



# Sea trout research at Agdenes

## How can you contribute to this research?

Take the length, weight and a sample of scales from each trout you catch at sea or catchments where sea trout are found, and send them to NINA: NINA v / Rachel Paterson, PO Box 5685 Torgarden, 7485 Trondheim.

## Scale sampling:

- Scale samples are taken from behind the dorsal fin and directly above the midline (see scale envelope for location)
- From dead fish, around 30 scales can be taken with a knife. From live fish, 5-8 scales are plucked out with tweezers distributed on each side of the fish
- Place the scales for each fish in a separate NINA scale envelope. Remember to fill in details about your fish and yourself
- IMPORTANT! Do not wrap the scales in plastic!
- If you find a PIT tag in your fish, place it in the envelope with the scales

Vassdrag <b>FREMSTAD</b>	Kommune <b>ORKLAND</b>
Vald/sonne _____	Fiskeplass <b>STORVATNET</b>
Løpenr. _____	<b>SKADER OG DEFEKTER (kryss av): ingen</b> <input type="checkbox"/>
Art <b>ØRRET</b>	Garnskade <input type="checkbox"/>
Dato <b>01.07 2021</b>	Avkortede halefinnefliker <input type="checkbox"/>
Redskap <b>FLUE</b>	Belgete ryggfinnestråler <input type="checkbox"/>
Lengde <b>344 mm</b>	Klumpformet ryggfinne <input type="checkbox"/>
Vekt <b>292 g</b>	Belgete brystfinnestråler: Én finne <input type="checkbox"/>
Hann <input type="checkbox"/>	Begge finner <input type="checkbox"/>
Hunn <input checked="" type="checkbox"/>	Klumpformet brystfinne: Én finne <input type="checkbox"/>
Gydefisk <input type="checkbox"/>	Begge finner <input type="checkbox"/>
Gjellfisk <input type="checkbox"/>	Fettfinne mangler <input type="checkbox"/>
Gjenutsatt: <input type="checkbox"/>	Snute/kjeve deformasjon <input type="checkbox"/>
	Gjellelokkforkorting: Én <input type="checkbox"/>
	Begge <input type="checkbox"/>
	Villfisk <input checked="" type="checkbox"/>
	Oppdrett <input type="checkbox"/>
	Usikker <input type="checkbox"/>
	Kjønnsbestemt ved å åpne fisken: JA <input checked="" type="checkbox"/>
	NEI <input type="checkbox"/>

Fill in the information about your fish as shown here.

(Note: Vassdrag = catchment, Kommune = municipality, Fiskeplass = fishing location, Art = species, Dato = date, Redskap = fishing method)

## Contacts:

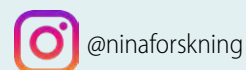
Rachel Paterson (project manager) 481 37 867  
[rachel.paterson@nina.no](mailto:rachel.paterson@nina.no)

Tor Næsje 93466778, [tor.nasje@nina.no](mailto:tor.nasje@nina.no)

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More information about NINA's sea trout research can be found at:  
[www.nina.no/english/seatrout](http://www.nina.no/english/seatrout)



Norsk versjon tilgjengelig på: [www.nina.no/sjoorret](http://www.nina.no/sjoorret)

Anmerkninger:	Skjellprøver tas her
	<b>NB!</b> Lengden er den viktigste opplysningen om fisken, og må under enhver omstendighet oppgis.
	TØRK SLIMET AV FISKEN FØR SKJELLPRØVEN TASI! (GJELDER IKKE LEVENDE FISK). PÅ LEVENDE FISK BØR SKJELLENE NAPPES UT MED EN SMAL TANG ELLER LIGNENDE. SKJELLENE LEGGES DIREKTE I KONVOLUTTEN
	Avsender: <b>A. Fiske</b>
	Adresse: <b>Storgata 50, 7003 Trondheim</b>
	Mobil: <b>123 45 678</b>

Lengde = length, Vekt = weight, Hann = male, Hunn = female,  
 Kjønnsbestemt ved å åpne fisken / JA / NEI = gender determined from an opened fish / YES / NO)



## Want to know more about your fish?

Write your mobile number on the scale envelope and you will receive an sms with information about your fish!

More information about scale samples and analyses available at:

<http://www.nina.no/lakseskjell>



## Fremstad catchment

The Fremstad catchment (Agdenes, Trøndelag) consists of two coastal lakes, Storvatnet (area 2.9 km<sup>2</sup>, depth 16 m) and Litjvatnet (0.5 km<sup>2</sup>, depth 3 m).



## Fish community

Both resident brown trout and migratory sea trout are present in the Fremstad catchment, in addition to Atlantic salmon, European eel, three-spined stickleback and European flounder.

