

## Curriculum vitae

Ronald Baker

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Associate Professor, Stokes School of Marine and Environmental Sciences, University of South Alabama

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### **Education**

**PhD (2006)** James Cook University, Australia (Supervised by Dr. Marcus Sheaves).

**Honours (Marine Biology)(1997)** James Cook University, Australia (Supervised by Dr. Brett Molony & Dr. Marcus Sheaves).

**BSc. (1996)** James Cook University, Australia.

### **Career**

**Aug 2024-** Associate Professor in Marine Sciences, University of South Alabama, and Senior Marine Scientist II, Dauphin Island Sea Lab, Dauphin Island Alabama

**2018- Aug 2024** Assistant Professor in Marine Sciences, University of South Alabama, and Senior Marine Scientist I, Dauphin Island Sea Lab, Dauphin Island Alabama

**2016-2018** Senior Research Scientist, TropWATER (Centre for Tropical Water & Aquatic Ecosystem Research), James Cook University.

**2014-2018** Senior Research Scientist, Marine and Tropical Biology, James Cook University.

**2011-2015** Post-Doctoral Fellow, Tropical Landscapes Joint Venture, CSIRO/JCU, Townsville

**2010-2011** Post-Doctoral Fellow, Smithsonian Marine Station at Fort Pierce, Florida, USA

**2009-2010** Research Fellow, Coastal and Estuary Ecosystems Group, JCU, Townsville Australia

**2007-2009** NRC Post-Doctoral Associate with NOAA Fisheries Galveston Lab

**2004 – 2007** Fisheries Resource Officer, Queensland Department of Primary Industries and Fisheries, Townsville Australia

**2003** Aquatic ecology consultant, Milne Bay Estates, Milne Bay, PNG.

**2000-2001** Research Assistant, Introduced Marine Pests Port Monitoring Project, CRC Reef & Biological Sciences, JCU, Townsville Australia

**1998** Laboratory Technician, Australian Museum Business Services, Australian Museum, Sydney, Australia

**1997 – 2007** Practical Class Demonstrator for BSc. undergraduate courses, Biological Sciences, James Cook University, Townsville Australia

## Publications

See [Google Scholar Profile](#) for updated publication listing

\*denotes student author

### Refereed journal articles – in review

\*Clark A, Ellis W, Rodriguez AR, **Baker R** (in review) Dissolved oxygen may limit the suitability of salt marsh as nekton habitat. *Estuaries and Coasts*. Submitted Nov 2024.

zu Ermgassen PSE, et al. (in revision) The global fish and invertebrate abundance value of mangroves. *Communications Earth & Environment*. Submitted Jun 2024.

Preston J, Debney A, Gamble C, Hardy M, Underwood G, Garbutt A, Harley J, **Baker R**, Dunk R, Grigg M, Hancock B, Hendy I, La Marca E, Murray J, Pettorelli N, Pittman S, Robertson M, Sturrock A, Thurstan R, Unsworth R, Ward E, Ward S, Watson G, Watson S, Wedding L, Worthington T, Wright R, Yesson C, zu Ermgassen P (in revision) Seascape connectivity: evidence, knowledge gaps and implications for coastal ecosystem restoration practice and policy. *Ocean Sustainability*. Submitted May 2024.

Sheaves M, Bradley M, Abrantes K, **Baker R**, Johnston R, Nelson P, Mattone C, Barnett A (in revision) Coastal and Lowland Fish Assemblages of New Britain: a Mix of Setting Specialists and Generalists. *Marine and Freshwater Research*. Submitted Jan 2024.

### Refereed journal articles – published

65. **Baker R**, Gittman R (2025) Co-funding robust monitoring with Living Shoreline construction is critical for maximizing beneficial outcomes. *Estuaries and Coasts* 48:5.

64. zu Ermgassen PSE, DeAngelis B, Gair, JR, zu Ermgassen S, **Baker R**, Daniels A, Lee J, MacDonald TC, Meckley K, Ribera M, Grabowski JH (2025) Estimating fish and invertebrate density and production enhancement from seagrass nursery habitats along the Atlantic coast USA. *Estuaries and Coasts* 48:26.

63. Titus BM, Froehlich C, Vondriska C, **Baker R**, Caves EM (2024) Stable isotopes disentangle niche partitioning and species co-occurrence in a multi-level marine mutualism. *Oikos* e10553.

62. Sheaves M, **Baker R**, Abrantes K, Barnett A, Bradley M, Dubuc A, Mattone C, Sheaves J, Waltham N (2024) Consequences for nekton of the nature, dynamics, and ecological functioning of tidally dominated ecosystems. *Estuarine, Coastal and Shelf Science* 304:108825.

61. \*Kuck S, Grant C, \*de Barros M, Rodriguez AR, **Baker R** (2024) Nekton community responses to Living Shoreline restorations in Alabama. *Gulf and Caribbean Research* 35:SC1-SC6.

60. Bradley M, Dubuc A, Piggott CVH, Sambrook K, Depczynski M, Langlois TJ, Gagliano M, Wilson SK, Cure K, Holmes TH, Moore GI, Travers M, **Baker R**, Nagelkerken I, Sheaves M (2024) The fish-mangrove link is context dependent: tidal regime and seascape determine ecosystem service potential of tropical mangroves. *Fish and Fisheries* 25:523-541.

59. **Baker R**, \*Curry T, \*Deleon S, Bates C, Krause JW (2024) Simple bulk pigment analysis suggests microphytobenthos contributions to food webs may be underestimated due to isotopic contamination by remineralized wetland carbon. *Food Webs* e00342.
58. \*Notz A, \*Bland A, **Baker R** (2023) Is Temperature, Dissolved Oxygen, or Salinity Driving Oyster Mortality on Breakwaters? *Gulf and Caribbean Research* 34:SC24-29.
57. \*de Barros, MSF, Rodriguez AR, \*Bland A, **Baker R** (2023) Assessing habitat enhancement by living shoreline restoration: exploring potential caveats of nekton community metrics. *Restoration Ecology* 31(5) e13935.
56. Bardou R, Osland MJ, Scyphers S, Shepard C, Aerni KE, Alemu I JB, Crimian R, Day RH, Enwright NM, Feher LC, \*Gibbs SL, O'Donnell K, \*Swinea SH, Thorne K, Truskey S, Armitage AR, **Baker R**, Breithaupt JL, Cavanaugh KC, Cebrian J, Cummins K, Devlin DJ, Doty J, Ellis WL, Feller IC, Gabler CA Kang Y, Kaplan DA, Kennedy JP, Krauss KW, Lamont MM, Liu K, Martinez M, Matheny AM, McClenachan GM, McKee KL, Mendelssohn IA, Michot TC, Miller CJ, Moon JA, Moyer RP, Nelson J, O'Connor R, Pahl JW, Pitchford JL, Proffitt CE, Quirk T, Radabaugh KR, Scheffel WA, Smeed DL, Snyder CM, Sparks E, Swanson KM, Vervaeke WC, Weaver CA, Willis J, Yando ES, Yao Q, Hughes AR (2023) Rapidly Changing Range Limits in a Warming World: Critical Data Limitations and Knowledge Gaps for Advancing Understanding of Mangrove Range Dynamics in the Southeastern USA. *Estuaries and Coasts* 46: 1123-1140.
55. \*Legaspi C, \*de Barros MSF, Rodriguez AR, **Baker R** (2023) Assessment of living shorelines for restoring fish habitats: a case study from coastal Alabama. *Gulf and Caribbean Research* 34:SC1-SC5.
54. **Baker R**, \*Bilbrey D, \*Bland A, D'Alonzo F, \*Ehrmann H, Havard S, \*Porter Z, \*Ramsden S, Rodriguez A (2022) Underwater video as a tool to quantify fish density in complex coastal habitats. *Diversity* 14: 50.
53. \*Bradley M, Nagelkerken I, **Baker R**, Travers M, Sheaves M (2022) Local environmental context structures animal-habitat associations across biogeographic regions. *Ecosystems* 25:237-251.
52. **Baker R**, Sheaves M (2021) Predation in littoral habitats is a complex process: Comment on Whitfield (2020). *Marine Ecology Progress Series* 662:205-208.
51. Taylor M, **Baker R**, Simenstad C, Weinstein MP (2021) Concepts and Controversies in Tidal Marsh Ecology Revisited. *Estuaries and Coasts* 44:1493-1496.
50. \*Ziegler S, **Baker R**, Crosby SC, Colombano DD, Barbeau MA, Cebrian J, Connolly RM, Deegan LA, Gilby BL, \*Mallick D, Martin CW, Nelson JA, Reinhardt JF, Simenstad C, Waltham NJ, Worthington TA, Rozas LP (2021) Geographic variation in salt marsh structure and function for nekton: a guide to finding commonality across multiple scales. *Estuaries and Coasts* 44:1497-1507.
49. zu Ermgassen PSE, DeAngelis B, Gair JR, zu Ermgassen S, **Baker R**, Daniels A, MacDonald TC, Meckley K, Powers S, Ribera M, Rozas LP, Grabowski JH (2021) Estimating and Applying Fish and Invertebrate Density and Production Enhancement from Seagrass, Salt Marsh Edge, and Oyster Reef Nursery Habitats in the Gulf of Mexico. *Estuaries and Coasts* 44: 1588-1603
48. **Baker R**, Abrantes K, Feller IC (2021) Stable isotopes suggest limited role of wetland macrophyte production supporting aquatic food webs across a mangrove-salt marsh ecotone. *Estuaries and Coasts* 44: 1619-1627.

