SAM McCLATCHIE March, 2020

Current contact details:
38 Upland Rd, Huia,
Auckland, New Zealand.
Cell: 027 752 8495
Email: smcclatchie@fishocean.info
Web page: http://www.fishocean.info

Previous position:
Supervisory Fisheries Oceanographer (Retired April 2018)
Southwest Fisheries Science Center, National Marine Fisheries Service
8901 La Jolla Shores Drive, La Jolla, CA 92037-1509, USA

Personal

Place & date of birth: Tacoma, Washington, U.S.A., 28 September 1955
Citizenships: USA (by birth), New Zealand (by naturalisation)
Marital status: Married to Elena Turin
Languages: English (native), Spanish (intermediate)

Education

1985	PhD in Oceanography. Dalhousie University, Halifax, Nova Scotia, Canada.
	PhD thesis: "Feeding rates, selectivities and behaviour of euphausiid Crustaceans"
1979	First Class Honours BSc in Zoology, University of Canterbury, Christchurch, New Zealand.

Other relevant skills

Competent in the R statistical language, NCAR Command Language, LaTex, Linux. Preferred OS is Linux.

Honours & awards

Japan Science & Technology Research Fellow, 1998

Alexander von Humboldt Research Fellowship, declined 1990.

Universite Laval, Quebec Research Associateship (OPEN), declined 1990.

University of Cape Town Postdoctoral Fellowship, declined 1989

New Zealand University Grants Committee Postdoctoral Fellowship 1986-1989

Dalhousie Graduate Fellowship, 1981-1985

NSF Graduate Fellowship Honourable Mention, 1981

First Class Honours in Zoology, 1979.

Employment history

2011 - 2018	Supervisory Oceanographer, Southwest Fisheries Science Center, NOAA, NMFS, La Jolla, CA, USA (retired April, 2018)
2006 - 2010	Research Oceanographer, Southwest Fisheries Science Center, NOAA, NMFS, La Jolla, CA, USA
2003 - 2006	Senior Research Scientist, South Australian Research & Development Institute (SARDI Aquatic Sciences), Australia
1995 - 2003	Research Scientist, fisheries acoustics, National Institute of Water and Atmospheric Research (NIWA) , New Zealand
1992 - 1995	Research Scientist, MAF Fisheries South, Dunedin, New Zealand
1990 - 1992	Research Associate, Department of Oceanography, Dalhousie University, Halifax, Nova Scotia, Canada.
1990 1990	Postdoctoral Associate at Ecology & Systematics, Cornell University, New York, USA
1989 - 1990	Temporary joint appointment between Zoology & Portobello Marine Laboratory, University of Otago, , New Zealand
1986-1989	UGC Postdoctoral Fellow at Portobello Marine Laboratory, University of Otago, New Zealand

Current Collaborators, Co-Authors and Conflicts of Interest (within 4 years)

E. Bjorkstedt (SWFSC), D. Checkley (SIO), R. Cowen (OSU), H. Dewar (SWFSC), D. Demer (SWFSC), J. Duffy-Anderson (AFSC), T. Eguchi (SWFSC), C. Greene (Cornell), A. Greer (RSMAS), R. Goericke, C. Guigand (RSMAS), J. Hare (NWFSC), K. Hill (SWFSC), L. Jacobson (NEFSC), S. Kohin (SWFSC), A. Koslow (SIO), N. Lo (SWFSC), J. Lyczkowski-Shultz (SEFSC), J. Luo (OSU), A. Miller (SIO), K. Nieto (EC IES, Italy), W. Peterson (NWFSC), D. Rudnick (SIO), H. Song (SIO), S. Teo (SWFSC), A.Takasuka (NRIFS), A. Thompson (SWFSC), R. Vetter (SWFSC), W. Watson (SWFSC), E. Weber (SWFSC), B. Wells (SWFSC), Yi Xu (SWFSC).

Proposal Reviewer for

NOAA, US Department of Commerce proposals (USA)
National Science Foundation proposals (USA)
National Undersea Research Program (USA)
National Environmental Research Council proposals (UK)
Wellcome Trust Joint Infrastructure Fund proposals (UK)
Natural Sciences & Engineering Research Council of Canada proposals
Foundation for Research Science and Technology proposals (New Zealand)
CSIRO National Facility Southern Surveyor proposals (Australia)

Manuscript Reviewer for

Frontiers in Marine Science
ICES Journal of Marine Science
Ecology
Marine Biology
Marine Ecology Progress Series
New Zealand Journal of Marine & Freshwater Research
Fisheries Research
CCAMLR Science
South African Journal of Marine Science
Ciencias Marinas
Journal of Crustacean Biology
Oceanography
Limnology and Oceanography
Fisheries Oceanography
Progress in Oceanography
Continental Shelf Research
Deep-Sea Research
Geophysical Research Letters
Fishery Bulletin of the U.S.

Committees

Member on U.S. National Science Foundation Review Panel, Washington D.C., (1999 & 2004)
Member on Foundation for Research, Science and Technology (FRST) Marine Climate and Geology Advisory Committee (1994-1996)
Advisory Committee representative for FRST Review of NIWA and Cawthron Institute Coastal and Estuarine Programs (1994)
Member on NIWA Research and Development Committee. 1998-2000.
CalCOFI Committee 2012 to 2018.

