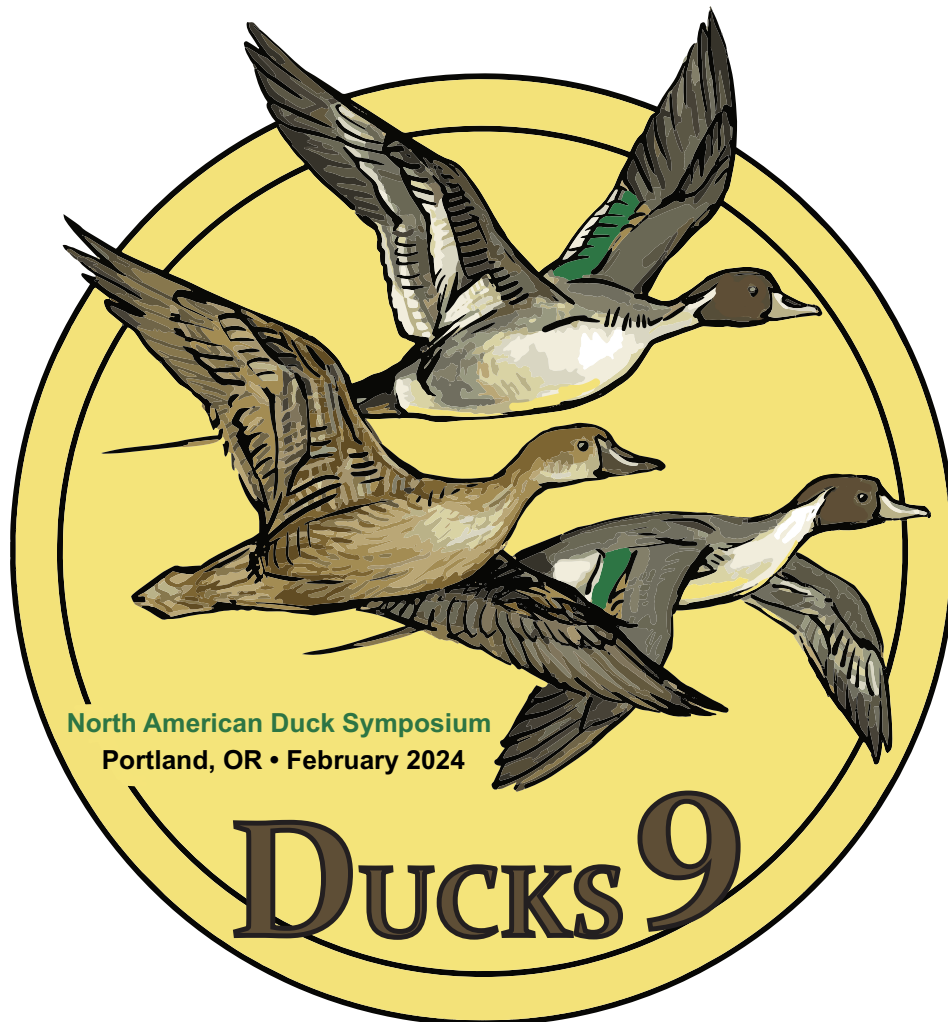


9th North American Duck Symposium
5-9 February 2024
Program of Events



**Embracing New Frontiers in Waterfowl
Ecology and Management**

**Sentinel Hotel
Portland, Oregon**

Thank You
to the Sponsors of the
9th North American Duck Symposium

Canvasback Tier



Pintail Tier



Mallard Tier



Washington Department of
FISH & WILDLIFE

Wood Duck Tier



Kennedy-Grohne Chair
Waterfowl & Wetlands Conservation
University of Wisconsin - Stevens Point



Teal Tier



James K. Ringelman
Chair in Waterfowl Conservation

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Lisa Webb (Co-chair) USGS/University of Missouri
Mark Petrie (Co-chair) Ducks Unlimited Inc
Bruce Dugger (Co-chair) Oregon State University
James Anderson Clemson University
Rob Blenk University of California Davis
Mike Casazza US Geological Survey
John Coluccy, Ducks Unlimited Inc
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Auriel Fournier, Illinois Natural History Survey
Jim Gammonley, Colorado Parks and Wildlife
Ashley Gramza, Playa Lakes Joint Venture
Flor Hernandez, University of Texas El Paso
Chris Malachowski, USGS, Colorado State
Chris Nicolai, Delta Waterfowl
Thomas Riecke, University of Montana
Joseph Sands, US Fish and Wildlife Service
Chris Williams, University of Delaware

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Brandon Reishus, Oregon Department of Fish and Wildlife
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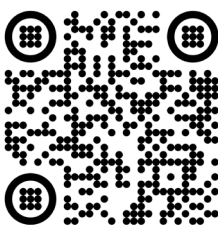
Student Travel & Presentation Awards Committee

Auriel Fournier (Chair), Illinois Natural History Survey
James Anderson, Clemson University
Matt Dyson, Ducks Unlimited Canada
Ashley Gramza, Playa Lakes Joint Venture

