



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

B1 Palof CPT Nomination
December 2017

Department of Fish and Game

OFFICE OF THE COMMISSIONER
Headquarters Office

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November 27, 2017

Mr. Dan Hull, Chair
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501

Dear Chairman Hull:

I would like to nominate Ms. Katie Palof for appointment to the Council's Crab Plan Team to replace Ms. Karla Bush, who recently accepted a new position within the Alaska Department of Fish and Game (ADF&G). Ms. Palof is a Biometrician in the Southeast Region shellfish program. She is currently responsible for oversight of shellfish survey design, and Southeast Alaska crab stock assessments. In addition, Ms. Palof is a lead reviewer of ADF&G crab stock assessments that are presented to the Crab Plan Team, and has recently participated on the Crab Plan Team on an interim basis. With Ms. Palof's statewide perspective, understanding of the complex crab stock assessments and strong quantitative skills, she will be a valuable addition to the Crab Plan Team.

Thank you for considering her appointment at the upcoming December 2017 Council meeting, attached is her CV for your review.

Sincerely,

A handwritten signature in blue ink that reads "Sam Cotten".

Sam Cotten
Commissioner

Katie J. Palof

Biometrician II/ Doctoral Candidate
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Juneau, Alaska 99801
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EDUCATION

University of Alaska Fairbanks, Candidate for Ph.D. in Fisheries, School of Fisheries and Ocean Sciences, Juneau, AK	2008-present
Dissertation: Combining genetics and population dynamics to improve management of Pacific ocean perch (<i>Sebastes alutus</i>). Advisors: Drs. T.J. Quinn II and A.J. Gharrett	
University of Alaska Fairbanks, M.S. in Fisheries, School of Fisheries and Ocean Sciences, Juneau, AK	2008
Thesis: Population genetic structure of Alaskan Pacific ocean perch, <i>Sebastes alutus</i> . Advisor: Dr. A.J. Gharrett	
Hiram College, B.A. in Biology (Honors), Hiram, OH	2003
Awards: Magna Cum Laude, Phi Beta Kappa, Alpha Society	

PROFESSIONAL EXPERIENCE

Biometrician II , State of Alaska, Department of Fish and Game, Region 1 Survey Design	2013- present
<ul style="list-style-type: none">• Designed procedures for stratified and adaptive sampling• Using spatial statistics methods to produce predictive maps for stratified sampling• Experience using geospatial analyst in ArcGIS	
Stock assessment	
<ul style="list-style-type: none">• Catch-survey analysis modeling for crab species in Southeast Alaska<ul style="list-style-type: none">○ Implement models in new statistical framework (using R)• Determining stock health assessment with data limited species using only fishery dependent data<ul style="list-style-type: none">○ Surplus-production models○ Standardizing catch per unit effort (CPUE)	
Age and growth studies	
<ul style="list-style-type: none">• Geoduck age and growth analysis• Estimation of national mortality using age frequency distributions<ul style="list-style-type: none">○ catch-curve analysis, alternative methods to estimating natural mortality	
Field work	
<ul style="list-style-type: none">• Participate in data collection on Southeast Alaska crab,shrimp, and dive surveys• Principal investigator for crab and shrimp surveys	
Research Assistant , Doctoral candidate, University of Alaska Fairbanks, Juneau, AK	2008-2012
Data Exploration	
<ul style="list-style-type: none">• Use of survey data set to explore temporal and spatial trends in Pacific ocean perch (POP) growth• Use of the statistical package R for this analysis and subsequent graphs and analyses	
Stock assessment/stock structure	
<ul style="list-style-type: none">• Divided the current stock assessment model for Pacific ocean perch (POP) into regional components• Involved use of AD model builder (ADMB), growth analyses (specifically LVB growth curve relationships), and additional stock assessment data input analyses	
Model simulations	
<ul style="list-style-type: none">• Development of simple model simulation techniques in Excel• Plans to extend these models in the R package	
Prepared reports and manuscripts	
Teaching Assistant , University of Alaska Fairbanks, Juneau, AK	Fall 2009, 2010, 2011, 2012
<ul style="list-style-type: none">• Primary duties of teaching, tutoring, instructing or lecturing for the purpose of imparting knowledge to students.	
Interim Laboratory Manager , Gharrett Lab, University of Alaska Fairbanks, Juneau, AK	Spring 2010

- Inventoried and ordered lab supplies
 - Monitored graduate student lab progress while the primary professor was on sabbatical
 - Trained graduate students in lab and data analysis techniques
- Research Assistant**, Masters degree, University of Alaska Fairbanks, Juneau, AK 2003-2008
- Genetic data analysis
 - Regression, principal component, clustering, and assignment analyses
 - Additional genetic data analytical tools
 - Genetics laboratory techniques
 - DNA isolation, PCR techniques, and gel electrophoreses
 - SNP analysis
- Undergraduate Researcher**, Independent Research, Hiram College, Hiram, OH: 2001-2003
Sucrose metabolism in Agrobacterium tumefaciens. Advisor: Dr. Brad Goodner
- Summer Undergraduate Research Fellow**, REU program, University of Delaware, College of Marine and Earth Studies, Lewes, DE: 2002
Developmental Energetics of Streblospio benedicti.
Supervisor: Dr. Adam Marsh
- Summer Undergraduate Research Fellow**, SURP, Case Western Reserve University, Cleveland, OH: 2001
CFTR and cyclophillin.
Supervisor: Dr. Jianjie Ma

