Loss of European silver eel passing a hydropower station

The aim of this study was to assess escapement success of silver eels, Anguilla anguilla (L.), in a lowland river while passing a reservoir and a hydropower station. It was hypothesized that passage success would be lowest at the hydropower station and that survival and migration speed would be highest in the free-flowing river section upstream the reservoir. Forty-five female silver eels 56–86 cm in length were tagged with acoustic transmitters and released in November 2006. Their migration was monitored via automatic listening stations (ALS) in various sections of the river, covering a total migration distance of 64 km. Survival and progression rate of downstream migration was highest in the upstream river section and significantly lower in the reservoir. The eels apparently had trouble finding their way past the turbines and spent between 1.5 and 35 h in the forebay. The results show that within the study period, only 23% of the tagged eels reached the tidal limit, mainly due to difficulties in passing the hydropower dam. With such high loss-rates, the escapement goals set in the management plan cannot be achieved.

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Contributors: Pedersen, M. I., Jepsen, N., Aarestrup, K., Koed, A., Pedersen, S., Økland, F.
Pages: 189-193
Publication date: 2012
Peer-reviewed: Yes

Publication information
Journal: Journal of Applied Ichthyology
Volume: 28
Issue number: 2
ISSN (Print): 0175-8659
Ratings:
Web of Science (2019): Indexed yes
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 0.93
Web of Science (2017): Impact factor 0.774
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 0.94
Web of Science (2016): Impact factor 0.845
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 0.84
Web of Science (2015): Impact factor 0.783
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 1.06
Web of Science (2014): Impact factor 0.867
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 0.99
Web of Science (2013): Impact factor 0.903
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 0.99
Web of Science (2012): Impact factor 0.902
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 1.04