Research

My research interests are broad, ranging from fisheries acoustics, to plankton trophic dynamics, to the impacts of climate on fisheries. A recurrent theme is that my work is multidisciplinary, and this has led me to work with a wide range of scientific collaborators, including physical oceanographers, physicists, modelers, remote sensing specialists, electrical engineers, fisheries biologists, physiologists, biological oceanographers, stock assessment biologists, statisticians and taxonomists. The breadth of my interests is reflected in my undertaking to write a book on the regional fisheries oceanography of the California Current system. In practice, my focus as a SWFSC researcher was to examine the effects of climate variability and climate change on California fisheries, with a special focus on coastal pelagic species. I am particularly interested in using long time series such as the CalCOFI surveys to understand environmental effects on fisheries. My former research group at SWFSC is actively involved not only in analyses of the CalCOFI data sets, but in combining the CalCOFI data with other sources of information, such as from remote sensing, from data assimilation models, from gliders and from sea-going field experiments. The methods that we apply are quantitative and statistical, leading us to collaborate with physical oceanographers and modelers, and to apply new technologies (such as optical methods) to reanalyze and to add value to the CalCOFI plankton sample archives.

Refereed publications

Recent papers are available on my Researchgate page <https://www.researchgate.net/profile/Sam_Mcclatchie>

A. PRIMARY PUBLISHED OR CREATIVE WORK

1. McClatchie, Sam, Juniper, S.K. and Knox, G.A. "Structure of a mudflat diatom community in the Avon-Heathcote estuary, New Zealand". *New Zealand Journal of Marine and Freshwater Research* 16, 1982. (pp.299-309) RESEARCH ARTICLE

2. McClatchie, Sam and Boyd, C.M. "Morphological study of sieve efficiencies and mandibular surfaces in the Antarctic krill, *Euphausia superba*". *Canadian Journal of Fisheries and Aquatic Sciences* 40(7), 1983. (pp.955-967) RESEARCH ARTICLE

3. McClatchie, Sam. "Feeding behaviour of *Meganyctiphanes norvegica* (M.Sars) (Crustacea: Euphausiacea)". *Journal of Experimental Marine Biology and Ecology* 86(3), 1985. (pp.271-284) RESEARCH ARTICLE

4. McClatchie, Sam and Lewis, M.R. "Limitations of grazing rate equations: the case for time-series measurements". *Marine Biology* 92, 1986. (pp.135-140) RESEARCH ARTICLE

5. McClatchie, Sam. "Time-series feeding rates of the euphausiid *Thysanoessa raschii* in a temporally patchy food environment". *Limnology & Oceanography* 31(3), 1986. (pp. 469-477) RESEARCH ARTICLE

6. McClatchie, Sam. "Experimental test of an allometric method for estimating potential copepod production". *Marine Biology* 94, 1987. (pp.597-603) RESEARCH ARTICLE

7. McClatchie, Sam (1988). "Food limited growth of Antarctic krill, *Euphausia superba*, in Admiralty Bay, South Shetland Islands, Antarctica". *Continental Shelf Research* 8: 329-345. RESEARCH ARTICLE

8. McClatchie, Sam. "Functional response of the euphausiid *Thysanoessa raschii* grazing on small diatoms and toxic dinoflagellates". *Journal of Marine Research* 46, 1988. (pp.631-646) RESEARCH ARTICLE

9. Dalley, Deborah E. and McClatchie, S. "Functional feeding morphology of the euphausiid *Nyctiphanes australis*". *Marine Biology* 101, 1989. (pp.195-203) RESEARCH ARTICLE

10. McClatchie, Sam, Hutchinson, D. and Nordin, K. "Aggregation of avian predators and zooplankton prey in Otago shelf waters, New Zealand". *Journal of Plankton Research* 11(2), 1989. (pp.361-374) RESEARCH ARTICLE

11. McClatchie, Sam, Kawachi, R. and Dalley, D.E. "Epizoic diatoms on the euphausiid *Nyctiphanes australis*: consequences for gut fluorescence measurements". *Marine Biology* 46(3), 1990. (pp.631-646) RESEARCH ARTICLE

12. McClatchie, Sam, Jaquiery, P., Pilditch, C. and Kawachi, R. "Grazing rates of *Nyctiphanes australis* (Euphausiacea) in the laboratory and Otago Harbour, measured by three independent methods". *Continental Shelf Research* 11(1), 1991. (pp.1-22) RESEARCH ARTICLE

13. McClatchie, Sam, Jillett, J.B. and Gerring, P. "Observations of gulls foraging on beach-stranded plankton in Otago Harbour, New Zealand". *Limnology and Oceanography* 36(6), 1991. (pp.1195-1200) RESEARCH ARTICLE

14. Greene, Charles H., Stanton, T.K., Wiebe, P.H. and McClatchie, S. "Acoustic estimates of Antarctic krill". *Nature* 349, 1991, (pp.110). RESEARCH ARTICLE

15. McClatchie, Sam, Rakusa-Suszczewski, S. and Filcek, K.. "Seasonal growth and mortality of *Euphausia superba* in Admiralty Bay, South Shetland Islands, Antarctica". *ICES Journal of Marine Science* 48, 1991. (pp.335-342) RESEARCH
16. ARTICLE

17. McClatchie, Sam. "Time series measurement of grazing rates of zooplankton and bivalves". *Journal of Plankton Research* 14(2), 1992. (pp.183-200) Invited Paper. RESEARCH ARTICLE

18. Pilditch, Conrad and McClatchie, S. "Quantitative analysis of grazing and carnivory in the krill *Nyctiphanes australis*, with an examination of the effect of alternate prey". *Marine Ecology Progress Series* 107, 1994. (pp. 41-53) RESEARCH ARTICLE

