SAFE HANDLING AND RELEASE OF PIKED DOGFISH IN THE BLACK SEA

About the publication

- Developed by FAO under the FishEBM BS project.
- Aims to identify piked dogfish, apply safe release practices when the species is incidentally caught during fishing operations and systematically collect data on incidental catch and vitality conditions.
- Practical guide for the identification, safe handling and release of piked dogfish (*Squalus acanthias*) incidentally caught during fishing operations.
- Although designed primarily for fisheries operations, the guidance is also useful for:
  - Scientific surveys and monitoring programmes.
  - Tagging and research activities.
  - Conservation initiatives involving shark populations.
  - Fisheries inspection and observer programmes.

Also relevant for

- Restocking programmes.
- Scientific monitoring and tagging activities.
- Hatchery and aquaculture handling procedures.

Contents

Introduction

Explains the importance of piked dogfish in Black Sea ecosystems.

Highlights interactions between fisheries and the species.

- Piked dogfish is one of the most widely distributed shark species in the Black Sea.
- However, it is considered a threatened species, with populations declining in many parts of its range because of fishing pressure and its limited capacity for recovery.
- As a top predator, it plays an important role in maintaining the balance and health of marine ecosystems.
- The species is characterized by slow growth, late maturity and relatively low reproductive capacity.
- These biological characteristics make populations particularly vulnerable to overfishing and other human-induced pressures.
- Although targeted fishing is regulated in many areas, piked dogfish continue to be caught incidentally.

Emphasizes the need for safe handling

- Piked dogfish can suffer injuries and stress during capture and handling.
- Improper handling can reduce post-release survival, even when the animal appears healthy at release.
- Quick release and proper handling techniques can significantly improve survival rates.
- Care is also needed to protect fishers, as the species has sharp dorsal spines that can cause injury.

Importance of improved data collection.

