



Twan Stoffers with cuvette containing, from the left: common roach, bream, ide, another ide and western tubenose goby. • Photo Twan Stoffers

Good breeding grounds are not enough

Floodplains in the Netherlands have been drastically relandscaped in recent decades in an effort to mitigate the risk of flooding. Theoretically, these interventions created excellent nurseries for fish. And yet the fish populations of the rivers have not increased. Doctoral candidate Twan Stoffers set out to find out what's going on.

He concludes that the breeding grounds are adequate as long as there is sufficient diversity in the environment created by these restoration projects. The young of typical river fish

that require running water, such as nase, common dace and ide, thrive in secondary channels

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of the rivers. These species are four times as likely to be found there as in side arms that only connect with the river at one end.

By contrast, the biggest populations of fish are found precisely in the side arms where there is very little current. Stoffers: 'It is mainly bream, common

roach and perch that thrive there.

These are common species that do not require flowing water. Eighty per cent of the young river fish belong to these species.' These common species also occur in the secondary channels, which therefore boast the greatest biodiversity.

Water levels

The results are based on an extensive measuring programme run by Stoffers.

The data were added to an investigation commissioned by Rijkwaterstaat on the ecological quality of 46 recovered floodplains. The overall picture shows that there is no such thing as the ideal breeding ground. Stoffers: 'Each species has its own optimal habitat, which changes as the fish mature. The diversity of habitats is essential.' Still, the breeding grounds do not noticeably boost the fish population in the rivers. According to Stoffers, this is due to the connection with the river.

'After the first year in the breeding ground, many of the fish migrate to the river, and that's where things go wrong. Decreasing water levels frequently cause the breeding ground to become disconnected from the river early in the season.' **PK**