

SEA TROUT  
SCIENCE & MANAGEMENT  
CONTENTS

Preface	ix
Acknowledgements	xi
UNDERSTANDING ANADROMY	
1. Anadromy in brown trout ( <i>Salmo trutta</i> ): A review of the relative roles of genes and environmental factors and the implications for management. <i>A. Ferguson, T. Reed, P. McGinnity &amp; P. Prodöhl</i>	1
2. Understanding anadromy as an individual adaptive behaviour: theory and its consequences. <i>S.F. Railsback &amp; B.C. Harvey</i>	41
3. Sea does matter: seascape heterogeneity influences coastal migration tactics and population connectivity in brown trout ( <i>Salmo trutta</i> L.). <i>S. Launey, E. Quéméré, J-L Fagard &amp; J-L. Baglinière.</i>	53
POPULATIONS & MANAGEMENT	
4. Population genetics and genetic stock identification of anadromous <i>Salmo trutta</i> from the Irish Sea and adjacent areas, using microsatellite DNA loci. <i>P. A. Prodöhl, A. Antoniacomi, C. Bradley, J. Carlsson, G.R. Carvalho, J. Coughlan, J. Coyne, M.C. Cross, M.E. Cross, C.A. Davies, E. Dillane, P. Gargan, R. Hynes, P. McGinnity, N. Milner, T. Reed, W. Roche, M. Taylor, N. Tysklind &amp; T.F. Cross.</i>	69
5. Variation in sea trout ( <i>Salmo trutta</i> ) abundance and life histories in the Irish Sea. <i>N. Milner, E. Potter, W. Roche, N. Tysklind, I. Davidson, J. King, J. Coyne &amp; C. Davies.</i>	96
6. Catch and stock based Biological Reference Points for sea trout in England & Wales: A comparison of methods and critical examination of their potential application to stock assessment and management. <i>I. Davidson, M. Aprahamian, G. Peirson, R. Hillman, N. Cook, P. Elsmere, R. Cove &amp; A. Croft.</i>	129
7. Trout recruitment, production and ova seeding requirements on a small coastal river: a case study from the Shimna River, Northern Ireland. <i>M. Kennedy, W Crozier, R. Rosell, M. Allen &amp; P. Prodöhl.</i>	153
8. Estimating salmonid angling exploitation rates from systems monitored by fish counters and their potential applications to fisheries management in Ireland. <i>M. Millane, S. Shephard, J. White, N. Ó Maoliléidigh, K. O'Higgins, P O'Malley, W. Roche, R. Poole, G. Rogan, N. Bond &amp; P. Gargan.</i>	167
9. The relative importance of sea trout and salmon to the recreational rod	185

fisheries in England & Wales.  
*G. Harris & R. Evans.*

### MOVEMENT & MIGRATION

10. Marine migrations and distribution of sea trout from rivers in Great Britain. 205  
*E. Potter, R. Campbell, K. Sumner & S. Marshall.*
11. Simulation of movements of sea trout post-smolts in the Irish and Celtic Seas. 228  
*E. Potter, C. Beraud, J. Bacon, J. Van der Molen & S. Van Leeuwen.*
12. Genetic structure and tracking of sea trout (*Salmo trutta* L.) in the Rhine and Meuse estuary in the Netherlands. 253  
*D. Ensing & A. Breukelaar.*
13. Marine Migrations of sea trout (*Salmo trutta*). 267  
*D. Aldvén & J. G. Davidsen.*
14. Migration pathways in a fjord of two populations of sea trout (*Salmo trutta* L.) smolts. 277  
*D. Aldvén, L. Závorka, K. Aarstrup & J. Höjesjö.*
15. Migration behaviour and loss rate of sea trout smolts in the transitional zone between freshwater and saltwater. 292  
*R. Lauridsen, A. Moore, S. Gregory, W. Beaumont, L. Privitera & J. Kavanagh*
16. Managing mixed stocks of sea trout (*Salmo trutta* L.) straying between rivers sharing a common estuary in Southwest England: a genetic approach. 308  
*A. King, B. Stockley, R. Hillman, P. Elsmere & J. Stevens.*
17. The marine migration and swimming depth of sea trout (*Salmo trutta* L.) in Icelandic coastal waters. 328  
*J. Sturlaugsson.*
18. Dispersal of post-smolt Atlantic salmon and sea trout within a Scottish sea loch system. 339  
*S. Middlemas, D. Stewart, J. Henry, M. Wyndham, L. Ballantyne & D. Baum.*
19. Do sea trout migrations promote interbasin connectivity between populations? 354  
*J. Chat, S. Masson, A. Manicki, F. Geuraud, J. Rives, F. Lange, E. Huchet, P. Coste, J. Aymes & O. Lepais.*

### ECOLOGY & BEHAVIOUR

20. Feeding ecology of sea trout in the Irish Sea. 371  
*W. Roche, N. Milner, C. Davies, S. Shephard, J. King, J. Coyne, P. Gargan & R. Hughes.*
21. Migration behaviour of sea trout (*Salmo trutta* L.) in a large sub-arctic river system: evidence of a two-year spawning migration. 396  
*P. Orell, J. Erkinaro, T. Kannianen & J. Kuusela.*

22. Using stable isotopes to assess the distribution and reproduction by migratory and resident *Salmo trutta* within river systems: some complicating factors. 410  
*R. Briers, R. Campbell, K. Galt, M. Walters & J. Holmes.*

#### MONITORING & SURVEILLANCE

23. Assessment and recruitment status of Baltic sea trout populations. 423  
*S. Pedersen, E. Degerman, P. Debowski & C. Petereit.*
24. Perspectives on sea trout stocks in Sweden, Denmark and Norway: Monitoring threats and management 442  
*J. Höjesjö, D. Aldvén, J.G. Davidsen, S. Pedersen & E. Degerman.*
25. Calculating smolt production of sea trout from habitat surveys and electrofishing: pilot studies from small streams in Sweden. 458  
*J. Höjesjö, N. Nilsson, E. Degerman, A. Halldén & D. Aldvén.*
26. Observations on sea trout stock performance in the Rivers Dee, Tamar, Lune & Tyne (1991–2014). The Contribution of ‘Index River’ monitoring programmes in England & Wales to fisheries management. 470  
*I. Davidson, R. Cove, R. Hillman, P. Elsmere, N. Cook & A. Croft.*
27. The collection of sea trout and salmon statistics from the recreational rod fisheries in England & Wales. 487  
*R. Evans & G. Harris.*

#### THREAT ASSESSMENT

28. Assessment of the increased mortality risk and population regulating effect of sea lice (*Lepeophtheirus salmonis*) from marine salmon farms on wild sea trout in Ireland and Scotland. 507  
*P. Gargan, S. Shephard & C. Macintyre.*
29. Sea Trout and Tidal Power: Challenges and Approaches. 523  
*A. Turnpenny, R. Horsefield & J. Willis.*
30. The impact of small hydropower schemes on the migratory behaviour of sea trout (*Salmo trutta* L.) smolts in the River Frome, Southern England. 541  
*A. Moore, R. Lauridsen, L. Privitera & W. Beaumont.*

#### LOOKING AHEAD

31. Looking ahead: Management priorities for sea trout 555  
*K. Whelan, G. Harris, N. Milner, E. Potter, I. Llewelyn & C. Gallagher*