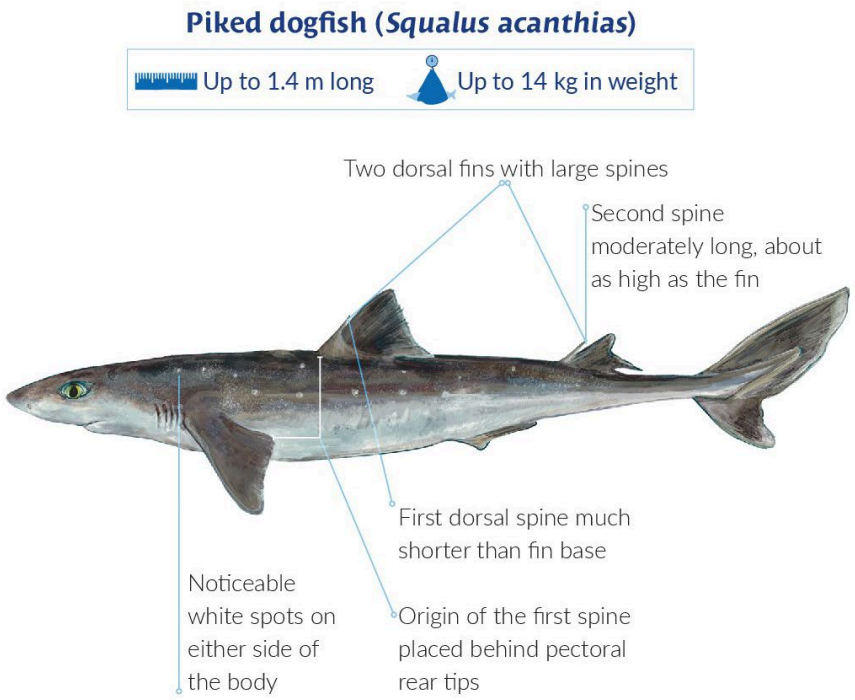
Species Identification

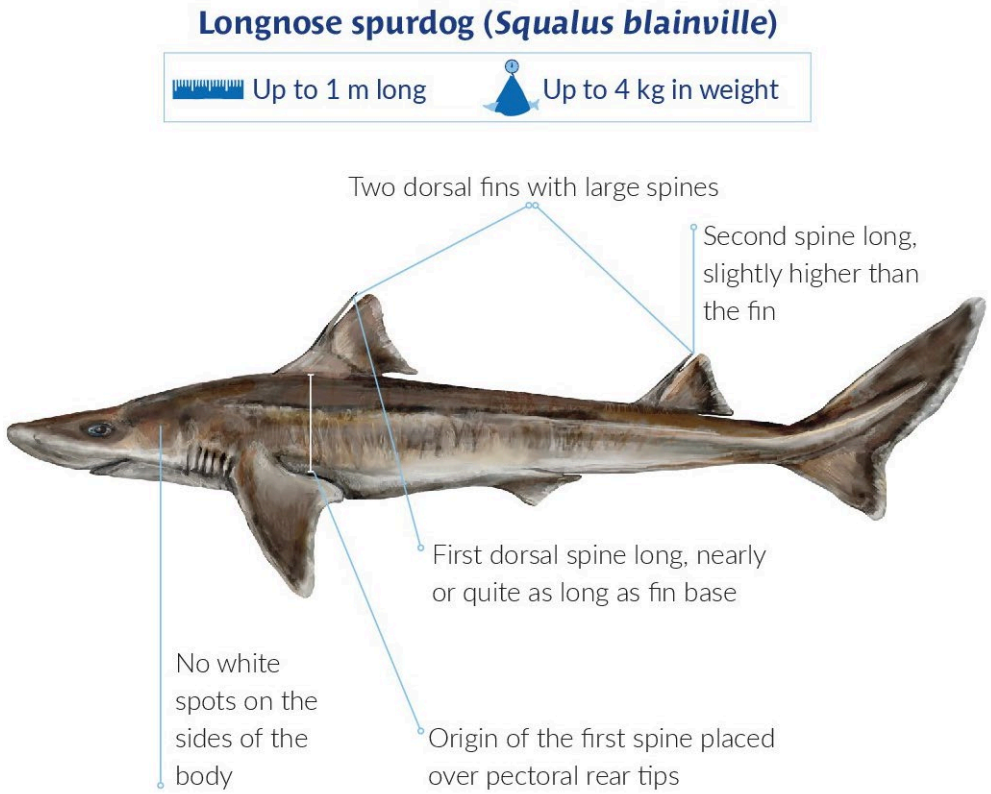
Introduces piked dogfish (*Squalus acanthias*).

Compares it with the similar longnose spurdog (*Squalus blainville*), which also occurs in the region.

Provides key identification features, including body size;, dorsal spines; white spots on the body; position of the dorsal fins and spines.

Piked dogfish (*Squalus acanthias*) is a shark species commonly encountered as incidental catch in the Black Sea. A closely related species, the **longnose spurdog (*Squalus blainville*)**, is also present in the region, though much less frequently encountered. Correct identification is essential, as the two species share similar features. **They differ in the following key morphological traits.**





Safe Handling

Explains how to minimize stress and injury.
Recommends supporting the shark horizontally.
Advises using protective gloves and taking precautions around the dorsal spines.
Emphasizes avoiding lifting the animal by the tail, fins or gills.

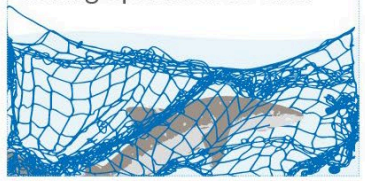
To minimize stress and injury, **handle the shark horizontally**, with one hand behind the gill slits over the pectoral fins and the other near the tail.

Use protective gloves, beware of the two dorsal spines and always keep the shark horizontal, supporting its weight with both hands. Do not drag it on dry surfaces or hold it by the tail, dorsal fins or gills.

Immediate action to intervene following the discovery of an incidental catch is crucial. The longer the shark remains trapped in the fishing gear, the greater the risk of gear damage and shark mortality.

If caught by a gillnet

Carefully and immediately cut or untangle the netting from around the shark without waiting for the fishing operation to end.