19. McClatchie, Sam, Greene, C.H., Macaulay, M.C. and Sturley, D. "Fine-scale horizontal variability Antarctic krill biomass: implications for stock assessment". *ICES Journal of Marine Science* 51, 1994. (pp.11-18) RESEARCH ARTICLE

20. McClatchie, Sam, Alsop, J., Ye, Z. and Coombs, R. "Consequence of swimbladder model choice and fish orientation to target strength of three New Zealand fish species". *ICES Journal of Marine Science* 53(5), 1996. (pp. 847-862) RESEARCH ARTICLE

21. McClatchie, Sam, Alsop, J., and Coombs, R. "A re-evaluation of relationships between fish size, acoustic frequency and target strength". *ICES Journal of Marine Science* 53(5), 1996. (pp.780-791). RESEARCH ARTICLE

22. McClatchie, Sam, Millar, R.B., Webster, F., Lester, P.J., Hurst, R and Bagley, N. "Demersal fish community diversity off New Zealand: Is it related to depth, latitude and regional surface phytoplankton?" *Deep-Sea Research Part 1* 44(4), (1996). (pp.647-668) RESEARCH ARTICLE

23. McClatchie, Sam, Macaulay, G., Hanchet, S. and Coombs, R.F. "Target strength of southern blue whiting (*Micromesistius australis*) from swimbladder modelling, split beam and deconvolution". *ICES Journal of Marine Science* 55, (1998). (pp.482-493) RESEARCH ARTICLE

24. Ye, Zen. and McClatchie, S. "On inferring speed of sound in marine organisms". *Journal of the Acoustical Society of America* 103(3), 1998. (pp.1667).RESEARCH ARTICLE

25. O'Driscoll, Richard L. and McClatchie, S. "Spatial distribution of planktivorous fish schools in relation to krill abundance and local hydrography off Otago, New Zealand". *Deep-Sea Research* Special Issue 45, 1998. (pp.1295-1325) RESEARCH ARTICLE

26. Jacob, Wayne, McClatchie, S., Probert, P.K. and Hurst, R. "Demersal fish assemblages off southern New Zealand". *Deep Sea Research* 45(12): 2119-2155, 1998 RESEARCH ARTICLE

27. McClatchie, Sam, Macaulay, G., Coombs, R.F., Grimes, P. and Hart, A. "Target strength of an oily deep-water fish, orange roughy (*Hoplostethus atlanticus*). Part I: Experiments". *Journal of the Acoustical Society of America* 106(1), 131-142, 1999 RESEARCH ARTICLE

28. McClatchie, Sam and Ye, Z. "Target strength of the deepwater fish, orange roughy (*Hoplostethus atlanticus*). Part II: Modeling". *Journal of the Acoustical Society of America* 107(3), 2000. (pp.1280-1285) RESEARCH ARTICLE

29. McClatchie, Sam, Thorne, R., Grimes, P. and Hanchet, S. "Ground truth and target identification for fisheries acoustics". *Fisheries Research* 47(2-3), 2000. (pp.173-191) Special Issue on Fisheries Acoustics. RESEARCH ARTICLE

30. Doonan, Ian., Coombs, R.F. and McClatchie, S. "Absorption of sound in seawater in relation to estimation of deepwater fish biomass". *ICES Journal of Marine Science* 60, 2003. (pp.1047-1055) RESEARCH ARTICLE

31. * McClatchie, Sam, Macaulay, G.J. and Coombs, R.F. "A requiem for the use of 20log10length for acoustic target strength with special reference to deep-sea fishes". *ICES Journal of Marine Science* 60(2), 2003. (pp.419-428) RESEARCH ARTICLE

32. * McClatchie, Sam and Dunford, A. "Estimated biomass of vertically migrating mesopelagic fish off New Zealand". *Deep-Sea Research* 50, 2003. (pp.1263-1281) RESEARCH ARTICLE

33. * McClatchie, Sam, Coombs, R.F. and Macaulay, G. "Acoustic backscatter and copepod secondary production across the Subtropical Front to the east of New Zealand". *Journal of Geophysical Research* 109, C03013, doi:10.1029/2000JC000751, 2004. RESEARCH ARTICLE

34. Takahashi, Hiroke, Sawada, K., Watanabe, K., Horne, J.K., McClatchie, S., Takao, Y., Abe, K. "Development of a stereo TV camera system to complement fish school measurements by quantitative echosounder". *Oceans04/ Tech-Ocean04 Proceedings*, 2004. (pp. 409-414) RESEARCH ARTICLE

35. Sawada, Kouichi, Takahashi, H., Takao, Y., Watanabe, K., Horne, J.K., McClatchie, S., Abe, K. "Development of an acoustic-optical system to estimate target strengths and tilt angles from fish aggregations". *Oceans04/ Tech-Ocean04 Proceedings*, 2004. (pp. 395-400) RESEARCH ARTICLE

36. * McClatchie,Sam and Coombs, RF. "Spatial variability of orange roughy around the Northwest Hills on the Chatham Rise, New Zealand". *Deep-Sea Research* I 52, 2005. (pp. 589-603) RESEARCH ARTICLE

37. McClatchie,Sam and Coombs, R.F. "Low target strength fish in mixed species assemblages: the case of orange roughy". *Fisheries Research* 72, 2005. (pp. 185-192) RESEARCH ARTICLE

38. * McClatchie,Sam, Pinkerton, M. and Livingston, M.E. "Relating the distribution of a semi-demersal fish, *Macruronus novaezelandiae*, to their pelagic food supply". *Deep-Sea Research* 52(8), 2005. (pp. 1489-1501) RESEARCH ARTICLE

