CURRICULUM VITAE

Full name: Benjamin Keith Diggles

Position: Managing Director, DigsFish Services Pty Ltd.

Address: Brisbane, QLD, AUSTRALIA, ben@digsfish.com

Academic qualifications: PhD. B.Sci (Hons. 1st class)

Patents: 4

Professional positions held:

Dec. 2003 - present

Managing Director, DigsFish Services Pty Ltd. http://www.digsfish.com/

Job description: Provision of an independent aquatic animal health consulting service for the fisheries and aquaculture industries in New Zealand, Australia, Asia and the South Pacific. Core business includes import risk analysis, biosecurity risk analysis, environmental risk assessments and environmental management systems, aquatic animal welfare, disease diagnosis in a wide range of aquatic animals, development of feeding attractants for aquaculture, and development of medicated feeds for aquacultured finfish.

Sept. 1997 – Nov. 2003
Marine pathologist/parasitologist, Fish Health Unit, National Institute of Water and Atmospheric Research, Wellington, New Zealand. http://www.niwa.co.nz/

Job description: Provision of a pathology and disease diagnostic service for the New Zealand aquaculture industry, including commercial consulting work as well as government and industry funded research. Clients included private citizens, aquaculture and fishing companies, Regional Councils and the Governments of New Zealand, South Australia, and the Cook Islands. A significant proportion of my time was spent designing experiments, research programmes, and disease surveys, as well as providing disease related advice for FRDC and FRST funded research projects. In this job I was required to perform all aspects of basic and applied science related to the prevention, diagnosis, epidemiology and control of diseases of aquatic organisms including fish (marine and freshwater species), lobsters, *Macrobrachium*, rock oysters, flat oysters, pearl oysters, mussels, abalone, scallops and sea urchins.

Sept. 1996 - Sept. 1997
Manager, Recreational Fisheries, Primary Industries South Australia, Fisheries Department, Adelaide, South Australia. http://www.pir.sa.gov.au/fisheries

Job description: I was responsible for the preparation and formulation of fisheries resource management policies and options for ecologically sustainable development of recreational fishing opportunities in South Australia. I was required to attend national recreational fisheries management meetings and co-ordinate my work with other State fisheries managers. I also produced discussion papers on the management, development and funding of recreational fishing in South Australia; established a consultative process between government and the recreational fishing sector; managed a recreational

fishing fund; and reported to the Director of Fisheries and the Minister for Primary Industries on issues related to recreational fishing legislation.

Jan. 1993-Sept. 1996
Ph.D candidate, Department of Parasitology, The University of Queensland. http://www.uq.edu.au/ Studies of the biology, ecology, taxonomy and control of *Cryptocaryon irritans* (Ciliata), the cause of whitespot disease in cultured marine fishes.

Job description: I was responsible for production of a PhD dissertation on the biology and control of *C. irritans*, an important pathogen of marine fish. The project required extensive fieldwork utilising linefishing, anaesthetics, cast nets, drag nets, and inshore trawlers for collecting various species of fish and shellfish from sites in impoundments, enclosed ponds, estuarine, coastal bar and coral reef environments in Queensland. Laboratory skills required included molecular biology (sequencing, PCR), electron microscopy (SEM, TEM), microscopy, and parasitological dissection. Awarded Doctor of Philosophy 25/2/97.

Jan. 1992-Dec. 1992
B. Sci. Honours candidate, Department of Parasitology, The University of Queensland. http://www.uq.edu.au/ Studies of the development and chemotherapy of *Polylabroides multispinosus* (Monogenea), a gill parasite of cultured Yellowfin Bream, *Acanthopagrus australis*.

Job description: I was responsible for production of an Honours dissertation on the development and chemotherapy of *P. multispinosus*, a monogenean parasite of bream. The project required fieldwork and collaboration with the Port of Brisbane Authority and Seaworld on the Gold Coast, where sea cage experiments were carried out. Laboratory skills required included microscopy and parasitological dissection. First class honours awarded 18/12/92.

B. Sci. (1991).
University of Queensland, Brisbane, Queensland, Australia. http://www.uq.edu.au/
Majors in Zoology, Environmental Science, Marine Biology, Aquaculture and Parasitology. Final year grade point average 6.1 (out of 7). Awarded Bachelor of Science 17/12/91.

Keynote presentations

June 2008. Pathogen risk analysis: experiences from 9 case studies – applications and limitations

Conference: Diseases in Asian Aquaculture 7 **Venue:** Taipei.

In 2008 I presented a keynote address on risk analysis in relation to national and international movements of aquatic animals and their related products. The presentation drew upon experience obtained from several biosecurity risk analyses conducted by Dr Ben Diggles and DigsFish Services Pty Ltd over the previous 8 years.

Further Education

May-June 2014. AQUAVET II, Roger Williams University, Bristol Rhode Island. This intensive 2 week course covered many aspects of the comparative pathology of aquatic animals and was specifically designed to teach aquatic animal medicine to veterinarians. It was sponsored by The University of Pennsylvania, School of Veterinary medicine, and the College of Veterinary Medicine at Cornell University.

November-December 2002. Asia-Pacific Regional Program on Molluscan Health Management Phase II. University of Queensland. Training workshop on diseases of molluscs in the Asia-Pacific region. Lecturers included Dr Mike Hine, Dr Judith Handlinger, Dr Brian Jones, Dr Bob Lester, Dr Sarah Kleeman and Dr Franck Berthe.

July - August 2000. Shrimp Pathology Short Course, The University of Arizona. An intensive 2 week shrimp aquaculture pathology short course run by Prof. Donald Lightner. The course outlined the history of disease in shrimp farming, the diseases, and contained practical diagnostic sessions covering histology, bacteriology, antibody assays (Fluorescent antibody tests, ELISA, Immunoblot, immunohistochemistry) and molecular diagnostic techniques (PCR, RT-PCR, ISH).
www.digsfish.com/UAZShimpPathology.jpg

June 2000. Mollusc Histopathology Workshop, University of Tasmania. A 1 day intensive workshop focusing on histopathology of molluscan organs and tissues. Lecturer Dr Judith Handlinger.

June 2000. Crustacean Histopathology Workshop, University of Tasmania. A 1 day intensive workshop focusing on histopathology of crustacean organs and tissues. Lecturers included Dr Danielle Johnston and Dr Barbara Nowak.

May 2000. Fish Histopathology Workshop, University of Tasmania. A 2 day intensive workshop focusing on histopathology of fish organs and tissues. Lecturers included Dr Judith Handlinger, Dr Barry Munday, Dr Barbara Nowak, Dr Tish Pankhurst and Dr Mark Powell.

Other relevant qualifications and skills

- QLD Driver's licence, advanced and defensive driving training and over 35 years motorsport experience
- Restricted coxwains certificate and QLD speedboat drivers license with over 35 years on-water experience including 30 years research experience from smooth waters to high seas (including 45-50°S, Southern Ocean trawl surveys)
- Australian Maritime College Marine Radio Operators Certificate of Proficiency (MROCP)
- First aid -oxygen administration certificate
- Recreational diver
- Computer skills include Microsoft Word, Excel, Photoshop, Power Point, Internet, GIS

Scientific Referee

Dr Diggles conducts regular scientific peer reviews for a number of scientific journals, including *Diseases of Aquatic Organisms*, *Journal of Aquatic Animal Health*, and *Aquaculture*, as well as occasional reviews for several other journals and scientific publications.

Science Extension

Dr Diggles has developed several world's first science extension tools related to aquatic animal health and welfare, including:

NEATFish - the world's first paper-based and electronic resources for a national standard for the environmental assessment of recreational fishing tournaments
http://www.neatfish.com/

Ikijime.com, the world's first worlds first information portal for humane dispatch of finfish at http://www.ikijime.com/ and instructional videos at https://www.youtube.com/user/ikijime/videos

Aquatic Disease Field Guide. Aquatic animal diseases significant to Australia: Identification Field Guide 5th Edition (including phone applications)
https://www.agriculture.gov.au/animal/aquatic/guidelines-and-resources/aquatic_animal_diseases_significant_to_australia_identification_field_guide

World Organisation for Animal Health (WOAH) (2025). WOAH Aquatic Animal Diseases Field Guide phone app, available for Android devices https://play.google.com/store/apps/details?id=com.aquatic_disease_field_guide.app.woah&hl=en and Apple devices https://apps.apple.com/app/aquatic-diseases-field-guide/id6752763017.

Dr Diggles has also written monthly educational science extension columns for the Australian Anglers Fishing World Magazine https://www.fishingworld.com.au/ for over 25 years (since 1995) and contributed to a fish identification column (Fish Facts) in the USA Sport Fishing Magazine https://www.sportfishingmag.com/ for 17 years (March 2003- March 2020).

Books, chapters in books, management papers, workshops, IRAs:

Papua New Guinea Biosecurity Authority (2026). National Aquatic Biosecurity Strategic Plan for Papua New Guinea 2026-2031. Published by the Government of PNG in collaboration with CSIRO ACDP and DigsFish Services, with funding from the Australian Government/DFAT.

Diggles BK (2025). DRAFT National Aquatic Biosecurity Strategic Plan for Papua New Guinea 2026-2031. Developed for the Government of PNG in collaboration with CSIRO ACDP with funding from the Australian Government/DFAT.

