

Allan C. Hicks, Ph.D.

International Pacific Halibut Commission
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Education

- Ph.D.: Fisheries, University of Washington, Seattle, WA,
(Graduate Advisor: Dr. Ray Hilborn), 2013.
Dissertation: *The utility of catch-per-unit-effort when assessing and managing long-lived fish stocks*
- M.S.: Statistics, University of Idaho, Moscow, ID,
(Graduate Advisor: Dr. Ken Newman), 2003.
Thesis: *A discussion and analysis of four constant fractional marking alternatives for California's central valley salmon hatcheries*
- B.S.: Marine Fisheries with an Applied Mathematics minor. Humboldt State University, Arcata, CA,
(Advisor: Dr. David Hankin), 1997

Work Experience

- Quantitative Scientist, International Pacific Halibut Commission, 2016-present
Investigate harvest policy
Implement management strategy evaluation (MSE)
Assist with the analysis of the stock assessment and data collection
- Research Fisheries Biologist, FRAM Division, NWFSC, NMFS, NOAA, 2009–2016.
Conduct fish stock assessments to support the management of west coast groundfish
Analyze fisheries data to support data collection and input into stock assessments
Report results to management bodies
- Teaching Assistant, University of Washington, 2008
Assist Dr. Hilborn with teaching an undergraduate fisheries conservation and management course
Teach lab sessions and grade papers
- Stock assessment consulting, Seafood Industry Council, Wellington, NZ, 2004–2007
Perform stock assessments and data analysis to support New Zealand deepwater fisheries
Report results to the Deepwater Working Group
- Consultant to CDFG for constant fractional marking of salmon in CA, 2003
Write a generalized computer program to analyze coded-wire tagging of hatchery salmon
Perform simulations to investigate constant fractional marking of central California hatchery salmon
- Fisheries modeller, NIWA, Wellington, NZ 2001–2002
Conduct fish stock assessments and data analysis to support the management of New Zealand fisheries
Design and participate in fisheries surveys

Service on Committees

- Scientific Steering Committee for P/ICES ECS-3 (Early Career Scientists) in Busan, Korea, 2016-present
*A member of the six-person committee to develop the program for an early career scientist symposium
Select participants from submitted abstracts*
- Management Strategy Evaluation Working Group, NOAA Fisheries, 2015-2016
*Served as co-chair and helped organize and run teleconference calls between NOAA members
Assisted with drafting a Terms of Reference and defining direction for this working group*
- Joint Technical Committee of the U.S. and Canada Pacific Hake/Whiting Agreement, 2011-2016
*Performed an annual stock assessment for Pacific hake and presented results to stakeholders and managers
Implemented a Management Strategy Evaluation for Pacific hake fisheries*

Relevant Recent Projects

- Management strategy evaluation for Pacific Hake, Lead investigator, 2013-2016
*Solicited stakeholder involvement to define objectives and relevant performance metrics
Wrote computer code to perform simulations
Provided annual presentations and published a book chapter with a subset of results*
- Assessment of Pacific Hake, Lead investigator, 2013–2016
*Organized two meetings each year to inform stakeholders about the data and assessment
Produced a document for each annual assessment with an informative executive summary
Participated in review and management meetings to explain and help interpret results*
- Assessments of various groundfish, Lead investigator, 2009, 2011, 2013, 2015
*Provided stock assessments for rockfish and flatfish to the Pacific Fishery Management Council
Participated in the Stock Assessment Review (STAR) process
Addressed Council requests for additional projections and assistance with interpretation*
- Participation in the NWFSC hook & line survey, Biologist and Analyst, 2013, 2015
*Participated at-sea as a deck biologist to collect and record data for rockfish
Assisted with data analysis and the standardization of data to create an index of abundance
Mentored a UW student that was awarded a NMFS population dynamics fellowship*
- Simulation studies on the relationship between CPUE and abundance, Ph.D. dissertation, 2011-2013
*Performed a meta-analysis to investigate the relationship between orange roughy CPUE and abundance
Investigated the ability to estimate a nonlinear relationship between CPUE and abundance
Performed closed-loop simulations to examine the importance of a nonlinear relationship for management*

Classes taught or co-instructed

- Age structured models in fisheries stock assessment. UW, SAFS. Assistant to Dr. Ray Hilborn. Spring 2016
- Fisheries stock assessment using Stock Synthesis. Ponza, Italy. October 2015.
- Fisheries stock assessment using Stock Synthesis. Perth, Australia. April 2014.
- Fisheries stock assessment using Stock Synthesis. Lysekil, Sweden. September 2013.

Publications and Documents (Lead Author)

