

Single Species Action Plan for the Angelshark in the Mediterranean Sea & CMS Decision 14.104

Annex IV

Tools and Guidelines to Support Implementation



Annex IV

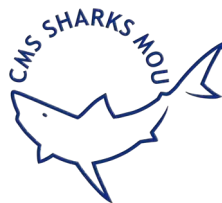
Notes to reader:

This document represents the materials which contribute to the Annex IV archive. The archive is intended to be a living document, to be updated as new products develop. This will be hosted on the Angel Shark Conservation Network (ASCN) website.

Not all of the products displayed in this document have been produced for Mediterranean. Despite this, these additional products represent examples of positive resources which could be adapted to further support the delivery of the Mediterranean SSAP.

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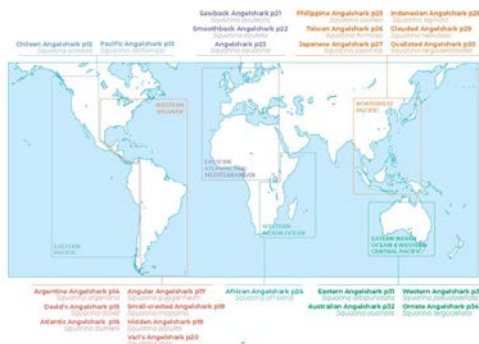
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Section 1: Identification



Global ID Guide





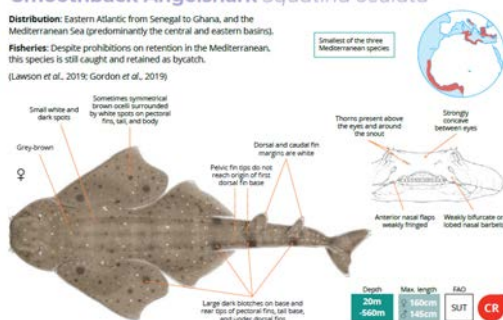
EASTERN ATLANTIC AND MEDITERRANEAN

Smoothback Angelshark *Squatina oculata*

Distribution: Eastern Atlantic from Senegal to Ghana, and the Mediterranean Sea (predominantly the central and eastern basins).

Fisheries: Despite prohibitions on retention in the Mediterranean, this species is still caught and retained as bycatch.

(Lawson et al., 2019; Gordon et al., 2019)



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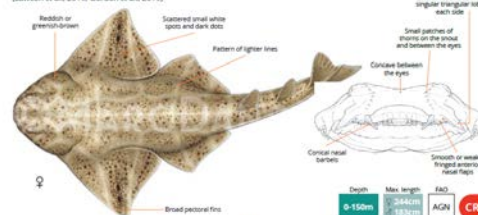
EASTERN ATLANTIC AND MEDITERRANEAN

Angelshark *Squatina squatina*

Distribution: Northeast Atlantic (Celtic Seas ecoregion), Canary Islands and Mediterranean Sea.

Fisheries: Intensification of demersal fishing practices over the past century led to widespread declines and fragmented populations - this species now receives full protection in the UK and Canary Islands. Prohibitions on retention are in place in the Mediterranean, however it is still widely caught and retained as bycatch.

(Lawson et al., 2019; Gordon et al., 2019)



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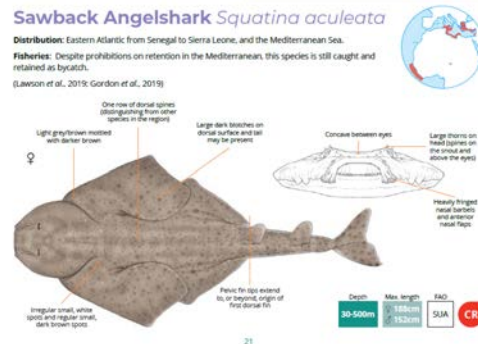
EASTERN ATLANTIC AND MEDITERRANEAN

Sawback Angelshark *Squatina aculeata*

Distribution: Eastern Atlantic from Senegal to Sierra Leone, and the Mediterranean Sea.

