

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

DR BRUCE ELLENDER: CURRICULUM VITAE

RESEARCH CAREER

2017: Undertaking a situational analysis of the Kafue Flats fishery, Kafue River, Zambia, for Aquatic Ecosystem Services, in collaboration with the WWF-Zambia and the Department of Fisheries.

2016: Ecological Advisor, Remote Africa Safaris, South Luangwa National Park, Zambia.

2014-2015: Post-doctoral fellowship (National Research Foundation of South Africa Innovations scholarship) at the South African Institute for Aquatic Biodiversity.

The post-doc focussed on monitoring, evaluation and quantification of the invasive impacts of non-native fishes on native biota in a variety of aquatic habitats throughout South Africa. **During this period 10 papers were published in peer-reviewed scientific journals and an additional five are in the preparations stages (see publication list for details).**

2010-2013: **Doctor of Philosophy** Ichthyology and Fisheries Science: Rhodes University, 2010-2013

- Ecological consequences of non-native fish invasions in Eastern Cape headwater streams.
- **This research resulted in 10 publications in peer-reviewed scientific journals (see publication list for details)**

2007-2009: **Masters of Science (With Distinction)** Ichthyology and Fisheries Science: Rhodes University.

- (The impact of angling on smallmouth and largemouth yellowfish, *Labeobarbus aeneus* and *Labeobarbus kimberleyensis* in Lake Gariep, South Africa).

I was awarded a bronze medal by the *Southern African Society of Aquatic Scientists* for my MSc dissertation which was obtained with distinction. The bronze medal is awarded irregularly in recognition of the exceptionally high standard of a specific piece of work by a junior scientist.

This research resulted in nine publications in peer-reviewed scientific journals(see publication list for details)

2006: **Bachelor of Science (Honours)**: Ichthyology and Fisheries Science: Rhodes University.

- Temporal and spatial distribution of *Oreochromis mossambicus* in the intermittently open East Kleinemonde estuary, RSA, 2006.

2003-2005: **Bachelor of Science**: (Majored in Zoology & Botany): Nelson Mandela Metropolitan University, 2003-2005

Golden Key Society membership invitation (Golden Key is an academic honour society that recognizes academic excellence).

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

2002: **University of Port Elizabeth Science Advancement Program (UPEAP):** Nelson Mandela Metropolitan University, 2002.

Secondary education: National Senior Certificate, (Matric/Grade 12), 2000, St. Andrews School Bloemfontein (Headboy).