47. Gilby B, Weinstein MP, **Baker R**, Cebrian J, Alford SB, Chelsky A, Colombano D, Connolly RM, Currin CA, Feller IC, \*Frank A, \*Goeke JA, \*Goodridge Gaines LA, \*Hardcastle FE, Henderson CJ, Martin CW, \*McDonald AE, \*Morrison BH, Olds AD, Rehage JS, Waltham NJ, Ziegler SL (2021) Human actions alter tidal marsh seascapes and the provision of ecosystem services. *Estuaries and Coasts* 44: 1628-1636.
46. Colombano D, Litvin SY, Ziegler SL, Alford SB, **Baker R**, Barbeau MA, Cebrián J, Connolly RM, Currin CA, Deegan L, Lesser JS, Martin CW, \*McDonald AE, \*McLuckie C, \*Morrison BH, Pahl JW, Risse LM, Smith JAM, Staver LW, Turner RE, Waltham NJ (2021) Climate change implications for tidal marshes and food web linkages to estuarine and coastal nekton. *Estuaries and Coasts* 44: 1637-1648.
45. zu Ermgassen PSE, **Baker R**, Beck MW, Dodds K, zu Ermgassen SOSE, \*Mallick D, Taylor M, Turner RE (2021) Ecosystem services: Delivering decision-making for salt marshes. *Estuaries and Coasts* 44:1691-1698.
44. **Baker R**, Taylor MD, Able KW, Beck MW, Cebrian J, Colombano DD, Connolly RM, Currin C, Deegan LA, Feller IC, Gilby BL, Kimball ME, Minello TJ, Rozas LP, Simenstad C, Turner RE, Waltham NJ, Weinstein MP, \*Ziegler SL, zu Ermgassen PSE, Alcott C, Alford SB, Barbeau MA, Crosby SC, Dodds K, \*Frank A, \*Goeke J, \*Goodridge Gaines LA, \*Hardcastle FE, Henderson CJ, James WR, Kenworthy MD, Lesser J, \*Mallick D, Martin CW, \*McDonald AE, \*McLuckie C, \*Morrison BH, Nelson JA, \*Norris GS, Ollerhead J, Pahl JW, \*Ramsden S, Rehage JS, Reinhardt JF, Rezek RJ, Risse LM, Smith JAM, Sparks EL, Staver LW (2020) Fisheries rely on threatened salt marshes. *Science* 370(6517): 670-671
43. \*Curry T, Krause, JW, **Baker R** (2020) Small-scale variability in carbon isotope ratios of microphytobenthos and dissolved inorganic carbon in a northern Gulf of Mexico salt marsh. *Gulf and Caribbean Research* 31:SC41-SC45
42. \*Bradley M, Nagelkerken I, **Baker R**, Sheaves M (2020) Context-dependence: a conceptual approach for understanding the habitat relationships of coastal marine fauna. *BioScience* 70: 986-1004.
41. **Baker R**, Waltham N (2020) Tethering mobile aquatic organisms to measure predation: A renewed call for caution. *Journal of Experimental Marine Biology and Ecology* 523: 151270
40. \*Donaldson JA, Drews P, \*Bradley M, Morgan DL, **Baker R**, Ebner BC (2019) Countering low visibility in video survey of an estuarine fish assemblage. *Pacific Conservation Biology* 26:190-200
39. \*Deleon S, Krauss J, **Baker R** (2019) Variability in microphytobenthos biomass and carbon isotopic values in shallow coastal waters of the northern Gulf of Mexico. *Gulf and Caribbean Research* 30:SC22-SC27
38. \*Dubuc A, **Baker R**, Marchand C, Waltham NJ, Sheaves M (2019) Hypoxia in mangroves: occurrence and impact on valuable tropical fish habitat. *Biogeosciences* 16:3959-3976
37. \*Dubuc A, Waltham NJ, **Baker R**, Marchand C, Sheaves M (2019) Patterns of fish utilization in a tropical Indo-Pacific mangrove-coral seascape, New Caledonia. *PLoS ONE* 14(4): e0207168
36. \*Eurich JG, Matley JK, **Baker R**, McCormick MI, Jones GP (2019) Stable isotope analysis reveals trophic diversity and partitioning in territorial damselfishes on a low latitude coral reef. *Marine Biology* 166:17

35. \*Bradley M, **Baker R**, Nagelkerken I, Sheaves M (2019) Context is more important than habitat type in determining use by juvenile fish. *Landscape Ecology* 34:427-442
34. **Baker R**, Barnett A, \*Bradley M, Abrantes K, Sheaves M (2019) Contrasting seascape use by a coastal fish assemblage: a multi-methods approach. *Estuaries and Coasts* 42:292-307
33. \*Buelow CA, Reside AE, **Baker R**, Sheaves M (2018) Stable isotopes reveal opportunistic foraging in a spatiotemporally heterogeneous environment: bird assemblages in mangrove forests. *PLoS ONE*, 13(11): e0206145.
32. **Baker R**, \*Bradley M, \*Freddi S, Abrantes K, Barnett A, Sheaves M (2018) Non-lethal aging of tropical catch-and-release sport fishery species. *Fisheries Research* 207: 110-117.
31. \*Buelow CA, **Baker R**, Reside AE, Sheaves M (2018) Nutrient subsidy indicators predict the presence of an avian mobile-link species. *Ecological Indicators*, 89:507-515.
30. \*Buckland A, **Baker R**, Loneragan N, Sheaves M (2017) Standardising fish stomach content analysis: The importance of prey condition. *Fisheries Research*, 196: 126-140.
29. \*Dunbar K, **Baker R**, Sheaves M (2017) Effects of forest width on fish use of fringing mangroves in a highly urbanized tropical estuary. *Marine and Freshwater Research*, 68: 1764-1770.
28. \*Buelow CA, **Baker R**, Reside AE, Sheaves M (2017) Spatial dynamics of coastal forest bird assemblages: the influence of landscape context, forest type, and structural connectivity. *Landscape Ecology*, 32: 547-561.
27. \*Bradley M, **Baker R**, Sheaves M (2017) Hidden components in tropical seascapes: Deep-estuary habitats support unique fish assemblages. *Estuaries and Coasts*, 40: 1195-1206.
26. Sheaves M, **Baker R**, Abrantes K, Connolly RM (2017) Fish biomass in tropical estuaries: substantial variation in food web structure, sources of nutrition, and ecosystem-supporting processes. *Estuaries and Coasts*, 40: 580-593.
25. Barnett A, Abrantes KG, **Baker R**, Diedrich A, Kuilboer A, Mahony T, McLeod I, Moscardo G, Prideaux M, van Luyn A, Sheaves M (2016) Sport fisheries, conservation, and sustainable livelihoods: A multidisciplinary assessment of best practice. *Fish and Fisheries* 17: 696-713.
24. Sheaves M, **Baker R**, McLeod I, Abrantes K, Wani J, Barnett A (2016) The conservation status of Niugini Black Bass: a world-renowned sport fish with an uncertain future. *Fisheries Management and Ecology* 23: 243-252.
23. Sheaves M, Johnston R, **Baker R** (2016) Use of mangrove by fish: new insights from in-forest videos. *Marine Ecology Progress Series* 549: 167-182.
22. **Baker R**, Sheaves M, Johnston R (2015) Geographic variation in mangrove flooding and accessibility for fishes and nektonic crustaceans. *Hydrobiologia* 762: 1-14.
21. Abrantes KG, Barnett, A, **Baker R**, Sheaves M (2015) Habitat-specific food webs and trophic interactions supporting coastal-dependent fishery species: An Australian case study. *Reviews in Fish Biology and Fisheries* 25: 337-363.
20. Sheaves M, **Baker R**, Nagelkerken I, Connolly RM (2015) True value of estuarine and coastal nurseries for fish: incorporating complexity and dynamics. *Estuaries and Coasts* 38:401-414.

