

Smaller trout have growth spurts when they decide to go to sea

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Credit: Heriot-Watt University

A four-year survey of brown trout in the burns of Orkney has revealed a surprise finding about Scotland's most ubiquitous fish: smaller members of the school have growth spurts when they decide to go to sea.

Brown [trout](#), or *salmo trutta*, are found across Scotland in large river systems, lochs and the smallest burns. They exist alongside salmon,

which are well-studied, but trout's peculiarities - their indecisiveness about going to sea, their tendency to stray and their mortality rates - are still mostly unexplained.

In recent years, sea trout, the brown trout that migrate to sea, have been in decline, which has stimulated more research into their biology.

Dr Alastair Lyndon, associate professor in Heriot-Watt University's Centre for Marine Biodiversity and Biotechnology, said: "Trout remain quite mysterious to us, especially when compared with our knowledge about salmon's characteristics and behaviour.

"By studying the brown trout in Orkney's burns, in a confined space and without any salmon to complicate matters, we uncovered several previously unknown facts about brown trout."

Malcolm Thomson, who completed the fieldwork between 2004 and 2010, said: "This was the first time that all trout populations in Orkney were formally identified, and we made some fascinating discoveries.

"Going from a freshwater to a marine environment is a stressful process for [fish](#) and, with sea trout, larger smolts are better equipped to cope with this stress.

"We learned that smaller smolts actually have a growth spurt when they are about to migrate to sea, to catch up with the bigger fish.

"It's as though winter comes, they decide they're going to migrate to sea in the spring and realise they'll have to get much bigger to survive. So they have a big burst of growth, and head out with the bigger fish once they have caught up.

"This is interesting as we now know this [growth spurt](#) all happens in

fresh water, not estuaries or at sea as commonly thought."

The findings were reported in the *Journal of Fish Biology*.

Provided by Heriot-Watt University

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