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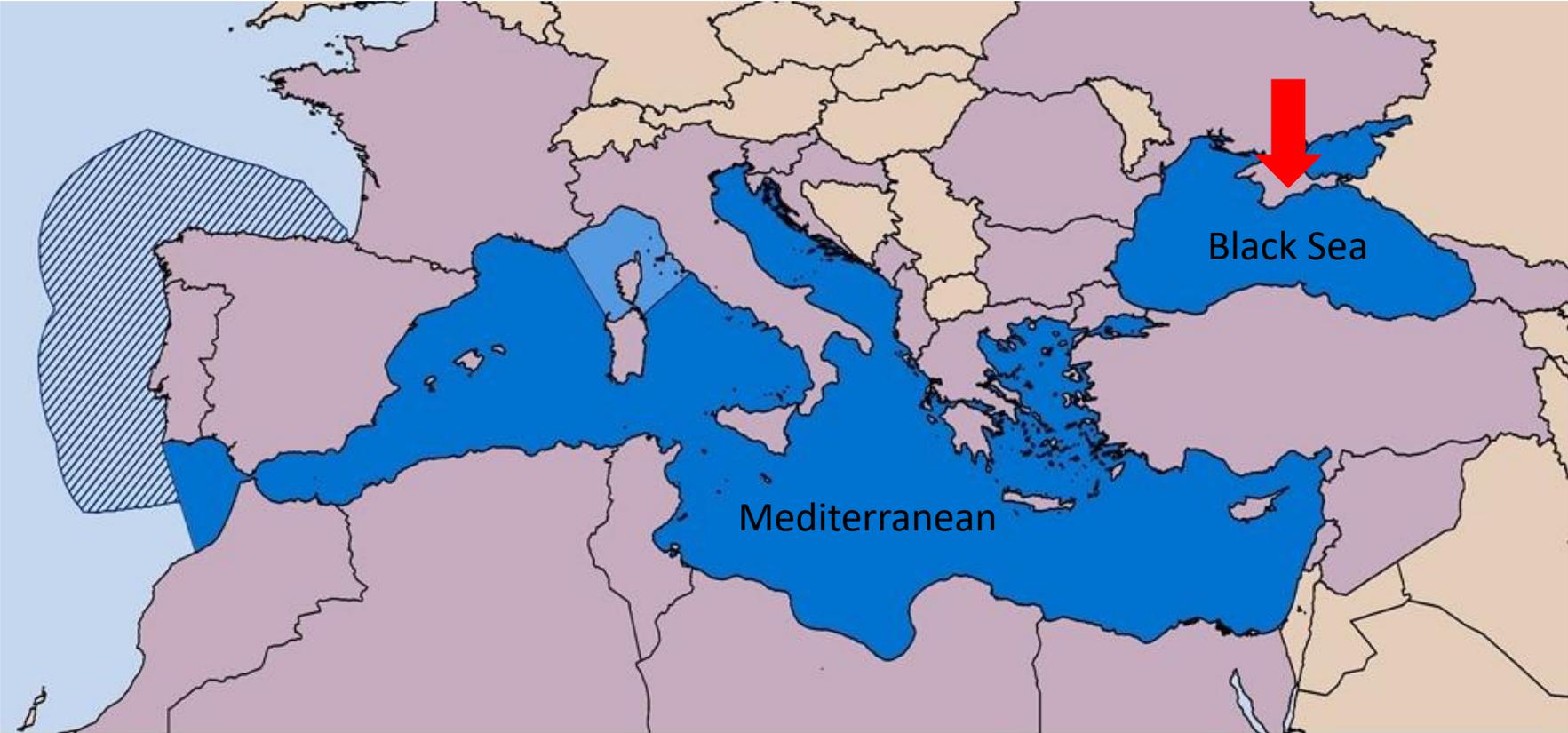
## Support MSFD implementation in the Black Sea through establishing a regional monitoring system of cetaceans (D1) and noise monitoring (D11) for achieving GES

**Marian Paiu, Dimitar Popov, Arda M. Tonay, Karina Vishnyakova, Galina Meshkova, Ertug Düzgüneş, Marina Panayotova, Costin Timofte, Ayaka Amaha Öztürk & Pavel Gol'din**



