Wester Ross Wild Trout Workshop, Kinlochewe Village Hall, 30th April 2019

Supported by Wester Ross Area Salmon Fishery Board and The Wild Trout Trust

Programme *(provisional titles for some talks)*

10:30	Welcome and introduction
10:35	**Dr Steve Kett** (University of Middlesex) *Introduction to the Loch Maree Wild Trout Project*
11:00	**Vu Dang** (University of Middlesex) *A first look at the population structure of Loch Maree wild trout*
11:25	Short break . . .
11:35	**Dr Toby Landeryou** (Universitry of Middlesex) *Immunogenic adaptation of UK brown trout populations to parasite infection*
12:00	**Prof Eric Verspoor** (UHI Rivers and Lochs Institute) *Trout tales from Loch Laidon and other wild waters . . .*
12:30	Lunch
13:35	**Peter Cunningham** (SWRFT) *Wester Ross: a stronghold for the future of wild brown trout?*
14:00	**Dr David Morris** (Marine Scotland Science) *Tracking sea trout in Loch Torridon: where do they go (and why)?*
14:25	Short break
14:35	**Dr Martijn Timmermans** (Middlesex University) *Sea lice in the molecular biology classroom*
15:00	**Gareth Pedley** (The Wild Trout Trust) *Habitat management for wild trout: examples of work of The Wild Trout Trust*
15:30	General discussion: priorities for the conservation and management of wild trout in Wester Ross area
16:00	Close of meeting

main photo by John Macpherson

LOCH MAREE
Wild Trout Project

Middlesex University London

Wester Ross: a stronghold for native wild trout?

Peter Cunningham,

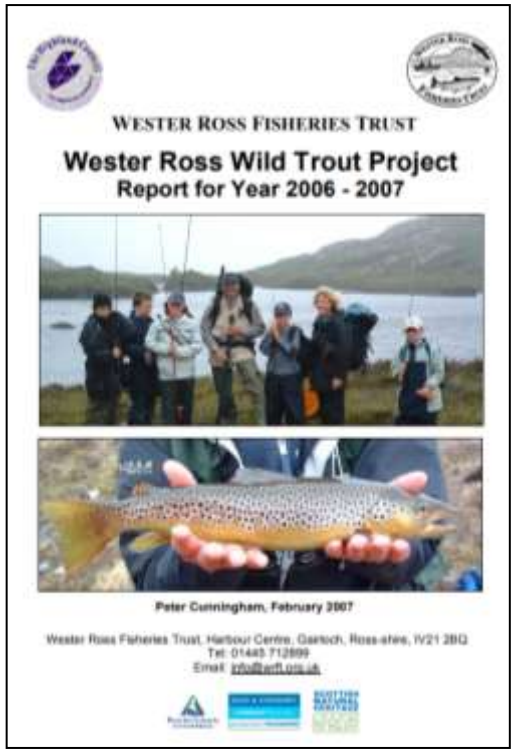
Skye and Wester Ross Fisheries Trust

Wester Ross Wild Trout Workshop, 30th April 2019

www.wrft.org.uk

Summary

- **Wild trout diversity: some examples**
- **Some challenges . . .**



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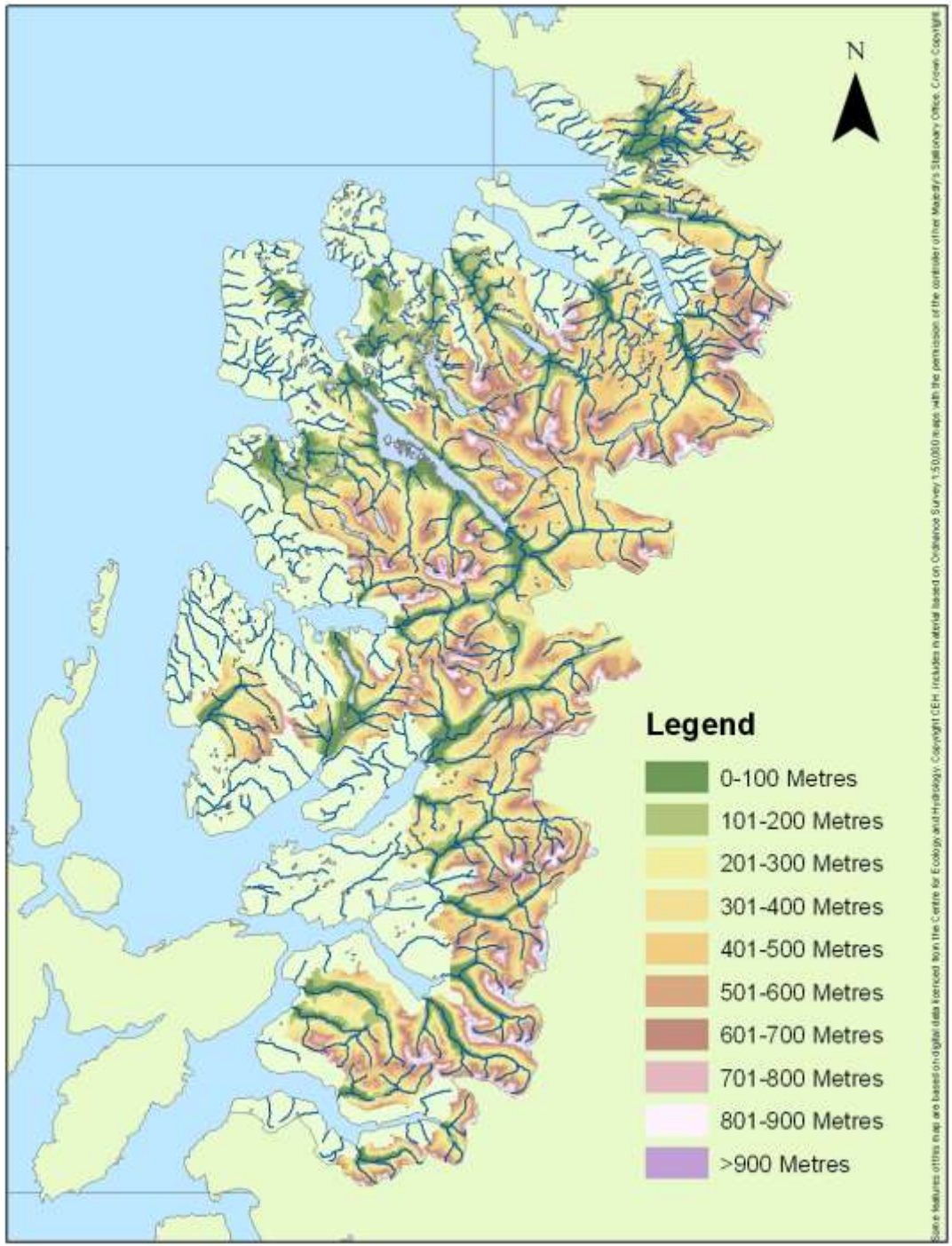
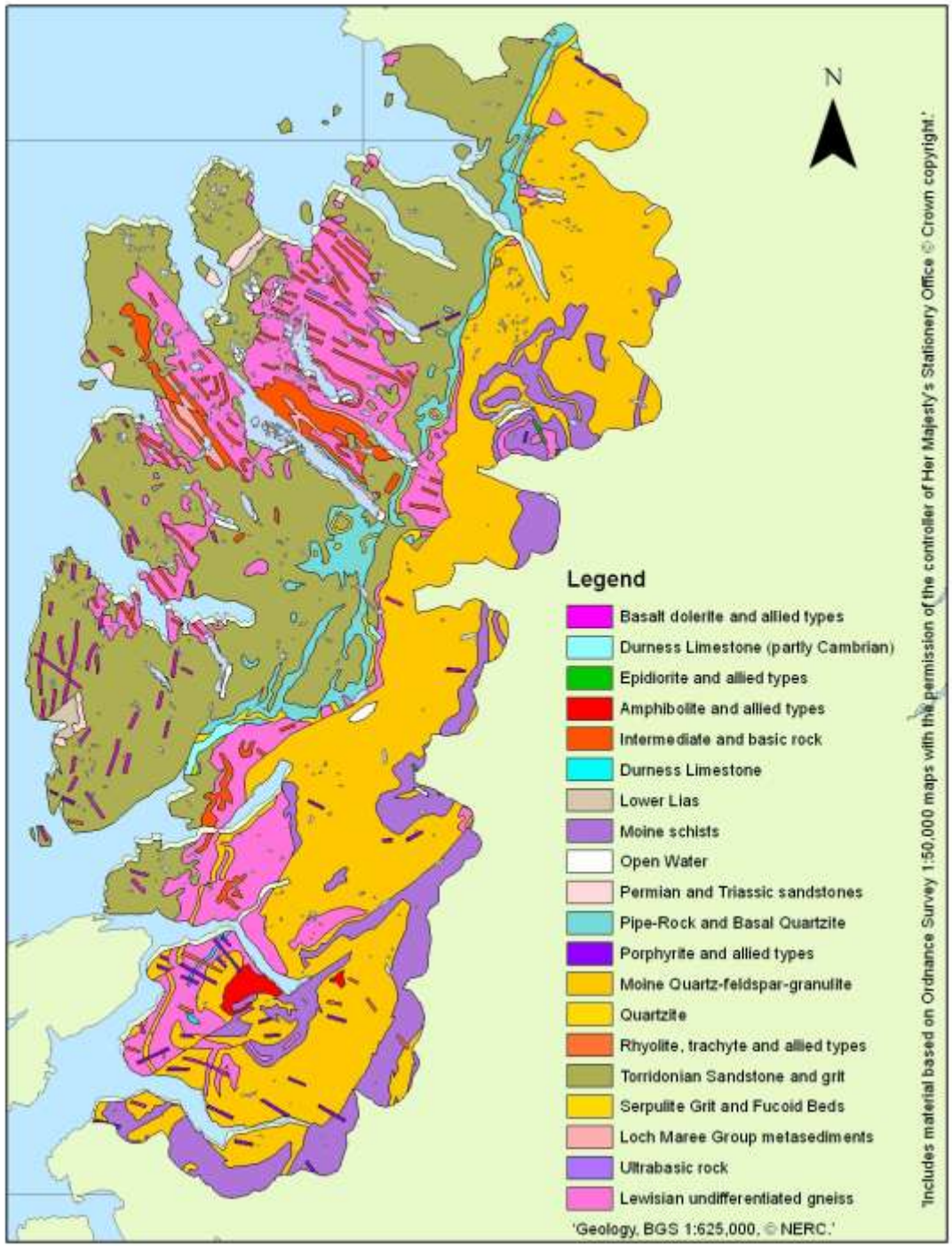
Torridon and Liathach by Lulu Strader, Sept 2010



Wester Ross

Land of glaciated mountains, lochs and short, swiftly flowing salmon rivers . . .


Lewisian gneiss and Torridonian sandstone: hard, resistant to weathering, un-yielding rock.



. . . underlain by Torridonian sandstone and Lewisian Gneiss.

Barren mountains . . .

Beinn Eighe NNR: how natural?


Sparsely vegetated slopes
Beinn Damh forest: where are the trees?

Knoll and lochan landscapes. . .


Trees cling to inaccessible ledges
Abhainn Dearg

Unstable rivers

Strath na Sealga, upper Gruinard: note alder woodland along floodplain

Uninhabited ‘wilderness’ . . .

Fionn loch and Dubh loch from Beinn Airigh charr

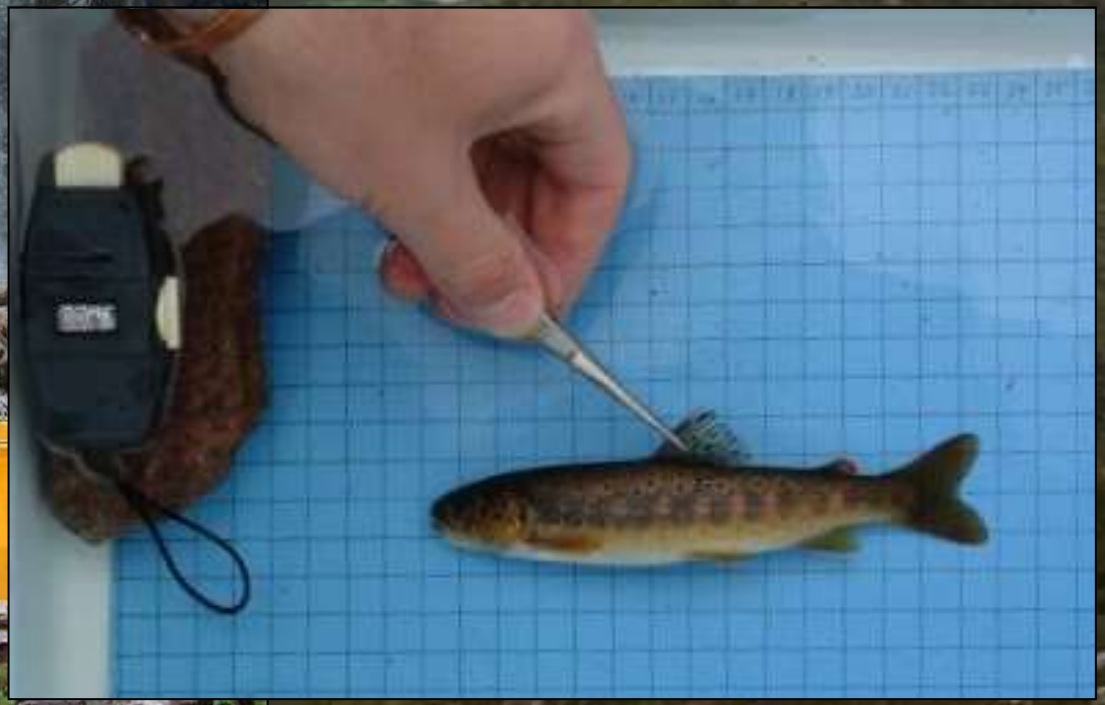
with ‘near pristine’ oligotrophic lochs?

Loch Maree . . .

a stronghold for wild trout *(Salmo trutta)*?

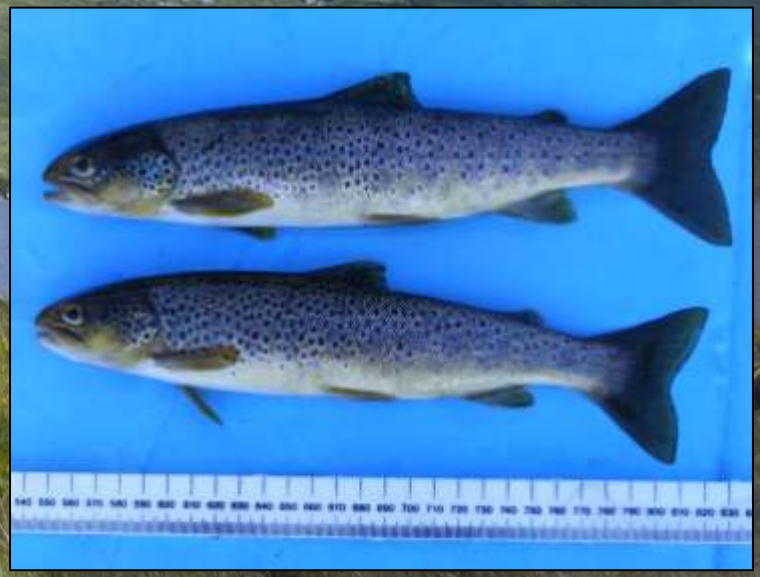
Lochan Fada (Second coast) August 2008

Talladale, June 2006



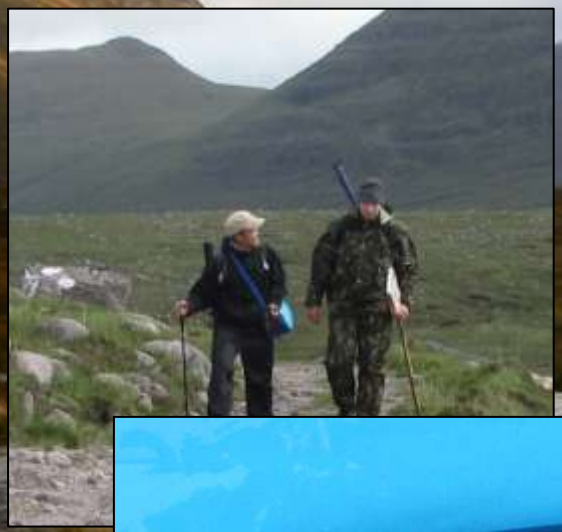
Gairloch Hill Lochs August 2011

Lochan Fada, July 2016

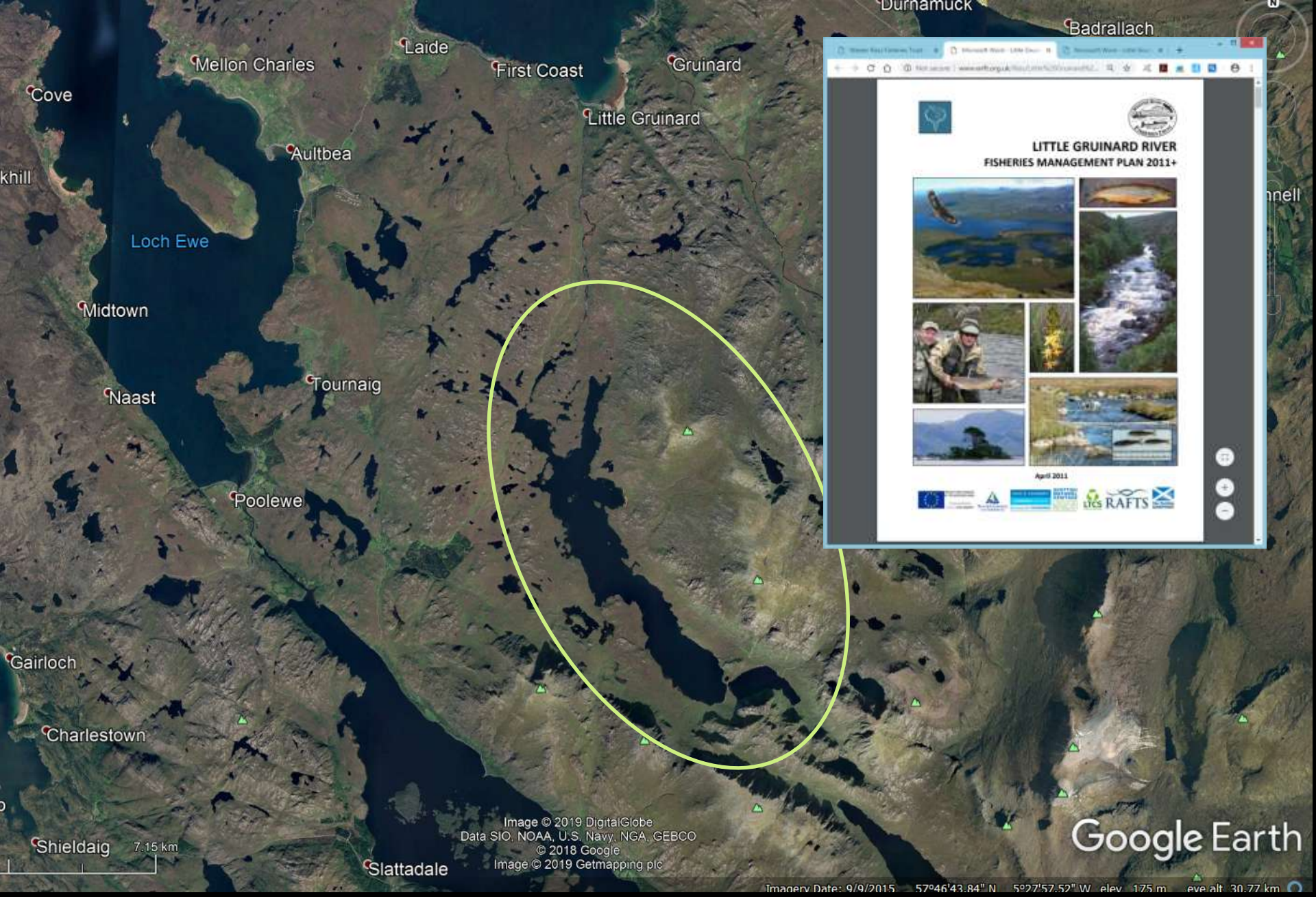


Badachro Hill Loch July 2017

Loch na H’ Oichdhe



Main picture September 2018

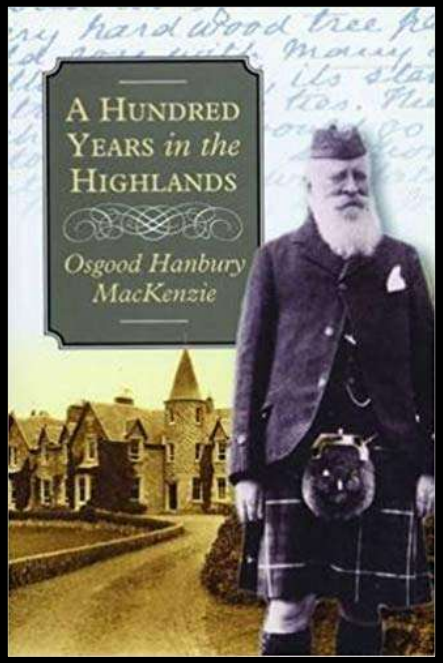


Fionn Loch, Little Gruinard River System

The Fionn Loch is famous for big trout,

(photo from Beinn Airigh charr)

from Beinn Airigh charr



‘The Old people declared that there were three different species (or at least varieties) of these trout, and gave them three different Gaelic names vis.,

Claigionnaich (skully, big headed),

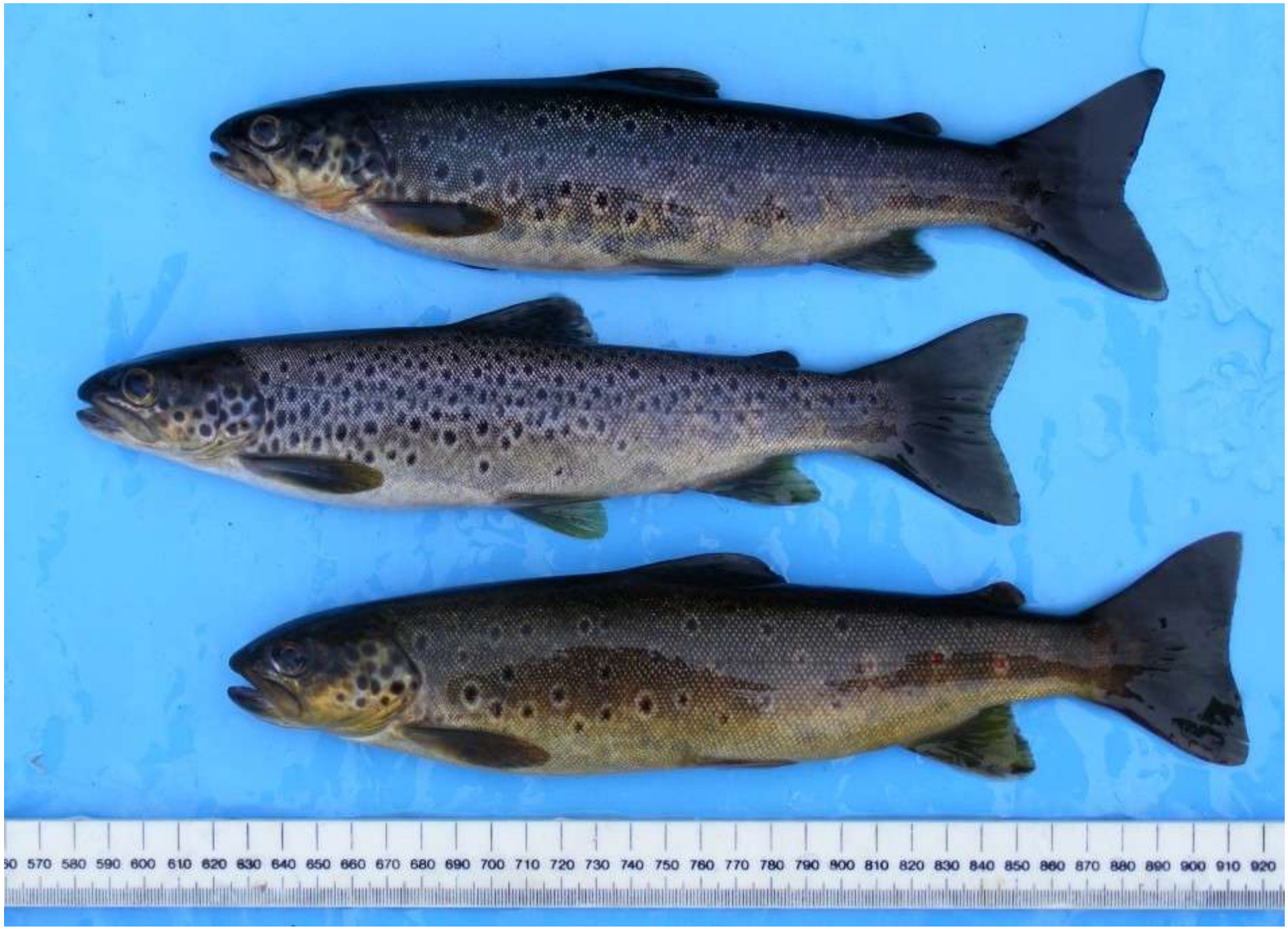
Carraigeanaich (stumpy, short and thick) and

Cnaimhaich (bony, big boned).

