Marine spawning sites of perch Perca fluviatilis revealed by oviduct-inserted acoustic transmitters - DTU Orbit (18/12/2018)

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In the 1970s, a flood-protection system dramatically changed a large part of the coastal environment of Køge Bugt, a bay in the western Baltic Sea, from open coast to a brackish lagoon habitat. An anadromous stock of European perch Perca fluviatilis seems to have benefitted from this change, but details about their spawning behavior remain unknown. We used oviduct-inserted acoustic transmitters to reveal the pre-spawning behavior and spawning sites of this population. Thirteen female perch were caught in the lower stream basin of St. Vejle Å, and were tagged with acoustic transmitters inserted through the oviduct. The fish were tracked from March 2 to May 24, 2012 with both passive and active telemetry systems. The pre-spawning behavior involved short trips between the stream and adjacent lagoons. Twelve of the 13 transmitters (92%) were expelled during spawning, providing for the first time a strong proof of concept of oviduct-inserted acoustic transmitters in brackish and marine fish spawning studies. The transmitter expulsions were validated using an egg map, which was based on visual observations of perch egg-strands, and 11 of the 12 expelled transmitters (92%) were located in areas with eggs. Many fish spawned in the brackish water with salinities up to 9.6 PSU. These salinities are higher than those previously observed for European perch spawning in the wild, and call for further investigations of salinity tolerance in perch eggs.

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