

WHEN SCIENTISTS GO UNDER THE WATER
BİLİM İSNALARI SUYUN ALTINA İNDİĞİNDE

E11- Kaç tane balık sayabilirim?

(How many fish can I count?)

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the European Union

What is ScienceInBlue?

The SCIENCEinBLUE Project aims to connect researchers working in the field of underwater science and technology with the public to raise awareness about research and innovation conducted underwater.

To broaden participation, the project plans to organize at least 140 "Researchers at School" events in elementary and secondary schools across seven different regions of Turkey, with 20 visits in each region.

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ARAŞTIRMACILAR OKULDA

7 Bölgede

140 Okulda



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What is ScienceInBlue?

SCIENCEinBLUE addresses the question, "When does a scientist dive under the water?" and aims to bring citizens, especially children and young minds, closer to researchers working in the field of underwater science and technology.

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What is ScienceInBlue?

The SCIENCEinBLUE project leverages the past experiences of Bogazici Submarine Research Center (Bogazici International Research Center), Galatasaray University, and Akdeniz University. It builds on successes from previous maritime science R&D projects, such as GREENBUBBLES, and the development of innovative devices addressing these challenges.

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AVRUPA BİLİM ŞENLİĞİ-RESEARCHERS' NIGHT

Every year in the last week of September across Europe

27-28 September 2024
Galatasaray University

26-27 September 2025
Akdeniz University



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MAVİ
HACKATHON
Denizin derinliklerinde teknoloji macerası başlıyor!
Mavi Hackathon, lise öğrencilerini İstanbul Boğazı'nı keşfetmeye ve kodlama becerilerini geliştirmeye çağırıyor. Galatasaray Üniversitesi'ndeki etkinlikte öğrenciler, boğazın verilerini toplayacak bir cihaz geliştirecek. Tasarlanan ürün bir ROV'a monte edilecek ve öğrenciler, kendi kodladıkları cihazın dalışını kamplerden izleyebilecekler.
MAVİDE BİLİM
www.scienceinblue.eu


KÖPRÜÜSSÜ
SİMÜLATÖRÜ
27 Eylül 2024
09:00 - 18:00
Denizciliğe yelken açmaya hazır mısın?
MAVİDE BİLİM
www.scienceinblue.eu


TEA TALK
27 Eylül 2024
AYDIN DOĞAN SALONU
16:00 - 17:00 Çay/Kahve İkramı
17:00 - 19:00 Sunumlar
The Science of Diving
MAVİDE BİLİM
www.scienceinblue.eu


BOĞAZDA
GECE
DALIŞI
27 Eylül Cuma
17:00 - 23:00
MAVİDE BİLİM
www.scienceinblue.eu


ARAŞTIRMA
VE
DALIŞ
ARAÇLARI
27 Eylül 2024
10:00 - 18:00
Cuma
SARAY BİNASI
SERGİ SALONU
MAVİDE BİLİM
www.scienceinblue.eu


BOĞAZDA
SATIH
DESTEKLİ
BİLİMSEL
DALIŞ
28 Eylül Cumartesi
10:00 - 12:00
MAVİDE BİLİM
www.scienceinblue.eu


DENİZLERİN
MİRASI
Okyanuslar ve sualtı kültür mirası hakkında ne kadar bilgiye sahibiz?
MAVİDE BİLİM
www.scienceinblue.eu


ROBOTLAR
SENİ ÇAĞIRIYOR!
28 Eylül Cumartesi
13:30 - 18:00
Bu etkinlik, Boğaziçi Sualtı Araştırma Merkezi (DURC) tarafından sağlanan üç sualtı robotunun desteğiyle düzenlenecektir.
MAVİDE BİLİM
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ARAŞTIRMACILAR OKULDA



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Res. Ast. Alper YILDIZ

Having grown up along the shores of Antalya and Alanya, I spent my childhood and youth diving into the sea at every opportunity with my mask and fins. The enchanting underwater world captivated me so deeply that pursuing a profession in this field became my childhood dream.



Res. Ast. Alper YILDIZ

Later, I graduated from the Faculty of Fisheries at Akdeniz University. Since 2017, I have been working as a Research Assistant at the same faculty, actively focusing on Marine Fishery and Aquaculture.



