UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Alaska Fisheries Science Center
7600 Sand Point Way NE, Bldg. 4
Seattle, Washington 98115-0070
(206) 526-4000

June 1 , 2022

Simon Kinneen, Chair
North Pacific Fishery Management Council
1007 W. 3rd Avenue
Anchorage, AK 99501

Dear Mr. Kinneen,

I am very pleased to recommend the appointment of Beth Matta as a member of the Bering Sea / Aleutian Islands (BSAI) Groundfish Plan Team.

Beth has worked in our Age and Growth program for over 15 years. Beth has considerable expertise in assessing the age and growth of commercially and ecologically important groundfish species in Alaskan waters. Beth has shown creativity in investigating new and innovative methods of fish age determination. One of her primary research foci has been to identify environmental and intrinsic factors that drive the growth of key groundfish species, with recent exploration of spatiotemporal variation in fish growth.

Beyond her work in fish ageing analysis, Beth has also co-authored Stock Assessment and Fishery Evaluation Reports for the shark complex in the Gulf of Alaska and Bering Sea/Aleutian Islands fisheries management regions. Beth also serves on the Habitat Ecology and Process Research (HEPR) Team, and has a broad range of collaborative relationships with members of other agencies, academic institutions, and AFSC staff on growth-related research.

I believe Beth brings a unique viewpoint to the plan team and has the temperament, drive and competence to be a beneficial addition to the plan team.

Sincerely,

Dr. Robert Foy
Director

CURRICULUM VITAE FOR MARY ELIZABETH (BETH) MATTA

Phone: (206) 526-4684
beth.matta@noaa.gov

Alaska Fisheries Science Center (AFSC)
7600 Sand Point Way NE
Seattle, WA 98115

EDUCATION

MS University of Washington, Aquatic and Fishery Sciences 2006
Thesis: "Aspects of the life history of the Alaska skate, *Bathyraja parmifera*, in the eastern Bering Sea"
Advisor: Donald Gunderson

BS The College of New Jersey, Biology 2001
Graduated Cum Laude
Minored in Chemistry

PROFESSIONAL EXPERIENCE

Age and Growth Program, AFSC 2007 to present
Research Fisheries Biologist

- Assess age and growth of commercially and ecologically groundfish species in Alaskan waters
- Identify environmental and intrinsic factors driving growth of key groundfish species
- Explore spatiotemporal variation in fish growth
- Investigate new and innovative methods of fish age determination
- Coauthor Stock Assessment and Fishery Evaluation Reports for the shark complex in the Gulf of Alaska and Bering Sea/Aleutian Islands fisheries management regions
- Serve on the Habitat Ecology and Process Research (HEPR) Team
- Collaborate with members of other agencies, academic institutions, and AFSC staff on growth-related research

Status of Stocks and Multispecies Assessments, AFSC 2006 to 2007
Contract Biologist

- Coauthored Stock Assessment and Fishery Evaluation Reports for rex sole and the skate complex in the Gulf of Alaska and Bering Sea/Aleutian Islands fisheries management regions
- Assisted in creating the first length-based stock assessment model for the Alaska skate to generate harvest recommendations
- Created graphical representations of fishery, abundance, and biological data for stock assessment reports
- Presented skate stock assessment and harvest recommendations to the North Pacific Fishery Management Council Bering Sea/Aleutian Island Groundfish Plan Team in written and oral formats

Resource Ecology and Ecosystem Modeling, AFSC 2001 to 2003
Contract Biologist

- Microscopically identified and quantified prey fauna in fish stomach contents
- Created new laboratory manuals for improved identification of partially digested fish remains
- Catalogued, organized, and updated laboratory reference specimen collection
- Participated in scientific research surveys in Alaskan waters