Diggles BK (2025). Biosecurity assessments and audits - Applications for prawn farms in the South Pacific. Presentation at the CSIRO/IFREMER Fonds Pacifique Workshop New Caledonia, Oct 7–8, 2025. http://digsfish.com/Biosecurity_Auditing_ShrimpFarms_Diggles_2025.pdf

Diggles BK (2024). Translocations of edible bivalves within Western Australia. Review of recent taxonomic revisions and scoping of options for pathogen risk assessment. Report prepared for WA Department of Primary Industries and Regional Development (DPIRD) Animal Biosecurity and Welfare Branch, 23 July 2024, 39 pgs.

Diggles BK (2024). Pathogen risk analysis for oyster translocations between South Australia and New South Wales. DigsFish Services Report DF 24-02, prepared for NSW Farmers Association, 1 May 2024, 113 pgs.

World Organisation for Animal Health (WOAH) (2023). Safe commodity assessments for WOAH listed aquatic animal diseases. A revision conducted by DigsFish Services for the World Organisation for Animal Health, Paris, France. January 2023. 117 pgs. https://www.woah.org/app/uploads/2023/04/safe-commodities-report-final-15032023-1.pdf

Diggles BK (2022). Biosecurity upgrades following detection of WSSV in a prawn hatchery at Yamba, northern NSW. DigsFish Services Report DF22-06 for Fisheries Research and Development Corporation Project 2022-072, October 2022. http://digsfish.com/DigsFishreport_WSSV_Yamba FINAL.pdf

Diggles BK (2022). Fish disease surveillance for Snowy 2.0 Biosecurity Risk Management Plan – Baseline Distribution of EHNV and *Lernaea cyprinacea*. DigsFish Services Report: DF 22-01, 6 April 2022, 24 pgs.

Diggles BK (2021). Pathogen risk analysis for aquaculture biosecurity and translocation of tropical rock lobsters (*Panulirus ornatus*) in northern Australia. DigsFish Services Report: DF 21-03c, 29 November 2021, 121 pgs.

Diggles BK (2021). Pathogen risk analysis for Sydney rock oyster translocations between Queensland or New South Wales and Western Australia. DigsFish Services Report: DF 21-01c, 1 September 2021, 113 pgs.

Diggles BK (2021). Providing staged advice for the Snowy 2.0 Biosecurity Risk Management Plan: Stage 1 Hazard Identification. DigsFish Services Report: DF 21-02a, 10 May 2021, 34 pgs.

Diggles BK (2020). Survey for WSSV vectors in the Moreton Bay White Spot Biosecurity Area. DigsFish Services Report DF20-04 for Fisheries Research and Development Corporation, 15 December 2020, 54 pgs. http://digsfish.com/DigsFishreportWSSVvectors.pdf

Diggles BK (2020). Risk Analysis - Biosecurity risks related to recycling of mollusc shell waste for shellfish reef restoration. DigsFish Services Report: DF 20-03b, 6 November 2020, 270 pgs. http://digsfish.com/ShellrecyclingRAFINAL.pdf

Diggles (2020). FRDC Project 019-005. Risk analysis to identify and minimise biosecurity risks arising from recycling bivalve mollusc shell waste during shellfish reef restoration projects in Australia – DRAFT: Hazard Identification. DigsFish Services Report: DF 20-03a, 1 May 2020. 48 pgs.

Diggles BK (2020). CRC NA – Pathogen Risk Analysis for tropical rock oysters. DigsFish Services Report: DF 20-02, 30 April 2020. 147 pgs.

Diggles BK (2020). Biosecurity considerations for offshore aquaculture in New Zealand. DigsFish Services Report: DF 20-01, 31 January 2020. 26 pgs.

DAWR (2020). Disease Strategy: White Spot Disease (Version 3.0). In: Australian Aquatic Veterinary Emergency Plan (AQUAVETPLAN). 73 pgs. A revision conducted by DigsFish Services for the Australian Government Department of Agriculture, Canberra, ACT.

DAWR (2019). Aquatic Disease Field Guide. Aquatic animal diseases significant to Australia: Identification Field Guide 5th Edition, September 2019. Report https://www.agriculture.gov.au/animal/aquatic/guidelines-and-resources/aquatic_animal_diseases_significant_to_australia_identification_field_guide Mobile Application Version 1.3 in iOS or Android. Phone application developed by DigsFish Services and Huxbury Quinn for the Australian Government Department of Agriculture, Canberra, ACT.

Diggles BK (2019). Assessment of environmental effects – Disease Risk Assessment report for proposed salmon farms at Stewart Island, New Zealand. DigsFish Services Report: DF 19-02, 13 May 2019. 114 pgs.

Sim-Smith C, Diggles BK (2019). Review of International Aquatic Health Inspection and Surveillance Programmes. MPI Technical Paper No: 2019/05. Prepared for Ministry for Primary Industries, New Zealand. 153 pgs. http://digsfish.com/Sim-SmithandDiggles2019finalreport.pdf

Diggles BK (2019). Response to comments on the Environmental Assessment Report – Import of specific pathogen free *Penaeus monodon* into Australia. Report prepared for ProAqua Pty Ltd, 29 March 2019. 26 pgs.

Diggles BK (2019). Disease Risk Assessment Report – Open ocean salmon farms near Marlborough Sounds, New Zealand. DigsFish Services Report: DF 19-01, 20 February 2019. 96 pgs.

Diggles BK (2018). Yumbah Nyamat abalone farm assessment of biosecurity and disease risks for the wild fishery. DigsFish Services Report: DF 18-05, 28 December 2018. 45 pgs.

Diggles BK (2018). Distances to consider for farm management area planning in the Marlborough Sounds. DigsFish Services Report: DF 18-03, 4 August 2018. 17 pgs.

Diggles BK (2018). Environmental Assessment Report – Import of specific pathogen free *Penaeus monodon* into Australia. DigsFish Services Report: DF 18-02, 29 June 2018. 27 pgs.

Diggles BK (2018). Independent Technical Assessment: Pathogen Risk Analyses for the introduction of whiteleg shrimp (*Penaeus vannamei*) and black tiger prawns (*Penaeus monodon*) to the Sultanate of Oman. DigsFish Services Client Report DF18-01. March 2018. 8 pgs.

DAWR (2017). Aquatic Disease Field Guide. Aquatic animal diseases significant to Australia: Identification Field Guide 4th Edition Mobile App. Version 1.0 March 2017 in iOS or Android .

Diggles BK (2017). Pathogen risk analysis for Sydney rock oyster translocations between New South Wales and Western Australia. DigsFish Services Report DF17-06a. 97 pgs.

Diggles BK (2017). Northern Australia Biosecurity Initiative - Marine Pest and Disease Risk Assessment. DigsFish Services Report DF17-02. 194 pgs.

Diggles BK and Stevens ED (2016). Stress must not be confused with pain. Atlas of Science 10 Sept 2016, https://atlasofscience.org/stress-must-not-be-confused-with-pain/

Gilles C, Creighton C, McLeod I (eds). (2015). Shellfish reef habitats: a synopsis to underpin the repair and conservation of Australia's environmental, social and economically important bays and estuaries. A report for the national Environmental Science Programme: Marine Biodiversity Hub, Tropwater report No. 15/60. https://research.jcu.edu.au/tropwater/research-programs/coastal-estuarine-ecology/shellfish-reef-protection-and-repair/ShellfishreefhabitatsFinalVersion.pdf

Diggles BK (2015). Protection and repair of Australia's shellfish reefs – Southern Queensland Report. DigsFish Services Client Report DF15-01. September 2015. 27 pgs. http://restorepumicestonepassage.org/wp-content/uploads/2014/04/NESP-Project-Southern-Queensland-Report-DigsFish.pdf

Diggles BK, Barnes L (2015). Surveillance of fish and shellfish health in Darwin Harbour, Northern Territory. Presented at the third FRDC Australasian Aquatic Animal Health Scientific Conference, Cairns, 6-10 July, 2015. http://digsfish.com/DigglesBarnes2015ProcCairnsConference.pdf

Department of Agriculture (2015). Disease Strategy: Crayfish Plague (Version 2.0). In: *Australian Aquatic Veterinary Emergency Plan (AQUAVETPLAN)*. 60 pgs. A revision conducted by DigsFish Services for the Australian Government Department of Agriculture, Canberra, ACT.

Diggles BK (2014). Infection of wild queenfish with sealice (*Lepeophtheirus spinifer* and *Caligus* spp.) in Australia, with observations of skin rashes in fish from Gladstone Harbour, Queensland. Prepared for the second FRDC Australasian Aquatic Animal Health Scientific Conference, Cairns,

8-12 July, 2013, and presented to Project Neptune Webinar Series 31 March 2014. http://digsfish.com/ProjectNeptuneWebinar31Mar2014.pdf

Diggles BK, Macbeth WG, Barnes L, Dyrting K (2013). Detection of a new rickettsia-like organism in wild caught sand crabs (*Portunus pelagicus*) from Darwin and Bynoe Harbours. Second FRDC Australasian Aquatic Animal Health Scientific Conference 8-12 July, 2013, Cairns Australia.

