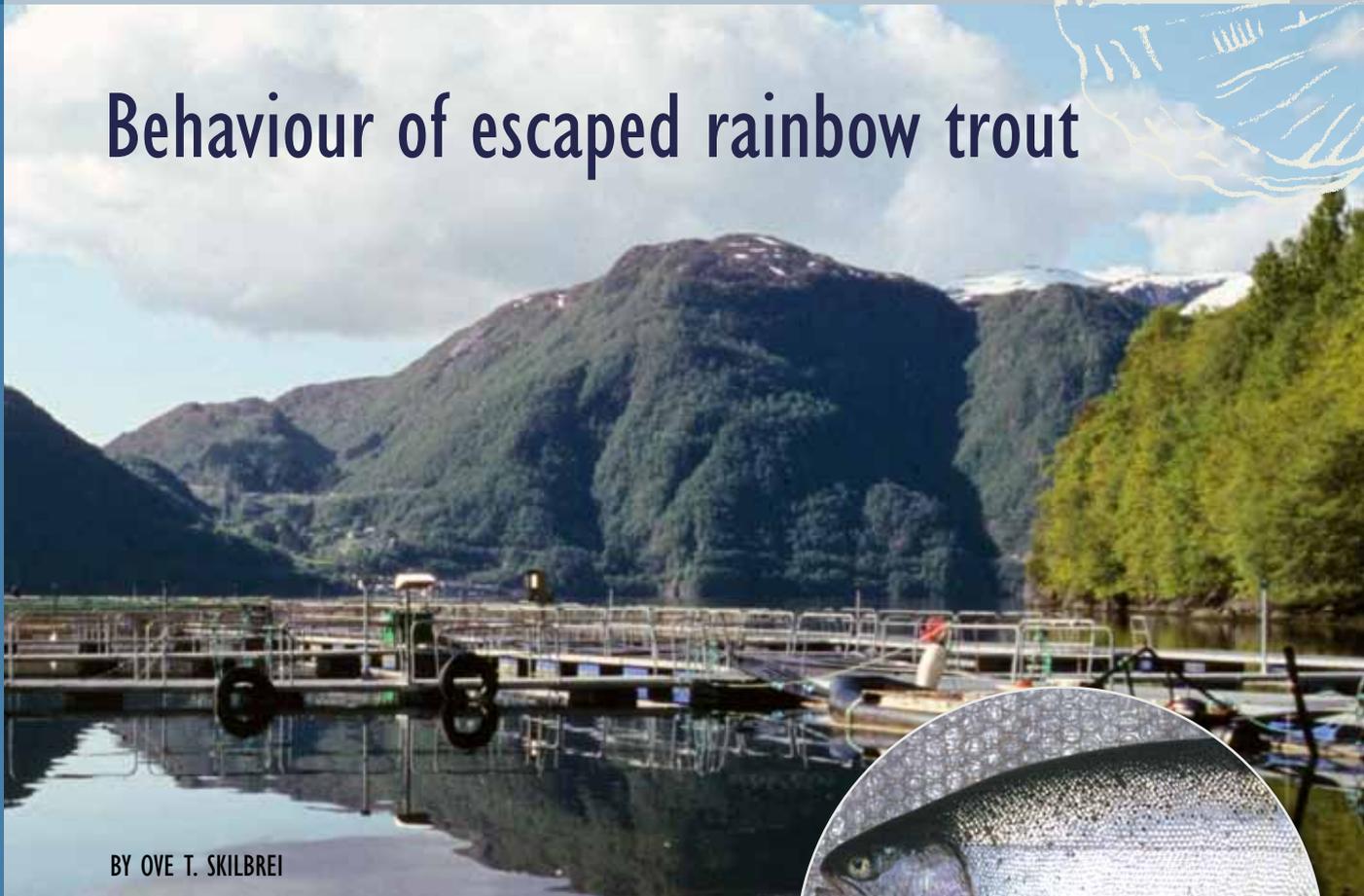


Behaviour of escaped rainbow trout



BY OVE T. SKILBREI

Rainbow trout are mainly farmed in fjords. They are thought to be more sedentary after escaping than escaped salmon, however this has not previously been well documented. The behaviour of escaped rainbow trout is now being studied in the fjords around the island of Osterøy in Hordaland in order to increase our understanding of escaped fish and to develop recapture strategies.