If caught by a trawl

Prioritize piked dogfish while sorting the catch.

If caught by a longline

and, if in Romania or Bulgaria, the shark is smaller than the minimum landing size (90 cm):

Carefully and immediately cut the line as close as possible to the shark's mouth without waiting for the fishing operation to end.

If possible, remove the hook or cut the line as close as possible to the hook ring without bringing the shark on board.

Harmful Practices to avoid

Identifies handling practices that may injure the shark or reduce survival:

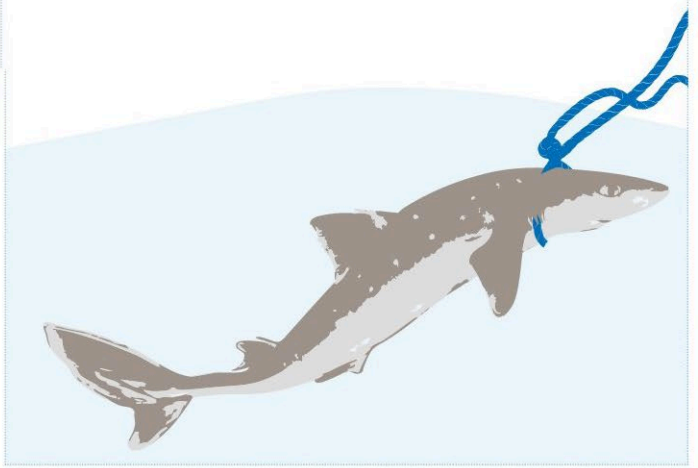
Do not lift the shark **by the tail or by the head**.

Do not carry or drag the shark **by holding its gill slits**.

Do not **insert a hook or similar objects** into the shark's mouth or gills to carry it.

Do not keep the shark **out of water for long periods**, as extended air exposure can significantly impact survival rates.

Do not tie ropes **through the shark's gills**.



Step-by-Step Release Procedure

Presents a practical release protocol:

- Record information; aAssess vitality condition; Handle properly; Release carefully; Revive when necessary.

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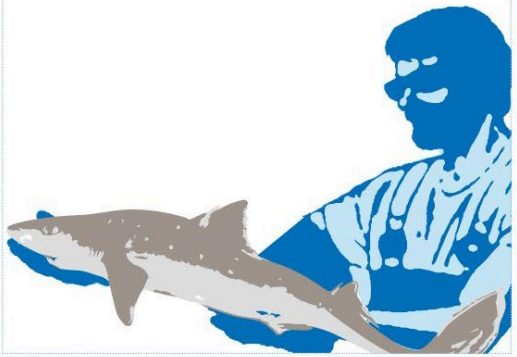
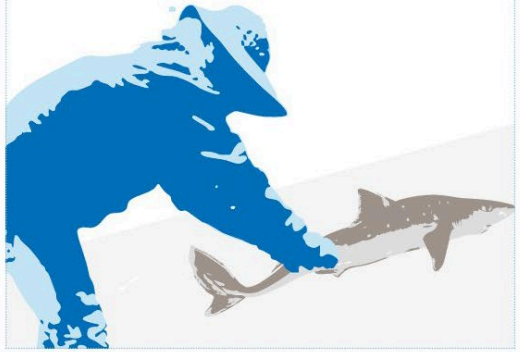
Handle with care
when releasing the shark, as the dorsal spines are rigid and pointed and can puncture human skin.

1



Assess vitality condition, checking for visible injuries, hooks or signs of stress (see *Additional data collection*).

2



Handle properly.
One hand should be placed behind the gill slits over the pectoral fins and the other near the tail (see *Safe handling*).

3

If necessary, revive before release.
Hold the shark in a container filled with fresh sea water, gently moving it back and forth to allow water to pass through the gills.

4

Release.
Gently return headfirst, without throwing it into the sea. Avoid strong currents and predators.

