Food and Agriculture Organization of the United Nations

General Fisheries Commission for the Mediterranean

FISHFORUM 2024 ANTALYA
Forum on fisheries science in the Mediterranean and the Black Sea
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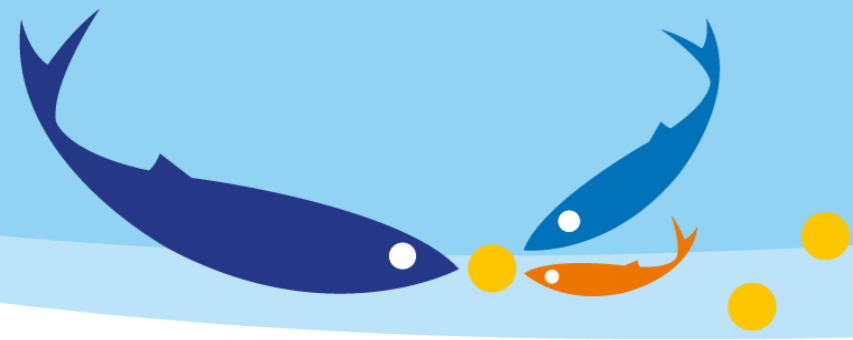# PIKED DOGFISH (*SQUALUS ACANTHIAS*) BYCATCH IN THE TURKISH BLACK SEA DEMERSAL TRAWL FISHERY

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GFCM Research programme on piked dogfish

Recommendation GFCM/39/2015/4

on management measures for piked dogfish in the Black Sea

Recommendation GFCM/44/2021/10

on management measures for the sustainable piked dogfish fisheries

Illustration of piked dogfish @FAO/Ali Elly

Work package 1 (WP1ENG): Stakeholder engagement:
Work package 2 (WP2BYC): Bycatch - characterizing the bycatch pattern across the Black Sea basin
Work package 3 (WP3BIO): Biological data collection
Work package 4 (WP4SPAT): Spatial dynamics of piked dogfish
Work package 5 (WP5TGT): Target piked dogfish fisheries
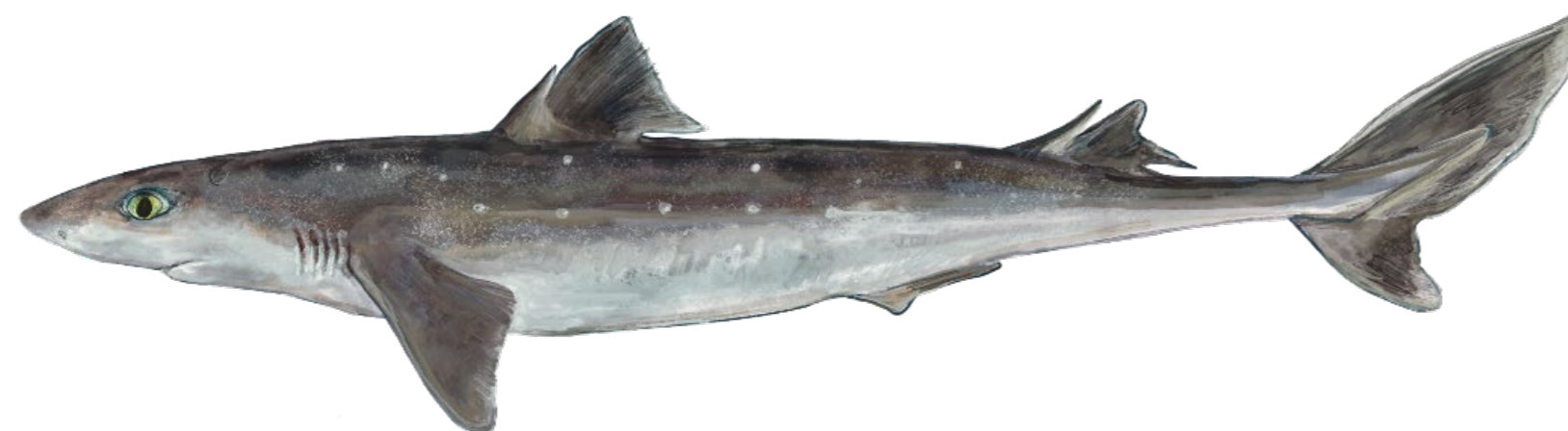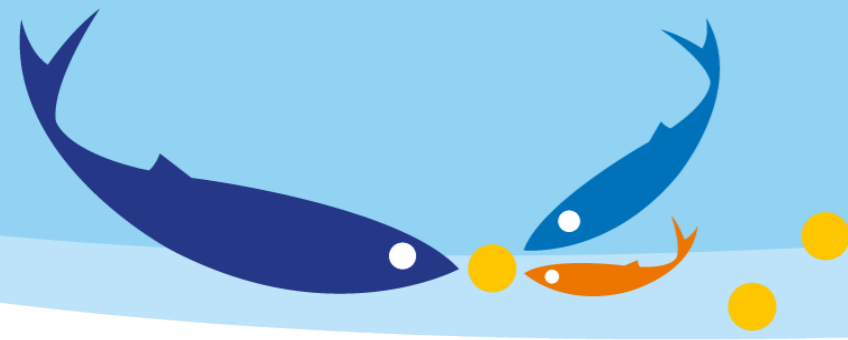Work package 6 (WP6PRM): Post-release mortality

