



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Fish and Game

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May 12, 2025

Ms. Angel Drobnica, Chair
North Pacific Fishery Management Council
1007 West Third, Suite 499
Anchorage, Alaska 99501

Dear Chair Drobnica,

I am nominating Dr. Caitlin Stern for appointment to the Council's Bering Sea and Aleutian Islands Crab Plan Team (CPT).

Dr. Stern is a Biometrician in the Commercial Fisheries Division at the Alaska Department of Fish and Game. She is the lead author on the Norton Sound red king crab, St. Matthew Island blue king crab, and Gulf of Alaska demersal shelf rockfish stock assessments. Dr. Stern is also leading the development of geostatistical model-based indices of abundance for the Norton Sound red king crab and St. Matthew Island blue king crab stocks. Dr. Stern has attended and presented to the CPT and is well acquainted with the Council process and federal fishery management through her experience in ADF&G's Extended Jurisdiction Section.

Dr. Stern received her PhD from Cornell University in 2012 in Behavioral Ecology and a B.A. in Biology from Harvard University in 2005. She was awarded a National Science Foundation Graduate Research Fellowship to support her PhD research and an Omidyar Fellowship at the Santa Fe Institute for postdoctoral research. Her PhD and postdoctoral research focused on mathematically modeling the evolution of complex behavioral traits such as cooperative breeding and mating preferences, demonstrating her strong quantitative skills and experience with model development and evaluation. Since turning her focus to fisheries, Dr. Stern has applied these skills to stock assessment modeling of both shellfish and fish stocks while also gaining expertise in spatial statistics.

Considering her background in stock assessment and experience with state and federal crab co-management, I believe that Dr. Stern will be a valuable addition to the CPT. I have attached her CV for reference. Thank you for considering her appointment at the June 2025 Council meeting.

Sincerely,

A handwritten signature in dark ink, appearing to read "Doug".

Doug Vincent-Lang
Commissioner

Cc: Rachel Baker, Deputy Commissioner ADF&G
David Witherell, Executive Director NPFMC

Caitlin Stern

Alaska Department of Fish and Game
 Division of Commercial Fisheries
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 caitlin.stern@alaska.gov

PROFESSIONAL EXPERIENCE

Biometrician, Alaska Department of Fish and Game, Juneau, AK, 2022 - present. Lead stock assessments for stocks including Norton Sound red king crab, St. Matthew Island blue king crab, Gulf of Alaska demersal shelf rockfish, Southeast Alaska red king crab, Southeast Alaska Tanner crab, and Kodiak black rockfish; develop geostatistical model-based indices of abundance for Bering Sea and Aleutian Islands crab stocks; participate in Crab Plan Team meetings and modeling workshops; participate in Gulf of Alaska Groundfish Plan Team meeting; mentor and advise on stock assessment model development for ADF&G colleagues.

Fishery Biologist, Alaska Department of Fish and Game (ADF&G), Juneau, AK, 2022. Supported the ADF&G Commissioner's seat on the North Pacific Fishery Management Council by providing analysis of fishery management issues; wrote briefing papers and issue summaries.

Fishery Analyst, Alaska Commercial Fisheries Entry Commission, Juneau, AK, 2020 - 2022. Analyzed fisheries data using methods including mixed-effects and multiple regression models; improved SAS programs for CFEC's annual transfer study and pricing; wrote public-facing reports.

Evaluation Officer, Sustrans, London, UK, 2018 - 2020. Analyzed transport data using multivariate regression modeling and location-based analyses; developed data pipelines using R; created data visualizations including interactive maps.

Postdoctoral Researcher, Aarhus University, Aarhus, Denmark, 2017. Built and analyzed mathematical models of behavior, focusing on cooperation and alternative reproductive tactics.

Omidyar Fellow, Santa Fe Institute (SFI), Santa Fe, NM, 2014 - 2016. Researched inter-group cooperation in Alaska Native communities; mathematically modeled cooperative behavior; taught in SFI's Complex Systems Summer School; mentored students.