FIELD WORK

- Shellfish pot surveys, ADF&G, Southeast Alaska, Summers 2013-2016. Participated in gear deployment, gear retrieval, collections of biological data from pot contents, and data entry. Principal investigator (PI) for two trips each summer.
- Gulf of Alaska Bottom Trawl Survey, NOAA Fisheries, Alaska Fisheries Science Center, July 2007. Lead the collection of rockfish genetic samples and sorted, identified, and counted all species caught by trawl tows.
- Sablefish long-line survey, NOAA Fisheries, Auke Bay Laboratory, Alaska Fisheries Science Center, July 2005, participated as a scientist with growth parameter and otolith sampling.
- Spawning/ genetic cross of Auke Creek Pink Salmon, UAF/Auke Bay Laboratory project, Auke Creek Weir, Juneau, AK, Summers 2004-2009. Netted experimental fish at weir, took fin clips, executed experimental fish, and prepared gametes for genetic crosses.
- Juvenile black rockfish sampling, summer 2005, Sitka, AK. Beach seine and small boat operation to collect juvenile rockfish in nearshore waters.

TEACHING

- Instructor**, *BIOL 362: Genetics*, University of Alaska Southeast, Juneau, AK 2010/2012
- Prepared and implemented two lecture periods plus one recitation to a class of 20 students weekly.
- Teaching Assistant**, *FISH/MSL 604: Modern Applied Statistics*, University of Alaska Fairbanks, Juneau, AK 2011
- Prepared and taught lectures when instructor was traveling, lead the lab section weekly, and graded assignments
- Teaching Assistant**, *BIOL 362: Genetics*, University of Alaska Southeast, Juneau, AK 2009
- Guest lecturer**, *Fishes of Alaska*, University of Alaska Fairbanks, Fairbanks, AK 2007
- Teaching Assistant**, *Zoology*, Hiram College, Hiram, OH 2002
- Teaching Assistant**, *Organic Chemistry*, Hiram College Chemistry Department, Hiram, OH 2002, 2003
- Prepared and instructed labs, graded assignments, chemical preparation and disposal
- Tutor**, Science Learning Center, Hiram College, Hiram, OH 2001-2003

PROFESSIONAL ACTIVITIES

NPFMC BSAI crab plan team (interim member sept. 2017 to sept 2018)

- Participate in plan team meetings and assist in making recommendations for stock assessments to the NPFMC and the SSC.

Short Courses

- Statistical methods for estimating abundance of natural resources, Alaska Chapter of the American Statistical Society Meeting, Anchorage, AK, June 2013
- Spatial Statistics, Alaska Chapter of the American Statistical Society Meeting, Juneau, AK, August 2011

- AD Model Builder Workshop, Juneau, AK, April 2009
- Summer Institute in Statistical Genetics, Seattle, WA, June 2006
Module 4: Population Genetic Data Analysis for Natural Populations, Instructors: K. Holsinger and B. Weir
Module 7: MCMC for Genetics, Instructors: E. Anderson and M. Stephens
Module 12: Coalescent Theory, Instructors: P. Awadalla and G. McVean

Academic Service

- Member, BSAI Stock Structure Working Group, AFSC, NMFS 2010-2011
- Student Representative to the Steering Committee, 2010 Western Groundfish Conference 2010
- Alaska Chapter American Fisheries Society
 Continuing Education Committee co-chair, 2015 - present
 Juneau sub-unit president, 2004-2006, Fall 2006, 2008-2009
 Student Representative to the executive committee, 2005-2006

Referee Responsibilities

- Manuscript reviewer for *Molecular Ecology*, *Molecular Ecology Resources*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Journal of Heredity*, *Marine Ecology Progress Series*, *Transactions of the American Fisheries Society*, *Environmental Biology of Fishes*
- Grant reviewer for *Natural Science and Engineering Resources Council*

Society Memberships

- American Fisheries Society, Alaska Chapter 2004-2017
- American Statistical Association, Alaska Chapter 2013-2017

AWARDS AND FELLOWSHIPS

- Outstanding Student Oral Presentation Award, Western Groundfish Society, Santa Cruz, CA 2008
- Best Masters Level Graduate Student Oral Presentation Award, Alaska Marine Science Symposium, Anchorage, AK 2008
- Rasmuson Fisheries Research Center Graduate Fellowship 2004-2007
- Alaska Sea Grant College Program Graduate Fellowship 2003
- Hiram College Alpha Society, Hiram, OH 1999-2003