39. Ward, Tim M., Mcleay, L., Dimmlich, W., Rogers, P.J., McClatchie, S., Matthews, R., Kämpf, J. and van Ruth, P.D. "Pelagic ecology of a northern boundary current system: effects of upwelling on the production and distribution of sardine (*Sardinops sagax*), anchovy (*Engraulis australis*) and southern bluefin tuna (*Thunnus maccoyii*) in the Great Australian Bight. *Fisheries Oceanography* 15, 2006. (pp. 191-207) RESEARCH ARTICLE

40. * McClatchie, Sam, Middleton, J.F. and Ward, T.M. "Water mass and alongshore variation in upwelling intensity in the eastern Great Australian Bight". *Journal of Geophysical Research* 111, No.C8, C08007, doi:10.1029/2004JC002699, 2006. RESEARCH ARTICLE

41. * McClatchie, Sam, Rogers, P.J., and McLeay, L. "Importance of scale to the relationship between abundance of sardine larvae, stability and food". *Limnology & Oceanography* 52(4), 2007. (pp.1570-1579) RESEARCH ARTICLE

42. Vetter, Russ, Kohin, S., Preti, A., McClatchie, S. and Dewar, H.. "Predatory interactions and niche overlap between mako shark, *Isurus oxyrinchus*, and jumbo squid, *Dosidicus gigas*, in the California Current". *California Cooperative Oceanic Fisheries Investigations Reports* 49, 2008. (pp. 142-156) RESEARCH ARTICLE

43. McClatchie, Sam, Goericke, R., Koslow, A.J. and 24 other authors. "The state of the California Current, 2007–2008: La Niña conditions and their effects on the ecosystem". *California Cooperative Oceanic Fisheries Investigations Reports* 49, 2008. (pp.39-76) RESEARCH ARTICLE

44. * McClatchie, Sam, Goericke, R., Schwing, F. and 29 other authors. "The state of the California Current, 2008–2009: Cold conditions drive regional differences". *California Cooperative Oceanic Fisheries Investigations Reports* 50, 2009. (pp. 43-68) RESEARCH ARTICLE

45. Weber, Edward D. and McClatchie, S. "rcalcofi: Analysis and visualization of CalCOFI data in R". *California Cooperative Oceanic Fisheries Investigations Reports* 50, 2009. (pp.178-185) RESEARCH ARTICLE

46. Bjorkstedt, Eric P., Goericke, R., McClatchie, S. and 27 other authors. "State of the California Current 2009-2010: Regional variation persists through transition from La Niña to El Niño (and back?)". *California Cooperative Oceanic Fisheries Investigations Reports* 51, 2010. (pp.39-69) RESEARCH ARTICLE

47. * Weber, Edward D. and McClatchie, S. Predictive models of Northern Anchovy *Engraulis mordax* and Pacific Sardine *Sardinops sagax* spawning habitat in the California Current". *Marine Ecology Progress Series* 406, 2010. (pp.251-263) RESEARCH ARTICLE

48. * McClatchie, Sam, Goericke, R., Auad, G. and Hill, K. "Re-assessment the temperature index for Pacific sardine (Sardinops sagax) stock assessment". *Canadian Journal of Fisheries and Aquatic Sciences* 67, 2010. (pp.1782-1790) RESEARCH ARTICLE

49. *McClatchie, Sam, Goericke, R., Cosgrove, R., and Vetter, R. "Oxygen in the Southern California Bight: multidecadal trends and implications for demersal fisheries". *Geophysical Research Letters* 37: doi: 10.1029/2010GL044497, 2010. RESEARCH ARTICLE

50. Bjorkstedt. Eric, Goericke, R., McClatchie, S. and 28 other authors. "State of the California Current 2010-2011. Regionally variable responses to a strong (but fleeting?) La Niña". *CalCOFI Reports* 52, 2011. (pp.36-68) RESEARCH ARTICLE

51. Nieto, Karen, Demarcq, H. and McClatchie, S. "Mesoscale frontal structures in the Canary Upwelling System: new front and filament detection algorithms applied to spatial and temporal patterns". *Remote Sensing of the Environment* 123, 2012 (pp.339-346) RESEARCH ARTICLE

52. Weber, Edward D. and McClatchie, S. "Effect of Environmental Conditions on the distribution of Pacific Mackerel (*Scomber japonicus*) Larvae in the California Current". *Fishery Bulletin U.S.* 110, 2012. (pp.85-97) RESEARCH ARTICLE

53. Currie, David R, McClatchie, S., Middleton, J.F., Nayar, S. "Biophysical factors affecting the distribution of demersal fish around a submarine canyon off the Bonney Coast, South Australia". *PLoS ONE* 7(1): e30138. doi:10.1371/journal.pone.0030138, 2012. RESEARCH ARTICLE

54. Thompson, Andrew R., Watson, W., McClatchie, S., Weber, E.D. "Multi-scale sampling to evaluate assemblage dynamics in an oceanic marine reserve". *PLosONE* 7(3): e33131. doi:10.1371/journal.pone.0033131, 2012. RESEARCH ARTICLE

55. * Song Hajoon, Miller, A.J., McClatchie, S., Weber, E.D., Nieto, K.M., Checkley Jr., D.M. "Application of a data-assimilation model to variability of Pacific sardine spawning and survivor habitats with ENSO in the California Current System". *Journal of Geophysical Research* 117, C03009, doi:10.1029/2011JC007302, 2012.RESEARCH ARTICLE