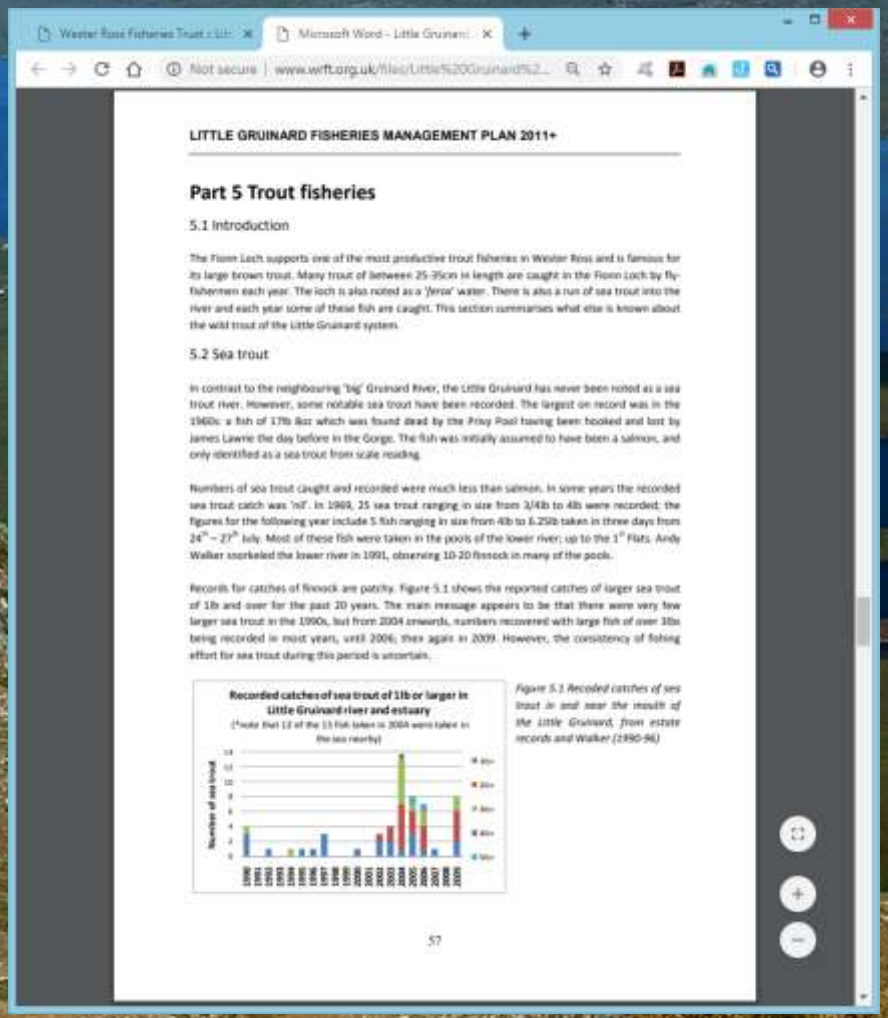
Certainly the trout do vary a lot in shape and colouring.’


Very big trout eat Arctic charr and are called *'ferox'*
Male arctic charr, upper Gruinard , 1 Nov 2011 (photo Ben R.)

Fionn Loch 12 September 2017: from one population or 2 (or three?)



Still much to learn about the Fionn Loch and its wild trout and other fishes . . .



LITTLE GRUINARD FISHERIES MANAGEMENT PLAN 2011+

Part 5 Trout fisheries

5.1 Introduction

The Fionn Loch supports one of the most productive trout fisheries in Wester Ross and is famous for its large brown trout. Many trout of between 25-35cm in length are caught in the Fionn Loch by fly-fishermen each year. The loch is also noted as a 'ferox' water. There is also a run of sea trout into the river and each year some of these fish are caught. This section summarises what else is known about the wild trout of the Little Gruinard system.

5.2 Sea trout

In contrast to the neighbouring 'big' Gruinard River, the Little Gruinard has never been noted as a sea trout river. However, some notable sea trout have been recorded. The largest on record was in the 1960s: a fish of 17lb 8oz which was found dead by the Privy Pool having been hooked and lost by James Lawrie the day before in the Gorge. The fish was initially assumed to have been a salmon, and only identified as a sea trout from scale reading.

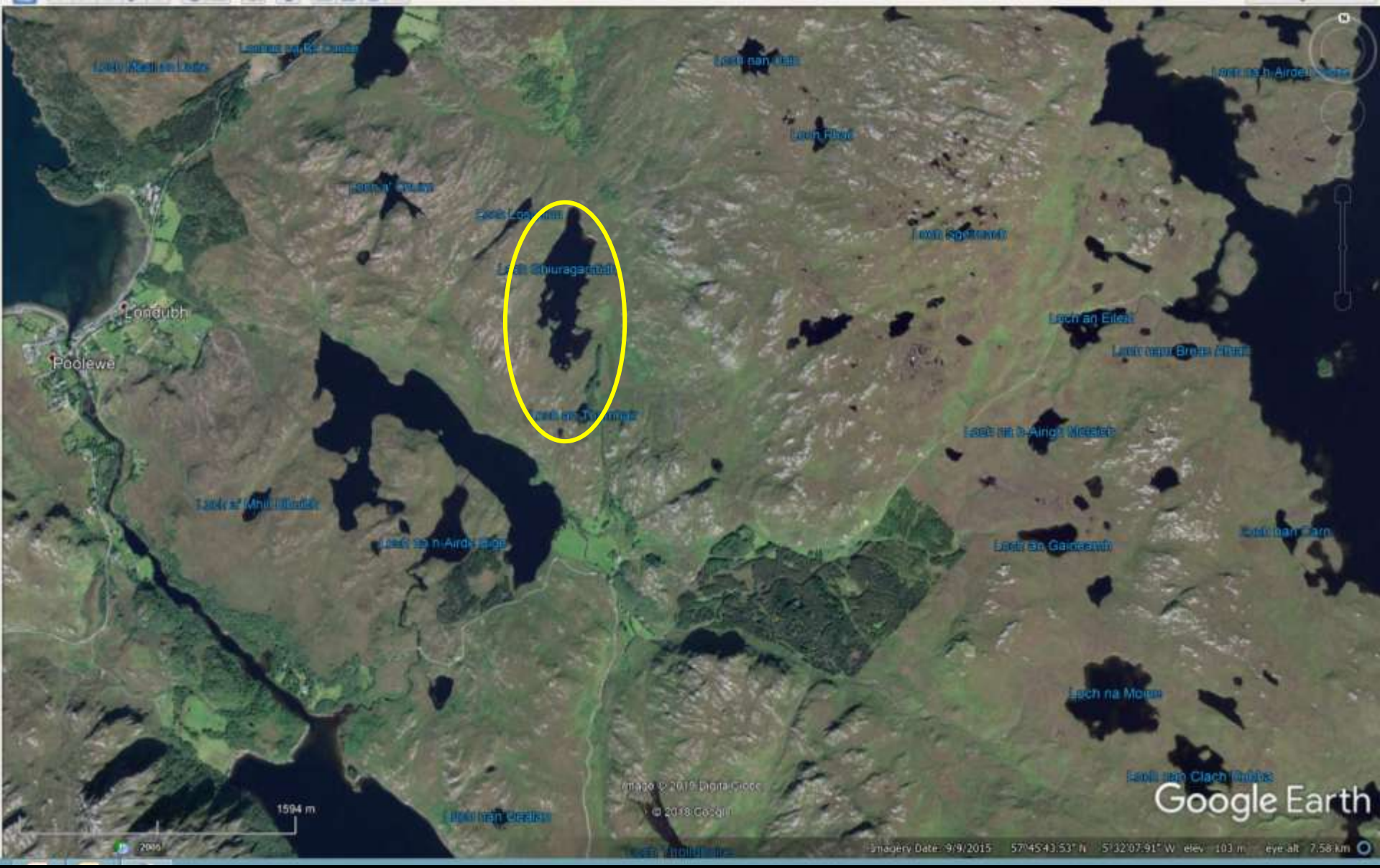
Numbers of sea trout caught and recorded were much less than salmon. In some years the recorded sea trout catch was 'nil'. In 1969, 25 sea trout ranging in size from 3/4lb to 4lb were recorded; the figures for the following year include 5 fish ranging in size from 4lb to 6.25lb taken in three days from 24th – 27th July. Most of these fish were taken in the pools of the lower river; up to the 1st Flats. Andy Walker snorkeled the lower river in 1991, observing 10-20 finnock in many of the pools.

Records for catches of finnock are patchy. Figure 5.1 shows the reported catches of larger sea trout of 1lb and over for the past 20 years. The main message appears to be that there were very few larger sea trout in the 1990s, but from 2004 onwards, numbers recovered with large fish of over 3lbs being recorded in most years, until 2006; then again in 2009. However, the consistency of fishing effort for sea trout during this period is uncertain.

Figure 5.1 Recorded catches of sea trout in and near the mouth of the Little Gruinard, from estate records and Walker (1990-96)

57

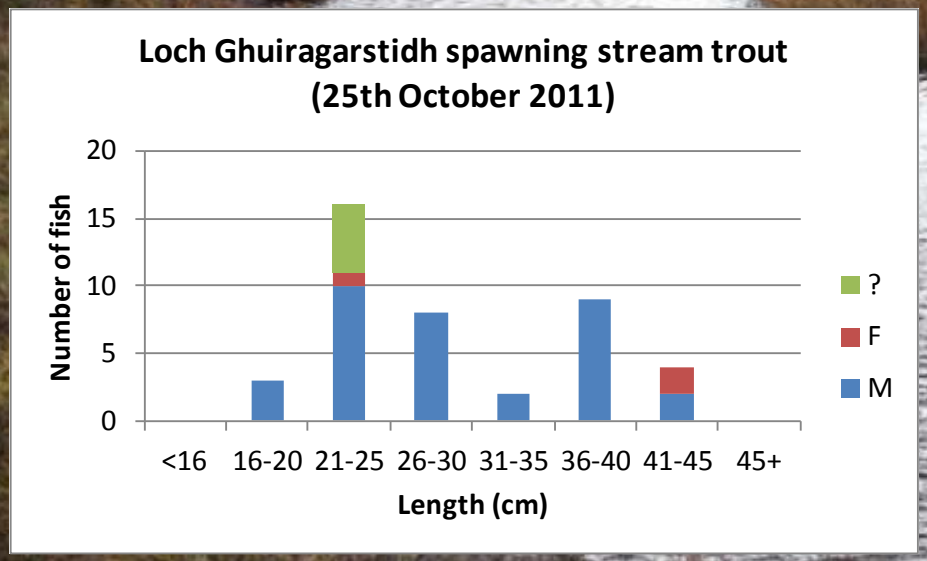
Salmon fry
& charr fry



Loch Ghiuragarstidh, River Ewe system

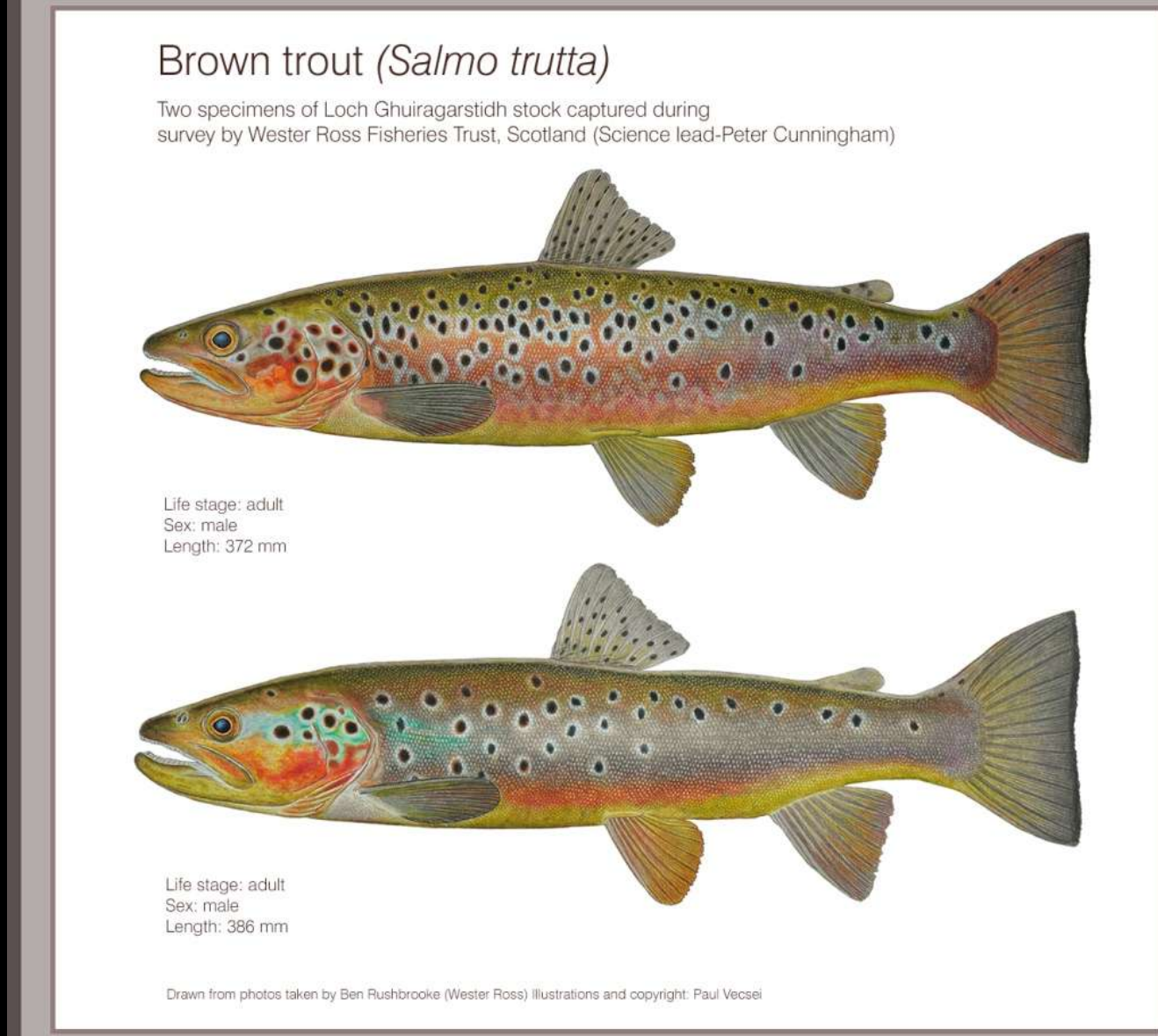
Loch Ghuiragarstidh trout spawning burn study, 2011

Photos by Ben Rushbrooke



42 trout were caught. The majority were male trout; many of these had a distinctive olive – yellow colouration.

Loch Ghiuragarstidh trout by Paul Vecsei



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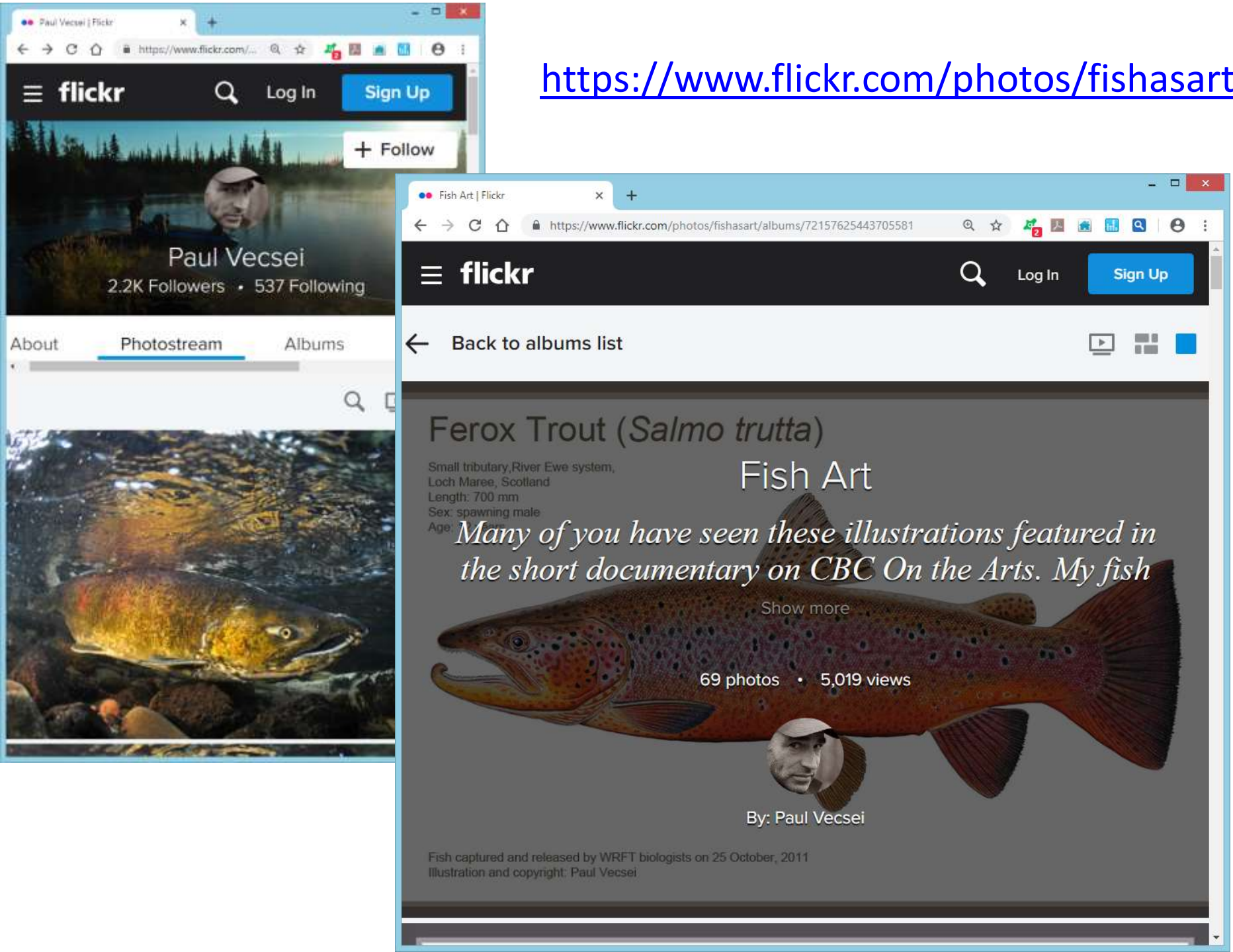

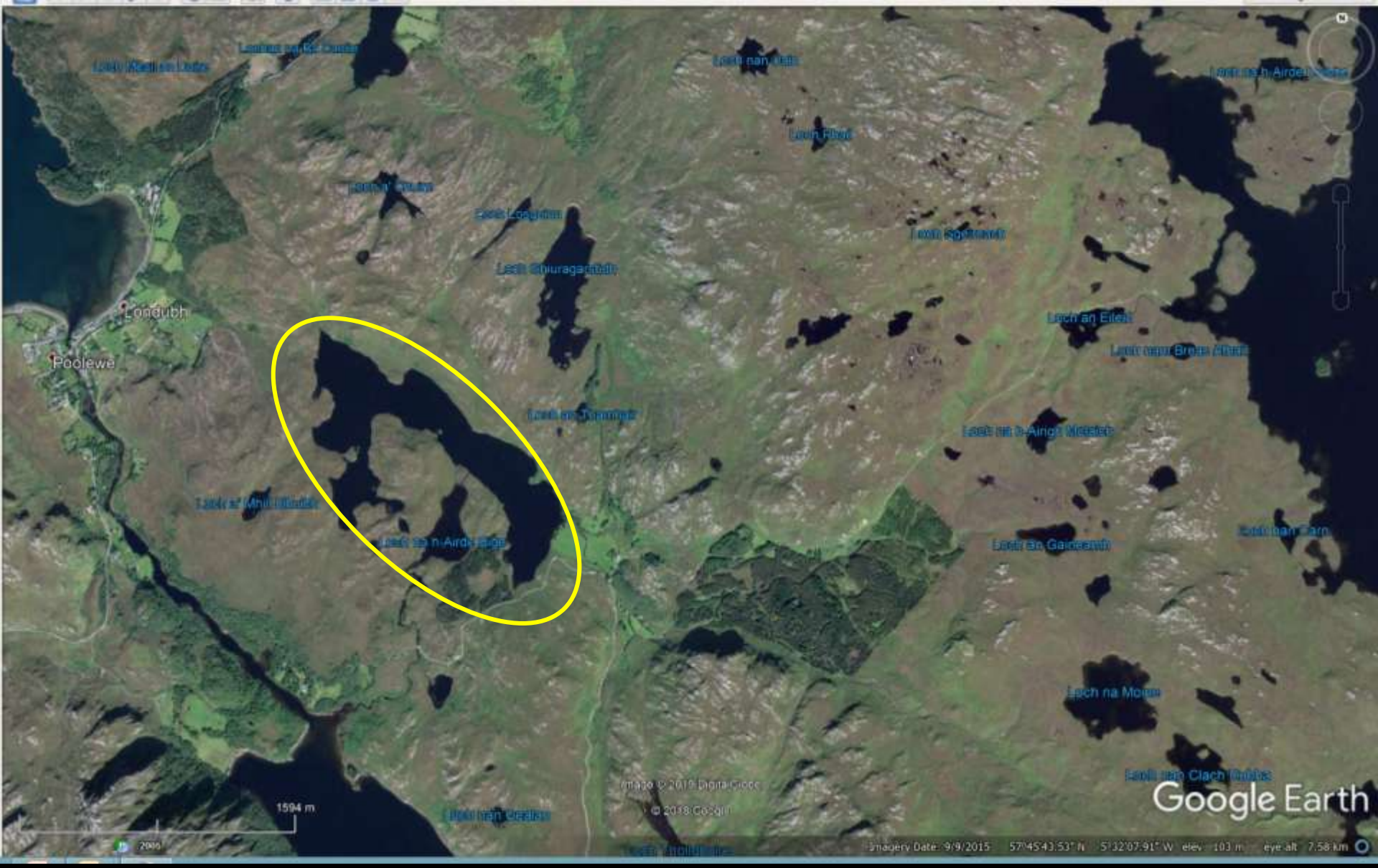

Loch Kernsary: a natural, big fish trap?

Spawned sea trout and salmon kelts unable to find exit?

Paul Vecsei | Flickr | wester ross fisheries kernsary | Wester Ross Fisheries Trust ::

https://www.wrft.org.uk/news/newsitem.cfm?id=112

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Low water delays downstream migration of smolts, over-wintered sea trout and kelts

Posted: Friday 4 June, 2010 @ 10:08:14

Smolts, over-wintered sea trout and finnock were delayed in reaching the sea after water levels fell in many Wester Ross rivers in early May. Rivers finally rose over the weekend of 29th - 30th May after heavy rain. Smolt migration resumed at Tournaig; River Ewe Rotary screw trap (see other news item) catches peaked with both sea trout smolts and last year's finnock and salmon smolts heading for the sea.

The following chain of correspondense may also relate to the low water conditions in May . . .

From: Glynn Cutts
Sent: 31 May 2010 17:09
To: enquiries@marlab.ac.uk
Subject: Freshwater Fish

Hello,

I was on holiday with my wife in Scotland the last couple of weeks

On Sunday 23rd May we were in Gairloch, in the afternoon we dec
Poolewe. We walked up the river Ewe, branched off towards Fionn
Kernsary back to Poolewe. Right at the very end of the loch, where
Poolewe end, the bank is steep and the loch ends in a sharp corne
Approaching along the path I saw a swirl of a biggish fish towards t
closer, I put on my polaroids and peered down from the high bank.
I saw a shoal of good fish finning up the loch about 3 feet down, I
more preceding them, I estimated each of them at 3 to 4lbs. Behi
bigger about 6lbs, just below the surface, swimming in a relaxed a

I have fished in Scotland over 20 years, I am experienced in watch
consider this sighting quite extraordinary?

