|  |  |
| --- | --- |
|  | **Phil Davison** In 20 years at Cefas, I have contributed to a wide range of work in the field and in the laboratory, as well as the subsequent data analysis and paper/report writing. My interests lie primarily in the ecology, behaviour and conservation of fish. Since 2013, I have become one of the Cefas technical specialists in the field of environmental DNA surveying, undertaking a part-time PhD (with Bournemouth University) entitled "The Detection of Non-native Fish Species Using Environmental DNA", and leading delivery of the associated work programme. I represent Cefas on the Defra Centre of Excellence for DNA Methods, and in a number of eDNA working groups. I am Cefas Principle Investigator on an EU project looking at developing genetic tools to monitor North Sea ecosystem health.  Present areas of expertise include non-native species research and advice, including participation in the ICES WGITMO working group; trapping and tagging of salmon smolts; acoustic tracking of fish migrations along rivers and estuaries; electrofishing and netting surveys in rivers and lakes; glass eel monitoring studies; studying effects of artificial light on freshwater fish; data analysis using circular statistics; and paper and report writing. I have previously undertaken other varied work, including deployment and monitoring of fish refuge structures; plankton surveys for eggs of cod and plaice (on both research and chartered fishing vessels); groundfish surveys;  molecular genetic work (sequencing gadoid DNA); preparation and reading of juvenile plaice otoliths; analysis of piscivorous bird morphometrics and stomach contents. I act as England & Wales Coordinator for the International West Greenland Salmon Monitoring Programme.  **RELEVANT PUBLICATIONS**  **Peer-reviewed papers**  **Davison, P.I.,** Falcou-Préfol, M., Copp, G.H., Davies, G.D., Vilizzi, L., and Créach, V. (2019 online). Is it absent or is it present? A new highly-sensitive eDNA protocol to detect non-native fishes to inform management decisions. *Biological Invasions.*  Vilizzi, L., Copp, G., Adamovich, B., Almeida, D., Chan, J., **Davison, P.,** Dembski, S., Ekmekçi, F. G., Ferincz, Á., Forneck, S., Hill, J., Kim, J.E., Koutsikos, N., Leuven, R., Luna, S., Magalhães, F., Marr, S., Mendoza, R., Mourão, C., Neal, J. W., Onikura, N., Perdikaris, C., Piria, M., Poulet, N., Puntila, R., Range, I., Simonović, P., Ribeiro, F., Tarkan, A. S., Troca, D., Vardakas, L., Verreycken, H., Vintsek, L., Weyl, O., Yeo, D., Zeng, Y. (2019 earlyview). A global review and meta-analysis of applications of the freshwater Fish Invasiveness Screening Kit. *Reviews in Fish Biology and Fisheries.*  Dodd, J., Vilizzi, L., Bean, C., **Davison, P.I.** & Copp, G.H. (2019). At what spatial scale should risk screenings of translocated freshwater fishes be undertaken – river basin district or climo-geographic designation? *Biological Conservation*, **230**, 122-130.  Bašić, T., Copp, G.H., Edmonds-Brown, V.R., Keskin, E., **Davison, P.I.** & Britton, J.R. (2019). Trophic consequences of an invasive small-bodied non-native fish, sunbleak *Leucaspius delineatus*, for native pond fishes. *Biological Invasions,* **21**, 261-275.  Sana, S., Williams, C., Hardouin, E., Blake, A., **Davison, P.**, Pegg, J., Paley, R., Zhang, T. & Andreou, D. (2018). Phylogenetic and environmental DNA insights into emerging aquatic parasites: implications for risk management. *International Journal for Parasitology,* **48**, 473-481.  **Davison, P.I.**, Copp, G.H., Creach, V., Vilizzi, L. & Britton, J.R. (2017).  Applications of environmental DNA analysis to inform invasive fish eradication operations. *The Science of Nature,***104**, 35.  Copp, G.H., Britton, J.R., Guo, Z., Edmonds-Brown, V., Pegg, J., Vilizzi, L. & **Davison, P.I.**(2017). Trophic consequences of non-native pumpkinseed *Lepomis gibbosus* for native pond fishes. *Biological Invasions,***19**, 25-41.  **Davison, P.I.**, Creach, V., Liang, W.-J., Andreou, D., Britton, J.R. & Copp, G.H. (2016). Laboratory and field validation of a simple method for detecting four species of non-native freshwater fish using eDNA. *Journal of Fish Biology,***89**, 1782-1793.  Moore, A., Ives, M.J., **Davison, P.I.**& Privitera, L. (2016). A preliminary study on the movements of smelt (*Osmerus eperlanus*) in two East Anglian rivers. *Fisheries Management and Ecology*, **23**, 169-171.  Newman, R.C., Ellis, T., **Davison, P.I.**, Ives, M.J., Thomas, R.J., Griffiths, S.W & Riley, W.D. (submitted). Using novel methodologies to examine the impact of artificial light at night on the cortisol stress response in dispersing Atlantic salmon (*Salmo salar*L.) fry. *Conservation Physiology*, **3**, cov051.  Fernandes, W.P.A., Ibbotson, A.T., Griffiths, S.W., Maxwell, D.L., **Davison, P.I.** & Riley, W.D. (2015). Does relatedness influence migration timing in Atlantic salmon (*Salmo salar*) smolts? *Animal Behaviour,***106**, 191-199.  Riley, W.D., **Davison, P.I.**, Maxwell, D.L., Newman, R.C & Ives, M.J. (2015). A laboratory experiment to determine the dispersal response of Atlantic salmon (*Salmo salar*) fry to street light intensity. *Freshwater Biology,***60**, 1016-1028.  Riley, W.D., Ibbotson, A.T., Maxwell, D.L., **Davison, P.I.**, Beaumont, W.R.C & Ives, M.J. (2014). Development of schooling behaviour during the downstream migration of Atlantic salmon *Salmo salar* smolts in a chalk stream. *Journal of Fish Biology,***85**, 1042-1059.  Walker, A.M., Godard, M.J. & **Davison, P.I.** (2014). The home range and behaviour of yellow-stage European eel (*Anguilla anguilla*) in an estuarine environment: range, frequency of occurrence, environmental influences, and conservation implications. *Aquatic Conservation: Marine and  Freshwater Ecosystems,***24**, 155-163.  Riley, W.D., **Davison, P.I.**, Ives, M.J. & Maxwell, D.L. (2013). Do triploid *Salmo trutta*stocked into a chalk stream in the spring prey on wild *Salmo salar*smolts? *Fisheries Management and Ecology,***20**, 346-353.  Riley, W.D., **Davison, P.I.**, Maxwell, D.L & Bendall, B. (2013). Street lighting delays and disrupts the dispersal of Atlantic salmon (*Salmo salar*) fry. *Biological Conservation,* **158**, 140-146.  Bendall, B., Moore, A., Maxwell, D., **Davison, P**., Edmonds, N., Archer, D., Solomon, D., Greest, V., Wyatt, R. & Broad, K. (2012). Modelling the migratory behaviour of salmonids in relation to environmental and physiological parameters using telemetry data. *Fisheries Management and Ecology*. **19**, 475-483  Riley, W.D., Ibbotson, A.T., Beaumont, W.R.C., Pawson, M.G., Cook, A.C. & **Davison, P.I.** (2011). Predation of the juvenile stages of diadromous fish by sea bass (*Dicentrarchus labrax*) in the tidal reaches of an English chalk stream. *Aquatic Conservation:Marine and Freshwater Ecosystems*, **21**, 307-312.  Fox, C.J., Geffen, A.J., Taylor, N., **Davison, P**., Rossetti, H. & Nash, R.D.M. (2007). Birth-date selection in early life stages of plaice *Pleuronectes platessa*in the eastern Irish Sea (British Isles). *Marine Ecology Progress Series*. **345**, 255-269.  Copp, G.H., Stakenas, S. & **Davison, P.I.** (2006). The incidence of non-native fishes in water courses: example of the United Kingdom. *Aquatic Invasions*, **1**, 72-75 |
| **POSISTION**  Scientist, Freshwater and Diadromous Fisheries  **QUALIFICATIONS**    MSc Applied Ecology and Conservation    BSc Zoology and Physiology  **AREAS OF EXPERTISE**   * Fish ecology * Environmental DNA * Non-native species * Ecological surveys of wetlands   **PUBLICATIONS**  Strong peer review publication record including lead author publications in Journal of Fish Biology, Science of Nature and Biological Invasions.  Google Scholar profile [https://scholar.google.co.uk/citations?user=Bv1ghWwAAAAJ&hl=en&oi=ao](https://scholar.google.co.uk/citations?user=Bv1ghWwAAAAJ&amp;hl=en&amp;oi=ao) |