PEER-REVIEWED PUBLICATIONS

- Yeung CT, Copeman LA, **Matta ME**, Yang MS (2021) Latitudinal variation in the growth and condition of juvenile flatfishes in the Bering Sea. Estuar Coast Shelf Sci 258. https://doi.org/10.1016/j.ecss.2021.107416
- Essington TE, **Matta ME**, Black BA, Helser TE, Spencer PD (2022) Fitting growth models to otolith increments to reveal time-varying growth. Can J Fish Aquat Sci 79:159-167. https://doi.org/10.1139/cjfas-2021-0046
- Arrington MB, Helser TE, Benson IM, Essington TE, **Matta ME**, Punt AE (2022) Rapid age estimation of longnose skate (*Raja rhina*) vertebrae using near-infrared spectroscopy. Mar Freshwater Res 73:71-80. https://doi.org/10.1071/MF21054
- **Matta ME**, Rand KM, Arrington MB, Black BA (2020) Competition-driven growth of Atka mackerel in the Aleutian Islands ecosystem revealed by an otolith biochronology. Estuar Coast Shelf Sci 240. https://doi.org/10.1016/j.ecss.2020.106775
- **Matta ME**, Baker MR (2020) Age and growth of Pacific Sand Lance (*Ammodytes personatus*) at the latitudinal extremes of the Gulf of Alaska large marine ecosystem. Northwest Nat 101. https://doi.org/10.1898/1051-1733-101.1.34
- Rand K, McDermott S, Logerwell E, **Matta ME**, Levine M, Bryan DR, Spies IB, Loomis T (2019) Higher aggregation of key prey species associated with diet and abundance of the Steller sea lion *Eumetopias jubatus* across the Aleutian Islands. Mar Coast Fish 11:472-486. https://doi.org/10.1002/mcf2.10096
- **Matta ME**, Miller JA, Short JA, Helser TE, Hurst TP, Rand KM, Ormseth OA (2019) Spatial and temporal variation in otolith elemental signatures of age-0 Pacific cod (*Gadus macrocephalus*) in the Gulf of Alaska. Deep-Sea Res Pt II 165:268-279. https://doi.org/10.1016/j.dsr2.2017.08.015
- Baker MR, **Matta ME**, Beaulieu M, Paris N, Huber S, Graham OJ, Pham T, Sisson NB, Heller CP, Witt A, O'Neill MR (2019) Intra-seasonal and inter-annual patterns in the demographics of sand lance and response to environmental drivers in the North Pacific. Mar Ecol Prog Ser 617-618:221-244. https://doi.org/10.3354/meps12897
- Wilson MT, Dougherty A, **Matta ME**, Mier KL, Miller JA (2018) Otolith chemistry of juvenile walleye pollock *Gadus chalcogrammus* in relation to regional hydrography: evidence of spatially split cohorts. Mar Ecol Prog Ser 588:163-178. https://doi.org/10.3354/meps12425
- **Matta ME**, Helser TE, Black BA (2018) Intrinsic and environmental drivers of growth in an Alaskan rockfish: an otolith biochronology approach. Environ Biol Fish 101:1571-1587. https://doi.org/10.1007/s10641-018-0801-8
- Tribuzio CA, **Matta ME**, Gburski C, Blood C, Bubley W, Kruse GH (2018) Are Pacific spiny dogfish lying about their age? A comparison of ageing structures for *Squalus suckleyi*. Mar Freshw Res 69:37. https://doi.org/10.1071/MF16329
- **Matta ME**, Tribuzio CA, Ebert DA, Goldman KJ, Gburski CM (2017) Age and growth of elasmobranchs and applications to fisheries management and conservation in the northeast Pacific Ocean. In: Larson S, Lowry D (eds) Northeast Pacific Shark Biology, Research and Conservation Part A, Advances in Marine Biology 77. Academic Press. https://doi.org/10.1016/bs.amb.2017.06.002

- Kastelle CR, Helser TE, McKay JL, Johnston CG, Anderl DM, **Matta ME** & Nichol DG (2017) Age validation of Pacific cod (*Gadus macrocephalus*) using high-resolution stable oxygen isotope ($\delta^{18}O$) chronologies in otoliths. Fish Res 185:43-53. https://doi.org/10.1016/j.fishres.2016.09.024
- **Matta ME**, Helser TE & Black BA (2016) Otolith biochronologies reveal latitudinal differences in growth of Bering Sea yellowfin sole *Limanda aspera*. Polar Biol 39:2427-2439. https://doi.org/10.1007/s00300-016-1917-y
- van der Sleen P, Dzaugis MP, Gentry C, Hall WP, Hamilton V, Helser TE, **Matta ME**, Underwood CA, Zuercher R & Black BA (2016) Long-term Bering Sea environmental variability in a centennial length biochronology of Pacific ocean perch (*Sebastes alutus*). Climate Res 71:33-45. https://doi.org/10.3354/cr01425
- Tribuzio CA, **Matta ME**, Gburski C, Atkins N & Bubley W (2016) Methods for the preparation of Pacific spiny dogfish, *Squalus suckleyi*, fin spines and vertebrae and an overview of age determination. Mar Fish Rev 78:1-13. Available at https://spo.nmfs.noaa.gov/sites/default/files/pdf-content/mfr781-21.pdf
- **Matta ME** (2015) Reproductive biology of the Alaska skate *Bathyraja parmifera*, with comments on an intersexual individual. J Fish Biol 87:664-678. https://doi.org/10.1111/jfb.12747
- **Matta ME**, Orland IJ, Ushikubo T, Helser TE, Black BA & Valley JW (2013) Otolith oxygen isotopes measured by high-precision secondary ion mass spectrometry reflect life history of a yellowfin sole (*Limanda aspera*). Rapid Commun Mass Spec 27:691-699. https://doi.org/10.1002/rcm.6502
- Black BA, **Matta ME**, Helser TE & Wilderbuer TK (2013) Otolith biochronologies as multidecadal indicators of body size anomalies in yellowfin sole (*Limanda aspera*). Fish Oceanogr 22:523-532. https://doi.org/10.1111/fog.12036
- **Matta ME** & Kimura DK (2012) Age determination manual of the Alaska Fisheries Science Center Age and Growth Program. NOAA Professional Paper NMFS 13, 97 p. Available at https://repository.library.noaa.gov/view/noaa/4149
- **Matta ME**, Black BA & Wilderbuer TK (2010) Climate-driven synchrony in otolith growth-increment chronologies for three Bering Sea flatfish species. Mar Ecol Prog Ser 413:137-145. https://doi.org/10.3354/meps08689
- **Matta ME** & Gunderson DR (2007) Age, growth, maturity, and mortality of the Alaska skate, *Bathyraja parmifera*, in the eastern Bering Sea. Environ Biol Fish 80:309-323. https://doi.org/10.1007/s10641-007-9223-8