They can't have been Brown Trout, that size, they wouldn't travel

Early for Salmon, especially Grilse.

Sea Trout? best guess, in that case they must have come via the jo
Maree at last improving for Sea-Trout?

I'd welcome your thoughts,

Glynn Cutts

Latest News

- 2019 sweep netting season starts with sample of louse-infested sea trout in Loch Gairloch (22/04/19)
- Wester Ross spring spawning herring

Brown trout, male, 700mm, Kernsary, 27th October 2011, aged at 12 years old.

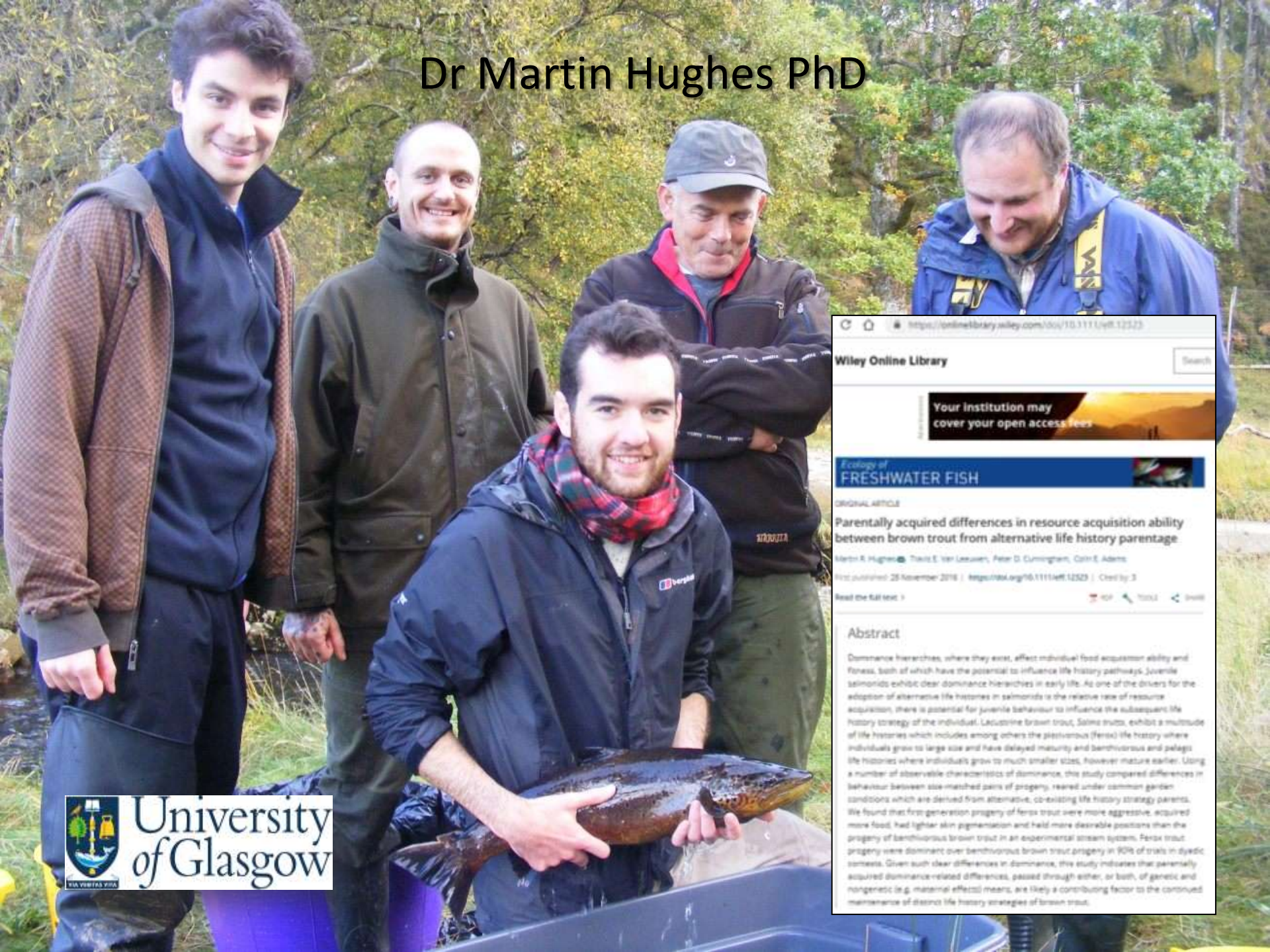
Ferox Trout (*Salmo trutta*)

Small tributary,River Ewe system,
Loch Maree, Scotland
Length: 700 mm
Sex: spawning male
Age: 12 years

Fish captured and released by WRFT biologists on 25 October, 2011
Illustration and copyright: Paul Vecsei

https://www.flickr.com/photos/fishasart/

Dr Martin Hughes PhD



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Ecology of FRESHWATER FISH

ORIGINAL ARTICLE

Parentally acquired differences in resource acquisition ability between brown trout from alternative life history parentage

Martin R. Hughes, Tobis E. Van Leeuwen, Peter D. Cunningham, Colin E. Adams

First published: 28 November 2018 | https://doi.org/10.1111/eff.12523 | Cited by: 3

Read the full text >

Abstract

Dominance hierarchies, where they exist, affect individual food acquisition ability and fitness, both of which have the potential to influence life history pathways. Juvenile salmonids exhibit clear dominance hierarchies in early life. As one of the drivers for the adoption of alternative life histories in salmonids is the relative rate of resource acquisition, there is potential for juvenile behaviour to influence the subsequent life history strategy of the individual. Lacustrine brown trout, *Salmo trutta*, exhibit a multitude of life histories which includes among others the piscivorous (ferox) life history where individuals grow to large size and have delayed maturity and benthivorous and pelagic life histories where individuals grow to much smaller sizes, however mature earlier. Using a number of observable characteristics of dominance, this study compared differences in behaviour between size-matched pairs of progeny, reared under common garden conditions which are derived from alternative, co-existing life history strategy parents. We found that first generation progeny of ferox trout were more aggressive, acquired more food, had lighter skin pigmentation and held more desirable positions than the progeny of benthivorous brown trout in an experimental stream system. Ferox trout progeny were dominant over benthivorous brown trout progeny in 90% of trials in dyadic contests. Given such clear differences in dominance, this study indicates that parentally acquired dominance-related differences, passed through either, or both, of genetic and nongenetic (e.g. maternal effects) means, are likely a contributing factor to the continued maintenance of distinct life history strategies of brown trout.

Loch Maree, River Ewe catchment


Loch Maree biodiversity


WRFT Loch Maree Family Day, October 2006

Loch Maree Sea trout Fishery

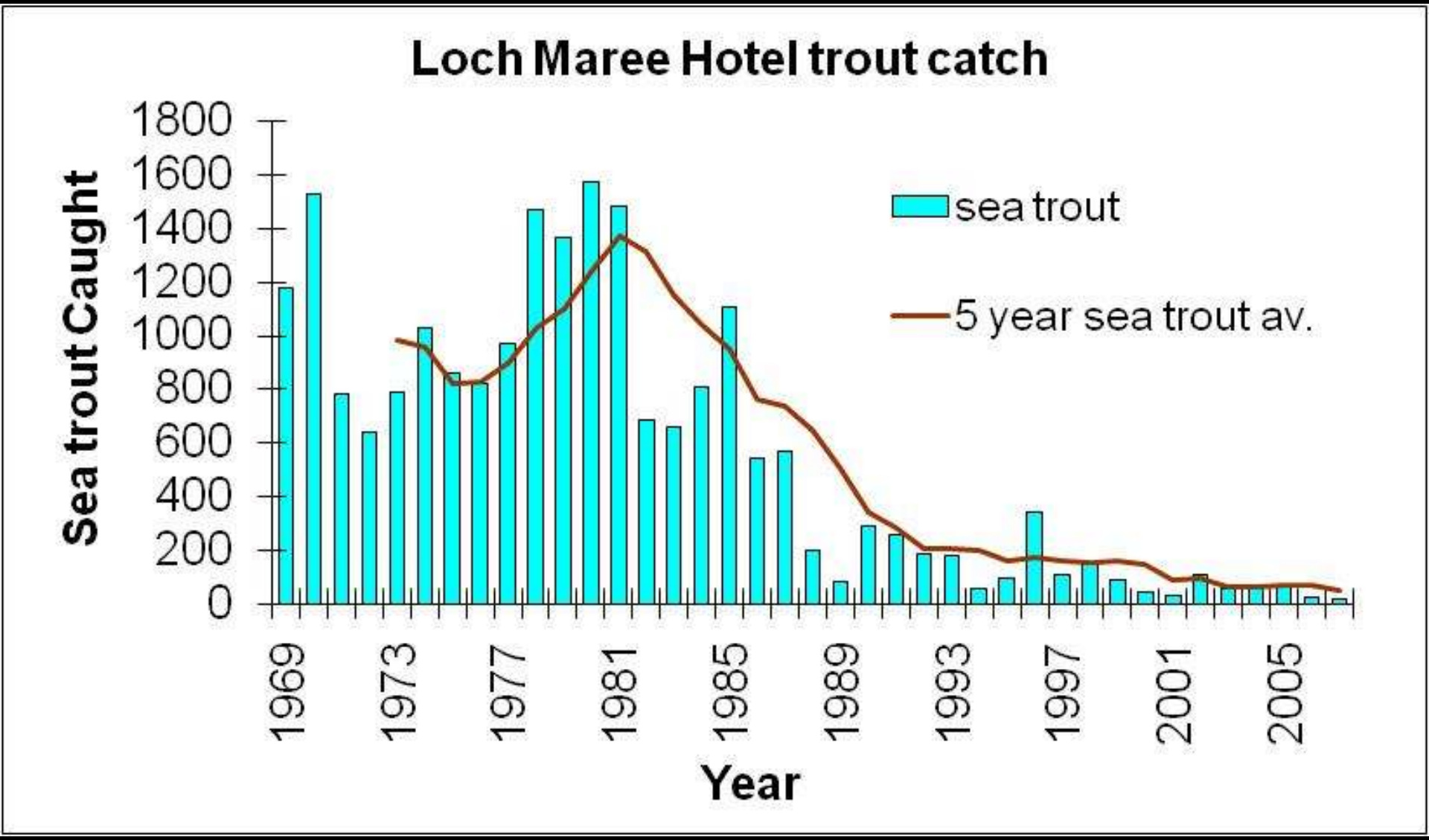
formerly 15+ boats from early July until mid October


The art of dapping was developed on Loch Maree. . .

Former British record rod caught sea trout

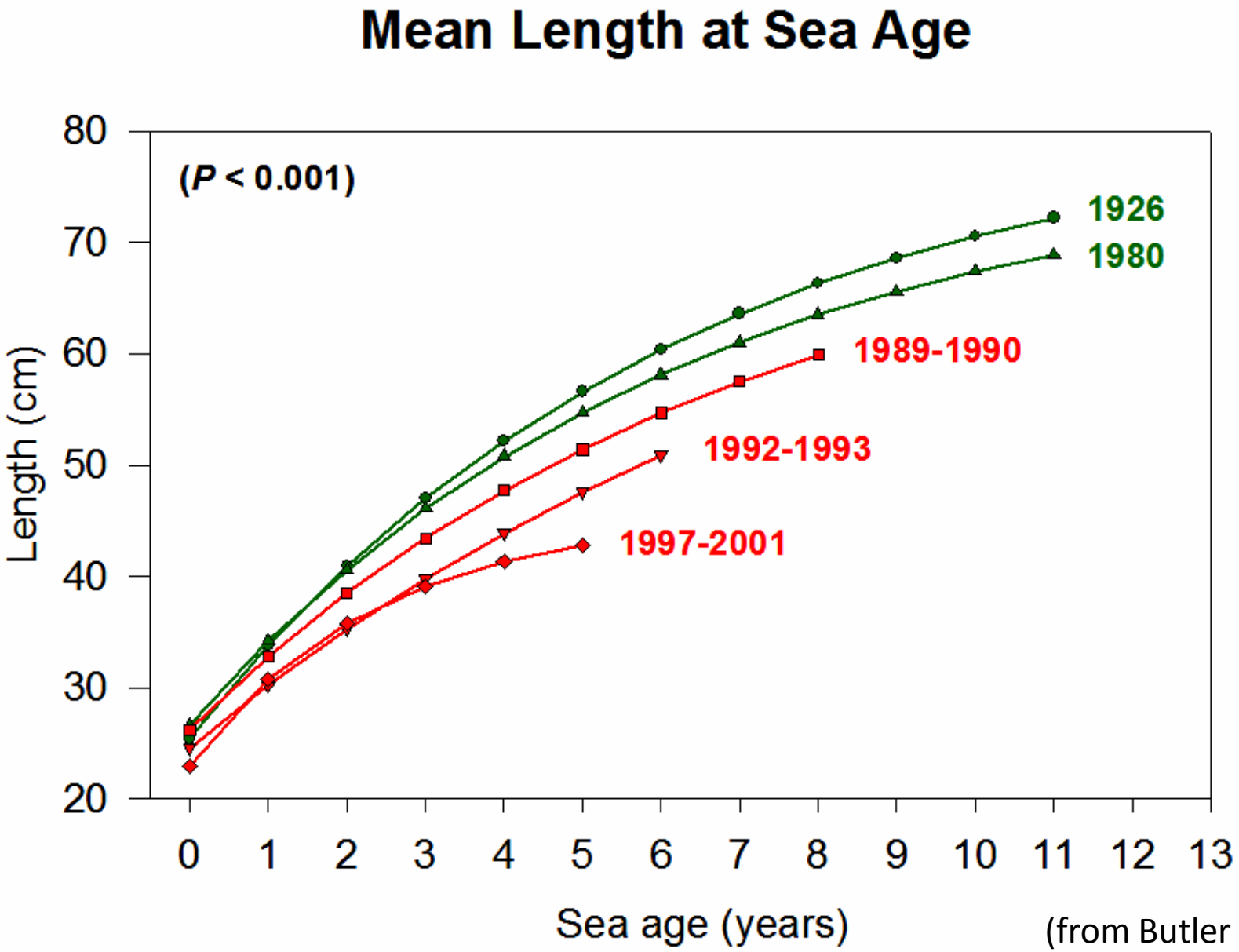
Big bushy fly

The Loch Maree sea trout fishery collapsed at the end of the 1980s



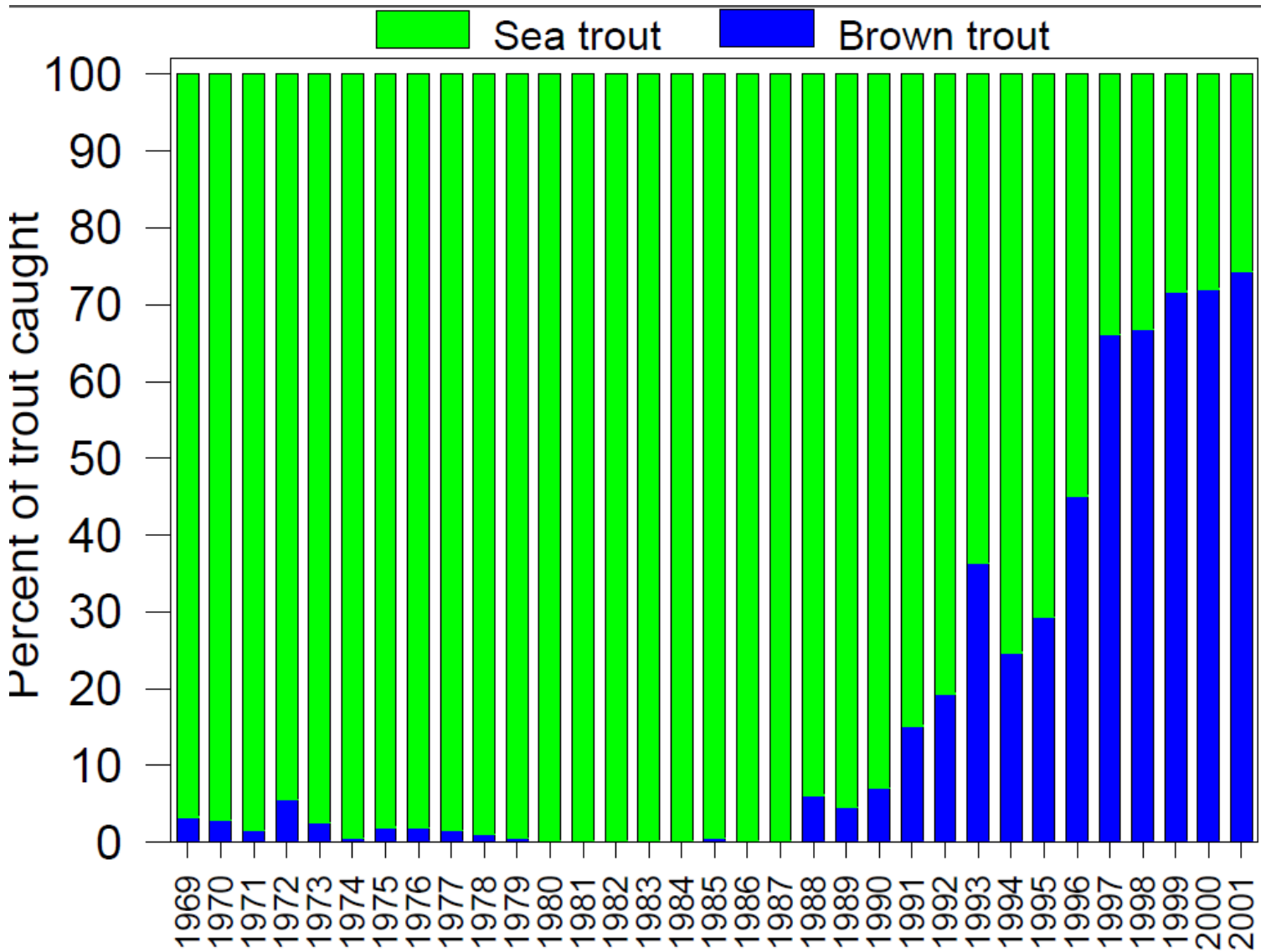

‘West Coast problem’ meeting, Loch Maree Hotel, ?1990 (photo by Keith Dunbar)

Marine growth rates and survival of Loch Maree sea trout declined . . .



(from Butler 2002)

The proportion of brown trout in the Loch Maree rod catch of trout increased in the early 1990s.



Sea trout monitoring

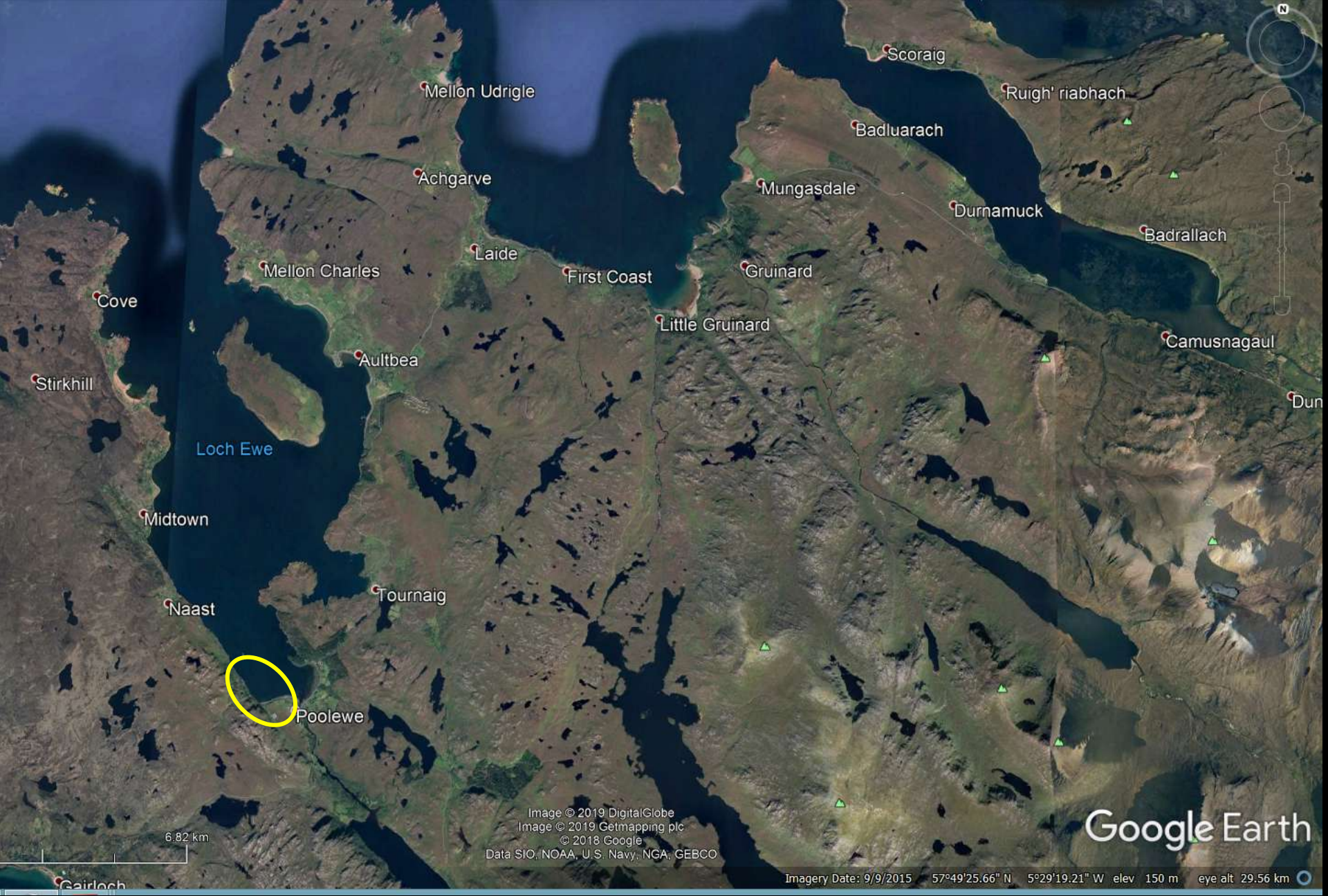
- to find out about sea trout growth rates, parasite burdens and survival.

The Scottish Government

Wester Ross Area Salmon Fishery Board

RAFTS

Boor Bay
31st August 2011



Boor Bay, Loch Ewe

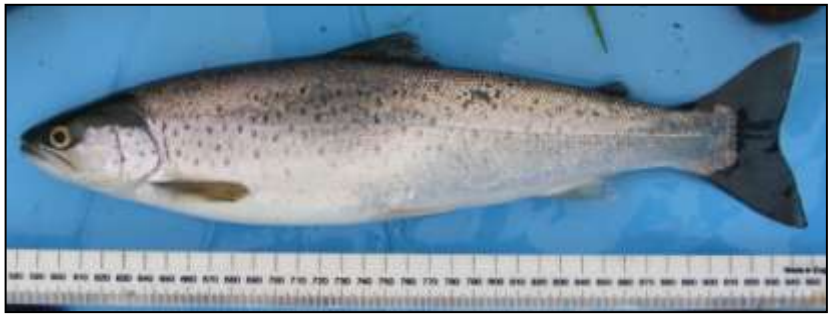
Sampling site at Boor Bay, Loch Ewe

Sweep net sample, **Loch Ewe**, 4th June 2015

(~55km from nearest Torridon salmon farm)

Total catch: 41 sea trout including 36 post-smolts (<250mm) mostly with <5 lice per fish

This 362mm sea trout with just 10 lice



. . . and also a 295mm sea trout with 412 lice.

Sea trout, 487mm, 1160 g, 27 lice, taken in WRFT sweep net on 16th May 2011, Boor Bay, Loch Ewe.