56. * McClatchie, Sam, Cowen, R.K., Nieto, K.M., Greer, A., Luo, J.Y., Guigand, C., Demer, D.A., Griffith, D.A., Rudnick, D.L. "Resolution of fine biological structure including small narcomedusae across a front in the Southern California Bight". *Journal of Geophysical Research* 117, C04020, doi:10.1029/2011JC007565, 2012. RESEARCH ARTICLE

57. * McClatchie, Sam. "Sardine biomass is poorly correlated with the Pacific Decadal Oscillation off California". *Geophysical Research Letters* 39, L13703, doi:10.1029/2012GL052140, 2012. RESEARCH ARTICLE

58. Bjorkstedt, Eric, and 25 other authors. "State of the California Current 2011-12: Ecosystems respond to local forcing as La Niña wavers and wanes". *CalCOFI Reports* 53, 41-76, 2012. RESEARCH ARTICLE

59. Jacobson, Larry and McClatchie, S. Comment on temperature-dependent stock–recruit modeling for Pacific sardine (*Sardinops sagax*) in Jacobson and MacCall (1995), McClatchie et al. (2010), and Lindegren and Checkley (2013). Canadian Journal of Fisheries and Aquatic Sciences 70: 1566-1569. dx.doi.org/10.1139/cjfas-2013-0128. 2013. RESEARCH ARTICLE

60. Wells, B. et al. State of the California Current 2012-2013: No such thing as an “average” year**.** CalCOFI Reports 54: 37-71. 2013. RESEARCH ARTICLE.

61. McClatchie, Sam. *Regional fisheries oceanography of the California Current System: the CalCOFI program*. Springer. 235pp. ISBN 978-94-007-7222-9, 2014**.** BOOK.

62. Nieto, Karen, McClatchie, S., Weber, E.D and C. Lennert-Cody. Effect of mesoscale eddies and streamers on sardine spawning habitat and recruitment success off southern and central California. Journal of Geophysical Research 119, 6330–6339, doi: 10.1002/2014JC010251. 2014. RESEARCH ARTICLE

63. Luo, Jessica, Y., Grassian, B., Tang, D., Irisson, J., Greer, A.T., Guigand, C.M., McClatchie, S., Cowen, R.K. Environmental drivers of the fine-scale distribution of a gelatinous zooplankton community across a meso-scale front. Marine Ecology Progress Series 510: 129-149. 2014**.** RESEARCH ARTICLE

64. Greene, Charles H., Meyer-Gutbrod, E.L., McGarry, L.P., Hufnagle Jr., L.C., Chu, D., McClatchie, S., Packer, A., Jung, J.-B, Acker, T., Dom, H., Pelkie, H. A wave glider

approach to fisheries acoustics: Transforming how we monitor the nation's commercial fisheries in the 21st century. Oceanography 27(4): 168–174. 2014 http://dx.doi.org/10.5670/oceanog.2014.82. 2014. RESEARCH ARTICLE.

65. McClatchie, Sam, Field, J.C., Duffy-Anderson, J., Peterson, W.T., Watson, W., Lyczkowski-Shultz, J., Hare, J.A., Griffith, D., Weber, E.D., Hanisko, D.S., Zapfe, G., Goericke, R. Long time series in U.S. fisheries oceanography. Oceanography. 27(4): 48–67. 2014. http://dx.doi.org/10.5670/oceanog. 2014. RESEARCH ARTICLE.

66. Leising, A.W., Schroeder, I.D., Bograd, S.J., Bjorkstedt, E.P., Field, J., Sakuma, K., Abell, J., Robertson, R.R., Tyburczy, J., Peterson, W.T., Brodeur, R., Barcelo, C., Auth, T.D., Daly, E.A., Campbell, G.S., Hildebrand, J.A., Suryan, R.M., Gladics, A.J., Horton, C.A., Kahru, M., Manzano-Sarabia, M., McClatchie, S., Weber, E.D., Watson, W., Santora, J.A., Sydeman, W.J., Melin, S.R., Delong, R.L., Largier, J., Kim, S.Y., Chavez, F.P., Golightly, R.T., Schneider, S.R., Warzybok, P., Bradley, R., Jahncke, J., Fisher, J., Peterson, J. State of the California Current 2013-14: El Niño looming. California Cooper. Ocean. Fish. Invest. Rep. 55, 51-87. 2014. RESEARCH ARTICLE.

67. Xu, Yi, Nieto, K.M., Teo, S.L.H., McClatchie, S., Holmes, J. Influence of Subtropical Fronts on the Spatial Distribution of Albacore Tuna (*Thunnus alalunga*) in the Northeast Pacific over the past 30 years (1982-2011). Progress in Oceanography. DOI:10.1016/j.pocean.2015.04.013. 2015. RESEARCH ARTICLE

68. Nieto, Karen, Xu, Y., Teo, S.L.H., McClatchie, S., Holmes, J. Coastal upwelling fronts: a key habitat for albacore tuna (*Thunnus alalunga*) in the Northeast Pacific Ocean. Progress in Oceanography. Progress In Oceanography. DOI:10.1016/j.pocean.2015.05.004. 2015. RESEARCH ARTICLE

69. Weber, Edward, D., Chao, Y., Chai, F., McClatchie. S. Transport patterns of Pacific sardine *Sardinops sagax* eggs and larvae in the California Current. Deep-Sea Research I. 2015. doi:10.1016/j.dsr.2015.02.012. RESEARCH ARTICLE.

