Headwater streams in the EU Water Framework Directive: Evidence-based decision support to select streams for river basin management plans

Headwater streams are important contributors to aquatic biodiversity and may counteract negative impacts of anthropogenic stress on downstream reaches. In Denmark, the first river basin management plan (RBMP) included streams of all size categories, most being b2.5m wide (headwater streams). Currently, however, it is intensely debated whether the small size and low slopes, typical of Danish streams, in combination with degraded habitat conditions obstruct their ability to fulfill the ecological quality objectives required by the EU Water Framework Directive (WFD). The purpose of this study was to provide an analytically based framework for guiding the selection of headwater streams for RBMP. Specifically, the following hypotheses were addressed: i) stream slope, width, planform, and general physical habitat quality can act as criteria for selecting streams for the next generation of RBMPs, and ii) probability-based thresholds for reaching good ecological status can be established for some or all of these criteria, thus creating a sound, scientifically based, and clear selection process. The hypotheses were tested using monitoring data on Danish streams from the period 2004–2015. Significant linear relationships were obtained between the ecological quality ratio assessed by applying the Danish Stream Fauna Index (DSFIEQR) and stream slope, width, sinuosity, and DHI. The obtained models were used to produce pressure response curves describing the probability of achieving good ecological status along gradients in these parameters. Next, threshold values for slope, width, sinuosity, and DHI were identified for selected probabilities of achieving minimum good ecological status. The obtained results can support managers and policy makers in prioritizing headwater streams for the 3rd RBMP. The approach applied is broadly applicable and can, for instance, help prioritization of restoration and conservation efforts in different types of ecosystems where the biota can be significantly linked to separate and quantifiable environmental characteristics.
3.400 laks vandrede op i Skjern Å i 2016

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern)
Publication date: 2017

Publication information
Source/Publisher: Fiskepleje.dk
Brown trout on the move - migration ecology and methodology: Biology, ecology and management

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Norwegian Institute for Nature Research
Authors: Aarestrup, K. (Intern), Jepsen, N. (Intern), Thorstad, E. B. (Ekstern)
Number of pages: 808
Pages: 401-444
Publication date: 2017

Host publication information
Title of host publication: Brown Trout: Biology, Ecology and Management
Publisher: Wiley
Editors: Lobón-Cerviá, J., Sanz, N.
ISBN (Print): 978-1-119-26831-4
Main Research Area: Technical/natural sciences
Publication: Research - peer-review › Book chapter – Annual report year: 2017

Competition for the fish - fish extraction from the Baltic Sea by humans, aquatic mammals and birds

Populations of fish eating mammals (primarily seals) and birds have increased in the Baltic Sea and there is concern that their consumption reduces fish stocks and has negative impact on the fishery. Based primarily on published data on fisheries’ landings and abundances, consumption and diets of birds and seals around year 2010, we compare consumption of commercial fish species by seals (1*10^5 metric tons per year) and birds (1*10^5 tons) to the catch in the commercial and recreational fishery (7*10^5 tons), and when applicable at the geographical resolution of ICES subdivisions. The large populations of herring (Clupea harengus), sprat (Sprattus sprattus) and cod (Gadus morhua), primarily inhabit off-shore areas and are mainly caught by the fishery. Predation by birds and mammals likely has little impact on these stocks. For these species, seals and birds may be negatively impacted by competition from the fishery. In the central and southern Baltic, seals and birds consume about as much flatfish as is caught by the fishery and competition is possible. Birds and seals consume 2-3 times as much coastal fish as is caught in the fishery. Many of the coastal species are not much targeted by the fishery (e.g. eelpout Zoarces viviparus, roach Rutilus rutilus and ruffe Gymnocephalus cernua), while other species used by wildlife are important to the fishery (e.g. perch Perca fluviatilis and whitefish Coregonus spp.) and competition between wildlife and the fishery is likely, at least locally. Estimated wildlife consumption of pike (Esox lucius), sea trout (Salmo trutta) and pikeperch (Sander lucioperca) varies among ICES subdivisions and the degree of competition for these species will likely differ among areas. Our results indicate that competition between wildlife and fisheries need to be addressed in basic ecosystem research, management and conservation. This requires improved quantitative data on wildlife diets, abundances and fish production

General information
State: Accepted/In press
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Stockholm University, Swedish University of Agricultural Sciences, Swedish Museum of Natural History, Natural Resources Institute Finland, State Research Institute on Lake and River Fishery, University of Tartu, Åbo Academy University
Authors: Hansson, S. (Ekstern), Bergström, U. (Ekstern), Bonsdorff, E. (Ekstern), Härkönen, T. (Ekstern), Jepsen, N. (Intern), Kautsky, L. (Ekstern), Lundström, K. (Ekstern), Lunneryd, S. (Ekstern), Overgaard, M. (Ekstern), Salminen, J. (Ekstern), Sendek, D. (Ekstern), Vetemaa, M. (Ekstern)
Publication date: 2017
Main Research Area: Technical/natural sciences

Publication information
Journal: ICES Journal of Marine Science
ISSN (Print): 1054-3139
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
Cormorant predation overlaps with fish communities and commercial–fishery interest in a Swedish lake

The increase of the fish-eating cormorant (Phalacrocorax carbo sinensis) in Europe has resulted in conflicts with fisheries. In Lake Roxen, Sweden, cormorants are blamed for causing a decrease in fishery catches. To study and describe the potential effects that cormorants may have had on fish in the lake, their diet was analysed in relation to fish catches in gill-net surveys and fishery catches. Estimates of predation were achieved by ‘tag and recovery’ on eel, pike-perch and perch. Cormorants predated on the most common species and sizes, which were mainly smaller perch, ruffe and roach (mean sizes of 9, 8 and 13 cm respectively). Tag recoveries from perch, eel and pike-perch detected predation estimates of 14, 7 and 15% respectively. From a highly eutrophic state, the lake has shown improvements in water quality and a development towards larger predatory fish was expected, but the results from gill-net surveys did not show this. Results indicated that cormorants and fisheries may both be responsible, but because cormorants remove more fish, they may be the main factor for the lack of recovery of large predatory fish. Their predation keeps recruitment high, but the number of fish that reach large sizes remains low.
En stor opgang af laks i Varde Å er stadig afhængig af udsætninger

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State: Published
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Authors: Jepsen, N. (Intern)
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Source/Publisher: Fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
Publication: Communication › Internet publication – Annual report year: 2017

Fish. Wadden Sea Quality Status Report 2017

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Wageningen IMARES
Authors: Tulp, I. (Ekstern), Bolle, L. (Ekstern), Dänhardt, A. (Ekstern), de Vries, P. (Ekstern), Haslob, H. (Ekstern), Jepsen, N. (Intern), Scholle, J. (Ekstern), van der Veer, H. (Ekstern)
Number of pages: 25
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Publication information
Place of publication: Wilhelmshaven
Publisher: Common Wadden Sea Secretariat
Original language: English
Main Research Area: Technical/natural sciences
Electronic versions:
Publishers version
Links:
http://qsr.waddensea-worldheritage.org/reports/fish
Publication: Research › Report – Annual report year: 2017

If you can't beat them, eat them: using acoustic telemetry to develop an economically viable fishery for the highly invasive round goby (Neogobius melanostomus)

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Ecosystem based Marine Management, Section for Marine Living Resources, Section for Freshwater Fisheries Ecology
Authors: Christoffersen, M. (Intern), Svendsen, J. C. (Intern), Behrens, J. (Intern), Jepsen, N. (Intern), van Deurs, M. (Intern)
Publication date: 2017
Event: Abstract from ICES Annual Science Conference 2017, Fort Lauderdale, United States.
Main Research Area: Technical/natural sciences

Bibliographical note
ICES CM 2017/D:354
Publication: Research › Conference abstract for conference – Annual report year: 2017

Performance of fast-absorbable suture and histo-glue in closing incisions in Brown trout
Telemetry has become a standard tool in fish research, but tagging methods still need refinement to achieve better results and to improve animal welfare. One of the problems reported from evaluations of surgical implants is unsatisfactory wound closure. Thus, researchers struggle to find better ways to close incisions, typically for implants of tags under field conditions. Problems are regularly encountered when closing incisions with traditional absorbable or non-absorbable suture, including decreased growth, slow wound healing, erythema and necrosis at sutures. In this study, survival, growth, tag expulsion rate and incision healing was compared among three groups of dummy transmitter-tagged wild brown trout Salmo trutta where incisions were closed with two types of suture material (absorbable vs. fast absorbable) and Histo-
glue. The tagged fish were kept in semi-natural ponds for 20 days. Survival did not differ between groups, but growth of the tagged fish was lower than that of the control group. Histo-glue gave the best healing, but resulted in high tag loss rate (33%). The fast absorbable suture did not disappear faster than normal absorbable suture, healing and tag loss was similar. The use of fast absorbable suture may hold potential for improving the procedure and should be further tested.

**General information**

State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern), Larsen, M. H. (Intern), Aarestrup, K. (Intern)
Pages: 1233-1237
Publication date: 2017
Main Research Area: Technical/natural sciences

**Publication information**

Journal: Transactions of the American Fisheries Society
Volume: 146
ISSN (Print): 0002-8487
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BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.51 SJR 0.819 SNIP 0.914
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.799 SNIP 0.879 CiteScore 1.43
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.932 SNIP 1.073 CiteScore 1.78
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.949 SNIP 1.087 CiteScore 1.57
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.1 SNIP 1.181 CiteScore 1.66
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.973 SNIP 0.966 CiteScore 1.33
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.203 SNIP 1.057
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.952 SNIP 0.891
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.148 SNIP 1.184
Scopus rating (2007): SJR 1.19 SNIP 1.218
Scopus rating (2006): SJR 1.199 SNIP 1.247
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 1.089 SNIP 1.446
Scopus rating (2004): SJR 1.076 SNIP 1.292
Scopus rating (2003): SJR 1.344 SNIP 1.289
Scopus rating (2002): SJR 0.972 SNIP 1.1
Scopus rating (2001): SJR 0.947 SNIP 1.091
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 1.038 SNIP 1.243
Scopus rating (1999): SJR 1.279 SNIP 1.408
Original language: English
Pike (Esox lucius L.) on the edge: consistent individual movement patterns in transitional waters of the western Baltic

Pike in the western Baltic Sea live on the edge of their salinity tolerance. Under physiologically challenging conditions, organisms may respond by moving to environmentally more benign areas during critical periods, such as during spawning. We hypothesised that pike in a brackish lagoon (8–10 ppt salinity) would perform spawning- and feeding-related movements between areas with different salinity regimes. Twenty-two pike were caught prior to spawning, tagged with acoustic transmitters, and their movements were tracked for 18 months. Pike showed two main patterns of movements that were consistent within individuals across two years. Whereas some individuals stayed in the lagoon year-round, most pike left the lagoon for longer periods after spawning and returned to the lagoon prior to following year’s spawning season. We found no evidence that probability of moving out of the lagoon co-varied with either length or condition factor. Despite the fact that the lagoon’s salinity is close to the reported upper limit for pike egg development, results indicated that all pike spawned in the lagoon. Correspondingly, genetic data showed that all fish belonged to the same reproductive population unit. Movement patterns thus appear to reflect individual variation in home-range and/or resource optimisation following ideal free principles.

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Section for Marine Living Resources, Institute Management
Authors: Jacobsen, L. (Intern), Bekkevold, D. (Intern), Berg, S. (Intern), Jepsen, N. (Intern), Koed, A. (Intern), Aarestrup, K. (Intern), Baktoft, H. (Intern), Skov, C. (Intern)
Pages: 143–154
Publication date: 2017
Main Research Area: Technical/natural sciences

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Journal: Hydrobiologia
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Issue number: 1
ISSN (Print): 0018-8158
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
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Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.16
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.22
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 2.02
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 2.13
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 1.98
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
BFI (2008): BFI-level 1
Web of Science (2008): Indexed yes
Web of Science (2007): Indexed yes
Web of Science (2003): Indexed yes
Web of Science (2002): Indexed yes
Web of Science (2001): Indexed yes
Original language: English
Aquatic Science, Brackish water pike, Movement patterns, Salinity tolerance, Spawning

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Publication: Research - peer-review › Journal article – Annual report year: 2016

REKREA - Evaluating Survey Methods for Danish Marine Recreational Fisheries

General information
State: Published
Publication date: 2017
Event: Poster session presented at World Recreational Fishing Conference 2017, Victoria, Canada.
Main Research Area: Technical/natural sciences
Publication: Research › Technical/natural sciences

REKREA - Evaluating Survey Methods for Danish Marine Recreational Fisheries

General information
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Publication date: 2017
Event: Poster session presented at Danfish International Fisherires Exhibition 2017, Aalborg, Denmark.
Main Research Area: Technical/natural sciences
Publication: Research › Poster – Annual report year: 2017

Shining the light on the loss of rheophilic fish habitat in lowland rivers as a forgotten consequence of barriers and its implications for management

Abstract
1. The majority of rivers around Europe have been modified in one way or another, and no longer have an original, continuous flow from source to outlet. The presence of weirs and dams has altered habitats, thus affecting the wildlife that lives within them. This is especially true for migrating rheophilic fish species, which, in addition to safe passage, depend on gradient and fast-flowing waters for reproductive success and early development.
2. Thus far, research has focused on investigating the impacts of weirs and dams on fish passage, with less attention paid to the loss of habitat entrained by such infrastructure. The loss of rheophilic habitat is particularly important in lowland streams, where gradient is limited, and dams and weirs can be constructed with less effort.
3. Denmark is considered a typical lowland country, where the landscape around streams and rivers has been modified by agriculture and other human activities for centuries, leaving management practitioners wondering how much change is
acceptable to maintain sustainable fish populations and fisheries practices.