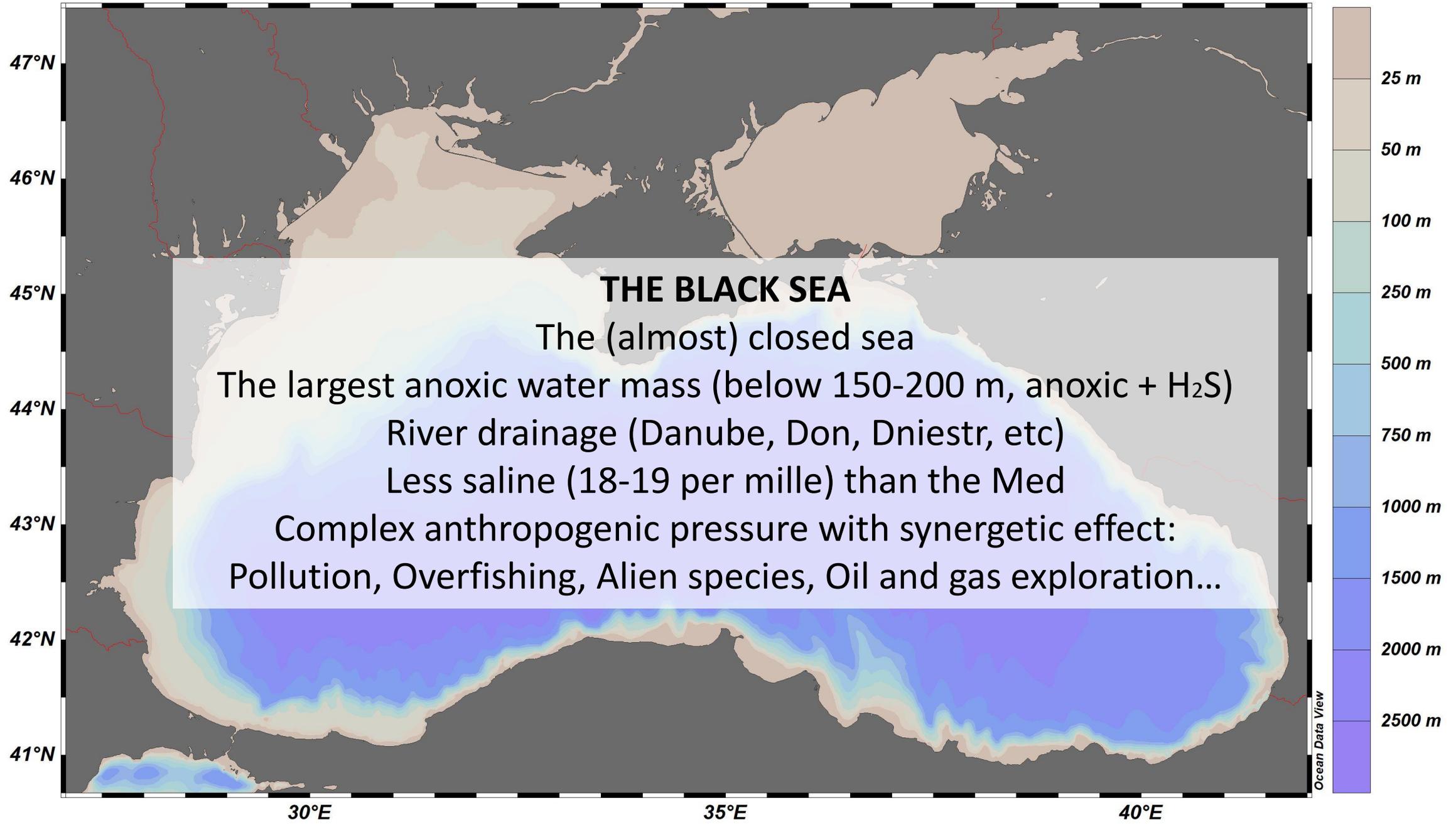
# ACCOBAMS Geographical Area

March 2019 = **24** Parties



■ Agreement area      ▨ Extension      ■ Parties to ACCOBAMS      ■ Pelagos Sanctuary