19. Nagelkerken I, Sheaves M, **Baker R**, Connolly R (2015) The seascape nursery: a novel spatial approach to identify and manage nurseries for coastal marine fauna. *Fish and Fisheries* 16:362-371.
18. **Baker R**, \*Buckland A, Sheaves M (2014) Fish gut content analysis: robust measures of diet composition. *Fish and Fisheries* 15:170-177.
17. **Baker R**, Fujiwara M, Minello T (2014) Juvenile growth and mortality effects on white shrimp *Litopenaeus setiferus* population dynamics in the northern Gulf of Mexico. *Fisheries Research* 155:74-82.
16. \*Davis B, **Baker R**, Sheaves M (2014) Seascape and metacommunity processes regulate fish assemblage structure in coastal wetlands. *Marine Ecology Progress Series* 500:187-202.
15. Frisch AJ, \*Ireland M, **Baker R** (2014) Trophic ecology of large predatory reef fishes: energy pathways, trophic level, and implications for fisheries in a changing climate. *Marine Biology* 161:61-73.
14. **Baker R**, Fry B, Rozas L, Minello T (2013) Hydrodynamic regulation of salt marsh contributions to aquatic food webs. *Marine Ecology Progress Series* 490:37-52.
13. Sheaves M, Johnston R, Johnson A, Connolly R, **Baker R** (2013) Nursery function drives temporal patterns in fish assemblage structure in four tropical estuaries. *Estuaries and Coasts* 36:893-905.
12. \*Davis B, Johnston R, **Baker R**, Sheaves M (2012) Fish utilization of wetland nurseries with complex hydrological connectivity. *PLoS One* 7(11): e49107.
11. Minello T, Rozas L, **Baker R** (2012) Geographic variability in salt marsh flooding patterns may affect nursery value for fishery species. *Estuaries and Coasts* 35:501-514.
10. Sheaves M, Johnston R, Connolly R, **Baker R** (2012) Importance of estuarine mangroves to juvenile banana prawns. *Estuarine Coastal and Shelf Science* 114: 208-219.
9. **Baker R**, Minello T (2011) Trade-offs between logistics and gear selectivity when sampling nekton from shallow open-water habitats: a gear comparison study. *Gulf and Caribbean Research* 23:37-48.
8. **Baker R**, Minello T (2010) Growth and mortality of juvenile white shrimp, *Litopenaeus setiferus* in a marsh pond. *Marine Ecology Progress Series* 413:95-104.
7. \***Baker R**, Sheaves M (2009a) Refugees or ravenous predators: detecting predation on new recruits to tropical estuarine nurseries. *Wetlands Ecology and Management* 17:317-330.
6. \***Baker R**, Sheaves M (2009b) Overlooked small and juvenile piscivores dominate shallow-water estuarine "refuges" in tropical Australia. *Estuarine Coastal and Shelf Science* 85:618-626.
5. \*Frisch A, \***Baker R**, \*Hobbs J-P, \*Nankervis L (2008) A quantitative comparison of recreational spearfishing and linefishing on the Great Barrier Reef: implications for management of multi-sector coral reef fisheries. *Coral Reefs* 27:85-95.
4. \***Baker R**, Sheaves M (2007) Shallow water refuge paradigm: conflicting evidence from tethering experiments in a tropical estuary. *Marine Ecology Progress Series* 349:13-22.

3. \***Baker R**, Sheaves M (2006) Visual surveys reveal high densities of large piscivores in shallow estuarine nurseries. *Marine Ecology Progress Series* 323:75-82.
2. Sheaves M, \***Baker R**, Johnston R (2006) Marine nurseries and effective juvenile habitats: an alternative view. *Marine Ecology Progress Series* 318:303-306.
1. \***Baker R**, Sheaves M (2005) Redefining the piscivore assemblage of shallow estuarine nursery habitats. *Marine Ecology Progress Series* 291:197-213.

#### **Book chapters:**

**Baker R**, Crawford H, Sheaves M (2024) "Stomach content analysis" in M. Calver, N. Loneragan, Eds. Unravelling the food web: Quantitative approaches to describing wildlife feeding relationships. CSIRO Publishing

Sheaves M, Brodie J, Brooke B, Dale P, Lovelock C, Waycott M, Gehrke P, Johnston R, **Baker R** (2007) Vulnerability of coastal and estuarine habitats in the Great Barrier Reef to climate change. In: Climate change and the Great Barrier Reef, eds. Johnson J, Marshall P. Great Barrier Reef Marine Park Authority and Australian Greenhouse Office, Australia.

#### **Reports:**

\*Bland A, Rodriguez A, **Baker R** (2024) Breakwater crest height and bivalve data summaries 2015-2024. Alabama Comprehensively Living Shoreline Monitoring Program, report to ADCNR, September 2024, 24pp.

**Baker R**, Rodriguez A, \*Bland A, Stringer G (2024) Juvenile Spotted Seatrout (*Cynoscion nebulosus*) and Southern Flounder (*Paralichthys lethostigma*) Responses to Environmental Stressors. Report to ADCNR Marine Resource Division. June 2024, 35pp.

**Baker R**, Webb B, Rodriguez A (2022) Alabama Comprehensive Living Shoreline Monitoring Program – Monitoring Plan. April 2022.

Sheaves M, Barnett A, Abrantes K, Wani J, Diedrich A, **Baker R**, Mattone C, Bradley M, Pandihau L (2018) Sustainable management of sport fisheries for communities in Papua New Guinea. Final Report. Australian Centre for International Agricultural Research, Australian Government, Canberra. 216pp.

**Baker R** (2017) FIS-2013-015 Sustainable management of sport fisheries for communities in Papua New Guinea. Annual Report to the Australian Centre for International Agricultural Research, Australian Government, Canberra. 102pp.

**Baker R**, Templeman S (2017) Carpentaria Gold Receiving Environment Monitoring Program, 1 Nov 2016 to 31 Oct 2017. Centre for Tropical Water & Aquatic Ecosystem Research, Report No. 17/64, Nov 2017. 79pp.

Templeman S, **Baker R**, James C (2017) Carpentaria Gold Receiving Environment Monitoring Program Design Report, Version 2. Centre for Tropical Water & Aquatic Ecosystem Research, Report No. 17/33, June 2017. 57pp.

Templeman S, Williams C, Gainsford A, **Baker R** (2017) Woodcutters Mine Receiving Environment Monitoring Program 1 Nov 2015 to 31 Oct 2016. Centre for Tropical Water & Aquatic Ecosystem Research, Report No. 17/31, June 2017. 50pp.

**Baker R**, Templeman S (2017) Review of Environmental Authority EPML00979013 for Carpentaria Gold, July 2017, 7pp.

Templeman S, **Baker R**, Williams C (2016) Carpentaria Gold Receiving Environment Monitoring Program, 1 Nov 2015 to 31 Oct 2016. Centre for Tropical Water & Aquatic Ecosystem Research, Report No. 16/57, Nov 2016. 352pp.

**Baker R** (2016) Annual Report: FIS-2013-015 Sustainable management of sport fisheries for communities in Papua New Guinea. Report to the Australian Centre for International Agricultural Research, Australian Government, Canberra. 281pp.

**Baker R** (2016) Niugini Black Bass Research: Project Progress Report to NFA, Jan 2016. 14pp.

**Baker R** (2015) Ecosystem Repair Prioritization. Prepared for the Fitzroy Basin Association, Rockhampton, Qld, Australia. 41pp.

**Baker R** (2015) Annual Report: FIS-2013-015 Sustainable management of sport fisheries for communities in Papua New Guinea. Report to the Australian Centre for International Agricultural Research, Australian Government, Canberra. 27pp.

Sheaves M, Johnston R, McLean N, Mattone C, **Baker R**, Abrantes K (2012) The life-cycle habitat requirements of coastal fisheries species: identifying key knowledge gaps and research needs. Report to the Fisheries Research and Development Corporation, December 2012, 59pp.

Frisch A, **Baker R**, Hobbs J-P, Nankervis L (2007) A quantitative comparison of spearfishing and linefishing on the Great Barrier Reef: A step toward resolving conflict between recreational fishing sectors. Report to Queensland Department of Primary Industries and Fisheries, Recreational Fisheries Program. 30pp.