4. With examples from Denmark, this paper attempts to conceptualize the loss in habitat as a result of barriers in lowland streams and rivers, and the repercussions that such alterations may have on rheophilic fish populations. Furthermore, the need for management to address habitat loss and its related consequences concurrently with the improvement of fish passage is emphasized.
Survival and growth compared between wild and farmed eel stocked in freshwater ponds

To evaluate the efficiency of eel stocking, we compared the survival and growth of wild eels (2–5 g) with that of "farmed" eels (3–6 g). Wild eels were caught in a river and farmed eels came from a farm, where wild imported glass eels are cultured. Two experiments of 5–12 month duration were conducted in a series of shallow, open ponds of approximately 200 m². Wild and farmed eels were batch tagged, mixed, and released in the ponds at an initial density of 0.5 individual/m². Survival was rather high (34–88%) with variations between ponds. No significant difference in survival was found between wild and farmed during the first 5 month in both experiments. Growth rates were significantly higher for farmed eels compared to wild eels in both experiments. The results show that farmed eels performed better than wild eels. In regions with low recruitment the eel population may be increased by importing glass eels, stocked directly or stocked as on-grown farmed eel. The optimal size for stocking (between glass- and 3 g eels) may be determined through future studies.
Survival and growth compared between wild and farmed eel stocked in freshwater ponds

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Pedersen, M. I. (Intern), Jepsen, N. (Intern), Rasmussen, G. (Intern)
Knowledge exchange for efficient passage of fish in the southern hemisphere (KEEPFISH)

The decline of freshwater fish biodiversity is proceeding at an alarming and persistent rate. Given that most fish must undertake some form of migration in order to complete their life-cycle, of particular concern is the proliferation of hydropower schemes that block migration routes, as well as a variety of other barriers such as weirs and culverts. Several locations in the southern hemisphere are among the major global hotspots of hydropower development. Mitigation measures for fish passage have traditionally relied on designs developed for strong swimming, generally salmonid species of the northern hemisphere. These designs are ineffective for smaller, relatively weak swimming 'non-sport' fish, such as those found in temperate regions of the southern hemisphere, but there is no detailed understanding of the mechanisms involved. This paper introduces an innovative EU-funded project, KEEPFISH, that aims to address gaps in the knowledge of passage requirements for non-sport fish of the temperate south. The project, beginning in 2016, represents the first systematic attempt to bring together world-leading practitioners in an effort to exchange knowledge and construct a shared vision for fish passage science and policy. This will be achieved through systematic review, expert consultation, ecological modelling, postgraduate training programmes, networking and stakeholder engagement using a novel combination of approaches.

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Coventry University, University of Applied Sciences Magdeburg, NIWA, University of Concepcion, University of Southampton, Federal University of Lavras, Universidade Federal de Sao Joao del-Rei, University of Melbourne
Authors: Wilkes, M. A. (Ekstern), Aarestrup, K. (Intern), Jepsen, N. (Intern), Ettmer, B. (Ekstern), Franklin, J. P. (Ekstern), Baker, C. (Ekstern), Habit, E. (Ekstern), Link, O. (Ekstern), Kemp, J. P. (Ekstern), Pompeu, P. (Ekstern), Silva, L. (Ekstern), Webb, N. A. (Ekstern), Stewardson, M. (Ekstern)
Publication date: 2016
Main Research Area: Technical/natural sciences
ENVIRONMENTAL, WATER, ADULT SOCKEYE-SALMON, BIODIVERSITY, TELEMETRY, PATAGONIA, UPSTREAM, CHILE
Laksebestanden er mangedoblet i Sneum Å

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Institute Management
Authors: Jepsen, N. (Intern), Koed, A. (Intern), Sivebæk, F. (Intern)
Publication date: 2016

Publication information
Source/Publisher: Fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
Publication: Communication › Internet publication – Annual report year: 2016

Laksebestanden i Ribe Å 2014

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Institute Management
Authors: Pedersen, S. (Intern), Koed, A. (Intern), Aarestrup, K. (Intern), Jepsen, N. (Intern), Sivebæk, F. (Intern)
Number of pages: 88
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Publication information
Place of publication: Charlottenlund
Publisher: Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet
Original language: Danish
Series: DTU Aqua-rapport
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Main Research Area: Technical/natural sciences
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Links:
http://www.aqua.dtu.dk/Publikationer/Forskningsrapporter/Forskningsrapporter_siden_2008
Publication: Research › Report – Annual report year: 2016

Laksen i Storå skal fremover klare sig uden udsætninger

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Institute Management, Section for Marine Living Resources
Authors: Sivebæk, F. (Intern), Koed, A. (Intern), Eg Nielsen, E. (Intern), Jepsen, N. (Intern), Aarestrup, K. (Intern)
Publication date: 2016

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Source/Publisher: Fiskepleje.dk
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Links:
Publication: Communication › Internet publication – Annual report year: 2016
Phenotypic variation in metabolism and morphology correlating with animal swimming activity in the wild: relevance for the OCLTT (oxygen- and capacity-limitation of thermal tolerance), allocation and performance models

Ongoing climate change is affecting animal physiology in many parts of the world. Using metabolism, the oxygen- and capacity-limitation of thermal tolerance (OCLTT) hypothesis provides a tool to predict the responses of ectothermic animals to variation in temperature, oxygen availability and pH in the aquatic environment. The hypothesis remains controversial, however, and has been questioned in several studies. A positive relationship between aerobic metabolic scope and animal activity would be consistent with the OCLTT but has rarely been tested. Moreover, the performance model and the allocation model predict positive and negative relationships, respectively, between standard metabolic rate and activity. Finally, animal activity could be affected by individual morphology because of covariation with cost of transport. Therefore, we hypothesized that individual variation in activity is correlated with variation in metabolism and morphology. To test this prediction, we captured 23 wild European perch (Perca fluviatilis) in a lake, tagged them with telemetry transmitters, measured standard and maximal metabolic rates, aerobic metabolic scope and fineness ratio and returned the fish to the lake to quantify individual in situ activity levels. Metabolic rates were measured using intermittent flow respirometry, whereas the activity assay involved high-resolution telemetry providing positions every 30 s over 12 days. We found no correlation between individual metabolic traits and activity,
whereas individual fineness ratio correlated with activity. Independent of body length, and consistent with physics theory, slender fish maintained faster mean and maximal swimming speeds, but this variation did not result in a larger area (in square metres) explored per 24 h. Testing assumptions and predictions of recent conceptual models, our study indicates that individual metabolism is not a strong determinant of animal activity, in contrast to individual morphology, which is correlated with in situ activity patterns.
Stor fremgang for Storåens laksebestand

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State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Institute Management
Authors: Jepsen, N. (Intern), Koed, A. (Intern), Sivebæk, F. (Intern)
Publication date: 2016

Publication information
Source/Publisher: Fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
Publication: Communication › Internet publication – Annual report year: 2016

Ten practical realities for Institutional Animal Care and Use Committees when evaluating protocols dealing with fish in the field

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, U.S. Department of Energy, Deakin University, Carleton University
Authors: Cooke, S. J. (Ekstern), Wilson, A. D. M. (Ekstern), Elvidge, C. K. (Ekstern), Lennox, R. J. (Ekstern), Jepsen, N. (Intern), Colotelo, A. H. (Ekstern), Brown, R. S. (Ekstern)
Pages: 123-133
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Main Research Area: Technical/natural sciences

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Web of Science (2018): Indexed Yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 3.6 SJR 1.691 SNIP 1.675
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.449 SNIP 1.453 CiteScore 2.57
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.071 SNIP 1.496 CiteScore 2.46
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.091 SNIP 1.578 CiteScore 2.3
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Usædvanlig få fisk i Kongeåen

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Ravn, H. D. (Intern), Jepsen, N. (Intern)
Publication date: 2016

Relativ forekomst af fiskesamfund i en dansk fjord – med speciel fokus på Europæisk ål og sortmundet kutling

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Ecosystem based Marine Management, Section for Freshwater Fisheries Ecology, State Research Centre for Agriculture and Fishery Mecklenburg-Vorpommern
Authors: Christoffersen, M. (Intern), Jepsen, N. (Intern), Pedersen, M. I. (Intern), Støttrup, J. (Intern), Dorow, M. (Ekstern)
Publication date: 2015
Event: Abstract from 18. Danske Havforskermøde, Copenhagen, Denmark.
Main Research Area: Technical/natural sciences
Publication: Research › Conference abstract for conference – Annual report year: 2015

Stallinger kæmper for deres overlevelse i vandløbene

General information
The use of external electronic tags on fish: an evaluation of tag retention and tagging effects

External tagging of fish with electronic tags has been used for decades for a wide range of marine and freshwater species. In the early years of fish telemetry research, it was the most commonly used attachment method, but later internal implants became preferred. Recently, the number of telemetry studies using external tagging has increased, especially with the development of archival tags (data storage tags, DSTs), pop-up satellite archival tags (PSATs) and other environment-sensing tags. Scientific evaluations of the tagging method are rather scarce for most species. We identified 89 publications, reporting effects of external tagging for 80 different fish species, which constitute the main basis for this review. External attachment holds certain benefits compared to other tagging methods, for example, speed of application, and it may be the only option for fishes with a body shape unsuitable for surgical implantation, or when using tags with sensors recording the external environment. The most commonly reported problems with external tags are tissue damage, premature tag loss, and decreased swimming capacity, but the effects are highly context dependent and species specific. Reduced growth and survival have also been recorded, but direct mortality caused by external tagging seems rare. Most of the studies reviewed evaluate tag retention, survival, and tissue reactions. There is a general need for more research on the effects of external tagging of fish with electronic tags, but particularly there are few studies on predation risk, social interactions, and studies distinguishing capture and handling effects from tagging effects. For PSATs, especially those that are large relative to fish size, there are particular problems with a high proportion of premature tag losses, reduced swimming capacity, and likely increased predation, but there remains a paucity of tag effect studies related to the use of PSATs. Before embarking on a field study employing external tagging with electronic tags, we recommend the use of appropriate pilot studies, controlled where possible, to quantify potential impacts of tagging.
Cormorant predation on PIT-tagged lake fish

The present study uses data from recovered PIT (Passive Integrated Transponder) tags to explore species- and size-specific annual predation rates by cormorants on three common lacustrine fishes (size range 120-367 mm) in a European lake; roach (Rutilus rutilus), common bream (Abramis brama) and perch (Perca fluviatilis). In addition, we quantify the level of age/size truncation that cormorant predation could introduce in a population of perch, an important fish for recreational angling as well as for trophic interactions and ecosystem function in European lakes. Based on three years of PIT tagging of fish in Lake Viborg and subsequent recoveries of PIT tags from nearby cormorant roosting and breeding sites, we show that cormorants are major predators of roach, bream and perch within the size groups we investigated and for all species larger individuals had higher predation rates. Perch appear to be the most vulnerable of the three species and based on a comparison with mortality estimates from lakes without significant avian predation, this study suggests that predation from cormorants can induce age/size truncation in Lake Viborg, leaving very few larger perch in the lake. This truncation reduces the likelihood of anglers catching a large perch and may also influence lower trophic levels in the lake and thus turbidity as large piscivorous perch often play an important structuring role in lake ecosystem functioning.

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Pages: 177-186
Publication date: 2014
Main Research Area: Technical/natural sciences

Publication information

Electronic versions:
Publishers version
DOIs:
10.4081/jlimnol.2014.715
Does cortisol manipulation influence outmigration behaviour, survival and growth of sea trout? A field test of carryover effects in wild fish

For anadromous brown trout (Salmo trutta), the transition from life in freshwater to the marine environment is an inherently challenging and dangerous period characterized by high levels of mortality. As such, smoltification is a relevant life-history phase to examine how physiological state, in particular glucocorticoids, influences fitness-oriented endpoints such as migration timing and survival. We experimentally assessed the effect of cortisol by combining passive integrated transponder (PIT) telemetry with a physiologically relevant exogenous cortisol manipulation (i.e., intracoelomic injection) in juvenile sea trout in the Gudsø Stream in Denmark. Individual survival, migration behaviour (timing and speed), and growth were assessed for four treatment categories: control (CO), sham (SH), and low- (LW; 25 mg/kg) and high-dose (HI; 100 mg/kg) cortisol. There was no difference in the timing of migration among treatments, but trout in the HI treatment had lower survival rates to the lower station (41.6%) when compared to the CO (53.9%) and SH (52.3%) groups. After migration, the system was electroshocked again to contrast growth of trout that remained in the system. HI, LW and SH individuals recaptured in the stream had lower growth rates for length than the CO treatments; HI and LW also had significantly lower growth rates for mass than CO trout. Future monitoring of this population may demonstrate the long-term repercussions of chronic stress as trout return from the ocean and further contribute to our understanding of the relationship between organismal condition and fitness while elucidating the potential for carry-over effects (lasting effects that influence future success)
The effects of disturbances from recreational activities on the swimming speed and habitat use of roach Rutilus rutilus, perch Perca fluviatilis and pike Esox lucius were explored. Disturbances were applied for 4h as (1) boating in short intervals with a small outboard internal combustion engine or (2) boating in short intervals combined with angling with artificial lures between engine runs. The response of the fish species was evaluated by high-resolution tracking using an automatic acoustic telemetry system and transmitters with sub-minute burst rates. Rutilus rutilus swimming speed was significantly higher during disturbances [both (1) and (2)] with an immediate reaction shortly after the engine started. Perca fluviatilis displayed increased swimming activity during the first hour of disturbance but not during the following hours. Swimming activity of E. lucius was not significantly different between disturbance periods and the same periods on days without disturbance (control). Rutilus rutilus increased their use of the central part of the lake during disturbances, whereas no habitat change was observed in P. fluviatilis and E. lucius. No difference in fish response was detected between the two types of disturbances (boating with and without angling), indicating that boating was the primary source of disturbance. This study highlights species-specific responses to recreational boating and may have implications for management of human recreational activities in lakes.
Færre laks i Skjern Å i sæsonen 2013

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern), Koed, A. (Intern), Sivebæk, F. (Intern)
Publication date: 2014

Publication information
Source/Publisher: www.Fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
http://www.fiskepleje.dk/Nyheder/2014/01/2014_01_21_Laksebestand-i-skjern-aa-2013
Publication: Communication › Internet publication – Annual report year: 2014