How many fish can i count?

REFERANS PROJE : MPA - ENGAGE

The MPA-ENGAGE project primarily aimed to support the adaptation and mitigation of ongoing climate change impacts on Mediterranean Marine Protected Areas (MPAs). Through a participatory approach, the project monitored climate change impacts, prepared vulnerability assessments, and developed climate adaptation action plans for eight MPAs in seven Mediterranean countries: Albania, Croatia, France, Greece, Italy, Malta, and Spain.

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How many fish can i count?

Under the MPA-ENGAGE project, a series of protocols were established to monitor climate-related impacts in MPAs and other areas.

These protocols serve as practical guidance for observing environmental changes and focus on simple measurements of indicators inspired by the concept of Essential Climate Variables. Indicators were chosen based on their scientific relevance, applicability, and cost-effectiveness.

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How many fish can i count?

The fish counting techniques to be used in the topic How many fish can I count? are based on techniques accepted by international scientists who worked within the MPA-Engage project.



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How many fish can i count?

How many fish can i count?



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How many fish can i count?

Why is counting fish important?

Changes in the quality of water in seas, whether improvements or deteriorations, first impact the living organisms within those waters. Monitoring the number of organisms in a specific region seasonally and annually, interpreting these data, and evaluating the region's biodiversity provide valuable scientific datasets



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How many fish can i count?

Fish counting techniques

There are two primary methods for fish counting:
1. **Visual counting** by divers
2. **Digital counting** using electronic devices

Additionally, visual counts can also be conducted using cameras placed underwater to provide continuous footage.



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How many fish can i count?

Types of visual counting

1- Stationary counting

2- Active counting



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How many fish can i count?

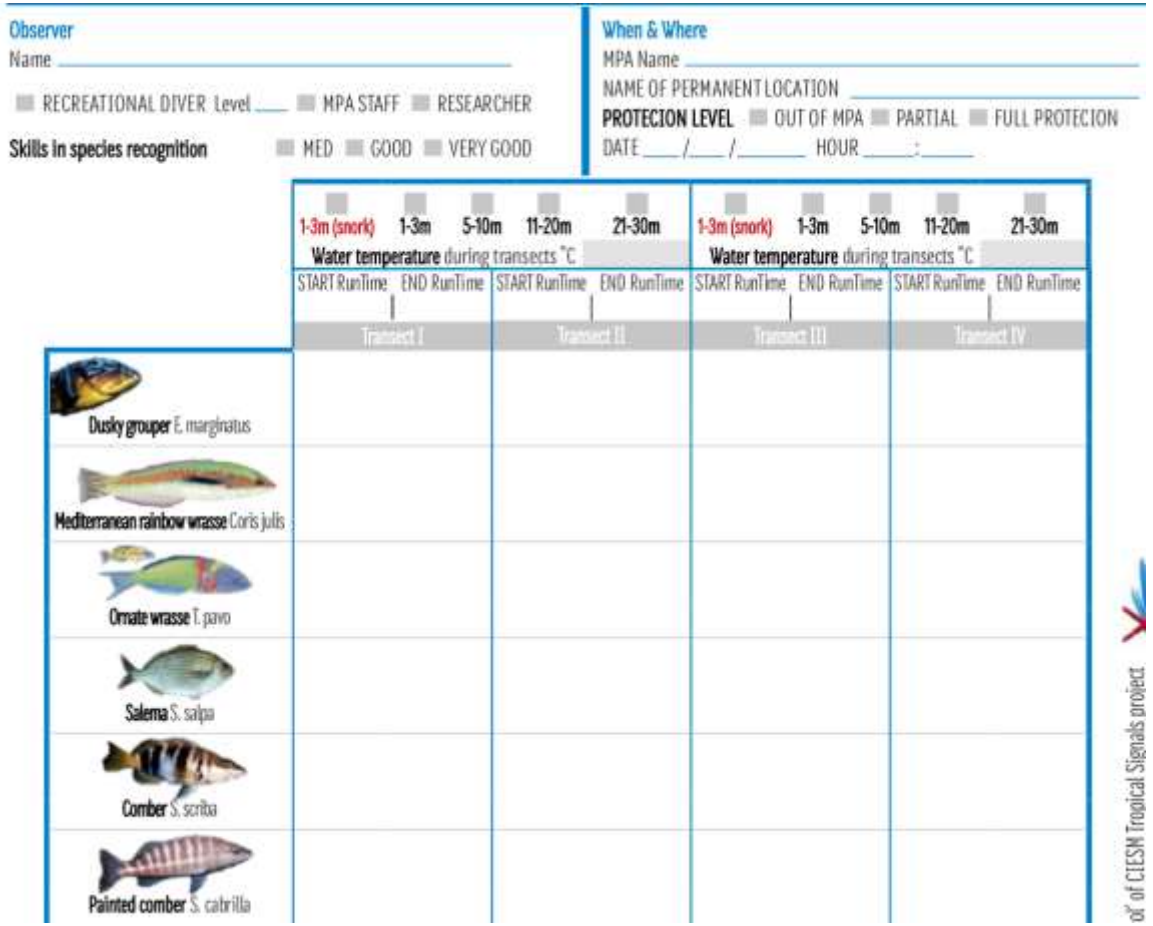
What should we do before starting visual counting?
First of all, we need to know the living creatures in the area we will dive in. We need to talk to our dive guide in advance about which creatures we may encounter during the dive and the possible dangers, and prepare emergency action plans.

