FELIPE HURTADO-FERRO, PhD Candidate
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KEY QUALIFICATIONS

Statistical skills: Statistical inference, numerical analysis, linear and non-linear regression, statistical modeling, Bayesian modeling, and time series analysis.

Coding skills: Proven record of coding abilities, both independently and as part of a larger team. Have developed analysis, simulation and modeling software in R and other languages. As part of a large group of scientists, developed a successful R package called `ss3sim`.

Communication skills: Proven record of strong verbal and written communication. Have given presentations at national and international scientific meetings, as well as at policy meetings; lead and participated in workshops with scientists, policy makers, federal and state representatives, industry representatives, and NGOs. Authored and coauthored multiple peer reviewed articles and official technical reports.

RELEVANT EXPERIENCE

As PhD student at the University of Washington:

Lead Analyst for the project: "Pacific sardine management strategy evaluation". Pacific Fishery Management Council. Portland, OR, USA. 2013 (Jan) – 2014 (Mar). Tasks involved creating, parameterizing and programing of population models for Pacific sardine, analyzing data from model output, creating visualizations of these analyses, producing technical reports for policy makers to aid in decision making, and providing technical support for federal and state authorities and policy makers. This project also involved extensive input from multiple stakeholders including industry, NGOs, and local and Native governments, thus a key part of my responsibilities was to translate the needs of these stakeholders into technical inputs, and later translate back technical outputs for a non-technical audience.

Analyst for the project: "Review and update of harvest strategy settings for the Commonwealth Small Pelagic Fishery". CSIRO. Hobart, Australia. 2014 (Jan) – 2014 (Aug). Tasks involved creating, parameterizing and programing of population models for four Australian small pelagic fish species, analyzing data from model output, creating visualizations of these analyses, and producing a technical report for policy makers to aid in decision making.

Analyst for the project: "Stock assessment update for Petrale Sole and US Sablefish resources in 2014". Seattle, WA. 2015 (Jan) – 2015 (Jul). Tasks involved extracting and analyzing multiple sources of fisheries data, constructing statistical models for the analysis, creating visualizations for model output, producing a technical report, and presenting the results to policy makers.

As independent consultant:

Data Analyst for OCEANA. Santiago, Chile. 2014 (Jul) – 2014 (Sep). Tasks involved creating and programing of a preliminary statistical model for evaluating management strategies for Chilean hake, and providing technical support for policy staff at OCEANA.

Data Analyst for OCEANA. Monterrey, CA, USA. 2012 (Jul) – 2012 (Sep). Tasks involved translating and updating an old population model used for fisheries management of Pacific sardine from Fortran to R, producing data visualizations for model output, and providing technical support to policy staff at OCEANA.

EDUCATION

Ph.D. in Aquatic and Fishery Sciences (2010-Present)
University of Washington, Seattle WA, USA

M.Sc. in Environmental Sciences (2007-2009)
The University of Tokyo, Tokyo, Japan

B.Sc. Biology (2001-2005)
Universidad Nacional de Colombia, Bogotá, Colombia

PROGRAMMING LANGUAGE SKILLS

Expert knowledge of R and RStudio. Proficient in Python, Rodeo, Sublime, Github, Fortran, ADMB, and Mathematica. Basic familiarity with SQL and C++.

LANGUAGES

Native Spanish speaker; fully fluent in English; working knowledge of Japanese; and basic French.

PUBLICATIONS (PEER REVIEWED AND TECHNICAL REPORTS)

Hurtado-Ferro, F., Punt, A.E. (*In Review*) Do spatially-explicit assessment models outperform spatially-aggregated models for spatially structured stocks? Can. J. Fish. Aquat. Sci.

Punt, A.E., MacCall, A.D., Essington, T.E., Francis, T.B., **Hurtado-Ferro, F.**, Johnson, K.F., Kaplan, I.C., Koehn, L.E.; Levin, P.S., Sydeman, W.J. (2016) Exploring the implications of sardine harvest control, accounting for predator dynamics: A MICE model. Ecol. Mod. 337: 79-95

Monnahan, C.C., Ono, K., Anderson, S.C., Rudd, M.B., Hicks, A.C., **Hurtado-Ferro, F.**, Johnson, K.F., Kuriyama, P.T., Licandeo, R.R., Stawitz, C.C., Taylor, I.G., and Valero, J.L. (2016). The effect of length bin width on growth estimation in integrated age-structured stock assessments. Fish. Res. 180: 103-112