Work package 1 (WP1ENG): Stakeholder engagement:

Exploring fisher knowledge

Enhanced information on the interactions between piked dogfish and fishing activities emerging from fisher engagement

Interviewing fishers in Türkiye to gather insights from their experiences with piked dogfish.©FAO/E.Fakioglu

Work package 2 (WP2BYC): Bycatch - characterizing the bycatch pattern across the Black Sea basin
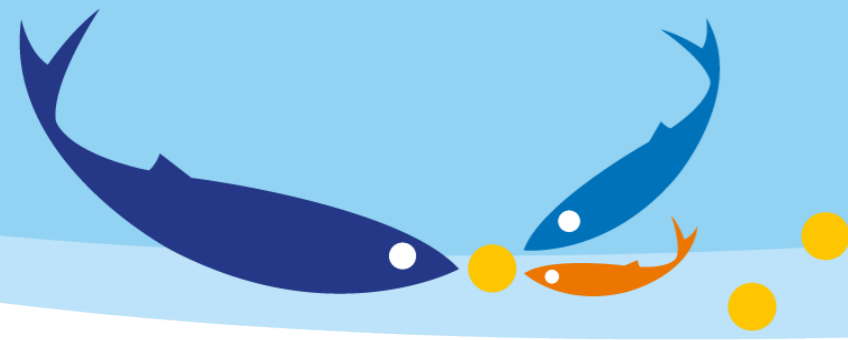
Discards monitoring programs

Enhanced information on existing discards monitoring programs at country level and identify gaps

Interviewing fishers in Türkiye to gather insights from their experiences with piked dogfish.©SUMAE/M. Adıgüzel

Methodology - Local Ecological Knowledge

156 fishers were interviewed between January and July 2023.

Using semi-structured questionnaires composed of **bycatch interaction**, mortality, and historical change in population.

Interviewing fishers in Türkiye to gather insights from their experiences with sturgeons. ©SUMAE/Salih ILHAN

Local Ecological Knowledge for Piked dogfish in the Black Sea

Section 1. General information

Interview ID*:			
Interviewed by:			
Date:			
Fishing gear(s) used for the last one year**	Gear 1	Gear 2	Gear 3
Age of respondent:			
Gender:	□Female □Male □Not willing to specify		
How long has the respondent been fishing?			
Location of interview:			
Country:			
Transboundaries	□L □M □H		

*It should be inserted as alphanumeric (No. of interview_initials of interviewer_yyyy_mm_dd_country code) e.g., 01_EF_2023_01_19_TUR
**If it is multiple choices, each fishing gear should be inserted separately.
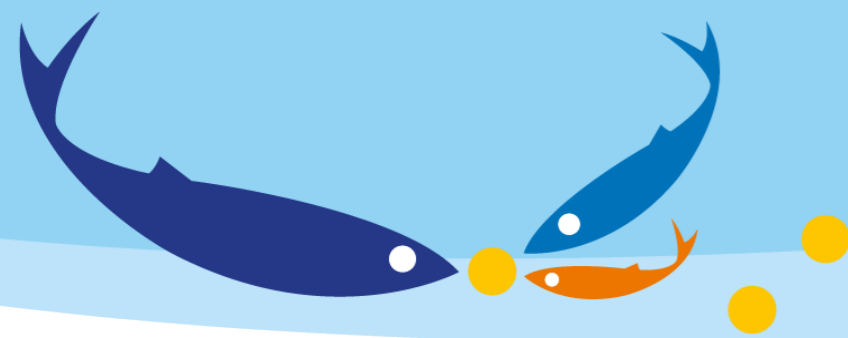
Section 2. Species identification (1 question), please go to Species ID Guide.