STOCK ASSESSMENT AND FISHERY EVALUATION REPORTS

- Tribuzio CA, **Matta ME**, Rodgveller C, Echave K (2020) Assessment of the shark stock complex in the Gulf of Alaska. Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska. NPFMC, Anchorage, AK
- Tribuzio CA, **Matta ME**, Echave K, Rodgveller C (2020) Assessment of the shark stock complex in the Bering Sea and Aleutian Islands. Stock assessment and fishery evaluation report for the groundfish resources of the Bering Sea/Aleutian Islands regions. NPFMC, Anchorage, AK

- Ormseth OA & **Matta B** (2007) Bering Sea and Aleutian Islands skates. Stock assessment and fishery evaluation report for the groundfish resources of the Bering Sea/Aleutian Islands regions. NPFMC, Anchorage, AK
- Ormseth OA & **Matta B** (2007) Gulf of Alaska skates. Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska. NPFMC, Anchorage, AK
- Stockhausen W & **Matta B** (2007) Gulf of Alaska rex sole. Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska. NPFMC, Anchorage, AK
- **Matta B**, Gaichas S, Lowe S, Stevenson D, Hoff J, & Ebert D (2006) Bering Sea and Aleutian Island skates. Stock assessment and fishery evaluation report for the groundfish resources of the Bering Sea/Aleutian Islands regions. NPFMC, Anchorage, AK
- Gaichas S, **Matta B**, Stevenson D, & Hoff J (2005) Bering Sea and Aleutian Islands skates. Stock assessment and fishery evaluation report for the groundfish resources of the Bering Sea/Aleutian Islands regions. NPFMC, Anchorage, AK
- Gaichas S, Courtney D, TenBrink T, Nelson M, Lowe S, Hoff J, **Matta B**, & Boldt J (2004) Bering Sea and Aleutian Islands squid and other species stock assessment. Stock assessment and fishery evaluation report for the groundfish resources of the Bering Sea/Aleutian Islands regions. NPFMC, Anchorage, AK

GRANTS AND AWARDS

- **NOAA Essential Fish Habitat (EFH) Grant** (2020 co-PI) "Nearshore essential habitats of juvenile flatfish in the eastern and northern Bering Sea"
- **NOAA EFH Grant** (2018-2019 co-PI) "Spatial variation in early juvenile flatfish growth and condition in relation to thermal phases in the eastern Bering Sea shelf"
- **NOAA Fisheries and the Environment (FATE) Grant** (2017, lead PI) "Effects of high- and low-frequency environmental variation on fish growth and stock assessment reference points: a case study using yellowfin sole and Pacific ocean perch otoliths"
- **NOAA Improve a Stock Assessment Grant** (2017, co-PI) "Improving stock assessments of a wide-ranging species: Estimation of spatial and temporal variability in life history parameters of longnose skate (*Raja rhina*)"
- **NOAA EFH Grant** (2017, co-PI) "Juvenile flatfish habitat in the northern Bering Sea"
- **NOAA EFH Grant** (2016, co-PI) "Quality of two juvenile flatfish habitats during warm and cold periods in the eastern Bering Sea"
- **NOAA EFH Grant** (2012, lead PI) "Otolith microchemical fingerprinting: assessing juvenile Pacific cod habitat utilization in the Gulf of Alaska"
- **NOAA FATE Grant** (2010, co-PI) "Impacts of climate on long-term growth patterns of yellowfin sole in the Bering Sea: empirical modeling and incorporation into stock assessment"
- **NOAA Fisheries Service Employee of the Year Award** (2010) for contributions leading to "enhanced stewardship of NOAA Fisheries protected/managed species/associated habitats"