Sea trout monitoring Boor Bay, Loch Ewe
just two successful sweeps in June 2018
just 5 sea trout

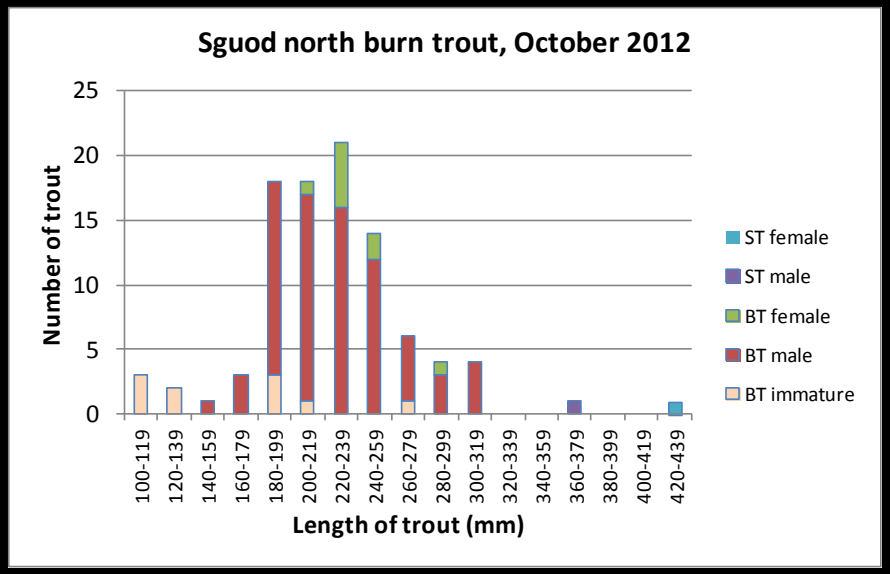
ST 282mm Boor Bay 15

ST 365mm Boor Bay 27 June 2018, 30 lice

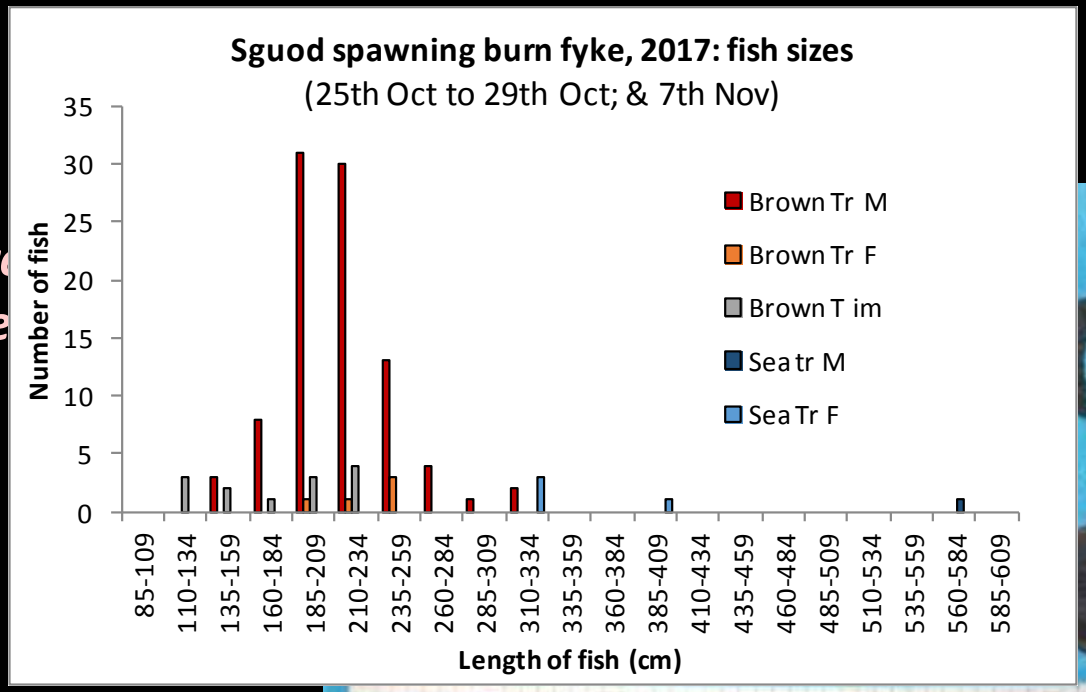
The Scottish Government

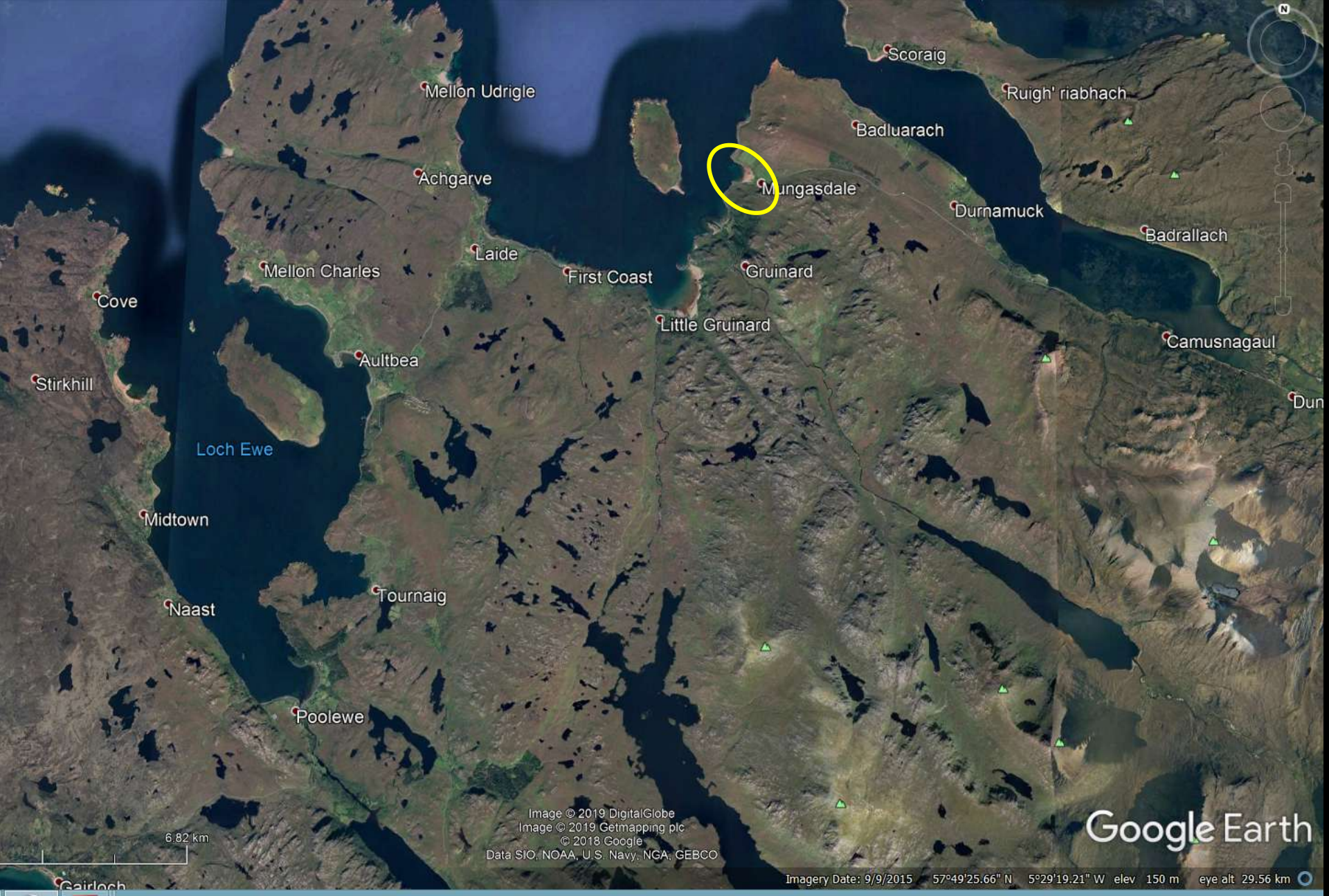
Sea trout remain scarce in some spawning burns . . .

Sguod spawning burn by Loch Ewe, October 2012



Mature female trout





Mungasdale, Gruinard Bay

Mungasdale 23 May 2012

Sea grass (*Zostrea marina*)

(*picture from Tayside Biodiversity webpage*)

Sea trout, fish G1, 465mm, 1016g (cf. 1.01), taken at Mungasdale Bay on 15th June 2011. This fish had 31 lice: (0 chalimus, 14 pre-adult and adult lice and 17 ovigerous females).

The same sea trout, G1, caught at Mungasdale Bay on 23rd May 2012, 520mm, 1167g; condition factor 0.83 (still rather thin) with 27 Lepeophtheirus salmonis lice (10 chalimus, 7 adults and pre-adults, 10 ovigerous females) and 2 Caligus elongatus.

Sea Trout (salmo trutta)

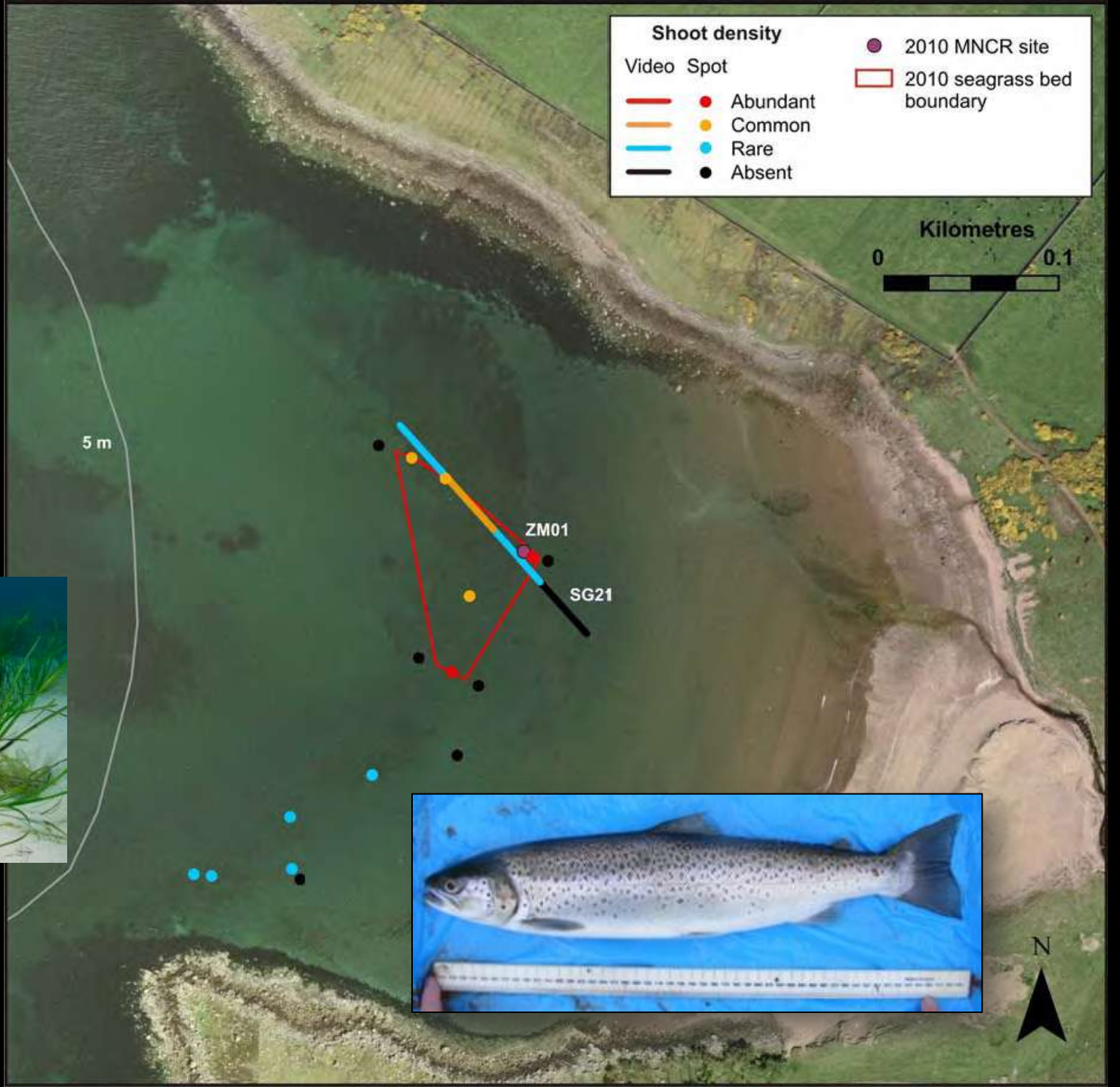
Captured in Mungasdale Bay, Scotland
Anadromous Atlantic strain,
Length: 520 mm
Weight: 1176 g
Date: 23 May 2012

Source material: Peter Cunningham, Charlie Hill, Les Bates and Colin Blyth (Wester Ross Fisheries Trust)

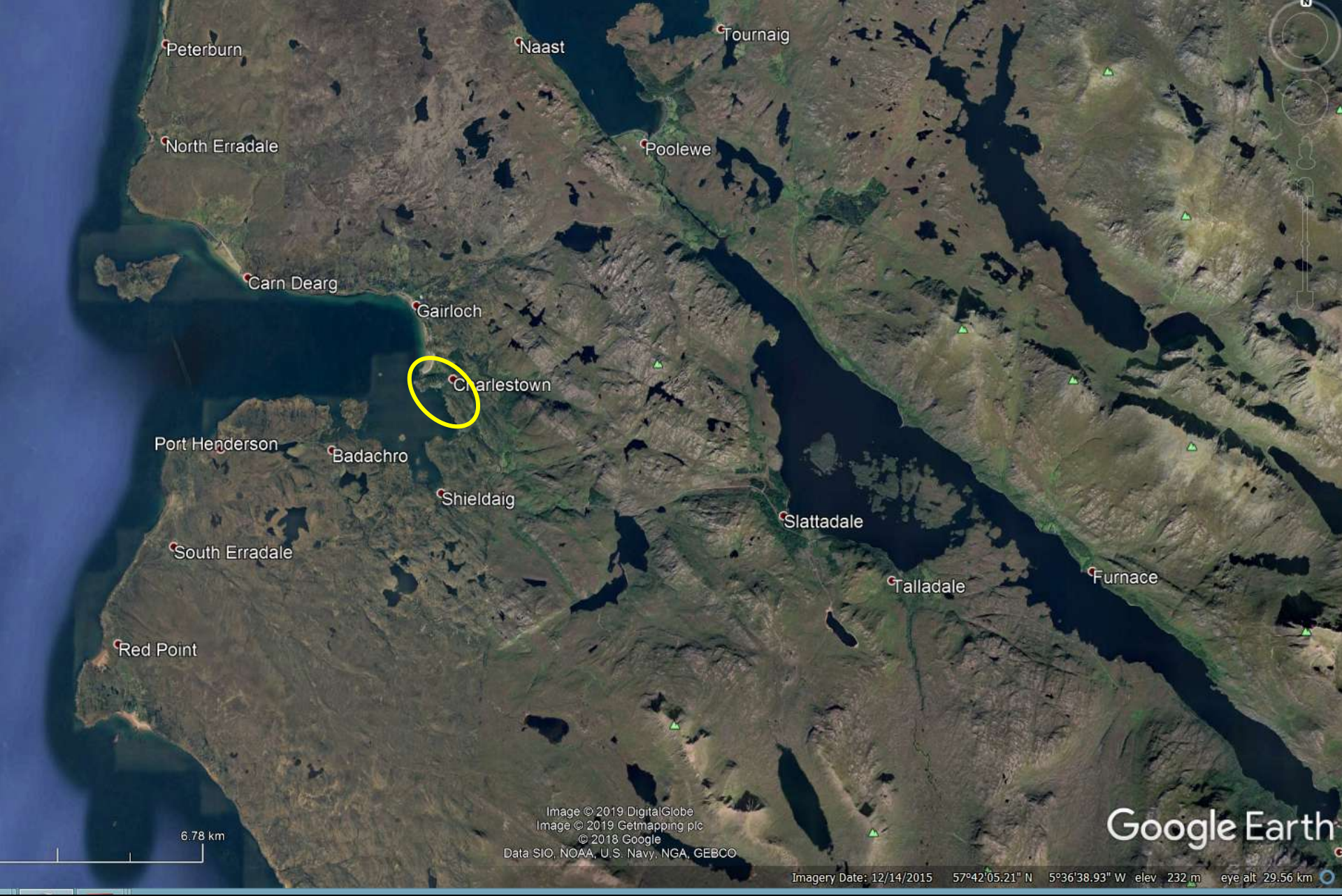
https://www.flickr.com/photos/fishasart/

?Student projects seagrass, maerl and fishes summer 2019

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
nature.scot

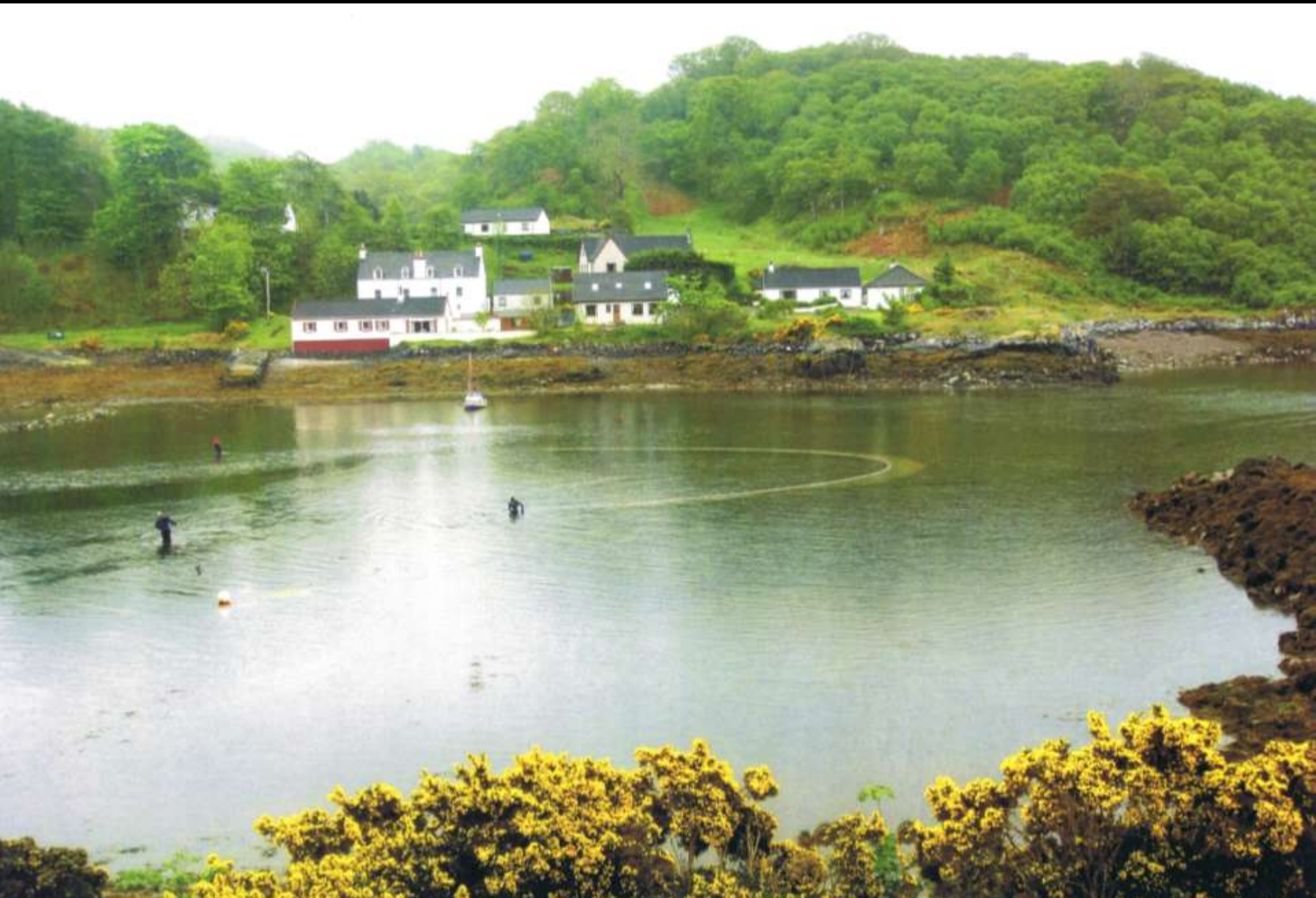



N
0
5Km
0
5 Miles
Lochinver
Sulven
Canisp
ENARD BAY
THE MINCH
Wester Ross
Summer Isles
Marine
Protected Area
Coigach
A835
GRUNARD BAY
Ullapool
LITTLE LOCH BROOM
LOCH BROOM
A832
LOCH EWE
An Teallach
Beinn Dearg
Poolewe
FIONN LOCH
Gairloch
To Dingwall & Inverness



Flowerdale, Loch Gairloch

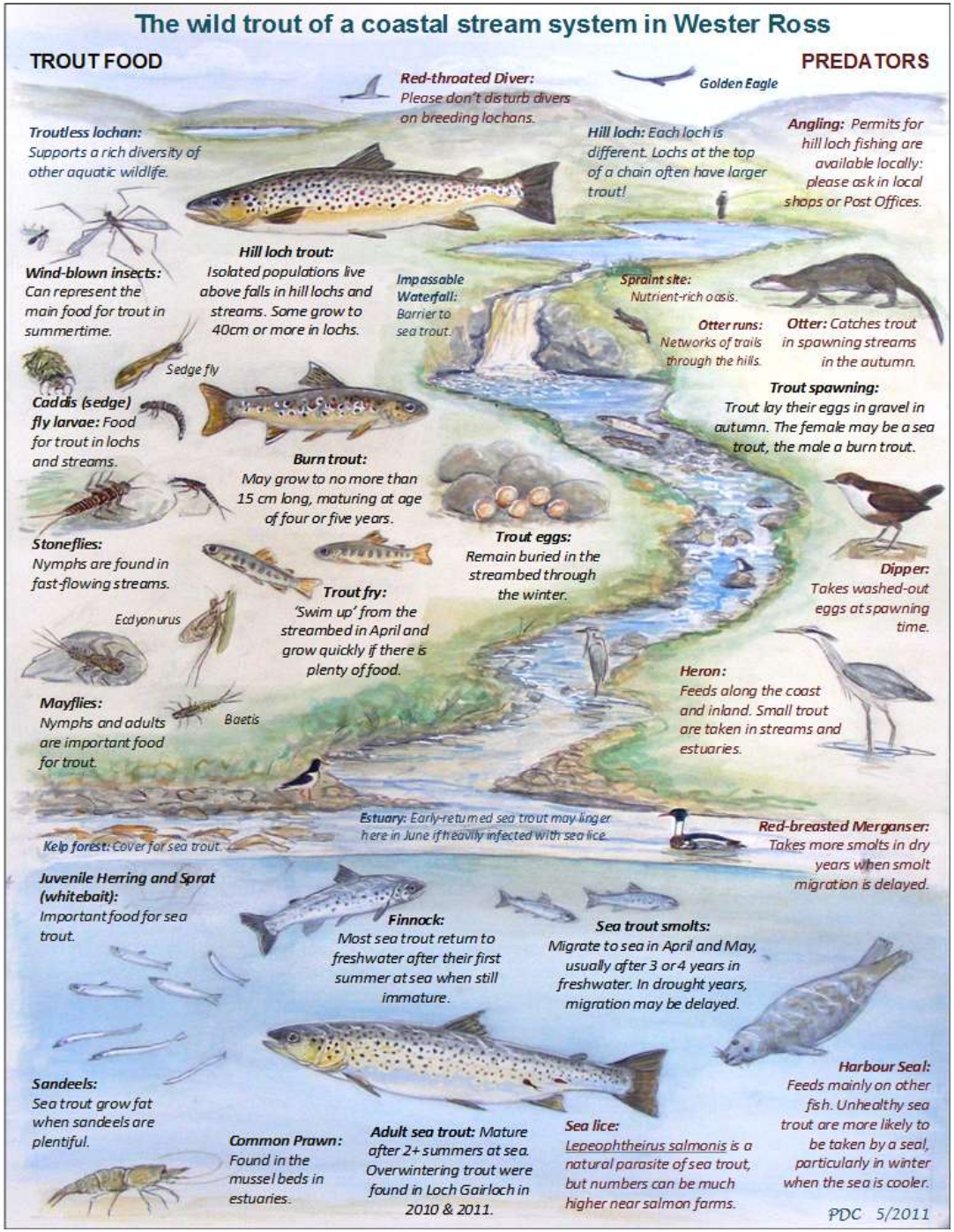
Flowerdale Estuary, Loch Gairloch (photo by Alex Gray)



Sea trout, 580mm, taken in WRFT sweep net in Loch Gairloch on 7th June 2010

Flowerdale burn wild trout ecology poster.

www.wrft.org.uk



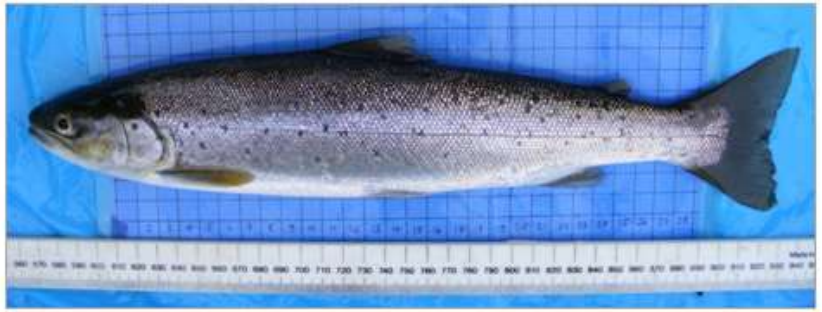
Flowerdale burn recaptured sea trout . . .

