

CURRICULUM VITAE

VIVIAN HAIST

EDUCATION

B.Sc. (Honours) Zoology, University of British Columbia, 1978.

M.Sc. (Fisheries), University of Washington, 2002.

EMPLOYMENT HISTORY

1980 – 2001 Pacific Biological Station, Fisheries and Oceans Canada

- Herring Stock Assessment Biologist (1980-1986)
- Head of Pelagic Section (1986-1993)
- Groundfish Stock Assessment Biologist (1994-1998)
- Education Leave (1998-2001)

2002 – present Fisheries Consultant

PROFESSIONAL EXPERIENCE

- Visiting Scientist – four months at St. Andrews Biological Station, NB working on Atlantic swordfish stock assessment (1992)
- Visiting Scientist – three months with Ministry of Fisheries, Wellington, NZ, working on southern blue whiting stock assessment (1993)

Contracts:

- Centre for Independent Experts, University of Miami:
 - Review of Atlantic sharks stock assessment (2000)
 - Review of west coast groundfish stock assessments – STAR panel (2005, 2007, 2009, 2013, 2015)
 - Review of east coast stock assessments – SARC 42 (2005), SARC 44 (2006), GARM (2008), SEDAR 15 (2008), SEDAR 26 (2011)
 - Review of Hawaiian Bottomfish (2014)
- Department of Fisheries and Oceans, Canada (2005 - 2013). Various projects including:
 - Herring stock assessment modeling and analysis
 - Review and development of Atlantic halibut population dynamics
 - Development of a length-based spatially disaggregated dogfish stock assessment model
- Herring Conservation and Research Society (HCRS). Various projects including:
 - Participate in Science Panel review of project proposals (2004, 2005)
 - Develop and evaluate a multi-stock herring stock assessment model and related analyses (2006, 2009)

- As HCRS Science Panel Chair, develop and conduct a process to review research proposals (2009)
- Participate as member of Herring Stock Assessment Team (2010 – 2013)
- New Zealand Rock Lobster Industry Council (2004 – 2016). Project: Stock assessment and management strategy evaluation of New Zealand rock lobster resources; development of length-based multi-region assessment model.
- New Zealand Seafood Industry Council (2001 – 2013). Various projects including:
 - Development of stock assessment model for hoki
 - Management strategy evaluation for hoki
 - Management strategy evaluation for southern blue whiting
 - Design and analysis of trawl selectivity study
 - Management strategy evaluation for scallops
 - Management strategy evaluation for blue cod (BCO 5)
- New Zealand Ministry of Fisheries (2009 - 2016). Various projects including:
 - Review of blue cod potting survey methodology
 - Analysis of paua survey and biological sampling design
 - Simulation analysis of harvest strategies and management reference points
 - Participation in various stock assessment working groups
- Commission for the Conservation of Southern Bluefin Tuna (2002-2004). Project: Evaluation of alternative management procedures for Southern Bluefin Tuna.
- Canadian Sablefish Association (1998-2005). Project: Sablefish stock assessment and associated research.
- Marine Resources Assessment Group Ltd. London (2005). Project: Report on current stock status of New Zealand hoki stocks.
- MRAG Americas (2012). Attend and report on 13th annual Tri-national Sardine Forum.

Stock Assessment Working Groups/Reviews:

- Hoki, Middle Depths, Shellfish, and Inshore Working Groups, Ministry of Fisheries, New Zealand. 1999-2014.
- Groundfish Subcommittee, Canadian Stock Assessment Secretariat. 1994-2000.
- Pelagic Subcommittee, Pacific Stock Assessment Review Committee. DFO. Canada. 1986-1994.
- Swordfish Committee. International Council for the Conservation of Atlantic Tunas. 1992.
- External Reviewer. 1995. Gulf of Alaska Pacific Cod Assessment. National Marine Fisheries Service (USA)
- RAP Review Panel. 1998. Review of Canadian and US Georges Bank Groundfish assessments.

Conference Presentations:

- Third Mote International Symposium in Fisheries Ecology: Targets, Thresholds and Burden of Proof, Sarasota, Florida. 2000. Paper presented on evaluation of management procedures for New Zealand hoki stocks.