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

PEER-REVIEWED PUBLICATIONS

1. Marr, S.M., **Ellender, B.R.**, Woodford, D.J., Alexander, M.E., Wasserman, R.J., Ivey, P., Zengeya, T. & Weyl, O.L.F. (2017). Evaluating invasion risk for freshwater fishes in South Africa', *Bothalia* 47(2), a2177. <https://doi.org/10.4102/abc.v47i2.2177>.
2. **Ellender, B.R.**, Wasserman, R.J., Chakona, A., Skelton, P.H. and Weyl, O.L.F. (2017). A review of the biology and status of Cape Fold Ecoregion freshwater fishes. *Aquatic Conservation: Marine and Freshwater Ecosystems*. DOI: 10.1002/aqc.2730.
3. Dick, J.T., Laverty, C., Lennon, J.J., Barrios-O'Neill, D., Mensink, P.J., Britton, J.R., Medoc, V., Boets, P., Alexander, M.E., Taylor, N.G. and Dunn, A.M., Hatcher, M.J., Rosewarne, P.J., Crookes, S., MacIsaac, H.J., Xu, M., Ricciardi, A., Wasserman, R.J., **Ellender, B.R.** et al. (2017). Invader Relative Impact Potential: a new metric to understand and predict the ecological impacts of existing, emerging and future invasive alien species. *Journal of Applied Ecology*. DOI: 10.1111/1365-2664.12849.
4. Bennett, R.H., **Ellender, B.R.**, Mäkinen, T., Miya, T., Patrick, P., Wasserman, R.J., Woodford, D.J. and Weyl, O.L.F. (2016). Ethical considerations for field research on fishes. *Koedoe*, 58(1), pp.15-pages.
5. **Ellender, B.R.**, Rivers-Moore, N.A., Coppinger, C.R., Bellingan, T.A., Weyl, O.L.F. (2016). Towards using thermal stress thresholds to predict salmonid invasion potential. *Biological Invasions* DOI: 10.1007/s10530-016-1244-9.
6. **Ellender, B.R.**, Wasserman, R.J., Ndalen, P.M., Mofu, L., WU, Y., Weyl, O.L.F. (2016) Reporting by-catch and mortalities in targeted biological field surveys on fishes. *Aquatic Conservation: Marine and Freshwater Ecosystems*. DOI: 10.1002/aqc.2613
7. Jackson, M.C., Woodford, D.J., Bellingan, T.A., Weyl, O.L., Potgieter, M.J., Rivers-Moore, N.A., **Ellender, B.R.**, Fourie, H.E. and Chimimba, C.T. (2016). Trophic overlap between fish and riparian spiders: potential impacts of an invasive fish on terrestrial consumers. *Ecology and Evolution*, 6(6), pp.1745-1752.
8. Wasserman, R.J., Dalu, T., Alexander, M.H., **Ellender, B.R.**, Kaiser, H., Weyl, O.L.F. 2016. Using functional responses to quantify interaction effects among predators. *Functional Ecology*. DOI: 10.1111/1365-2435.12682.
9. Weyl, O.L.F., Daga, V., **Ellender, B.R.**, Vitule, J.R.S. (2016) A review of *Clarias gariepinus* invasions in Brazil and South Africa. *Journal of Fish Biology*. DOI: 10.1111/jfb.12958
10. **Ellender, B.R.**, Winker, H., Weyl, O.L.F. (2016) Success of a large riverine cyprinid smallmouth yellowfish *Labeobarbus aeneus* in a southern African impoundment. *Fisheries Management and Ecology*. 23, 44–54.
11. Weyl, O.L.F., **Ellender, B.R.**, Wasserman, R.J., Woodford, D.J. (2015) Unintended consequences of using invasive alien fish for human benefit in Protected Areas. *Koedoe*. 57(1), Art. #1264.

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

12. **Ellender, B.R.**, Weyl, O.L.F. (2015) Resilience of imperilled headwater stream fish to an unpredictable high-magnitude flood. *Koedoe* 57(1), Art. #1258.
13. **Ellender, B.R.**, Woodford, D.J., Weyl, O.L.F. (2015) The invasibility of small headwater streams by an emerging invader, *Clarias gariepinus*. *Biological Invasions* **17**:57–61.
14. **Ellender, B.R.**, Woodford, D.J., Weyl, O.L.F., Cowx, I.G. (2014) Managing conflicts arising from fisheries enhancements based on non-native fishes in southern Africa. *Journal of Fish Biology* **85**, 1890–1906.
15. **Ellender, B.R.**, Weyl, O.L.F. (2014) A review of current knowledge, risk and impacts associated with non-native freshwater fish introductions in South Africa. *Aquatic Invasions* **9** (2): 117-132.
16. Weyl, O.L.F., **Ellender, B.R.**, Woodford, D.J., Jordaan, M. (2013) Fish distributions and efficacy of rotenone treatment in removing alien fishes in an invaded river in the Cape Floristic Region, South Africa. *African Journal of Aquatic Science* **38**: 201–209.
17. **Ellender, B.R.**, Becker A., Weyl, O.L.F., Swartz, E.R. (2012) Underwater video analysis as a non-destructive alternative to electrofishing for sampling imperilled headwater stream fishes. *Aquatic Conservation: Marine and Freshwater Ecosystems* **22**: 58-65.
18. **Ellender, B.R.**, Weyl, O.L.F., Winker, H. (2012) Age and growth and maturity of southern Africa's largest cyprinid fish, the largemouth yellowfish *Labeobarbus kimberleyensis*. *Journal of Fish Biology* **81**: 1271-1284.
19. **Ellender, B.R.**, Taylor, G.C., Weyl, O.L.F. (2012) Validation of growth zone deposition rate in otoliths and scales of flathead mullet *Mugil cephalus* and freshwater mullet *Myxus capensis* from known age fish. *African Journal of Marine Science* **34**(3): 455-458.
20. McCafferty, J.R., **Ellender, B.R.**, Weyl, O.L.F., Britz, P. (2012) Literature review on the use of water resources for inland fisheries in South Africa. *Water SA*, **38** (2).
21. Winker, H., Weyl., O.L.F., Booth, A.J., **Ellender, B.R.** (2012) Life history strategy and population characteristics of an unexploited riverine cyprinid, *Labeo capensis*, in the largest impoundment in the Orange River Basin. *African Zoology* **47**: 85-99.
22. Winker, H., Weyl., O.L.F., Booth, A.J. **Ellender, B.R.** (2011) Life history and population dynamics of invasive common carp, *Cyprinus carpio*, within a large turbid African impoundment. *Marine and Freshwater Research*, **62**: 1–11.
23. **Ellender, B.R.**, Weyl, O.L.F., Swartz, E.R. (2011) Invasion of a headwater stream by non-native fishes in the Swartkops River system, South Africa. *African Zoology* **46**: 39-46.
24. **Ellender, B.R.**, Weyl., O.L.F., Winker, H., Booth, A.J. (2010) Quantifying annual harvests from South Africa's largest impoundment. *Water SA* **36** (1): 45-52.
25. **Ellender, B.R.**, Weyl, O.L.F., Winker, H., Steltzhammer, H., Traas, G.R.L. (2010) Estimating angling effort and participation in a multi-user inland fishery. *Fisheries Management and Ecology* **17**: 19-27.