70. Rose, Kenneth.A., Fiechter, J., Curchitser, E.N., Hedstrom, K., Bernal, M., Creekmore, S., Haynie, A., Ito, S-i., Lluch-Cota, S., Megrey, B.A., Edwards, C.A., Checkley, D., Koslow, T., McClatchie, S., Werner, F., MacCall, A., Agostini, V. Demonstration of a Fully-Coupled End-to-End Model for Small Pelagic Fish Using Sardine and Anchovy in the California Current, Progress in Oceanography doi: http://dx.doi.org/10.1016/j.pocean.2015.01.012. 2015. RESEARCH ARTICLE.

71. Leising, Andrew W., Schroeder, I.D., Bograd, S.J., Abell, J., Durazo, R., Gaxiola-Castro, G., Bjorkstedt, E.P., Field, J., Sakuma, K., Robertson, R.R., Goericke, R., Peterson, W.T., Brodeur, R.D., Barceló, C., Auth, T.D., Daly, E.A., Suryan, R.M., Gladics, A.J., Porquez, J.M., McCatchie, S., Weber, E.D., Watson, W., Santora, J.A., Sydeman, W.J., Melin, S.R., Chavez, F.P., Golightly, R.T., Schneider, S.R., Fisher, J., Morgan, C., Bradley, R., Waryzbok, P. State of the California Current 2014–15: impacts of the warm-water "blob". California Cooperative Oceanic Fisheries Investigations Reports 56, 31-68. 2015. RESEARCH ARTICLE.

72. McClatchie, Sam, Field, J.C., Lowry, M.S., Gerrodette, T., Thompson, A.R., Watson, W., Fiedler, P.C., Nieto, K.M. and Vetter, R.D. Food limitation of sea lion pups and the decline of forage off central and southern California. Royal Society Open Science 3: 150628. http://dx.doi.org/10.1098/rsos.150628. 2016. RESEARCH ARTICLE.

73. McClatchie, Sam, Thompson, A.R., Alin, S.R., Siedlecki, S., Watson, W, and Bograd, S.J. The influence of Pacific Equatorial Water on fish diversity in the southern California Current System. Journal of Geophysical Research – Oceans 121. doi:10.1002/2016JC011672. 2016. RESEARCH ARTICLE.

74. Busch, Shallin D., Griffis, R, Link, J., Abrams, K., Baker, J., Brainard, R., Ford, M., Hare, J., Himes-Cornell, A., Hollowed, A., Osgood, K., Mantua, N., McClatchie, S., McClure, M., Nelson, M., Rust, M., Saba, V., Sigler, M., Sykora-Bodie, S., Toole, C, Thunberg, E., Waples, R. Climate science strategy for the US National Marine Fisheries Service. Marine Policy 74: 58-67. 2016. RESEARCH ARTICLE.

75. McClatchie, Sam, Goericke, R., Leising, A., Auth, T.D., Bjorkstedt, E., Robertson, R.R., Brodeur, R.D., Du, X., Daly, E.A., Morgan, C.A., Chavez, F.P., Debich, A.J., Hildebrand, J., Field, J., Sakuma, K., Jacox, M.G., Kahru, M., Kudela, R., Anderson, C., Lavaniegos, B.E., Gomez-Valdes, J., Jiménez-Rosenberg, S.P.A., Mccabe, R., Melin, S.R., Ohman, M.D., Sala, L.M., Peterson, W., Fisher, J., Schroeder, I.D., Bograd, S.J., Hazen, E.L., Schneider, S.R., Golightly, R.T., Suryan, R.M., Gladics, A.J., Loredo, S., Porquez, J.M., Thompson, A.R., Weber, E.D., Watson, W., Trainer, V., Warzybok, P., Bradley, R., Jahncke, J. State Of The California Current 2015–16: Comparisons With The 1997–98 El Niño. CalCOFI Reports 57: 1-57. 2016. RESEARCH ARTICLE.

76. McClatchie, Sam, Thompson, A.R., Hendy, I.L. and Watson, W. Collapse, and recovery of forage fish populations prior to commercial fishing. Geophysical Research Letters. 44, doi:10.1002/2016GL071751. 2017. RESEARCH ARTICLE.

77. Peterson, Jay, R. Griffis, S.G. Zador, and multiple other authors including McClatchie, S.. 2018. Climate change impacts on fisheries and aquaculture of the United States. In: Bruce F. Phillips and Monica Perez-Ramirez (eds.), Climate change impacts on fisheries and aquaculture: a global analysis, p.159-218. Wiley Blackwell. BOOK CHAPTER.

78. Thompson, A.R., Lennert-Cody, C.E., McClatchie, S., Weber, E.D. and Watson, W. Correcting for bias in CalCOFI ichthyoplankton abundance estimates associated with the 1978 transition from ring to bongo net sampling. CalCOFI Reports 58: 113-123. 2017. RESEARCH ARTICLE.

79. Wells, B.K. and 44 other authors. State Of The California Current 2016–17: Still anything but "normal" in the north. CalCOFI Reports 58: 1-55. 2017. RESEARCH ARTICLE.

80. Valencia-Gasti, J.A., Weber, E. D., Baumgartner, T., Durazo, R., Lennert-Cody, C. and McClatchie, S. Spring spawning habitat of Pacific sardine: the fraction in US and Mexican waters. CalCOFI Reports 59: 79-85. 2018. RESEARCH ARTICLE.