Diggles BK (2013). Updated risk assessment for translocation of Pacific oyster (*Crassostrea gigas*) seed from Shellfish Culture Ltd (Tasmania) into NSW. DigsFish Services Client Report DF13-02. March 2013. 52 pgs.

Diggles BK (2012). Independent Technical Assessment: Import Risk Assessment for the introduction of whiteleg shrimp (*Penaeus vannamei*) to the Kingdom of Saudi Arabia. DigsFish Services Client Report DF12-03. December 2012. 10 pgs.

Diggles BK, Landos M (2012). Biosecurity Workshop. Diseases of Crustaceans in Brunei Darussalam. Training course prepared for the Government of Brunei Darussalam. May 2012.

Diggles BK (2012). Literature Review: Best practice in humane dispatch of finfish caught by recreational fishers. DigsFish Services Client Report DF12-01. Prepared for the Commonwealth of Australia, Department of Agriculture, Fisheries and Forestry, February 2012. 20 pgs.

Gordon DP, Diggles BK, Meisterfeld R, Hollis CJ, Buchanan PK (2012). Chapter 15. Phylum Cercozoa. Cercomonads, filose testate amoebae, Phaeodaria, plasmodiophoras, Gromia, haplosporidians, and kin. Pgs 233-241. In: Gordon DP (Ed). New Zealand Inventory of Biodiversity. Volume 3. Kingdoms Bacteria, Protozoa, Chromista, Plantae, Fungi. Canterbury University Press. 616 pgs.

Diggles BK, Sawynok W, Olyott LJH (2011). Development of an environmental standard for recreational fishing tournaments. In: Beard TD et al. (2011). The angler in the environment. Proceedings of the 5th World Recreational Fishing Conference. *American Fisheries Society Symposium* 75: 251-261.

Diggles BK, Landos M (2011). *Revision of National Water Quality Management Strategy Document 4: Australian and New Zealand Guidelines for Fresh and Marine Water Quality.* Task 2: Assessment of how aquatic guidelines (section 9.4) are used by resource managers and the aquaculture industry and investigate microbiological criteria for management of pathogens in waters for aquaculture. DigsFish Services Client Report DF11-01. Prepared for the NEPC Service Corporation May 2011. 92 pgs.

Diggles BK (2011). Risk Analysis. Aquatic animal diseases associated with domestic bait translocation. Final report prepared for the Australian Government Department of Agriculture, Fisheries and Forestry, Canberra, FRDC Project No. 2009/072. 296 pgs. . http://www.digsfish.com/2009-072final.pdf

Diggles BK (2010). Draft Risk Analysis. Hazard identification – aquatic animal diseases associated with domestic bait translocation. Draft prepared for the Australian Government Department of Agriculture, Fisheries and Forestry, Canberra, FRDC Project No. 2009/072. 119 pgs.

Aquavetplan (2010). Australian Aquatic Veterinary Emergency Plan. Viral Haemorrhagic Septicaemia. Version 2.0, 2010. 71 pgs. A revision conducted by DigsFish Services for the Office of the Chief

Veterinary Officer, Australian Government Department of Agriculture, Fisheries and Forestry, Canberra.

Landos M, Diggles BK, Landos J (2010). Crustacean and disease identification and sampling manual for Brunei Darussalam. DigsFish Services Client Report DF09-10a. Prepared for the Government of Brunei Darussalam. February 2010. 116 pgs.

Reece, KS, Moss, J, Scott, GP, Burreson, EM, Dungan, CF, Sheppard, BJ, Coleman, J, Liggins, G, Diggles, BK, Casas, S, La Peyre, JF, Villalba, A, and Upston, J (2009). Molecular identification and discrimination of *Perkinsus* Species: Implications for developing management strategies and assessing introduction risks. NSA 101st Annual Meeting, March 22-26, 2009, Savannah. *J. Shellfish Res.* 724

Diggles BK, Landos J, Landos M (2009). Import Risk Analysis – Shrimp and Other Crustacean Products. DigsFish Services Client Report DF09-10. Prepared for the Government of Brunei Darussalam December 2009. 155 pgs.

Diggles BK, Olyott L (2009). Implementation of the NEATFish environmental standard for fishing tournaments. Report published by DigsFish Services Pty Ltd, September 2009, for FRDC project no. 2008/215. 25 pgs.

Aquavetplan (2009). Australian Aquatic Veterinary Emergency Plan. Enterprise Manual. Version 2.0, 2009. 170 pgs. A revision conducted by DigsFish Services for the Office of the Chief Veterinary Officer, Australian Government Department of Agriculture, Fisheries and Forestry, Canberra.

Diggles BK, Landos J, Landos M (2009). Assessment of Aquatic Animal Biosecurity Capacity in Brunei Darussalam - March 2009. DigsFish Services Client Report DF09-01. March 2009. 26 pgs.

Aquavetplan (2008). Australian Aquatic Veterinary Emergency Plan. Operations Procedures Manual: Disposal. Version 2.0, 2008. 50 pgs. A revision conducted by DigsFish Services for the Office of the Chief Veterinary Officer, Australian Government Department of Agriculture, Fisheries and Forestry, Canberra.

Diggles BK (2008). Risk assessment for translocation of Pacific oyster (*Crassostrea gigas*) seed from Shellfish Culture Ltd (Tasmania) into NSW. DigsFish Services Client Report DF07-09. June 2008. 35 pgs.

Sawynok W, Diggles BK, Harrison J (2008). Development of a national environmental management and accreditation system for business/public recreational fishing competitions . Report published by Recfish Australia , March 2008, for FRDC project no. 2006/057.

Tubbs L, Lee P, Diggles B, Jones JB, Sheppard M, Sim-Smith C (2007). A review of aquatic diseases of significance to New Zealand. Biosecurity New Zealand Technical Paper. Project ZBS2005-17, 461 pp.

Corfield J, Diggles BK, Jubb C, McDowall RM, Moore A, Richards A, Rowe DK (2007). Draft final report for public comment to the Australian government Department of the Environment and Water Resources. Review of the impacts of introduced aquarium fish species that have established wild populations in Australia. NIWA Client Report: HAM2006-082; NIWA Project: NAU05917 http://www.environment.gov.au/biodiversity/invasive/publications/wild-aquarium-fish.html

Diggles B. K., Hine P.M. and Carson J (2007). The Cook Islands Experience. Pearl oyster health investigations. In: Bondad-Reantaso MG. et al. Pearl Oyster Health Management: A manual. FAO Fisheries Technical Paper 503. FAO, Rome 2007. pgs 71-85.

Sawynok W., Diggles B., Harrison J. (2006). A national environmental management and accreditation system for recreational fishing tournaments: Concept Development. Report published by Recfish Australia , February 2006, for FRDC project no. 2005/235.

Biosecurity NZ (2006). Import Risk Analysis: Freshwater Prawns *Macrobrachium rosenbergii* from Hawaii. Biosecurity NZ, Ministry of Agriculture and Forestry. 63 pgs. IRA prepared by Ben Diggles for NZ Government. http://www.biosecurity.govt.nz/pests-diseases/animals/risk/prawns-ra.htm

Biosecurity NZ (2005). Import Risk Analysis: Ornamental fish. Biosecurity NZ, Ministry of Agriculture and Forestry. 264 pgs. IRA prepared by Ben Diggles for NZ Government.

Diggles, B. K. (2002). Import Risk Assessment: Juvenile yellowtail kingfish (*Seriola lalandi*) from Spencer Gulf Aquaculture, South Australia. NIWA Client report WLG 2001/03, July 2002. Prepared for Island Aquafarms Ltd. 54 p. http://www.maf.govt.nz/biosecurity/pests-diseases/animals/risk/yellowtail-kingfish-ra.pdf

Diggles, B. K., Hine, P. M., Handley, S. and Boustead, N. C. (2002). A handbook of diseases of importance to aquaculture in New Zealand. NIWA Science and Technology Series No. 49, ISSN 1173-0382. 200 pages. http://docs.niwa.co.nz/library/public/NIWAsts49.pdf

Hine, P. M., Jones, J. B. and Diggles, B. K. (2000). A checklist of the parasites of New Zealand fishes, including previously unpublished records. NIWA Technical Report 75. ISSN 1174-2631. 94 pages. http://www.niwa.co.nz/pubs/tr/

Diggles, B.K. (2000). Diseases of spiny lobsters in New Zealand. Proceedings of the International Symposium on Lobster Health Management, L. Evans (ed.). Curtin University of Technology. http://www.curtin.edu.au/curtin/muresk/publica/others/lhm/

Diggles, B. K. and Simpson, D. (1998). A discussion paper on the regulation of recreational fishing in South Australia. South Australian Fisheries Management Series, Paper No. 33 (May 1998). Outcomes summarised at http://www.fishresearch.sa.gov.au/download/rrr.pdf

Diggles, B. K. and Hall, D. (1997). A discussion paper on the management and development of recreational fishing in South Australia. South Australian Fisheries Management Series, Paper No. 23 (May 1997). Outcomes summarized at http://www.fishresearch.sa.gov.au/download/rrr.pdf

Number of peer reviewed scientific papers: 68

68. Diggles BK (2025). Development of resources and equipment to promote best practices for the humane dispatch of sharks in a commercial fishery. *Fisheries Management and Ecology* 34: 134-146. https://doi.org/10.1111/fme.12790