1. Individual fish can be identified from unique spot patterns.

2. Some fish were caught in the same place in March, June and September.

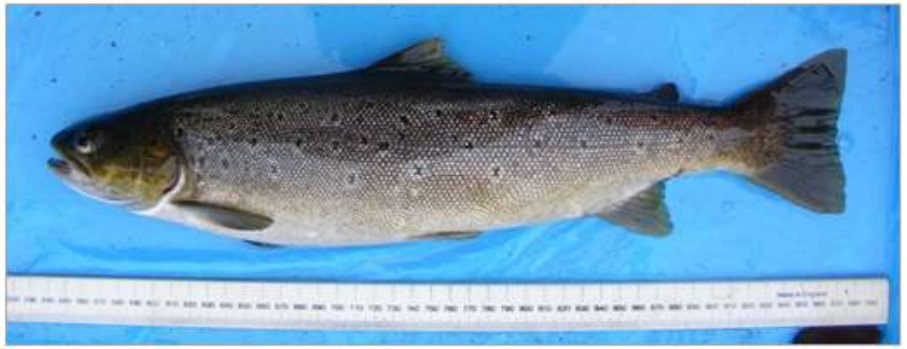
Figure 5 (continued). Recaptured Gairloch sea trout: Fish B

Sea trout, 350mm 416g, condition factor 0.97, Flowerdale Bay, 18th March 2011 (photo J. Tosney)



Sea trout, 392mm, 622g, 14th June 2011, condition factor 1.03, Flowerdale Bay, (photo P. Maguire)

Sea trout, 425mm, 828g, 27th September 2011, condition factor 1.08, Loch Gairloch

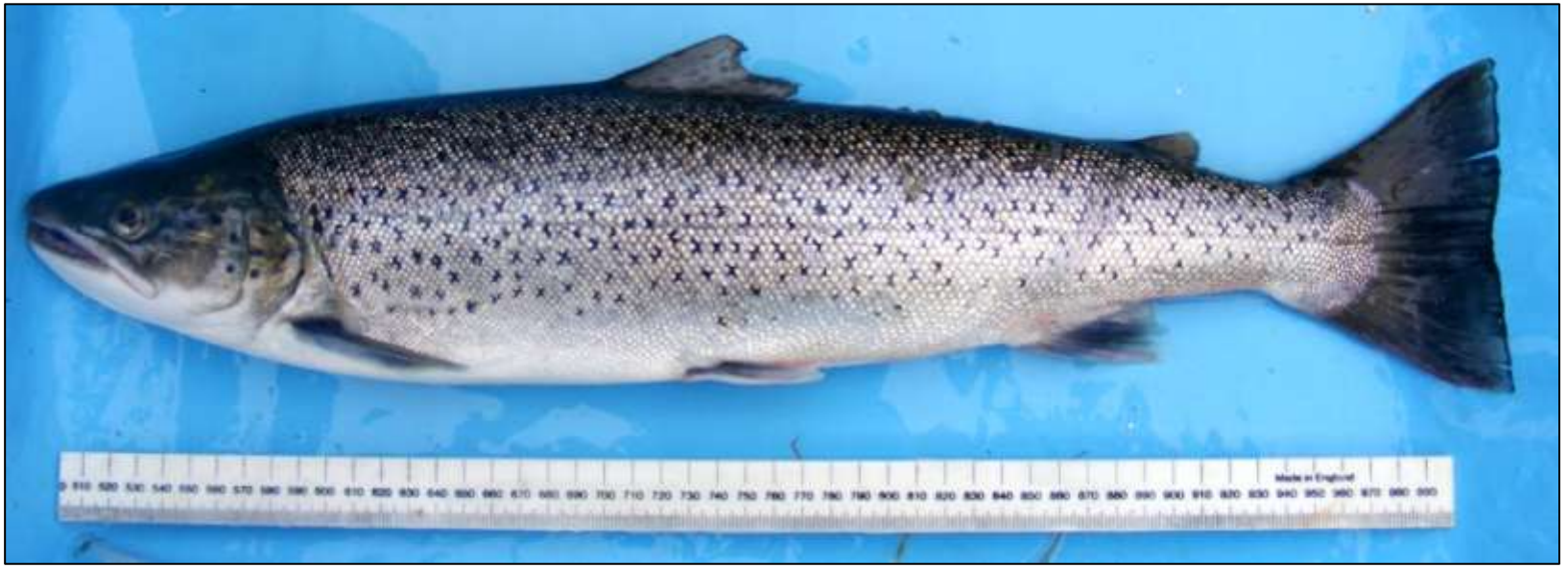


Sea trout (fish B) 425mm, 828g, 27th September 2011

Sea trout (fish B) 495mm, 1318g, 15th October 2012 (Flowerdale burn)

Flowerdale sweep netting team 7th July 2016

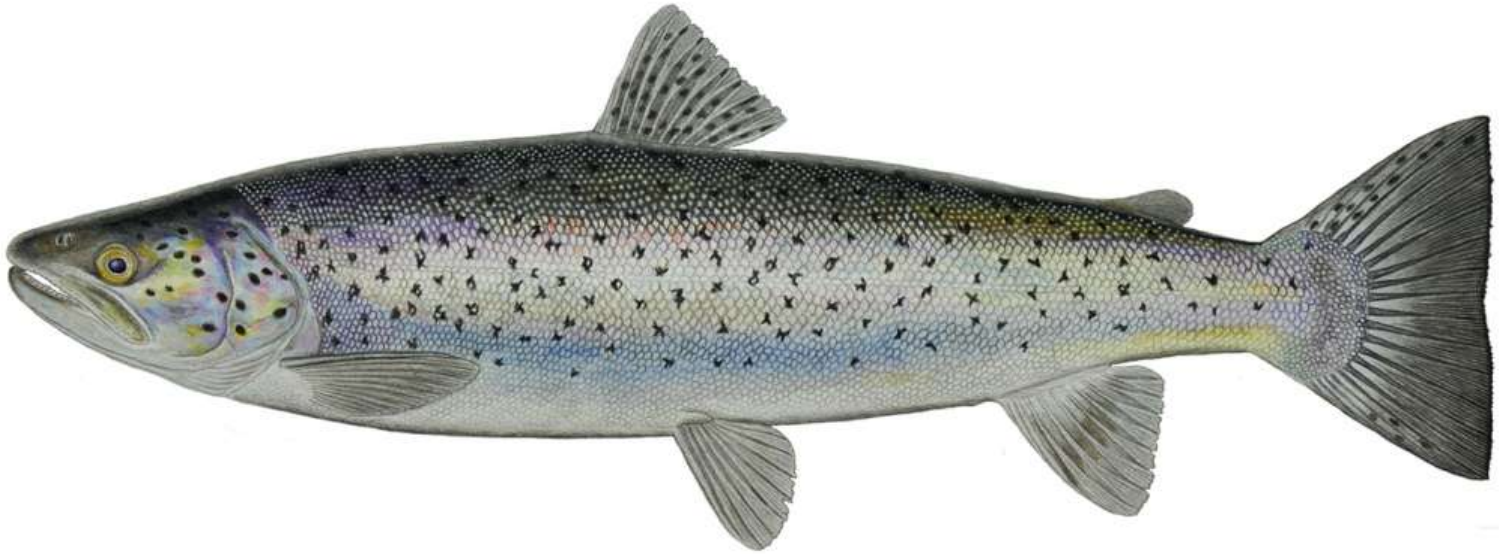
Sea trout 530mm Flowerdale 7th July 2016



Sea trout 540mm, Flowerdale 20thSeptember 2016 (same fish as in above photo)

Sea Trout (*salmo trutta*)

Captured in Flowerdale, Gairloch,
Scotland
Anadromous Atlantic strain,
Length: 530 mm
Date: July 7, 2016



Source material: Peter Cunningham (Wester Ross Fisheries Trust), Bill Anderson, Lennie Campbell (harbour master), Dr Steve Kett, Dr Andy Vicks, Chris Gudgeon, pupils and teachers from Perth Academy

https://www.flickr.com/photos/fishasart/

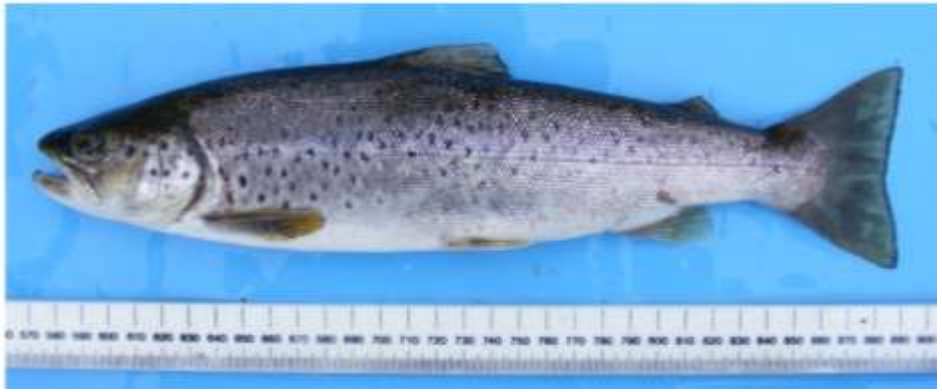
Sea trout monitoring Flowerdale, **Gairloch 18th April** 2018

18 sea trout – mostly overwintered finnock and older fish

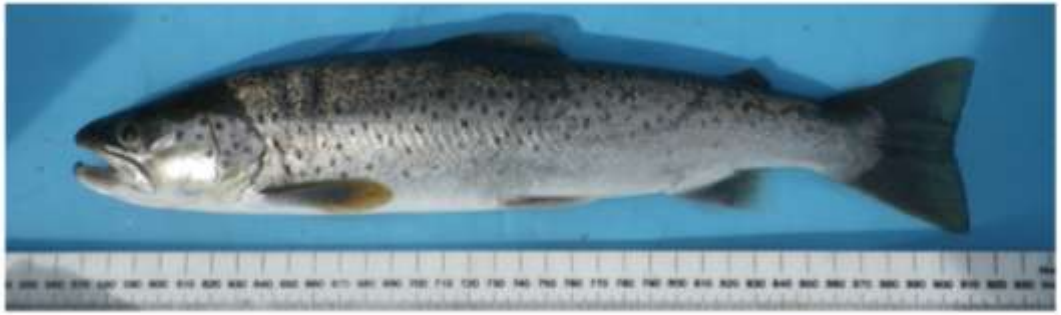
The Scottish Government

Flowerdale sea trout recaptured

ST 310mm 348g carrying 42 chalimus and copepodid lice, 2 preadults and adults and 2 ovigerous females on 26th June 2017

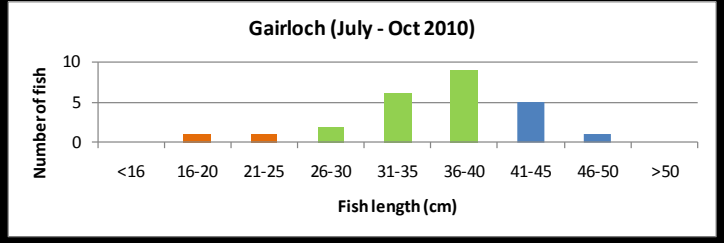


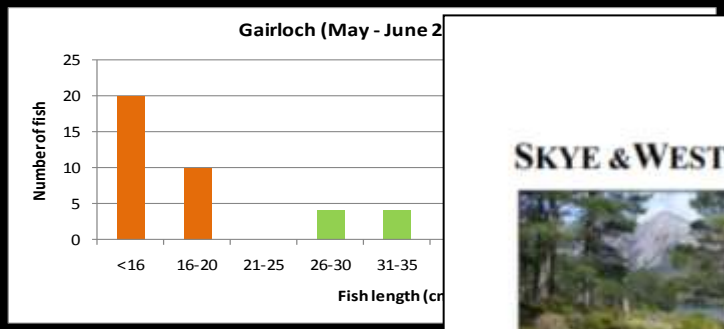
Sea trout 342mm, 385g, 16L.s. sea lice Flowerdale estuary, 18th April 2018

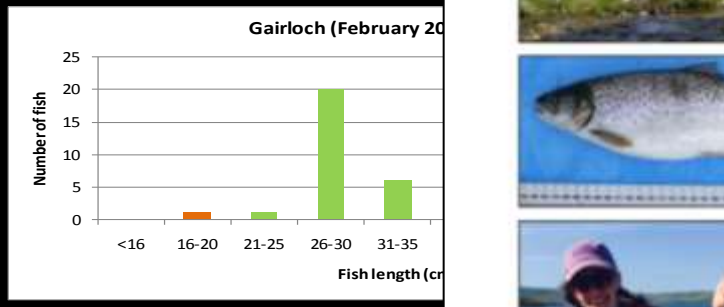


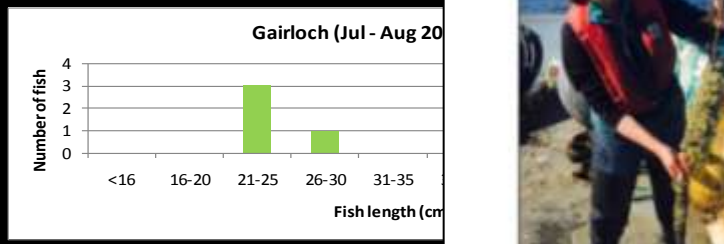
Sea trout 410mm, 686g, 157 sea lice, Flowerdale estuary, 19th April 2019

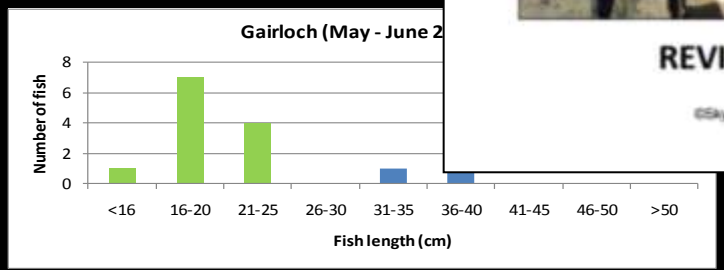
See how they grow!


Gairloch (July - Oct 2010)
Number of fish
10
5
0
<16
16-20
21-25
26-30
31-35
36-40
41-45
46-50
>50
Fish length (cm)


Gairloch (May - June 2
Number of fish
25
20
15
10
5
0
<16
16-20
21-25
26-30
31-35
Fish length (cr


Gairloch (February 20
Number of fish
25
20
15
10
5
0
<16
16-20
21-25
26-30
31-35
Fish length (cr


Gairloch (Jul - Aug 20
Number of fish
4
3
2
1
0
<16
16-20
21-25
26-30
31-35
Fish length (cm


Gairloch (May - June 2
Number of fish
8
6
4
2
0
<16
16-20
21-25
26-30
31-35
36-40
41-45
46-50
>50
Fish length (cm)


SKYE & WESTER ROSS FISHERIES TRUST
REVIEW February 2018
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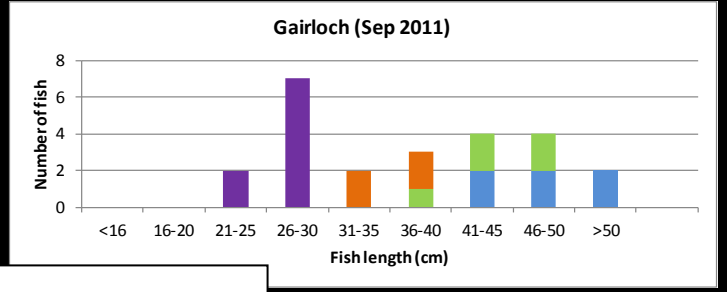
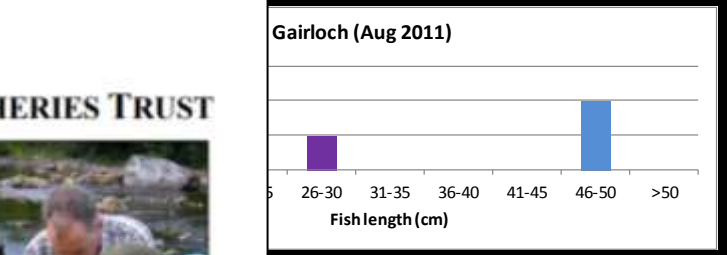
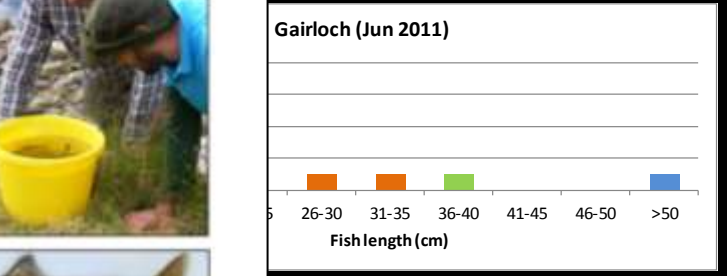
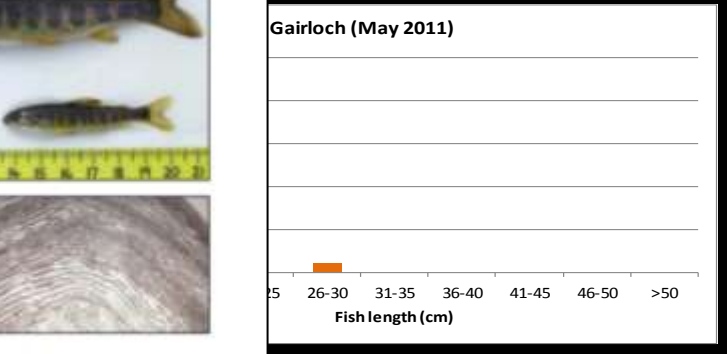
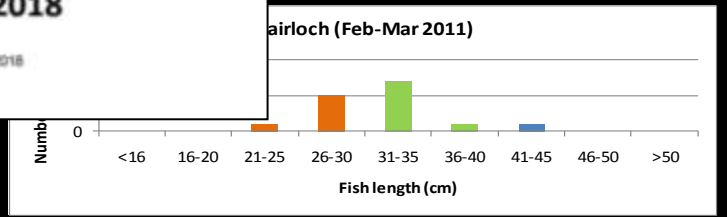

Gairloch (Sep 2011)
Number of fish
8
6
4
2
0
<16
16-20
21-25
26-30
31-35
36-40
41-45
46-50
>50
Fish length (cm)

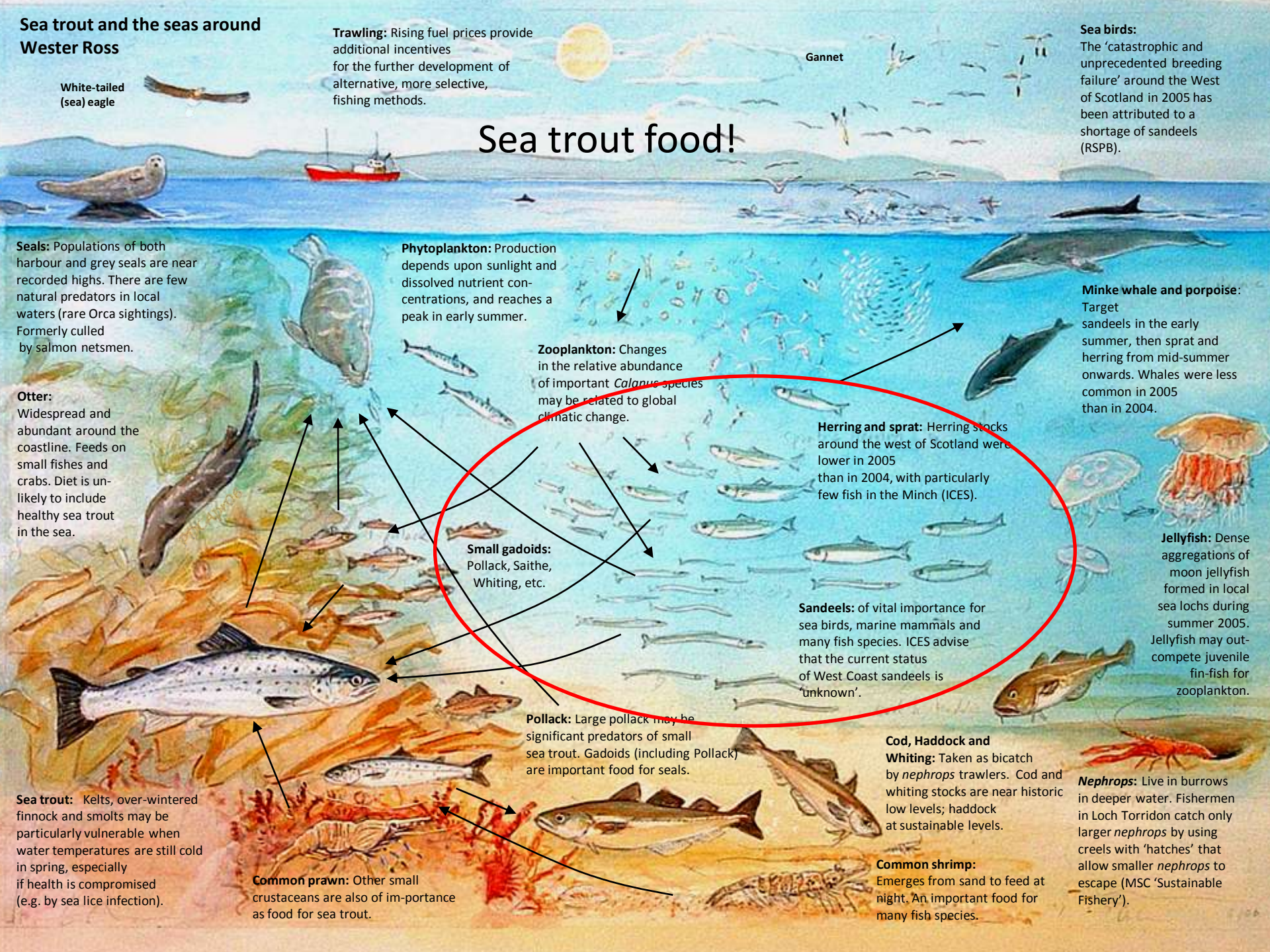

Gairloch (Aug 2011)
26-30
31-35
36-40
41-45
46-50
>50
Fish length (cm)


Gairloch (Jun 2011)
26-30
31-35
36-40
41-45
46-50
>50
Fish length (cm)


Gairloch (May 2011)
26-30
31-35
36-40
41-45
46-50
>50
Fish length (cm)


airloch (Feb-Mar 2011)
0
<16
16-20
21-25
26-30
31-35
36-40
41-45
46-50
>50
Fish length (cm)

Sea trout and the seas around Wester Ross



White-tailed (sea) eagle

Trawling: Rising fuel prices provide additional incentives for the further development of alternative, more selective, fishing methods.

Gannet

Sea birds: The 'catastrophic and unprecedented breeding failure' around the West of Scotland in 2005 has been attributed to a shortage of sandeels (RSPB).

Sea trout food!

Seals: Populations of both harbour and grey seals are near recorded highs. There are few natural predators in local waters (rare Orca sightings). Formerly culled by salmon netsmen.

Phytoplankton: Production depends upon sunlight and dissolved nutrient con-centrations, and reaches a peak in early summer.

Minke whale and porpoise: Target sandeels in the early summer, then sprat and herring from mid-summer onwards. Whales were less common in 2005 than in 2004.

Zooplankton: Changes in the relative abundance of important *Calanus* species may be related to global climatic change.

Otter: Widespread and abundant around the coastline. Feeds on small fishes and crabs. Diet is un-likely to include healthy sea trout in the sea.

Herring and sprat: Herring stocks around the west of Scotland were lower in 2005 than in 2004, with particularly few fish in the Minch (ICES).

Small gadoids: Pollack, Saithe, Whiting, etc.

Jellyfish: Dense aggregations of moon jellyfish formed in local sea lochs during summer 2005. Jellyfish may out-compete juvenile fin-fish for zooplankton.

Sandeels: of vital importance for sea birds, marine mammals and many fish species. ICES advise that the current status of West Coast sandeels is 'unknown'.

Pollack: Large pollack may be significant predators of small sea trout. Gadoids (including Pollack) are important food for seals.

Cod, Haddock and Whiting: Taken as bicatch by *nephrops* trawlers. Cod and whiting stocks are near historic low levels; haddock at sustainable levels.

***Nephrops*:** Live in burrows in deeper water. Fishermen in Loch Torridon catch only larger *nephrops* by using creels with 'hatches' that allow smaller *nephrops* to escape (MSC 'Sustainable Fishery').