1. What was the last time you saw the following species?	Sighted	Year
Dogfish 1	□	
Dogfish 2	□	

Section 3. Scientific purpose (5 questions)

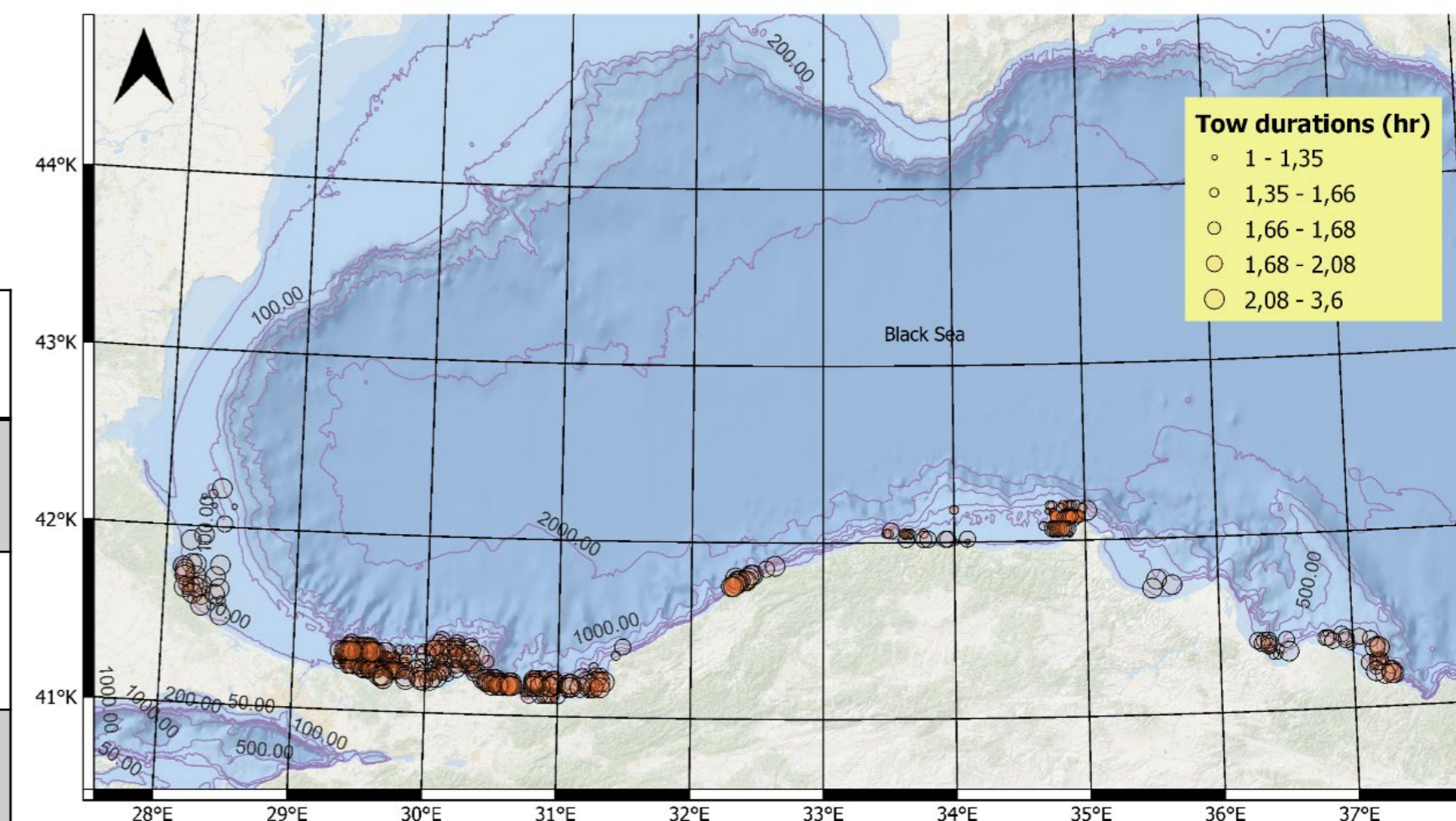| 1.What is the most effective fishing gear to catch piked dogfish?	□Demersal Trawl □Pelagic Trawl □Purse seine □Gillnet □Trammel net □Pots and Traps □Longlines □Local gear □Spear gun □Hooks and lines		
Fishing gear(s)	Demersal Trawl*	Gear 2	Gear 3
2.Is there any specific location where this gear is used?			
3.What is the distance from the shore? (Min-max in km)			
4.What is the depth range? (Min-max in m)			
5.In which months should we go?			