67. Diggles BK, Arlinghaus R, Browman HI, Cooke SJ, Cooper RL, Cowx IG, Derby CD, Derbyshire SW, Hart PJB, Jones B, Kasumyan AO, Key B*, Pepperell JG, Rogers C, Rose JD, Schwab A, Skiftesvik AB, Stevens D, Shields JD, Watson C (2024). Reasons to be skeptical about sentience and pain in fishes and aquatic invertebrates. *Reviews in Fisheries Science & Aquaculture*

32: 127-150. https://doi.org/10.1080/23308249.2023.2257802 Supplementary Material: https://www.digsfish.com/Supplement_fig_1_with_caption.jpg

66. Bostrom-Einarsson L, Martínez-Baena F, Diggles BK, Firby L, McLeod I (2023). An ecological assessment of Australia's first community oyster gardens. *Ecological Management and Restoration* 23: 244-251. https://doi.org/10.1111/emr.12565

65. McAfee D, McLeod IM, Alleway HK, Bishop MJ, Branigan S, Connell SD, Copeland C, Crawford CM, Diggles BK, Fitzsimons JA, Gilby BL, Hamer P, Hancock B, Pearce R, Russell K, Gillies CL (2022). Turning a lost reef ecosystem into a national restoration program. *Conservation Biology* DOI: 10.1111/cobi.13958

64. Diggles BK, Ernst I, Wesche S, Scutt K (2022). Influence of fish attractant on hooking location of *Lutjanus carponotatus* and *Epinephelus quoyanus* caught with soft plastic and hard-bodied lures. *Fisheries Management and Ecology* 29: 880-887. doi.org/10.1111/fme.12589

63. Diggles BK, Bateman K, Chong RSM, Hawkins KA, Moody NC, Stentiford G (2022). *Haplosporidium acetes* n. sp. infecting the hepatopancreas of jelly prawns *Acetes sibogae australis* from Moreton Bay, Australia. *Journal of Invertebrate Pathology* 190: 107751 https://www.sciencedirect.com/science/article/abs/pii/S0022201122000362

62. Hlina BL, Glassman DM, Chhor AD, Etherington BS, Elvidge CK, Diggles BK, Cooke SJ (2021). Hook Retention but not hooking injury is associated with behavioural impairments in angled bluegill. *Transactions of the American Fisheries Society* 242: 106034 https://www.sciencedirect.com/science/article/abs/pii/S0165783621001624

61. Cooke SJ, Venturelli P, Twardek WM, Lennox RJ, Brownscombe JW, Skov C, Hyder K, Suski CD, Diggles BK, Arlinghaus R, Danylchuk AJ (2021). Technological innovations in the recreational fishing sector: implications for fisheries management and policy. *Reviews in Fish Biology and Fisheries* 31: 253–288. https://doi.org/10.1007/s11160-021-09643-1 .

60. Diggles BK (2021). Biosecurity risks related to recycling of mollusc shell waste for shellfish reef restoration in Australia. *Ecological Management and Restoration* 22: 145-159. https://onlinelibrary.wiley.com/doi/10.1111/emr.12472?af=R

59. Diggles BK, Barnes L, Landos M, Dennis MM, O'Carroll JPJ (2021). Sea lice *Lepeophtheirus spinifer*, *Tuxophorus* sp. and *Caligus* sp. infections on wild-caught queenfish *Scomberoides commersonnianus* from northern Australia. *Diseases of Aquatic Organisms* 143: 37–50.

58. Arlinghaus R, Cowx IG, Key B, Diggles BK, Schwab A, Cooke SJ, Skiftesvik AB, Browman HI (2020). Pragmatic animal welfare is independent of feelings. *Science* 370 (Issue 6513): 180 https://science.sciencemag.org/content/370/6513/180.1.long

57. Diggles BK, Chong RSM, Hawkins KA, Underwood DJ, Genge B, Driver L, Kistler C (2020). Investigation into white spots in the carapace of a moribund mud crab (*Scylla serrata*) from a white spot syndrome virus (WSSV) positive zone in Moreton Bay, Australia. *Australian Veterinary Journal* 98: 550-554. https://doi.org/10.1111/avj.13003

56. Boxshall GA, Bernot JP, Barton DP, Diggles BK, Yong RQ, Atkinson-Coyle, T, Hutson KS (2020). Parasitic copepods of the family Lernanthropidae Kabata, 1979 (Copepoda: Siphonostomatoida) recorded from Australian fishes, with descriptions of seven new species. *Zootaxa* 4736 (1): 1-103. https://www.biotaxa.org/Zootaxa/article/view/zootaxa.4736.1.1/0

55. Thurstan RH, Diggles BK, Gillies CL, Strong MK, Kerkhove R, Buckley SM, King RA, Smythe V, Heller-Wagner G, Weeks R, McLeod I (2020). Charting two centuries of transformation in a coastal social-ecological system: implications for modern management. *Global Environmental Change* 61: 102058. https://www.sciencedirect.com/science/article/pii/S0959378019311033

54. McLeod IM, Bostro¨Einarsson L, Creighton C, D'Anastasi B, Diggles BK, Dwyer PG, Firby L, Le Port A, Luongo A, Martinez-Baena F, McOrrie S, Heller-Wagner G, Gillies CL (2019). Habitat value of Sydney rock oyster (*Saccostrea glomerata*) reefs on soft sediments. *Marine and Freshwater Research* 70: 1-11. https://www.publish.csiro.au/MF/MF18197

53 Diggles BK (2018). Review of some scientific issues related to crustacean welfare. *ICES Journal of Marine Science* 76: 66-81. https://academic.oup.com/icesjms/article/76/1/66/5037899

52 Diggles BK, Ernst I, Wesche S (2018). Emergence of Serranid Pigment Abnormality Syndrome (SPAS) in wire netting cod (*Epinephelus quoyanus*) from Heron Island on the southern Great Barrier Reef. *Marine and Freshwater Research* 69: 1201-1207. https://www.publish.csiro.au/MF/MF17353

51 Gilles CL, McLeod IM, Alleway HK, Cook P, Crawford C, Creighton C, Diggles BK, Ford J, Hamer P, Heller-Wagner G, Lebrault E, Le Port A, Russell K, Sheaves M, Warnock B (2018). Australian shellfish habitats: past distribution, current status and future direction. PLOS One http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0190914

50 Diggles BK (2017). Annual pattern of settlement of Sydney rock oyster (*Saccostrea glomerata*) spat in Pumicestone Passage, Moreton Bay. *Proceedings of the Royal Society of Queensland* 122: 17-33.

49 Diggles BK, Arlinghaus R, Browman HI, Cooke SJ, Cowx IG, Kasumayan AO, Key B, Rose JD, Sawynok W, Schwab A, Skiftesvik AB, Stevens ED, Watson CA, Wynne CDL (2017). Responses of larval zebrafish to low pH immersion assay. Comment on Lopez-Luna et al. (2017). *Journal of Experimental Biology* 220: 3191-3192. http://jeb.biologists.org/content/220/17/3191 .

48 Key B, Arlinghaus R, Browman HI, Cooke CJ, Cowx IG, Diggles BK, Rose JD, Sawynok W, Schwab A, Skiftesvik AB, Stevens ED, Watson CA. (2017). Problems with equating thermal preference with "emotional fever" and sentience. Comment on Rey et al. (2015) Fish can show emotional fever: stress-induced hyperthermia in zebrafish. *Proceedings of the Royal Society of London B*. 284: 20160681.

47 Dennis MM, Diggles BK, Faulder R, Olyott L, Pyecroft SB, Gilbert GE, Landos M (2016). Pathology of finfish and mud crabs *Scylla serrata* during a mortality event associated with a harbour development project in Port Curtis, Australia. *Diseases of Aquatic Organisms* 121: 173–188. https://www.int-res.com/articles/dao_oa/d121p173.pdf

46 Cutmore SC, Diggles BK, Cribb TH (2016). *Transversotrema* Witenberg, 1944 (Trematoda: Transversotrematidae) from inshore fishes of Australia: description of a new species and significant range extensions for three congeners. *Systematic Parasitology* 93: 639–652. https://link.springer.com/article/10.1007/s11230-016-9658-4

45 Stevens ED, Arlinghaus R, Browman HI, Cooke SJ, Cowx IG, Diggles BK, Key B, Rose JD, Sawynok W, Schwab A, Skiftesvik, AB, Watson CA, and Wynne CDL (2016). Stress is not pain. Comment on Elwood and Adams (2015). Electric shock causes physiological stress responses in shore crabs, consistent with prediction of pain. *Biology Letters* 12(4):DOI:10.1098/rsbl.2015.1006. http://rsbl.royalsocietypublishing.org/content/12/4/20151006.full

44 Gilles CL and 22 other co-authors (2015). Scaling up marine restoration efforts in Australia. *Ecological Management and Restoration* 16(2): 84-85.

43 Moravec F, Diggles BK (2015). A new gonad-infecting species of *Philometra*, *P. barnesi* sp. n. (Nematoda: Philometridae), from the marine fish *Pomadasys argenteus* (Haemulidae) off the northern coast of Australia. *Parasitology Research* 114: 4121-4126.

