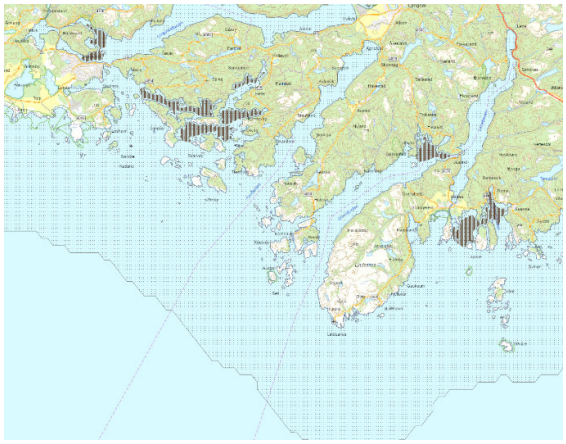
Product Type:

Coastal stock mapping – Spawning ground cod MB

Description



Spawning grounds for coastal cod have been mapped as habitat types in the "National Programme for Mapping of Marine Habitats" according to DN handbook 19 - Mapping of marine biodiversity.
Valued areas with spawning grounds can be seen on the Directorate of Fisheries' map pages such as the map layer "Spawning Field Cod MB", as well as on HI's map data page https://www.imr.no/geodata/geodataHI.html.

Spawning grounds for coastal cod are monitored by the Institute of Marine Research and updated with annual expeditions that will cover the entire coast over the course of 7-10 years. Spawning grounds are areas where fish gather to reproduce and areas where eggs and larvae reside immediately after spawning. Active spawning grounds are valuable for the individual species, and interventions can impair the species' reproductive success to varying degrees.

Many marine fish have pelagic eggs that are released and float freely in the water masses on the spawning grounds (e.g. cod), while in some species the eggs are glued to vegetation or rocks and gravel on the bottom (e.g. herring). Often, the coastal spawning grounds are localized to thresholds and shallows near larger volumes of water that provide good and stable conditions for eggs and larvae in the first stage of life. Active spawning grounds are a result of the species' evolutionary history in the sense that here spawning and subsequent survival of eggs, larvae and fry has been successful.

A spawning ground can have a number of characteristics such as special bottom topography, pools and thresholds. Some species like to spawn near certain bottom types or in specific habitats. Also, special current conditions may be important. Fish that have spawned in places where the offspring have been taken with the currents to unfavourable places have not survived to any great extent, and fish will therefore cease to use such spawning grounds. Spawning grounds, on the other hand, can naturally lie in places where the pelagic eggs and larvae drift to areas where it would be advantageous for the offspring to grow up.

Many species in the coastal zone also spawn in places where eggs and larvae are held back by the currents so that the offspring grow up near the spawning grounds. Such areas we call retention areas. Spawning grounds where offspring are not mixed with offspring from other spawning grounds can help establish genetic differences and provide a basis for local stocks of fish. This has been proven for herring and cod, among others. Fish will often stay in a larger area outside the spawning season, and then swim back to the spawning grounds during the spawning season. Then it is also important that the spawning mature fish can swim to the spawning ground without encountering obstacles or being frightened.

Purpose/application

The dataset can be used as a basis for determining whether an area is a spawning ground for coastal cod. Many measures in coastal zones may have a greater impact on coastal cod stocks if carried out

during the spawning season near spawning grounds than elsewhere.
The dataset can also be used to infer a potential distribution of vulnerable marine ecosystems in the area.

Owner/contact person

Institute of Marine Research

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Dataset resolution

Scale figures:
Location accuracy (meters):

Extent information

Extent description

The map layer is nationally wide, with the main focus on inner parts of the coast. Eggs from coastal cod have been collected from surveys of fixed stations. Furthermore, information from several sources has been collated to provide a complete picture of spawning patterns.

Coverage overview

Eggs have been collected from about 7000 – 8000 stations along the coast (or thereabouts) and mostly the stations are 1-2 nm apart.

The map layer "Coverage map for spawning grounds cod MB" shows which areas the Institute of Marine Research interprets the data as providing a good picture of spawning activity.

More general info about spawning grounds can be found here: https://hi.no/hi/radgivning/marine-naturverdier-og-tiltak-i-kystsonen/marint-biologisk-mangfold/gytefelt

Sources and method

Spawning grounds for coastal cod are based on the collection of newly spawned eggs during the spawning season for coastal cod. The eggs are genetically identified and age-determined.

The flow and spread of eggs are modelled with standardized oceanographic models. These data sources have been compared with previously collected data and interview information to plot the most likely areas that are important for coastal cod spawning.

Updating and updating

Status
Last update: 01.02.2023

The data will be updated as new areas are mapped.

Delivery description

Format (version)
- Shape, GML etc.
- WFS, WMS.

Projections
WGS 84

Access restrictions
Information is made available under CC BY 4.0:
Free use in return for the source (Institute of Marine Research) always being stated.

Service
The dataset is available as WFS and WMS- services, as well as for download in a number of different formats via the Institute of Marine Research's Geoserver, https://kart.hi.no/data. Select *Layer preview* t.v. and search for the dataset for different download choices.

Theme layer name
utbredelseskart:kysttorsk
kystbestandskartlegging:kysttorsk_gyldighet_4326

Property list

Column name	Comment/ dimensions
Name	Local name of spawning ground

Omrade_nr	Area number from the data basis
Information	Probability of spawning grounds, calculated based on the number of eggs and neighboring fields
Site description	Site description
Area	Area
Spawning Field Value	
Bmdatoreg	Date of egg collection in date format (the eggs are collected during the spawning season in the relevant year)
Aarstall	Date of egg collection, year only
Geoserver_navn	Name of the map layer on HI's geoserver kart.no/data
Animal_group	Animal group
Species_norsk	Species
Wms_code	Region type styling code (map-technical)
Map_type_norsk	Kart type
Info_norsk	Information about the map layer
Reference	Reference
Source_norsk	Source
Species_latin	Art in Latin
Species_english	Art in English
Map_type_english	Map type in English
Stock_english	
Source_english	Source in English
Url	Link to more information
Map_version	Publication date
Start_date	Valid from
End_date	Valid until (annual)
Start_mmdd	Valid from, in month-day format
End_mmdd	Valid until, in the month-day format

LINKS

- DN handbook 19 - Mapping marine biodiversity.
- Directorate of Fisheries map pages
- The Institute of Marine Research's guide for marine values and measures in the coastal zone
- Hi.no - Gytefelt
- Hi.no - Weight ranges