*Demersal Trawl is prioritised. If it is not stated by fisher, please insert additional gears into Gear 2 and Gear 3.
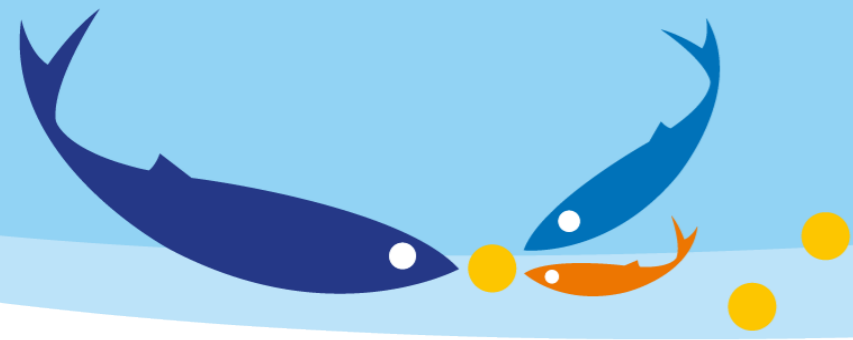
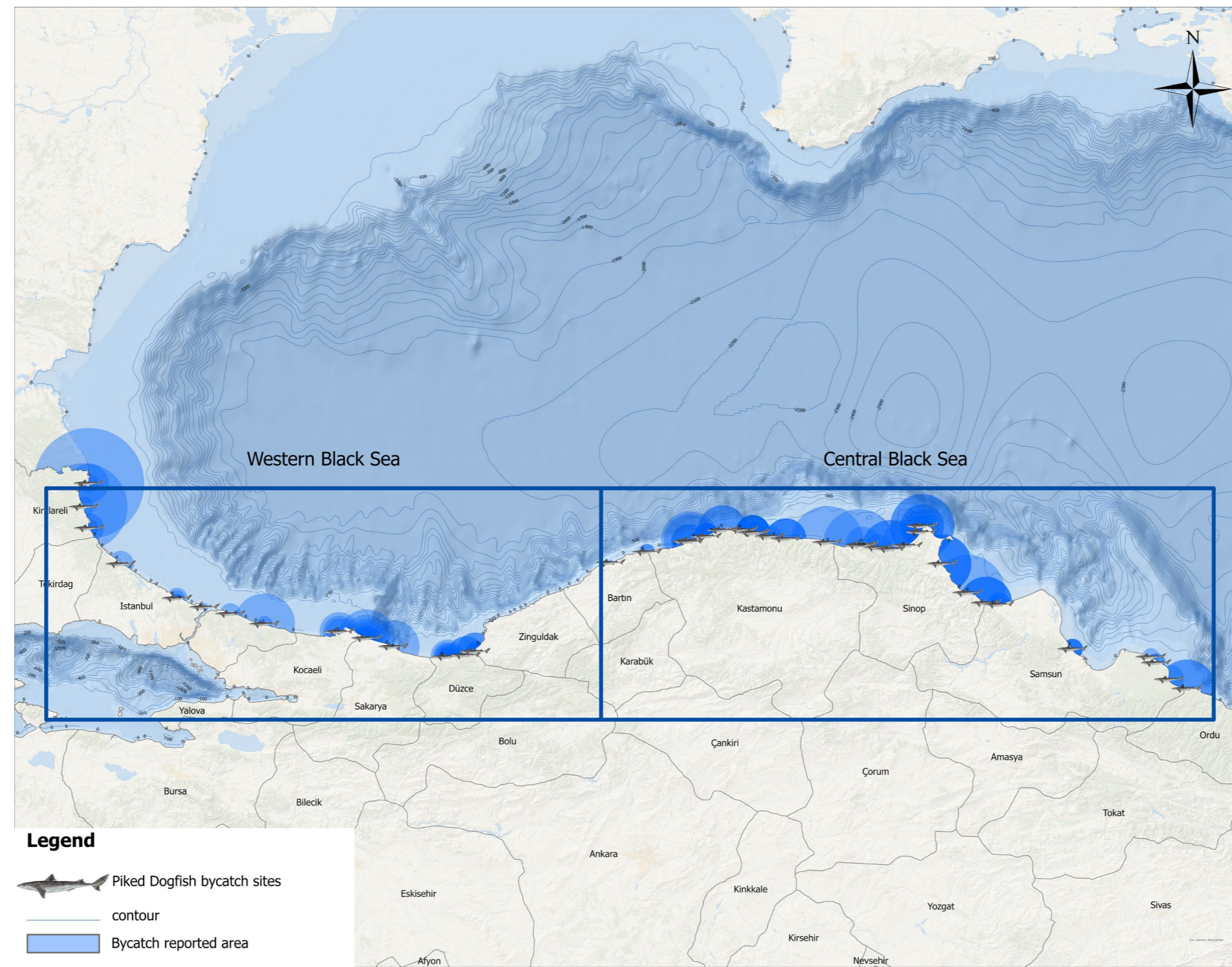# Methodology - Turkish Discards monitoring program