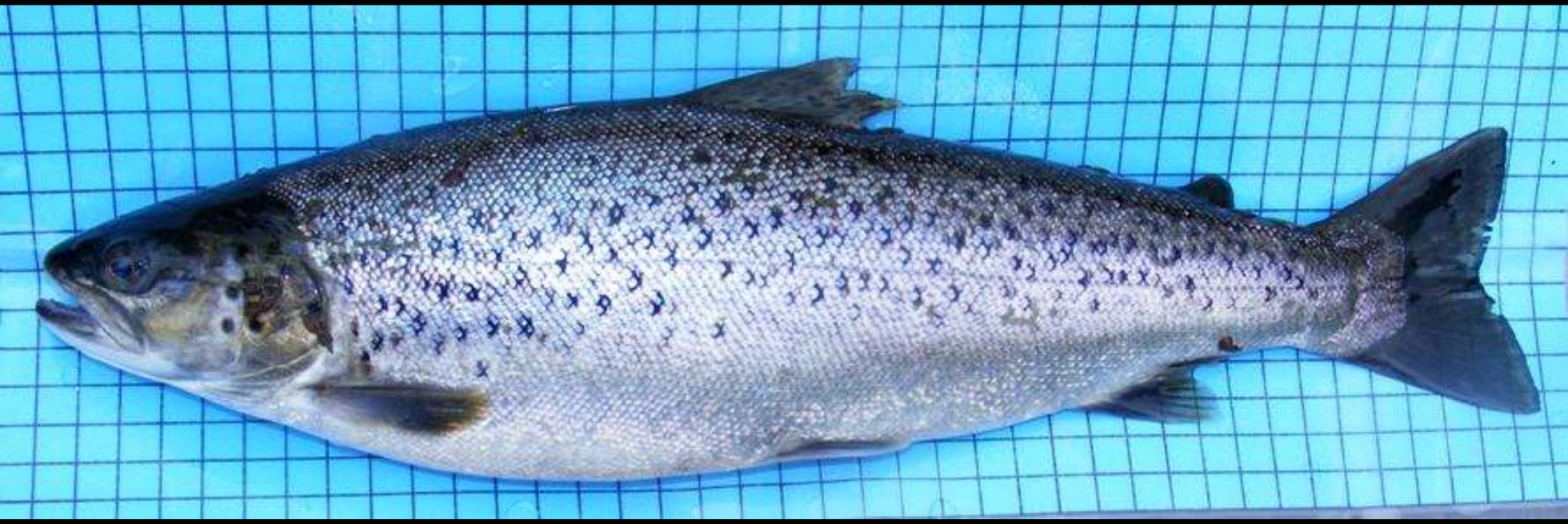
Sea trout: Kelts, over-wintered finnock and smolts may be particularly vulnerable when water temperatures are still cold in spring, especially if health is compromised (e.g. by sea lice infection).

Common prawn: Other small crustaceans are also of im-portance as food for sea trout.

Common shrimp: Emerges from sand to feed at night. An important food for many fish species.

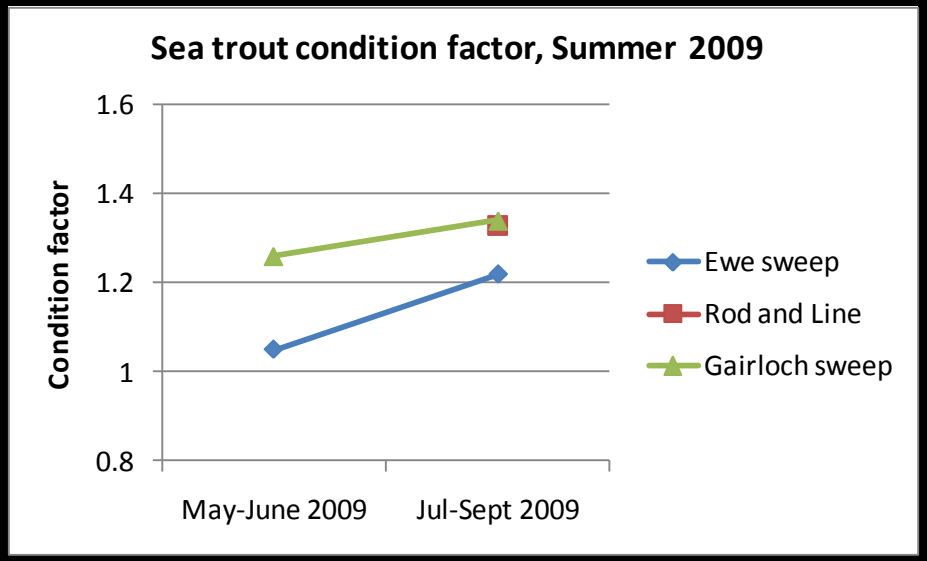
Sea trout from Loch Gairloch, July 2009

(condition factor 1.4 = incredibly fat!)



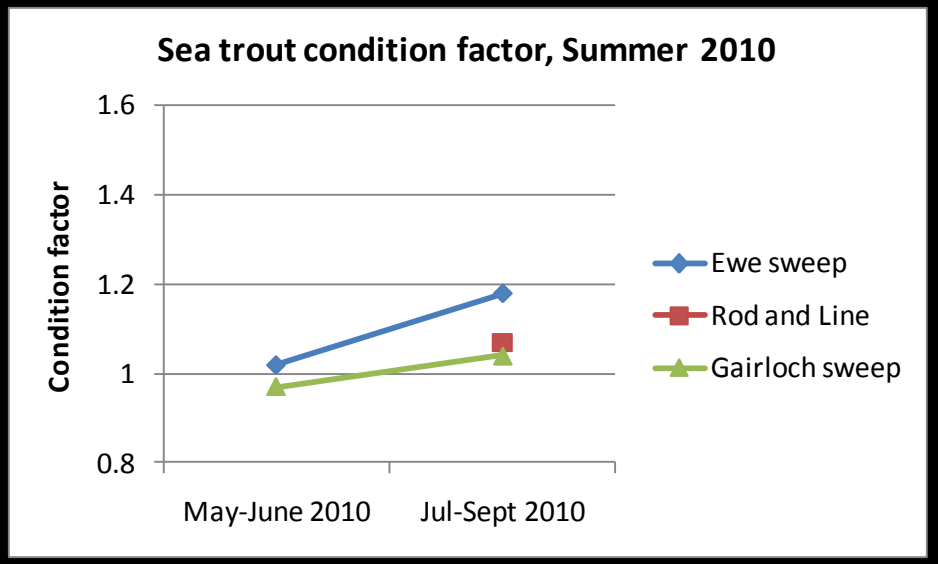
The sea trout we caught in 2009 were fatter than in 2010 & 2011

2009



Sea trout from Kerry Bay, Loch Gairloch, 29th June 2009.

2010



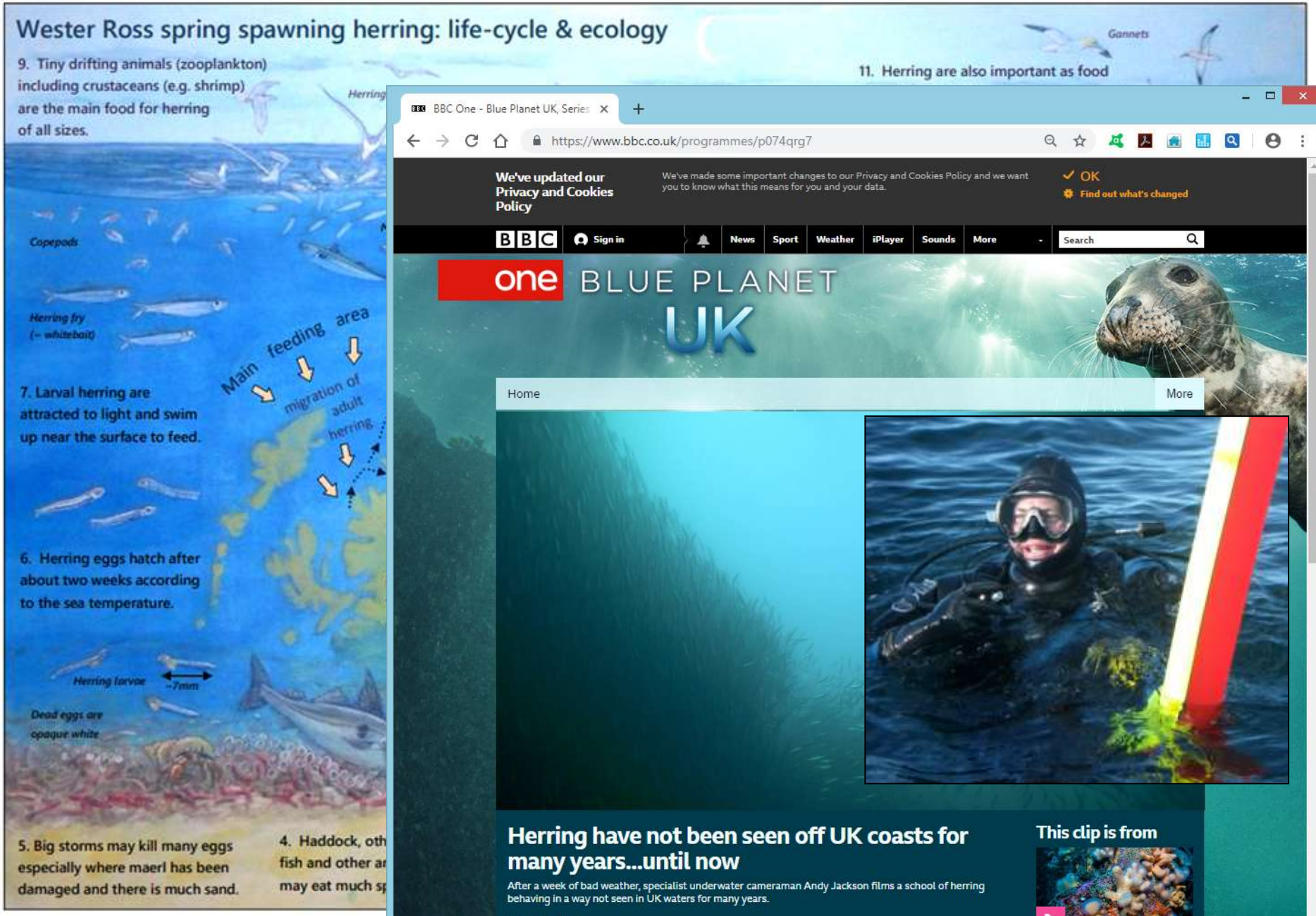
Sea trout from Flowerdale Bay, Loch Gairloch, 29th June 2010

Sandeel ‘glut’, Gairloch, early July 2009


Sea trout also eat herring . . .
Photo by James Butler

Herring lay their eggs on gravel and maerl


Maerl


Wester Ross spring spawning herring: life-cycle & ecology
9. Tiny drifting animals (zooplankton) including crustaceans (e.g. shrimp) are the main food for herring of all sizes.
11. Herring are also important as food
Gannets
Herring
Copepods
Herring fry (= whitebait)
Main feeding area
migration of adult herring
7. Larval herring are attracted to light and swim up near the surface to feed.
6. Herring eggs hatch after about two weeks according to the sea temperature.
Herring larvae
~7mm
Dead eggs are opaque white
5. Big storms may kill many eggs especially where maerl has been damaged and there is much sand.
4. Haddock, oth
fish and other ar
may eat much sp
BBC One - Blue Planet UK, Series
https://www.bbc.co.uk/programmes/p074qrg7
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We've made some important changes to our Privacy and Cookies Policy and we want you to know what this means for you and your data.
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Weather
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More
Search
one
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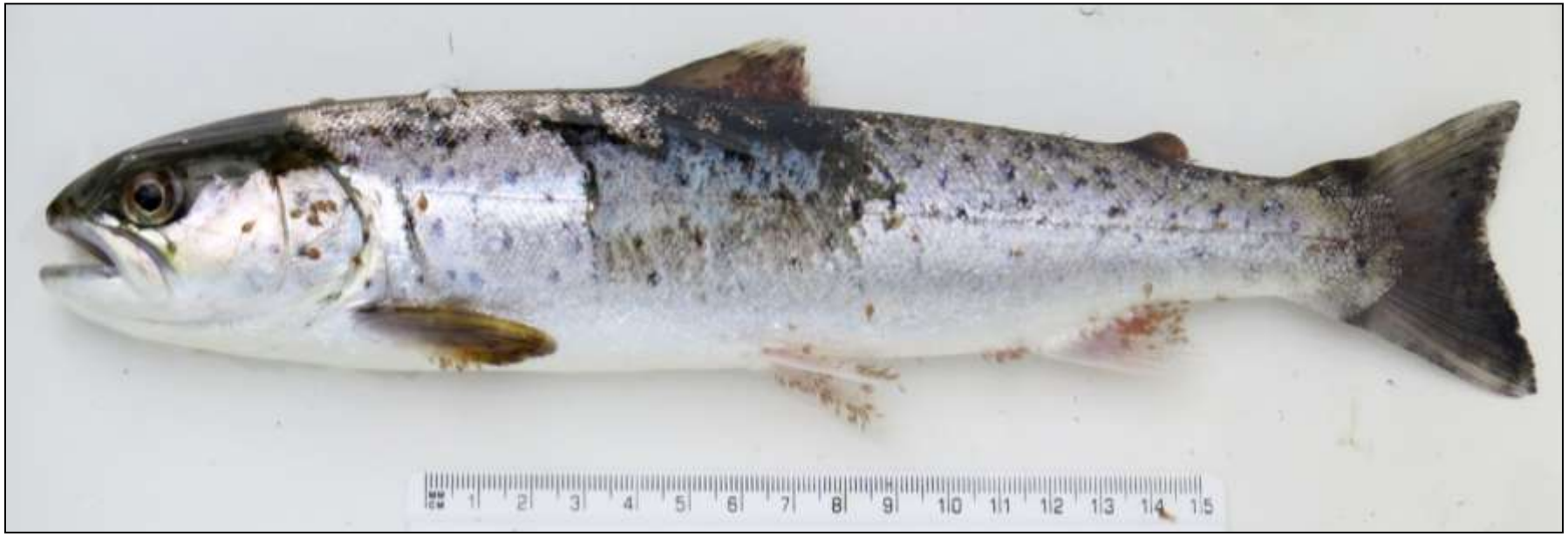
More
Herring have not been seen off UK coasts for many years...until now
After a week of bad weather, specialist underwater cameraman Andy Jackson films a school of herring behaving in a way not seen in UK waters for many years.
28 March 2019
3 minutes
This clip is from
Blue Planet UK
Series 1, Episode 5

Loch Gairloch Sea trout, 19th May 2015: approximately **500 lice** . . .



Question: what was the distribution of heavily lice-infested sea trout?

Sweep netting for sea trout **Loch Gairloch**, 19th May 2015

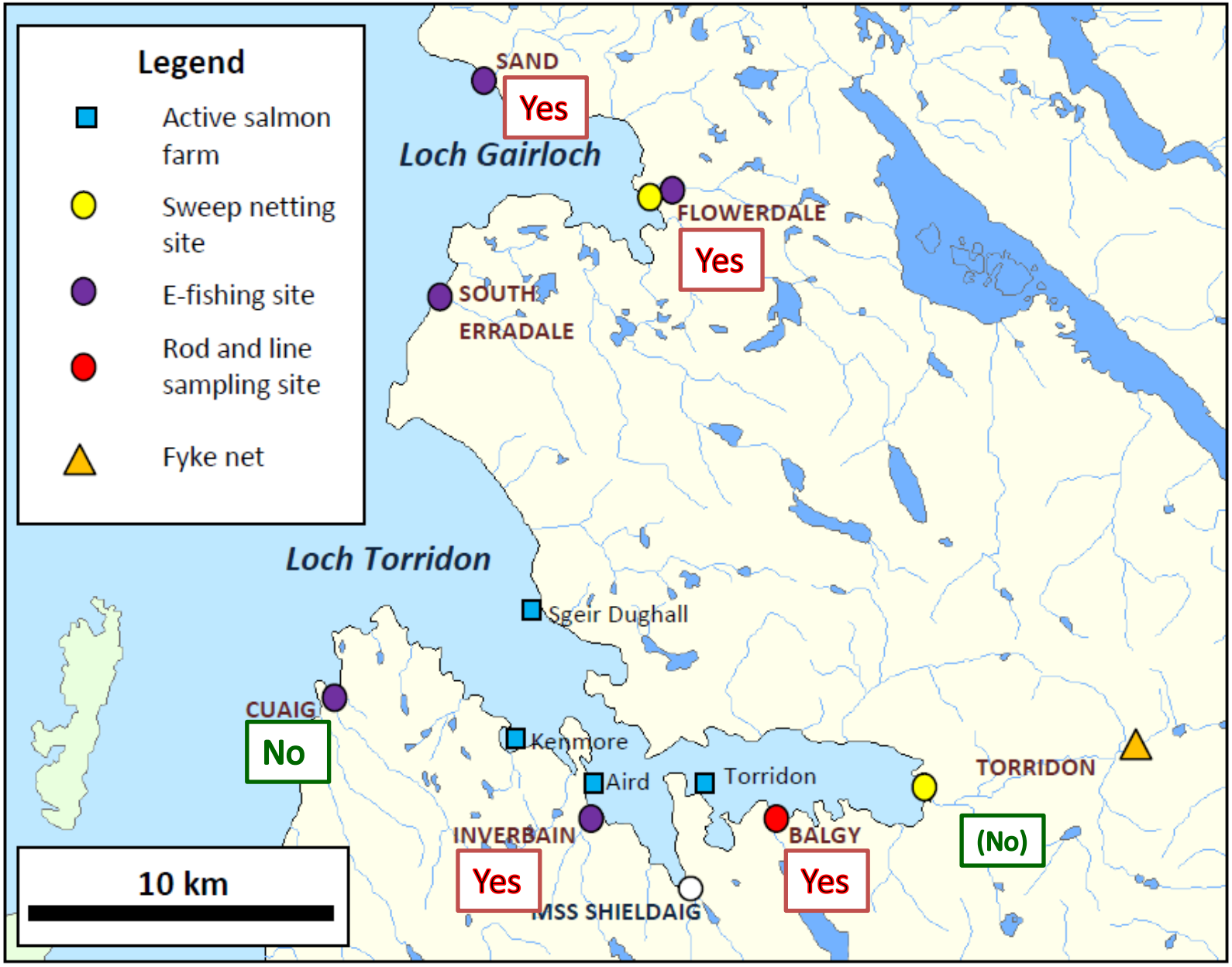
Loch Gairloch, 6th July 2015.

Electro-fishing sample from sea pool of Flowerdale river.

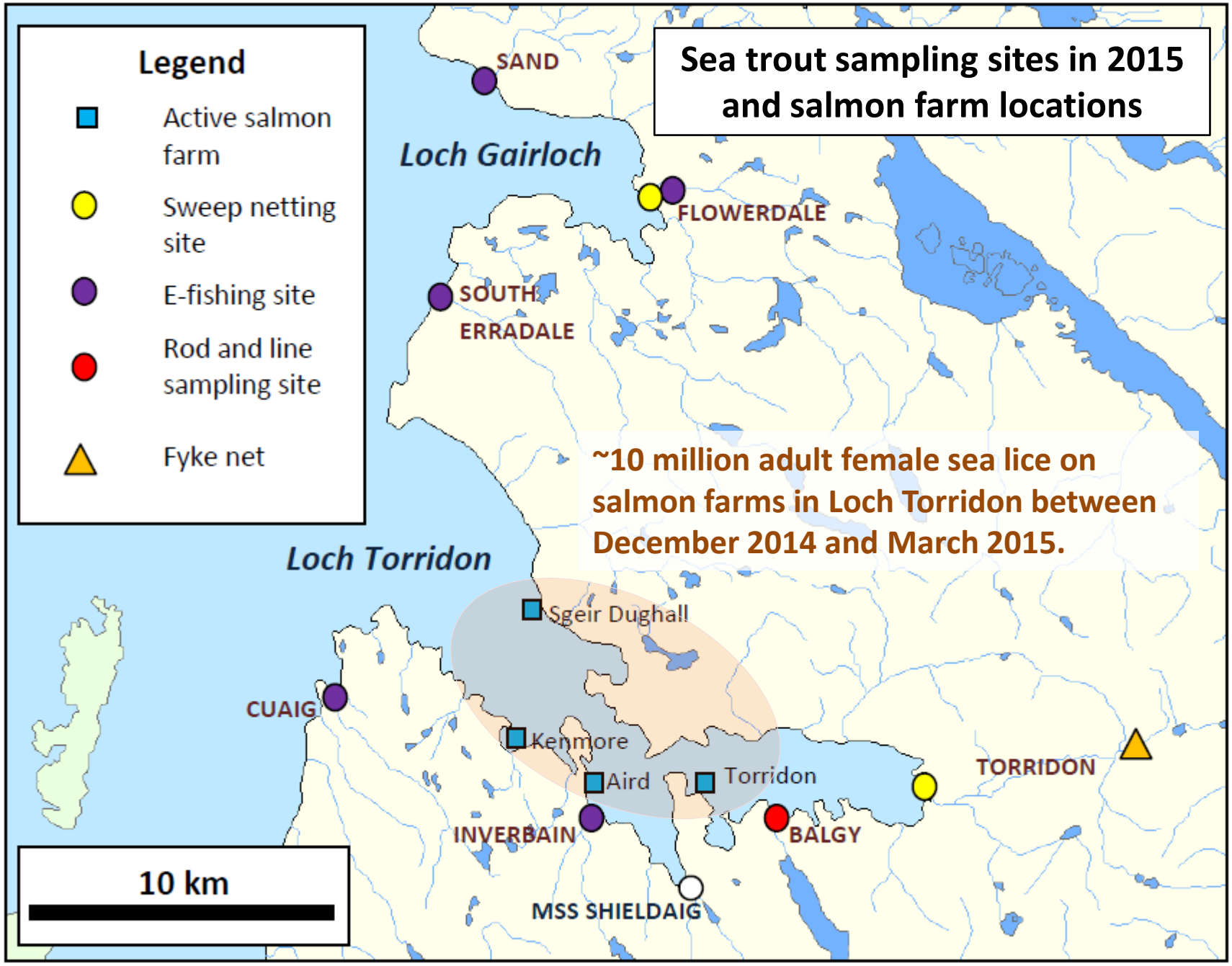
6 sea trout, sea lice counts per fish:
52, 81, 16, 54, 85, 81, 2

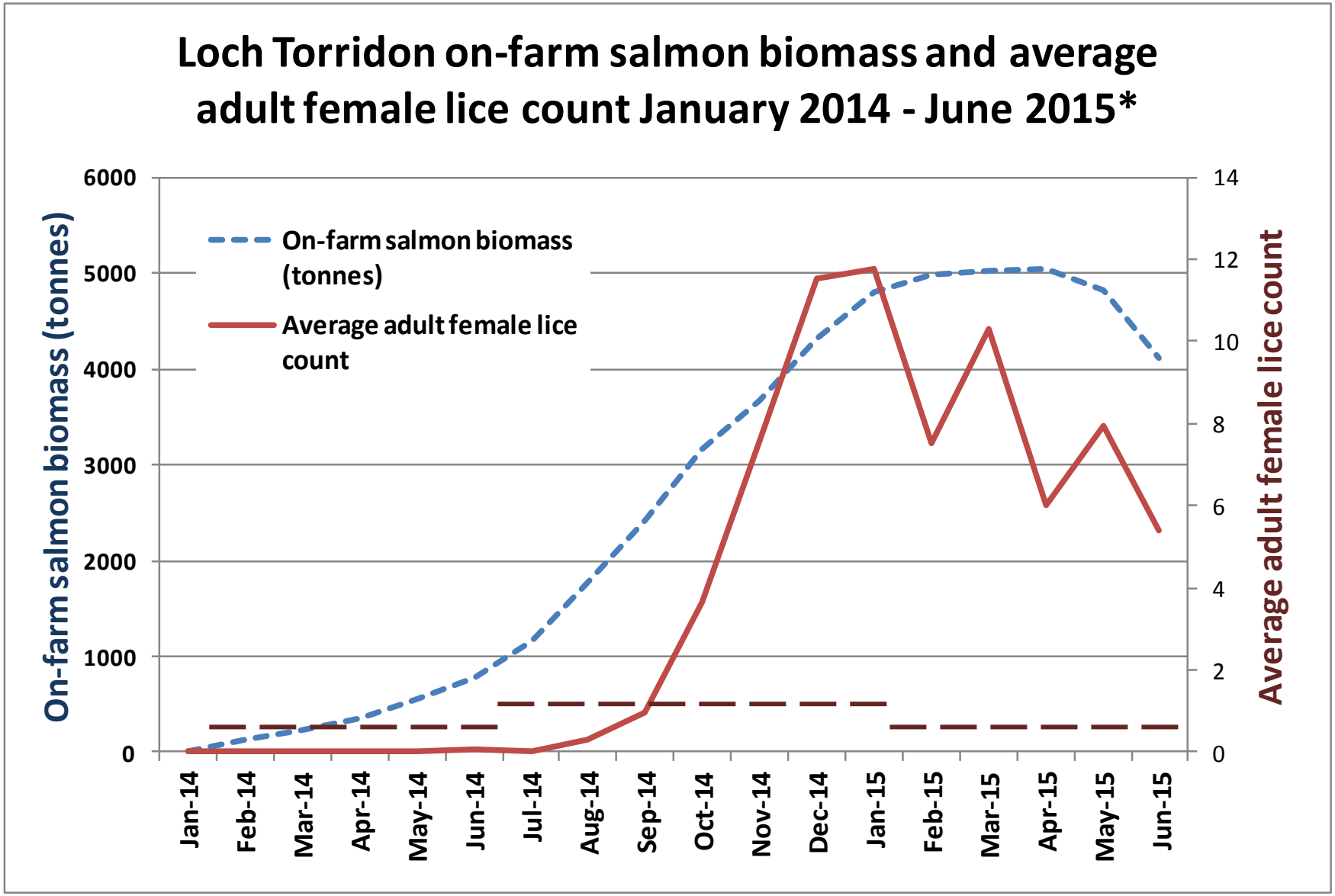
Sea trout of 279mm 81 lice on it and a freshly damaged dorsal fin associated with sea louse infestation (photo by Andy Vicks)

Sea trout samples with ‘100% expected mortality’ [1] fish?

