

SAFE HANDLING AND RELEASE OF STURGEONS IN THE BLACK SEA



About the publication

- Developed by FAO under the FishEBM BS project.
- Practical guide for the identification, of three sturgeon species safe handling and release of sturgeons incidentally caught during fishing operations.
- Supports standardized collection and reporting of sturgeon bycatch data.

Also relevant for

- Restocking and stock enhancement programmes.
- Scientific monitoring and tagging activities.
- Rescue and relocation operations.
- Hatchery and aquaculture handling procedures.

Introduction

Introduces sturgeon bycatch and its conservation implications. Explains the importance of safe handling and accurate reporting.

Why are sturgeons important?

- "living fossils" of high ecological, cultural and economic value.
- Among the world's most endangered fish, with severely depleted Black Sea populations.
- Slow growth and late maturity make recovery difficult.
- Bycatch, habitat degradation, migration barriers and illegal fishing remain major threats.
- Every released sturgeon can contribute to population recovery.

Why is careful handling important?

- Sturgeons are highly sensitive to stress and injury.
- Improper handling can cause physical damage and reduce survival after release.
- Delayed mortality may occur even when fish appear healthy.
- Proper handling and release increase survival and support conservation.

Species identification

Beluga sturgeon (*Huso huso*), Danube sturgeon (*Acipenser gueldenstaedtii*)

Stellate sturgeon (*Acipenser stellatus*)

IDENTIFICATION

The three main sturgeon species found in the Black Sea are **stellate sturgeon** (*Acipenser stellatus*), **Danube sturgeon** (*Acipenser gueldenstaedtii*) and **beluga sturgeon** (*Huso huso*).

They differ in the following key morphological traits.

Stellate sturgeon (*Acipenser stellatus*)



Up to 1.2 m long



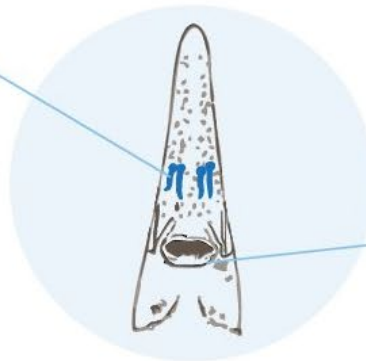
Up to 30 kg in weight



27 to 38 lateral scutes

Barbels closer to the mouth

Narrow and elongated snout



Mouth not extending to the head's edge

Species identification

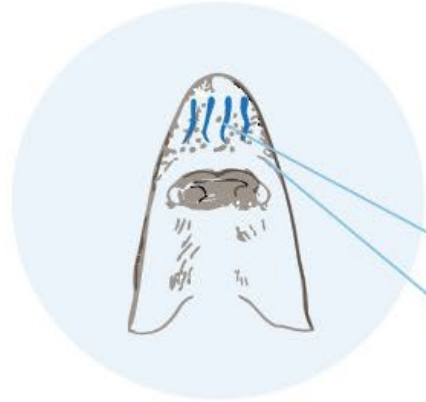
Danube sturgeon (*Acipenser gueldenstaedtii*)



Up to 2 m long



Up to 50 kg in weight



Barbels closer to the tip of the snout than the mouth

25 to 40 lateral scutes

Shorter snout

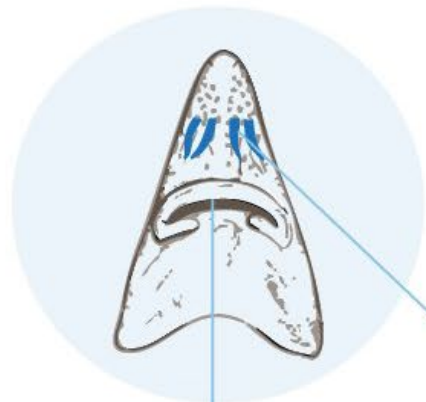
Beluga sturgeon (*Huso huso*)



Up to 2.8 m long



Up to 300 kg in weight



Mouth extending
to the head's edge

Leaf-like barbels, positioned
close to the mouth

40 to 50 lateral scutes

SAFE HANDLING

To minimize stress and injury, **handle sturgeons horizontally**, supporting their weight with both hands.