**Baker R**, Sheppard R (2006) Fisheries resources of Albatross Bay, Gulf of Carpentaria. Queensland Department of Primary Industries and Fisheries, Information Series QI06062. 90pp.

**Baker R**, Sheppard R (2005) Fisheries resources of Cleveland Bay (Townsville). Queensland Department of Primary Industries and Fisheries, Information Series QI05021. 86pp.

### Theses:

**Baker R** (2006) Piscivory and the functioning of shallow tropical estuarine nursery grounds. PhD Dissertation, James Cook University. 226pp.

**Baker R** (1997) Temporal changes in the zooplankton assemblage in a supralittoral pool of a tropical estuary. Honours Thesis, James Cook University. 81pp.

### Other:

**Baker R** (2006) Otolith catalogue of common coastal and estuarine fishes of north-eastern Queensland, Australia. James Cook University. 36pp.  
Available at: <http://www.jcu.edu.au/caeel/publicationsdata/index.htm>

### Conference Presentations:



\*student author. #presenter (if not lead author).

\*Bland A, Rodriguez A, Chenier K, Rodolfich A, Virden M, Sparks E, **Baker R** (2004).

Improvements to salt marsh mapping and shoreline change analysis. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

\*Ehrmann H, **Baker R** (2024). Drivers of long term spatiotemporal shifts in nekton communities in coastal Alabama: 1981 - 2018. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

\*Hofheinz K, Rodriguez A, **Baker R** (2024) Quantifying fish habitat enhancement of Living Shorelines: A case study in Pensacola Bay. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

\*Ramsden S, **Baker R** (2024) Habitat selection and behavior of sportfish around shoreline protection structures. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

**Baker R**, \*Clark A, Ellis W, Rodriguez A (2024) Dissolved oxygen may limit the suitability of salt marsh as Essential Fish Habitat. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

Ellis W, Grant C, \*de Barros M, Rodriguez A, Cebrian J, \*Gilpin R, **Baker R** (2024) Estimates of fisheries production enhancement from marsh edge and submerged aquatic vegetation in coastal Alabama. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

Hancock A, \*Bland A, Rodriguez A, **Baker R** (2024) Digging deeper for a stronger shoreline: Impacts of breakwaters on infaunal communities. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

Moore K, \*Bland A, Rodriguez A, **Baker R** (2024). Seagrass Monitoring Using Unoccupied Aircraft Systems in Turbid Waters. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

Plumlee J, Liu Z, **Baker R**, Dzwonkowski B, \*Ehrmann H, Lehrter J, Powers S (2024) Recruitment phenology correlates with long-term changes to temperature and hydrology in a dynamic northern Gulf of Mexico estuary. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

Rodriguez A, Laufer M, **Baker R** (2024) Drones for data: novel approaches to Living Shoreline restoration monitoring. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024. Oral Presentation.

Watts N, \*Bland A, Rodriguez A, **Baker R** (2024) Effects of living shoreline breakwaters on sediment properties and infaunal communities. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

Webb B, **Baker R**, Temple N, Rodriguez A, \*Bland A, \*Richards K (2024) The Alabama Comprehensive Living Shoreline Monitoring Program: an overview. Bays and Bayous Biennial Meeting, Biloxi MS, November 19-20, 2024.

\*de Barros M, Martin C, Grabowski J, zu Ermgassen P, **Baker R** (2024) Modelling restoration effects on growth and biomass production of an ecologically important species. World Fisheries Congress, Seattle, WA, 3 - 7th March 2024.

- \*Ehrmann H, #**Baker R** (2024) Oral Presentation. Drivers of inter-annual variation in *Cynoscion nebulosus* growth in nearshore Alabama. World Fisheries Congress, Seattle, WA, 3 - 7th March 2024.
- Plumlee J, Powers S, #**Baker R**, \*Ehrmann H (2024) Oral Presentation. Sex-specific movement history in a highly exploited estuarine fish, *Cynoscion nebulosus*. World Fisheries Congress, Seattle, WA, 3 - 7th March 2024.
- \*Bland A, **Baker R** (2023) Oral presentation. Limits to oyster development on breakwater structures. Coastal and Estuarine Research Federation 27th Biannual Conference, Portland, OR, November 12-16 2023.
- \*Ehrmann H, **Baker R**, Porter Z (2023) Oral Presentation. Drivers of inter-annual variation in *Cynoscion nebulosus* growth in nearshore Alabama. Coastal and Estuarine Research Federation 27th Biennial Conference, Portland, OR, November 12-16 2023.
- Hofheinz K, **Baker R**, Lehrter J, Rodriguez A (2023) Responses of juvenile sportfish to experimental low salinity exposure. Coastal and Estuarine Research Federation 27th Biennial Conference, Portland, OR, November 12-16 2023.
- Rodriguez AR, M Laufer, **R Baker** (2023) sUAS use in living shoreline restoration monitoring: low-cost workflows and emerging opportunities. Coastal and Estuarine Research Federation 27th Biennial Conference, Portland, OR, November 12-16 2023.
- \*Bland A, **Baker R** (2023) Poster presentation. Intertidal refuge improves oyster survival at living shoreline breakwaters. Grand Bay NERR Research Symposium, Moss Point, MS, November 2023.
- \*de Barros M, Martin C, Grabowski J, **Baker R** (2023) Examining fish diets in restored seascapes: an alternative metric to assess nekton habitat enhancement from restoration. Grand Bay NERR Research Symposium, Moss Point, MS, November 2023.
- \*Ramsden S, Albins M, Dance M, Powers S, **Baker R** (2023) Oral Presentation. Sportfish Behavior & Habitat Selection Along a Protected Shoreline. Grand Bay NERR Research Symposium, Moss Point, MS, November 2023.
- \*Ramsden S, Albins M, Dance M, Powers S, **Baker R** (2023) Poster. Sportfish behavior and habitat selection along a protected shoreline. GRC Movement Ecology of Animals, Lucca, Italy, May 2023.
- Baker R**, \*Gilpin R, Rodriguez AR, \*Offner T, Cebrian C (2023) Not all marsh edge is equally valuable fish habitat: variation in fish community structure across Mississippi Sound, Alabama. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- Baker R**, Chapman J (2023) Responses of juvenile spotted seatrout *Cynoscion nebulosus* to experimental acute and chronic low salinity exposure. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- \*Bland A, Rodriguez AR, **Baker R** (2023) Breakwaters and Benthos: Impacts of shoreline restoration on infaunal communities. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- \*de Barros M, Rodriguez AR, \*Bland A, **Baker R** (2023) Using fish community metrics as indicators of habitat enhancement in restoration projects: a case study in coastal Alabama. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.

- \*Ehrmann H, **Baker R** (2023) Drivers of long term spatiotemporal shifts in nekton communities in coastal Alabama: 1981 – 2018. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- \*Grant C, Rodriguez AR, **Baker R** (2023) Identifying potential drivers of fish community composition on restored oyster reefs in East Bay, Pensacola. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- Hofheinz K, Rodriguez AR, **Baker R** (2023) Dietary evidence of facultative cleaning by juvenile Leatherjackets from coastal Alabama. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- Laufer M, Rodriguez AR, **Baker R** (2023) Taking coastal monitoring to new heights: UAS use for streamlined restoration monitoring. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- \*Ramsden S, Albins M, Dance M, Powers S, **Baker R** (2023) Fine-scale tracking of sportfish habitat selection and behavior along restored shorelines. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- Rodriguez AR, Laufer M, David P, **Baker R** (2023) Using unoccupied aircraft systems to monitor restored wetland vegetation communities. Bays and Bayous Biennial Meeting, Mobile AL, 24-25 January 2023.
- \*Ramsden S, Albins M, **Baker R** (2022) Novel Application of Fine-Scale Acoustic Telemetry: Tracking Sportfish Movements in the Noisy Environment of a Protected Shoreline. Restore America's Estuaries 2022 Coastal & Estuarine Research Summit, New Orleans LA, 4-8 December 2022.
- \*Gilpin RL, \*Ramsden S, \*Offner T, **Baker R**, Cebrian J (2022) The influence of marsh edge and seagrass habitat on summer fish and macroinvertebrate recruitment to a northern Gulf of Mexico coastal system. Gulf Estuarine Research Society Conference, Ocean Springs MS, 27-29 October 2022.
- \*Legaspi C, Barros M, **Baker R** (2022) Do living shorelines enhance fish habitats? DISL REU Student Poster Symposium, Aug 4, 2022.
- \*King J, \*Ramsden S, **Baker R** (2022) Digestion rate experiments: helping identify foraging habitats. Joint Aquatic Sciences Meeting, Grand Rapids MI, May 14-20.
- \*Ramsden S, Albins M, Dance M, \*Kiene D, **Baker R** (2022) Habitat Partitioning by Four Sportfishes Along a Restored Shoreline. Joint Aquatic Sciences Meeting, Grand Rapids MI, May 14-20.
- \*Bland A, Rodriguez AR, **Baker R** (2022) Tracking shoreline movement at coastal marsh restoration sites. The Gulf of Mexico Conference, Baton Rouge LA, April 25-28, 2022.
- \*Ehrmann H, \*Porter Z, **Baker R** (2022) Drivers of inter-annual variation in *Cynoscion nebulosus* growth in Mobile Bay, AL. The Gulf of Mexico Conference, Baton Rouge LA, April 25-28, 2022.
- \*Gilpin R, \*Ramsden S, \*Offner T, **Baker R**, Cebrian J (2022) The influence of marsh edge and seagrass habitat on summer fish and macroinvertebrate recruitment to a northern Gulf of Mexico coastal system. The Gulf of Mexico Conference, Baton Rouge LA, April 25-28, 2022.