Postdoctoral Researcher, University of North Carolina, Chapel Hill, NC, 2012 - 2014. Built population genetic models of the evolution of mating traits; synthesized literature on cognitive phenotypes.

Doctoral Student, Cornell University, Ithaca, NY, 2006 - 2012. Dissertation: Cooperation and competition in kin associations. Advisor: Dr. Janis Dickinson.

EDUCATION

Cornell University, Ph.D., Behavioral Ecology, 2012

Harvard University, A.B., Biology, 2005

FELLOWSHIPS

Omidyar Fellowship, Santa Fe Institute, 2014

Fulbright Postdoctoral Fellowship, 2014 (declined)

National Science Foundation Graduate Research Fellowship, 2006

STOCK ASSESSMENTS

Stern CA, Coleman L, Ehresmann R, Omori K, Joy PJ, Hinds CM, Ferriss B (2024) Assessment of the demersal shelf rockfish stock complex in the Gulf of Alaska. North Pacific Fishery Management Council, Anchorage, AK.

Stern CA, Palof K (2024) Saint Matthew Island blue king crab stock assessment 2024. North Pacific Fishery Management Council, Anchorage, AK.

Stern CA, Worton C, Joy P (2024) Kodiak Area black rockfish assessment memo. Alaska Department of Fish and Game, Juneau, AK.

Reich A, **Stern CA** (2024) Southeast Tanner crab assessment 2024. Alaska Department of Fish and Game, Juneau, AK.

Reich A, **Stern CA** (2024) Southeast red king crab assessment 2024. Alaska Department of Fish and Game, Juneau, AK.

Stern CA, Palof K (2023) Southeast Tanner crab assessment 2023. Alaska Department of Fish and Game, Juneau, AK.

Stern CA, Palof K (2023) Southeast red king crab assessment 2023. Alaska Department of Fish and Game, Juneau, AK.

REPORTS

Stern CA (2025) Spatiotemporal model-based survey indices of abundance for Norton Sound red king crab. North Pacific Fishery Management Council, Anchorage, AK.

Stern CA, Ryznar E, Richar J (2025) Spatiotemporal model-based index development for Bering Sea and Aleutian Islands crab stocks: update for Crab Plan Team modeling workshop. North Pacific Fishery Management Council, Anchorage, AK.

Stern CA, Robbins B, Strong D (2022) Changes in the Distribution of Alaska's Commercial Fisheries Entry Permits, 1975-2021. CFEC Report No. 21-01N

Stern CA, Haghayeghi J (2022) An Overview of the Economic Status of Alaska Limited Entry Permit Types. CFEC Report No. 22-01N..

Stern CA, Robbins B, Strong D (2021) CFEC Permit Holdings and Estimates of Gross Earnings in the Yakutat and Southeast Alaska Commercial Salmon Fisheries, 1975-2020, CFEC Report No. 21-4N.

Strong D, **Stern CA**, Robbins B (2021) CFEC Permit Holdings and Estimates of Gross Earnings in the Prince William Sound Commercial Salmon Fisheries, 1975-2020. CFEC Report No. 21-02N

Stern CA, Robbins B, Strong D (2021) Changes in the Distribution of Alaska's Commercial Fisheries Entry Permits, 1975-2020. CFEC Report No. 21-01N

Stern CA (2020) Rural, Urban, and Nonresident Estimated Earnings in Alaska's Commercial Salmon Fisheries, 1975-2019. CFEC Report No. 20-3N.

Stern CA, Robbins B, Strong D (2020) Changes in the Distribution of Alaska's Commercial Fisheries Entry Permits, 1975-2019. CFEC Report No. 20-1N.

PEER-REVIEWED PUBLICATIONS

McElroy K, **Stern CA**, Quinn T, Hilborn R (2024) Applying the Ideal Free Distribution to the movement of a highly mobile gillnet fishery for Pacific salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 81:241-252.