PUBLICATIONS

- Palof, K.J., A.J. Gharrett, J. Heiftz 2011. Geographic structure in Alaskan Pacific ocean perch (*Sebastes alutus*) indicates limited life-time dispersal. *Marine Biology* 158(4):779-792.
- Garvin, M.R., R.W. Marcotte, K.J. Palof, R.J. Riley, L.M. Kamin, A.J. Gharrett. 2011. Diagnostic single-nucleotide polymorphisms identify Pacific ocean perch and delineate blackspotted and rougheye rockfish. *Transactions of the American Fisheries Society* 140(4): 984-988.
- Kamin L.M., K.J. Palof, J. Heiftz, A.J. Gharrett. In Prep. Interannual and spatial variation in the population genetic composition of young-of-the-year Pacific ocean perch (*Sebastes alutus*) in Alaskan waters. *Fisheries Oceanography*
- Hanselman, D., K. Shotwell, K.Palof, P. Hulson. In Prep. Evaluation of stock structure for Gulf of Alaska Pacific ocean perch. NMFS document.

PRESENTATIONS

Invited presentations

- Scientific and Statistical committee symposium on the importance of stock structure in the management of commercial fisheries, Spring 2009
- UAS brown bag lunch lecture series, Spring 2008
- *Sea Grant Review*, poster presentation, September 12, 2006, Fairbanks, AK
- *SFOS Advisory Council Meeting*, oral presentation, April 20, 2006 Juneau, AK
- *CIFAR review*, poster, presentation, June 2004, Fairbanks, AK

Contributed presentations

- *Tools and Strategies for Assessment and Management of Data-Limited Fish Stocks, Lowell Wakefield Fisheries Symposium*, oral presentation, May 2015, Anchorage, AK
- *Alaska Marine Science Symposium*, poster presentation, January 2012, Anchorage, AK
- *Western Groundfish Society*, oral presentation, February 2008, Santa Cruz, CA
- *Alaska Marine Science Symposium*, oral presentation, January 2008, Anchorage, AK
- *Western Groundfish Conference*, poster presentation, February 2006, Newport, OR
- *National American Fisheries Society Annual Meeting*, poster presentation, September 2005, Anchorage, AK
- *Alaska Chapter, American Fisheries Society Annual Meeting*, poster presentation, November 2004, Sitka, AK

COMMUNITY INVOLVEMENT

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|---|----------------------|
| • Science Fair Mentor, Alaska Regional High School Science Fair, Juneau, AK | 2012 |
| • Instructor, Middle School Religious Education, St. Paul Church, Juneau, AK | 2005-2006, 2008-2015 |
| • Southeast Alaska Regional High School Science Fair Judge, Juneau, AK | 2006, 2008-2014 |
| • Volunteer, UAS "I'm going to College Day", Juneau, AK | May 2007 |
| • Educational Outreach Co-Coordinator, Hiram College Field Station, Hiram, OH | 2001-2003 |
| • Recycling Coordinator, Hiram College Student Life Department, Hiram, OH | 2000-2003 |
| • Co-President, Treasurer, Hiram Volunteer Association, Hiram, OH | 2000-2003 |
| • Vice-President, Secretary, Students for Environmental Action Coalition, Hiram, OH | 2000-2003 |
| • Officer, American Institute of Biological Science Club, Hiram College, Hiram, OH | 2000-2003 |

RELEVANT SKILLS/ COURSES

Computer skills

Microsoft suite (Excel, Word, Power Point, etc.), rudimentary Visual Basic programming, R, AD model builder, MatLab, WinBUGS, SPSS, SAS, Systat, statistical genetics freeware (GENEPOP, GENETIX, etc.)

Relevant Graduate Courses

Statistical Theory I and II, Time Series, Bayesian Decision Theory, Statistical Computing in Fisheries with R, Natural Resource Modeling, Experimental Design, Advanced Fish Population Dynamics I and II, Management of Renewable Resources, Management of Alaskan Marine Fisheries, Fish Ecology, Aleutian Marine Ecosystem Processes, Marine Ecosystems, Physical Oceanography, Population and Evolutionary Genetics of Fisheries, Fisheries Genetics, Applications of Genetic Software

Laboratory skills

Biology Apparatus and Techniques: Gel electrophoresis, cloning, PCR, DNA isolation, microsatellite genotyping, LICOR sequencer, ligations, cell culturing, SDS-page gel, Western Blot Analysis, Protein Identification, dissection, thin layer chromatography, microscope work, enzyme activity analysis, and oxygen optrode experience.
Chemistry Apparatus and Techniques: NMR, GS-mass spectroscopy, Infrared Spectroscopy, HPLC
Chromatography, organic synthesis.

Field work skills

Sampling fish and invertebrates for measurements, Performing and analyzing CTD casts.

Relevant Undergraduate courses

Regression/Analysis of Variance, Genetics, Molecular and Cellular Biology, Advanced Molecular and Cellular Biology, Basic Biochemistry, Advanced Biochemistry, Organic Chemistry I and II, Vertebrate Biology, Marine Ecology, Calculus I and II