1200 hauls

292 fishing trips
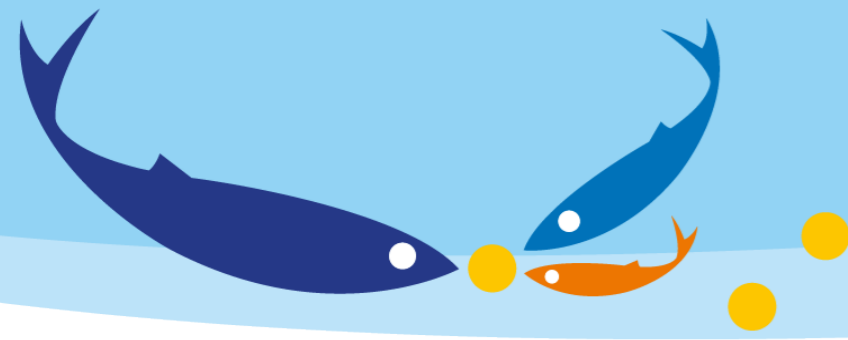
36 different demersal trawl vessels

GSA 29

2019 - 2022

Year	Depth range (m)	Average tow duration ± SD (h)	No. of hauls by season			
			Autumn	Spring	Winter	Total
2019	22.5 – 122.5	1.7±0.31	331	51	44	426
2020	69 – 119	1.5±0.26	0	26	51	77
2021	42 – 122.5	1.8±0.45	346	13	150	509
2022	46.5 – 108	1.7±0.49	3	0	185	188

Results - LEK survey

Bycatch locations for demersal trawl based on fishers' responses (n=113)