As it is very rare for escaped rainbow trout to successfully spawn in the wild, the main negative impact of escapees is transmission of diseases and parasites. Concern has also been expressed that spawning rainbow trout observed in the lower reaches of rivers may damage salmon eggs already buried in the gravel.

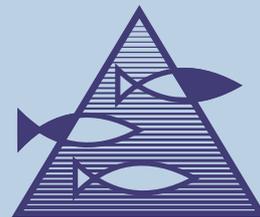
Many fish farmers have successfully farmed rainbow trout in fjords. In the wild, trout do not migrate in the sea to the same extent as salmon, but they cope well with the physical environment of fjords. Although anglers are aware that this fish often remains close to fish farms, we lack specific knowledge about how they spread out after escaping.

MAPPING MIGRATION PATTERNS OF RAINBOW TROUT

The only species farmed in the fjords around Osterøy in Hordaland is rainbow trout. In collabo-

Figure 1
Photo montage of fish farms around the island of Osterøy and tagging of rainbow trout.





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ration with the fish farming companies Lerøy Fossen and Sjøtroll Havbruk, the Institute of Marine Research has placed listening buoys at most of the fish farms in the fjord system, and rainbow trout fitted with acoustic transmitters with depth gauges have been released from two farms. Listening buoys at the Nordhordland bridge reveal if the fish leave the fjord system.

MAIN RESULTS FROM 2008 – ESCAPED RAINBOW TROUT ARE RELATIVELY STATIONARY

▶ 50 rainbow trout fitted with acoustic transmitters were released in May and August 2008. 18% were still in the fjord in January 2009, 28% had left the fjord, 28% had been reported as caught in the fjord, 4% of the transmitters were found on the sea bed (the fish had been gutted?) and 22% had disappeared in the fjord. It must be assumed that some of the latter have been caught but not reported. A further 4% (of the total number of fish) were caught after leaving the fjords.

▶ Although some trout left the fjord over the course of several months, escaped rainbow trout are very stationary in the fjords around Osterøy. Most of them stayed in the areas around, and generally close to, the various fish farms, i.e.

within a few kilometres. A few individuals barely left the zone around the farm they were released from for several weeks. Others moved around more within the fjord, but generally returned to their “home area”.

▶ The rainbow trout went right up to the fresher surface layer from the first release in May until October, but went significantly deeper later in the year and into the winter. Because salmon lice cannot survive in water with low salinity, this should mean that it is harder for the lice to develop on the fish in the summer than in the winter.

▶ The behaviour of the trout makes it possible to recapture a high proportion of them, as they stay in the area for months, and also means that escapees are very obvious. An effective recapture strategy involves catching fish close to the farm from which they escaped and around the other fish farms in the fjord system. However, it appears that work should be done on determining which fishing methods are most suitable for recapture programmes at different times of the year.

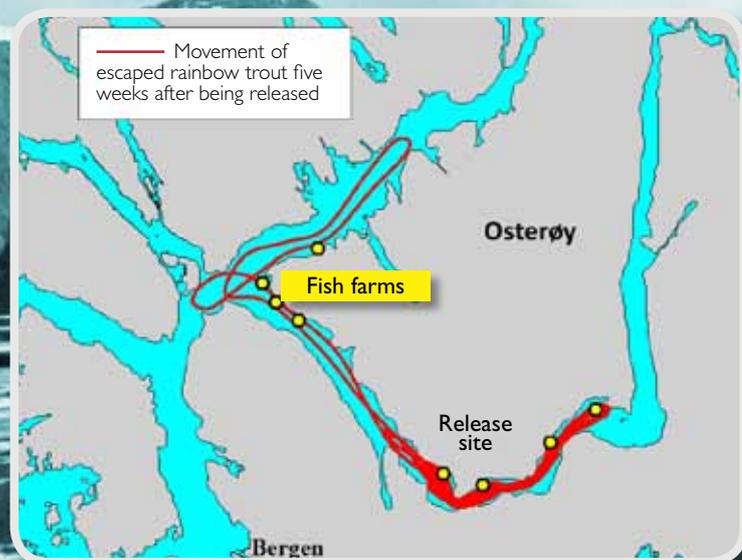


Figure 2
The movements after release of rainbow trout with acoustic transmitters.

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