Fisheries: Despite prohibitions on retention in the Mediterranean, this species is still caught and retained as bycatch.

(Lawson et al., 2019; Gordon et al., 2019)

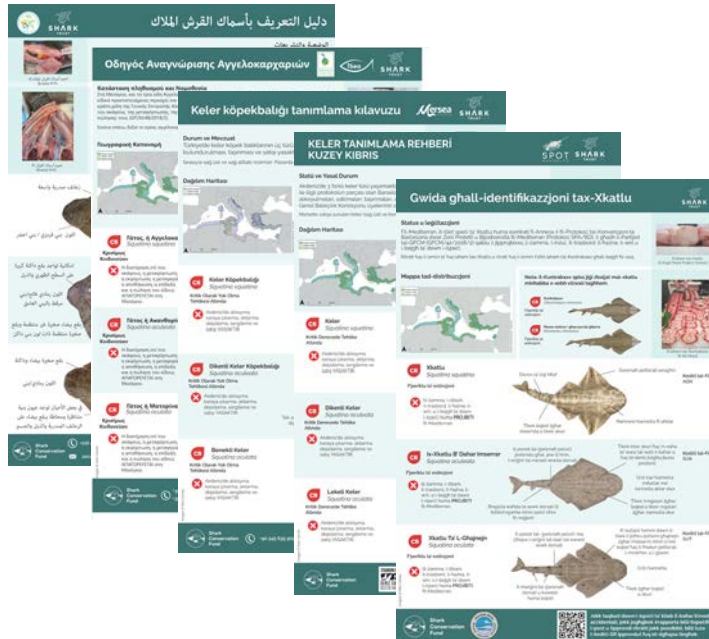


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Mediterranean ID Materials

ARABIC | GREEK | TURKISH (Türkiye) | TURKISH (Cyprus) | MALTESE



Section 2: Management

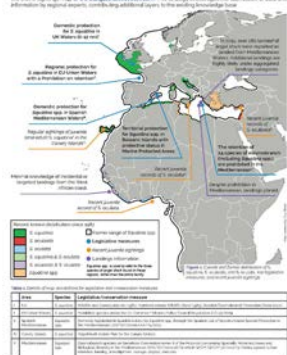


Eastern Atlantic and Mediterranean Angel Shark Conservation Strategy

ENGLISH | FRENCH | SPANISH

Distribution and Management Measures

The distribution of these three angel shark species overlaps in the Atlantic and there is a great deal of uncertainty regarding contemporary range. Given the lack of scientific data on current distribution, measures in place should be based on the best available information. The distribution of these species is shown in the map below. The map is based on the best available information. The map is based on the best available information. The map is based on the best available information.



Vision, Goals and Objectives

Three priority goals are key to achieving the vision that Angel sharks in the Eastern Atlantic and Mediterranean are restored to robust populations and widespread throughout their range. The associated headline objectives identify broad themes under which subsequent actions can be proposed. Table 2. Actions undertaken to help achieve these goals are objectives will be used according to their geographic region and other measures to help achieve them.

Angel sharks in the Eastern Atlantic and Mediterranean are restored to robust populations and widespread throughout their range	Angel sharks in the Eastern Atlantic and Mediterranean are restored to robust populations and widespread throughout their range	Angel sharks in the Eastern Atlantic and Mediterranean are restored to robust populations and widespread throughout their range
GOAL 1 Fisheries based angel shark mortality is minimized	GOAL 2 Critical Angel Shark Areas are identified, designated and protected where appropriate	GOAL 3 Human Interference are identified and key regulatory frameworks are adopted where appropriate
OBJECTIVE 1 Identify and implement measures to minimize mortality of angel sharks in fisheries	OBJECTIVE 2 Identify and implement measures to minimize mortality of angel sharks in fisheries	OBJECTIVE 3 Identify and implement measures to minimize mortality of angel sharks in fisheries
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Eastern Atlantic and Mediterranean Angel Shark Conservation Strategy

Angelshark
Squatina squatina

Sawback Angelshark
Squatina aculeata

Smoothback Angelshark
Squatina oculata

Species background

Angel sharks' rank as the second most threatened family of eelmonobranch sharks, skates and rays after sawfishes. Characteristics linking the two families include their body shape and preferred habitat, as both are large, flat-bodied coastal species.