5

DATA REPORTING

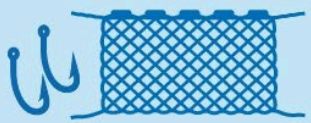
Information on piked dogfish catch must be reported through the General Fisheries Commission for the Mediterranean (GFCM) Data Collection Reference Framework (DCRF), in accordance with national fisheries regulations and relevant GFCM recommendations.[1]

When reporting the catch of piked dogfish, please ensure that the following information is accurately entered in the logbook:

Date of catch

Location (GPS coordinates)

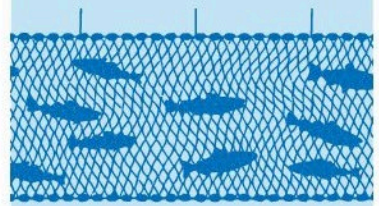
Type of fishing gear



Fleet segment[2]

Scientific name

Total number of individuals caught



Number of individuals released alive

Number of dead individuals

Number of individuals whose status is unknown

[1] Recommendation GFCM/42/2018/2 on fisheries management measures for the conservation of sharks and rays in the GFCM area of application, amending Recommendation GFCM/36/2012/3

ADDITIONAL DATA COLLECTION

Collection of additional information – by observers, when present, or by fishers in their absence – is highly encouraged. For each caught piked dogfish, whether it is released or retained,[3] **please record the following data: vitality condition, biological data and tag ID**.

When possible, **take pictures to confirm the species identification**, capturing dorsal spines and any white spots.

VITALITY CONDITION

Alive

Vigorous and/or weak body movements, movement of operculum, responsive to touching

Dead

No body or operculum movement, not responsive to touching

Unknown

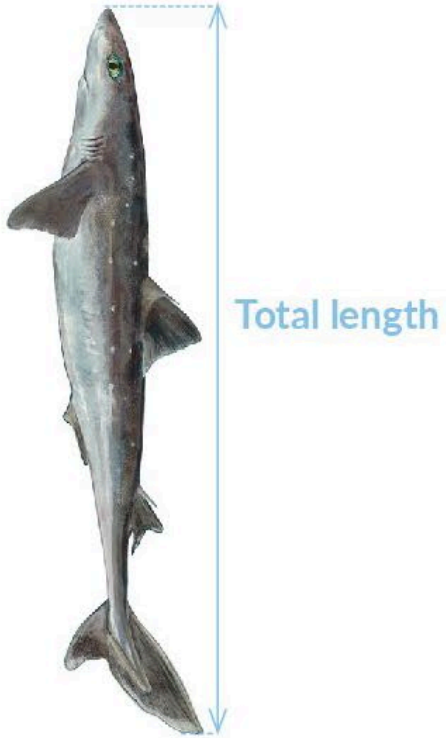
The condition may not be confidently assessed, for example when the animal shows no visible movement, but the fisher/observer cannot confirm whether it is alive or dead (e.g. due to limited observation time, restricted access to the animal or poor visibility on board)

[3] Retention is only permitted in accordance with national regulations: in Bulgaria and Romania, it is allowed for individuals over the minimum landing size of 90 cm; in Ukraine, retention is conditionally permitted depending on the annual catch limit, with a minimum size of 85 cm according to a different size measurement method as defined by national legislation.

BIOLOGICAL DATA AND TAG ID

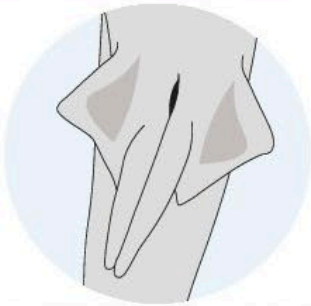
Total length

Total length of the shark should be measured, in centimetres, from the tip of its snout to the tip of the upper lobe of the tail (caudal fin), using ropes and markers.



Sex

Sex should be determined based on the presence of claspers (males have claspers on their pelvic fins, while females do not).



Weight

Weight should be recorded, if feasible, especially for smaller individuals.

TAG ID

The tag ID of the shark should be recorded, if present. **Before release or retention, check for external tags**, particularly near the second dorsal fin, where the tags are often located.