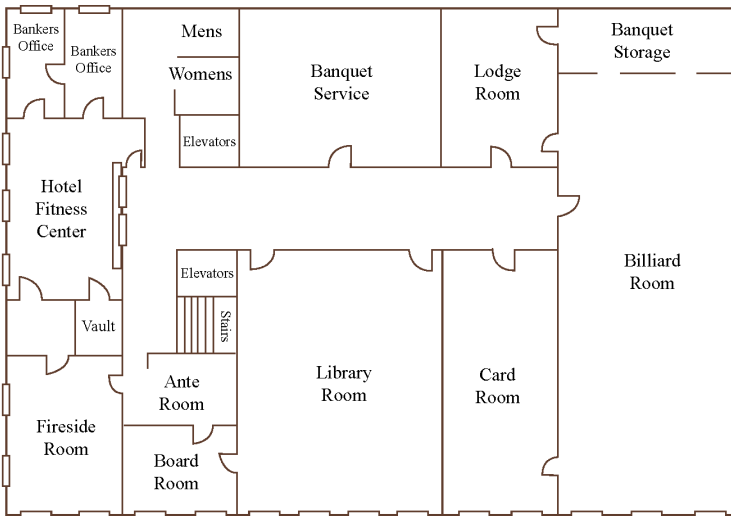
Code of Conduct Committee

Chris Williams (Chair), University of Delaware
Mike Brasher, Ducks Unlimited Inc.
Vanessa Harriman, Ducks Unlimited Inc.
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Lisa Webb, USGS/University of Missouri

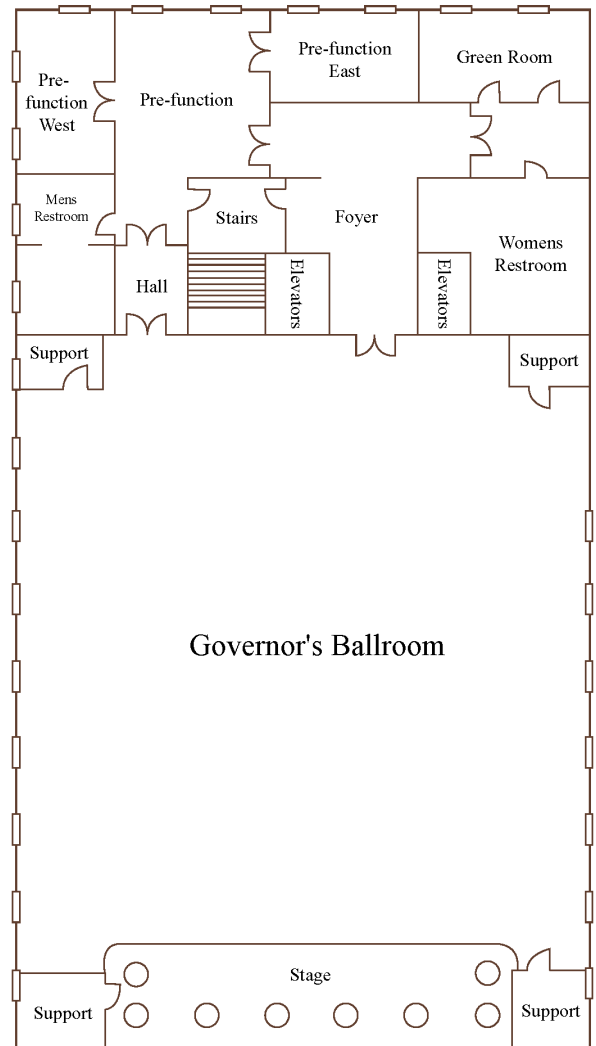
Anyone who needs to report conduct that potentially violates the meeting code of conduct can send an email using the QR code below.



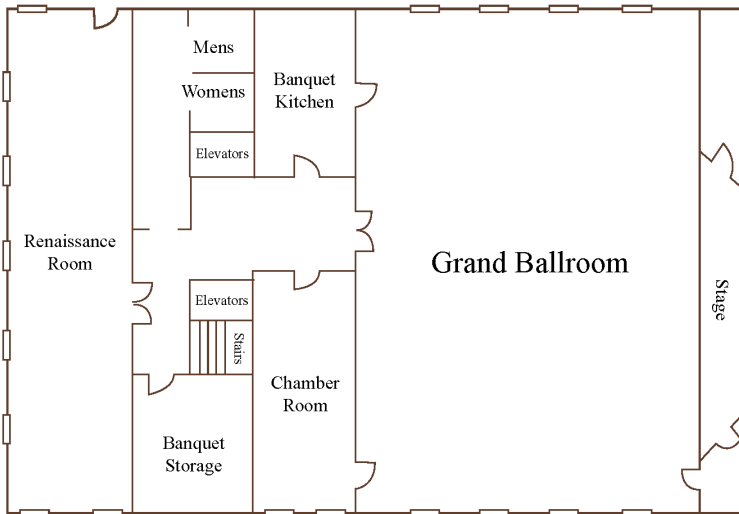
Conference Resources & Monday Overview



Second Floor



Fourth Floor



Third Floor



Scan with your phone to view
the full abstract book.