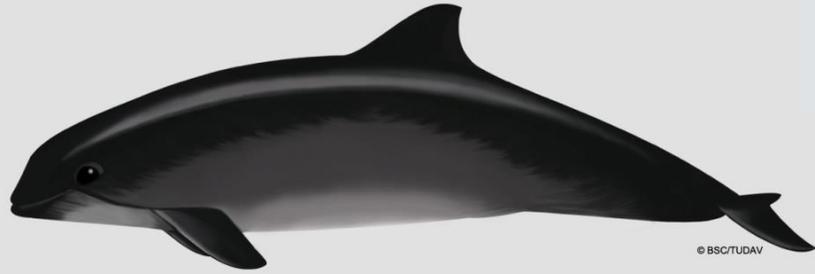
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# Cetaceans in the Black Sea



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*Phocoena phocoena relicta*  
Harbour porpoise

EN

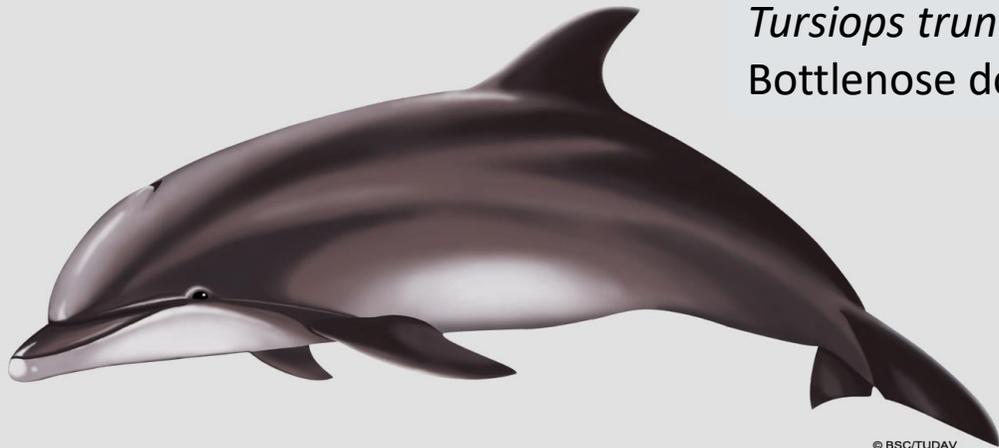
© BSC/TUDAV



*Delphinus delphis ponticus*  
Common dolphin

VU

© BSC/TUDAV



*Tursiops truncatus ponticus*  
Bottlenose dolphin

EN

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## Some background facts

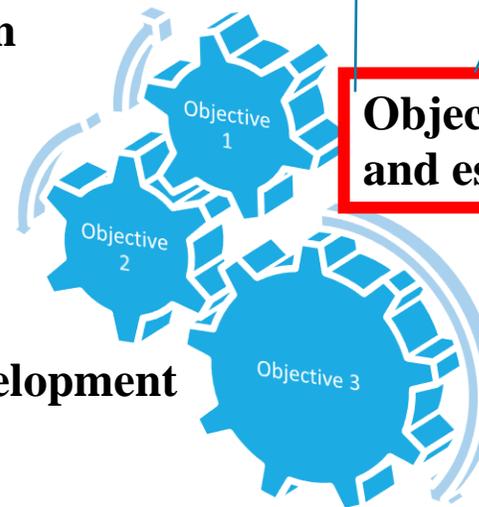
- Intensive dolphin fishery until 1983
- Prey depletion due to overfishing and bioinvasions
- Bycatch in turbot gillnets (esp. harbour porpoises)
- Mass mortality of harbour porpoise newborns (2016)
- 2019 first abundance estimates for the whole basin; the western part was surveyed in 2013



# Project objectives

**Objective 3: Enhancing coordination among the Black Sea region through the dissemination of the project activities, results and outcomes**