The family Squatinidae contains at least 23 species, half of which are listed as threatened Critically Endangered, Endangered or Vulnerable on the IUCN Red List of Threatened Species¹⁰. Most of the remaining species are either Data Deficient or Not Evaluated. The slow growth and demersal nature of angel sharks leaves them especially vulnerable to inshore fishing activities. Consequently, many species in this family have suffered steep population declines and now face a significant risk of extinction.

Once found throughout the temperate waters of the Northeast Atlantic, Mediterranean and Black Seas, angel sharks have now been depleted from much of their former range. Of the three species that occur in these regions – the Angelshark¹¹ *Squatina squatina*, Sawback Angelshark *Squatina aculeata* and Smoothback Angelshark *Squatina oculata* – most information is known regarding the distribution, ecology and declines of *Squatina squatina*. All three species are Critically Endangered.

About this Strategy

This Angel Shark Conservation Strategy provides a framework for improved protection of the three critically Endangered species present in the Eastern Atlantic and Mediterranean. The Strategy aims to improve the overall profile of angel sharks, increase the number of sightings reported, generate a better understanding of current distribution, contribute to IUCN Red List re-assessments and identify new collaboration opportunities to increase conservation action.

Some of the key threats to these species are outlined within this Strategy. Three priority goals and associated headline objectives have been identified as crucial to achieving the vision that **Angel sharks in the Eastern Atlantic and Mediterranean are restored to robust populations and safeguarded throughout their range**.

The recommended next steps outlined in this document act as guidelines for targeted conservation actions. Researchers and advocates in all regions are invited to contribute additional information to support this Strategy and help develop specific actions to safeguard these Critically Endangered species.

Angel shark (as two words) refers to multiple species in the family Squatinidae, while Angelshark (as one word) is used for species common names.



Mediterranean Angel Sharks: Regional Action Plan

ENGLISH | FRENCH | SPANISH | ARABIC

6. SubRegional Action Plans

6.1 MEDITERRANEAN SUBREGION

This RRP acknowledges the challenge associated with defining actions across numerous coastal states and territories. These are the 19th subregions, which are further divided into 201-19 subregions (subregions 1-19) across the Mediterranean and Black Sea (Figure 2). Subregion 19 is grey and empty to represent the eastern and southern end of the map, coastal Italy, or a portion thereof (a country like Italy).



Figure 2: List of all subregions and territories across the Mediterranean and Black Sea. The list of subregions and territories is provided in the table below.

6.2 SUBREGION STRUCTURE

Given the the effective delivery of the RRP within the recognition of these characteristics of the subregions, along the existing actions and the identification of the local partners, the table below presents the subregions. These subregions will be developed for areas considered high priority for angel sharks. These subregions may cover one or more UNFCCC.

- Following a regional template, a guideline can be used to:
1. Identify and connect key individuals and organizations across subregions.
 2. Develop the roles of angel sharks in the area.
 3. Develop existing conservation measures.
 4. Consider threats and concerns.
 5. Develop local and regional.
 6. Develop local.

Actions aimed at gathering relevant data or further evidence are crucial, analysis at the subregional scale is gathering information and cooperation among stakeholders is essential in order to develop a holistic approach, setting priorities must be shared, appropriate monitoring and measuring schemes established or improved.

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7 Mediterranean Regional Action Plan

7.1 VISION

Mediterranean angel sharks are restored to robust populations, fulfilling their ecological roles in healthy ecosystems.