Monday, 5 February, 2024 Program Overview

12:00 - 20:00	Registration
13:00 - 18:00	Workshop: Bayesian Analysis of Banding Data Tom Riecke et al.
18:00 - 19:00	Break before reception
19:00 - 22:00	Welcoming Reception
21:00	End of Monday Programming

Notes

Tuesday, 6 February, 2024

Program Overview

- 6:30 - 8:00 **Breakfast: Grand Ballroom**
- 8:10 - 8:15 **Opening Remarks and Announcements: Governor's Ballroom** Bruce Dugger
- 8:15 - 8:20 **Afton Plenary Introduction** Bruce Dugger
- 8:20 - 9:30 **Afton Plenary Lecture: Governor's Ballroom**
Introductions by Mike Anderson and Al Afton, Speaker: John Eadie
- 9:30 - 10:00 **Coffee Break**
- 10:00 - 12:00 **Student Plenary Session** Moderator: John Eadie
- 12:00 - 13:20 **Lunch break: Grand Ballroom**
- 13:20 - 15:20 **Concurrent Oral Sessions**
A1.1: Movement Ecology (Renaissance Room)
A1.2: Population Dynamics (Billiard Room)
A1.3 Breeding Ecology (Library)
A1.4: Wetland Management and Assessment (Card Room)
- 15:20 - 15:40 **Coffee Break**
- 15:40 - 17:00 **Concurrent Oral Sessions**
A1.1: Student Mental Health Support Workshop (Renaissance Room)
A1.2: Population Dynamics (Billiard Room)
A1.3: Breeding Ecology (Library)
A1.4: Wetland Management and Assessment (Card Room)
- 17:00 **Dinner on your own**
- 18:00 - 19:00 **Mentor/Mentee Event (Grand Ballroom), Sponsored by Delta Waterfowl Foundation**
- 19:00 - 21:00 **Student Social (Grand Ballroom)**
- 19:00 - 22:00 **Hospitality Suite, Sponsored by Ducks Unlimited**

Detailed Program

- 6:30 - 8:00 **Breakfast (Grand Ballroom)**
- 8:10 - 8:20 **Opening Remarks and Introductions: Governor's Ballroom** Bruce Dugger, Mike Anderson, and Al Afton
- 8:20 - 9:30 **Afton Plenary Lecture: Straddling Fences: Birds, Behavior, Plans & People** John Eadie
- 9:30 - 10:00 **Coffee Break**
- Student Plenary Session** Moderator: John Eadie (Governor's Ballroom)
- 10:00 **Monitoring Waterfowl Brood Abundance, Movement, and Survival Using a Drone-Based VHF Radiotelemetry System** Grant Rhodes*, K.M. Ringelman, H.C. Sabatier, B.S. Sedinger, and C.A. Nicolai
- 10:20 **AI-Assisted Conservation: Developing Tools to Standardize In-The-Field Means to Distinguish Duck Species and Hybrids** Sara Gonzalez* and P. Lavretsky
- 10:40 **simRestore: A Decision-Making Tool for Adaptive Management of the Native Genetic Status of Wild Populations** Flor Hernandez*, T. Janzen, and P. Lavretsky
- 11:00 **Great Lakes Mallard Movements and Population Dynamics** Benjamin Luukkonen*, S.R. Winterstein, D.B. Hayes, D.N. Fowler, P. Lavretsky, B.A. Avers, J.M. Coluccy, B.J. O'Neal, A.A. Shipley, J.M. Winiarski, and J.W. Simpson
- 11:20 **Functional Connectivity of Waterfowl Sanctuaries for Wintering Mallards in the Mississippi Alluvial Valley** Nicholas Mastro*, A.C. Keever, A.G. Blake-Bradshaw, C.J. Highway, J.C. Feddersen, H.M. Hagy, and B.S. Cohen
- 11:40 **Influence of Sanctuary Disturbance on Waterfowl Harvest Opportunity** Abigail Blake-Bradshaw*, N.M. Mastro, C.J. Highway, A.C. Keever, J.C. Feddersen, H.M. Hagy, and B.S. Cohen
- 12:00 - 13:20 **Lunch: Grand Ballroom**