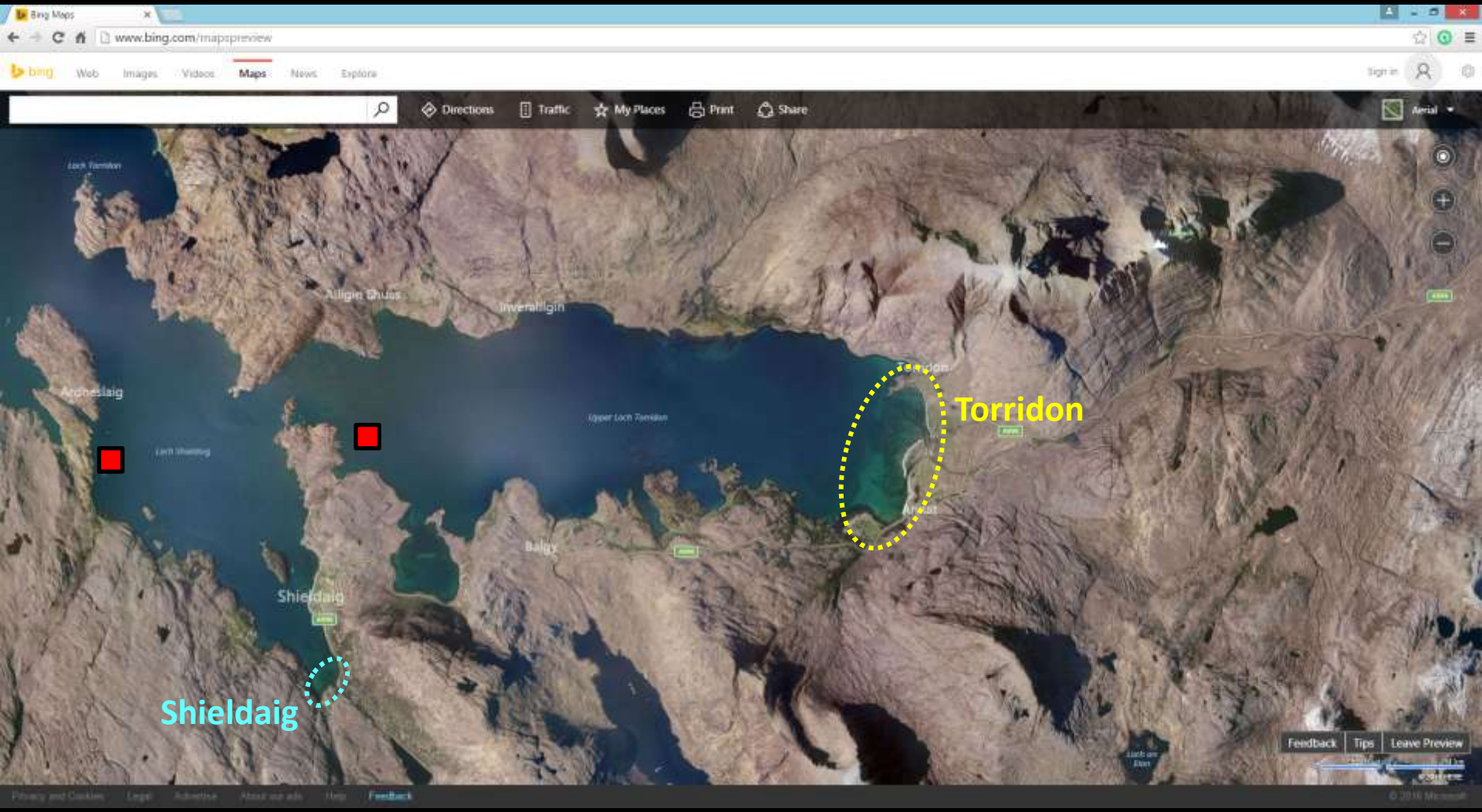


[1] (sea trout with >0.3 lice/fish weight, g) Taranger, et al. 2015


Legend
Active salmon farm
Sweep netting site
E-fishing site
Rod and line sampling site
Fyke net
Sea trout sampling sites in 2015 and salmon farm locations
SAND
Loch Gairloch
FLOWERDALE
SOUTH ERRADALE
~10 million adult female sea lice on salmon farms in Loch Torridon between December 2014 and March 2015.
Loch Torridon
Sgeir Dughall
CUAIG
Kenmore
Aird
Torridon
TORRIDON
INVERBAIN
BALGY
MSS SHIELDAIG
10 km



*from data published in SSPO fish health management reports and on the Scotland's Aquaculture website.


Bing Maps
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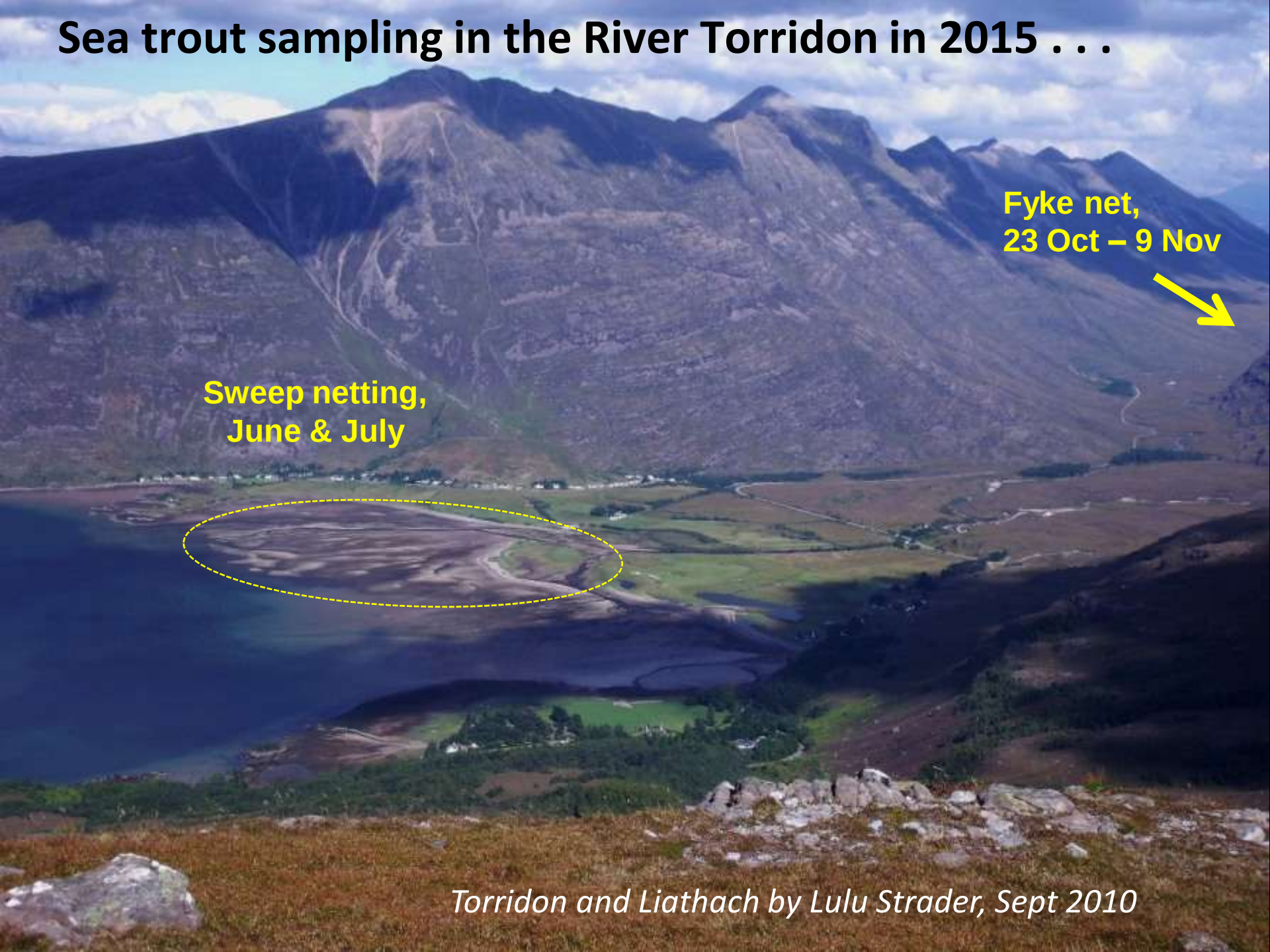
bing
Web
Images
Videos
Maps
News
Explore
Directions
Traffic
My Places
Print
Share
Aerial
Loch Torridon
Alligin Shuas
Inveralligin
Torridon
Upper Loch Torridon
Applecross
Loch Shieldaig
Balgy
Shieldaig
Shieldaig
Feedback
Tips
Leave Preview

Sea trout sampling in the River Torridon in 2015 . . .



Torridon and Liathach by Lulu Strader, Sept 2010

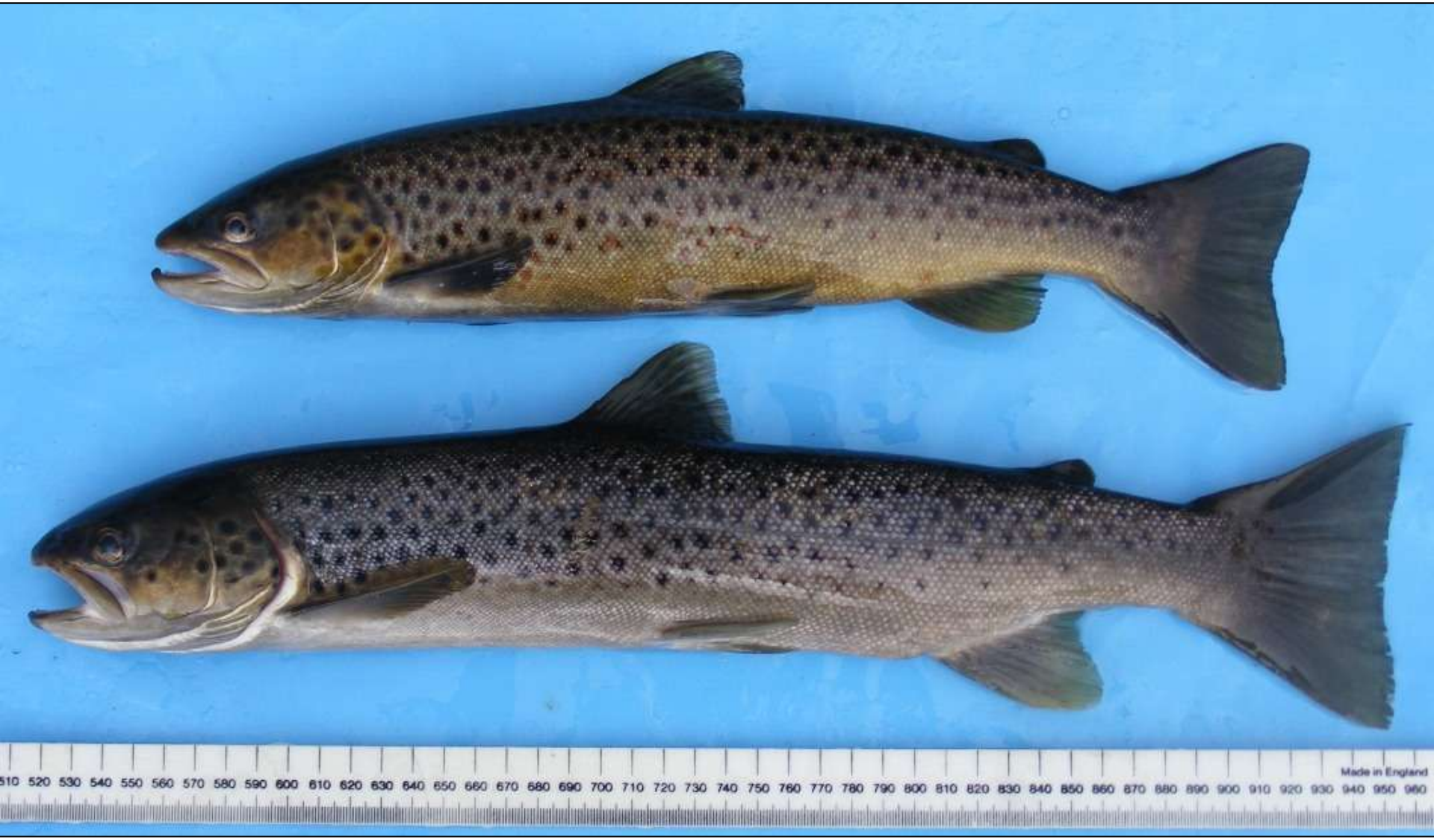
Torridon estuary sweep netting, 15th June 2015

. . . just one sea trout, 500mm , no sea lice.

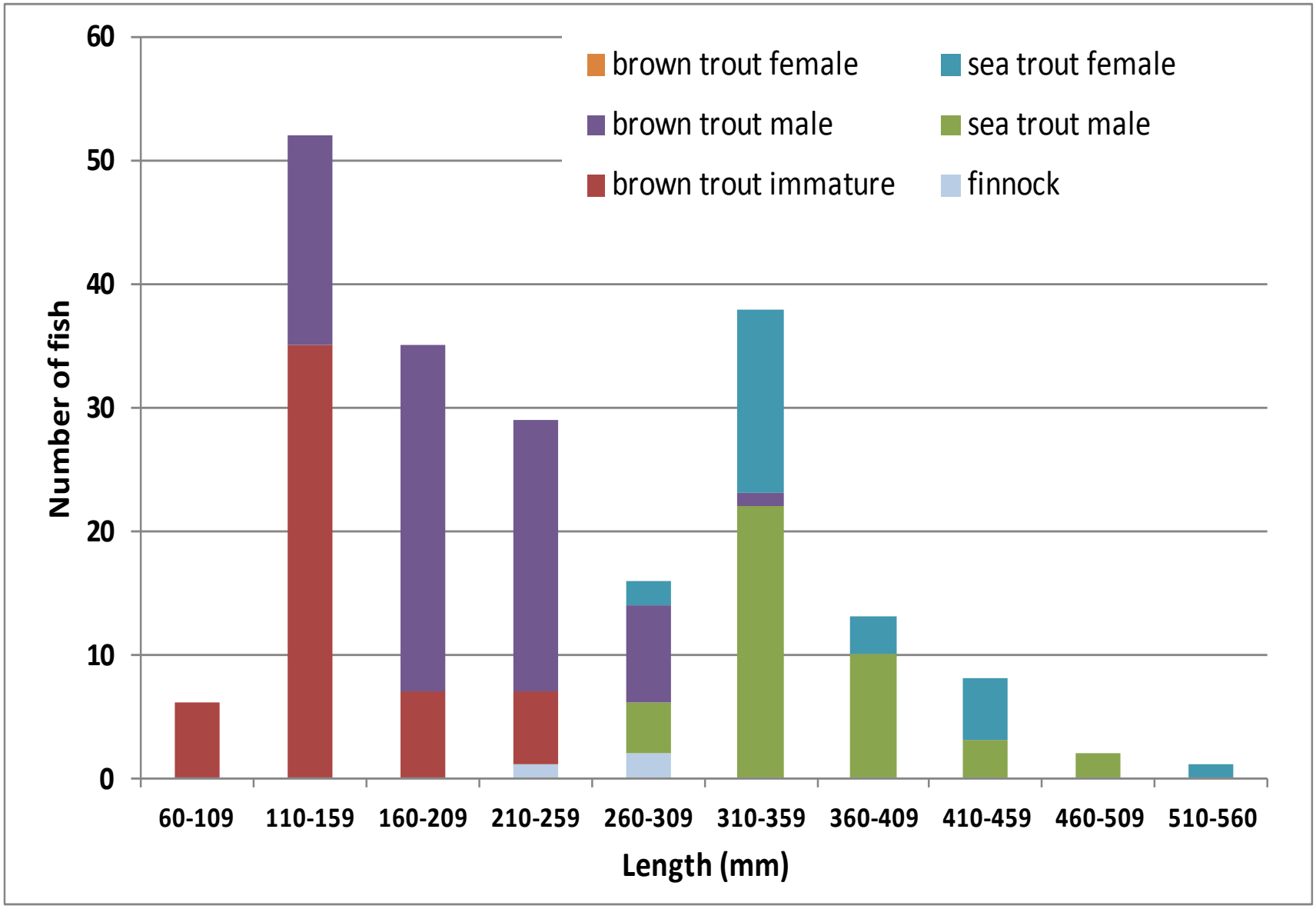
River Torridon fyke net, set in spawning burn from 13 Oct to 9th Nov

There were 76 ‘captures’ of sea trout in the fyke net . . .

Male and female sea trout from fyke net, 28th October 2015



. . . out of a total of 211 trout captures; the others were a mix of mature male and immature brown trout.



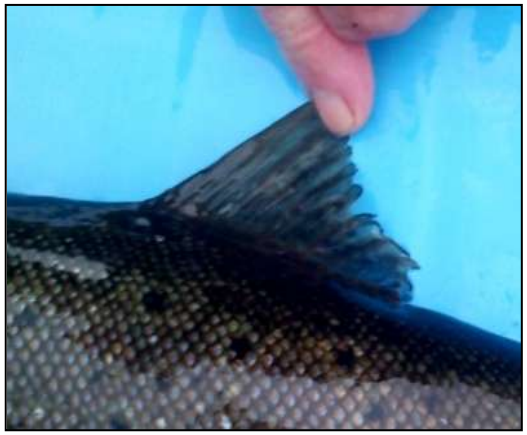
Female sea trout, 520mm Torridon fyke net 29th October 2015

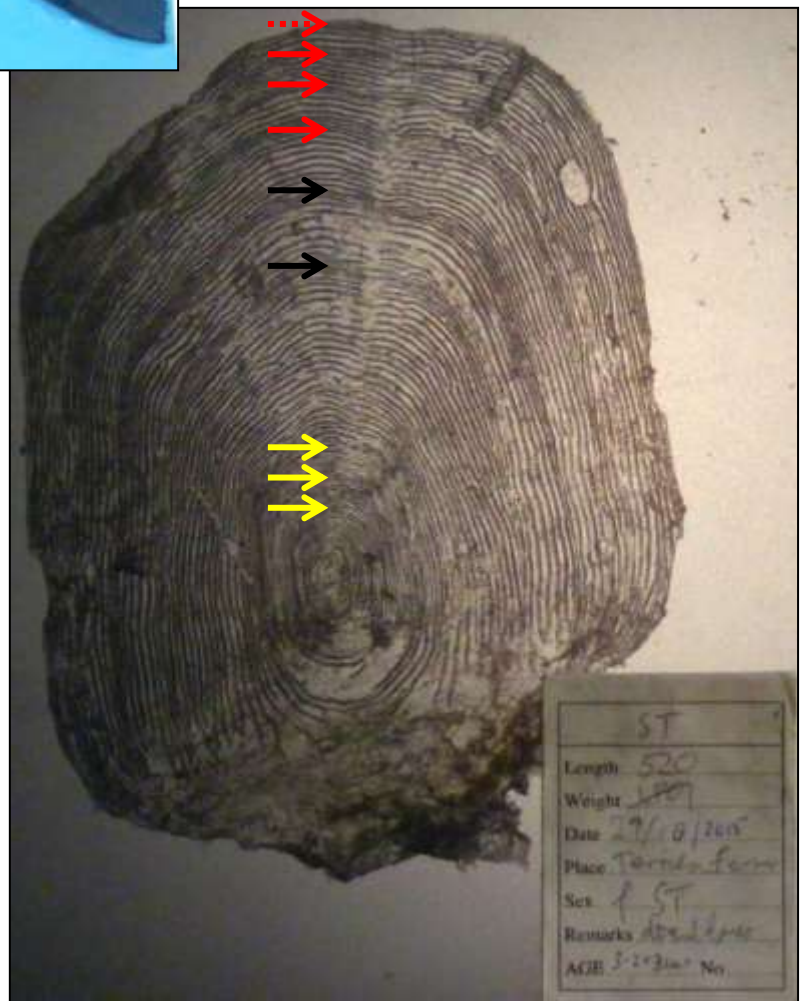
Age 8+ years

at least three spawning marks

6 summers at sea

three years in freshwater



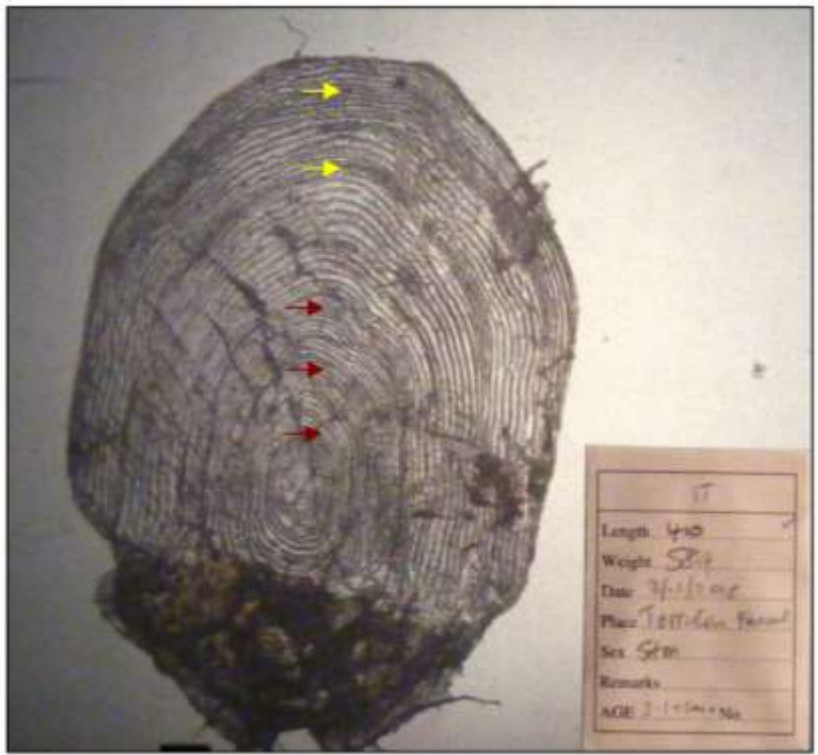


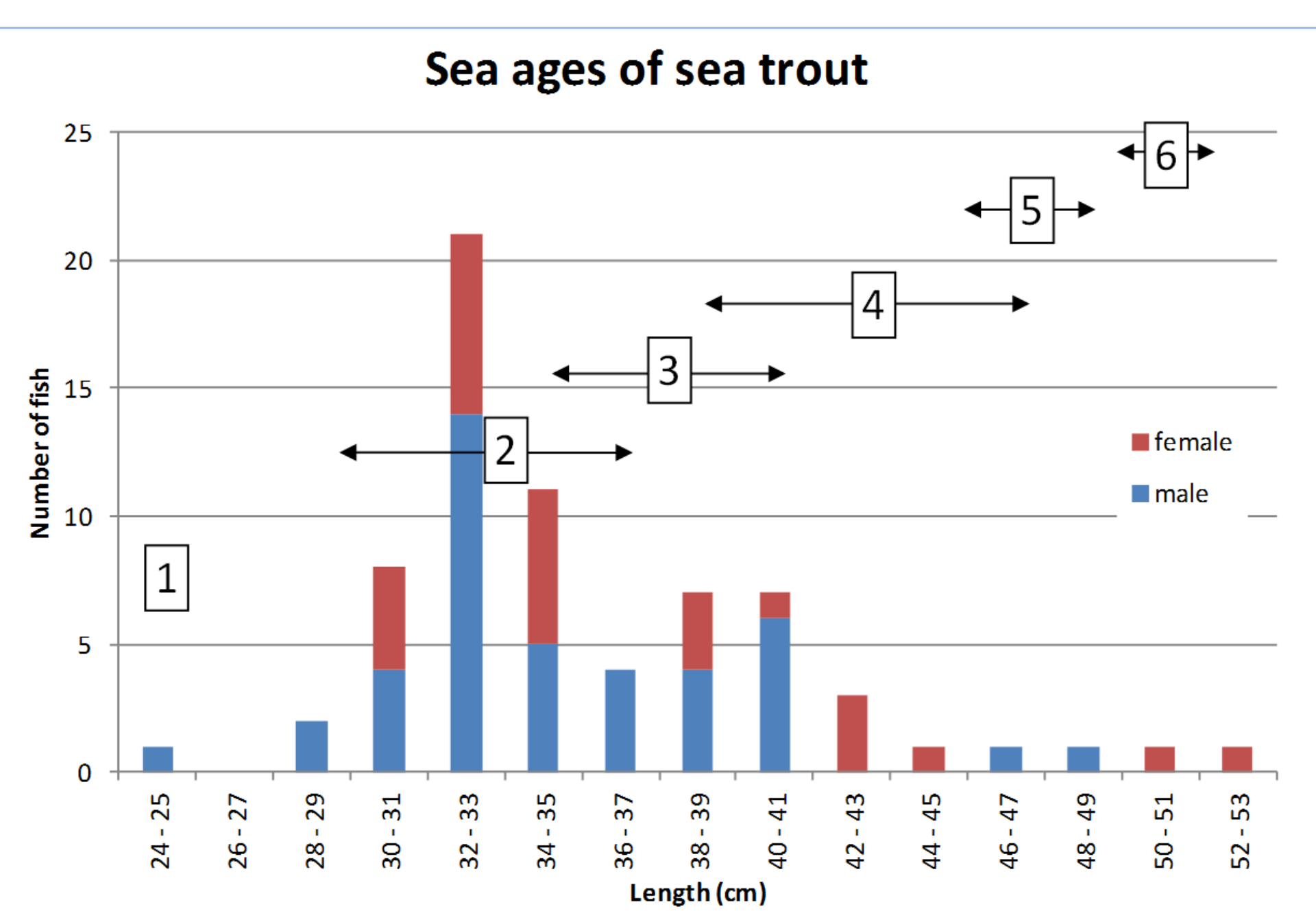
Mature male trout (running milt) Torridon fyke net 3rd November 2015
The top fish is a sea trout, the other three, brown trout.