**Objective 2: Assessing and supporting the development of D11 monitoring in the Black Sea**



**A. cetacean populations abundance, distribution and range**

**B. mortality rate from incidental bycatch**

**Objective 1: Assessing D1 cetaceans related criteria and establishment of thresholds values**

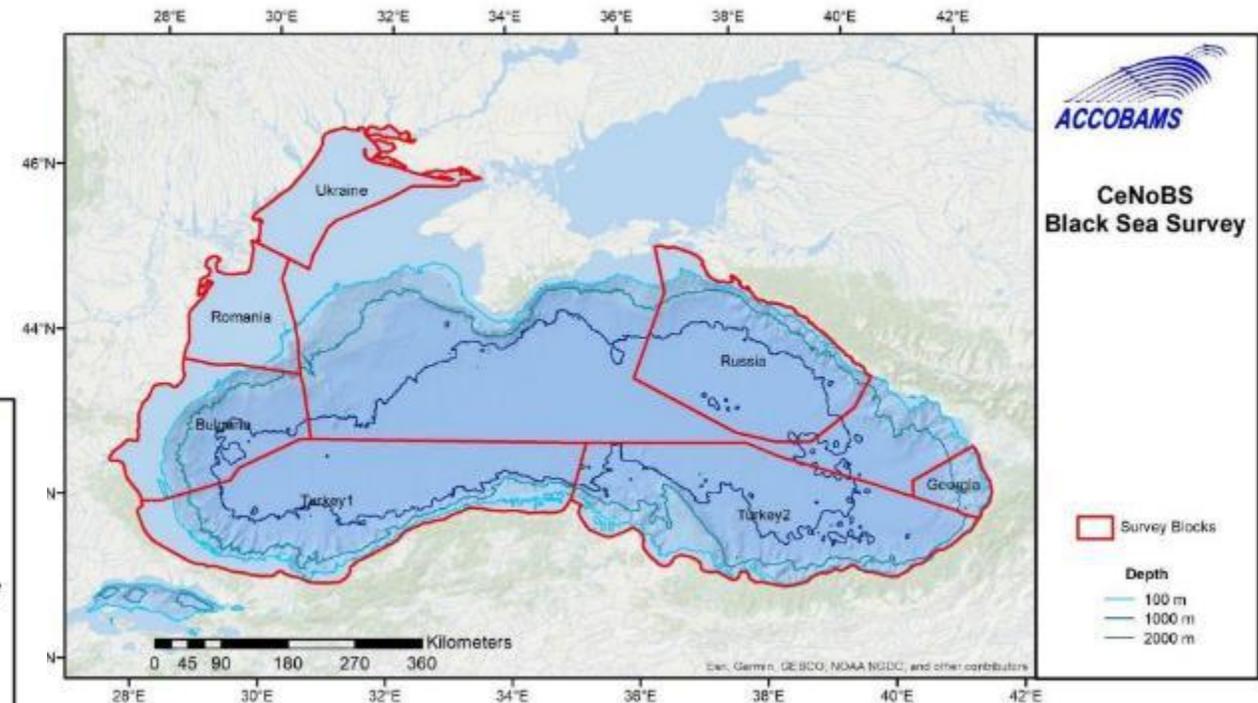


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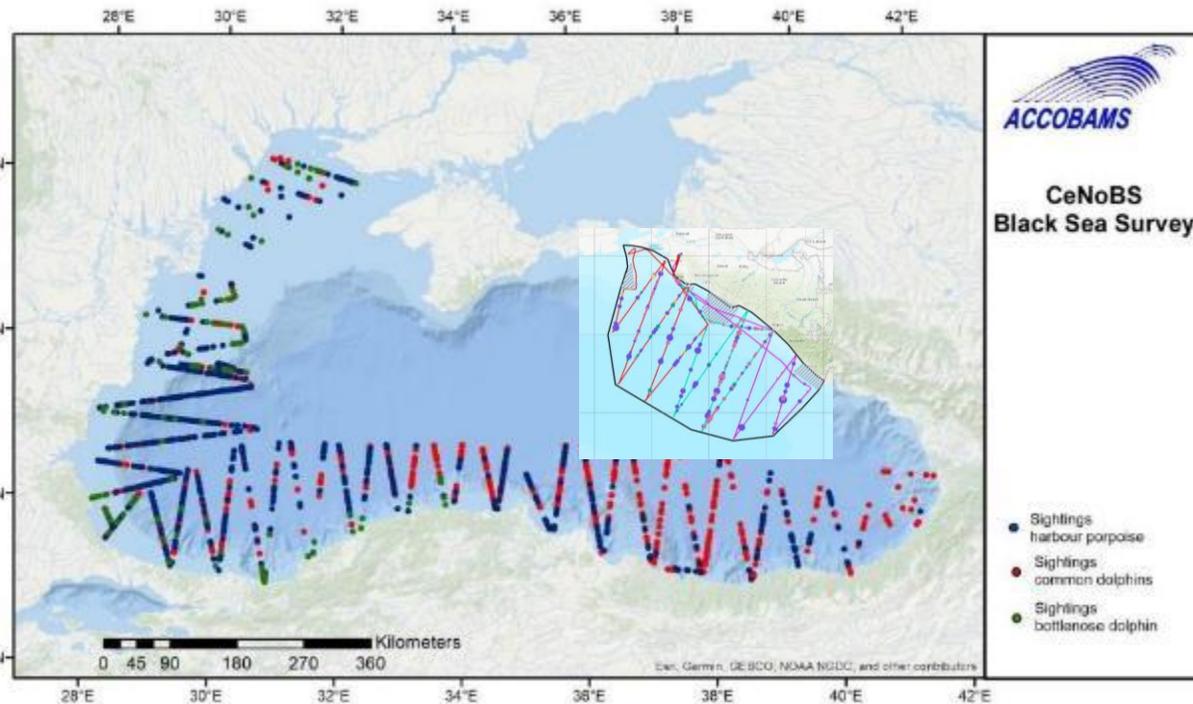