Fish surgery – A dirty business? Comments to a letter submitted by D. Mulcahy and C.A. Harms

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, National Veterinary Institute, Section for Virology, Institute Management, Carleton University
Authors: Jepsen, N. (Intern), Boutrup, T. S. (Intern), Midwood, J. D. (Ekstern), Koed, A. (Intern)
Pages: 6-8
Publication date: 2014
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisheries Research
Volume: 156
Issue number: 16
ISSN (Print): 0165-7836
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.21 SJR 1.12 SNIP 1.136
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.067 SNIP 1.133 CiteScore 2.01
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.105 SNIP 1.312 CiteScore 2.17
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Flere end 1.200 laks vandrer hvert år op i Storå fra Atlanterhavet
Miljøskånsomhed og økologisk bæredygtighed i dansk fiskeri

**General information**

State: Published

Organisations: National Institute of Aquatic Resources, Section for Ecosystem based Marine Management, Public Sector Consultancy, Section for Monitoring and Data, Section for Freshwater Fisheries Ecology


Number of pages: 83
Publication date: 2014

**Publication information**

Place of publication: Charlottenlund

Publisher: Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet

ISBN (Print): 978-87-7481-195-4
ISBN (Electronic): 978-87-7481-194-7

Original language: Danish

Series: DTU Aqua Report
Number: 279-2014
ISSN: 1395-8216

Main Research Area: Technical/natural sciences

Electronic versions:

Publishers version

Links:
http://www.aqua.dtu.dk/Publikationer/Forskningsrapporter

Publication: Commissioned › Report – Annual report year: 2014

Rovfisk på menuen

**General information**

State: Published

Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology

Authors: Skov, C. (Intern), Jepsen, N. (Intern), Baktoft, H. (Intern), Koed, A. (Intern)

Pages: 14-15
Publication date: 2014

Main Research Area: Technical/natural sciences

**Publication information**

Journal: Sportsfiskeren
Issue number: 1
ISSN (Print): 0038-8211

Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no

Original language: Danish

Links:
http://sportsfiskeren.dk/sites/default/files/Skarv%201b[smallpdf.com].pdf

Publication: Communication › Journal article – Annual report year: 2014

Rovfisk på menuen

**General information**

State: Published

Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Institute Management

Authors: Skov, C. (Intern), Jepsen, N. (Intern), Baktoft, H. (Intern), Koed, A. (Intern)

Pages: 14
Publication date: 2014

Main Research Area: Technical/natural sciences
Surgical insertion of transmitters and telemetry methods in fisheries research

Use of electronic transmitter and monitoring systems to track movements of aquatic animals has increased continuously since the inception of these systems in the mid-1950s. The purpose of the present report is to provide information about veterinary principles and their incorporation into surgical implantation procedures for fish. We also intend to provide insight into the unique challenges of field-based aquatic surgical studies.
Within this context, 4 aspects of the process for surgical implantation of transmitters in fish (ie, handling, aseptic technique, anesthesia, and implantation) will be described. Effects of surgical insertion of transmitters (ie, tagging) and aspects of the surgical implantation process where collaboration and professional exchanges among nonveterinarian researchers and veterinarians may be most fruitful will be discussed.

Although this report focuses on surgical implantation, the principles and protocols described here (other than incision and suture placement) are also applicable to studies that involve injection of transmitters into fish.
Tagging fish in the field: Ethical and procedural considerations: A Comment to the Recent Paper of D. Mulcahy; Legal, Ethical and Procedural Bases for the Use of Aseptic Techniques to Implant Electronic Devices, (Journal of Fish and Wildlife Management 4:211-219)

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Carleton University
Authors: Jepsen, N. (Intern), Aarestrup, K. (Intern), Cooke, S. J. (Ekstern)
Pages: 441-444
Publication date: 2014
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Fish and Wildlife Management
Volume: 5
Issue number: 2
ISSN (Print): 1944-687X
Ratings:
Web of Science (2018): Indexed yes
Web of Science (2017): Indexed Yes
Scopus rating (2016): SJR 0.438 SNIP 0.688 CiteScore 0.79
Scopus rating (2015): SJR 0.514 SNIP 0.591 CiteScore 0.82
Scopus rating (2014): SJR 0.531 SNIP 0.644 CiteScore 1.14
Web of Science (2014): Indexed yes
Scopus rating (2013): SJR 0.571 SNIP 0.487 CiteScore 0.86
ISI indexed (2013): ISI indexed yes
Scopus rating (2012): SJR 0.511 SNIP 0.832
ISI indexed (2012): ISI indexed no
Scopus rating (2011): SJR 0.261 SNIP 0.902
ISI indexed (2011): ISI indexed no
Web of Science (2008): Indexed yes
Original language: English
fisheries management, Pisces Vertebrata Chordata Animalia (Animals, Chordates, Fish, Nonhuman Vertebrates, Vertebrates) - Osteichthyes [85206] Oncorhynchus mykiss species Lepomis macrochirus species, Vertebrata Chordata Animalia (Animals, Chordates, Fish, Nonhuman Vertebrates, Vertebrates) - Pisces [85200] fish common, transmitter, 00532, General biology - Miscellaneous, aseptic technique laboratory techniques, implant electronic device field equipment, standard operating procedure laboratory equipment, surgical implantation surgical instrument, tagging technique laboratory equipment, telemetry applied and field techniques, diagnostic techniques, Methods and Techniques, BIODIVERSITY, ECOLOGY, ATLANTIC SALMON, BROWN TROUT, TRANSMITTERS, BEHAVIOR, GROWTH, TAGS, animal welfare, aseptic technique, fish tagging, surgical implantation, training DOIs:
10.3996/122013-JFWM-077
Source: FindIt
Source-ID: 269473189
Publication: Research - peer-review › Journal article – Annual report year: 2015

Uhyggeligt besøg hos skarverne på Ormø

General information
State: Published
Vandplanerne - forslag til fiskeindeks for ørred

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Institute Management
Authors: Pedersen, S. (Intern), Jepsen, N. (Intern), Nielsen, J. (Intern), Baktoft, H. (Intern), Kristensen, E. (Ekstern), Koed, A. (Intern)
Publication date: 2014
Event: Abstract from Ferskvandssymposium Aarhus Universitet, Aarhus, Denmark.
Main Research Area: Technical/natural sciences
Publication: Research › Conference abstract for conference – Annual report year: 2014

Winter activity of roach and perch in a temperate lake by high resolution positioning telemetry

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Institute Management
Authors: Jacobsen, L. (Intern), Baktoft, H. (Intern), Berg, S. (Intern), Jepsen, N. (Intern), Koed, A. (Intern), Aarestrup, K. (Intern), Skov, C. (Intern)
Publication date: 2014
Event: Abstract from EcoFiL, Ceske Budejovice, Czech Republic.
Main Research Area: Technical/natural sciences
Publication: Research › Conference abstract for conference – Annual report year: 2014

Betydningen af skarvernes prædation på fiskebestandene

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern)
Pages: 18-25
Publication date: 2013
Main Research Area: Technical/natural sciences
Publication information
Journal: Miljø- & vandpleje
Issue number: 38
ISSN (Print): 1904-0385
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Links:
http://www.sportsfiskeren.dk/pdf/miljoe-og-vandpleje-38
Publication: Research › Journal article – Annual report year: 2013

Cormorants in Denmark: Re-enforced management and scientific evidence
Does the level of asepsis impact the success of surgically implanting tags in Atlantic salmon?

It is generally recommended that a high level of asepsis be maintained during surgical implantation of electronic tags into fish. However, documentation of a positive effect of asepsis in fish surgery is lacking. To compare the effects of surgical implantation performed under different sanitary conditions, 100 hatchery salmon smolts (Salmo salar) were surgically implanted with tags with and without trailing antenna and were kept in a hatchery facility. After 34 days, the surviving smolts were euthanized and survival, growth and healing were compared between fish tagged under aseptic conditions and fish tagged without regard to aseptic technique. The results demonstrated that there was no detectable difference in survival, growth and healing between the treatments. Thus, this study could not provide evidence supporting the general recommendation of achieving a high level of asepsis during fish surgery.

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, National Veterinary Institute, Section for Virology, Carleton University
Authors: Jepsen, N. (Intern), Boutrup, T. S. (Intern), Midwood, J. D. (Ekstern), Koed, A. (Intern)
Pages: 344-348
Publication date: 2013
Main Research Area: Technical/natural sciences
Gydebestand af laks i Varde Å og Ribe Å i 2012

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern), Sivebæk, F. (Intern)
Publication date: 2013

Publication information
Source/Publisher: www.fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
http://www.fiskepleje.dk/nyheder.aspx?guid=%7bB0B55A06-8A1D-421D-810E-CE7A739526EC%7d
Publication: Communication › Internet publication – Annual report year: 2013

Human - wildlife conflicts in Europe: Fisheries and fish-eating vertebrates as a model case

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Number of pages: 347
Publication date: 2013

Publication information
Place of publication: Berlin
Publisher: Springer
ISBN (Print): 978-3-540-34789-7
ISBN (Electronic): 978-3-540-34789-7
Original language: English
Series: Environmental Science
ISSN: 1431-6250
Main Research Area: Technical/natural sciences
DOIs: 10.1007/978-3-540-34789-7
Source: orbit
Source-ID: 268802
Publication: Research - peer-review › Book – Annual report year: 2013

Opgang af laks i Skjern Å i 2011

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern), Koed, A. (Intern)
Publication date: 2013

Publication information
Source/Publisher: www.fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
http://www.fiskepleje.dk/nyheder.aspx?guid=%7bC14BFA9D-8E57-409B-992B-1CF3C2DD95FF9%7d
Publication: Communication › Internet publication – Annual report year: 2013

Decline of the North Sea houting: protective measures for an endangered anadromous fish

General information
State: Published
Effect of anthropogenic disturbances on lake fish individual behaviour

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jacobsen, L. (Intern), Baktoft, H. (Intern), Berg, S. (Intern), Jepsen, N. (Intern), Skov, C. (Intern), Aarestrup, K. (Intern)
Publication date: 2012
Main Research Area: Technical/natural sciences
Publication: Research › Poster – Annual report year: 2012

Effekten af rekreative aktiviteter på fiskenes adfærd i en lille sø

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jacobsen, L. (Intern), Baktoft, H. (Intern), Berg, S. (Intern), Jepsen, N. (Intern), Skov, C. (Intern), Aarestrup, K. (Intern)
Publication date: 2012
Event: Abstract from Ferskvandssymposium på Syddansk Universitet, Odense, Denmark.
Main Research Area: Technical/natural sciences
Publication: Research › Conference abstract for conference – Annual report year: 2012
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.
Passage for ål ved dambrug og kraftværk i Gudenåen og Kongeåen

Formålet med denne undersøgelse er, at belyse om der er problemer for ål ved passage af dambrug i Kongeåen og Gudenåen, samt et vandkraftværk i øvre Gudenå. Baggrunden for undersøgelsen er, at EU i 2007 har udarbejdet en rådsforordning med det formål, at genoprette bestanden af ål. Danmark er ifølge denne forordning forpligtet til, at beskrive omfanget af dødelighedsfaktorer uden for fiskeriet, med henblik på at inddrage denne viden i forvaltning af bestanden. Dæmperne er kendt for at forårsage dødelighed, når de klayer over åls Passage.


General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Pedersen, M. I. (Intern), Jepsen, N. (Intern)
Number of pages: 24
Publication date: 2012

Publication information
Place of publication: Charlottenlund
Publisher: Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet
ISBN (Electronic): 978-87-7481-164-0
Original language: English

Series: DTU Aqua-rapport
Number: 259-2012
Main Research Area: Technical/natural sciences
Electronic versions: 259_2012_passage_for_aal_ved_dambrug Og kraftvaerke_i_gudenaaen Og kongeaaen.pdf
Links: http://www.aqua.dtu.dk/Publikationer/Forskningsrapporter/Forskningsrapporter_siden_2008
Publication: Commissioned › Report – Annual report year: 2012

Seasonal and diel effects on the activity of northern pike studied by high-resolution positional telemetry
Temperate lakes can be ice covered for several months each year, yet little is known about the behaviour and activity of the fish during the cold season. As northern pike represents the top of the food web in many northern temperate lakes and may structure the ecosystem both directly and indirectly, a detailed understanding of the behaviour of this species during winter is important. We continuously monitored the activity of adult northern pike (Esox lucius) in a small temperate lake
from late summer to winter for two consecutive years using an automatic acoustic positional telemetry system. Four subsample periods representing different temperature regimes from each year were chosen for further investigation. The results revealed that pike activity was similar between seasons. In all periods, a distinct diel pattern, showing increased activity during day as compared to night, was evident. Our findings indicate that the fish component of temperate lentic ecosystems can be more active during the cold season than previously assumed. This may have implications for the structuring effect of pike on the lower trophic levels.
Can metabolic properties explain variation in individual behaviour?