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

26. Winker, H., **Ellender, B.R.**, Weyl, O.L.F., Booth, A.J. (2010) Validation of growth zone deposition in otoliths of two large endemic cyprinids in Lake Gariep, South Africa. *African Zoology* **45**(1): 133–138.
27. Winker, H., **Ellender, B.R.**, Weyl., O.L.F., Booth, A.J. (2010) Validating and corroborating the deposition of two annual growth zones in astericus otoliths of common carp *Cyprinus carpio* L. from South Africa's largest impoundment. *Journal of Fish Biology* **77**, 2210-2228.
28. **Ellender, B.R.**, Weyl, O.L.F., Winker, H. (2009) Who uses the fishery resources in South Africa's largest impoundment? Characterising subsistence and recreational fishing sectors on Lake Gariep. *Water SA* **35** (5): 677-682.
29. **Ellender, B.R.**, Weyl, O.L.F., Shanyengange, M.K., Cowley, P.D. (2008) Juvenile population dynamics of *Oreochromis mossambicus* in an intermittently open estuary at the limit of its natural distribution. *African Zoology* **43**: 277–283.

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

SCIENTIFIC REPORTS

1. Kimberg, P.K., Woodford D.J., Weyl O.L.F., Hui, C., Richardson, D.M., Msezane, T.P., van der Walt, K.A., Swartz E.R., Chimimba, C.T., Zengeya, T., **Ellender, B.R.** (2014) Understanding the unintended spread and impact of alien and invasive fish species – development of management guidelines for South African inland waters WRC Report No: 2039/1/14.
2. Woodford D.J., Weyl O.L.F., Cunningham M., Bellingan T., de Moor F.C., Barber-James H., Day J.A., **Ellender B.R.**, Richardson N.K. (2012) Monitoring the Impact and Recovery of the Biota of the Rondegat River after the Removal of Alien Fishes WRC Report No: KV 304/12.
3. de Villiers, P., **Ellender, B.** (2007a) Status of the Orange-Vaal largemouth yellowfish, *Labeobarbus kimberleyensis* (Gilchrist & Thompson, 1913). In: Technical report on the state of yellowfishes in South Africa WRC Report No. KV 212/08, 2008, 198p.
4. de Villiers, P., **Ellender, B.** (2007b) Status of the Orange-Vaal smallmouth yellowfish *Labeobarbus aeneus* (Burchell, 1822). In: Technical report on the state of yellowfishes in South Africa WRC Report No. KV 212/08, 2008 198p.