- 15th Lowell Wakefield Fisheries Symposium: Fishery Stock Assessment Models for the 21st Century, Anchorage, Alaska. 1998. Presented paper on an integrated catch-age mark-recapture model.
- Workshop on Risk Evaluation and Biological Reference Points for Fisheries Management, Halifax, Canada. 1991. Presented paper on estimation of density-dependent natural mortality and its impact on sustainable harvest strategies.
- International Herring Symposium, Anchorage, Alaska. 1990. Presented paper on the precision and accuracy of B.C. herring stock forecasts using an age-structured model
- International Symposium on the Biological Characteristics of Herring and Their Implications for Management, Nanaimo, Canada. 1983. Presented paper on herring growth and maturation.

PUBLICATIONS

Peer-reviewed:

Haist, V., P.A. Breen and P.J. Starr. 2009. A multi-stock, length-based assessment model for New Zealand rock lobster (*Jasus edwardsii*). *New Zealand Journal of Marine and Freshwater Research* 43: 355-371.

Breen, P.A., P.J. Starr, and V. Haist. 2009. A voluntary reduction in the commercial catch of rock lobster (*Jasus edwardsii*) in a New Zealand fishery. *New Zealand Journal of Marine and Freshwater Research* 43: 511-523.

McDermott, S.F., L.W. Fritz, and V. Haist. 2005. Estimating movement and abundance of Atka mackerel (*Pleurogrammus monopterygius*) with tag-release-recapture data. *Fish. Oceanogr.* 14 (Suppl. 1):1-18.

Haist, V. 1998. Integrated catch-age mark-recapture model: Application to B.C. sablefish stocks. Pages 469-495 in F. Funk, T.J. Quinn II, J. Heifetz, J.N. Ianelli, J.E. Powers, J.F. Schweigert, P.J. Sullivan and C.I. Zhang, editors. *Fishery Stock Assessment Models*. Alaska Sea Grant College Program Report No. AK-SG-98-01, University of Alaska Fairbanks.

Hancet, S., V. Haist and D. Fournier. 1998. An integrated assessment of southern blue whiting (*Micromesistius australis*) from New Zealand using separable Sequential Population Analysis. Pages 155-170 in F. Funk, T.J. Quinn II, J. Heifetz, J.N. Ianelli, J.E. Powers, J.F. Schweigert, P.J. Sullivan and C.I. Zhang, editors. *Fishery Stock Assessment Models*. Alaska Sea Grant College Program Report No. AK-SG-98-01, University of Alaska Fairbanks.

Haist, V., and D. A. Fournier. 1993. Estimation of density-dependent natural mortality in British Columbia herring stocks through SSPA and its impact on sustainable harvesting strategies. p. 269-282. In S. J. Smith, J. J. Hunt, and D. Rivard [ed.] *Risk evaluation and biological reference points for fisheries management*. Can. Spec. Publ. Fish. Aquat. Sci. 120.

Haist, V., and M. Stocker. 1985. Growth and maturation of Pacific herring (*Clupea harengus pallasii*) in the Strait of Georgia. *Can. J. Fish. Aquat. Sci.* 42 (Suppl. 1): 138-146.

Stocker, M., V. Haist, and D. Fournier. 1985. Environmental variation and recruitment of Pacific herring (*Clupea harengus pallasii*) in the Strait of Georgia. *Can. J. Fish. Aquat. Sci.* 42(Suppl. 1):174-180.

Selected Stock Assessment and Technical Reports:

Haist, V. and J. Schweigert. 2009. Herring multi-stock analysis: Integration of tagging data and evaluation of alternative dynamics. Canadian Science Advisory Secretariat Research Document 2009/072. 50p.

Haist, V. and J. Schweigert. 2009. Catch-age models for Pacific herring: Evaluation of alternative assumptions about fishery and stock dynamics and alternative error distributions. Canadian Science Advisory Secretariat Research Document 2006/064. 55p.

Haist, V., R.I.C.C. Francis, and K. Stokes. 2006. Management strategy evaluation for New Zealand hoki fisheries: results of initial analyses. New Zealand Fisheries Assessment Report 2006/31. 47p.