A1.1: Movement Ecology - Renaissance Room

Moderator: Paul Link

- 13:20 **Machine learned daily life history classification using low-frequency tracking data and automated modeling pipelines: application to North American waterfowl** Cory Overton, M. Casazza, J. Bretz, F. McDuie, E. Matchett, D. Mackell, A. Lorenz, A. Mott, M. Herzog, and J. Ackerman
- 13:40 **Movement Patterns and Risks From Anthropogenic Stressors for Scoters Wintering in the Salish Sea** Megan Ross, J.R. Evenson, P.D. O'Hara, W. O'Shea, M. Hamer, K.A. Spragens, and W.S. Boyd
- 14:00 **Movement ecology of mottled ducks in a novel environment: the South Texas Brush Country** Jay VonBank, J. Morel, D.P. Collins, B.M. Ballard, P. Lavretsky and K.J. Kraai
- 14:20 **Risk assessment for wildlife disease (avian influenza) using an animal movement approach** Elliott Matchett, F. McDuie, C. Overton, A. Lorenz, A. L. Mott, D. Mackell, J. Ackerman, S. De La Cruz, V. Patil, D. Prosser, J. Takekawa, D. Orthmeyer, M. Pitesky, S. Díaz-Muñoz, B. Riggs, J. Gendreau, E. Reed, M. Petrie, C. Williams, J. Buler, M. Hardy, B. Ladman, P. Legagneux, J. Bêty, P. Thomas, J. Rodrigue, J. Lefebvre, and M. Casazza
- 14:40 **Customized Wildlife Reports: Streamlining GPS Telemetry Data for Enhanced Wildlife Management** Austen Lorenz, C.T. Overton, F. McDuie, E.L. Matchett, A.L. Mott, D.A. Mackell, and M.L. Casazza
- 15:00 **No talk scheduled**

A1.3: Breeding Ecology - Library

Moderator: Aaron Pearse

- 13:20 **Estimating future densities and distributions of breeding duck pairs under a changing climate in the U.S. Prairie Pothole Region** Aaron Pearse, O.P. McKenna, J.D. Tack, N. Wright, I. Rangwala, E.C. McCulloch, and A.T. Pearse
- 13:40 **Eastern Canada: Using Species Abundance Models to Prioritize Habitat for Conservation and Restoration** Amelia Cox, B. Frei, A. Brown, M.E. Dyson, S. Meyer, A. Hanson, K. Hick, S.G. Gilliland, C. Lepage, M. Tétreault, and C. Roy
- 14:00 **Breeding Duck Pair Densities: Insights From the Prairie Pothole Region of Central Saskatchewan, Canada** Hannah Sabatier, G.A. Rhodes, K.M. Ringelman, C.A. Nicolai, and B.S. Sedinger
- 14:20 **Conspecific brood parasitism in Red-breasted Mergansers: parasite behavior and host fitness costs** Shawn Craik and R. Titman
- 14:40 **Factors affecting cause-specific egg mortality in a host-parasite-predator system** Michael Johnson and D.N. Koons
- 15:00 **NOAA Firebird: Fire Effects in Gulf of Mexico Marshes on Mottled Ducks, Black and Yellow Rails** Auriel Fournier, M. Brasher, C. Butler, W. Cheney, W. Conway, J. Cox, N. Enwright, K. Evans, E. Johnson, C. Kross, J. Lancaster, H. Levy, J. Leuck, J.E. Lyons, L. Monopoli, J. Moon, J.A. Nyman, R. Rohli, A. Schwarzer, E. Soehren, M. Stantial, H. Thurman, W. Vermillion, J. Wilson, and M. Woodrey

A1.2: Population Dynamics - Billiard Room

Moderator: Franny Buderman

- 13:20 **Characterizing the population dynamics of waterfowl breeding in the Intermountain West** Casey Setash, A.C. Behney, J.H. Gammonley, and D.N. Koons
- 13:40 **Explaining the environmental drivers and demographic mechanisms leading to the divergence of population trajectories for Canvasbacks and Redheads** Daniel Gibson, T.W. Arnold, F.E. Buderman, and D.K. Koons
- 14:00 **A life-history spectrum of population responses to simultaneous change in climate and land use** Frances Buderman, J.H. Devries, and D.N. Koons
- 14:20 **Recent Declines in Population Indices for Spectacled Eiders on Both Breeding Areas in Alaska** Erik Osnas, D.E. Safine, C.J. Frost, H.M. Wilson, M.A. Swaim, and J.B. Fischer
- 14:40 **Drivers of annual recruitment in sea duck populations revealed using harvest surveys** Jacob Hewitt, J.N. Straub, and A. Roberts
- 15:00 **Long-term population trends of wintering waterfowl in the Mississippi Alluvial Valley** Kara Hall, B. Davis, M. Boudreau, K. Hall, R. Kaminski, G. Street, H. Havens, L. Naylor, and B. Leach

A1.4: Wetland Management and Assessment - Card Room

Moderator: Joe Lancaster

- 13:20 **Vegetation and Waterbird Response to a Drawdown on a Semi-permanent Wetland** Katherina Schroyer, H.M. Hagy, R.J. Askren, S. Rimer, H. Zurqani, and D.C. Osborne
- 13:40 **Will semipermanent wetlands be the bottleneck for production in the future duck factory?** Michael Anteau, K.I. McLean, O.P. McKenna, M.L. Szymanski, and L. Vest
- 14:00 **Preferred atmospheric circulations associated with favorable prescribed burns in the Gulf of Mexico, U.S.A.** C. Kross, R.V. Rohli, J.A. Moon, Auriel M.V. Fournier, M.S. Woodrey, and J.A. Nyman
- 14:20 **Assessment of seasonal wetland availability to inform non-breeding waterfowl conservation on the Western Gulf Coast** Joe Lancaster, N.M. Enwright, M.G. Brasher, S.J. DeMaso, M.W. Parr, W.G. Vermillion, B.C. Wilson, and T. Morvant
- 14:40 **Revisiting the 2020 Vision of Wetland Habitats and Waterfowl: How Good Were the Predictions?** David Olson
- 15:00 **When Is the Table Set? Important Considerations for How We Assess Wetland Seed Abundance** Dan Smith, J.T. Ackerman, M.L. Casazza, and J.M. Eadie