7.2 ISSUES

With the predominant threats to angel sharks in the Mediterranean being centered around fisheries and habitat degradation, the primary goal of the Regional Action Plan is to restore or enhance stocks and to support sustainable fisheries and habitat management. In addition, an underlying goal focusing on the implementation of fisheries and habitat management is to enhance the resilience of the ecosystem and the resilience of the ecosystem. Actions that will be undertaken to help achieve these goals and objectives seek to address or mitigate relevant concerns and will vary according to geographic region.

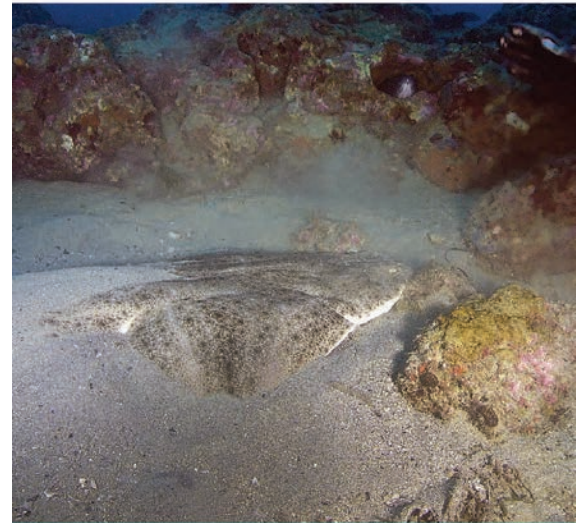
Ensuring a healthy ecosystem is beyond the scope of the conservation work outlined here. Better protection of coastal angel sharks areas (fishery, habitat, tourism) through the water domain complex, this also requires that as well as the management of angel sharks, the other conservation values, including cultural, social, economic, scientific, historic, and recreational values, be taken into account in conservation and education.

While many of the actions outlined here can be applied across the Mediterranean, specific including fisheries and habitat management will be developed for subregions. In addition, addressing existing governance documents will be considered into appropriate language (where needed) as part of the subregion's.

VISION Mediterranean angel sharks are restored to robust populations fulfilling their ecological roles in healthy ecosystems.	
GOAL 1	GOAL 2
Fisheries based angel shark mortality is minimized in the Mediterranean	Angel shark habitat is identified and protected
UNDERLYING GOAL 3	
National legislation for angel sharks is established, implemented and enforced	

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Mediterranean Angel Sharks: Regional Action Plan





SubRegional Action Plans for the Mediterranean

SubRegional Action Plan for Aegean Sea & Crete:

ENGLISH | GREEK | TURKISH

SubRegional Action Plan for Northern Cyprus:

ENGLISH | TURKISH

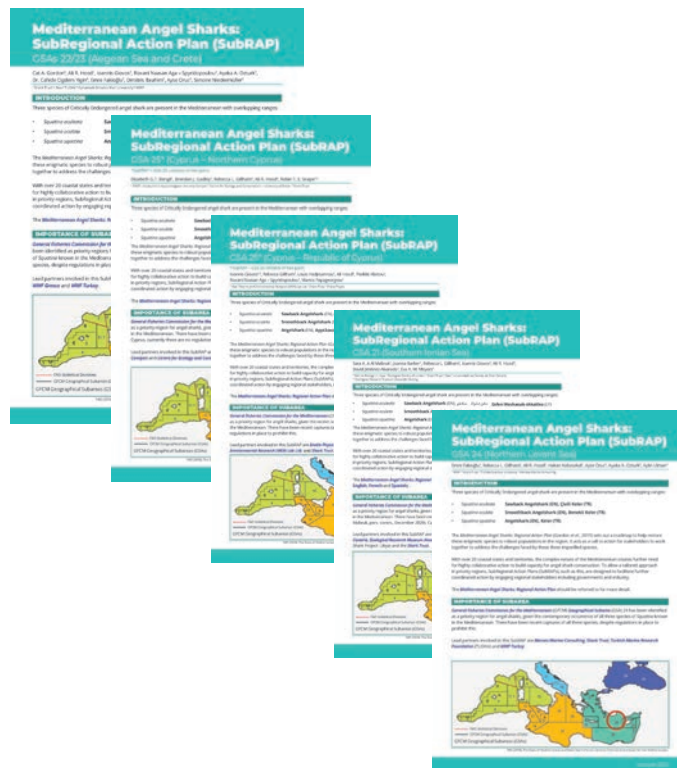
SubRegional Action Plan for Republic of Cyprus:

ENGLISH | CYPRIOT GREEK

SubRegional Action Plan for Southern Ionian Sea:

ENGLISH | ARABIC

SubRegional Action Plan for Northern Levant Sea: ENGLISH | TURKISH



Flat Shark Showcase

The [Flat Shark Showcase](#) presents the breadth of work being delivered across the Mediterranean by a diversity of partners and organisations, collaborating across multiple countries.

Flat sharks: sawfish, giant guitarfishes, guitarfish, angel sharks and rays, rank as the most threatened families of elasmobranchs on the IUCN Red List. Flat sharks represent over 50% of the elasmobranchs listed on Annex II of the Barcelona Convention & GFCM/42/2018/2. Yet conservation action in the Mediterranean is still urgently required for: three species of Critically Endangered angel shark; the Blackchin Guitarfish; Common Guitarfish, and a host of rays – from the sizeable Endangered Giant Devil Rays to Butterfly Rays, and the endemic skates.

This online content will signpost delegates to opportunities, resources, and willing project partners. Facilitating efforts for countries to honour existing conservation commitments, and establish - and implement - domestic and regional regulations to better protect highly threatened flat sharks across the region and beyond.



Section 3: Safe Release and Code of Conduct



Shark Trust Angel Shark Safe Release Animation



*Translation into French, Spanish, Italian, Greek, Turkish and Arabic underway



Angel Shark Project: Wales Best Practice Leaflet

ENGLISH | WELSH

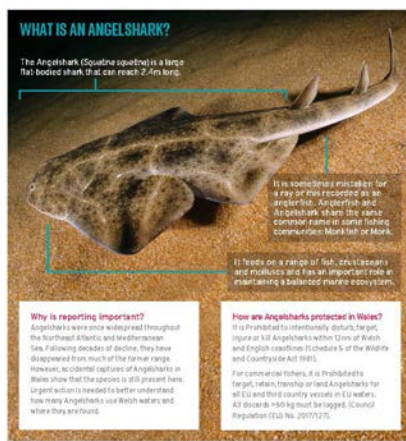
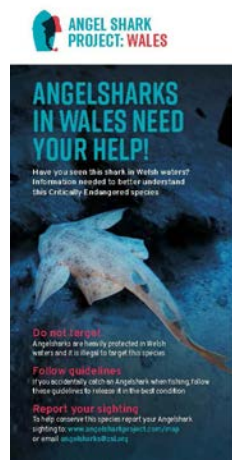


Photo copyright: Michael Beatty

BEST-PRACTICE GUIDE TO SAFELY RELEASE ANGELSHARKS IF ACCIDENTALLY CAUGHT

Angel sharks should not be targeted, but this guidance has been developed with fishers to reduce mortality if they are accidentally caught.