42 Diggles BK (2015). Development of resources to promote best practice in the humane dispatch of finfish caught by recreational fishers. *Fisheries Management and Ecology* DOI: 10.1111/fme.12127. http://onlinelibrary.wiley.com/doi/10.1111/fme.12127/abstract

41 Kritsky DC, Diggles BK (2015). *Acanthocercodes* gen. n. (Monogenoidea: Diplectanidae) for species parasitizing threadfins (Perciformes: Polynemidae), with description of *Acanthocercodes bullardi* sp. n. from *Polydactylus octonemus* (Girard) and reassignment of three species of *Diplectanum* Monticelli, 1903 from threadfins of the Indo-Pacific Ocean. *Systematic Parasitology*: 91: 191-201.

40 Moravec F, Diggles BK (2015). *Philometra mirabilis* sp. n. (Nematoda: Philometridae), a new gonad-infecting parasite from the freshwater fish *Cichla mirianae* (Cichlidae) in the Brazilian Amazon. *Parasitology Research* 114: 1929-1932.

39 Diggles BK (2015). Reply to Pollock (2014) Comments on 'Saddleback deformities in yellowfin bream *Acanthopagrus australis* (Gunther) from South east Queensland' by Diggles (2013). *Journal of Fish Diseases* 38: 331-333.

38 Dennis MM, Diggles BK (2015). Multicentric orocutaneous fibrosarcoma in a fork-tailed catfish (*Hemiarius dioctes*). *Journal of Fish Diseases* DOI: 10.1111/jfd.12349

37 Moravec F, Diggles BK (2014b). Two new gonad-infecting species of *Philometra* (Nematoda: Philometridae) from marine fishes off the northern coast of Australia. *Systematic Parasitology* 89: 33-44.

36 Moravec F, Diggles BK, Barnes L, MacBeth W (2014). *Buckleyella ornata* sp. n. (Nematoda: Philometridae) from the abdominal cavity of the talang queenfish *Scomberoides commersonnianus* (Perciformes: Carangidae) off the northern coast of Australia. *Helminthologia* 51, 3: 230-235.

35 Kritsky DC, Diggles BK (2014). Dactylogyrids (Monogenoidea: Polyonchoinea) parasitizing the gills of snappers (Perciformes: Lutjanidae): Species of *Euryhaliotrema* Kritsky & Boeger, 2002 from the golden snapper *Lutjanus johnii* (Bloch) off northern Australia, with a redescription of *Euryhaliotrema johni* (Tripathi, 1959) and descriptions of two new species. *Systematic Parasitology* 87: 73-82.

34 Moravec F, Diggles BK (2014a). Philometrid nematodes (Philometridae) from marine fishes off the northern coast of Australia, including three new species. *Folia Parasitologica* 61: 37-54.

33 Rose JD, Arlinghaus R, Cooke SJ, Diggles BK, Sawynok W, Stevens ED, Wynne CDL (2014). Can fish really feel pain ? *Fish and Fisheries* 15: 97-133. . http://onlinelibrary.wiley.com/doi/10.1111/faf.12010/pdf

32 Diggles BK (2013). Historical epidemiology indicates water quality decline drives loss of oyster (*Saccostrea glomerata*) reefs in Moreton Bay, Australia. *New Zealand Journal of Marine and Freshwater Research* 47: 561-581.

31 Diggles BK (2013). Saddleback deformities in yellowfin bream *Acanthopagrus australis* (Gunther) from South east Queensland. *Journal of Fish Diseases* 36: 521-527.

30 Diggles BK, Sawynok W, Olyott LJH (2011). Development of an environmental standard for recreational fishing tournaments. In: Beard TD et al. (2011). The angler in the environment. Proceedings of the 5th World Recreational Fishing Conference. American Fisheries Society Symposium 75: 251-261.

29 Diggles BK, Cooke SJ, Rose JD, Sawynok W (2011b). Response to Torgersen et al. (2011): Reply to Diggles et al. (2011): Ecology and Welfare of aquatic animals in wild capture fisheries. *Reviews in Fish Biology and Fisheries* 22(1): 367-369.

28 Diggles BK, Cooke SJ, Rose JD, Sawynok W (2011a). Ecology and welfare of aquatic animals in wild capture fisheries. *Reviews in Fish Biology and Fisheries* 21(4): 739-765.

27 Dungan CF, Reece KS, Moss JA, Hamilton RM, Diggles BK (2007). *Perkinsus olseni* in vitro isolates from the New Zealand clam *Austrovenus stutchburyi*. *Journal of Eukaryotic Microbiology* 54: 263-270.

26 Corbeil S., Arzul I., Diggles B.K., Heasman M., Chollet B., Berthe FCJ., Crane MJ. (2006). Development of a TaqMan PCR assay for the detection of *Bonamia* species. *Diseases of Aquatic Organisms* 71: 75-80. http://www.int-res.com/articles/dao2006/71/d071p075.pdf

25 Whipps C.M.,Diggles B.K. (2006). *Kudoa alliaria* in flesh of Argentine hoki, *Macruronus magellanicus* (Gadiformes: Merlucciidae). *Diseases of Aquatic Organisms* 69: 259-263. http://www.int-res.com/articles/dao2006/69/d069p259.pdf

24 Diggles B.K., Oliver, M. (2005). Diseases of cultured paua (*Haliotis iris*) in New Zealand. Proceedings of the 5th Symposium on Diseases in Asian Aquaculture. Fish Health Section, Asian Fisheries Society, Quezon City, Philippines.

23 Tubbs L.A., Poortenaar, C.W., Sewell M.A., Diggles B.K. (2005). Effects of temperature on fecundity in vitro, egg hatching and reproductive development of *Benedenia seriolae* and *Zeuxapta seriolae* (Monogenea) parasitic on yellowtail kingfish *Seriola lalandi*. *International Journal for Parasitology* 35 315-327.

22 Sharp, N. J., Diggles, B. K., Poortenaar, C. W and Willis T. J. (2004). Efficacy of Aqui-S, formalin and praziquantel against the monogeneans, *Benedenia seriolae* and *Zeuxapta seriolae*, infecting yellowtail kingfish, *Seriola lalandi lalandi*, in New Zealand. *Aquaculture* 236: 67-83. http://www.elsevier.com/wps/find/journaldescription.cws_home/503302/description - description

21 Diggles B.K. (2003). Some pathological abnormalities of New Zealand Fishes. *New Zealand Journal of Marine and Freshwater Research* 37: 705-713. http://www.tandfonline.com/doi/pdf/10.1080/00288330.2003.9517200

20 Sharp, N. J., Poortenaar, C. W., Diggles, B. K. and Willis T. J. (2003). Metazoan parasites of yellowtail kingfish, *Seriola lalandi lalandi*, in New Zealand. Prevalence, intensity and site specificity. *New Zealand Journal of Marine and Freshwater Research* 37: 273-282. http://www.tandfonline.com/doi/pdf/10.1080/00288330.2003.9517165

19 Diggles, B.K., Cochennec-Laureau, N., Hine, P.M. (2003). Comparison of diagnostic techniques for *Bonamia exitiosus* from flat oysters *Ostrea chilensis* in New Zealand. *Aquaculture*: 220: 145-156. http://www.elsevier.com/wps/find/journaldescription.cws_home/503302/description - description

18 Diggles, B.K., Nichol, J., Hine, P.M., Wakefield, S., Cochennec-Laureau, N., Roberts, R.D., Friedman, C.S. (2002): Pathology of cultured paua (*Haliotis iris* Martyn, 1784) infected by a novel haplosporidian parasite, with some observations on the course of disease. *Diseases of Aquatic Organisms* 50: 219-231. http://www.int-res.com/articles/dao2002/50/d050p219.pdf

17 Hine, P.M., Diggles, B.K., Parsons, M.J.D., Pringles, A., Bull B. (2002). The effects of stressors on the dynamics of *Bonamia exitiosus* Hine, Cochennec-Laureau & Berthe, infections in flat oysters *Ostrea chilensis* (Philippi). *Journal of Fish Diseases* 25: 545-554. http://www.blackwell-synergy.com/rd.asp?code=JFD&goto=journal

16 Hine, P.M., Diggles, B.K. (2002). The distribution of *Perkinsus olseni* in New Zealand bivalve molluscs. *Surveillance* 29: 8-11. http://www.maf.govt.nz/biosecurity/publications/surveillance/surveillance-29-1.pdf

15 Hine, P.M., Diggles, B.K. (2002). Prokaryote infections in the New Zealand scallops *Pecten novaezelandiae* and *Chlamys delicatula*. *Diseases of Aquatic Organisms* 50: 137-144. http://www.int-res.com/articles/dao2002/50/d050p137.pdf

14 Hine PM, Wakefield S, Diggles BK, Webb VL, Maas EW (2002). The ultrastructure of a haplosporidian containing Rickettsiae, associated with mortalities among cultured paua *Haliotis iris*. *Diseases of Aquatic Organisms* 49: 207-219. http://www.int-res.com/articles/dao2002/49/d049p207.pdf

13 Diggles, B.K. (2001). A mycosis of juvenile spiny rock lobster *Jasus edwardsii* (Hutton, 1875) caused by *Haliphthoros* sp., and possible methods of chemical control. *Journal of Fish Diseases* 24: 99-110. http://www.blackwell-synergy.com/rd.asp?code=JFD&goto=journal

12 Diggles, B.K., Moss, G. A., Carson, J. and Anderson, C. D. (2000). Luminous vibriosis in rock lobster *Jasus verreauxi* (Decapoda: Palinuridae) phyllosoma larvae associated with infection by *Vibrio harveyi*. *Diseases of Aquatic Organisms* 43: 127-137. http://www.int-res.com/articles/dao/43/d043p127.pdf

11 Diggles, B. K. (2000). Chemotherapy of the ciliate *Trichodina* sp. on juvenile turbot (*Colistium nudipinnis*) with notes on the susceptibility of fish with abnormal pigmentation. *New Zealand Journal of Marine and Freshwater Research* 34: 645 - 652. http://www.tandfonline.com/doi/pdf/10.1080/00288330.2000.9516965

10 Diggles B. K., J. Carson, P. M. Hine and M. Tait (2000). Vibrio species associated with mortalities in hatchery reared turbot (*Colistium nudipinnis*) and brill (*C. guntheri*) in New Zealand.