# A. Cetacean populations abundance, distribution and range

- 15.000 km covered by airplane
- 268.716 km<sup>2</sup>
- 1972 sightings recorded
- 2 models used for analysis
- analysis with and without data in eastern BS



**>280.000 animals\*** \*g(0) not applied





## B. Cetacean bycatch assessment - preliminary results

### Simplifying assumptions underlying the study

- 1) Bycatch occurs in all the gillnets and gillnets only;
- 2) All the commonly used turbot gillnets regardless their mesh size (160-200 mm) have equal potential for bycatch;
- 3) Most of bycatch is not reported, regardless if the fisheries is legal or IUU;
- 4) Any fishing vessel capable of turbot gillnet fisheries can be involved in IUU operations;
- 5) Gillnet fishing effort is so high that it can be considered as indefinitely high in any part of the Black Sea, and bycatch is independent of local differences in effort;
- 6) There is no seasonal differences in effort prescribed by law: prohibition periods are fully filled by IUU operations;
- 7) There is a season of porpoise bycatch, and it is limited to a few months: here we considered it as four months, from April to July; a total of 10 trips are made during this period.
- 8) Bycatch depends on porpoise abundance (density) at sea; here we use linear correlation.

$N_{byc} = f$  (number of vessels; bycatch per trip; number of trips per bycatch season)



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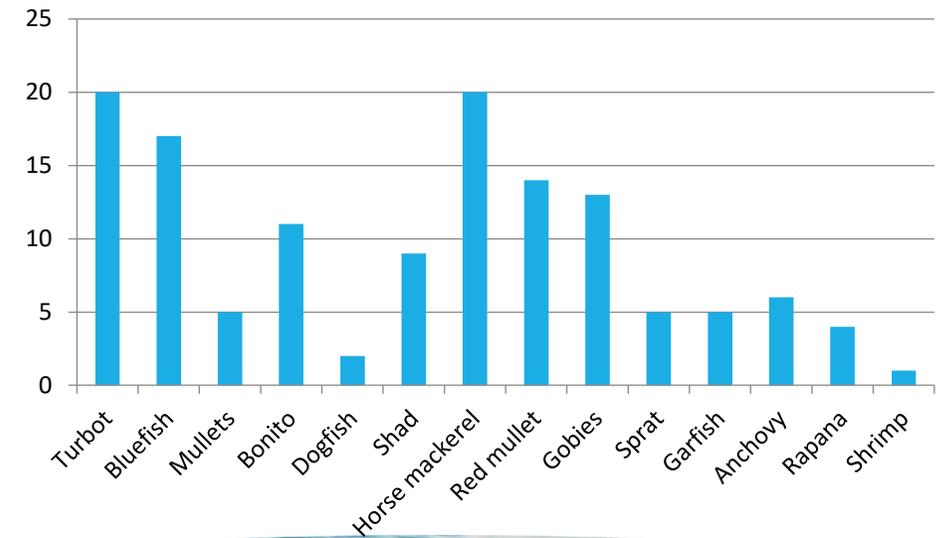
# Questionnaire survey

In 2019 and 2020, 61 questionnaires were conducted - Bulgaria, Romania, Ukraine, Turkey.