- \*Ramsden S, Albins M, **Baker R** (2022) Novel Application of Fine-Scale Acoustic Telemetry: Tracking Sportfish Movements in the Noisy Environment of a Protected Shoreline. The Gulf of Mexico Conference, Baton Rouge LA, April 25-28, 2022.
- \*Gilpin R, \*Ramsden S, \*Offner T, **Baker R**, Cebrian J (2022) The influence of marsh edge and seagrass habitat on summer fish and macroinvertebrate recruitment to a northern Gulf of Mexico coastal system. Mississippi Water Resources Conference, April 12-14, 2022.
- Baker R**, \*Bilbrey D, \*Bland A, D'Alonzo F, \*Ehrmann H, Havard S, \*Porter Z, \*Ramsden S, Rodriguez A (2021) Underwater video as a tool to quantify fish in complex coastal habitats. American Fisheries Society Conference, Baltimore MD, Nov 6-10, 2021
- \*Ehrmann H, \*Porter Z, **Baker R** (2021) Drivers of inter-annual variation in *Cynoscion nebulosus* growth in Mobile Bay, Alabama. American Fisheries Society Conference, Baltimore MD, Nov 6-10, 2021
- \*Ramsden S, Albins M, **Baker R** (2021) Seasonal & Tidal Movement Patterns of Red Drum in a Restored Seascape. American Fisheries Society Conference, Baltimore MD, Nov 6-10, 2021
- \*Gilpin R, \*Ramsden S, \*Offner T, **Baker R**, Cebrian J (2021) Summer fish and macroinvertebrate recruitment to a shallow vegetated coastal system in the northern Gulf of Mexico. The 26<sup>th</sup> Biennial CERF Conference, November 1-11, 2021
- \*King J, \*Ramsden S, **Baker R** (2021) Digestion rate experiments: Helping to identify foraging habitats. DISL REU Student Poster Symposium, Aug 5, 2021
- \*Ramsden S, **Baker R** (2021) Seasonal movement patterns of red drum in a restored seascape. Graduate Student Symposium, April 16-18, 2021.
- \*Ramsden S, **Baker R** (2020) The "2% Rule" is too conservative for some fish: Red drum can carry large acoustic transmitters. American Fisheries Society Conference, Sept 14-25, 2020
- \*Ramsden S, **Baker R** (2020) Assessing the functional values of restored shorelines as habitats for fisheries species. Bays and Bayous, Dec 1-3, 2020
- \*Curry T, **Baker R**, Krause JW (2020) What drives variability in microphytobenthos biomass and carbon stable isotope values. DISL REU Student Poster Symposium, July 30, 2020
- Baker R** (2019) Please stop using IRI to describe fish diet composition. American Fisheries Society 2019 Conference, Reno, Nevada, Sept 29-Oct 3, 2019
- Baker R**, Kimball M, zu Ermgassen P, Doerr, J (2019) Marshes to Mangroves: the support of fisheries by estuarine wetlands. Special Session at Coastal and Estuarine Research Federation 2019 Conference, Mobile Alabama, Nov 3-7, 2019
- zu Ermgassen P, DeAngelis B, Gair J, zu Ermgassen S, **Baker R**, *et al.* (2019) Estimating fish production from seagrass, saltmarsh and oyster reef in the Gulf of Mexico. Coastal and Estuarine Research Federation 2019 Conference, Mobile Alabama, Nov 3-7, 2019
- Baker R**, Feller IC (2019) Stable isotopes suggest limited role of wetland production supporting aquatic food webs across mangrove-marsh ecotone. Coastal and Estuarine Research Federation 2019 Conference, Mobile Alabama, Nov 3-7, 2019
- \*Deleon S, Krause JW, **Baker R** (2019) Variability in microphytobenthos biomass and isotopic values in northern Gulf of Mexico salt marsh systems. Coastal and Estuarine Research Federation 2019 Conference, Mobile Alabama, Nov 3-7, 2019

- \*Herrera C, **Baker R**, Sheaves J, Abrantes K, Sheaves M (2018) Heads no longer buried in the sand: new method for studying cryptic and fossorial crabs. Ecological Society of Australia, Annual Conference, Brisbane, Australia, 2018.
- \*Buelow CA, Reside A, **Baker R**, Sheaves M (2017) Coastal forest networks reveal drivers of avian beta-diversity. International Congress for Conservation Biology Conference, Cartagena, Colombia. July 2017.
- \*Bradley M, Nagelkerken I, Sheaves M, **Baker R** (2017) Fish nurseries: how context drives the functional value of habitats for reef and coastal fishes. The tenth Indo-Pacific Fish Conference (IPFC10), Tahiti, French Polynesia, October 2017.
- \*Herrera C, Sheaves J, **Baker R**, Sheaves M (2017) Computer vision for today's ecologists: an automated tool for detecting and tracking organisms in their environment. JCU Science Research Festival, Townsville, Australia, 2017.
- Baker R** (2016) What do we really know about the functional values of tidal wetlands for fishery species. Mangrove & Macrobenthos Meeting 4, St. Augustine, Florida, July 18-22, 2016.
- \*Buelow CA, **Baker R**, Reside A, Sheaves M (2016) Spatial synergies in the coastal ecosystem mosaic. Queensland Ornithological Conference, Brisbane, Australia, July 2016.
- \*Buelow CA, **Baker R**, Reside A, Sheaves M (2016) Spatial synergies in the coastal ecosystem mosaic. Society for Conservation Biology Oceania Conference, Brisbane, Australia, July 2016.
- \*Herrera C, Sheaves J, **Baker R**, Sheaves M (2016) Discovering ecology weaknesses: paradigms in the relationship between biodiversity and ecosystem functioning. Biology in the tropics: 2016 Postgraduate Student Conference, James Cook University, Townsville, Australia, 2016.
- \*Herrera C, Sheaves J, **Baker R**, Sheaves M (2016) Marine ecosystem functioning: what it is, and what it matters. Biology in the tropics: 2016 Postgraduate Student Conference, James Cook University, Townsville, Australia, 2016.
- Baker R** (2015) How the world's toughest sport fish can support sustainable livelihoods in Papua New Guinea. Tropical Landscapes Joint Venture Annual Conference, Townsville Australia, 2015
- Baker R**, Olds A, Waltham N (2015) Habitats, connectivity, and life-cycles: estuarine and coastal support of fishery species. Special Session at Australian Society for Fish Biology Annual Conference. Sydney, Australia, October 2015
- Baker R**, Abrantes K, Barnett A, McLeod I, Sheaves M (2015) Life history movements of the world's toughest sport fish. Australian Society for Fish Biology Annual Conference. Sydney, Australia, October 2015
- \*Buelow CA, **Baker R**, Reside A, Sheaves M (2015) Coastal birds, connectivity and space. Ecological Society of Australia Annual Conference, Adelaide, Australia, December 2015.
- \*Bradley M, Sheaves M, Johnston R, **Baker R** (2015) Re-writing the link between mangroves and fish. Australian Society for Fish Biology Annual Conference, Sydney, Australia October 2015.