Aquaculture 183: 1-12. .
http://www.elsevier.com/wps/find/journaldescription.cws_home/503302/description - description

9 Diggles, B. K. and Ernst, I. (1997). Hooking mortality of two species of shallow water reef fish caught by recreational angling methods. *Marine and Freshwater Research* 48: 479-483. http://www.publish.csiro.au/nid/126/paper/MF96108.htm

8 Diggles, B. K. (1997). Some information on the morphology of *Cryptocaryon irritans* from South-East Queensland, Australia. *European Journal of Protistology* 33: 200-210. http://www.urbanfischer.de/journals/frame_template.htm?/journals/ejp/e-protis.htm

7 Diggles, B. K. and Adlard, R. D. (1997). Intra-specific variation in *Cryptocaryon irritans*. *Journal of Eukaryotic Microbiology* 44: 25-32. http://www.jeukmic.org/Current_Issue.html

6 Diggles, B. K. and Lester, R. J. G. (1996a). Influence of temperature and host species on the development of *Cryptocaryon irritans*. *Journal of Parasitology* 82: 45-51.

5 Diggles, B. K and Lester, R. J. G. (1996b). Variation in the development of two isolates of *Cryptocaryon irritans*. *Journal of Parasitology* 82: 384-388.

4 Diggles, B. K. and Lester, R. J. G. (1996c). Infections of *Cryptocaryon irritans* on wild fish from South-East Queensland. *Diseases of Aquatic Organisms* 25: 159-167. http://www.int-res.com/articles/dao/25/d025p159.pdf

3 Diggles, B. K. and Adlard, R. D. (1995). Taxonomic affinities of *Cryptocaryon irritans* and *Ichthyophthirius multifiliis* inferred from ribosomal RNA sequence data. *Diseases of Aquatic Organisms* 22: 39-43. http://www.int-res.com/articles/dao/22/d022p039.pdf

2 Roubal, F. R. and Diggles, B. K. (1993). The rate of development of *Polylabroides multispinosus* (Monogenea : Microcotylidae) parasitic on the gills of *Acanthopagrus australis* (Pisces : Sparidae). *International Journal for Parasitology* 23: 871-875. https://www.sciencedirect.com/science/article/pii/0020751993900532

1 Diggles, B. K., Roubal, F. R. and Lester, R. J. G. (1993). The influence of formalin, benzocaine and hyposalinity on the fecundity and viability of *Polylabroides multispinosus* (Monogenea : Microcotylidae) parasitic on the gills of *Acanthopagrus australis* (Pisces : Sparidae). *International Journal for Parasitology* 23: 877-884. https://www.sciencedirect.com/science/article/pii/0020751993900532

Client reports, popular articles, phone applications and other work related outputs (selected recent publications listed chronologically from 2000 to provide examples of the range of work experience)

Diggles BK (2025). BIOSECURITY AUDIT: *Trachinotus anak* culture at the Bribie Island Research Centre (BIRC), 4 December 2024. DigsFish Services Report DF24-04 for CSIRO, December 2024. 63 pgs.

Diggles BK (2025). BIOSECURITY AUDIT: Aquafarms QLD, 22 February 2024. DigsFish Services Report DF24-03 for Harvest Road Oceans Pty Ltd, February 2024. 22 pgs.

Diggles BK (2024). Development of resources and equipment to enable best practice in the humane dispatch of sharks caught by commercial fishers in the Northern Territory. DigsFish Services Report

DF24-01 for Fisheries Research and Development Corporation Project 2022-028, April 2024, http://www.digsfish.com/DigsFish2022-028FinalFRDCreport.pdf

Diggles BK (2023). Ramifications of WSSV incursions into prawn farms at Yamba, northern NSW in 2022/23. Australian Prawn Farmers Association (APFA) Conference, Stamford Plaza, Brisbane 10 November 2023. Full Presentation

Diggles BK, Bass D, Bateman KS, Chong R, Daumich C, Hawkins KA, Hazelgrove R, Kerr R, Moody NJ, Ross S, Stentiford GD (2023). A new haplosporidian (*Haplosporidium acetes*) infecting jelly prawns in Moreton Bay. Presented at the Sixth FRDC Australasian Scientific Conference on Aquatic Animal Health & Biosecurity, Cairns, 4-6 July 2023. Full Presentation

Diggles BK (2023). Predatory journal presentation B: Fish are no longer the only predators in the field of aquatic animal health and welfare. Presented at the Sixth FRDC Australasian Scientific Conference on Aquatic Animal Health & Biosecurity, Cairns, 4-6 July 2023. Full Presentation

Diggles BK (2023). Predatory journal presentation A: Fish are no longer the only predators in the field of aquatic animal health and welfare. Presented at the National Aquatic Animal Health Technical Forum hosted by DAF Fisheries, Cooparoo 22 March 2023. Full Presentation

Diggles BK (2022). Future proofing aquatic biosecurity: Consistency is urgently needed for Australia's ALOP for prawns. Presented at 2nd Australian Biosecurity Symposium, 3-5 May 2022, Gold Coast, Australia. http://digsfish.com/Aust_Biosecurity_Presentation_ May_2022.pdf, and http://digsfish.com/Aust_BioSym-2022-Abstract DigsFish.pdf

Diggles BK (2021). Submission by DigsFish Services to the Senate Environment and Communications Legislation Committee Inquiry into the Offshore Electricity Infrastructure (Regulatory Levies) Bill 2021 and Offshore Electricity Infrastructure Bill 2021, 9 September 2021, 6 pgs.

Diggles BK (2021). Submission by DigsFish Services to the NSW Animal Welfare Reform Discussion Paper, 5 September 2021, 13 pgs.

Diggles BK (2020). Submission by DigsFish Services to DAWE on the revised Prawn Risk Analysis "Draft Risk Review" process. 16 December 2020, 6 pgs. http://digsfish.com/DigsFishsubmissiontodraftrevisedprawnIRA.pdf

Diggles BK (2020). White spot disease in Australian crustaceans. *Animal Health Surveillance Quarterly Jan-Mar 2020*, Vol 25(1): 17-21. http://www.animalhealthaustralia.com.au/download/18870/

Culloty S, Carnegie R, Diggles BK, Deveney M, Michael K, Farnsworth M (2020). Report of the Technical Advisory Group 2019 on a return to flat oyster farming 23–27 September 2019. Report produced for Biosecurity New Zealand to inform advice to the *Bonamia* Programme Governance Group. February 2020. 45 pgs.

Diggles, BK, Porter R, Vardon J, Porter R, Porter J, Veary E (2019d). Pumicestone Passage Shellfish Reef Habitat Restoration Project – December 2018 deployment 12 Month Invertebrate Monitoring. OzFish Unlimited, 31 December 2019. 19 pgs. http://restorepumicestonepassage.org/wp-content/uploads/2020/01/Invertebrate-monitoring-report-Dec-2019.pdf

Diggles, BK, Porter R, Vardon J, MacFarlane C, Veary E (2019c). Pumicestone Passage Shellfish Reef Habitat Restoration Project – December 2018 deployment 9 Month Invertebrate Monitoring. OzFish

Unlimited, 18 September 2019. 17 pgs. http://restorepumicestonepassage.org/wp-content/uploads/2019/09/Invertebrate-monitoring-report-Sept-2019.pdf

Diggles BK, Porter R, Vardon J, Hawthorne S, Veary E (2019b). Pumicestone Passage Shellfish Reef Habitat Restoration Project – December 2018 Deployment - 6 Month Invertebrate Monitoring. OzFish Unlimited Report, 20 June 2019. 15 pgs. http://restorepumicestonepassage.org/wp-content/uploads/2019/06/Invertebrate-monitoring-report-June-2019.pdf

Diggles BK, Porter R, Vardon J, Hawthorne S, Veary E (2019a). Pumicestone Passage shellfish reef habitat restoration project – December 2018 deployment 3 month invertebrate monitoring. Ozfish Unlimited 20 March 2019. 19 pgs. http://restorepumicestonepassage.org/wp-content/uploads/2014/04/Invertebrate-monitoring-report-March-2019.pdf

Diggles BK (2019). Fish kill, Biggs Ave Lake, Beachmere, QLD 30 March to 1 April 2019 - description of events. DigsFish Services Report: DF 19-03, 44 pgs.