15:20 - 15:40

Coffee Break, hosted by Columbia Sportsware

A1.1: Managing a Team with Mental Health in Mind: Clinical Insights, Current Examples, and a Community Discussion of Best Paths Forward: Renaissance

Moderator: Auriel Fournier

- 15:40–15:55 Presentation (Sara Kinder)
- 15:55–16:25 Panel Discussion
- 16:25–16:50 Small Group Discussions
- 16:50–17:10 Reporting out from Group Discussions

A1.3: Breeding Ecology - Library

Moderator: Aaron Pearse

- 15:40 **Fire for Feathers- Assessing the Impacts of Fire on Breeding Mottled Ducks** Pierce Adams, P. Adams, W. Conway, J. Moon, E. Bonczek, M.J. Butler, B. Davis, D. Haukos, J. Lancaster, S. Lehnen, E. Rigby, K. Ringelman, and B. Wilson
- 16:00 **Boreal Duck Reproductive Success: Relationships with Breeding Pair Density, Spring Phenology and Predator-Prey Dynamics** Kyla Bas, E.T. Reed, and R.G. Clark
- 16:20 **Nest Box Selection by Common Goldeneye (*Bucephala clangula*) in the Chena River System, Interior Alaska** Riley Porter, B. Davis, M. Boudreau, G. Wang, and E. Taylor
- 16:40 **Evaluating the Mottled Duck Nest Predator Community in Southwest Louisiana Using Camera Traps and Artificial Nests** Alexandre Dopkin and K.M. Ringelman

A1.2: Population Dynamics - Billiard Room

Moderator: Franny Buderman

- 15:40 **Using a Photo Survey to Estimate Annual Recruitment in Atlantic Flyway Sea Duck Populations** Jacob Hewitt, J.N. Straub, A. Roberts, and K. Sullivan
- 16:00 **Seasonal Abundance, Sex Ratio, and Survival of the Endangered Hawaiian Duck on North Kaua'i** Christopher Malachowski, K.J. Uyehara, M.H. Reynolds, and B.D. Dugger
- 16:20 **Pitfalls in Bayesian Modeling of Band-Recovery Data** Cody Deane, J.L. Dooley, and G.A. Breed
- 16:40 **Landscape Genetics Reveals Environmental Drivers of Historical Reproductive Barriers Between Mexican Ducks and Mallards** Joshua Brown, and P. Lavretsky

A1.4: Wetland Management and Assessment - Card Room

Moderator: Joe Lancaster

- 15:40 **When Is the Table Set? Important Considerations for How We Assess Wetland Seed Abundance** Dan Smith, J.T. Ackerman, M.L. Casazza, and J.M. Eadie
- 16:00 **Waterfowl and Water Quality: How Comparing Wetland Restorations Can Help Build Up Wetland Multifunctionality** Evangelin Von Boeckman K.M. Kemink, J.M. Coluccy, W.G. Crumpton, E.R. Herbert, and A.K. Janke
- 16:20 **Abiotic Factors Affecting Bottomland Hardwood Tree Establishment on Restored Wetlands in Western Kentucky and Tennessee** David Hicks, J. Podoliak, and L. Webb
- 16:40 No talk scheduled

17:00 Dinner on your own

18:00 - 18:30 Mentor/Mentee Event: Grand Ballroom

19:00 - 21:00 Student Social: Grand Ballroom - Snacks Provided, Hosted by Delta Waterfowl Foundation

19:00 - 22:00 Hospitality Suite, Sponsored by Ducks Unlimited

22:00 Tuesday Programming Concludes

Notes

Wednesday, 7 February, 2024
Program Overview

6:30 - 8:00	Breakfast
8:00 - 9:30	Plenary 2: Considering Diversity, Equity, and Inclusion in the Field Of Waterfowl, Governor's Ballroom Introduction: Kaylan Kemick
9:30 - 9:50	Coffee Break
9:50 - 12:00	Plenary 2 Continued, Governor's Ballroom
12:00 - 13:20	Lunch Break
13:20 - 15:20	Concurrent Oral Sessions A2.1: North American Mallard (Billiard Room) A2.2: Foraging and Bioenergetics (Library) A2.3 Breeding Ecology (Card Room) A2.4: Marking and Monitoring (Renaissance Room)
15:20 - 15:40	Coffee Break
15:40 - 17:20	Concurrent Oral Sessions A2.1: North American Mallard (Billiard Room) A2.2: Foraging and Bioenergetics (Library) A2.3 Body Condition and Physiology (Card Room) A2.4: Hunting and Harvesting (Renaissance Room)
17:20 - 19:00	Dinner on your own
19:00 - 22:00	Poster Session: Governor's Ballroom
19:00 - 22:00	Hospitality Suite, Sponsored by Ducks Unlimited