Haist, V., P.A. Breen, S.W. Kim, and P.J. Starr. 2005. Stock assessment of red rock lobsters (*Jasus edwardsii*) in CRA3 in 2004. New Zealand Fisheries Assessment Report 2005/38. 126 pp.

Haist, V., A.R. Kronlund, and M.R. Wyeth. 2005. Sablefish (*Anoplopoma fimbria*) assessment in British Columbia: Stock assessment update for 2004 and advice to managers for 2005. Canadian Science Advisory Secretariat Research Document 2005/031. 182 p.

Francis, R.I.C.C., V. Haist, and B. Bull. 2003. Assessment of hoki (*Macruronus novaezelandiae*) in 2002 using a new model. New Zealand Fisheries Assessment Report 2003/6. 69 p.

Francis, R.I.C.C., P. L. Cordue, and V. Haist. 2002. Review of the 2001 hoki stock assessment. New Zealand Fisheries Assessment Report 2002/42. 51 p.

Haist, V., A.M. Parma, and J. Ianelli. 2002. Initial specifications of operating models for southern bluefin tuna management procedure evaluation. Commission for the Conservation of Southern Bluefin Tuna. CCSBT-ESC/0209/07. 42p.

Haist, V., Starr, P.J., Hilborn, R., and Parma, A. 2002. Assessment of the western and eastern region hoki stocks for 1999. New Zealand Fisheries Assessment Report 2002/23. 44p.

Haist, V., R. Hilborn, and P. Starr. 2001. A Bayesian version of the NIWA two-stock hoki model. University of Washington, School of Aquatic and Fisheries Science Technical Report. SAFS-UW-0105. 18 p.

Haist, V., R. Hilborn, and M. W. Saunders. 1999. Sablefish stock assessment for 1999 and recommended yield options for 2000 and 2001. Canadian Stock Assessment Secretariat Research Document 99/195.

Stanley, R., and V. Haist. 1997. Shelf rockfish assessments for 1997 and recommended yield options for 1998. Canadian Stock Assessment Secretariat Research Document 97/132. 53 p.

Haist, V. and D. Fournier. 1997. Hecate Strait Pacific cod stock assessments for 1997 and recommended yield options for 1998. Canadian Stock Assessment Secretariat Research Document 97/145.

Haist, V., M. W. Saunders, R. Hilborn, and M. Maunder. 1997. Sablefish stock assessments for 1997 and recommended yield options for 1998. Canadian Stock Assessment Secretariat Research Document 97/146. 83p.

Haist, V., and D. Fournier. 1995. Pacific cod stock assessments for 1995 and recommended yield options for 1996. Pacific Stock Assessment Review Committee Working Paper G95-3. 33 p.

Hanchet, S. M., and V. Haist. 1994. Southern blue whiting (*Micromesistius australis*) fishery assessment for the 1994-95 fishing year. New Zealand Fisheries Assessment Research Document 94/22. 41p.

Haist, V. 1994. Strait of Georgia lingcod abundance indices from creel survey data. Pacific Stock Assessment Review Committee Working Paper G94-13. 16 p.

Haist, V., and J. M. Porter. 1993. Evaluation of alternative methods to estimate age composition from length frequency data with specific reference to Atlantic swordfish, *Xiphias ladius*. Int. Comm. Consev. Atl. Tunas, Coll. Vol. Sci. Pap. Madrid. 40:331:343.

Haist, V. 1990. An evaluation of the precision and accuracy of B.C. herring stock forecasts using an age-structured model. pp 389-402. *In* Proceedings of the International Herring Symposium. Alaska Sea Grant College Program Report No. 91-01, University of Alaska Fairbanks.

Haist, V. 1988. An evaluation of three harvest strategies based on forecast stock biomass for B.C. herring stocks. Pacific Stock Assessment Review Committee Working Paper H88-3. 25p.

Haist, V., Schweigert, J.F., Fournier, D. 1988. Stock assessments for British Columbia herring in 1987 and forecasts of the potential catch in 1988. Can. MS. Rep. Fish. Aquat. Sci. 1990: 66 p.

Haist, V., Stocker, M. 1984. Stock assessments for British Columbia herring in 1983 and forecasts of potential catch in 1984. Can. MS Rep. Fish. Aquat. Sci. 1751: 50 p.