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Strontium marking young eel for restocking in Sweden – preliminary results on a full scale implementation.

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Abstract:

Restocking young eel is a common conservation measure, to enhance the severely depleted eel stock in Europe. To enhance local abundances, restocking has been used to complement current poor recruitment. Marking enables the assessment of such stocking programs. Since 2009, all young eels restocked in Sweden have been marked with an introduced zone of enriched strontium content in their otoliths. In total 15.4 million marked eels were stocked between 2009 and 2015, 11.1 in freshwater and 4.3 million in marine environments, respectively.

A frequent question is if stocked eels perform as well as natural recruits.

Marked eels were recaptured from freshwater sites and open coastal areas by means of electro-fishing in streams and fyke netting in both freshwater and along the Swedish west coast.

Using data on age and size of marked as well as unmarked eels collected from the same sites, comparisons were made between growth in young yellow eels originating from stocked and natural recruits, respectively. A supply of marked eel otoliths of known origin and maximum age also improves our understanding of otolith growth in eel.

Results are presented and discussed considering the recurring question on stocking as a sustainable measure to enhance and manage the stock of the European eel.

Keywords: *Anguilla anguilla*, restocking, otolith, marking, strontium, growth, management