Angel Shark Project: Canaries

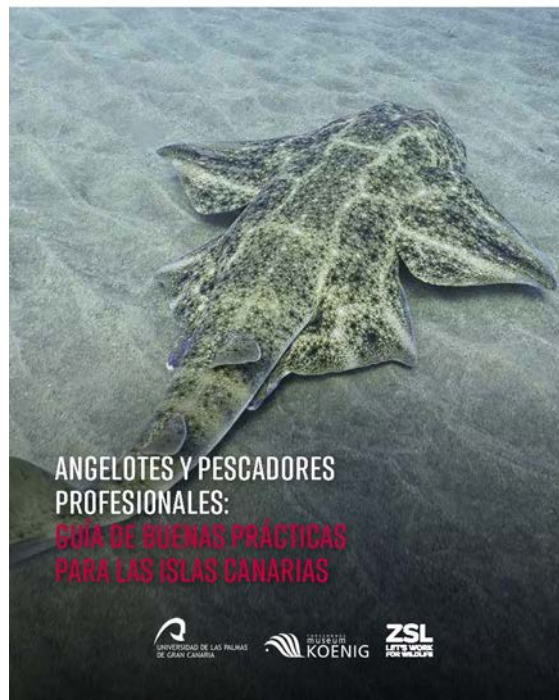
Best Practice for Commercial Fishers

SPANISH

GUÍA DE BUENAS PRÁCTICAS PARA LIBERAR UN ANGELOTE CORRECTAMENTE EN CASO DE SU CAPTURA ACCIDENTAL

El angelote no debe ser un objetivo de captura, sin embargo esta guía ha sido elaborada con el asesoramiento de pescadores para reducir la mortalidad en el caso de que sean capturados accidentalmente.

- 1. Desenganche y desenmalle**
La maniobra de desenganche deberá ser llevada a cabo siempre que se pueda en un costado o en la popa de la embarcación.
Si tiene que cortar el nylon, hágalo lo más cerca posible del anzuelo.
Desenmalle el angelote lo antes posible, sin golpear al animal e intentando que no sufra lesiones en las aletas.
El agua sostiene los órganos internos.
- 2. Liberación**
Libere al tiburón tan pronto como sea posible después de desengancharlo. Ubicándolo lentamente en el agua donde el agua fluya a través de sus branquias.
Esto ayudará a oxigenar las branquias para que el tiburón se active y nade hacia el fondo.
- 3. Reportar**
Registra tu captura accidental en www.angelsarkproject.com/map o enviando toda la información posible (coordenadas, tamaño, profundidad de captura, foto) a nuestro teléfono de contacto vía Whatsapp, SMS o Telegram (+34 633 899 022).
Usaremos esta información para conocer mejor la biología de este tiburón.

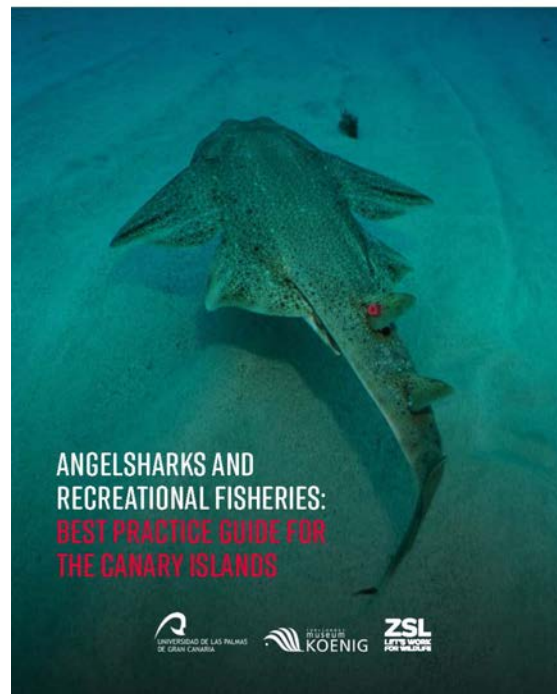
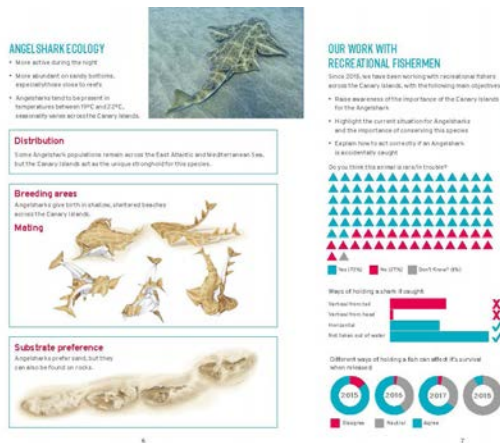