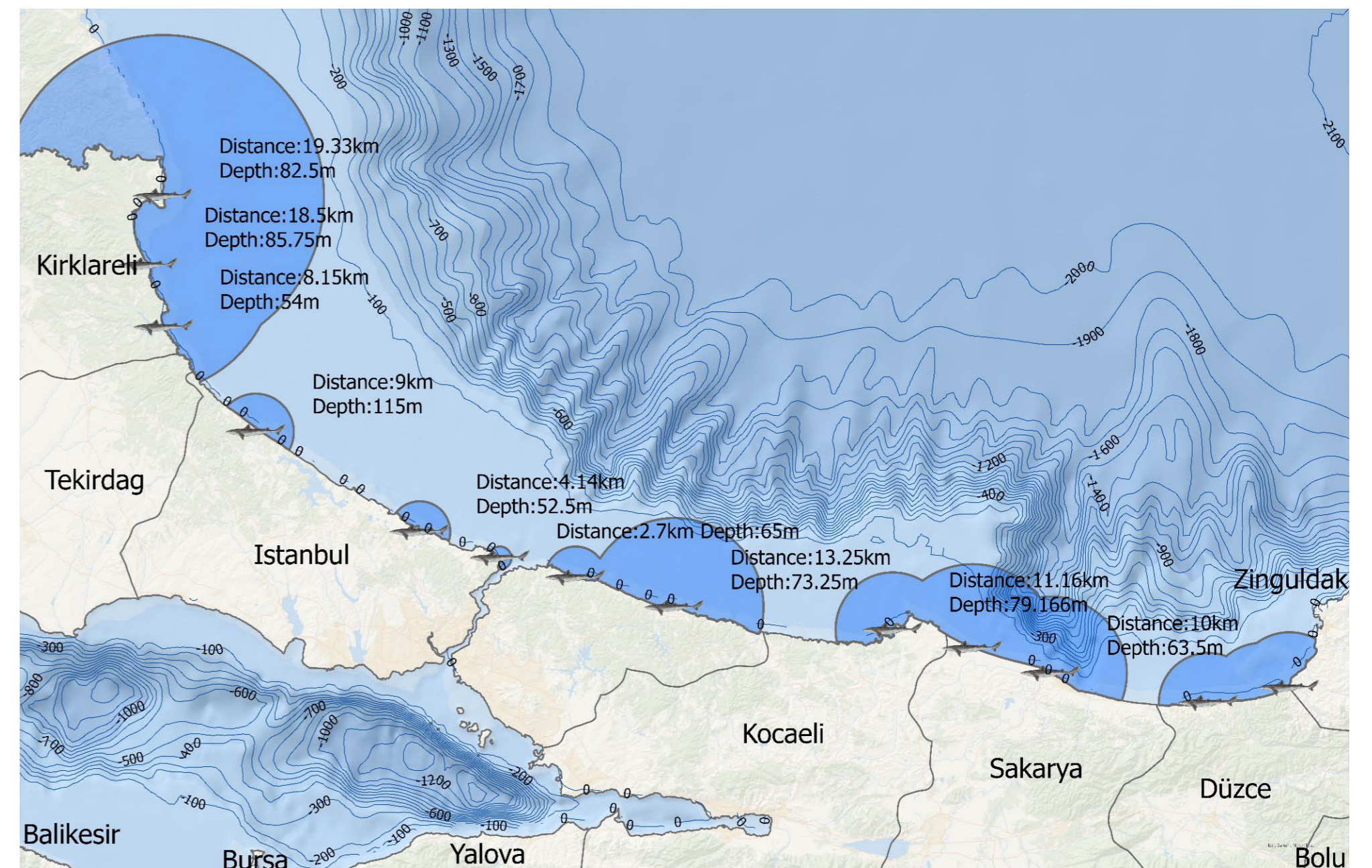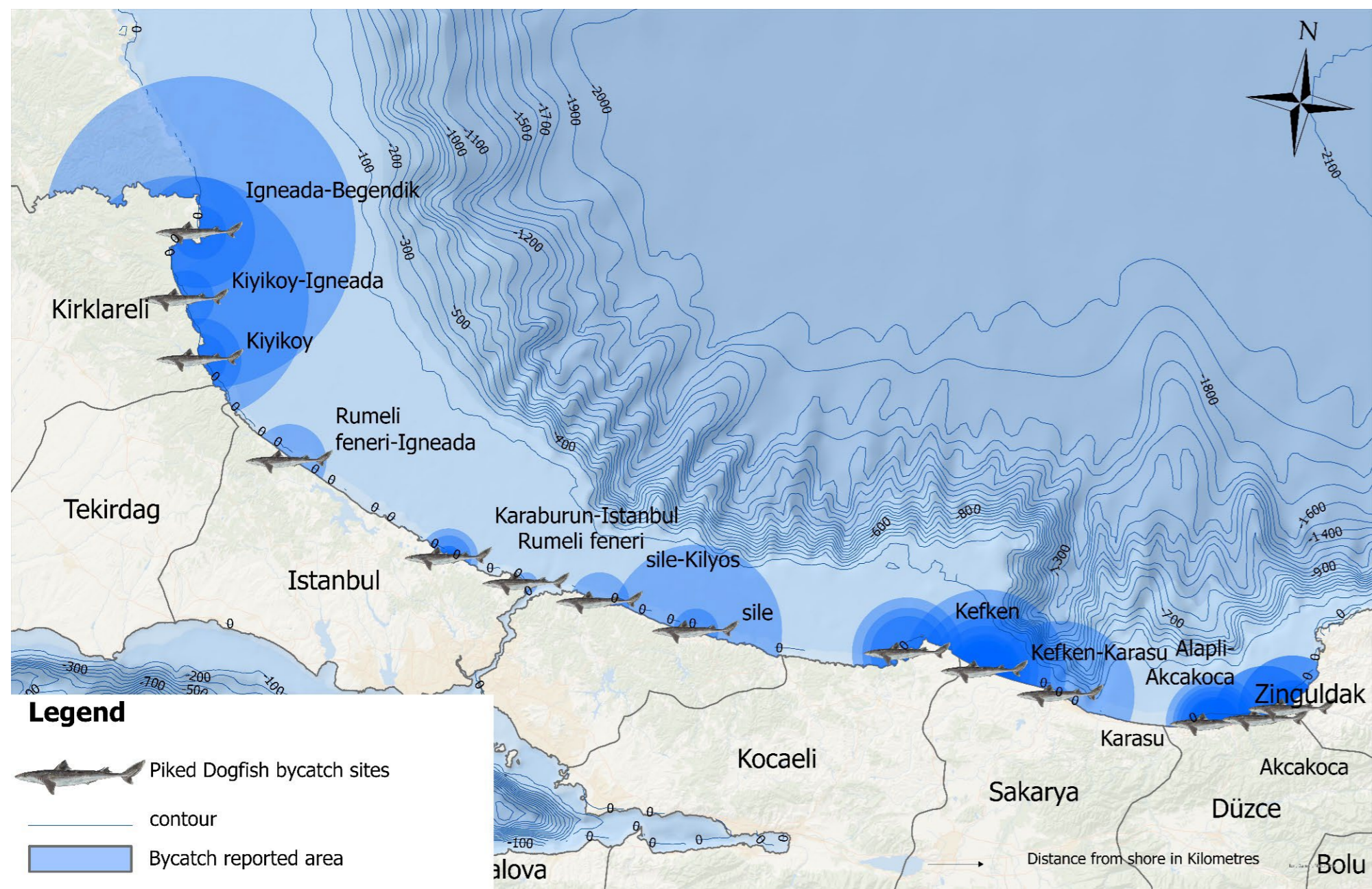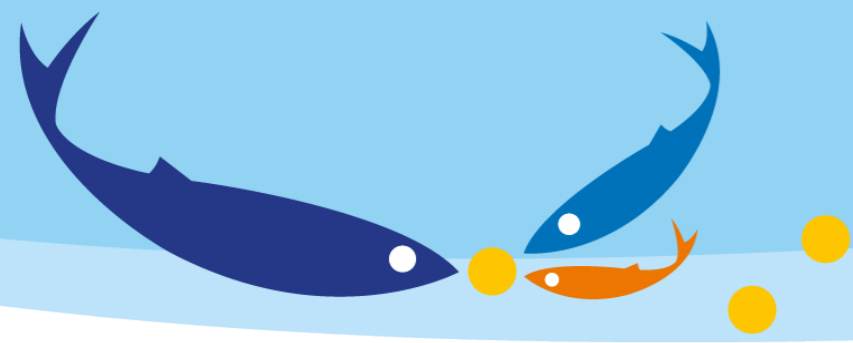| Season	Avg. distance (km)	Avg. depth (m)
All season	10.0	76.5
Autumn	12.4	84.7
Winter	11.2	85.0
Spring	8.6	79.3

