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## **Abstract**

Studies on fish mobility have documented several ecotypes of the trout *Salmo trutta* (L.): the diadromous sea trout, the freshwater resident brown trout and the lake trout which makes spawning migrations in tributaries. In river ecosystems flowing through industrialised regions, like the River Meuse, it has been suspected that a fourth ecotype would have evolved from the restrictions imposed by man-made obstacles on the free-circulation of fish: the "large river trout". By comparison with sea trout, this ecotype would be characterised by a restricted (within river or between rivers) migration strategy but could maintain high growth rates in favourable environments such as the downstream reaches of navigation dams, where fish preys would accumulate during spring and summer. In order to investigate the possible existence of this fourth ecotype, 20 trout have been radio-tagged and positioned daily in the River Ourthe sub-basin.

Three of the 20 trout showed behaviours which could be assimilated to this large river ecotype. They occupied a limited home range below of a dam and showed restricted movements from late spring to early autumn. Twenty-four hours tracking cycles provided evidence that this behaviour was consistent both at day and night. Two of these fish, which had been displaced upstream of the dam, homed within a few days and consistently remained in this area during autumn and early winter, making no spawning migration. This finding suggests that the restricted mobility of these fish did not strictly originate from a physical constraint by the dam but rather corresponded to a behavioural strategy. Both fish were recaptured five months after tagging. The largest one, which lived downstream of the Grosses Battes dam, on the River Ourthe, weighed 1083 g in May and 2302 g in October. This spectacular weight gain exceeds by far the freshwater standards and more closely resembles the growth of sea trout. The third fish migrated over 18 km during late October, entered a spawning tributary, then returned nearby its summer home range. Despite intensive capture effort by electric fishing, this fish could not be recovered and its growth is thus unknown.

These preliminary results support the existence of "large river trout" (or "dam trout"). At present and due to the limited sample size, it is not permitted to give any statement about the proportion of the population which corresponds to this ecotype. Furthermore, since some of these fish obviously do not make spawning migrations each year, it is also impossible to determine their quantitative contribution to the next generations. Coming telemetry studies will investigate this topic, including a more detailed analysis of the relationship between fish mobility pattern, condition and growth.