CONFERENCE PAPERS AND PUBLIC PRESENTATIONS

1. **Ellender, B.R.**, Coppinger, C.R., Weyl, O.L.F. (2015) Spatio-temporal population dynamics on non-native fishes invasion fronts and their impacts on native fish communities. Zoological Society of Southern Africa, Grahamstown.
2. Ndaleni, P.M., Wasserman, R.J., Alexander M.E., **Ellender, B.**, Weyl, O.L.F. (2015) A comparison of predatory functional responses of four non-native fish species from a South African River system. Zoological Society of Southern Africa, Grahamstown.
3. Wasserman, R.J., Alexander, M.E., Dalu, T., **Ellender, B.R.**, Kaiser, H., Weyl, O.L.F. (2015) Multiple predator effects and the cost of intra- and interspecific interference: a functional response approach. Zoological Society of Southern Africa, Grahamstown.
4. Coppinger, C.R., **Ellender, B.R.**, Tarrant, J., Corrigan, B., Armstrong, N., Weyl, O.L.F. (2015) Conservation of headwater species and habitats in the Amathole Mountains: opportunities and challenges. South African Society of Aquatic Science, Drakensberg sports resort, South Africa.
5. **Ellender, B.R.**, Woodford, D.J., Weyl, O.L.F. and Cowx, I.G. (2014) Managing conflicts arising from fisheries enhancements based on non-native fishes in southern Africa. In: Annual symposium of the Fisheries Society of the British Isles: Integrated perspectives on fish stock enhancement, Hull, United Kingdom.
6. **Ellender, B.R.**, Weyl, O.L.F., Woodford, D.J., Alexander, M.E., Luger, A.M., Nagelkerke, L.A.J. (2014) Using Multiple Lines of Evidence to Understand the Vulnerability of Headwater Stream Fishes to Non-Native Predatory Fish Impacts. In: South African Society of Aquatic Science. Black Mountain Hotel, Free State.

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

7. Weyl, O.L.F., Woodford, D.J., **Ellender, B.R.** (2014) Present Status and Future Management of Black Bass (*Micropterus* spp.) in South Africa In: South African Society of Aquatic Science. Black Mountain Hotel, Free State.
8. **Ellender, B.R.**, Weyl, O.L.F., Nagelkerke, L.A.J., Swartz, E.R. (2013) Assessing conservation priorities for endemic species with narrow distributions: the case of two imperilled South African fishes. In: Pan African Fish and Fisheries Association (PAFFA). Bujumbura, Burundi.
9. **Ellender, B.R.**, Weyl, O.L.F. (2012) Assessing the consequences of alien fish invasion to the endangered Eastern Cape redbfin in headwater streams of the Swartkops River system. In: National Research Foundation Science Week public presentations. Bayworld Conference Centre, Port Elizabeth, Eastern Cape, South Africa.
10. **Ellender, B.R.**, Weyl, O.L.F., Nagelkerke, L.A.J. (2012) Assessing the consequences of non-native fish invasion to the endangered Border barb *Barbus trevelyani* in the Keiskamma River system, Eastern Cape, South Africa. In: South African Society of Aquatic Science. Cape St Francis Resort, Eastern Cape, South Africa.
11. **Ellender, B.R.**, Weyl, O.L.F. (2012) Impact of centrarchid invasion on an endangered South African fish *Pseudobarbus afer* in headwater streams. In: International Conference on Ecology and Conservation of Freshwater Fish, Vila Nova de Cerveira, Portugal.
12. Weyl, O.L.F., Woodford, D.J., **Ellender, B.R.** (2012) Invasive alien smallmouth bass in the Rondegat Stream: Impacts, efficacy of removal and future prospects. In: South African Society of Aquatic Science. Cape St Francis Resort, Eastern Cape, South Africa.
13. **Ellender, B.R.**, Becker, A., Weyl, O.L.F., Swartz, E.R. (2011) Underwater video analysis as a non-destructive alternative to three pass electrofishing for sampling imperilled headwater stream fishes. In: South African Society of Aquatic Science. Ithala Game Reserve, KwaZulu Natal, South Africa.
14. Weyl, O.L.F., Winker, H., **Ellender, B.R.** (2011) A standardized assessment protocol for inland fisheries in South Africa. In: South African Society of Aquatic Science. Ithala Game Reserve, KwaZulu Natal, South Africa.
15. **Ellender B.R.**, Weyl O.L.F., Winker H., Booth A.J., Traas G.R.L., Steltzhammer H. (2010) Post-apartheid fishery dynamics and utilisation trends in South Africa's largest impoundment. In: South African Society of Aquatic Science. Augrabies Falls National Park, South Africa.
16. **Ellender, B.R.**, Weyl, O.L.F., Winker, H. (2009) The biology of smallmouth and largemouth yellowfish in Lake Gariep. In: Yellowfish Working Group Conference Proceedings. Sterkfontein Dam, South Africa. www.fosaf.co.za/documents/Proceedings%2009.pdf
17. Weyl, O.L.F., **Ellender, B.R.**, Winker, H., Steltzhammer, H. (2009) Likely response of smallmouth yellowfish populations to fisheries development in South African Dams – Is there cause for concern? In: Yellowfish Working Group Conference Proceedings. Sterkfontein Dam, South Africa. www.fosaf.co.za/documents/Proceedings%2009.pdf
18. Winker, H., Weyl, O.L.F, **Ellender, B.R.** and Booth, A.J. (2009) Assessing the establishment success of endemic and invasive cyprinid populations in South Africa's largest impoundment. The Southern African Society of Aquatic Scientists, Conference - "Beyond