81. McClatchie, S., Gao, J., Drenkard, E, Thompson, A., Watson, W., Ciannelli, L. and

Thorson, J.T.. Inter-annual and secular variability of mesopelagic and forage fishes in the southern California Current System. Journal of Geophysical Research: Oceans, 123. https://doi.org/10.1029/2018JC014011. 2018. RESEARCH ARTICLE.

82. Eguchi, T., McClatchie, S., Wilson, C., Benson, S.R., LeRoux, R.A., Seminoff, J.A. Loggerhead turtles (*Caretta caretta*) in the Northeast Pacific Ocean; distribution, anomalous warming, and drift gill net fishery closure off southern California. Frontiers in Marine Science 5. https://www.frontiersin.org/article/10.3389/fmars.2018.00452. 2018. RESEARCH ARTICLE.

83. Thompson, A.R., Schroeder, I.D., Bograd, S.J and multiple other authors including McClatchie, S. State Of The California Current 2017–18: Still Not Quite Normal In The North And Getting Interesting In The South. California Cooperative Oceanic Fisheries Investigations Reports 59, 1-66. RESEARCH ARTICLE.

84. Testor, P., de Young, B., Rudnick, D.L., and multiple other authors including McClatchie, S. OceanGliders: A Component of the Integrated GOOS. Frontiers in Marine Science 6. https://www.frontiersin.org/article/10.3389/fmars.2019.00422. 2019. RESEARCH ARTICLE.

B. OTHER WORK

1. McClatchie, Sam and Teirney, L.. "Using patterns in fish communities in the management of the multispecies trawl fishery". New Zealand Professional Fisherman, 1993 REPORT

2. McClatchie, Sam. "Explaining patterns in the distribution of fish communities off south east New Zealand." Seafood New Zealand, 1994 REPORT

3. McClatchie, Sam and Lester, P. "Stock assessment of the elephant fish (*Callorhinchus millii*)". New Zealand Fisheries Assessment Research Document 94/6, MAF Fisheries, Greta Point, Wellington, 1994 REPORT

4. FRST review panel. "Review of NIWA Coastal and estuarine program", 1994 REPORT

5. FRST review panel. "Review of Cawthron Institute Estuarine and Coastal program" 1994 REPORT

6. McClatchie, Sam, Millar, R.B., Webster, F., Lester, P., Hurst, R., Bagley, N. "Bio-diversity". Seafood New Zealand, 1995 REPORT

7. Francis, Malcolm P. and McClatchie, S.. "Elephant fish". Seafood New Zealand, 1995 REPORT

8. McClatchie, Sam, Macaulay, G., Coombs, R. Cordue, P. "A searchlight in the sea: NIWA's fisheries acoustics program". NIWA Water & Atmosphere 4(1), 1996. (pp.13-17) REPORT

9. McClatchie, Sam, Macaulay, G., Coombs, R. and Cordue, P. "NIWA's fisheries acoustics program: how can it help the fishing industry?" Seafood New Zealand 4(5), 1996. (pp.40-43) REPORT

10. McClatchie, Sam, Macaulay, G., Cordue, P., Coombs, R., Grimes, P., Hart, A.. "Live orange roughy brought back for acoustic experiments". Seafood New Zealand 4(11), 1996. (pp.55-56) REPORT.

11. McClatchie, Sam. "Something dynamic is happening on the Chatham Rise". NIWA Water & Atmosphere 6(1), 1998. (pp.17-20) REPORT

12. McClatchie, Sam, Chiswell, S.M., Richards, L., Uddstrom, M., Oien, N. "Scaling the Chatham Rise". Water & Atmosphere 6(4), 1999. (pp.12-14) REPORT

13. McClatchie, Sam. "Re-examining acoustic absorption in relation to orange roughy biomass assessment". Ministry of Fisheries client report, 1999 REPORT

14. McClatchie, Sam, Coombs, R., Macaulay, G., Grimes, P., Hart, A., Tracey, D. "*In situ* target strength of orange roughy and modelling target strength of associated bycatch species". Ministry of Fisheries client report, 1999 REPORT

15. McClatchie, Sam and Coombs, R.F.. "*In situ* target strength measurements of orange roughy (*Hoplostethus atlanticus*)". Final Research Report for Ministry of Fisheries Research Project ORH9801. NIWA, New Zealand, 2000 REPORT

16. McClatchie, Sam, Coombs, R., Macaulay, G. "Are there more fish in the front?" NIWA Water & Atmosphere 9(1), 2001. (pp.13-16) REPORT

17. McClatchie, Sam, Coombs, R., Macaulay, G. "'Bugs', physics and production in the Subtropical Front". NIWA Water & Atmosphere 9(3), 2001. (pp.19-21) REPORT

18. McClatchie,Sam and Coombs, R.F. "Spatial variability of orange roughy around the Northwest Hills on the Chatham Rise, New Zealand". Final Research Report for Ministry of Fisheries Research Project ORH2000/01. NIWA, New Zealand, 2002 REPORT

19. McClatchie, Sam and Coombs, R.F. "Are changes in orange roughy density detectable in acoustic backscatter from a mixed species assemblage?" Final Research Report for Ministry of Fisheries Research Project ORH2000/01. NIWA, New Zealand, 2002 REPORT

20. Ward, Tim M., McLeay, L.J. and McClatchie, S. "Spawning biomass of the sardine (*Sardinops sagax*) in South Australia in 2004". Report to PIRSA Fisheries, 2004 REPORT

21. McClatchie, Sam and Coombs, R.F. "Giant internal waves and mid-water fishes in the Subtropical Fronts off New Zealand". Conference Proceedings of the 5th European Conference on Underwater Acoustics, Lyon, France, 10-13 July 2000 CONFERENCE PAPER