- Baker R**, Johnston R, Sheaves M (2014) Not all mangroves are equal: regional variation in tidal flooding patterns regulates access for aquatic organisms. Australian Mangrove Society Conference, Townsville Australia 2014.
- Baker R**, Wani J, Abrantes K, Barnett A, Sheaves M (2014) Insights into the life-history of the New Guinea Black Bass *Lutjanus goldiei*. Society for Conservation Biology Oceania. 9-11 July 2014, Suva, Fiji.
- Baker R**, Feller IC (2013) Untangling the web: the importance of wetland production to aquatic food webs across a salt marsh-mangrove ecotone. Coastal and Estuarine Research Federation Conference, San Diego, November 2013.
- Baker R**, Feller IC (2013) Untangling the web: is mangrove production really important in aquatic food webs? Australian Marine Sciences Association Annual Conference, Gold Coast Australia, July 7-11, 2013.
- Baker R**, Minello T, Levin P (2010) The value of habitat information at different life stages in refining white shrimp stock assessments in the Gulf of Mexico. NOAA National Marine Fisheries Service, National Stock and Habitat Assessments Workshop, New Orleans Louisiana, May 2010
- Baker R**, Fry B, Rozas L, Minello T (2009) Marsh flooding patterns and geographic variability in the trophic support of juvenile nekton. Coastal and Estuarine Research Federation 2009 Conference, Portland, Oregon, November 2009
- Baker R**, Levin PS, Minello T (2008) Assessing the link between coastal wetlands and white shrimp fishery production in the northern Gulf of Mexico. ICES Annual Conference & Meeting. Halifax, Canada, September 22-26 2008
- Baker R**, Minello T, Levin PS (2008) Identifying links between habitat and fisheries production of white shrimp *Litopenaeus setiferus*: Life stage and habitat-related mortality. American Fisheries Society 2008 Conference. Ottawa, Canada, August 2008
- Baker R**, Sheaves M (2006) Against the flow: recruitment, predation and the contribution of coastal productivity to estuarine systems. Australian Marine Sciences Association. Cairns Australia, July 9-14, 2006
- Baker R**, Sheaves M (2006) Refugees or ravenous predators: Detecting the impacts of predation in an inherently patchy environment. Australian Marine Sciences Association. Cairns Australia, July 9-14, 2006
- Baker R**, Sheaves M (2005) Do shallow tropical estuarine nurseries provide small fishes with a refuge from predation? Australian Marine Sciences Association. Darwin Australia, July 11-13, 2005
- Baker R**, Sheaves M (2005) Visual surveys reveal high densities of large piscivores in shallow estuarine nurseries. Australian Society for Fish Biology Annual Conference, Darwin, Australia, July 2005.
- Baker R** (2005) Juvenile fishes in estuarine nurseries: refugees or ravenous predators? Coastal CRC Conference, Coolangatta, Australia, September 2005.
- Baker R** (2005) Small fish are important predators in shallow nursery habitats. Coastal CRC Conference, Coolangatta, Australia, September 2005.

**Baker R**, Sheaves M (2004) Defining the piscivore assemblage of shallow tropical estuarine nurseries. Australian Society for Fish Biology Annual Conference, Adelaide, Australia, September 2004.

Wilson J, **Baker R** (2004) Trophic structure of a tropical estuarine fish assemblage in an intertidal bay. Australian Society for Fish Biology Annual Conference, Adelaide, Australia, September 2004.

**Baker R** (2003) Piscivory and the value and functioning of shallow estuarine nurseries. Coastal CRC Conference, Coolangatta, Australia, September 2003.

**Baker R** (2003) Recruitment, predation and the trophic functioning of estuarine nursery grounds. Coastal CRC Conference, Coolangatta, Australia, September 2003.

**Invited presentations:**

**Baker R** (2022) The multifaceted nature of connectivity and its implications for coastal restoration: a fish perspective. ZSL Symposium: Ecological connectivity across temperate coastal habitats – Moving towards seascape scale restoration. Zoological Society of London, London England, Nov 22-24, 2022.

**Baker R** (2022) Connected nursery habitats are critical for sustaining sportfish stocks. 7<sup>th</sup> International Bonefish and Tarpon Symposium. Bonefish & Tarpon Trust. Palm Beach Gardens, FL, Nov4-5, 2022.

**Baker R** (2022) Fish communities on restored reefs in East Bay. Pensacola Perdido Bays Estuary Program Community Grant Symposium, September 2022, Pensacola FL.

**Baker R** (2022) Fish communities on cultured oyster reefs in East Bay. PPBEP Oyster Subcommittee Meeting, Feb 17<sup>th</sup>, 2022.

**Baker R** (2021) Fish communities on cultured oyster reefs in East Bay. Pensacola Perdido Bays Estuary Program Community Grant Symposium, September 2021, Pensacola FL.

**Baker R** (2021) Geographic variation in nursery function of intertidal wetlands. Workshop: Coastal and Estuarine Restoration: Identifying and Assessing Habitat Service Benefits to Fish and Invertebrates. Coastal and Estuarine Research Federation 2021 Conference.

**Baker R** (2019) Fish of Paradise: The Ecology of little-known sportfish of Papua New Guinea. Environmental Protection Agency, Gulf Breeze Florida, April 24<sup>th</sup> 2019.

**Baker R** (2019) Fish of Paradise: The Ecology of little-known sportfish of Papua New Guinea. Dauphin Island Sea Lab, Feb 8<sup>th</sup> 2019.

**Baker R** (2018) Fish of Paradise: The Ecology of little-known sportfish of Papua New Guinea. Gulf Coast Research Laboratory, November 15<sup>th</sup> 2018.

**Baker R** (2016) Fisheries research in Papua New Guinea. ASSETS Research Showcase, Townsville, Australia, December 2016.

**Baker R** (2016) Fisheries research in Papua New Guinea. ASSETS Research Showcase. Townsville, Australia, December 2016

**Baker R** (2014) How the worlds toughest sport fish can support sustainable livelihoods in Papua New Guinea. Keynote Address at Townsville Toastmasters Annual Conference, Townsville Australia, 2014

**Baker R** (2013) Barriers and Barramundi: connectivity in the coastal landscape. 3-Minute Thesis. James Cook University, Townsville Australia, 2013

**Baker R** (2011) Untangling the web: the contribution of wetlands to the trophic support of marine foodwebs. Tropical Landscapes Joint Venture Seminar Series, Townsville Australia, October 2011

**Baker R** (2010) Puzzling paradigms: geographic variation in the functioning of coastal nurseries. Smithsonian Marine Station at Fort Pierce Seminar Series. Fort Pierce, Florida, October 2010

**Baker R** (2008) Predation and shallow nursery ground functioning. NOAA NW Fisheries Science Center Seminar Series. Seattle, WA, 2008

**Baker R** (2008) Nekton mortality and population regulation in estuarine nurseries. Texas A&M Galveston Seminar Series. Galveston TX, 2008

## **Mentoring and Advising**

I have am a Full Member of the Graduate Faculty at USA.

### **Undergraduate Students**

Andrew Clark, REU 2024  
 Ashten Notz, REU 2023  
 Christopher Grant, 2022 (intern and Directed Studies)  
 Claire Legaspi, REU 2022  
 Jordon King, REU 2021  
 Polly Straughn, 2020 (intern and Directed Studies)  
 Trinity Curry, REU 2020 (co-advisor with Krause)  
 Sharil Deleon, REU 2019 (co-advisor with Krause)

### **Current Graduate Students – USA/DISL**

Sarah Ramsden, **PhD**, (Major Advisor)  
 Hannah Ehrmann, **PhD**, (Major Advisor)  
 Aaron Bland, **PhD**, (Major Advisor)  
 Kelsey Hofheinz, **MS**, (Major Advisor)

Pearce Cooper, **PhD**, (Committee Member)  
 Dylan Kiene, **PhD** (Committee Member)  
 Matthew Hodanbosi, **PhD** (Committee Member)  
 Laia Munoz-Abril **PhD** (Committee Member)

### **Completed**

Matheus de Barros, **MS**, (USA, Major Advisor) *Enhancing fish habitat: alternative ecological metrics to inform Living Shoreline restoration impacts on nekton*. 2024  
 Nicholas La Bon, **MS**, (USA, Major Advisor) *Variability in the condition of Fundulus grandis across Alabama's coastal waters: a potential indicator of ecosystem health*. 2021  
 Angela Garelick, **MCRM**, (USA, Capstone Advisor) *Predation on settling blue crab megalopae: a potential bottleneck in the lifecycle of the blue crab*. 2020.  
 Alyssa Frank, **MCRM**, (USA, Capstone Advisor) *Environmental effects on blue crab megalopae recruitment into Mobile Bay, AL*. 2020.