Detailed Program

6:30 - 8:00	Breakfast
8:00 - 9:30	Plenary 2: Considering Diversity, Equity, and Inclusion in the Field of Waterfowl
8:10	Leveraging Social Science to Support More Equitable and Inclusive Conservation Practices Megan Jones
8:50	Interagency Engagement in DEI: The Importance of Talking Over Fences Adam Phelps
9:10	Building Pathways: the Crossroads of R3, DEI, and Relevancy Taniya Bethke
9:30 - 9:50	Coffee Break
9:50	Empowering Women's Participation in Hunting and Conservation: Current trends and knowledge gaps Katherine Graham
10:10	Partners in Conservation - Working with Alaska Migratory Bird Co-management Council Patty Schwalenberg
10:30	Confronting Colonial History: Toward Healing, Just, and Equitable Conservation Futures Tamara Layden
10:50	Supporting Inuit Participation in Wildlife Research Across the Short- and Long-Term Grant Gilchrist
11:10	Field Safety Strategies to Support At-Risk Researchers Lindsay Carlson
11:30	Panel Discussion
12:00 - 13:20	Lunch break

A2.1: North American Mallard - Billiard Room

Moderator: Phil Lavretsky

- 13:20 **The Meaning of Wild: Genetic and Adaptive Consequences from Large-Scale Releases of Domestic Mallards** Philip Lavretsky and M.L. Schummer
- 13:40 **Reconstructing the Genomic and Morphological History of Wild Mallards Resulting from Game-Farm Mallard Releases** Lauren McFarland, J. Brown, P. Byerly, V. Musni, H. James, R. Fleischer, M. Schummer, and P. Lavretsky
- 14:00 **Game-Farm Mallard Releases Lead to Hybridization and Pose a Threat to the Genetic Health and Future Adaptive Potential of Wild Populations Across North America** Joshua Brown, M. Schummer, and P. Lavretsky
- 14:20 **Morphology and Food Intake Rate of Wild and Game-Farm Mallards** Susannah Halligan, M. Schummer, P. Lavretsky, A. Fournier, B. Davis, and C. Downs
- 14:40 **Comparisons of Morphology and Feather Patterns Among Genotypes of North American Mallards** Hunter Collins, M. Schummer, P. Lavretsky, and J. Simpson
- 15:00 **Understanding Effects of Domestic and Wild Mallard Introgressive Hybridization on Spring Migratory Behavior** Ryan Askren, P. Lavretsky, A.G. Blake-Bradshaw, C.J. Highway, A.J. Keever, H.M. Hagy, J.C. Feddersen, B.S. Cohen, and D.C. Osborne

A2.3: Breeding Ecology - Card Room

Moderator: Matt Dyson

- 13:20 **Linear Feature Effects on Settling and Productivity of Ducks in the Western Boreal Forest** Matt Dyson, H.V. Singer, L.M. Armstrong, S. Witherly, V. Harriman, and S.M. Slattery
- 13:40 **Breeding Waterfowl Habitat Selection in the Taiga and Its Contribution to Future Survey Efforts** Eric Reed, J.D. Wettlaufer, B. Frei, A. Cox, S.G. Gilliland, C. Lepage, and C. Roy
- 14:00 **Polar Bear Predation of Seaduck Nests: Causes, Consequences and Projections for the Future** Grant Gilchrist, C.J. Dey, S.A. Iverson, and C.A.D. Semeniuk
- 14:20 **Spatial and Temporal Genetic Structuring in Colonially Breeding Red-Breasted Mergansers (*Mergus serrator*)** Emily Burt, G. Gauthier, R. Titman, S. Craik, and M. Guigueno
- 14:40 **Forecasting Waterfowl Distribution and Abundance in the Canadian Western Boreal in Face of Cumulative Impacts of Climate Change** Amelia Cox, A. Brown, B. Frei, L. Pollock, K. Bianchini, S. Haché, T. Micheletti, A.M. Chubaty, E. McIntire, and C. Roy
- 15:00 **Long-Term Changes in Nest Sites of Canvasback in a Dramatically Altered Environment** Michael Johnson, D.N. Koons, and M.G. Anderson

A2.2: Foraging and Bioenergetics - Library

Moderator: Heath Hagy

- 13:20 **True Metabolizable Energy of Waterfowl in Illinois** Therin Bradshaw, M.R. Williams, H.M. Hagy, J.D. Lancaster, A.D. Gilbert, C.S. Kross, J.M. Osborn, A.P. Yetter, and A.M.V. Fournier
- 13:40 **Bioenergetic Capacities of Private Lands Enrolled in the Texas Prairie Wetlands Project** Macayla Greider, T. Abshier, K. Hartke, J. Lancaster, and B. Wilson
- 14:00 **Factors Affecting Use and Depletion of Unharvested Flooded Corn by Wintering Waterfowl** Cory Highway, N.M. Masto, A.G. Blake-Bradshaw, A.C. Keever, J.C. Feddersen, H.M. Hagy, D.L. Combs, and B.S. Cohen
- 14:20 **Estimating Energetic Density of Winter Foraging Habitat in South Atlantic Coastal Wetlands** Stephen Clements, B. Davis, B. Bauer, H. Hagy, D. Morin, and G. Wang
- 14:40 **Drivers of annual recruitment in sea duck Bioenergetics and Annual Movements of Green-Winged Teal (*Anas crecca*) in the Atlantic Flyway** Cole Tiemann, C. Williams, and T. Terhune
- 15:00 **Empirical Evidence Mike Anderson Is 1,576,800 Times Smarter than Mike Eichholz** Mike Eichholz, G. Soulliere, J. Simpson, R. Gates, J. Coluccy, K. Rajala, J. Straub, H. Hagy, and M. Al-Saffar