Use **wet hands or gloves**, as dry surfaces can damage sturgeons' protective mucus. Avoid holding them by the tail, gills or mouth.



Large individuals should be **tied to the boat rather than pulled aboard**.

Tie securely at the base of the tail if necessary for handling.



HARMFUL PRACTICES TO AVOID

Do not **drag the fish on dry surfaces.**

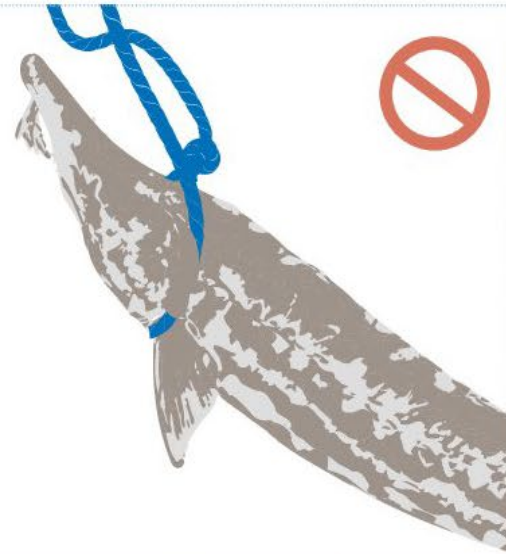
Do not keep the fish **out of water for long periods**, as extended air exposure can significantly impact survival rates.



Do not suspend the fish **by its tail or gills.**



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



Prior to release, report data following the instructions.

STEP-BY-STEP RELEASE PROCEDURE

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

1



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

2



If necessary, revive before release.

Hold the fish in a container filled with fresh sea water, gently moving it back and forth to allow water to pass through the gills.

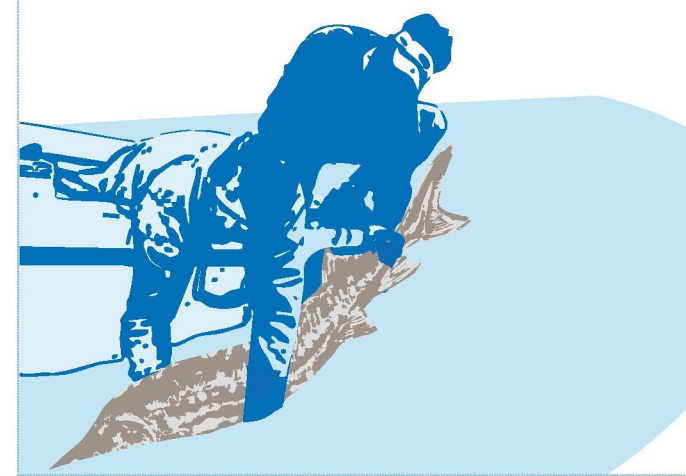
3



Release.

Gently return headfirst, without throwing it into the sea. Avoid strong currents and predators. For especially large fish, two people may be helpful, one supporting the fish just behind the pectoral fins and the other backstopping by holding the tail base.

4



DATA REPORTING

Information on sturgeon bycatch 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 bycatch of sturgeon, please ensure that the following information is accurately recorded in the logbook:

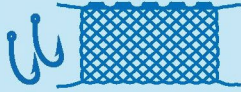
Date of catch



Location
(GPS coordinates)



Type of fishing gear



¹ Recommendation GFCM/47/2024/11 establishing measures on sturgeons (Acipenseridae) in the Black Sea (geographical subarea 29)

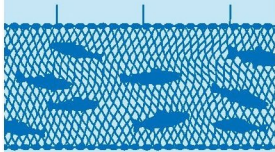
Fleet segment²



Scientific name



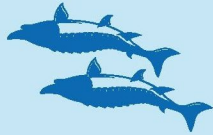
Total number of individuals caught



Number of individuals released alive



Number of dead individuals



Number of individuals whose status is unknown



ADDITIONAL DATA COLLECTION

Collection of additional information – by observers, when present, or by fishers in their absence – is highly encouraged. For each incidentally caught sturgeon, **please record the following data: vitality condition, biological data and tag ID** (if present).