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources, Section for Ocean Ecology and Climate
Publication date: 2011
Event: Abstract from 1st International Conference on Fish Telemetry, Sapporo, Japan.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 281697
Publication: Research › Conference abstract for conference – Annual report year: 2011

Can metabolic properties explain variation in individual behaviour? Attempting to link physiology and morphology with field behavior

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources, Section for Ocean Ecology and Climate
Publication date: 2011
Event: Abstract from 1st International Conference on Fish Telemetry, Sapporo, Japan.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 279001
Publication: Research › Conference abstract for conference – Annual report year: 2011

Disturbance by human activities on fish individual behaviour in a small lake

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jacobsen, L. (Intern), Baktoft, H. (Intern), Berg, S. (Intern), Jepsen, N. (Intern), Skov, C. (Intern), Aarestrup, K. (Intern)
Publication date: 2011
Event: Abstract from World Recreational Fisheries Congress, Berlin, Germany.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 281696
Publication: Research › Conference abstract for conference – Annual report year: 2011
European silver eel migration and fisheries induced mortality in the Havel river system

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Simon, J. (Ekstern), Berends, K. (Ekstern), Dörner, H. (Ekstern), Jepsen, N. (Intern), Fladung, E. (Ekstern)
Pages: 1510-1518
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Journal: River Research and Applications
Volume: 28
Issue number: 9
ISSN (Print): 1535-1459
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): SJR 0.787 SNIP 1.186 CiteScore 2.07
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.952 SNIP 1.108 CiteScore 1.99
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.955 SNIP 1.343 CiteScore 2.11
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.921 SNIP 1.15 CiteScore 2.08
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.057 SNIP 1.555 CiteScore 2.23
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.069 SNIP 1.126 CiteScore 1.92
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.905 SNIP 0.996
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.17 SNIP 1.243
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.184 SNIP 1.37
Scopus rating (2007): SJR 0.952 SNIP 1.072
Scopus rating (2006): SJR 1.4 SNIP 1.647
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.759 SNIP 1.293
Scopus rating (2004): SJR 0.871 SNIP 1.28
Scopus rating (2003): SJR 0.858 SNIP 1.295
Scopus rating (2002): SJR 0.967 SNIP 1.419
Scopus rating (2001): SJR 0.876 SNIP 1.186
Scopus rating (2000): SJR 0.671 SNIP 1.085
Web of Science (2000): Indexed yes
Hvorfor er stallingen i kraftig tilbagegang?

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Journal: Ferskvandsfiskeribladet
Volume: 109
Issue number: 2
ISSN (Print): 0015-0223
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Source: orbit
Source-ID: 278303
Publication: Communication › Journal article – Annual report year: 2011

Return of the king – The recovery of Danish salmon stocks: Skjern Å

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 196-223
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Journal: Pool 32 Magazine
Issue number: April
Original language: English
Source: orbit
Source-ID: 278300
Publication: Communication › Journal article – Annual report year: 2011

Skarv bekymrer sportsfiskerne

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Rasmussen, K. (Ekstern)
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Journal: Sportsfiskeren
Issue number: April
ISSN (Print): 0038-8211
Ratings:
**Skarven har ikke skylden for alle problemer**

**General information**
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 22-24
Publication date: 2011
Main Research Area: Technical/natural sciences

**Publication information**
Journal: Danske Fritidsfiskere
Issue number: April
ISSN (Print): 1904-5387
Original language: Danish
Links:
http://e-pages.dk/121/1217000925/2
Source: orbit
Source-ID: 278296
Publication: Communication › Journal article – Annual report year: 2011

**Skarven i Danmark og den nye forvaltningsplan – en status**

**General information**
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Bregnballe, T. (Ekstern)
Publication date: 2011
Main Research Area: Technical/natural sciences

**Publication information**
Journal: Geirfuglen
ISSN (Print): 0900-4114
Original language: Danish
Links:
Source: orbit
Source-ID: 278294
Publication: Research › Journal article – Annual report year: 2011

**Stallingen er nu totalfredet**

**General information**
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Nielsen, J. (Intern)
Publication date: 2011

**Publication information**
Source/Publisher: www.fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
http://www.fiskepleje.dk/nyheder.aspx?guid=%7b98F45FD0-B3D4-4701-949C-3345A848E79B%7d
Status for skarven i Danmark

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Bregnballe, T. (Ekstern)
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Journal: Ferskvandsfiskeribladet
Volume: 109
Issue number: 2
ISSN (Print): 0015-0223
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Source: orbit
Source-ID: 278304
Publication: Communication › Journal article – Annual report year: 2011

Status på stallingen

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Nielsen, J. (Intern)
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Source/Publisher: www.fiskepleje.dk
Links:
http://www.fiskepleje.dk/nyheder.aspx?guid=%7bE23EE083-8E4D-49AE-A5DE-F09F10BC0F05%7d
Source: orbit
Source-ID: 286446
Publication: Communication › Journal article – Annual report year: 2011

European eel and aquaculture

General information
State: Published
Organisations: Institute Management, National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Section for Public Sector Consultancy, Section for Aquaculture, Section for Population Ecology and Genetics
Number of pages: 19
Publication date: 2010

Publication information
Place of publication: Charlottenlund
Publisher: DTU Aqua. Institut for Akvatiske Ressourcer
ISBN (Print): 978-87-7481-127-5
Original language: English
Series: DTU Aqua-rapport
Number: 229-2010
Fiskene og vandrammedirektivet

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 20-26
Publication date: 2010
Main Research Area: Technical/natural sciences

Publication information
Journal: Miljø- & vandpleje
Volume: 35
ISSN (Print): 1397-5951
Original language: Danish
Links:
http://sportsfiskeren.dk/sites/default/files/MiljoeVandpleje_3510.pdf
Source: orbit
Source-ID: 267620
Publication: Research › Journal article – Annual report year: 2010

Hvordan klarer fiskene sig gennem vinteren?

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Skov, C. (Intern)
Publication date: 2010

Publication information
Source/Publisher: www.fiskepleje.dk
Main Research Area: Technical/natural sciences
Links:
http://www.dtu.dk/Subsites/Fiskepleje/nyheder.aspx?guid=%7b36707A49-B869-48DC-89A3-7643F98F5EDB%7d
Source: orbit
Source-ID: 259237
Publication: Communication › Internet publication – Annual report year: 2010

Opgang og gydning af laks i Skjern Å-systemet 2008/2009

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Koed, A. (Intern), Jepsen, N. (Intern), Bakttoft, H. (Intern), Larsen, S. (Ekstern)
Publication date: 2010

Publication information
Place of publication: Charlottenlund
Publisher: DTU Aqua. Institut for Akvatiske Ressourcer
ISBN (Print): 978-87-7481-116-9
Original language: Danish
Series: DTU Aqua-rapport
Survival and progression rates of large European silver eel Anguilla anguilla in late freshwater and early marine phases

The population of European silver eel Anguilla anguilla has declined tremendously in the last decades. The cause of this decline is unknown, and it is necessary to investigate the migratory behaviour and survival rates of silver eels during the reproductive migration in order to understand if the decline is related to factors acting during that migration. We estimated survival and progression rates of European silver eel migrating in the lower part of the River Gudenaa and during the first phase of the marine migration in the Randers Fjord in Denmark. Fifty migrating silver eel (total body length: 56 to 84 cm) were captured, and each was equipped with an acoustic transmitter. Their migration was subsequently monitored using an array of automatic listening stations, and progression rate and mortality in the river, inner part of the fjord and outer part of the fjord were estimated. Survival was high in fresh water. However, 60% of eels were lost in the inner and outer fjord, supporting the hypothesis that mortality is large in the early phase of the marine migration and that fishing may be a major cause of mortality of silver eels. There was no indication that the slowest-migrating individuals were more prone to fishing mortality than the faster-migrating individuals. Progression rate increased as the eels proceeded downriver and out of the fjord. The migration was predominantly nocturnal, both in the river and fjord. Based on the available evidence, a considerable increase in eel survival in the river–fjord system will be needed in order to fulfil the goals in the European Union recovery plan for eels.
The use of coded wire tags to estimate cormorant predation on fish stocks in an estuary

One of the main obstacles to resolving the conflict between an increasing population of cormorants, Phalacrocorax carbo sinensis, and the fishing industry is the lack of documentation of the effect of the birds’ predation on fish stocks. Tagging and releasing fish with coded wire tags followed by intensive cormorant pellet sampling may be a viable method to measure the impact of cormorants on fish populations. To test this new method, we studied cormorant predation in a shallow estuary, where nearly 100 000 fish were tagged and more than 10 000 cormorant pellets were collected over a 3-year study period. A total of 112 tags were recovered from the collected pellets. Analyses of tag recovery data indicated considerable cormorant predation on tagged flounder, eel and salmon smolts, but the method did not deliver high-quality documentation, mainly because of limitations in pellet sampling. We conclude with recommendations to enhance the value of this method.

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources, Helmholtz Centre for Environmental Research
Authors: Jepsen, N. (Intern), Klenke, R. (Ekstern), Sonnesen, P. M. (Intern), Bregnballe, T. (Ekstern)
Pages: 320-329
Publication date: 2010
Main Research Area: Technical/natural sciences

Publication information
Journal: Marine and Freshwater Research
Volume: 61
Issue number: 3
ISSN (Print): 1323-1650
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.57 SJR 0.711 SNIP 0.763
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.813 SNIP 0.704 CiteScore 1.51
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.069 SNIP 0.997 CiteScore 2.18
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.222 SNIP 0.984 CiteScore 2.24
Store opstemninger - store udfordringer

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 12-16
Publication date: 2009
Main Research Area: Technical/natural sciences

Publication information
Journal: Miljø- & vandpleje
Issue number: 34
ISSN (Print): 1397-5951
Original language: Danish
Links:
http://sportsfiskeren.dk/sites/default/files/MiljoEvdpleje_34_low.pdf
Source: orbit
Source-ID: 266001
Publication: Research - Journal article – Annual report year: 2009

conflicts, smolt, eel, flounder, Phalacrocorax carbo sinensis

Links:
Source: orbit
Source-ID: 259906
Publication: Research - Journal article – Annual report year: 2010
Effects of tag and suture type on survival and growth of brown trout with surgically implanted telemetry tags in the wild

To test the effects of surgical implants with or without external antennae, 188 wild brown trout Salmo trutta, 150 - 290 mm, were tagged and released in a small river in May 2005. After 5 months, 103 of the fish were recaptured and examined. Thus, information on the relative survival, growth and general condition of each fish was obtained. The relative survival did not differ between the three groups (control, antennae and no antennae), but the specific growth of the two tagged groups were lower than that of the control fish. The tag:body-mass ratio had a significant negative effect on specific growth. A relative high occurrence of tag expulsion was observed in both treatment groups (23%). The probability to expel a tag was correlated with the tag:body-mass ratio. Finally, the relative survival, growth, expulsion rate and general condition were compared between fish tagged with different types of suture material (absorbable v. non-absorbable). The results show only minor differences, but absorbable suture provided better wound healing and fewer expulsions. (c) 2008 The Authors Journal compilation (c) 2008 The Fisheries Society of the British Isles.

General information
State: Published
Organisations: Section for Coastal Ecology, National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Bregnballe, T. (Ekstern), Sonnesen, P. (Ekstern), Nicolajsen, H. (Intern), Jepsen, N. (Intern), Kanstrup, E. (Ekstern), Sørensen, N. (Ekstern)
Publication date: 2008

Publication information
Survival and behaviour of European silver eel in late freshwater and early marine phase during spring migration

**General information**
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Aarestrup, K. (Intern), Thorstad, E. (Ekstern), Koed, A. (Intern), Jepsen, N. (Intern), Svendsen, J. C. (Intern), Pedersen, M. I. (Intern), Skov, C. (Intern), Okland, F. (Ekstern)
Pages: 435-440
Publication date: 2008
Main Research Area: Technical/natural sciences

**Publication information**
Journal: Fisheries Management and Ecology
Volume: 15
Issue number: 5-6
ISSN (Print): 0969-997X
Ratings:
- BFI (2018): BFI-level 1
- Web of Science (2018): Indexed yes
- BFI (2017): BFI-level 1
- Web of Science (2017): Indexed Yes
- BFI (2016): BFI-level 1
- Scopus rating (2016): CiteScore 1.85 SJR 0.843 SNIP 0.88
- BFI (2015): BFI-level 1
- Scopus rating (2015): SJR 0.988 SNIP 1.159 CiteScore 1.91
- BFI (2014): BFI-level 1
- Scopus rating (2014): SJR 0.913 SNIP 0.995 CiteScore 1.85
- BFI (2013): BFI-level 1
- Scopus rating (2013): SJR 0.737 SNIP 0.807 CiteScore 1.36
- ISI indexed (2013): ISI indexed yes
- Web of Science (2013): Indexed yes
- BFI (2012): BFI-level 1
- Scopus rating (2012): SJR 0.636 SNIP 0.868 CiteScore 1.32
- ISI indexed (2012): ISI indexed yes
- Web of Science (2012): Indexed yes
- BFI (2011): BFI-level 1
- Scopus rating (2011): SJR 0.844 SNIP 0.932 CiteScore 1.29
- ISI indexed (2011): ISI indexed yes
- BFI (2010): BFI-level 1
- Scopus rating (2010): SJR 0.847 SNIP 0.808
- Web of Science (2010): Indexed yes
- BFI (2009): BFI-level 1
- Scopus rating (2009): SJR 0.796 SNIP 0.936
- BFI (2008): BFI-level 1
Technical report with results from the fish sampling and analyses from the Joint Danube Survey 2007

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Wiesner, C. (Ekstern), Schotzko, N. (Ekstern), Černý, J. (Ekstern), Guti, G. (Ekstern), Davideanu, G. (Ekstern), Jepsen, N. (Intern)
Number of pages: 242
Publication date: 2008

Publication information
Place of publication: Vienna
Publisher: International Commission for the Protection of the Danube River
Original language: English
Main Research Area: Technical/natural sciences
Electronic versions:

The level of predation used as an indicator of tagging/handling effects

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources, Section for Coastal Ecology
Authors: Jepsen, N. (Intern), Christoffersen, M. O. (Intern), Munksgaard, T. (Ekstern)
Pages: 365-368
Publication date: 2008
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisheries Management and Ecology
Volume: 15
Issue number: 5-6
ISSN (Print): 0969-997X
The monitoring of ecological status of European freshwaters

General information
State: Published
Organisations: European Commission - Joint Research Center, National Environmental Research Institute
Authors: Solimini, A. G. (Ekstern), Cardoso, A. C. (Ekstern), Carstensen, J. (Ekstern), Free, G. (Ekstern), Heiskanen, A. (Ekstern), Jepsen, N. (Intern), Noges, P. (Ekstern), Poikane, S. (Ekstern), van de Bund, W. (Ekstern)
Pages: 29-60
Publication date: 2008