Jesse Gwinn, **PhD** (USA, Committee Member)  
 Carter Lin, **MS**, (USA, Committee Member)  
 Laruen Clance, **MS**, (USA, Committee Member)  
 Merritt McCall, **MS**, (USA, Committee Member)  
 Rebecca Gilpin, **MS**, (MSU – Committee Member)  
 Cesar Herrera, **PhD**, (JCU Co-advisor) *Ecosystem functioning of tidal wetland pools*. 2021  
 Meredith Diskin **MS**, (USA, Committee Member)  
 Jakob Fries, **MSc**, (JCU – Co-advisor) *Detecting agricultural effects on estuarine ecosystems*. 2020  
 Michael Bradley, **PhD**, (JCU Co-advisor) *Role of context in habitat and seascape relationships of coastal fishes*. 2019  
 Alexia Dubuc, **PhD**, (JCU Co-advisor) *Dissolved oxygen as a constraint for fish use of mangroves*. 2019  
 Christina Buelow, **PhD**, (JCU Co-advisor) *Role of birds in coastal ecosystem connectivity*. 2018  
 Vincent Smythe - **Masters Minor Project**, (JCU Co-advisor) *Ecotoxicology of herbicides*. 2017  
 Bornwell Seemani – **Masters Special Topic**, (JCU Major advisor) *Lake Bangweulu Fisheries*. 2015  
 Stefano Freddi – **Masters Minor Project**, (JCU Major advisor) *Non-lethal aging of Lutjanus*. 2015  
 Ben Davis – **PhD**, (JCU Co-advisor) *Processes structuring fish assemblages in tropical estuaries*. 2014  
 Krista Stegemann – **MSc**, (JCU Co-advisor) *Fish use of edge habitats*. 2014  
 Michael Bradley – **BSc. Honours**, (JCU Co-advisor) *Deepwater fish-habitat associations*. 2013 (Class I)  
 Kimberley Dunbar – **BSc. Honours**, (JCU Co-advisor) *Value of remnant mangroves for fish*. 2013 (Class IIA)  
 Jacob Tapp – **BSc. Honours**, (JCU Co-advisor) *Mangrove crab distributions*. 2012 (Class IIA)

## Teaching experience

### Courses taught:

MAS 431 Field and Laboratory Measurements (4 credit Undergraduate course fully developed), Spring 2024.

MAS 488/588 Tropical Seascape Ecology, Turneffe Atoll, Belize (3 credit undergraduate/graduate field course), May 2023, May 2024

Coastal Fisheries Ecology (3 credit Graduate course), USA Spring 2020, 2024

Seminar, USA Fall 2019.

Marine Vertebrate Zoology (4 credit Undergraduate Course), DISL Summer 2019, 2020, 2021, 2022, 2023

MAS 551 – *Quantitative Methods in Fisheries and Ecology*, (3 credit Graduate Course), USA 2019, 2021, 2023

Casual Lecturer and course development, *Coastal, Estuarine and Mangrove Ecosystems* (3<sup>rd</sup> yr and Masters-Level course at JCU), 2000-2015.

Computer Tutorial Leader, *Biometrics* (2<sup>nd</sup> yr Biological Statistics course at JCU), 2002-04.

Practical Class Demonstrator, *various undergraduate/graduate courses in Biological Sciences at JCU, including 1<sup>st</sup> yr Botany and Zoology, 2<sup>nd</sup> yr Marine Invertebrate Biodiversity, 3<sup>rd</sup> yr Fisheries Science, Estuarine Ecology, Advanced Multivariate Statistics*, 1997-2007.

**Guest Lectures:**

Powers class Fall 2018.

**Committee Service**

DISL Faculty Cluster Hire Search Committee Chair 2024  
 USA International Education Scholarship Committee 2024  
 USA SSOMES Graduate Curriculum Committee 2023-  
 DISL Marine Sciences Instructor Search Committee 2023  
 USA Fisheries/Ecology Faculty Search Chair 2021-22  
 DISL Wetlands Ecologist Search committee 2021-22  
 USA Arts & Sciences SDA Awards Committee, 2022  
 USA Arts & Sciences Faculty Awards Committee, 2022  
 USA Marine Sciences Course Coordinator, Spring 2020-Spring 2023  
 DISL Seminar Coordinator, Fall 2019, Spring 2020  
 DISL Vessel Committee 2019, 2020  
 DISL Wetlands Ecologist Search committee 2019  
 USA Marine Sciences Instructor Search committee 2019

**Other Service**

Bays and Bayous 2023 Organizing Committee  
 CERF 2021 Organizing Committee, Workshop Committee Co-Chair.  
 Dinner with candidates – Ritson-Williams, Bahr, Hoadley, Matsuoka 2019  
 DISL REU Statistics and Experimental Design Workshop, 2019,2020,2021, 2022, 2023, 2024  
 Departmental Chairs Deans meeting, 2018

**Grants, Awards and Fellowships**

Baker has been PI or Co-PI on over \$36,000,000 of grants and awards during his career, of which more than \$34,780,000 has been during his tenure at USA. Total funding direct to Baker's lab at USA/DISL has been over **\$3,836,000**. Baker currently has over **\$3,579,000** of active grant funding directly to his lab.

**Baker Lab Funding at USA/DISL 2018-present:**

Baker portion of awards in **bold**, with total award amount also provided if different from Baker portion.

**Under Review**

- **NOAA Restore** (National) *Building Resilience for Oysters, Blue Crabs, and Spotted Seatrout to Environmental Trends and Variability in the Gulf of Mexico*. Lead PI: Lehrter, Co-PIs: Baker, Dzwonkowski, Kalin, Lowe, Petrolia, Powers, Tian, Yun. Total Award ~\$3.5M. Baker portion ~**\$400,000**. 2025-2030.
- **NOAA Restore** (National) - *Alabama Comprehensive Living Shoreline Monitoring Project*. Project Lead PI (DISL): Baker. Lead PI USA: Webb, Co-PI USA: Baker. Total Award ~\$1,280,000. Baker portion ~**\$640,000**. 2027-2028.

**Awarded**

- **NRDA Walker Island** (National) *Walker Island Restoration Monitoring*. Lead PI: Baker. **\$393,000** 2024-2027.