A2.4: Marking and Monitoring - Renaissance Room

Moderator: Kevin Ringelman

- 13:20 **Effects of Surgically-Implanted GPS/GSM Transmitters on Captive Lesser Scaup (*Aythya Affinis*) Behavior and Breeding** Cheyenne Beach, J. Koop, and A. Fournier
- 13:40 **An Assessment of Wood Duck Banding Needs for the Mississippi and Atlantic Flyways** Cole Howard, A. Keever, B. Cohen, H. Hagy, P. Garrettson, and A. Greenawalt
- 14:00 **Using Double-Observer and Removal Methodology to Estimate Detection Probability During Upland Nest Drags** Hunter Veltkamp, C. Nicolai, and T. Arnold
- 14:20 **Application of eBird Data to Enhance Monitoring and Planning for Migratory Waterfowl** Kylee Dunham, O. Robinson, A. Fournier, K. Ringelman, and M. Brasher
- 14:40 **Examining Individual Variation in Samples of Banded Ducks at Delta Marsh, Manitoba** Camryn Vestby, K. Huss, C. Nicolai, and H. Sabatier
- 15:00 **Occurrence and Abundance of Wintering Ducks Detected on Aerial Surveys in the Lower Mississippi Alluvial Valley** Avery Wissmueller, B. Davis, M.R. Boudreau, R.M. Kaminski, G.M. Street, H. Havens, B. Leach, and L. Naylor

15:20 - 15:40

Coffee Break

A2.1: North American Mallard - Billiard Room

Moderator: Phil Lavretsky

- 15:40 Atlantic Flyway Mallards: Deriving Migration Metrics from GPS/GSM Data** Daria Sparks, J. Straub, J. Stiller, M. Weegman, C. Waldrep, J. Coluccy, N. Huck, and K. Duren
- 16:00 Body Mass Dynamics in Wintering Mallards (Anas Platyrhynchos) in the Lower Mississippi Alluvial Valley** John Veon, B.A. DeGregorio, L.W. Naylor, K.J. Reinecke, B.C. Dabbert, D.W. Demarest, K.M. Hartke, and D.G. Kremenz
- 16:20 duckDNA: Engaging Hunters in the Study of Waterfowl Genetics** Ashley Tunstall, M.G. Brasher, K.H. Victor, and P. Lavretsky
- 16:40 Minding Our Mallards? Who's Looking After the Mallards for the Next Generation(s)** Michael Schummer, and P. Lavretsky
- 17:00 The Mallard in the Anthropocene** Pär Söderquist, J. Champagnon, J. Elmberg, M. Guillemain, P. Lavretsky, and R. Clark

A2.2: Foraging and Bioenergetics - Library

Moderator: Heath Hagy

- 15:40 An Alternative for Evaluating the Energetic Landscape for Mallards *Anas Platyrhynchos* in the Mississippi Alluvial Valley, USA** Duncan Fraser, M. Boudreau, J. Lancaster, D. Adjaye, J. Dentinger, L. Dolan, G. Ripa, C. R.-Reyes, C. Sklarczyk, B. Thornton, H. Todaro, R. Kaminski, and B. Davis,
- 16:00 Re-Evaluating Waterfowl Carrying Capacity Using Diet, Body Condition, and Foraging Behavior** Jacqueline Satter, J.M. Eadie, M.L. Casazza, J.T. Ackerman, and C.L. Feldheim
- 16:20 Foraging Interactions of Sympatric Waterfowl on the Yukon-Kuskokwim Delta in Alaska** Jacob Tepsa, J. Thompson, C. Blommel, D. Koons, and B. Sedinger
- 16:40 Evaluating the Diets of Ducks Using South Atlantic Coastal Wetlands** Stephen Clements, B. Davis, B. Bauer, H. Hagy, P. Lavretsky, D. Morin, and G. Wang
- 17:00 Foraging and Diving Locations of Wintering Lesser Scaup in the Chesapeake Bay** Hannah Schley, C.K. Williams, J. Homyack, and B. Harvey