Host publication information
Title of host publication: The Water Framework Directive: Ecological and Chemical Status Monitoring
Volume: Chapter 1.3
Publisher: John Wiley and Sons
Editors: Quevauvillerand, P., Borchers, U., Thompson, C., Simonart, T.
ISBN (Print): 978-0-470-51836-6
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 318877
Publication: Research - peer-review › Book chapter – Annual report year: 2008

The recent invasion of Rutilus rutilus (L.) (Pisces: Cyprenidae) in a large South-Alpine lake: Lago Maggiore

General information
State: Published
Organisations: Consiglio Nazionale delle Ricerche, European Commission - Joint Research Center
Authors: Volta, P. (Ekstern), Jepsen, N. (Intern)
Pages: 163-170
Publication date: 2008
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Limnology
Volume: 67
Issue number: 2
ISSN (Print): 1129-5767
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): SJR 0.574 SNIP 0.861 CiteScore 1.66
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.704 SNIP 0.833 CiteScore 1.62
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.437 SNIP 0.586 CiteScore 1.14
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.547 SNIP 0.934 CiteScore 1.4
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.718 SNIP 0.998 CiteScore 1.39
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.562 SNIP 0.728 CiteScore 1.29
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.411 SNIP 0.735
BFI (2009): BFI-level 1
Effects of salmon lice infection and salmon lice protection on fjord migrating Atlantic salmon and brown trout post-smolts

Effects of artificial salmon lice infection and pharmaceutical salmon lice prophylaxis on survival and rate of progression of Atlantic salmon (n = 72) and brown trout post-smolts (n = 72) during their fjord migration, were studied by telemetry. The infected groups were artificially exposed to infective salmon lice larvae in the laboratory immediately before release in the inner part of the fjord to simulate a naturally high infection pressure. Groups of infected Atlantic salmon (n = 20) and brown trout (n = 12) were also retained in the hatchery to control the infection intensity and lice development during the study period. Neither salmon lice infection nor pharmaceutical prophylaxis had any effects on survival and rate of progression of fjord migrating Atlantic salmon post-smolts compared to control fish. Atlantic salmon spent on average only 151.2 h (maximum 207.3 h) in passing the 80 km fjord system and had, thus, entered the ocean when the more pathogenic pre-adult and adult lice stages developed. The brown trout, in comparison to Atlantic salmon, remained to a larger extent than Atlantic salmon in the inner part of the fjord system. No effect of salmon lice infection, or protection, was found in brown trout during the first weeks of their fjord migration. Brown trout will, to a larger extent than Atlantic salmon, stay in the fjord areas when salmon lice infections reach the more pathogenic pre-adult and adult stages. In contrast to Atlantic salmon, they will thereby possess the practical capability of returning to freshwater when encountering severe salmon lice attacks.

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Sivertsgard, R. (Ekstern), Thorstad, E. B. (Ekstern), Okland, F. (Ekstern), Finstad, B. (Ekstern), Bjorn, P. A. (Ekstern), Jepsen, N. (Intern), Nordal, T. (Ekstern), McKinley, R. S. (Ekstern)
Pages: 35-42
Publication date: 2007
Main Research Area: Technical/natural sciences

Publication information
Journal: Hydrobiologia
Volume: 582
ISSN (Print): 0018-8158
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.16
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.22
Intercalibration of fish-based methods to evaluate river ecological quality

General information
State: Published
Organisations: European Commission - Joint Research Center
Authors: Jepsen, N. (Intern), Pont, D. (Ekstern)
Number of pages: 191
Publication date: 2007

Publication information
Place of publication: Bruxelles
Publisher: European Commission
ISBN (Print): 978-92-79-06540-8
Original language: English

Series: EUR-report
Number: 22878
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 284654
Publication: Research - peer-review › Journal article – Annual report year: 2007

Evaluation of three telemetry transmitter attachment methods for female silver-phase American eels (Anguilla rostrata Lesueur)

Declines in juvenile American eel (Anguilla rostrata Lesueur) abundance have led to concern about the impacts of anthropogenic structures on eel migration patterns. Telemetry provides an insightful tool for examining the movements of eels around these structures. Although there have been a number of studies investigating movements of Anguillid eels, using a variety of transmitter attachment techniques, there are few published evaluations of the effects of various tag attachment procedures. Hence, the effects of three telemetry attachment procedures were evaluated for female silver phase American eels. Short-term effects were examined by comparing the swimming performance of control eels and surgical shams with the swimming capacity of eels tagged externally, internally, and gastrically 24-hours following
surgery. Adaptive effects were investigated using a second swim trial 8 to 10 weeks following surgical procedures. Additionally, 12-week transmitter retention rates were calculated for each attachment method. Critical swimming velocity was not significantly different between treatments (P > 0.05), but did decrease significantly between trials (P = 0.012), suggesting that the swimming capacity of silver-phase American eels is not affected by the presence of telemetry transmitters or the method of transmitter attachment, even though swim performance decreases. However, transmitter retention rates varied considerably after the 12-week experimental period. Three gastric tags were regurgitated for a 12-week retention rate of 72.7%. No surgically implanted transmitters were shed, while 11 out of 12 externally affixed transmitters were lost, resulting in a retention rate of only 9.1%. These results suggest that surgically implanting transmitters is the preferred method of affixing telemetry transmitters to American eels especially for long-term telemetry studies.

**General information**

State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Cottrill, R. (Ekstern), Økland, F. (Ekstern), Aarestrup, K. (Intern), Jepsen, N. (Intern), Koed, A. (Intern), Hunter, K. (Ekstern), Butterworth, K. (Ekstern), McKinley, R. (Ekstern)
Pages: 502-511
Publication date: 2006
Main Research Area: Technical/natural sciences

**Publication information**

Journal: Journal of Great Lakes Research
Volume: 32
Issue number: 3
ISSN (Print): 0380-1330
Ratings:
- BFI (2018): BFI-level 1
- Web of Science (2018): Indexed yes
- BFI (2017): BFI-level 1
- Web of Science (2017): Indexed Yes
- BFI (2016): BFI-level 1
- Scopus rating (2016): SJR 0.89 SNIP 0.888 CiteScore 2.02
- BFI (2015): BFI-level 1
- Scopus rating (2015): SJR 0.966 SNIP 0.946 CiteScore 2.01
- BFI (2014): BFI-level 1
- Scopus rating (2014): SJR 0.858 SNIP 0.957 CiteScore 1.7
- BFI (2013): BFI-level 1
- Scopus rating (2013): SJR 0.989 SNIP 0.938 CiteScore 1.91
- ISI indexed (2013): ISI indexed yes
- BFI (2012): BFI-level 1
- Scopus rating (2012): SJR 1.072 SNIP 1.199 CiteScore 2.23
- ISI indexed (2012): ISI indexed yes
- BFI (2011): BFI-level 1
- Scopus rating (2011): SJR 0.87 SNIP 0.829 CiteScore 1.45
- ISI indexed (2011): ISI indexed yes
- BFI (2010): BFI-level 1
- Scopus rating (2010): SJR 0.886 SNIP 0.998
- BFI (2009): BFI-level 1
- Scopus rating (2009): SJR 0.778 SNIP 0.808
- BFI (2008): BFI-level 1
- Scopus rating (2008): SJR 0.821 SNIP 0.844
- Scopus rating (2007): SJR 0.641 SNIP 0.785
- Scopus rating (2006): SJR 0.611 SNIP 0.683
- Web of Science (2006): Indexed yes
- Scopus rating (2005): SJR 0.562 SNIP 0.711
- Scopus rating (2004): SJR 0.888 SNIP 1.016
- Scopus rating (2003): SJR 0.826 SNIP 1.184
- Scopus rating (2002): SJR 1.159 SNIP 0.955
Observations of predation on salmon and trout smolts in a river mouth

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Holthe, E. (Ekstern), Økland, F. (Ekstern)
Pages: 341-343
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisheries Management and Ecology
Volume: 13
Issue number: 5
ISSN (Print): 0969-997X
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.85 SJR 0.843 SNIP 0.88
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.988 SNIP 1.159 CiteScore 1.91
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.913 SNIP 0.995 CiteScore 1.85
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.737 SNIP 0.807 CiteScore 1.36
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.636 SNIP 0.868 CiteScore 1.32
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.844 SNIP 0.932 CiteScore 1.29
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.847 SNIP 0.808
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.796 SNIP 0.936
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.823 SNIP 0.87
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 0.813 SNIP 1.255
Web of Science (2007): Indexed yes
Preface to the Silkeborg conference issue

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jacobsen, L. (Intern), Koed, A. (Intern), Aarestrup, K. (Intern), Skov, C. (Intern), Jepsen, N. (Intern), Berg, S. (Intern)
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Ecology of Freshwater Fish
Volume: 15
Issue number: 2
ISSN (Print): 0906-6691
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.66 SJR 0.804 SNIP 0.885
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.022 SNIP 1.192 CiteScore 1.92
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.866 SNIP 0.994 CiteScore 1.58
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.971 SNIP 1.072 CiteScore 1.77
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.061 SNIP 1.247 CiteScore 2.05
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.979 SNIP 0.887 CiteScore 1.65
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.812 SNIP 0.968
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.817 SNIP 1.006
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 0.932 SNIP 0.985
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 0.791 SNIP 0.883
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 0.875 SNIP 1.183
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.659 SNIP 0.92
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 0.907 SNIP 1.191
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 0.955 SNIP 0.779
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 0.895 SNIP 1.091
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 0.667 SNIP 0.677
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 0.572 SNIP 0.884
Scopus rating (1999): SJR 0.577 SNIP 0.701
Original language: English
Source: orbit
Source-ID: 225933
Publication: Research › Journal article – Annual report year: 2006

Skarvers fødevalg i Ringkøbing Fjord

General information
State: Published
Organisations: National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 6-8
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication Information
Journal: Nyhedsbrev / Samarbejdsprojekt om skarvregulering og fiskebestandene i de vestjyske fjorde
Volume: 3
Issue number: 3
Original language: Danish
Links:
http://fiskepleje.dk
Source: orbit
Source-ID: 226023
Publication: Research › Journal article – Annual report year: 2006

Swimming speeds and orientation of wild Atlantic salmon post-smolts during the first stage of the marine migration: Management and ecological notes

General information
State: Published
The return of the king. The recovery of Danish salmon stocks

General information
State: Published
Organisations: Unknown
Authors: Jepsen, N. (Intern)
Pages: 58-62
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Atlantic Salmon Journal
Issue number: Spring
ISSN (Print): 0044-992X
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: English
Source: orbit
Source-ID: 268832
Publication: Research - Journal article – Annual report year: 2006

A brief discussion on the 2% tag/bodymass rule of thumb

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Schreck, C. (Ekstern), Clements, S. (Ekstern), Thorstad, E. (Ekstern)
Pages: 255-259
Publication date: 2005

Host publication information
Title of host publication: Aquatic telemetry: advances and applications : Proceedings of the Fifth Conference on Fish Telemetry held in Europe
Publisher: Food and Agriculture Organization of the United Nations, FAO
Editors: Spedicato, M., Lembo, G., Marmulla, G.
Main Research Area: Technical/natural sciences
Conference: 5th Conference on Fish Telemetry, Ustica, Italy, 09/06/2003 - 09/06/2003
Source: orbit
Source-ID: 231667
Publication: Research - Article in proceedings – Annual report year: 2005

Linking individual migratory behaviour of Atlantic salmon to their genetic origin

Many stocks of fish consist of mixtures of individuals originating from different populations. This is particularly true for many salmon and trout stocks, where fish of different genetic background are being found in the same rivers and/or lakes due to stocking activities or straying caused by increased aquaculture activities. The interpretation of results from studies of survival and behaviour of fish from such “mixed stocks” require information of the genetic background of individual fish. We used genetic analysis combined with radiotelemetry to study upstream migration of Atlantic salmon (Salmo salar) in a Danish lowland river. The river has a small population of native salmon, but salmon juveniles from Irish, Scottish and Swedish populations have been stocked and return as adults. A total of 39 salmon were caught by electrofishing and tagged by surgical implantation. A tissue sample (fin clip) from each tagged salmon was analysed using microsatellite DNA analysis of 6 loci. Assignment tests were used to infer the population of origin. The results showed that the salmon run was composed of approximately 1/3 “native fish”, 1/3 foreign stocked fish and 1/3 escaped farmed salmon. The results indicate that
stocked, foreign salmon had a slightly higher mortality and moved more up and down in the river than the native salmon did, but all salmon had problems passing the physical obstructions in the river. The DNA analyses enabled us to compare the behaviour of fish of different genetic origin, but the interpretation of the results was hampered by a high mortality of tagged fish. This study demonstrates that the combination of recent genetic methods and telemetry provides a potent tool for better management of mixed stock fisheries.