- **NOAA's Transformational Habitat Restoration and Coastal Resilience Grants Under the IIJA – Robinson Island (National) – Perdido Watershed Habitat and Community Resilience Initiative: Incorporating Nature Based and Hybrid Solutions Across Alabama and Florida.** Lead PI: Heck, Co-PI Baker, Baker portion: **\$120,000** 2024-2026.
- **Pensacola & Perdido Bays Estuary Program Community Grants 2024-25 (Regional)** *Evaluating the effectiveness of Living Shorelines for fisheries habitat in Pensacola Bay, Florida.* **\$33,038.** Lead PI - Baker, Co-PIs - Rodriguez, Hofheinz. 2024-25.
- **Alabama Center of Excellence RFP2 (Regional)** *Emerging image analysis techniques to improve trophic ecology studies in the northern Gulf of Mexico and beyond: development of an online otolith identification tool.* **\$149,850.** Lead PI – Baker. 2024-2026.
- **Town of Dauphin Island/Moffatt & Nicholl (Local).** Monitoring Aloe Bay Shoreline Restoration Project. **\$74,997.** Lead PI – Baker. 2024-2027.
- **Pensacola & Perdido Bays Estuary Program Community Grants 2023-24 (Regional)** *Fisheries habitats across living shoreline seascapes: a public demonstration of the benefits of restoration.* **\$38,950.** Lead PI - Baker, Co-PIs - Rodriguez, Hofheinz (MS student spring 2024), David. 2023-24.
- **NOAA's Transformational Habitat Restoration and Coastal Resilience Grants Under the IIJA (National) – Perdido Watershed Habitat and Community Resilience Initiative: Incorporating Nature Based and Hybrid Solutions Across Alabama and Florida.** Total Award \$12,574,655. Lead PI: Judy Haner TNC. USA Lead PI – Scyphers, USA Co-PIs Baker, Patch. Baker portion **\$285,267**. 2023-2027.
- **NOAA's Transformational Habitat Restoration and Coastal Resilience Grants Under the IIJA (National) – Implementing Nature-Based Solutions for Habitat, Community, and Coastal Resilience in Mississippi Sound, AL.** Total Award \$14,620,885. Lead PI: Judy Haner TNC. USA Lead PI – Baker. Baker portion **\$363,392**. 2023-2027.
- **Town of Dauphin Island (Regional)** *Graveline Bay Marsh Restoration.* Lead: Moffatt & Nichol. Total Award: \$459,000. Lead PI DISL: Baker. Baker Portion **\$70,725**. 2022-2026.
- **NOAA Office of Habitat Conservation (National).** *Pensacola Bay Living Shoreline Greenshores II Monitoring.* Lead: Moffatt & Nichol. Total Award: \$698,809. Lead PI DISL: Heck. Baker Portion **\$237,180** 2022-2027.
- **NOAA Restore (National) - Alabama Comprehensive Living Shoreline Monitoring Project.** Project Lead PI (DISL): Baker. Lead PI USA: Webb, Co-PI USA: Baker. Total Award \$3,879,800. Baker portion **\$1,958,108**. 2021-2026.
- **Pensacola & Perdido Bays Estuary Program Community Grants 2021-22 (Regional)** *Fish communities on remnant and restored oyster reefs of East and Escambia Bays: a baseline for assessing restoration success.* Lead PI: Baker, **\$22,850**. 2022.
- **Mississippi Alabama Sea Grant Consortium (National)** *Living shorelines: does breakwater design matter to fish?* Lead PI: Baker, Co-PI Ramsden (PhD student). **\$147,575**. 2022-2024.
- **Pensacola & Perdido Bays Estuary Program Mini Grants 2020-21 (Regional)** *Quantifying fish communities on remnant oyster reefs in Pensacola and Perdido Bays with underwater video: a baseline for monitoring restoration projects.* Lead PI: Baker, **\$18,045**. 2021.
- **Mississippi Alabama Sea Grant Consortium (National)** *Assessing the value of Little Bay, Mississippi Sound as essential habitat for pre-slot-sized red drum.* Lead PI: Baker, Co-PI: Ramsden (PhD student). **\$10,000**. 2020.
- **NOAA Restore (National)** *Building Resilience for Oysters, Blue Crabs, and Spotted Seatrout to Environmental Trends and Variability in the Gulf of Mexico.* Lead PI: Lehrter, Co-PIs: Baker, Cebrian, Dzwonkowski, Kalin, Lowe, Petrolia, Powers, Tian, Yun. Total Award \$2,887,250. Baker portion **\$407,369**. 2019-2024.
- **Arts and Sciences Support and Development Award (Internal USA):** *Concepts and Controversies in Tidal Marsh Ecology Revisited.* CERF 2019 Workshop. PI: Baker. **\$1500**. 2019.
- **Mississippi Alabama Sea Grant Consortium (National)** *Concepts and Controversies in Tidal Marsh Ecology Revisited.* CERF 2019 Workshop Sponsorship award to Baker. **\$1500**. 2019.

- **Georgia Sea Grant** (National): *Concepts and Controversies in Tidal Marsh Ecology Revisited*. CERF 2019 Workshop Sponsorship award to Baker. **\$600**. 2019.
- **Washington Sea Grant** (National): *Concepts and Controversies in Tidal Marsh Ecology Revisited*. CERF 2019 Workshop Sponsorship award to Baker. **\$500**. 2019.
- **Grand Bay National Estuarine Research Reserve** (Regional): *Concepts and Controversies in Tidal Marsh Ecology Revisited*. CERF 2019 Workshop Sponsorship award to Baker. **\$750**. 2019.
- **Center for Environmental Resiliency** (USA Internal) *Quantifying fisheries production from restored coastal habitats: Developing underwater video as a tool to estimate density and biomass*. Lead PI: Baker, Co-PIs: Cebrian, zu Ermgassen. **\$20,000** 2018-19.

### **Research Funding, Australia, 2014-2018**

- **Holsworth Wildlife Research Endowment** (National) *Response of benthic ecosystem functioning to biodiversity and environment in a tropical coastal wetland*. Lead PI: Herrera (PhD student), Co-PIs (Advisors): Baker, Sheaves, Sheaves. **\$7000**. 2017.
- **BirdLife Australia Research Award** (National) *The role of Australian mangrove avifauna in coastal ecosystem connectivity*. Lead PI: Buelow (PhD student), CoPIs (Advisors): Reside, Baker, Sheaves. **\$4875**. 2015.
- **Australian Centre for International Agricultural Research** (National) – *FIS-2013-015: Sustainable management of sport fisheries for communities in Papua New Guinea* Lead PI: Sheaves, Co-PI: Baker. **\$688,000**. 2014-2018.
- **Wet Tropics Management Authority** (Regional) *Dissolved oxygen as a constraint for fish utilizing mangrove forests*. Lead PI: Dubuc (PhD student), Co-PIs (Advisors): Sheaves, Waltham, Baker **\$3750**. 2016.
- **JCU Faculty Grant** (Internal) *Fish connectivity in coastal seascapes*. Lead PI: Baker. **\$11,000**. 2014.

### **Doctoral and Postdoctoral Fellowships, Awards and Grants**

- **Tropical Landscapes Joint Venture JCU/CSIRO** (International) *Post-Doctoral Fellowship and research funding* **\$250,000**, 2011-14.
- **Smithsonian Institution** (International) *Post-Doctoral Fellowship* **\$44,000**, 2010/11.
- **NOAA NMFS SE Regional Office** (Regional) *Food web support of fishery species in salt marshes across SE USA* PIs: Baker, Minello, Rozas, Fry. **\$60,000**. 2008/09.
- **ICES Conference** (International) *Travel Award* **\$500**, 2008.
- **National Research Council Post-Doctoral Associateship** (International) *NOAA Fisheries, Galveston Texas* **\$94,000**, 2007-09.
- **Coastal CRC Annual conference** (Regional) *Best student presentation*, 2005.
- **Australian Society for Fish Biology Annual Conference** (National) *John Lake Poster Award*, 2004 (Baker, Wilson).
- **Coastal CRC PhD Scholarship** (National) *Award and research funding* **\$87,000**, 2002-04.

### **Professional Development and Training**

- *ADVANCE Geo Implicit Bias Workshop*, 18 March, 2022, DISL.
- *DEI & Mentoring Underrepresented Students*, 24 March 2022, DISL.
- *URGE – Unlearning Racism in Geosciences*, Jan-May 2021, DISL.

### **Professional affiliations**

Coastal and Estuarine Research Federation 2009-  
American Fisheries Society 2007-

Australian Marine Sciences Association 2005-  
Australian Society of Fish Biologists 2004-

### **Editorial Boards**

Reviews in Fish Biology and Fisheries (June 2019-)  
Estuaries and Coasts (Dec 2020-)

### **Peer reviewer for Journals**

Aquatic Biology	Journal of Fish Biology
African Journal of Marine Science	Journal of Sea Research
Asian Fisheries Science	Journal of the Marine Biological Association of the UK
Biological Conservation	Marine and Coastal Fisheries
BioScience	Marine and Freshwater Research
Caribbean Journal of Science	Marine Biology Research
Coral Reefs	Marine Ecology Progress Series
Diversity	Marine Ecology
Diversity and Distributions	Marine Fisheries Review
Ecosphere	PLOS ONE
Ecosystems	Proceedings B
Estuaries and Coasts	Restoration Ecology
Estuarine Coastal and Shelf Science	Reviews in Fish Biology and Fisheries
Foodwebs	Revista de Biologia Tropical
Functional Ecology	Science of the Total Environment
Global Ecology & Biogeography	Scientific Reports
Gulf and Caribbean Research	Sustainability
Hydrobiologia	Water Biology and Security
Journal of Crustacean Biology	Wetlands
Journal of Experimental Marine Biology and Ecology	Wetlands Ecology and Management
Journal of Fish and Wildlife Management	Zoological Studies

### **Other reviewing/examining duties**

NSF Ad-hoc reviewer  
New Jersey Sea Grant  
NOAA MARFIN  
NOAA Saltonstall Kennedy Grants  
Honours & PhD thesis reviewer for Griffith University  
Honours thesis reviewer for James Cook University

### **Outreach and community service**

Alabama Coastal Cleanup, 2018, 2019, 2020, 2022, 2023  
Bays and Bayous Student presentation judge, 2018  
Alabama Deep Sea Fishing Rodeo Judge 2019, 2020, 2021, 2022, 2023

### **Referees**

USA:

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**Dr. Tom Minello**, (NRC NOAA Post-Doc advisor) Branch Chief (Retired), Fishery Ecology Branch, NOAA Fisheries SEFSC, Galveston Lab, Galveston, Texas 77551, USA.  
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**Dr. Lawrence Rozas**, (Collaborator) NOAA Fisheries SEFSC (Retired), Estuarine Habitats and Coastal Fisheries Center, 646 Cajundome Boulevard, Lafayette, LA 70506, USA.  
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**Australia:**

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