When possible, **take pictures to confirm the species identification**, capturing **lateral scutes** and the underside of the head, including **mouth shape** and **barbels**.



VITALITY CONDITION

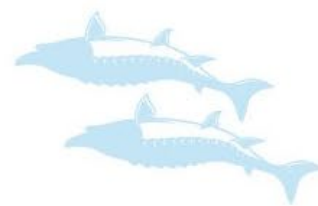
Alive

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)



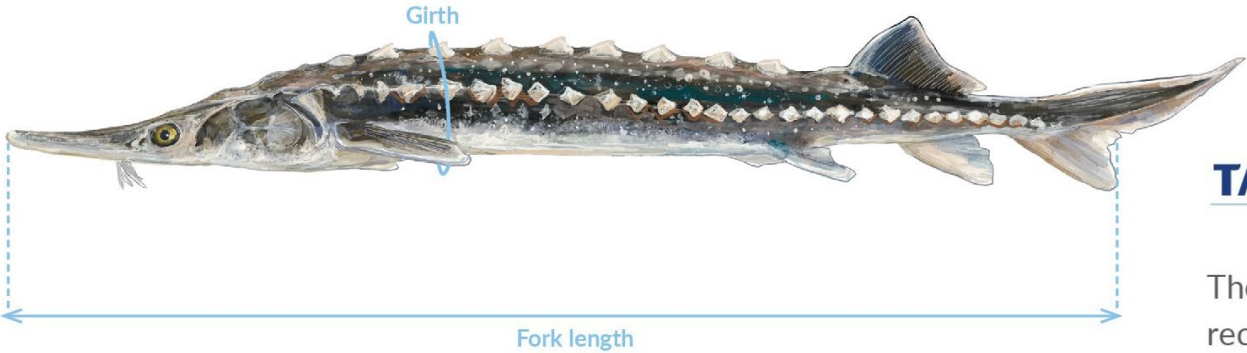
BIOLOGICAL DATA

Fork length

Fork length of the fish, in centimetres and calculated from the centre of the curvature of the snout along the lateral line to the fork of the tail, should be measured using a tape measure.

Girth

Girth, representing the widest circumference around the body, should be measured using a rope. Pull the tape measure taut but not tight. The fish's body shape should not be altered by the tape when measuring.



TAG ID

The tag ID of the sturgeon should be recorded, if present. **Before release, check for external tags** around the dorsal and ventral side of the animal, where the tags are often located.



Species identification

Covers the three main Black Sea sturgeon species:

- Beluga sturgeon (*Huso huso*)

- Danube sturgeon (*Acipenser gueldenstaedtii*)

- Stellate sturgeon (*Acipenser stellatus*)

Describes the main features used to identify each species, including the snout, mouth and other external characteristics.

Chapter 3. Safe handling

Explains how to reduce stress and injury during handling.

Recommends proper support, wet hands or gloves, and safe handling of large fish.

Chapter 4. Harmful practices to avoid

Identifies practices that can harm sturgeons and reduce survival.

Covers risks from dry surfaces, prolonged air exposure, and lifting fish by the tail or gills

Chapter 5. Step-by-step release procedure

- Provides practical guidance for:
 - Recording information
 - Proper handling
 - Vitality assessment
 - Release and, if needed, revival before release

Chapter 6. Data reporting

- Explains reporting requirements for sturgeon bycatch.
- Lists key information to record, including location, fishing gear, species and release status.

Chapter 7. Additional data collection

- Encourages collection of supplementary information.
- Covers vitality condition, biological measurements, tag identification and photographs.