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

rapid assessments - time for an aquatic research renaissance in South Africa" 21 – 24 June 2009, Magaliesberg Conference Centre, Broederstroom.

19. Winker, H., Weyl, O.L.F., **Ellender, B.R.** and Booth, A.J. (2009) Validation of growth zone deposition rates in four large cyprinid species in Lake Gariep, South Africa. The Southern African Society of Aquatic Scientists, Conference - "Beyond rapid assessments - time for an aquatic research renaissance in South Africa" 21 – 24 June 2009, Magaliesberg Conference Centre, Broederstroom.
20. **Ellender, B.R.**, Weyl, O.L.F., Cowley, P.D., Shanyengange, M. (2008a) Temporal and spatial distribution of *Oreochromis mossambicus* in the intermittently open East Kleinemonde estuary, South Africa. In: Southern African Marine Science Symposium (SAMSS). Cape Town, South Africa.
21. **Ellender, B.R.**, Weyl., O.L.F., Winker., H. (2008b) Post-apartheid fishery dynamics and utilisation trends in South Africa's largest impoundment. In: Pan African Fish and Fisheries Association (PAFFA). Addis Ababa, Ethiopia.
22. **Ellender, B.R.**, Weyl., O.L.F., Winker., H. (2008c) Quantifying utilisation trends in South Africa's largest impoundment - consequences for the indigenous yellowfishes. In: South African Wildlife Management Association (SAWMA). Mpekweni, South Africa.
23. Weyl, O.L.F., **Ellender, B.R.**, Traas, G.R.L., Winker, H., Steltzhammer, H., Booth, A., J. (2008a) Towards a decision-making process for deciding between conservation, social or economic goals for freshwater fish resources in two South African reserves – Oviston and the Addo Elephant National Park. In: South African Wildlife Management Association (SAWMA). Mpekweni, South Africa.
24. Weyl, O.L.F., Winker, H., **Ellender, B.R.**, Steltzhammer, H., Booth, A.J. (2008b) A decision-making tool for optimising social and economic potential from inland fisheries – a South African case study. In: Pan African Fish and Fisheries Association (PAFFA). Addis Ababa, Ethiopia.
25. Winker, H., Weyl, O.L.F., Booth, A.J., **Ellender, B.R.** (2008a) Post-impoundment trends and ecology of alien common carp in Lake Gariep. In: South African Wildlife Management Association (SAWMA). Mpekweni, South Africa.
26. Winker, H., Weyl, O.L.F., Booth, A.J., **Ellender, B.R.** (2008b) The Role of Carp in South Africa's largest impoundment. In: Pan African Fish and Fisheries Association (PAFFA). Addis Ababa, Ethiopia.