- Hicks AC, Cox S, Taylor N, Taylor IG, Grandin CJ, Ianelli J. 2016. Conservation and yield performance of harvest control rules for the transboundary Pacific hake (*Merluccius productus*) fishery in U.S. and Canadian waters. In Edwards CTT, Dankel DJ (eds.) *Management Science in Fisheries: An Introduction to Simulation-based Methods*. Routledge. 452 p.
- Hicks AC, Wetzell C, Harms J. 2013. The status of Widow Rockfish (*Sebastes entomelas*) along the U.S. West Coast in 2015. In Status of the Pacific Coast Groundfish Fishery through 2015, Stock Assessment and Fishery Evaluation: Stock Assessments, STAR Panel Reports, and Rebuilding Analyses. Pacific Fishery Management Council, Portland, Oregon.
- Hicks AC. 2013. The utility of catch-per-unit-effort when assessing and managing long-lived fish stocks. Thesis (Ph.D.). <http://hdl.handle.net/1773/23492>
- Hicks AC, Taylor N, Grandin CJ, Taylor IG, Cox S. 2013. Status of the Pacific hake (whiting) stock in U.S. and Canadian waters in 2013. Document submitted to the Joint U.S.-Canada treaty for Pacific hake/whiting process. 190 p.
- Hicks AC, Wetzell C, Harms J. 2013. The status of rougheye rockfish (*Sebastes aleutianus*) and blackspotted rockfish (*S. melanostictus*) as a complex along the U.S. West Coast in 2013. In Status of the Pacific Coast Groundfish Fishery through 2013, Stock Assessment and Fishery Evaluation: Stock Assessments, STAR Panel Reports, and Rebuilding Analyses. Pacific Fishery Management Council, Portland, Oregon. 250 p.
- Hicks AC, Wetzell C. 2011. The Status of Dover sole off the U.S. west coast in 2011. In Status of the Pacific Coast Groundfish Fishery through 2011, Stock Assessment and Fishery Evaluation: Stock Assessments, STAR Panel Reports, and Rebuilding Analyses. Pacific Fishery Management Council, Portland, Oregon. 305 p.
- Hicks AC, Haltuch MA, Wetzel C. 2009. Status of greenstriped rockfish (*Sebastes elongatus*) along the outer coast of California, Oregon, and Washington. In Status of the Pacific Coast Groundfish Fishery through 2009, Stock Assessment and Fishery Evaluation: Stock Assessments, STAR Panel Reports, and Rebuilding Analyses. Pacific Fishery Management Council, Portland, Oregon. 237 p.
- Hicks AC, Doonan IJ, McMillan PJ, Coburn RP, Hart AC. 2002. Assessment of OEO 3A black oreo for 2002-03. New Zealand Fisheries Assessment Report 2002/63. 58 p.
- Hicks AC, Cordue PL, Bull B. 2002. Estimating proportion at age and sex in the commercial catch of hoki (*Macruronus novaezelandiae*) using length frequency data. New Zealand Fisheries Assessment Report 2002/43. 51 p.

Selected Publications and Documents (Co-author)

- Anderson OF, Francis RICC, Hicks AC. 2002. CPUE analysis and assessment of the Mid-East Coast orange roughy stock (ORH 2A South, 2B, 3A). New Zealand Fisheries Assessment Report 2002/56. 23 p.
- Bryan DR, Bosley KL, Hicks AC, Haltuch MA, Wakefield WW. 2014. Quantitative video analysis of flatfish herding behavior and impact on effective area swept of a survey trawl. Fisheries Research. 154:120–126. DOI:10.1016/j.fishres.2014.02.007.
- Haltuch MA, Hicks AC, See K. 2011. Status of U.S. petrale sole resource in 2010. In Status of the Pacific Coast Groundfish Fishery through 2011, Stock Assessment and Fishery Evaluation: Stock Assessments, STAR Panel Reports, and Rebuilding Analyses. Pacific Fishery Management Council, Portland, Oregon. 420 p.

- Hamel OS, Ressler HP, Thomas RE, Waldeck DA, Hicks AC, Holmes JA, Fleischer GW. 2015. Biology, fisheries, assessment and management of Pacific hake (*Merluccius productus*). In Hugo Arancibia (ed.) *Hakes, Biology and Exploitation*. John Wiley & Sons Ltd. 348 p.
- Keller AA, Molton K, Hicks AC, Haltuch M, and Wetzel C. 2012. Variation in age and growth of greenstriped rockfish (*Sebastes elongatus*) along the U.S. west coast (Washington to California). *Fisheries Research* 119–120:80–88.
- Kuriyama PT, Ono K, Hurtado-Ferro F, Hicks AC, Taylor IG, Licandeo RR, Johnson KF, Anderson SC, Monnahan CC, Rudd MB, Stawitz CC, Valero JL. In Press. An empirical weight-at-age approach reduces estimation bias compared to modeling parametric growth in integrated, statistical stock assessment models when growth is time varying. *Fisheries Research*. Available online 28 September 2015. ISSN 0165-7836. <http://dx.doi.org/10.1016/j.fishres.2015.09.007>.
- Monnahan CC, Ono K, Anderson SC, Rudd MB, Hicks AC, Hurtado-Ferro F, Johnson KF, Kuriyama PT, Licandeo RR, Stawitz CC, Taylor IG, Valero JL. In Press. The effect of length bin width on growth estimation in integrated age-structured stock assessments. *Fisheries Research*. Available online 23 November 2015. ISSN 0165-7836. <http://dx.doi.org/10.1016/j.fishres.2015.11.002>.
- Stewart IJ, Forrest RE, Taylor N, Grandin C, Hicks AC, Martell SJD. 2012. Status of the Pacific hake (whiting) stock in U.S. and Canadian waters in 2012. Document submitted to the Joint U.S.-Canada treaty for Pacific hake/whiting process. 194 p. http://www.westcoast.fisheries.noaa.gov/fisheries/management/whiting/pacific_whiting_treaty.html
- Stewart IJ, Hicks AC, Taylor IG, Thorson JT, Wetzel C, Kupschus S. 2013 A comparison of stock assessment uncertainty estimates using maximum likelihood and Bayesian methods implemented with the same model framework. *Fisheries Research*. 142:37–46.
- Thorson JT, Hicks AC, Methot RD. 2014. Random effect estimation of time-varying factors in Stock Synthesis. *ICES Journal of Marine Science*, 72(1): 178–185. DOI:10.1093/icesjms/fst211.