Smith MG, Akçay C, Shizuka D, **Stern CA**, Dickinson JL (2020) Extraterritorial visits in a cooperatively breeding songbird are consistent with multiple functions. *Animal Behaviour* 170:119-132.

Berdahl A, Brelsford C, De Bacco C, Dumas M, Ferdinand V, Grochow JA, Hebert-Dufresne L, Kallus Y, Kempes, CP, Kolchinsky A, Larremore DB, Libby E, Power EA, **Stern CA**, Tracey BD (2019) Dynamics of beneficial epidemics. *Scientific Reports* 9:15093.

Dhole S, **Stern CA**, Servedio MR (2018) Direct detection of male quality can facilitate the evolution of female choosiness and indicators of good genes: evolution across a continuum of indicator mechanisms. *Evolution* 72:770-784.

Fitzpatrick CL, Hobson EA, Mendelson TC, Rodríguez RL, Safran RJ, Scordato ESC, Servedio MR, **Stern CA**, Symes LB, Knopp M (2018) Theory meets empiry: a citation network analysis. *BioScience* 10:805-812.

Stern CA, Servedio MR (2017) Evolution of a mating preference for a dual-utility trait used in intrasexual competition in genetically monogamous populations. *Ecology and Evolution* 2017:1-9.

Kolodny O, **Stern CA** (2017) Evolution of risk preference is determined by reproduction dynamics, life history, and population size. *Scientific Reports* 7:9364.

Mendelson TC, Fitzpatrick CL, Hauber ME, Pence CH, Rodriguez RL, Safran RJ, **Stern CA**, Stevens JR (2016) Cognitive phenotypes and the evolution of animal decisions. *Trends in Ecology & Evolution* 2152.

Stern CA, Dickinson JL (2016) Effects of load-lightening and delayed extra-pair benefits on the fitness consequences of helping behavior. *Behavioral Ecology* 27: 1078-1086.

Dickinson JL, Akçay C, Ferree ED, **Stern CA** (2016) A hierarchical analysis of incest avoidance in a cooperative breeder. *Behavioral Ecology* 27: 1132-1140.

Dickinson, JL, Akçay C, Ferree ED, **Stern CA** (2016) Western bluebirds: lessons from a marginal cooperative breeder. In: Koenig WD and Dickinson JL (eds.) *Cooperative Breeding in Vertebrates: Studies of Ecology, Evolution, and Behavior*, pp. 19-38. Cambridge: Cambridge University Press.

Riehl CP, **Stern CA** (2015) How cooperatively breeding birds identify relatives and avoid incest: new insights into dispersal and kin recognition. *BioEssays* 37:1303-1308.

Servedio MR, Brandvain Y, Dhole S, Fitzpatrick CL, Goldberg EE, **Stern CA**, Van Cleve J, Yeh DJ (2014) Not just a theory: the utility of mathematical models in evolutionary biology. *PLoS Biology* 12:e1002017.

Dickinson JL, Ferree ED, **Stern CA**, Swift R, Zuckerberg B (2014) Delayed dispersal: teasing apart the importance of resources and parents. *Behavioral Ecology* 25:843-851.

Stern CA, Dickinson JL (2010) Pigeons. In: Breed M.D. and Moore J., (eds.) *Encyclopedia of Animal Behavior*, pp. 723-730. Oxford: Academic Press.

Ferree ED, Dickinson JL, Rendell W, **Stern CA**, Porter S (2010) Hatching order explains an extrapair chick advantage in western bluebirds. *Behavioral Ecology* 21:802-807.

Ferree ED, Dickinson JL, Kleiber D, **Stern CA**, Haydock J, Stanback MT, Schmidt V, Eisenberg L, Stolzenberg C (2008) Development and cross-species testing of western bluebird (*Sialia mexicana*) microsatellite primers. *Molecular Ecology Resources* 8:1348-1350.

Stern CA (2007) Western bluebird captures a western fence lizard. *The Wilson Journal of Ornithology* 119:128-129.