Kuriyama, P.T., Ono, K., **Hurtado-Ferro, F.**, Hicks, A.C., Taylor, I.G., Licandeo, R.R., Johnson, K.F., Anderson, S.C., Monnahan, C.C., Rudd, M.B., Stawitz, C.C., and Valero, J.L. (2016). 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. Fish. Res. 180: 119-127

Hurtado-Ferro, F., Szuwalski, C.S., Valero, J.L., Anderson, S.C., Cunningham, C.J., Johnson, K.F., Licandeo, R., McGilliard, C.R., Monnahan, C.C., Muradian, M.L., Ono, K., Vert-Pre, K.A., Whitten, A.R., and Punt, A.E. 2015. Looking in the rear-view mirror: bias and retrospective patterns in integrated, age-structured stock assessment models. ICES J. Mar. Sci. J. Cons. 72(1): 99–110.

Johnson, K.F., Monnahan, C.C., McGilliard, C.R., Vert-pre, K.A., Anderson, S.C., Cunningham, C.J., **Hurtado-Ferro, F.**, Licandeo, R.R., Muradian, M.L., Ono, K., Szuwalski, C.S., Valero, J.L., Whitten, A.R., and Punt, A.E. 2015. Time-varying natural mortality in fisheries stock assessment models: identifying a default approach. ICES J. Mar. Sci. J. Cons. 72(1): 137-150.

Ono, K., Licandeo, R., Muradian, M.L., Cunningham, C.J., Anderson, S.C., **Hurtado-Ferro, F.**, Johnson, K.F., McGilliard, C.R., Monnahan, C.C., Szuwalski, C.S., Valero, J.L., Vert-Pre, K.A., Whitten, A.R., and Punt, A.E. 2015. The importance of length and age composition data in statistical age-structured models for marine species. ICES J. Mar. Sci. J. Cons. 72(1): 31-43.

Hurtado-Ferro, F., Punt, A.E., and Hill, K.T. 2014. Use of multiple selectivity patterns as a proxy for spatial structure. Fish. Res. 158: 102–115.

Punt, A.E., **Hurtado-Ferro, F.**, and Whitten, A.R. 2014. Model selection for selectivity in fisheries stock assessments. Fish. Res. 158: 124–134.

Hurtado-Ferro, F., Hiramatsu, K., and Shirakihara, K. 2010. Allowing for environmental effects in a management strategy evaluation for Japanese sardine. ICES J. Mar. Sci. J. Cons. 67(9): 2012–2017.

Stawitz, C.C., **Hurtado-Ferro, F.**, Kuriyama, P., Trochta, J.T., Johnson, K., Haltuch, M.A., Hamel O.S. 2015. Stock Assessment Update: Status of the U.S. petrale sole resource in 2014. Pacific Fishery Management Council. Portland OR.

Johnson, K.F., Rudd, M.B., Pons, M., Allen, C, Lee, Q., **Hurtado-Ferro, F.**, Haltuch, M.A. Hamel, O. 2015. Status of the U.S. sablefish resource in 2015. Pacific Fishery Management Council. Portland OR.

Smith, A., T. Ward, **F. Hurtado**, N. Klaer, E. Fulton, and A. Punt. 2015. Review and update of harvest strategy settings for the Commonwealth Small Pelagic Fishery - Single species and ecosystem considerations. Final Report of FRDC Project No. 2013/028. Hobart, Australia.

Hurtado-Ferro, F., A.E. Punt. 2013. Revised analyses related to Pacific sardine harvest parameters. Pacific Fishery Management Council. Portland OR.

Hurtado-Ferro, F., A.E. Punt. 2013. Initial analyses related to evaluating parameter value choices for Pacific sardine. Pacific Fishery Management Council. Portland OR.

Hurtado-Ferro, F., A.E. Punt, K.T. Hill, A. MacCall. 2013. Draft Specifications and Thoughts Related to Calculations to Evaluate Control Rules for Pacific Sardine. Pacific Fishery Management Council. Portland OR.

RELEVANT AWARDS AND RECOGNITIONS

- 2015. Commendation from the Pacific Fishery Management Council for vital contributions in the management strategy evaluation of the Pacific sardine harvest control rule.
- 2009. Uchida Ocean Science Scholarship.
- 2007-2012. Monbukagakusho Scholarship awarded by the Japanese Government to carry out graduate studies in Japan.