Annexes

Annex 1. Indicators of child exploitation that can be detected in accommodation companies

The adult (suspect)

- Pays for the room every day it is USED.
- Is seen with many boys, girls, or adolescents.
- Requests the entry of other adults to the room.
- Requests isolated rooms, with more privacy or near an exit.
- Never leaves the minor alone.
- Controls all the money and the IDs.
- Insists that it is not necessary to clean the room.
- Threatens or physically abuses the minor.

The child (victim)

- Is dressed inappropriately for their age or the weather.
- Is afraid of the authorities or avoids eye contact.
- Cannot speak freely.
- Appears to be drugged, disoriented, confused, sleepless, or shows signs of abuse.
- Has no identity card, passport, or travel document.
- Brings very little luggage, if any.
- Wears the same clothes.
- Looks undernourished, injured, or needs medical attention.

In case of detecting a suspicious situation, the procedure to be followed is the following:

- **Request** ID and write down the data.
- **Record** the characteristics and license plate of the transport used.
- **Obtain** more information from the client and their relation to the minor.
- If the suspicion continues, **do not offer any services** to the client.
- **Report** the situation on 911 or 800-8000-645 (Judicial Investigation Department, OIJ).
- A competent **authority** must appear (police) and address the situation, offering protection to the minor.
- **Complete, email** or personally **take** the proof of police report to the Prosecutor's Office, the OIJ, and the National Children's Welfare Agency (PANI) (See page 16).
- **Appear** at the Police local office and sign the police report.

Annex 2. How does the SITADA (Integrated System for Processing and Attention to Enviromental Complaints) work?

In Costa Rica, there is an official Integrated System for Processing and Attention to Enviromental Complaints (SITADA). This system allows citizens to file reports for environmental damage in any area of the country, making it easier to record information, and expediting the process of data control, service and analysis.

Reporting process:

1. Visit the web page: http://www.sitada.go.cr/denunciaspublico/
2. File the report through the *"ingrese su denuncia"* ("enter your report") module.
3. Select the type of report. In the marine case, the options can be: Maritime Fishing or Continental Fishing.
4. Select the type of offence. Some options are: Use of illegal or unauthorized tackle, Fishing protected species, Spilling pollutants into the sea, Fishing in banned areas, Unlicensed fishing, etc.
5. To report on marine environments, it is advisable to have the geographical coordinates of the place of the event at hand, as the system only has the location by district.
6. The system allows attaching files as evidence and there is an option to select having one's personal details treated as confidential.
7. Once the report has been filed, the system will automatically assign an identification number, with which one can inquire about the status of the report.
8. After being assessed, the environmental report is sent to the competent department to investigate the events reported and deal with the matter.
9. The results of the investigation and the subsequent proceedings will be automatically notified to the person who filed the report, as long as they have provided their email address.

Environmental Controller's contact details:
+506 2257 1839 ext 212 / +506 2233 0356 ext 212
contraloriaambiental@minae.go.cr
Northern side of Liceo de Costa Rica, suite 923, Plaza Víquez, Costa Rica

Annex 3. Sample form to collect data on captures associated with tourist and sport fishing trips

Vessel:	
Fishing area:	

Date	Captain	Departure time	Arrival time	Location	Marlin		Sailfish		Tuna	Mahi-Mahi	Wahoo	Rooster fish	Dog Snapper	Yellowtail	Tarpon	Other	Comments
				Offshore / Coastal / mixed	Caught	Released	Caught	Released									

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