**General information**
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources, Section for Population Ecology and Genetics
Authors: Jepsen, N. (Intern), Eg Nielsen, E. (Intern), Deacon, M. (Ekstern)
Pages: 45-51
Publication date: 2005

**Host publication information**
Title of host publication: Aquatic telemetry: advances and applications : Proceedings of the Fifth Conference on Fish Telemetry held in Europe
Publisher: Food and Agriculture Organization of the United Nations, FAO
Editors: Spedicato, M., Lembo, G., Marmulla, G.
Main Research Area: Technical/natural sciences
Conference: 5th Conference on Fish Telemetry, Ustica, Italy, 09/06/2003 - 09/06/2003
Source: orbit
Source-ID: 237038
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

**Movement and mortality of stocked brown trout in a stream**
The movement and mortality of stocked brown trout Salmo trutta were investigated using radio telemetry. Four brown trout left the study area whereas the remaining fish were stationary. After 5 weeks, 13 out of 50 tagged brown trout were still alive in the stream. Surviving fish had a significantly lower mean movement per day than fish, which later either died or disappeared. This difference in behaviour was most pronounced 2 to 8 days after release. Predation by the otter Lutra lutra was probably the main cause of the observed mortality. (c) 2005 The Fisheries Society of the British Isles

**General information**
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Aarestrup, K. (Intern), Jepsen, N. (Intern), Koed, A. (Intern), Pedersen, S. (Intern)
Pages: 721-728
Publication date: 2005
Main Research Area: Technical/natural sciences

**Publication information**
Journal: Journal of Fish Biology
Volume: 66
Issue number: 3
ISSN (Print): 0022-1112
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.57 SJR 0.741 SNIP 0.882
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.951 SNIP 0.935 CiteScore 1.64
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.944 SNIP 0.934 CiteScore 1.76
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.049 SNIP 1.118 CiteScore 1.98
ISI indexed (2013): ISI indexed yes
Post release behaviour of wild and domesticated resident brown trout (Salmo trutta) in canalised and meandering stream sections

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Pedersen, S. (Intern), Jepsen, N. (Intern), Friberg, N. (Ekstern), Baattrup-Pedersen, A. (Ekstern)
Publication date: 2005
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 281687
Publication: Research › Poster – Annual report year: 2005
Skarvers prædation af fisk i Ringkjøbing Fjord

General information
State: Published
Organisations: National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Sonnesen, P. (Ekstern)
Pages: 16-18
Publication date: 2005
Main Research Area: Technical/natural sciences

Publication information
Journal: Amatørfiskeren
Volume: 5
ISSN (Print): 0900-2650
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Source: orbit
Source-ID: 226024
Publication: Research › Journal article – Annual report year: 2005

Undersøgelser af skarvers prædation af fisk i Ringkøbing Fjord

General information
State: Published
Organisations: National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Sonnesen, P. (Ekstern)
Pages: 9-11
Publication date: 2005
Main Research Area: Technical/natural sciences

Publication information
Journal: Nyhedsbrev / Samarbejdsprojekt om skarvregulering og fiskebestandene i de vestjyske fjorde
Volume: 2
Issue number: 2
Original language: Danish
Links:
http://www.fiskepleje.dk
Source: orbit
Source-ID: 226034
Publication: Research › Journal article – Annual report year: 2005

Does roach behaviour differ between shallow lakes of different environmental state?

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jacobsen, L. (Intern), Berg, S. (Intern), Jepsen, N. (Intern), Skov, C. (Intern)
Pages: 135-147
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Fish Biology
Volume: 65
Issue number: 1
ISSN (Print): 0022-1112
Ratings:
BFI (2018): BFI-level 1
Effect of turbidity on habitat selection and activity of fish in shallow lakes during a year

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jacobsen, L. (Intern), Berg, S. (Intern), Skov, C. (Intern), Jepsen, N. (Intern)
PUBLICATION DATE: 2004
Event: Abstract from International Conference on Behaviour and ecology of freshwater fish, linking ecology and individual behaviour, Silkeborg, Denmark.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 279383
Publication: Research › Conference abstract for conference – Annual report year: 2004

Hvor mange fisk spiser skarverne

General information
State: Published
Organisations: National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Sonnesen, P. (Ekstern)
Pages: 6-8
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Journal: Nyhedsbrev / Samarbejdsprojekt om skarvregulering og fiskebestandene i de vestjyske fjorde
Volume: 1
Issue number: 1
Original language: Danish
Links:
http://fiskepleje.dk
Source: orbit
Source-ID: 226015
Publication: Research › Journal article – Annual report year: 2004

Research activities report for the project: Living aquatic resources - management and knowledge base: 2001-2003

General information
State: Published
Organisations: Section for Fisheries Advice, National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Wilson, D. (Ekstern), Christensen, S. (Intern), Jepsen, N. (Intern), van Thi, D. (Ekstern), Minh, T. (Ekstern)
Number of pages: 127
Publication date: 2004

Publication information
Publisher: [s.n.]
Original language: English
Main Research Area: Technical/natural sciences

Bibliographical note
Draft report
Source: orbit
Source-ID: 227807
Publication: Research › Report – Annual report year: 2004

Varde Å - 50 km forhindringsløb for laks

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Deacon, M. (Ekstern)
Laksens gydevandring i Varde Å systemet: Radiotelemetriundersøgelse

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Deacon, M. (Ektern), Ejbye-Ernst, M. (Ektern)
Number of pages: 72
Publication date: 2003

Publication information
Place of publication: Silkeborg
Publisher: Danmarks Fiskeriundersøgelser
ISBN (Print): 87-90968-50-6
Original language: Danish
Series: DFU-rapport
Number: 125-03
Main Research Area: Technical/natural sciences
Electronic versions:
125-03_laksens_gydevandring_i_varde_å.pdf
Links:
http://www.difres.dk/dk/publication/files/22122003$125-03%20Laksen%20i%20Varde%20Å.pdf
Source: orbit
Source-ID: 226016
Publication: Research › Report – Annual report year: 2003

Long-term retention of surgically implanted radio transmitters in pikeperch

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 260-262
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Fish Biology
Volume: 63
Issue number: 1
ISSN (Print): 0022-1112
Ratings:
BFI (2018): BFI-level 1
Upstream migration of Atlantic salmon at a power station in the River Nidelva, Southern Norway

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Thorstad, E. (Ekstern), Økland, F. (Ekstern), Kroglund, F. (Ekstern), Jepsen, N. (Intern)
Pages: 139-146
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisheries Management and Ecology
Volume: 10
Issue number: 3
ISSN (Print): 0969-997X
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.85 SJR 0.843 SNIP 0.88
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.988 SNIP 1.159 CiteScore 1.91
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.913 SNIP 0.995 CiteScore 1.85
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.737 SNIP 0.807 CiteScore 1.36
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.636 SNIP 0.868 CiteScore 1.32
ISI indexed (2012): ISI indexed yes
A comparative study on determining fish numbers and biomass in lakes: Five methods compared with the true answer

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Publication date: 2002
Event: Poster session presented at EIFAC Symposium on Inland Fisheries Management and the Aquatic Environment, Windermere, United Kingdom.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 227665
Publication: Research - peer-review › Journal article – Annual report year: 2003

Activity and food choice of piscivorous perch ( Perca fluviatilis ) in a eutrophic shallow lake: a radio-telemetry study

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jacobsen, L. (Intern), Berg, S. (Intern), Broberg, M. (Ekstern), Jepsen, N. (Intern), Skov, C. (Intern)
Pages: 2370-2379
Publication date: 2002
Behaviour of piscivorous perch, investigated by radio telemetry
Habitat use and foraging success of 0+ pike (Esox lucius L.) in experimental ponds related to prey fish, water transparency and light intensity

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Skov, C. (Intern), Berg, S. (Intern), Jacobsen, L. (Intern), Jepsen, N. (Intern)
Pages: 65-73
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: Ecology of Freshwater Fish
Volume: 11
Issue number: 2
ISSN (Print): 0906-6691
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.66 SJR 0.804 SNIP 0.885
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.022 SNIP 1.192 CiteScore 1.92
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.866 SNIP 0.994 CiteScore 1.58
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.971 SNIP 1.072 CiteScore 1.77
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.061 SNIP 1.247 CiteScore 2.05
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.979 SNIP 0.887 CiteScore 1.65
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.812 SNIP 0.968
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.817 SNIP 1.006
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 0.932 SNIP 0.985
Initial mortality of radio-tagged Atlantic salmon (Salmo salar L.) smolts following release downstream of a hydropower station

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Koed, A. (Intern), Jepsen, N. (Intern), Aarestrup, K. (Intern), Nielsen, C. (Ekstern)
Pages: 31-37
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: Hydrobiologia
Volume: 483
Issue number: 1-3
ISSN (Print): 0018-8158
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.16
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.22
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 2.02
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Management of recreational fisheries in Denmark

General information
State: Published
Organisations: Institute Management, National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Rasmussen, G. (Intern), Geertz-Hansen, P. (Intern), Jepsen, N. (Intern)
Pages: 157-159
Publication date: 2002

Host publication information
Title of host publication: 3. World Recreational Fishing Conference : Conference proceedings
Main Research Area: Technical/natural sciences
Conference: World Recreational Fishing Conference, Darwin, Northern Territory, Australia, 01/01/2002
Source: orbit
Source-ID: 237655
Publication: Research › Article in proceedings – Annual report year: 2002

Mangfoldige Mekong - forvaltning af en livsnerve

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 34-41
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisk og Hav
Issue number: 54
ISSN (Print): 0105-9211
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Links:
Roach (Rutilus rutilus) behaviour by use of mini-radio transmitters: a comparative study of a clearwater lake and a turbid lake

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jacobsen, L. (Intern), Jepsen, N. (Intern), Berg, S. (Intern)
Publication date: 2002
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 226019
Publication date: 2002

Surgical implantation of telemetry transmitters in fish: how much have we learned?

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern), Koed, A. (Intern), Thorstad, E. (Ekstern), Baras, E. (Ekstern)
Pages: 239-248
Publication date: 2002
Main Research Area: Technical/natural sciences
Publication information
Journal: Hydrobiologia
Volume: 483
ISSN (Print): 0018-8158
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.16
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.22
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 2.02
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 2.13
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 1.98
ISI indexed (2011): ISI indexed yes
The use of winter refuges by roach tagged with miniature radio transmitters

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Berg, S. (Intern)
Pages: 167-173
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: Hydrobiologia
Volume: 483
Issue number: 1-3
ISSN (Print): 0018-8158
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.16
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.22
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 2.02
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 2.13
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 1.98
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
Undersøgelser af skarvers påvirkning af fiskene i Ringkøbing og Nissum Fjorde

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 8-9
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: Nyhedsbrev for myndighedssamarbejdet om fiskeriet i Ringkøbing og Nissum fjorde
Volume: 2
Issue number: 4
Original language: Danish
Source: orbit
Source-ID: 226033
Publication: Research › Journal article – Annual report year: 2002

Vandpleje øger fiskebestandene

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Sivebæk, F. (Intern), Jepsen, N. (Intern), Aarestrup, K. (Intern)
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: www.fiskepleje.dk
Original language: Danish
Links:
http://www.dfu.min.dk/fiskepleje/vandpleje.htm
Source: orbit
Source-ID: 227417
Publication: Research › Journal article – Annual report year: 2002

Behavior of pike (Esox lucius L.) >50 cm in a turbid reservoir and in a clearwater lake

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern), Beck, S. (Ekstern), Skov, C. (Intern), Koed, A. (Intern)
Pages: 26-34
Publication date: 2001
Main Research Area: Technical/natural sciences

Publication information
The physiological response of chinook salmon smolts to two methods of radio-tagging

Smolts of hatchery-reared chinook salmon Oncorhynchus tshawytscha were radio-tagged by gastric insertion or surgical implant, and their physiological response was measured and compared to that of control fish. Plasma levels of cortisol, glucose, and lactate were measured before tagging and at 3 h, 24 h, 7 d, and 14 d after tagging. Significant increases in concentrations of cortisol, glucose, and lactate occurred at 3 h after tagging in both treatment groups. After 24 h cortisol levels were still elevated in both groups of tagged fish, whereas the levels of glucose and lactate had returned to normal for the surgically implanted fish but still remained higher than those of the controls for gastrically implanted fish. After 7 and 14 d, differences between treatment and control fish were not significant. Body size and physiological response to tagging among fish 14-26 cm showed no correlation. The results show that radio-tagging is indeed stressful for chinook salmon smolts but that the presence of the tags is not chronically stressful because levels of cortisol, glucose, and lactate return to normal (control) levels after few days.

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Davis, L. (Ekstern), Schreck, C. (Ekstern), Siddens, B. (Ekstern)
Pages: 495-500
Publication date: 2001
Main Research Area: Technical/natural sciences

Publication information
Journal: Transactions of the American Fisheries Society
Volume: 130
Issue number: 3
ISSN (Print): 0002-8487
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.51 SJR 0.819 SNIP 0.914
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.799 SNIP 0.879 CiteScore 1.43
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.932 SNIP 1.073 CiteScore 1.78
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.949 SNIP 1.087 CiteScore 1.57
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.1 SNIP 1.181 CiteScore 1.66
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.973 SNIP 0.966 CiteScore 1.33
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.203 SNIP 1.057
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.952 SNIP 0.891
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.148 SNIP 1.184
Scopus rating (2007): SJR 1.19 SNIP 1.218
Scopus rating (2006): SJR 1.199 SNIP 1.247
Behavioural interactions between prey (trout smolts) and predators (pike and pikeperch) in an impounded river

Movements of radio-tagged pike Esox lucius (L.), pikeperch Stizostedion lucioperca (L.) and outward migrating sea trout smolts Salmo trutta (L.) were studied in a shallow Danish reservoir to obtain information of predator-prey interactions between these species. Twenty pikeperch (55-74 cm) and 19 pike (52-72 cm) were tagged. Female pikeperch spent more time near the outlet sluice during the smolt run (May) than at other times of the year, apparently actively hunting the smolts delayed in this area. In contrast, male pikeperch did not seem to participate in the smolt predation but remained stationary during the smolt run, presumably guarding their nests. Most tagged pike were present at the spawning grounds during the peak of the smolt run, where they had little chance of smolt encounter. Twenty migrating trout smolts were radio-tagged in the river upstream of the reservoir. Ten of these were located in the vicinity of the outlet sluice at least once, but were unwilling or unable to find and enter the sub-surface outlet sluice. Only one tagged smolt left the reservoir. After 1-12 days in the reservoir, the remaining smolts were eaten by pikeperch or pike and the results indicate that female pikeperch and few female pike have adjusted their behaviour to predation on smolts during the smolt run. The smolt predation in this man-made reservoir is higher than in natural lakes, probably due to the changed physical environment and introduced predators, such as pikeperch. The outlet sluice practice and the temporal overlap between smolt run and predator-spawning may be key factors in smolt survival. Copyright (C) 2000 John Wiley & Sons, Ltd.