Angel Shark Project: Canaries

Best Practice for Recreational Fishers

ENGLISH | SPANISH





Angel Shark Project: Wales

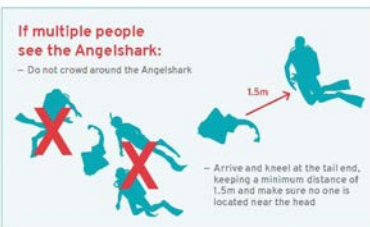
Code of Conduct for Scuba and Snorkel

ENGLISH | WELSH



ANGEL SHARK PROJECT: WALES

ANGEL SHARK CODE OF CONDUCT FOR SCUBA AND SNORKEL





SSAP for the Angelshark in the Mediterranean Sea | Annex IV | April 2025

Section 4: Sightings and Reporting



Angel Shark Sightings Map



Please note: low resolution image due to live website



QR Code Reporting Stickers

ARABIC | FRENCH | GREEK (Enalia Physis) | GREEK (iSea)
| TURKISH (Mersea) | TURKISH (SPOT)



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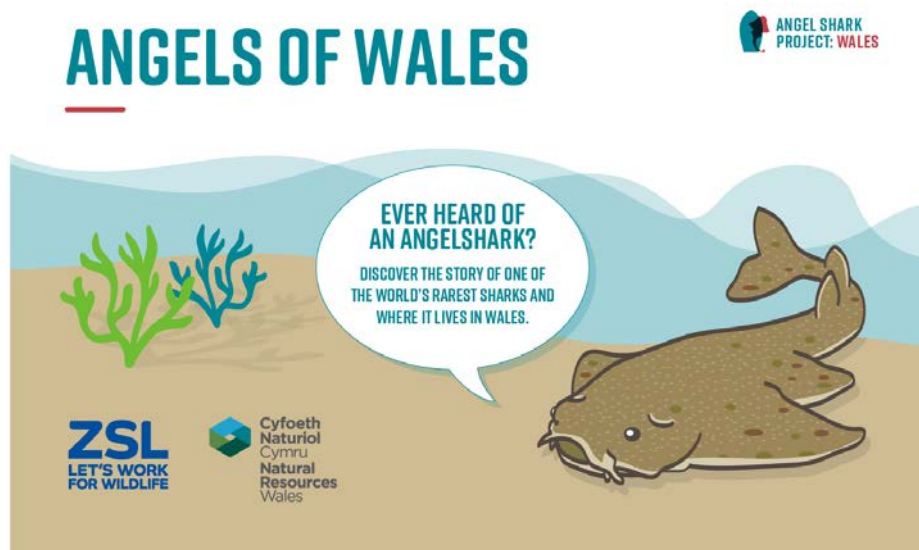
www.isea.com.gr



Section 5: Miscellaneous



Angels of Wales eBook





Guidance Document for Juvenile Angelshark Habitat

ENGLISH | SPANISH

KEY FACTS

STUDY SPECIES: ANGELSHARK (*SQUATINA SQUATINA*)

The Canary Islands are home to the largest population of juvenile angelsharks in the world. This is due to the high number of sharks that are born in the area and the fact that they stay in the area for a long time. This makes the Canary Islands an important area for the study of angelsharks and for the development of conservation measures.

Angelsharks are a species of shark that are found in the Canary Islands. They are a species of shark that are found in the Canary Islands. They are a species of shark that are found in the Canary Islands.

INTRODUCTION TO ANGELSHARKS

Angelsharks (*Squatina squatina*) are bottom-dwelling sharks that use their broad pectoral fins to bury themselves in soft sediments from where they ambush unsuspecting fish. Angelsharks were once widespread throughout the Eastern Atlantic and Mediterranean Sea but populations have declined by over 95% in the last 50 years.

They are particularly susceptible to human activities and habitat loss due to their limited movement and feeding range and the fact that they are often found in shallow waters. The Canary Islands are home to the largest population of angelsharks in the world and it is important to protect this population and the habitats that they rely on.