Diggles BK, Porter R, Sheehan M, Hawthorne S, Veary E (2018). Pumicestone Passage Shellfish Reef Habitat Restoration Project – 9 Month Invertebrate Monitoring. 26 pgs. http://restorepumicestonepassage.org/wp-content/uploads/2014/04/Invertebrate-monitoring-report-Sept-2018.pdf

Diggles BK (2018). Scientific submission: Specific biosecurity issues with Australia's current prawn import policy. Submission to Biosecurity Advice 2018/06: Request for scientific submissions on specific issues with Australia's current prawn import policy. http://www.digsfish.com/IRADigsFishsubmission.pdf

Diggles BK (2017a). Identifying and addressing the biosecurity risks to Australia associated with imported prawns and seafood products. Submission to the Parliamentary Inquiry into the biosecurity risks associated with the importation of seafood and seafood products (including uncooked prawns and uncooked prawn meat) into Australia. http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport/Seafoodimportation/Submissions

Diggles BK (2017b). DigsFish Submission to the Inspector-General of Biosecurity's review of the circumstances leading to the 2017 suspension of uncooked prawn imports into Australia and the biosecurity considerations relevant to future trade in uncooked prawns. https://www.researchgate.net/publication/320602800_DigsFish_Submission_to_the_Inspector-General_of_Biosecurity's_review_of_the_circumstances_leading_to_the_2017_suspension_of_uncooked_prawn_imports_into_Australia_and_the_biosecurity_considerations_rel

Diggles (2017). Biosecurity audit. Bribie Island Research Centre. DigsFish Services Report DF17-04. 30 May 2017.

Diggles BK (2017). Field observations and assessment of the response to an outbreak of White Spot Disease (WSD) in Black Tiger Prawns (*Penaeus monodon*) farmed on the Logan River in November 2016. 21 February 2017, FRDC Project No: 2016-064.

Diggles BK (2017). WSD outbreak situation report #9 - as of 10 pm Friday 13th January 2017. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep9.pdf

Diggles BK (2017). WSD outbreak situation report #8 - as of 10 pm Monday 9th January 2017. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep8.pdf

Diggles BK (2016). WSD outbreak situation report #7 - as of 10 pm Saturday 31st December 2016. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep7.pdf

Diggles BK (2016). WSD outbreak situation report #6 - as of 8 pm Friday 30th December 2016. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep6.pdf

Diggles BK (2016). WSD outbreak situation report #5 - as of 8 pm Tuesday 13th December 2016. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep5.pdf

Diggles BK (2016). WSD outbreak situation report #4 - as of 8 pm Sunday 11th December 2016. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep4.pdf

Diggles BK (2016). WSD outbreak situation report #3 - as of 8 pm Thursday 8th December 2016. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep3.pdf

Diggles BK (2016). WSD outbreak situation report #2- as of 8 pm Monday 5th December 2016. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep2.pdf

Diggles BK (2016). WSD outbreak situation report #1- as of 8 pm Friday 2nd December 2016. DigsFish Services client report for the Australian Prawn Farmers Association. . www.digsfish.com/WSDoutbreaksitrep1.pdf

Diggles BK (2015). Ikijime Tool series of phone apps for iOS or Android

Diggles BK, Diggles G (2014). Submission to the Independent Review into the leaking bund wall at the Port of Gladstone. Prepared for: The Independent Bundwall Review Panel. DigsFish Services Report DF14-01. 26 February 2014. 38 pgs. http://digsfish.com/DigsFishbundwallsubmission.pdf

Diggles BK (2013). A generic domestic translocation protocol for cultured abalone. DigsFish Services Client Report DF13-03b. May 2013. 39 pgs.

Diggles BK (2013). A Victoria-Tasmania translocation protocol for cultured abalone. DigsFish Services Client Report DF13-03a. May 2013. 26 pgs.

Diggles BK (2013). Preliminary Biosecurity Assessment : Plant and Food Research Facility, Matai, Nelson NZ. DigsFish Services Client Report DF13-01. February 2013. 32 pgs.

Diggles BK, Landos M (2012). Literature Review. Best practice in humane dispatch of finfish caught by recreational anglers. DigsFish Services Client Report DF12-01. Prepared for Commonwealth of Australia , Department of Agriculture, Fisheries and Forestry. February 2012. 20 pgs.

Diggles BK (2012). Biosecurity assessment and disease risk analysis for SAM Abalone and Southern Australian Seafoods. DigsFish Services Client Report DF12-02. May 2012. 69 pgs

Diggles BK (2011). Water quality testing: Gladstone Harbour, QLD, October- Nov 2011. DigsFish Services Client Report DF11-06. December 2011, 14 pgs.

Diggles BK (2011). Abalone Farms Australia Biosecurity Assessment and Disease Risk Analysis. DigsFish Services Client Report DF11-05. December 2011, 58 pgs.

Diggles BK (2011). Biosecurity Assessment – Cawthron Aquaculture Research Facility. Phase 2, Risk management plan for shellfish diseases. DigsFish Services Client Report DF11-04. December 2011, 113 pgs.

Diggles BK (2011). Biosecurity Assessment – Cawthron Aquaculture Research Facility. Phase 1, OsHV-1 of Pacific Oysters. DigsFish Services Client Report DF11-03. October 2011, 43 pgs.

Diggles BK (2011). Declines of bivalve molluscs in Australian estuaries – disease or declining water quality ? Paper presented at the 1st Australasian Scientific Conference on Aquatic Animal Health 5 - 8 July, 2011, Pullman Reef Hotel, Cairns, Queensland, Australia. http://www.digsfish.com/digsfish%20oyster%20talk.pps

Diggles BK (2011). Case report: Barramundi Health Check, Boyne R., April 2011. DigsFish Services Pathology Report DF 11/25. 9 April 2011. http://www.digsfish.com/Gladstonepathreport.pdf

Diggles BK (2011). The case for moderation of marine bioregional planning processes in Australia. A submission to the Parliamentary Inquiry into the Environment Protection and Biodiversity Conservation Amendment (Bioregional Plans) Bill 2011. https://senate.aph.gov.au/submissions/comittees/viewdocument.aspx?id=a13cb113-cc9b-4bec-998d-e10f16bf397a

Diggles BK (2010). Pathological assessment of groper from Mahanga Bay, February 2010. DigsFish Services Client Report DF10-02. February 2010, 13 pgs.

Diggles BK (2010). Review of the literature used by DEWHA to underpin declaration of the Coral Sea Conservation Zone. DigsFish Services Client Report DF10-01. Prepared for Marine QLD. 28 January 2010. 30 pgs. . http://www.marineqld.com.au/sites/default/files/DigsFish%20Services%20Report%20for%20Marine%20Qld.pdf

Diggles BK (2009). Fish Kill, Biggs Ave , Beachmere QLD 24-25 November 2009. DigsFish Services Client Report DF09-11. 30 November 2009, 26 pgs.

Diggles BK (2009). East Quarry Hard Rock Project – Assessment of Potential Fish Health interactions with Hebden Fish Farm. DigsFish Services Client Report DF09-04. June 2009, 33 pgs

Diggles BK (2008). Histopathological assessment of paua from Southern Marine Farms, January 2008. DigsFish Services Client Report DF08-01. February 2008, 8 pgs.

Diggles BK (2007). Risk assessment for translocation of Pacific oyster (*Crassostrea gigas*) seed spat from Shellfish Culture sites in Tasmania into NSW. DigsFish Services Client Report DF07-09. August 2007, 37 pgs

Diggles BK (2007). Scientific submission to AQIS supporting an application for an import permit allowing entry of whole, round menhaden (*Brevoortia tyrannus*) for use as lobster bait. DigsFish Services Client Report DF07-01. January 2007. 39 pgs.

Diggles BK (2006). Methods for health assessment of sand crabs. DigsFish Services Client Report DF06-08. April 2006. 18 pgs.

Diggles BK (2006). Pathology of Salmon subjected to PIT tagging – trial 2. DigsFish Services Client Report DF06-06. March 2006. 8 pgs

McKenzie JR, Diggles BK, Tubbs L, Poortenaar C, Parkinson D, Webster K, Miller N (2006). An evaluation of a new type of plastic-coated PIT tag for tagging snapper (*Pagrus auratus*). NZ Fisheries Assessment Report 2006/8. June 2006.

Diggles BK (2006). Pathology report for Sydney Rock Oyster spat from Port Stephens. DigsFish Services Client Report DF06-04. February 2006. 7 pgs

Diggles BK (2005). Investigations into mortalities of scallop (*Amusium balloti*) spat. DigsFish Services Client Report DF05-17. September 2005. 6 pgs

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Diggles BK (2004). CASE REPORT: Histopathology of internal organs of juvenile salmon (*Oncorhynchus tshawytscha*) from Kaituna. DigsFish Pathology Services Pathology Report. DF04-32. August 2004. 4 pgs

Diggles BK (2004). Disease testing of cultured paua (*Haliotis iris*) in New Zealand. Presentation at 2004 New Zealand Abalone Farmers Association (NZAFA) meeting at Whangarei. August 2004
www.digsfish.com/NZconfWhangarei2004.pdf

Diggles BK, Maas E (2004). Cook Islands Pearl Oyster and Lagoon Health Monitoring Programme, December 2003. NIWA Client Report WLG2004-24. April 2004, 48 pgs.