## Research activity at Agdenes

Since the mid-1980s, the Norwegian Institute for Natural Research (NINA) has been commissioned by the environmental administration to monitor salmon along the Agdenes coastline to investigate the immigration of wild salmon to rivers of the Trondheimsfjord. This research is also important for monitoring the presence of escaped farmed salmon. All wild salmon captured are released.

The national monitoring program for salmon lice on wild salmonids (NALO) also has activities at Agdenes, including assessing the number of salmon lice on salmon and trout. Captured sea trout are measured and weighed, and examined for lice and PIT (passive integrated transponders) tags, before they are returned to the sea.

## What are sea trout?

Sea trout are a form of trout (*Salmo trutta*) that choose to migrate out to sea to increase their food supply. Both sea trout and resident brown trout spawn in freshwater, and both sea trout and brown trout can originate from the same parents! Sea trout usually grow much faster, larger and produce more eggs than resident brown trout that stay in freshwater their whole life. This makes sea trout important for maintaining good stocks of large trout in the Fremstad catchment.

## Why examine sea trout?

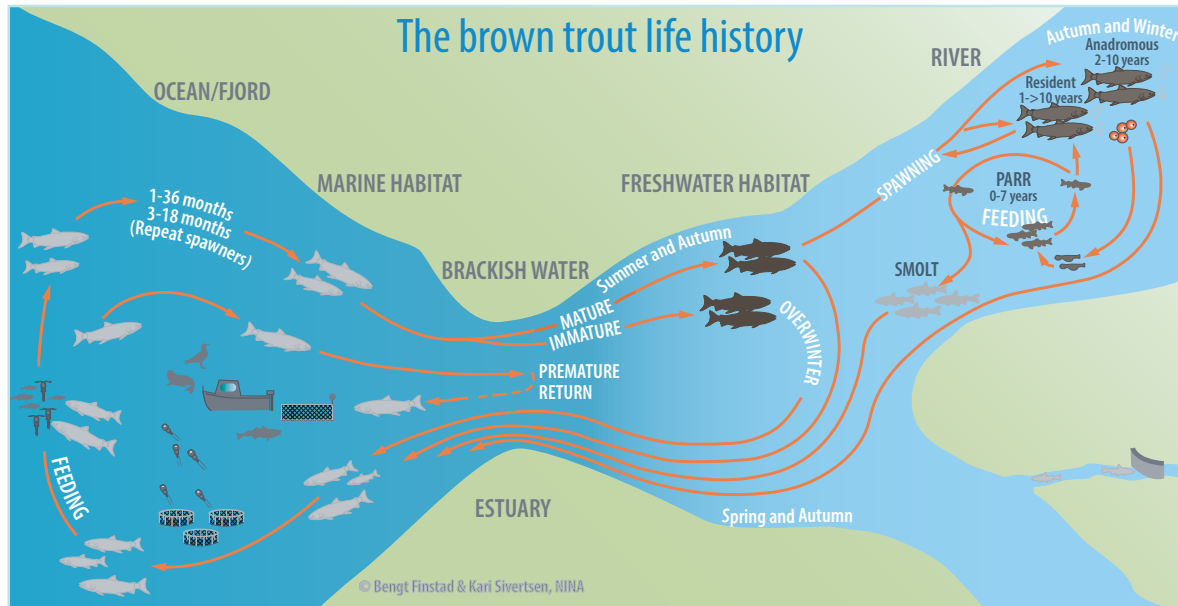
Many Norwegian sea trout stocks have experienced severe declines due to man-made problems both in freshwater and the sea. It is important to understand which problems threaten the local sea trout stocks, to ensure healthy sea trout stocks for the future.

## Monitoring of sea trout

Since 2016, NINA has studied the migration patterns of Fremstad sea trout. Here, sea trout are individually identified with a PIT tag, and their movements out to sea and back to freshwater are recorded by an underwater PIT antenna in the Hegg River. As sea trout face many dangers at sea, not all individuals will return to Fremstad. In 2020, approx. 40% of sea trout successfully returned.

## Trout populations in Lakes Storvatnet and Litjvatnet - new surveys in 2021!

In 2021 we will examine the stock size and health status of resident brown trout and migratory sea trout from lakes Storvatnet and Litjvatnet. We will also describe important habitats and feeding resources in the lakes and streams for trout. These surveys will help to identify measures to improve sea trout stocks in the Fremstad catchment.



The life history of sea trout. Brown trout can have both resident and sea-migratory forms (i.e. sea trout). Both forms can be produced from the same parents. Immature sea trout can stay in the sea for several months or years, and have yearly migrations.



The PIT antenna at the Hegg River entrance which continuously monitors the out- and return-migration of sea trout. (Inset - a 12.5 mm PIT tag)