Map showing the bycatch areas for demersal trawling reported by fishers

Results of the LEK – Survey Western Black Sea

Results of the LEK – Central Black Sea

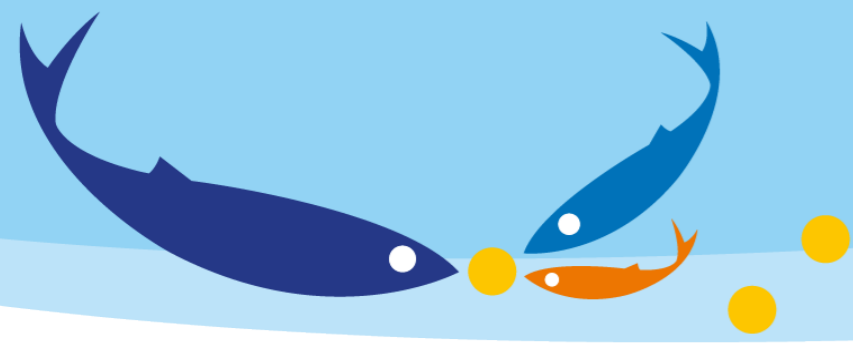# Results - Discards monitoring program

The number of piked dogfish recorded 144
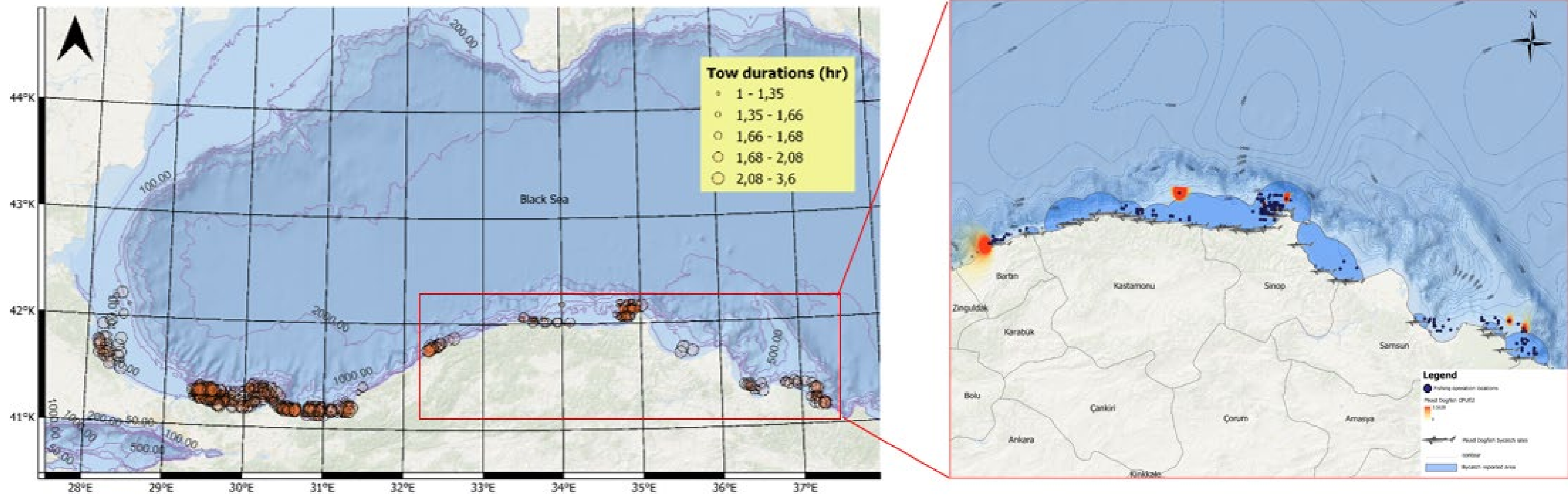
9 % of the hauls involved bycatch events
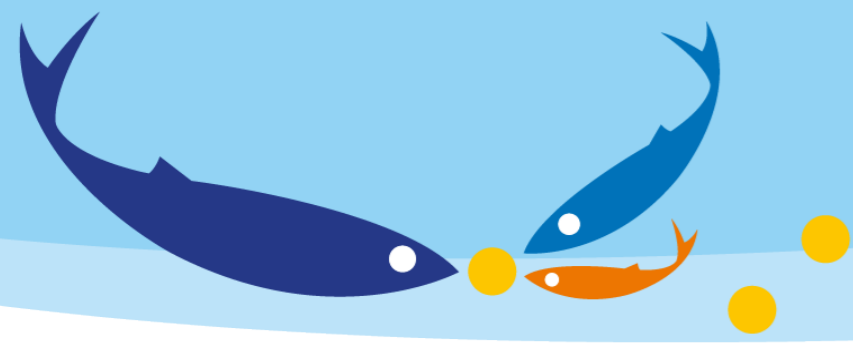
Summary description of fishery data

Year	Zero occurrence of piked dogfish (%)	Raised numbers at country level		Avg. CPUE (n)	No. of individuals captured	No. of individuals 1by season		
		No. of by catch events	No. of individuals (tot)			Autumn	Spring	Winter
2019	92.25	4 425	10 674	0.06	36	11	11	14
2020	89.61			0.15	18	0	16	2
2021	90.77	4 048	18 683	0.08	74	60	7	7
2022	92.02			0.05	16	4	0	12

Comparison of LEK and Discards Monitoring Program

Key Points and Next Steps

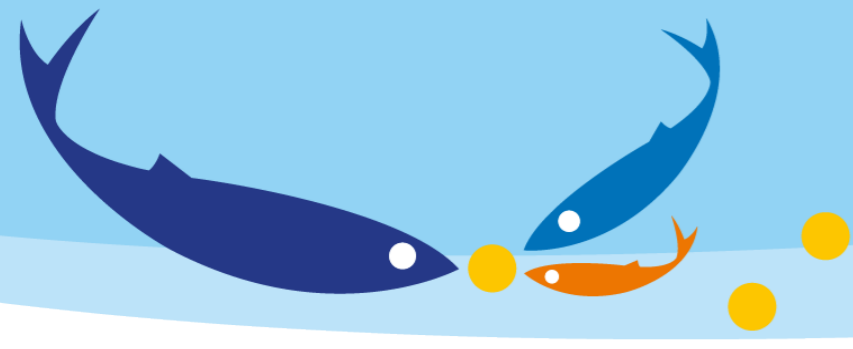Piked dogfish present in 10 % of the fishing operations

Significance of LEK surveys and discards monitoring programs

Information provided by fishers requires validation

Aquaculture cages appear to aggregate piked dogfish

Training for fisheries observers and fishers

Identifying the spatial and temporal dynamics of the piked dogfish in the Black Sea

THANK YOU FOR YOUR ATTENTION