POPULAR ARTICLES/NEWSPAPER ARTICLES

1. **Ellender, B.R.** (2010/2011) Inland Fisheries – A vital rural food source. *Water Wheel* **10(6)**: 41-43.
2. Rogers, G. (2012) Protecting the other Mandela. EP Herald (12 October 2012) <http://www.peherald.com/news/article/9223>
3. **Ellender, B.R.** (2016). Between a rock and a hard place: the plight of the Border barb. 'Saving Freshwater Fishes and Habitats' - *International Union for the Conservation of Nature*

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

Freshwater Fish Specialist Group newsletter. August 2015.
<http://www.iucnffsg.org/resources/ffsg-newsletter/>

4. **Ellender, B.R.** (2016). Footing with the Coppinger family. *Remote Africa Game Viewing Diaries*. <http://www.remoteafrica.com/gameviewingdiaries/footing-with-the-coppinger-family/>
5. **Ellender, B.R.** (2016). .The essence of a Chikoko trails walking safari. *Remote Africa Game Viewing Diaries*. <http://www.remoteafrica.com/gameviewingdiaries/the-essence-of-a-chikoko-trails-walking-safari/>
6. **Ellender, B.R.** (2016). What would a safari be without hippos. *Remote Africa Game Viewing Diaries*. <http://www.remoteafrica.com/gameviewingdiaries/what-would-a-safari-be-without-hippos/>
7. **Ellender, B.R.** (2016). Nocturnal sounds of the Luangwa. *Remote Africa Game Viewing Diaries*. <http://www.remoteafrica.com/gameviewingdiaries/nocturnal-sounds-of-the-luangwa/>
8. **Ellender, B.R.** (2016) Iconic cats of the South Luangwa. *Remote Africa Game Viewing Diaries*. <http://www.remoteafrica.com/gameviewingdiaries/iconic-cats-of-the-south-luangwa/>
9. **Ellender, B.R.** (2016) Rarely seen and not heard. *Remote Africa Game Viewing Diaries*. <http://www.remoteafrica.com/gameviewingdiaries/rarely-seen-and-not-heard/>

CURRICULUM VITAE: BRUCE ROBERT ELLENDER

OTHER QUALIFICATIONS

- Competent in Microsoft Office products including statistical analyses of biological data.
- Valid code A & B drivers license.
- PADI open water and advanced diver qualifications.
- Valid category R skippers licence
- Attended scientific paper writing workshop led by Prof I.G. Cowx, University of Hull International Fisheries Institute (HIFI), Grahamstown 25 March – 27 March 2007.
- Training on freshwater fish sampling methods with emphasis on electric fishing, conducted by Prof I.G. Cowx, University of Hull International Fisheries Institute (HIFI), Grahamstown 29 March – 2 April 2007.
- Nominated as the Rhodes University student representative for the Southern African Society of Aquatic Scientists (2011/2012)

ADDITIONAL RESEARCH EXPERIENCE

- (2010-2015) Team member, Water Research Commission (WRCK8-922) Monitoring the impact and recovery of the biota of the Rondegat River after the removal of alien fishes (Project Leader Dr O.L.F. Weyl).
- (2010-2012) Team member, Water Research Commission (K5/1957/4) Baseline and scoping study on the development and sustainable utilisation of storage dams for inland fisheries and their contribution to rural livelihoods (Project Leaders, Prof P. Britz, Dr O.L.F Weyl)
- (2010-2011) Rapid assessment of the status of a Locariid catfish invasion in the Nseleni/Mhlathuze River system, Richards Bay (Project Leader Dr O.L.F. Weyl).
- (2010) Southern Angolan long term recreational angling catch and effort monitoring and fish tagging project. Project Leader: Dr Warren Potts.
- (2008) Biodiversity Survey to the Cuanza River, Angola with the South African Institute for Aquatic Biodiversity (SAIAB), Project leader: Dr E. Swartz.
- (2008) Macrobenthic and phytoplankton research trip, Algoa Bay, with the South African Environmental Observation Node (SAEON).
- (2007-2008) Field Assistant: Greater Addo Elephant National Park ichthyofauna surveys. Project Leader: Dr O.L.F Weyl.
- Active member, Perdevlei fish tagging program, Project Leader, Dr P.D. Cowley South African Institute for Aquatic Biodiversity (SAIAB).