Diggles BK (2004). Parasites as potential stock discriminators of kingfish (*Seriola lalandi*). DigsFish Pathology Services Client Report DF04/13. April 2004, 12 pgs.

Diggles BK (2004). Design and costing of a survey for OIE List diseases in commercially important shellfish (Mollusca) in New Zealand. DigsFish Pathology Services Client Report DF04/12. March 2004, 27 pgs.

Diggles BK (2004). Survey of dredge oysters (*Ostrea chilensis*) from Foveaux Strait for Bonamiosis, oyster condition and other concurrent infections. DigsFish Pathology Services Client Report DF04/11. March 2004, 15 pgs.

Diggles BK (2004). Parasites as potential stock discriminators of blue mackerel (*Scomber australasicus*). DigsFish Pathology Services Client Report DF04/10. March 2003, 12 pgs.

Diggles BK (2004). Health assessment of cultured kingfish (*Seriola lalandi*) from Crail Bay, January 2004. DigsFish Pathology Services Client Report DF04/ 03. January 2004, 17 pgs.

Diggles BK (2004). Identification of nematodes from seacaged Chinook salmon (*Oncorhynchus tshawytscha*). DigsFish Pathology Services Client Report DF04/ 02. January 2004, 6 pgs.

Diggles BK (2003). Histopathological assessment of paua from Stewart Island. DigsFish Pathology Services Client Report DF03/ 03. December 2003, 7 pgs.

Diggles BK (2003). Histopathological assessment of paua from NIWA Mahanga Bay, November 2003. DigsFish Pathology Services Client Report DF03/ 01. November 2003, 6 pgs.

Diggles B.K. (2003). Parasitological and pathological inspection of *Macrobrachium rosenbergii* from NZ Prawns Ltd. Pathology report prepared for NZ Prawns Ltd, Taupo, June 2003. 4 pgs.

Diggles B. K. (2003). NSW flat oyster (*Ostrea angasi*) disease survey. Final report - November 2003. NIWA Client Report AUS 2003 - 01, November 2003, Prepared for NSW Fisheries, NIWA Project NAU 04906, 19 pgs.

Diggles B. K. (2003). Shellfish Disease Surveillance Programme - Final Report June 2003. NIWA Client Report AUS 2002 - 018, June 2003, Prepared for PIRSA, NIWA Project NAU 03911, 24 pgs.

Diggles B. K. (2003). Shellfish Disease Surveillance Programme - Preliminary Report May 2003. NIWA Client Report AUS 2002 - 014, May 2003, Prepared for PIRSA, NIWA Project NAU 03911, 13 pgs.

Diggles B. K. (2003). Shellfish Disease Surveillance Programme - Preliminary Report March 2003. NIWA Client Report AUS 2002 - 010, March 2003, Prepared for Primary Industries and Resources, South Australia, NIWA Project NAU 03911, 8 p.

Dunn, A., Michael, K. P., Forman, J. S. and Diggles B. K. (2003). Estimates of intensity and prevalence of infection by *Bonamia exitiosus* in oysters for selected sites in Foveaux Strait in February 2003. Final Research report no. WLG2003-10, for BOM 03301, March 2003. 25 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Bruce, M., Diggles, B., Herbert, N. and Jeffs, A. (2003). The potential use of bovine colostrum in aquaculture. NIWA Client report AKL 2003-016, February 2003, Prepared for Fonterra Tech, NIWA project KTL 02101. 18 p.

Macaulay, G., Hart, A., Grimes, P., Diggles, B. K., Bull, B. (2002). Target strength estimates of hoki and associated species. Final research report for Ministry of Fisheries Research Project HOK2000/03, Objective 3. November 2002. 33 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Diggles, B. K. (2002). Import Risk Assessment: Juvenile yellowtail kingfish (*Seriola lalandi*) from Spencer Gulf Aquaculture, South Australia. NIWA Client report WLG 2001/03, July 2002. Prepared for Island Aquafarms Ltd. 54 p. http://www.maf.govt.nz/biosecurity/pests-diseases/animals/risk/yellowtail-kingfish-ra.pdf

Hickman B, Tait M, Redfearn P, Moss G, Allen S, Poortenaar C, Diggles B, Maas E, Carton G (2002). Progress towards kingfish farming in New Zealand: a report on the kingfish larval rearing programme 2001/02. NIWA Client report AK02088, July 2002, prepared for Moana Pacific Fisheries Ltd. 20 p.

Diggles, B. K. and Oliver, M. (2002). Investigation of the epidemiology of a haplosporidian parasite infecting cultured paua *Haliotis iris*. Final research report for Ministry of Fisheries Research Project MOF 2001/03, Objective 1. June 2002. 12 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Diggles, B. K. and Hine, P. M. (2002). *Bonamia* epidemiology in Foveaux Strait oysters. Final Research Report for Ministry of Fisheries Research Project OYS 1999/01/other services. June 2002. 52 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Dunn A., Michael, K. P., Parsons, M., Diggles, B. K. (2002a). Updated estimates of the commercial population size, yields and estimates of the intensity and prevalence of infection by *Bonamia exitiosus* in Foveaux Strait oysters for selected sites in Foveaux Strait in March 2002. Final research report for Ministry of Fisheries Research Project MOF 2001/03L Objectives 1 and 2, July 2002. 20 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Dunn A., Michael, K. P., Parsons, M., Diggles, B. K. (2002b). Estimates of prevalence and intensity of infection of Foveaux Strait oysters by *Bonamia exitiosus* for selected sites in Foveaux Strait in January 2002. Final research report for Ministry of Fisheries Research Project MOF 2001/03I, February 2002. 16 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Michael K, Dunn A, Diggles B (2002). Foveaux Strait: *Bonamia* is back - a setback for the rebuilding Bluff oyster fishery. *Seafood New Zealand* August 2002: 44.

Smith, P, Diggles, B. K., Bull, B. and Benson, P. (2001). Stock relationships of alfonsino and cardinalfish in New Zealand waters. Final Research report for Ministry of Fisheries Research Project DEE1999/03, objective 2. September 2001. 50 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Diggles, B. K. and Tait, M. (2001). Mortality of eels (*Anguilla australis*) in a water recirculation system. NIWA Client report WLG 2001/92 prepared for Wiptec Aquaculture Ltd, December 2001. 8 p.

Oliver M, and Diggles BK (2001). Condition assessment of CRA8 lobsters from Bluff Holding facility. NIWA Client report WLG 2001/95 prepared for Ngai Tahu Fisheries Ltd. December 2001. 12 p.

Michael, K. P., Dunn, A., Parsons, M., Diggles, B. K. Cranfield, H. J. (2001). Preliminary analysis of Foveaux Strait oysters and associated infection by *Bonamia exitiosus*. Final Research report for Ministry of Fisheries Research Project OYS 2000/01. 25 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Diggles, B. K and P. M. Hine (2001). Mortality of black-lip pearl oysters (*Pinctada margaritifera*) in Manihiki Lagoon. NIWA client report no. WLG 01/5 prepared for The Ministry of Marine Resources, Government of the Cook Islands. 36 p.

Diggles BK and Hine PM (2001). The distribution of *Perkinsus olseni* in New Zealand bivalve molluscs. NIWA Client Report: WLG 01/46 prepared for The Ministry of Agriculture and Forestry Biosecurity Authority, July 2001, 15 p.

Diggles, B. K. (2001). A paua parasite problem ? *Aquaculture Update* 28: 3.

Dunn, A., Hine, P. M., Diggles, B. K., and Andrew, N. L. (2001). The oyster and the parasite. *Seafood New Zealand*, June 2001. 9(5): 46-47.

Smith, P., Proctor, C., Robertson, S., McMillan, P., Bull, B. and Diggles, B. (2000). Stock relationships of black oreo in New Zealand waters. Final Research Report for the Ministry of Fisheries Research Project DEE9801 Objective 1 (Part two). November 2000. 40 p. (Unpublished report held by the Ministry of Fisheries, Wellington).

Dunn, A, Michael, K. P., Hine, P. M., Andrew, N. L., Diggles, B. K. and Cranfield, H. J. (2000). Analysis of a survey of the prevalence and intensity of *Bonamia* sp. in Foveaux Strait oysters. New Zealand Fisheries Assessment Report 2000/32, September 2000.

Diggles, B. K. (2000). Final report on the parasites and pathological lesions of yellowbelly flounder *Rhombosolea leporina* and their relationship with contamination in Manukau Harbour. NIWA Client Report WLG 2000/29 prepared for the Auckland Regional Council. 14 p.

Diggles, B. K., Chang, H., Smith, P., Uddstrom, M. and Zeldis, J. (2000). A discolouration syndrome of commercial bivalve molluscs in the waters surrounding the Coromandel Peninsula. Final report for the Ministry of Fisheries Research Project MOF 1999/04B, January 2000. 30 p. (Unpublished report held by the Ministry of Fisheries, Wellington).