22. McClatchie, Sam, Middleton, J., Pattiaratchi, C., Currie, D., Kendrick, G. "The South-west Marine Region: Ecosystems and Key Species Groups" <http://www.environment.gov.au/coasts/mbp/publications/south-west/sw-ecosystems.html>, 2006 REPORT (online only)

23. McClatchie, Sam (Ed.) "Report on the NMFS California Current Ecosystem Survey (CCES) (April and July-August 2008)". *Technical Report* NOAA-TM-NMFS-SWFSC-438, 2009 REPORT

24. Jacobson, Susan, Hays, A., Macewicz, B., Manion, S., Griffith, D., Weber, E., McClatchie, S. "Manual of procedures for CalCOFI and ancillary data". NOAA Department of Commerce, Southwest Fisheries Science Center, *Administrative Report* LJ-12-03, 2012 REPORT

C. WORK IN PROGRESS

- Working on a second edition on my book <https://link.springer.com/book/10.1007%2F978-94-007-7223-6>
- Developing scientific visualizations <http://fishocean.info/examples.html>
- Exploring Global Fishing Watch data.

Sea-going experience

NOAA ship Reuben Lasker 2015 & 2016:
NOAA ship Bell Shimada: Summer SaKe cruise, 2013
NOAA ship Bell Shimada: Spring CPS cruise (chief scientist), 2013
NOAA ship Bell Shimada: Spring CPS cruise (chief scientist), 2012
NOAA ship Bell Shimada: Shakedown cruise, leg 5 (chief scientist), 2011
NOAA ship Bell Shimada: California Current Ecosystem Survey (chief scientist), 2011
NOAA ship Miller Freeman: California Current Ecosystem Survey (chief scientist), 2010
NOAA ship Miller Freeman: California Current Ecosystem Survey (chief scientist), 2008
MV NGERIN: Egg production survey of sardines, 2004.
MRV TANGAROA: Acoustic survey and target strength on Chatham Rise, New Zealand, 1994, 1996, 1997, 1998, 1999, 2000, 2001.
MRV TANGAROA: Multidisciplinary oceanographic work on Chatham Rise, New Zealand, 1997, 1999, 2001 (see New Zealand Geographic Dec 2001 issue “Probing the deep ocean”).

MRV KAHAROA & TANGAROA: trawl survey cruise to Canterbury Bight, New Zealand, 1993 & 1994.
RV SURVEYOR cruise to Southern Ocean, Atlantic sector, 1990. Acoustic assessment of krill populations.
CSS PANDORA: (mothership for PISCES submersible) St. Margarets Bay, Nova Scotia, 1985.
CSS DAWSON: Biological and descriptive physical oceanography. Scotian Shelf, 1982.
RV GYRE: Comparative sampling of warm-core and cold-core eddies. Gulf of Mexico, 1981.
Numerous day trips on small boats. No major problems with seasickness.

Teaching experience

Thesis supervision of 2 PhD students at Scripps Institution of Oceanography, UCSD.

- PhD thesis Committee member for Noelle Bowlin. Topic: Ontogenetic development of mesopelagic fishes.

- R.G. Asch 2013. PhD "Interannual-to-Decadal Changes in Phytoplankton Phenology, Fish Spawning Habitat, and Larval Fish Phenology ". Current post: Postdoctoral Fellow Yale University and NOAA GFDL.

Thesis supervision of 4 Masters students and 1 PhD at University of Otago:

- R. O'Driscoll 1997. PhD thesis applying sidescan sonar to examine patchiness of fish schools in relation to micronekton, seabirds, and small scale physical features. Current post: Research scientist, NIWA, NZ.

- W. Jacobs 1995. Demersal fish assemblages off southern New Zealand. MSc. thesis. Thesis grade B+. Last known post: Fisheries scientist for Canadian Indian tribe.

- D.E. Dalley 1990. “Larval development of feeding appendages and functional morphology of the krill, *Nyctiphanes australis*". MSc. thesis. Thesis grade: B+. Current position: Mother and homemaker, NZ.

- R. Kawachi 1990. “Diurnal variation in feeding activity of the krill *Nyctiphanes australis*". MSc. thesis. Thesis grade A-. Current position: Freelance science translator, Japan.

- C. Pilditch 1991. “Functional response of *Nyctiphanes australis* (Euphausiacea) feeding on *Chaetoceros gracilis* (Bacillariophyceae) and *Acartia* spp. (Copepoda)". MSc thesis. Thesis grade A+. Current position: Faculty, Biological Sciences, University Waikato, NZ.

Post-doctoral researcher advised: H. Song (SIO)

Postdoctoral advisor: K. Nieto (SWFSC), E. Weber (SWFSC), Liz Drenkard (SIO/ SWFSC).

Lecturing

1993-1996: graduate course in Fisheries, Marine Science, University of Otago.
1991: 4th year Fisheries Science at Dalhousie University
1991: MSc. Marine Affairs at Dalhousie University
1989: MSc. Marine Science at University of Otago
1987. 3rd year Marine Biology at University of Otago
1986: MSc. Marine Science at University of Otago
1983 - 1985: Laboratory teaching assistant for graduate level course in biological oceanography at Dalhousie University.
1981: Laboratory teaching assistant for first year undergraduate botany course, Texas A&M University.

Other activities

My recreational activities include landscaping, pilates, sea kayaking and tramping. I am a keen reader, and enjoy both a lively social life and travelling with my wife.