Before we start diving, we need to determine which species are important to us and prepare a table for this.

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How many fish can i count?

Hazırlamamız gereken tablo nasıl olmalıdır?



1- Information identifying the diver must be written

2- It must be stated how competent he/she is in identifying fish species

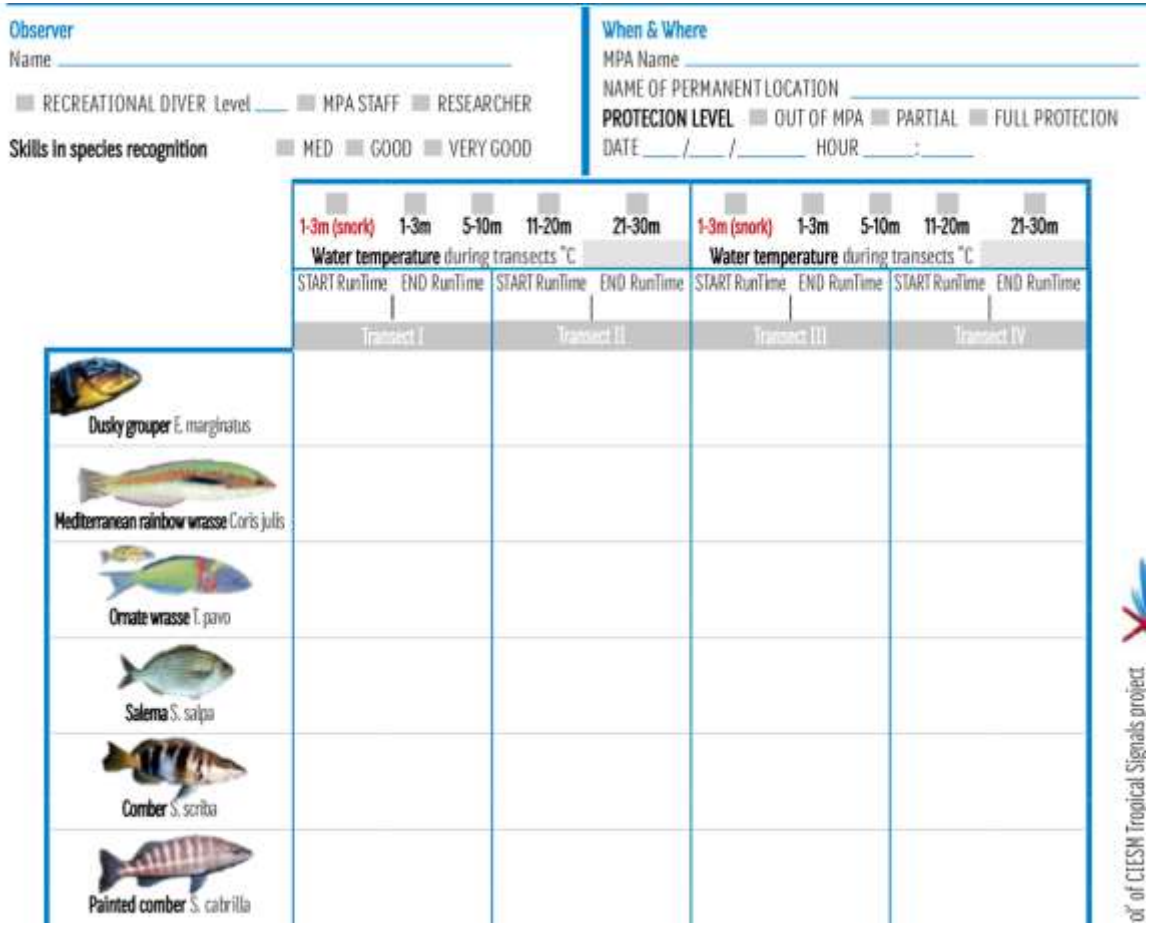
3- Information regarding the area where the dive is made must be entered.

