



**Oral T1.8 in *Stock, stocking and the future of recreational fisheries***

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**When choosing the wrong one: Genetic consequences of salmonid hatchery programs based on non-genetic selection parameters**

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Captive breeding programs are widely used to counteract the decline of fish populations in the wild, therefore enhancing natural resources of recreational angling. In this context there is general agreement that such hatchery stocks have to be established respecting genetic diversity at a micro geographic scale and, consequently, operating at the level of evolutionary significant units. That is, at least when foreign strains are potentially present in the wild, captive breeding programs have to comprise genetic fingerprinting of wild spawners founding hatchery strains. In contrast to this scientific awareness most captive breeding programs in the Northern Adriatic region, harboring highly endangered endemic salmonid species, still exclusively depend on morphological selection parameters. Here we provide multi locus genotypic data of both Marble trout and Adriatic grayling captive breeding strains managed by local angler associations for wild stock enhancement. Individual assignment tests of wild brood stocks and simulated subsequent hatchery generations indicate introgression of foreign alleles into native stocks in both empirical case studies. By analyzing simulated genotypes of subsequent hatchery generations we found that introgression was critically depending on parameters such as 'immigration rate', gender of non-native fish and, finally, the number of subsequent hatchery generations.

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