Online Resource 4

Individual repeatability in the timing of river entry indicates the strong influence of photoperiod in the spawning migrations of iteroparous twaite shad *Alosa fallax*

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Online Resource 4 (**a**) Summary of mean (±95% confidence interval) daily sea surface temperature (SST), river temperature (RT), river flow (Flow), and tidal amplitude during the period of shad river entry (Julian days 107-153) for each study year, and (**b**) Wilcoxon rank sum tests with continuity correction, comparing SST, RT and Flow during this period between years.

a

Year	*SST* (°C)	*RT* (°C)	*Flow* (m^3s^{-1})	*Tidal amplitude (m)*
2019	12.6 ± 0.5	14.0 ± 0.6	55.3 ± 6.2	1.07 ± 0.26
2020	13.1 ± 0.5	15.2 ± 0.6	37.6 ± 2.9	1.24 ± 0.30
2021	11.6 ± 0.4	12.2 ± 0.4	100.7 ± 18.1	1.40 ± 0.32

b

Years	*SST*	*RT*	*Flow*	*Tidal amplitude*
2019/ 2020	W = 995; $p = 0.26$	W = 761; $p = 0.009$	W = 1726; $p < 0.001$	W = 1049.5; $p = 0.68$
2019/ 2021	W = 1495.5; $p = 0.003$	W = 1688; $p < 0.001$	W = 603; $p < 0.001$	W = 934.5; $p = 0.20$
2020/ 2021	W = 1641; $p < 0.001$	W = 2059; $p < 0.001$	W = 274; $p < 0.001$	W = 1004; $p = 0.45$