4- It must be written whether this area is a Marine Protected Area (MPA)

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How many fish can i count?

Hazırlamamız gereken tablo nasıl olmalıdır?



5- The depth ranges to be dived must be written

6- The water temperature during the dive must be written

7- The time data for the moment the count starts and ends must be entered.

8- The fish species we will count must be determined and there must be a line for each species.

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How many fish can i count?

In stationary counting, divers descend to fixed points on the depths they have determined beforehand, stand at the exact center of a 15-meter virtual circle and count the fish that come around them.

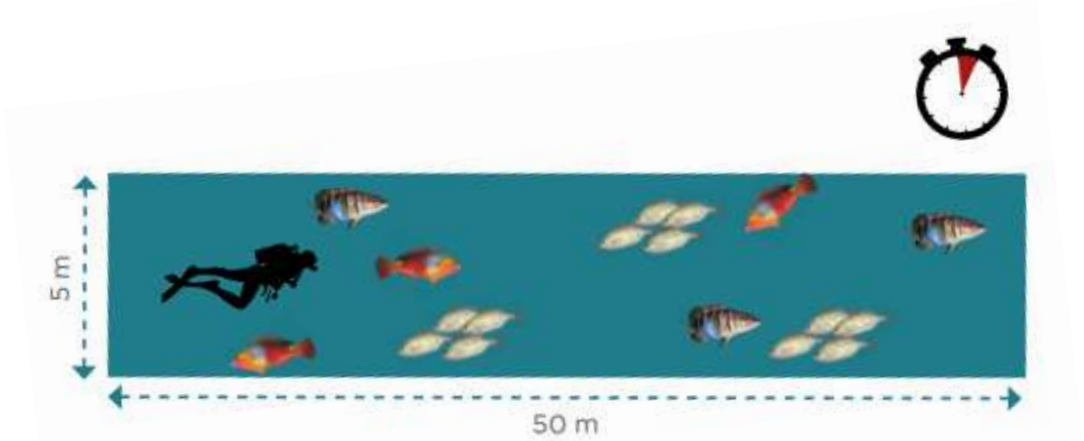


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How many fish can i count?

In active counting, we need to determine different depth lines to dive.

When we come to the beginning of the line at the depth to be counted, we need to start moving very slowly (10 meters per minute) and mark every fish we see larger than 2 cm in a 2.5-meter area on our right and left on our table and move forward 50 meters at the end of 5 minutes. Then, counting is done again on the same line and when we return to the starting point, the count for that depth line will be completed.



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How many fish can i count?