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology, Risø National Laboratory for Sustainable Energy
Authors: Jepsen, N. (Intern), Pedersen, S. (Ekstern), Thorstad, E. (Ekstern)
Pages: 189-198
Publication date: 2000
Main Research Area: Technical/natural sciences

Publication information
Journal: Regulated Rivers Research & Management
Volume: 16
Issue number: 2
ISSN (Print): 1535-1459
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): SJR 0.787 SNIP 1.186 CiteScore 2.07
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.952 SNIP 1.108 CiteScore 1.99
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.955 SNIP 1.343 CiteScore 2.11
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.921 SNIP 1.15 CiteScore 2.08
Laks og havørreds gydevandringer i Gudenåen i 1994 og 1995

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Aarestrup, K. (Intern), Jepsen, N. (Intern)
Number of pages: 33
Publication date: 2000

Publication information
Place of publication: Silkeborg
Publisher: Danmarks Fiskerundersøgelser
ISBN (Print): 87-88047-91-1
Original language: Danish

Series: DFU-rapport
Number: 80-00
Main Research Area: Technical/natural sciences
Electronic versions:
80-00_laks_og_havørreds_gydevandring_i_gudenåen.pdf

Links:
http://www.difres.dk/dk/publication/files/22122003$80-00%20Laks%20og%20havørreds.pdf
Source: orbit
Source-ID: 224660
Publication: Research › Report – Annual report year: 2000
Prespawning migratory behaviour and spawning success of sea-ranched Atlantic salmon, Salmo salar L., in the River Gudenaa, Denmark

The migratory behaviour of sea-ranched Atlantic salmon, Salmo salar L., was analysed by radio-telemetry in the River Gudenaa, Denmark. The main objectives were to: (1) estimate mortality of returning adults through the fjord; (2) observe rate of progression and migratory pattern in the fjord and river; and (3) record whether spawning occurs in the river. Forty-two returning salmon (19 males and 23 females of total body length from 60-97 cm) reared and released as smolts, were caught and equipped with external radio transmitters in the outer estuary of the River Gudenaa in 1994 and 1995. Of the tagged salmon, 18 (43%) were caught in the estuary, four (10%) were not recorded after release and 20 (47%) entered the river. The mean rate of progression through the fjord was 7.6 km d⁻¹ (range 1.4-18.2) in 1994 and 5.4 km d⁻¹ (range 1.6-17.1) in 1995. Eleven salmon were alive at the onset of the spawning period. Eight were retrieved dead from the river during or after the spawning period; four with empty gonads assumed to be successful spawners, and four with intact gonads. In 1994, unsuccessful spawners (found dead with intact gonads) entered the river earlier and had a longer total migration distance in the river compared to successful spawners. This suggests that spawning success of sea-ranched salmon is associated with time of river entry and river migration length.
A comparison of the growth of radio-tagged and dye-marked pike

Radio-tagged and dye-marked adult pike Esox lucius L were recaptured in a reservoir 1 year after tagging. There was no significant difference in length or weight growth rate between the two groups of fish and no change in their condition factor. (C) 1999 The Fisheries Society of the British Isles

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Jepsen, N. (Intern), Aarestrup, K. (Intern)
Pages: 880-883
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Fish Biology
Volume: 55
Issue number: 4
ISSN (Print): 0022-1112
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.57 SJR 0.741 SNIP 0.882
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.951 SNIP 0.935 CiteScore 1.64
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.944 SNIP 0.934 CiteScore 1.76
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.049 SNIP 1.118 CiteScore 1.98
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
Behaviour of lake piscivores and their predation on migrating smolts

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Number of pages: 146
Publication date: 1999

Publication information
Publisher: Aalborg University and Danish Institute for Fisheries Research
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 226009
Publication: Research - peer-review › Journal article – Annual report year: 1999
Movements of two strains of radio tagged Atlantic salmon, Salmo salar L., smolts through a reservoir
Smolt migration through a shallow and turbid hydro-reservoir in a major Danish river system was investigated using radiotelemetry. Hatchery-reared 1+-year-old Atlantic salmon, Salmo salar L., smolts of equal size from two different non-native strains were radio-tagged and followed during their downstream migration through the 12-km-long reservoir. A total of 50 salmon smolts, 25 of Swedish (Atran River) and 25 of Irish (Burrishoole River) origin, were surgically implanted with miniature radiotransmitters. The tagged smolts were tracked daily over a 3-week period in May 1996. The Atran smolts initiated migration first (P <0.001), moved faster (P <0.01), were delayed less when passing a culvert (P <0.001) and were more successful in moving through the reservoir than the Burrishoole smolts. The observed differences in migratory behaviour are interpreted as evidence of a genetic component influencing smolt migration.
Sandartens adfærd

General information
State: Published
Organisations: National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 32-33
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Sportsfiskeren
Volume: 74
Issue number: 5
ISSN (Print): 0038-8211
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
The movements of pikeperch in a shallow reservoir

The movements of 12 female (62-74 cm) and eight male pikeperch (55-64 cm) radiotagged in early March 1997 in the shallow and turbid Bygholm Reservoir, peaked during the summer, but all fish were also active during the winter. Females moved more than males and their activity was correlated with water temperature. Rate of movement was correlated positively with body size for both male and female pikeperch. During the breeding season (April-May) males became stationary for 14-47 days. Spawning sites, inferred from movements of males, were at depths of 2.0-2.5 m on hard substrata, mainly gravel in areas with many submerged trees and shrubs. Males tended to use the same spawning site the next year. Diel activity pattern varied seasonally but activity was highest from 1800 to 2400 hours. (C) 1999 The Fisheries Society of the British Isles.

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern), Koed, A. (Intern), Økland, F. (Ekstern)
Pages: 1083-1093
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Fish Biology
Volume: 54
Issue number: 5
ISSN (Print): 0022-1112
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.57 SJR 0.741 SNIP 0.882
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.951 SNIP 0.935 CiteScore 1.64
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.944 SNIP 0.934 CiteScore 1.76
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.049 SNIP 1.118 CiteScore 1.98
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.93 SNIP 1.035 CiteScore 1.88
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.895 SNIP 0.946 CiteScore 1.66
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.774 SNIP 0.834
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Spawning migration of sea trout (Salmo trutta (L)) in a Danish river

From September to November in 1995 a total of 49 mature sea trout were caught and radio tagged in the estuary (Randers fjord) or at the river mouth of the River Gudena in Eastern Jutland. The tagged trout were between 2 and 6 yr old with total body length of 56-85 cm. Twenty-five of the tagged trout ascended the river. They were tracked every third day, for up to six months, until death or descent. Great variation was found in migration pattern and duration of river residence. Some fish spawned and left the river, some died after spawning, while others died unspent. The sea trout preferred to stay on the southern side of the main river, and Males spent significantly more time of the freshwater stay in spawning tributaries than females. Most of the trout ascended the main spawning tributary, the River Lillea, where none passed a weir, 2 km upstream the confluence, despite the presence of a fish ladder.

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Aarestrup, K. (Intern), Jepsen, N. (Intern)
Pages: 275-281
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Hydrobiologia
Volume: 371-372
ISSN (Print): 0018-8158
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Survival of radio-tagged Atlantic salmon (Salmo salar L.) and trout (Salmo trutta L.) smolts passing a reservoir during seaward migration

High mortality-rates of seaward migrating salmonid smelts when passing reservoirs and lakes have earlier been found in the Danish River Gudena watershed. To reveal the causes of mortality of migrating smelts in Lake Tange, a 12 km long, shallow reservoir, 50 salmon smelts and 24 trout smelts were tagged with internal miniature radio-transmitters, and released in the river just upstream the reservoir on May 1, 1996. The salmon smelts were hatchery-reared, while the trout smelts were wild fish, caught in a smelt trap. The tagged smelts were tracked daily for 3 weeks, and when possible the cause of death was determined. During the 3-week period, 90% of the tagged smelts died. The main cause of death for both trout and salmon was predation from fish and birds. The most important predator was pike (Esox lucius L.), being responsible for 56% of the observed mortality. Avian predators were assumed to be responsible for 31% of the observed mortality. No trout smelts left the reservoir, but 5 salmon-smelts got out through the turbines. Others did traverse the reservoir, but were unable to enter the river downstream, and were later eaten. The present results suggest that mortalities for migrating smolts through Lake Tange are of such a magnitude, that stocking of juveniles in the river upstream is futile, and further, that the establishment of a natural population of salmon or sea-trout in river Gudena, upstream Tange, is unrealistic under present conditions.

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources, Institute Management
Authors: Jepsen, N. (Intern), Aarestrup, K. (Intern), Økland, F. (Ekstern), Rasmussen, G. (Intern)
Pages: 347-353
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Hydrobiologia
Volume: 371-372
Issue number: 0
Telemetri som metode i fiskeundersøgelser

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources
Authors: Jepsen, N. (Intern)
Pages: 48-51
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisk & hav
Volume: 48
ISSN (Print): 0105-9211
Ratings:

BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.16
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.22
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 2.02
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 2.13
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 1.98
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
BFI (2008): BFI-level 1
Web of Science (2008): Indexed yes
Web of Science (2007): Indexed yes
Web of Science (2003): Indexed yes
Web of Science (2002): Indexed yes
Web of Science (2001): Indexed yes
Original language: English
Source: orbit
Source-ID: 226027
Publication: Research - peer-review › Journal article – Annual report year: 1998
Smoltdødeligheder i Tange sø, undersøgt i foråret 1996

General information
State: Published
Organisations: Section for Freshwater Fisheries Ecology, National Institute of Aquatic Resources, Institute Management
Authors: Jepsen, N. (Intern), Aarestrup, K. (Intern), Rasmussen, G. (Intern)
Number of pages: 30
Publication date: 1997

Publication information
Place of publication: Silkeborg
Publisher: Danmarks Fiskeriundersøgelser
ISBN (Print): 87-88047-16-4
Original language: Danish
Series: DFU-rapport
Number: 32-97
Main Research Area: Technical/natural sciences
Electronic versions:
32_97_smoltd_deligheder_i_tange_s_.pdf
Source: orbit
Source-ID: 226025
Publication: Research › Report – Annual report year: 1997

Mortality of sea trout (Salmo trutta L.) and Atlantic salmon (S. salar L.) smolts during seaward migration through rivers and lakes in Denmark

General information
State: Published
Organisations: Institute Management, National Institute of Aquatic Resources, Section for Freshwater Fisheries Ecology
Authors: Rasmussen, G. (Intern), Aarestrup, K. (Intern), Jepsen, N. (Intern)
Publication date: 1996
Main Research Area: Technical/natural sciences

Publication information
Journal: ICES CM 1996/
Volume: M:9
Original language: English
Source: orbit
Source-ID: 227194
Publication: Research › Conference article – Annual report year: 1996

Projects:

Ecology of Atlantic Salmon
National Institute of Aquatic Resources
Period: 01/08/2017 → 31/07/2020
Number of participants: 4
Phd Student:
Flávio, Hugo de Moura (Intern)
Supervisor:
Jepsen, Niels (Intern)
Koed, Anders (Intern)
Main Supervisor:
Aarestrup, Kim (Intern)

Financing sources
Source: Internal funding (public)
Name of research programme: Samfinansieret - Andet
Project: PhD

Investigating the effects of barriers on fish in European streams and rivers
National Institute of Aquatic Resources
Period: 15/12/2016 → 14/12/2019
Number of participants: 4
Phd Student:
Birnie-Gauvin, Kim (Ekstern)
Supervisor:
Jepsen, Niels (Intern)
Koed, Anders (Intern)
Main Supervisor:
Aarestrup, Kim (Intern)

Financing sources
Source: Internal funding (public)
Name of research programme: Anden EU-finansiering
Project: PhD

Investigating the effects of barriers on fish in European streams and rivers
National Institute of Aquatic Resources
Period: 15/12/2016 → 14/12/2019
Number of participants: 4
Phd Student:
Birnie-Gauvin, Kim (Intern)
Supervisor:
Jepsen, Niels (Intern)
Koed, Anders (Intern)
Main Supervisor:
Aarestrup, Kim (Intern)

Financing sources
Source: Internal funding (public)
Name of research programme: Anden EU-finansiering
Project: PhD

Forbedring af forvaltningsgrundlaget for bestande i det rekreative fiskeri (39370)
National Institute of Aquatic Resources
Section for Monitoring and Data
Section for Ecosystem based Marine Management
Section for Freshwater Fisheries Ecology
Institute Management
Period: 14/07/2016 → 14/07/2018
Number of participants: 16
Acronym: REKREA
Project participant:
Olesen, Hans Jakob (Intern)
Storr-Paulsen, Marie (Intern)
Støttrup, Josianne Gatt (Intern)
Skov, Christian (Intern)
Much of the science-based management of fish and fisheries are based on results from various electronic tagging methods be it radio-, acoustic-, Data Storage- or PIT tags. This project aims to investigate and document possible effects of commonly used tagging methods and improve these methods to ensure that results from tagging studies are representative and unbiased. Hand in hand with this goes animal welfare issues, where we try to reduce the impact on each fish as well as refine the methods used for capture, handling and tagging, according to the 3R’s. In field-based research post-treatment evaluations are difficult and thus rare, however needed. Within this project we will focus on evaluation of sub-lethal effects of surgical implantation, identify size thresholds for PIT-tagging small fish and testing new suture materials.

The project is coordinated by DTU Aqua.

The project is funded by Danish Rod and Net Fishing License Funds.

National Institute of Aquatic Resources
Section for Freshwater Fisheries Ecology
Period: 01/01/2014 → 31/12/2016
Number of participants: 2
Research area: Freshwater Fisheries and Ecology
Project participant:
Skov, Christian (Intern)
Project Manager, academic:
Jepsen, Niels (Intern)

Fish index for streams (39024)
One of the (many) Danish shortcomings in fulfillment of the WFD requirements is the lack of a fish-based assessment method for rivers. DTU Aqua and Danish Centre for Environment and Energy (Aarhus University) was asked by the Danish Nature Agency to make basic analyses to enable the development of a national fish index to be used to produce the WFD required water plans. The challenge was to find a method to evaluate the ecological quality of small streams with only very few fish species. Using the extensive DTU Aqua database, a single-metric system was developed and tested. The results showed that the density of 0+ trout and salmon is a well-suited indicator that reflects water quality, physical modifications and connectivity. The method has now been implemented in the legislation and is used in the national water plans alongside the intercalibrated Lithuanian index LZI that is used in larger streams/rivers.