Torridon fyke net 3rd Nov.

(top) 5 year old male sea trout of 410mm (scale bottom right)

(below) 10 year old male brown trout of 352mm




Sea ages of sea trout
Number of fish
25
20
15
10
5
0
1
2
3
4
5
6
female
male
24 - 25
26 - 27
28 - 29
30 - 31
32 - 33
34 - 35
36 - 37
38 - 39
40 - 41
42 - 43
44 - 45
46 - 47
48 - 49
50 - 51
52 - 53
Length (cm)

Sea Trout (salmo trutta)

Captured in the River Torridon, Scotland
Anadromous Atlantic strain,
Length: 398 mm
Date: November 3, 2015

Source material: Peter Cunningham, Charlie Hill, Les Bates and Colin Blyth (Wester Ross Fisheries Trust)

https://www.flickr.com/photos/fishasart/

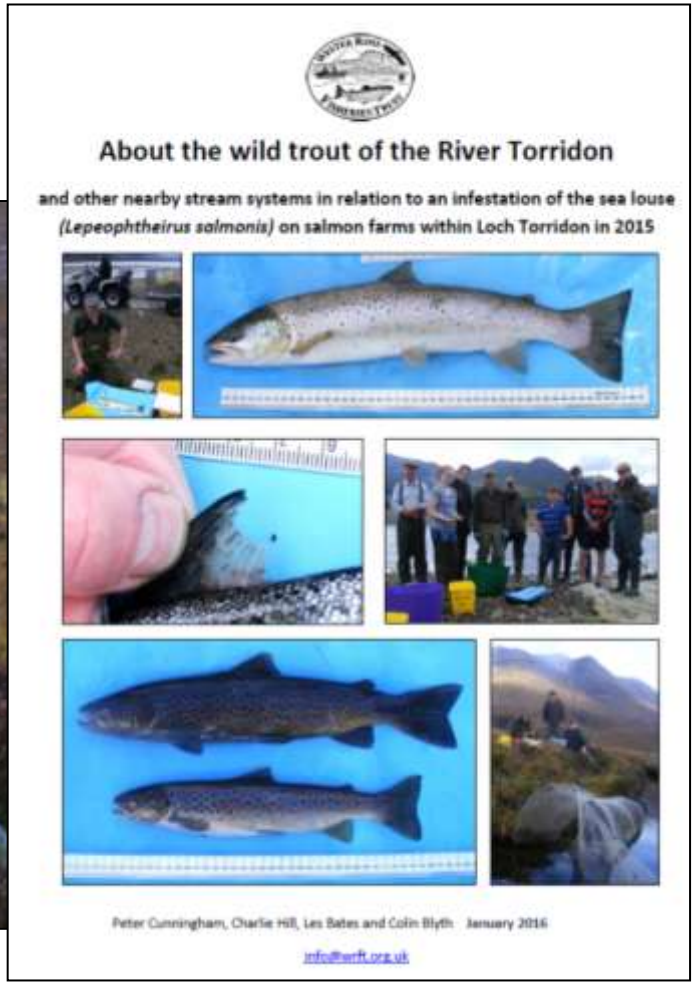
Brown Trout (*salmo trutta*)

Captured in the River Torridon, Scotland
Resident, Atlantic strain,
Length: 352 mm
Date: November 3, 2015

Illustration and copyright: Paul Vecsei
Source material: Peter Cunningham, Charlie Hill, Les Bates and Colin Blyth (Wester Ross Fisheries Trust)

https://www.flickr.com/photos/fishasart/

In some sea lochs with plenty of fresh and brackish water feeding areas, female sea trout are able to survive, mature and spawn more than once, despite heavy sea louse infection pressure nearby.



About the wild trout of the River Torridon

and other nearby stream systems in relation to an infestation of the sea louse *(Lepeophtheirus salmonis)* on salmon farms within Loch Torridon in 2015

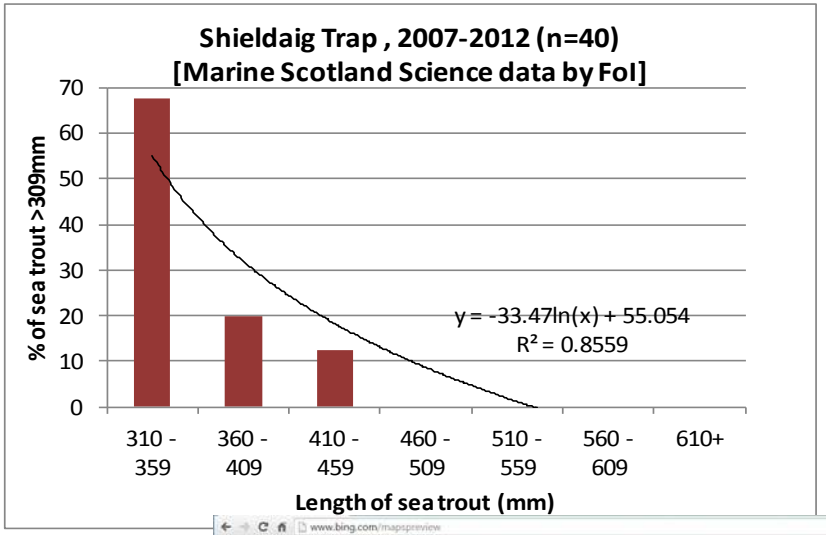
Peter Cunningham, Charlie Hill, Les Bates and Colin Blyth January 2016

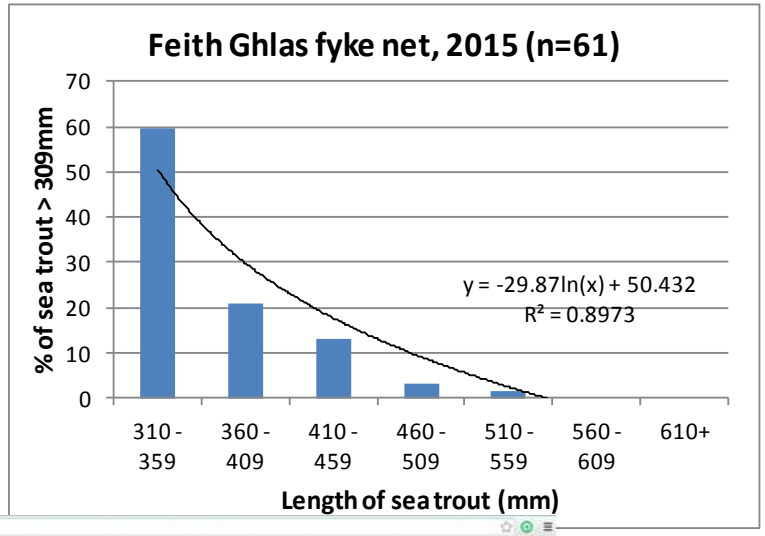
info@werft.org.uk

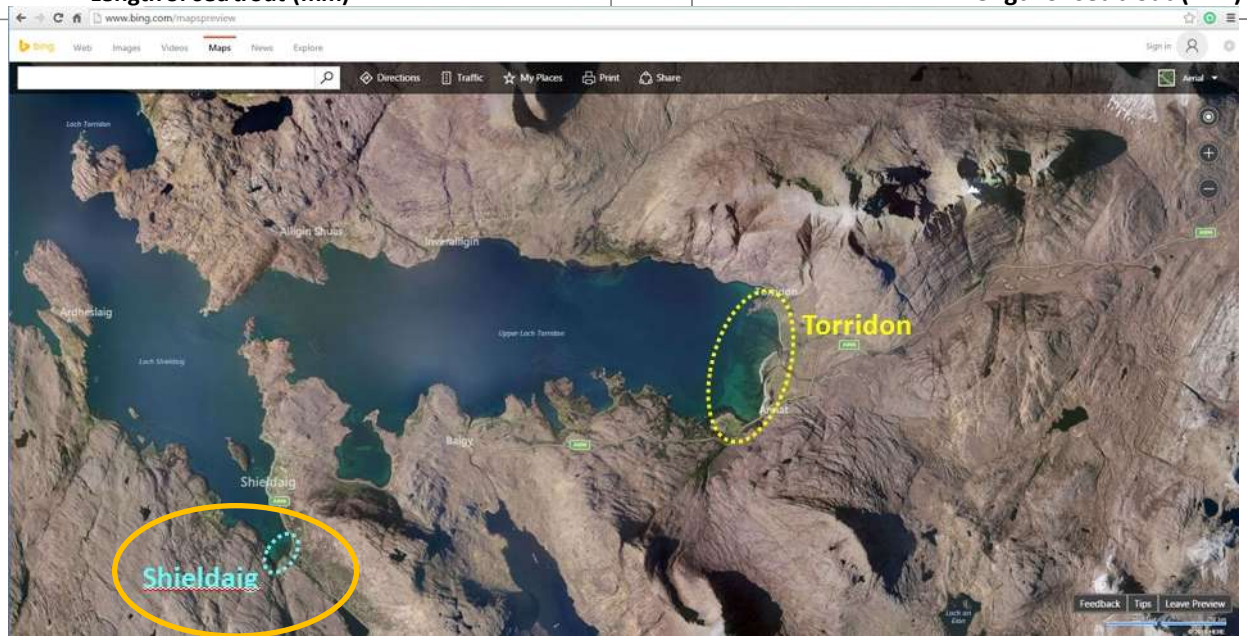
. . .but not everywhere: larger sea trout in Loch Torridon

Relative % of sea trout of >310mm in samples from the

MS Shieldaig trap, 2007 to 2012 (left) . . .and **WRFT Torridon fyke net**, 2015 (right).







2019 sweep netting season starts with sample of louse-infested sea trout in Loch Gairloch

Posted: Monday 22 April, 2019 @ 15:22:37

Thirty seven sea trout were caught in the first SWRFT sweep netting session of 2019 in Loch Gairloch. These fish were assumed to be a mix of overwintered finnock and older sea trout (rather than this year's sea trout smolts) of lengths between 225mm and 450mm. Scale samples have been taken to confirm fish and sea age.

Sea trout were generally thin with an average condition factor (for the first 30 fish) of 0.88. The average estimated lice count on these fish was 107+ lice per fish (range 3 to 300+). Larger lice were *Lepeophtheirus salmonis*, smaller lice (too small to distinguish in the field) were also assumed to be *L. salmonis*. Most of the lice were very small copepodid or chalimus lice.

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Saharan dust is why your ca...

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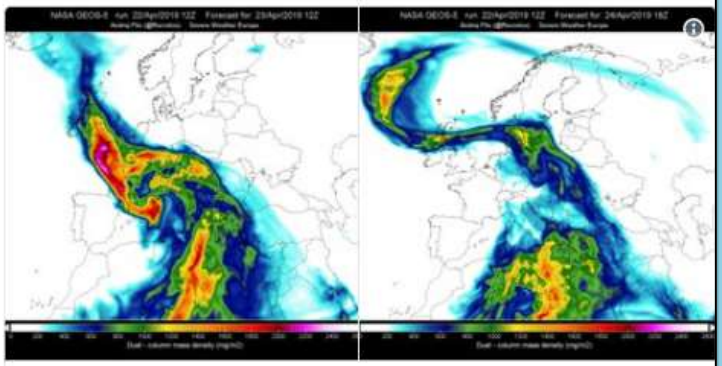
from respiratory issues or heart problems.

Heavy dust can cause sore throats and eyes, but those with lung or heart dise
take extra steps to protect themselves.



severe-weather.EU
@severeweatherEU

High resolution dust forecast, made from NASA GEOS-5 model data, that shows the current "dust event" slowly moving towards East and North. In 36 hours, some of this dust will even reach Iceland in decent concentrations.

Maps by Severe Weather Europe (@Recretos)

16 9:30 PM - Apr 23, 2019

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Report

The weather phenomenon came after Scotland enjoyed its hottest Easter Mo
with a top temperature of 24.2C (75.5F) in Kinlochewe in Wester Ross.

The figure beat the previous high of 21.4C (70.5F) from 2014.

It came 24 hours after a peak of 23.4C in Edinburgh broke Scotland's Easter S

Nicola Sturgeon declares 'climate

https://www.bbc.co.uk/news/uk-scotland-scotland-politics...

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Nicola Sturgeon declares 'climate emergency' at SNP conference

28 April 2019 Share

SNP Conference

EPA

Nicola Sturgeon said Scotland would "live up to our responsibility" on climate change

Scottish First Minister Nicola Sturgeon has declared a "climate emergency" in her speech to the SNP conference.

The SNP leader told delegates in Edinburgh she was inspired after **meeting young climate campaigners** who had gone on strike from school.

Ms Sturgeon said "they are right", and pledged to "live up to our responsibility" to halt climate change.

Wild fires . . .

http://www.ross-shirejournal.co.uk/News/Fresh-spate-of-Ross-wildfires-spark-muirburn-warning-01042013.htm

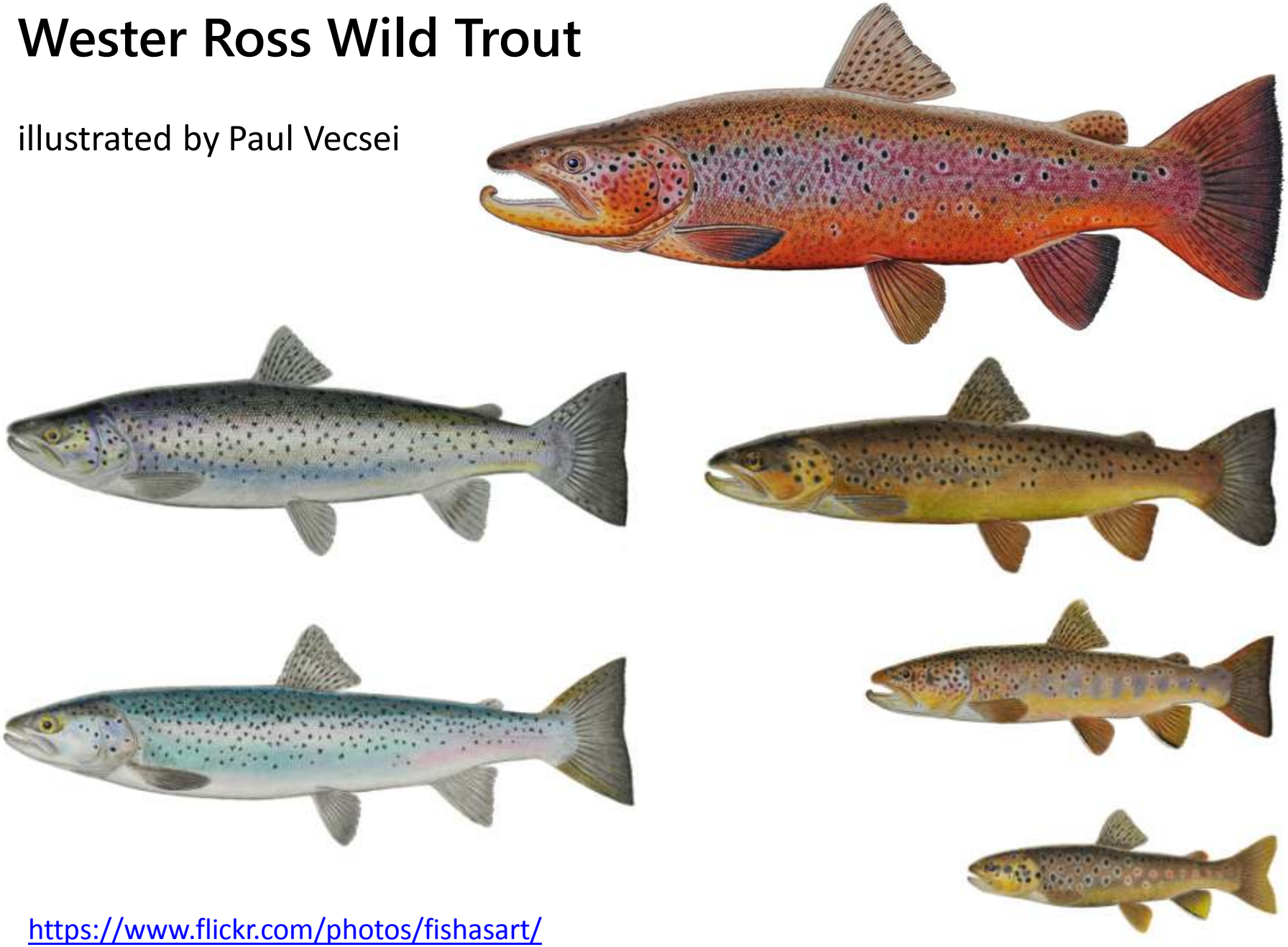
The future? The Outer Hebrides: still has some big sea trout . . .

N. MacNeil with 8lb sea trout, Loch Roag, S. Uist, Sept 12th 2013

Thank you!

Wester Ross Wild Trout

illustrated by Paul Vecsei



https://www.flickr.com/photos/fishasart/

For help and support over the past 12 months, thank you to:

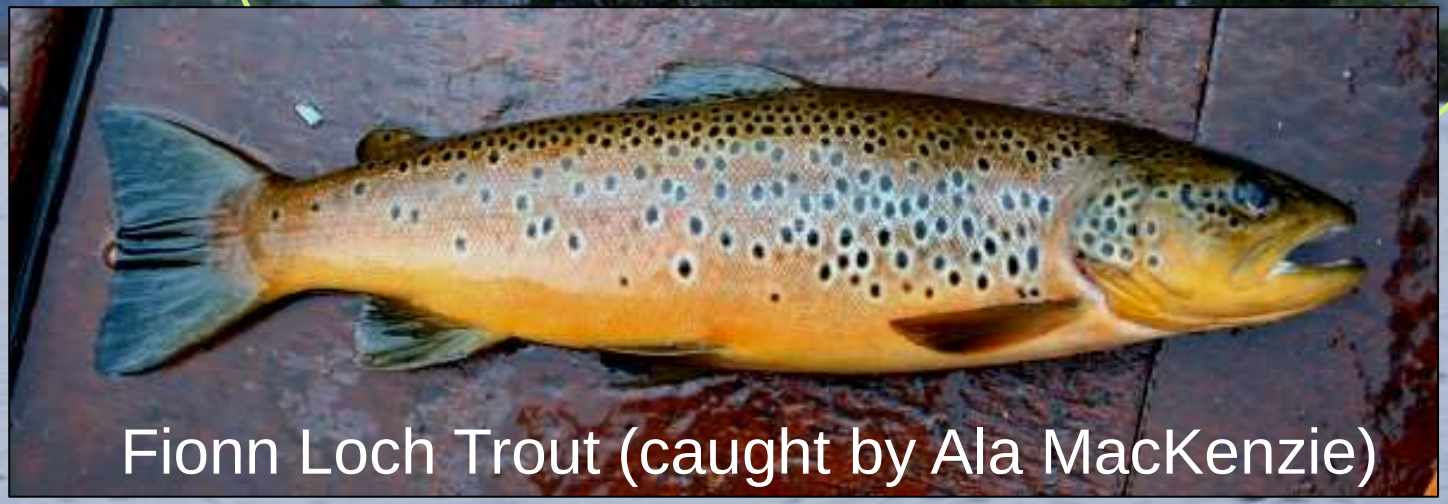
Christian Gudgeon, Colin and Finn Simpson, Peter and Janet Davison, Ben Bulmer, Donald Rice, Alasdair and Sophie Macdonald and friends, Sue Pomeroy, Bill Whyte, Sean Dugan, David and Sue Holland, Iona Scobie and Julian, Ben Rushbrooke, Doug Bartholomew, Duncan MacKenzie, Mary Gibson, Cameron Thomas, Hugh Whittle and friends, Ray Dingwall, Gary Bulmer, Peter Jarosz, Fraser Wilson (MI Cables), Fred Robertson, Norman MacPherson and family, Mark Williams and family and friends, Prof Dave Barclay, Marcus Simpson, Bill Anderson, Fraser Anderson, Terry Jack, Alastair Pearson, Dr James Close, Duncan Donald, Dr Malcolm Stewart and family and friends, Dr John Ogle family and friends, Frank Kalinowski, Pat Wilson and family, Philip Smith, Neil Morrison, Simon Stewart, Ian MacFadyen, Jim Raffell (Marine Scotland), Dr Steve Kett, Dr Andy Vicks friends and students Vu Dang, Toby Landeryou, David & Veronica Mullaney, Callum Sinclair, Keith Dunbar, Iain Muir, Mark MacKenzie (Kaenchullish Estate), Stuart Allison, Iain Allison, Achiltibuie A.C members, Alastair MacDonald (Dundonnell Estate), Colin Simpson, Nigel Carr, Gary Bulmer, Fred Robertson, Mark Williams and family, Jim Buchanan, Jeremy Fenton, Alasdair Hughson, Ian McWhinney, Lennie Campbell, Kevin Frediani & all at NTS Inverewe, Barbara MacRitchie (NTS Balmacara), Jackie Anderson, Eamonn and Channy Flood, SNH Beinn Eighe NNR volunteers, Glenelg Angling Club, Pat Brunton, Andy Jackson, John Mackenzie, Patricia Sturrock, Chris Beresford, Nick Benge, Cameron Waite, and SNH volunteers. And all the other helpers . . . !

Loch Lurgain trout head

(photo by Keith Dunbar)

Fionn Loch islands, Little Gruinard catchment.

Trees!
(no grazing or burning



Fionn Loch Trout (caught by Ala MacKenzie)

Loch Coruisk

Photo by Piotr Zycki via www.pbase.com

Is there a need to designate some ‘special’ sea trout systems in Scotland?

Sea trout monitoring in 2018 (supported by SG and WRASFB)

- Samples of sea trout at 6 mainland sites including 3 new ones

Kanaird sweep netting team