Angelsharks are a species of shark that are found in the Canary Islands. They are a species of shark that are found in the Canary Islands. They are a species of shark that are found in the Canary Islands.

Why survey at night?

All our juvenile angelshark surveys were carried out at night. This is because angelsharks are nocturnal and they are more active at night. This makes it easier to observe them and to collect samples for study.

ANGEL SHARK PROJECT: CANARY ISLANDS

GUIDANCE DOCUMENT: IDENTIFICATION AND PROTECTION OF JUVENILE ANGELSHARK (*SQUATINA SQUATINA*) HABITAT IN THE CANARY ISLANDS



7-25 PUPS

Angelsharks are oviparous and give birth to live pups. They are a species of shark that are found in the Canary Islands.

BIANNUAL

Like all great white biannually.

80-132 CM

Most angelsharks mature at 80-132 cm.

126-169 CM

Female angelsharks mature at 126-169 cm.

20-25 CM

Angelsharks are born at around 20-25 cm.

ZSL
ZOOLOGICAL SOCIETY OF LONDON

BRUNNEN KÖNIG

GOBIERNO DE LAS ISLAS DE CANARIAS

Annex IV Materials corresponding to the objectives of the SSAP

Objective 1 – Ensure appropriate species-level protection for Angelshark *Squatina squatina*

Action	Supporting Annex IV Materials
1.1 Prohibition in fisheries regulations	Flat Shark Showcase
1.2 Species-protection	
1.3 Awareness programmes	Shark Trust Global ID Guide Shark Trust Mediterranean ID Guides Shark Trust Safe Release Animation ASP Canaries Commercial Best Practice Materials ASP Canaries Recreational Best Practice Materials Wales Best Practice Leaflet
1.4 Monitoring and enforcement	QR Code Reporting Stickers

Objective 2 – Identification of sites and habitats of Angelshark *Squatina squatina*

Action	Supporting Annex IV Materials
2.1 Data collation	Angel Shark Sightings Map Guidance document: Identification and Protection of Juvenile Angelshark (<i>Squatina squatina</i>) habitat in the Canary Islands
2.2 Habitat modelling	
2.3 Environmental DNA (eDNA) sampling	
2.4 Non-destructive site sampling	
2.5 Role of current MPA network	

Objective 3 – Support and undertake scientific studies, including data collection and liaison with the fishing sectors, to improve scientific knowledge of Angelsharks *Squatina squatina*, including population trends.

Action	Supporting Annex IV Materials
3.1 Scientific monitoring	
3.2 Commercial fishery-dependent catch-per-unit-effort data	
3.3 Recreational fishery	Angel Shark Sightings Map Shark Trust QR Code Reporting Stickers
3.4 Citizen science	ASP Canaries Code of Conduct (Divers) ASP Wales Code of Conduct
3.5 Fishery-independent survey trends	
3.6 Quantification and characterization of discarded Angelshark survival and options for minimising discard mortality	
3.7 Tagging	Guidance document: Identification and Protection of Juvenile Angelshark (<i>Squatina squatina</i>) habitat in the Canary Islands
3.8 Population structure and connectivity	
3.9 Life-history studies	
3.10 Longer-term, historical population dynamics	

Objective 4 – Sufficient resources secured for long-term Angelshark *Squatina squatina* conservation actions

Action	Supporting Annex IV Materials
4.1 Provide Resources	Strategic Conservation Planning Documents: • Eastern Atlantic and Mediterranean Angel Shark Conservation Strategy • Mediterranean Angel Sharks: Regional Action Plan • Wales Angelshark Action Plan • Angel Shark Action Plan for the Canary Islands • Mediterranean Angel Sharks: Sub-Regional Action Plans
4.2 Establish an international working group (Int'WG) for the Mediterranean region	
4.3 Appraise protected areas	



Compiled by the Shark Trust on behalf of the Angel Shark Conservation Network. If you have resources to contribute to this document, please contact angels@sharktrust.org