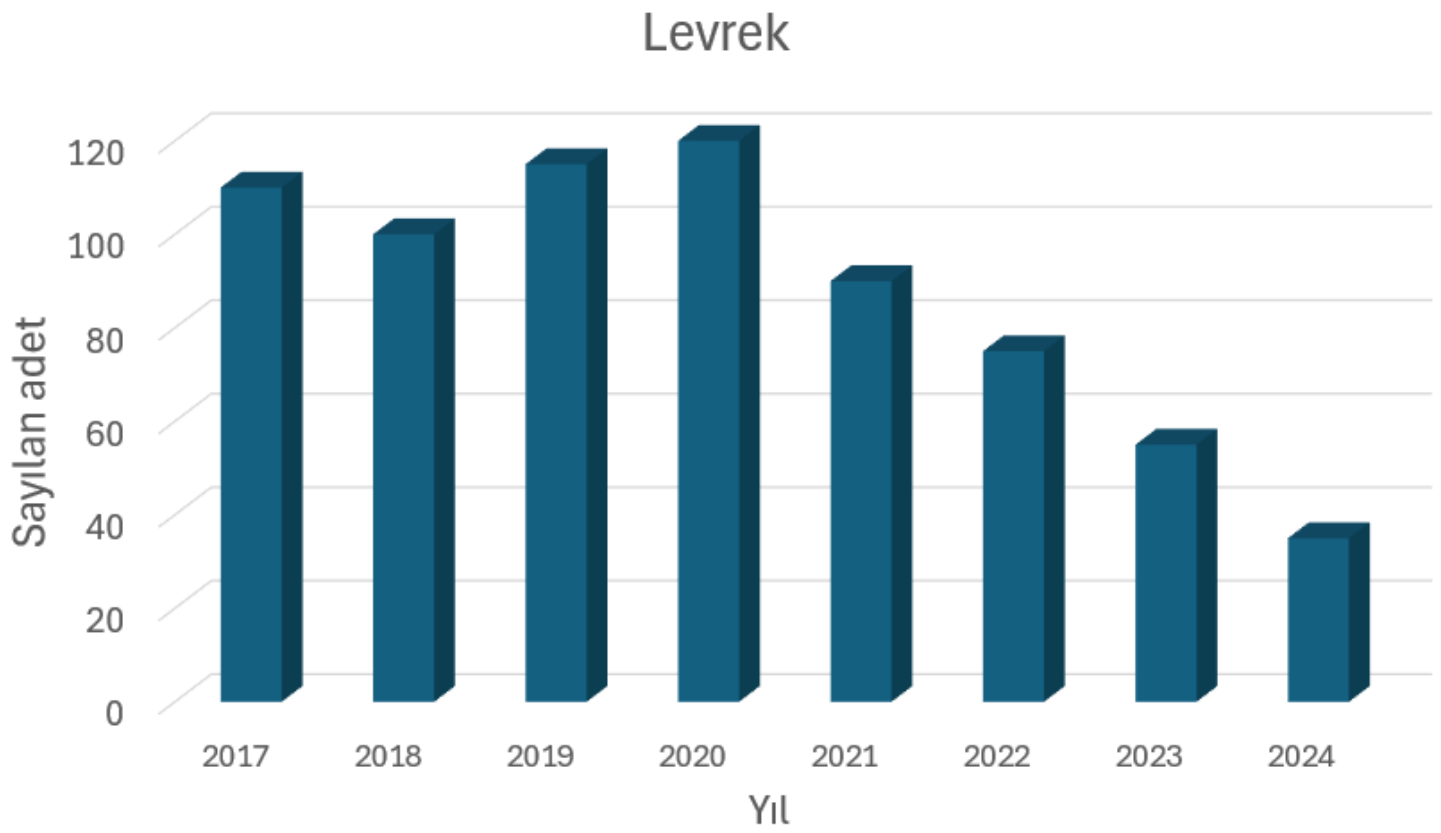
Later, the same processes will be repeated on different depth lines and at the end of the day, all data will be recorded as a single data set. These counting processes should be repeated at a frequency appropriate for the purpose for which they are being performed.



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How many fish can i count?

How do these fish counts help us?



Fish counts are very important in terms of revealing the changes in the numbers of living creatures in our seas over certain periods of time and providing statistical evidence if interventions need to be made.

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How many fish can i count?

THANK YOU FOR LISTENING



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How many fish can i count?

Your questions and topics of interest



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How many fish can i count?



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WHEN SCIENTIST GO UNDER THE WATER

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Thank you

Bizi sosyal medyada takip edin!

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