The project was coordinated by the Danish Nature Agency.

The project was funded by the Danish Nature Agency.

National Institute of Aquatic Resources
Section for Freshwater Fisheries Ecology
Danish Nature Agency
Aarhus University
Period: 01/11/2012 → 01/04/2013
Number of participants: 3
Research area: Freshwater Fisheries and Ecology  
Project participant:  
Pedersen, Stig (Intern)  
Nielsen, Jan (Intern)  
Project Manager, academic:  
Jepsen, Niels (Intern)  

Population dynamics of stocked eel in a river system (38261)  
The objectives are to evaluate the effect of stocking eel in a river system, and examine how anthropogenic factors such as weirs, trout farms and ponds in a river system may delay or hinder the downstream migration of silver eel.  
A few studies have previously been performed to assess the biological value of stocking elvers in small to medium size streams. The studies however showed, that the eels either suffer high mortality or disperse to downstream sections of the streams where monitoring by electro fishing is not possible. Thus, only limited information on the fate of the stocked elvers is available. This project seeks to alleviate this shortcoming.  
No, or only very little, natural recruitment occurs to the upper part of River Gudenå. Therefore, the area is excellent for eel stocking experiments, and all migrating fish can be monitored in a downstream fish trap.  
During 1987, 1988 and 1992 the area was stocked with 1.6 million elvers. In 2001 and 2002 coded wire tagged eels of size 3.5 gram and 10 gram were stocked. The size and age composition of the silver eel run at Vestbirk fish trap suggest that most males from these stockings have by now, left the feeding areas during the spawning runs, whereas older females are immigrating in these years. All eel passing the trap are being recorded and measured. The population parameters; growth rate, numbers, sex and age at silvering are used to describe the yield of the stockings.  
Silver eels leaving the upper reaches of the River Gudenå have to pass several weirs and lakes when migrating towards the sea. How these obstructions influence the migration is largely unknown, but a delay and possibly a higher mortality may be expected. Migrating silver eels are equipped with telemetric tags (PIT) and the progression rate of downstream migrants will be recorded by automatic listening stations and manual tracking.  
National Institute of Aquatic Resources  
Section for Freshwater Fisheries Ecology  
Period: 01/01/2011 → 31/12/2013  
Number of participants: 4  
Research area: Freshwater Fisheries and Ecology  
Project participant:  
Mikkelsen, Jørgen Skole (Intern)  
Pedersen, Michael Ingemann (Intern)  
Aarestrup, Kim (Intern)  

Predation from birds and mammals and the significance for populations of freshwater fish (38829)  
It is a well-known fact that predation can be a keyfactor for many fish populations and in some areas predation may even be the most important regulating factor for fish stocks of major recreational importance. Several species of predators were earlier persecuted, but are now protected and have experienced high population growths recently. This includes species like: cormorant, grey heron, seals and otter. Thus, the protection of these species has been a conservation success, but has also caused severe conflicts between various user-groups. To handle and mitigate these conflicts, scientific documentation is severely needed.  
During a long period, DTU Aqua has carried out anumber of projects that directly or as side-results have assessed the magnitude of predation and its impact on various fish stocks. This has provided some insight in when, where and by whom the important recreational fish species are being eaten. This project gathered and synthesized this knowledge to provide an overview of the significance of predation.  
Outputs:  
- Synthesis and analyses of existing knowledge/results.  
- Method evaluation for scanning for PIT tags in cormorant/heron colonies.  
- Investigations of possible causes for the recent drastic decline in grayling (Thymallus thymallus) populations.  
The project was funded by the Danish Rod and Net Fishing License Funds.
Silver eel biomass and non-fishing mortality (38845)

The EU-plan for restoring the European eel population, requires for each MS to issue a national Management Plan and report status of the eel population to the EU Commission in 2012 (and 2015, 2018). Among other things, the report must include estimates of the total production of silver eels (from freshwater), the magnitude of non-fisheries mortality and the reduction of this due to management measures.

This project aimed at providing solid estimates of mortality and biomass. This was be done by trapping silver eels in a number of representative river-systems and extrapolate the results to a national level. The mortality in association with hydropower passage has already been measured (and published), but the mortality of silver eels migrating pass fish farms (with weirs) was measured using radio-telemetry. Sixty migrating silver eels will be radio tagged (surgical implants) and followed on their way downstream in the river Kongeå, where they had to pass 3 fish farms to reach the sea. The results revealed massive loss and delay of silver eels at fish farms.

This project was coordinated by DTU Aqua.

The project was funded by the Danish Ministry of Food, Agriculture and Fisheries.
Period: 01/01/2011 → 31/12/2016  
Number of participants: 4  
Research area: Freshwater Fisheries and Ecology  

Project participant:  
Mikkelsen, Jørgen Skole (Intern)  
Project Manager, academic:  
Jepsen, Niels (Intern)  
Pedersen, Michael Ingemann (Intern)  
Aarestrup, Kim (Intern)  

Marine Survival of Sea Trout  
National Institute of Aquatic Resources  
Period: 15/12/2010 → 27/08/2014  
Number of participants: 6  
Phd Student:  
Del Villar, Diego (Intern)  
Supervisor:  
Koed, Anders (Intern)  
Main Supervisor:  
Aarestrup, Kim (Intern)  
Examiner:  
Jepsen, Niels (Intern)  
Höjesjö, Johan (Ekstern)  
Lucas, Martyn (Ekstern)  

Financing sources  
Source: Internal funding (public)  
Name of research programme: Institut, samfinansiering  
Project: PhD  

Fehmarn Belt science provision project: Fehmarn Belt fish and fisheries and related environmental investigations (38669)  

Objectives and Background  
The purpose of the project was to investigate main exploited fish stock and fisheries dynamics in relation to the marine environment with focus on the Fehmarn Belt area in the Western Baltic Sea, and to provide science and research based investigations and results, as well as reports and scientific peer reviewed journal papers on this. The work was associated to the scientific baseline investigations (2009-13) and impact assessment of the projection of the Fehmarn Belt Fixed Link between Denmark and Germany involving a science cooperation between DTU Aqua, Thünen-Institute and Femern Bælt A/S in order to generate knowledge on potential impacts of establishment of the fixed link. Focus was on the most important commercial fisheries and fish stocks in the area (cod, herring, and sprat, but also flatfish and eels).  

Tasks and Deliverables  
The work covered WP0: Prospecting, planning and development of the investigations, producing outline and main contents of the science provision contract and coordination of tasks hereunder with DTU Aqua as international project coordinator; WP1: Review of knowledge: Review, provision of data, and analyses of selected historical data on fish stock and fisheries dynamics; WP2: Extension of existing, standard research surveys and linking to standard survey time series to detect potential effects on important fish stocks; WP3: Evaluation of potential integrated effects on important fish stocks and fish-ries; WP4: Evaluation of potential effects of change and variability in hydrographical features and conditions on recruitment for important fish stocks (cod, herring, sprat); WP5: Evaluation of occurrence and migra-tions as well as separation of spring and autumn spawning herring stock components in the area. WP1 included provision of state of the art knowledge from historical surveys and review of quality of survey indices, commercial fisheries data, and information on recruitment dynamics with emphasis on fluctuations in distribution and productivity with respect to environmental and anthropogenic drivers of change including species interactions and fisheries. WP 2 included extension of existing standard surveys in the near field area and analyses of both the standard and extended time series with respect to variability in distribution, density and abundance patterns of relevant stocks, as well as well advanced scientific survey evaluation models and methods for this. WP 3 analyzed stock and fisheries dynamics by use and development of complex multi-fleet-multi-stock bio-economic management evaluation models performing analyses on a very high spatial and temporal resolution scale using integrated fisheries, stock and survey data. The models evaluated different management options and scenarios relevant for the establishment of the fixed link. WP4 evaluated variability in recruitment and important spawning areas according to hydrographic features and in relation to impact of the fixed link among other by use and further development of complex hydro-dynamic models.
WP Sevaluated herring stock occurrence and migration patterns in the Baltic areas by use of genetic identity markers, otolith micro-structures and information from fisheries and research surveys in order to evaluate impact of the fixed link. The project has besides a long row of project reports produced around 30 scientific peer reviewed journal papers where DTU Aqua are first author on more than half and co-author on more than 20 of the papers. The project was coordinated by DTU Aqua. The project was funded by the 3 partners with external Funding from Femern Bælt A/S.

National Institute of Aquatic Resources
Section for Ecosystem based Marine Management
Johann Heinrich von Thünen-Institute
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Evaluation of the National Salmon Management Plan (38257)
A National Management Plan (MP) for the (endangered) remaining Danish populations of Atlantic salmon was issued in 2004. The plan includes stocking, fishing regulations and massive habitat/connectivity improvements, but no monitoring plan to evaluate the effect and assess the current status of the populations/runs in the 4 rivers covered by the MP.

This project will seek to close the information gap and provide basic information on the salmon runs to enable proper management decisions. Every year monitoring will be carried out in one or two of the 4 rivers covered by the MP, so each river will be surveyed every 2 or 3 years.

Number of spawners
Intensive electrofishing from boat is carried out just after the season closure (October) in the main river and in some tributaries, where all salmon are measured (TL, sex) and PIT tagged. In November during the regular electrofishing for broodstock, the proportion of tagged individuals gives a measure of the sampling efficiency and provides basis for an estimation of population size. The composition in terms of size, sex and origin (stocked fish are fin-clipped) can also be estimated.

Spawning areas
In each of the 4 rivers the most important/preferred spawning areas were identified using radiotelemetry. Both present and potential spawning and rearing habitat will be assessed by standard monitoring and electro-fishing for juveniles in order to judge the present production in relation to the potential production. Naturally spawned fry will be genetically analyzed to assess the number of families present on each spawning area (redd). The presence of several families indicate a well-functioning and well-visited spawning area, whereas few or single families indicate lack of spawners. Annual reports from the project are used for adaptive management measures like quota setting, season and stocking.

The project is coordinated by DTU Aqua. This is funded by the Danish Rod and Net Fishing Licence Funds.
Population dynamics of eel (38260)
The project has 3 main goals:

1) Evaluation of the feasibility of eel stocking
In compliance with the National eel MP, 1.3 million pre-fed eel are stocked annually in lakes and rivers. In coastal areas 0.2 million are stocked. Very little is known about the feasibility of these stockings. Due to the long life cycle of eels, both short and long term experiments are carried out.
*Short-term:* Wild and cultured (pre-fed) eels of similar size (2-5 gram) are stocked in a number of large open ponds (old trout farm) and their growth and survival is recorded during their first year. Similar experiments are performed with wild glass eels stocked in different densities in the ponds.
*Long-term:* Small CW-tagged eel were stocked in the river Gudenåen in 2001, 2002 and 2011. The return from these stockings in the form of migrating silver eels are monitored by scanning eel caught in a trap (at a hydropower station), operating every autumn from 2006-2013. Furthermore the silver eels caught in the trap are PIT tagged and recorded when reaching the lowest obstacle in the river (Tange HPS).
In Ribe Å, in Vester Vandetlake and in Karrebaek estuary CW-tagged eel were stocked in 2011 and 2012. The monitoring of catches for tagged eel started in 2015 and will continue for several years to get an estimate of how much the stocked eel contribute to the fisheries and how the ratio wild/stocked is, giving an indication of the natural recruitment.

2) Monitoring of recruitment/elvers
The recruitment of eel has been continually declining since early 80’s and is now at a historical low. Monitoring of the number of elvers/glass eels arriving every year is therefore very important for the whole of EU. In DK we have two stations, where upstream migrating elvers are caught and recorded on a daily basis. Both stations are on the Danish East Coast. On the West coast the immigration is monitored by electric fishing/sampling in small streams in early summer.

3) Monitoring of the prevalence of the swim bladder parasite *Anguillicola* in Danish eels
The swim bladder worm *Anguillicola crassus* was introduced to Europe from the far east in the beginning of the 1980’s. The parasites are thought to be one of the causes of the decline of the European eel population. Therefore the colonisation of *Anguillicola* in Denmark has been monitored in fresh and marine water bodies to assess the abundance of parasites and the general health of parasitized eels. The geographical distribution and the stability of the parasite abundance are of international interest due to the decline of the eel stock, but also because large effort is done to secure that the 1.5 million annually stocked eel are free of parasites.
This project is coordinated by DTU Aqua.
This project is funded by the Danish Rod and Net Fishing Licence Funds.
Monitoring of glass eel recruitment to Danish inland waters (38263)
The objectives are to collect data on the glass eel recruitment from the ocean to Danish inland waters, to be used in national and international advice on fisheries and stocks.

A decline in recruitment of glass eel to the Danish coast and elsewhere in Europe has been persistent through several decades. The yield in fisheries has also declined and the stock is considered by ICES to be outside safe biological limits. Several hypotheses have been proposed for the decline, but no unambiguous cause has been identified. Monitoring of the stock is traditionally a national task, though coordinated international monitoring is needed, especially to evaluate if any change in management have the intended effect on the size of recruitment.

In Denmark the monitoring is currently taking place at two hydropower stations where ascending eels are monitored in bypass traps, where personnel at the hydropower stations are doing the daily monitoring. The distance from the ocean to the hydropower dams are 5 and 35 km and the ascending eels do not directly reflect the annual size of the glass eel recruitment, but consist of several age groups (0-5 years).

Glass eels recruitment directly from the ocean is also quantified by electro fishing in four small brooks on the west coast of Denmark. Sections of each brook are electro fished three times a year allowing for calculation of numbers and fluctuations in the recruitment to the brooks. The monitoring data are used in the ICES stock assessment group on eel WGEEL.

National Institute of Aquatic Resources
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Period: 01/01/1967 → 31/12/2013
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Project