78% reported bycatch, and 41% reported cetacean bycatch (2019).

Cetacean bycatch was reported for turbot gillnets, other stationary nets for shad, mullets and other species, purse seine nets, long lines and trawls.

Bycatch of species, which are usually bycaught together with cetaceans, thus, indirectly indicating possible cetacean bycatch: the great cormorant (*Phalacrocorax carbo*), the whiting (*Merlangius merlangus*), the dogfish (*Squalus acanthias*), sturgeons (Acipenseridae) and rays (Batoidea).



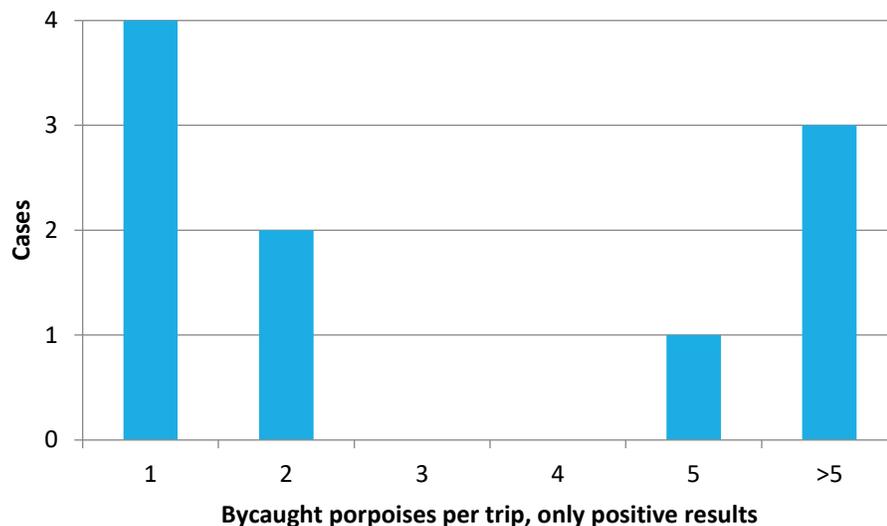


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# On-board observations

- In 2019 and 2020, 47 cruises conducted in Bulgaria & Romania
- Bycaught cetaceans in 35 trips
- Bycatch species: **harbour porpoise** always present,
- Bycatch species: **bottlenose dolphins** in 11% and **common dolphins** in 8%
- fishing gears: turbot **gillnets**, other fixed nets, **purse seine** and **trawling**
- observers 47 cruises, from them 34 in April - July:



- average bycatch of porpoises per trip: 1
- maximum bycatch of porpoises per trip: 36
- bycatch/km of net: 0 to 3.21 (median 0.12)

All the age/size classes, including 0+, but largely adults

**Overall estimates for annual bycatch of harbour porpoise by Black Sea fleet involved in turbot catch: 16200**



## Overall bycatch estimation: challenges

- Bycatch rate calculation well concurs with data by Tonay (2016) but the scaling is to be accurate;
- The best accurate estimate of fleet involved in turbot catch operations, including IUU catch, should be achieved;
- Recalculating data by Birkun et al. (2014) with this method gives 25,000 instead of 20,000 reported before;
- Demographic study (Vishnyakova, 2017) suggests long life span (23 years) and generation time (7.5 years) consistent with relatively low bycatch rate.



# Conclusions

- Bulgarian waters showed the highest abundance of the harbour porpoise during the aerial survey in summer 2019 (52% of the overall abundance in the studied area), so the resulting figures can be directly extrapolated to the overall abundance;
- The total annual bycatch of harbour porpoises in the Black Sea is between 16,000 and 25,000 individuals;
- Assessment of catching fleet is crucial for precision of estimates;
- In any case, bycatch far exceeds established thresholds for sustainable levels.



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# Q&A&I



<https://www.bing.com/images>

**Let`s use this time together wisely!**

Teşekkür ederiz

Благодаря

Merci

Дякую

Vă mulțumesc



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# Thank you!

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