A2.3: Body Condition and Physiology - Card Room

Moderator: Jake Straub

- 15:40 Diving at High Altitude: O2 Transport and Utilization in Andean Ruddy Duck and Torrent Duck** Kevin McCracken, G.R. Scott, L. Alza, C. Bakkeren, B.A. Chua, N.J. Dawson, C.M. Ivy, P.B. Frappell, S.L. Lague, J.N. Maina, E.R. Schell, R.J. Sprenger, R.E. Weber, J.M. York, and W.K. Milsom
- 16:00 Physiological Correlates of Dive Time in 16 Species of North American Diving Ducks** Elizabeth Schell, G.R. Scott, N.J. Dawson, P. Lavretsky, J. White, and K.G. McCracken
- 16:20 Assessing Thiamine Deficiency in Diving and Sea Ducks in the Lake Ontario Watershed** Jacob Straub, J. Rinchar, C. Norment, J. Stiller, and M. Morgan
- 16:40 Development of Blood Metabolite Index for Mallards** Jerad Henson, A.S. Guerrero, D.C. Osborne, T.M. Bradshaw, H.M. Hagy, and A.M.V. Fournier
- 17:00 Serosurveillance for H5N1-Subtype Influenza A Virus in Hunting Dogs from Washington State, USA** Justin Brown, A. Black, K.H. Haman, D.G. Diel, V.E. Ramirez, R.S. Ziejka, H.T. Fenelon, P.M. Rabinowitz, L. Stevens, R. Poulson, and D.E. Stallknecht

A2.4: Marking and Monitoring - Renaissance Room

Moderator: Mark Vrtiska

- 15:40 Effects of Adaptive Harvest Management on Conflicts About Duck Harvest Regulations 1980-2022** Pam Garrettson, and P.K. Devers
- 16:00 Temporal Relationships Between the Migratory Bird Hunting and Conservation Stamp and the Duck Breeding Population: An Update of Vrtiska Et Al. (2013)** Christopher Chizinski, M.P. Vrtiska, M.P. Gruntorad, and K.A. Graham
- 16:20 Harlequin Duck Harvest Closure in Washington State** Kyle Spragens
- 16:40 Hunting as a Selective Force on Migration Phenology and a Mechanism for 'Stale' Ducks** Bradley Cohen, N.M. Masto, C.J. Highway, P.T. Link, K. Torrance, C.R. Hurt, P. Lavretsky, J.C. Feddersen, D.C. Osborne, and H.M. Hagy
- 17:00 Tier II Duck Hunting Regulations in Nebraska and South Dakota** John McKinney, R. Murano, M. Vrtiska, M. Gruntorad, and C. Chizinski

17:20 - 19:00 Dinner on your own

19:00 - 22:00 Poster Session: Governor's Ballroom (Poster titles and numbers on following pages)

19:00 - 22:00 Hospitality Suite, Sponsored by Ducks Unlimited

22:00 Wednesday Programming Concludes

1. Per- and Polyfluoroalkyl Substances (PFAS) and Waterfowl: Origins and Impacts Kai Victor, A. Tunstall, and M. Brasher

2. A New Era for Wetland Monitoring: Exploring Remote Sensing Options for Monitoring Wetland Vegetation Communities Katherina Schroyer, H. Zurqani, H.M. Hagy, R.J. Askren, S. Rimer, and D.C. Osborne

3. Variation in Survival and Harvest Rates in Florida Mottled Duck Joshua Dooley, P.R. Garrettson, and R.R. Bielefeld

4. Morphological Consequences of Anthropogenic Hybridization Between Introduced Mallards and Endemic Grey Ducks of New Zealand Miranda Fuentes, V. Musni, S. Gonzalez, and P. Lavretsky

5. Wood Duck Reproductive Success and Brood Ecology from Artificial Nest Boxes in the Delmarva Peninsula Blake Struthers, C. Williams, J. Buler, J. Homyack, and G. Macy

6. Assessing Morphology Among Mexican Ducks, Mottled Ducks, Mallards, and Their Hybrids in a Recent Contact Zone in South Texas Brush Country Vergie Musni, K. Kraai, D. Butler, J. Morel, D. Collins, P. Lavretsky, J. VonBank

7. Breeding Origins of Waterfowl Harvested in Louisiana Derived from Band Recoveries and Stable Isotope $\delta^{2}H$ Measurements of Feathers Shannon Stemaly, D. Fowler, K. Hobson, and K. Ringelman

8. Changing Forage Conditions for Molting Steller's Eiders *Polysticta stelleri* in Izembek Lagoon, Alaska Anastasia Maliguine, T.E. Hollmen, C.L. Amundson, and B.H. Konar

9. Native Bees, Fire Ants, and Waterfowl Habitat Management in Mississippi's Alluvial Valley Haley Hughes, B. Davis, K. Parys, and C. Fortuin

10. Targeted Wetland Restoration to Maximize Breeding Waterfowl Habitat in Eastern South Dakota Samuel Kucia, O.P. McKenna, and J. Stafford

11. Factors Influencing Field Selection by Mallards and Northern Pintails Within Rice-Crawfish Dominated Agriculture in Southwest Louisiana Aiden Gehrke, K. Ringelman, and D. Fowler

12. Effects of Auditory Disturbance on Mallard and Northern Pintail Behavior in Southwest Louisiana Emily Ferraro, K. Ringelman, and D. Fowler

13. Signals of Both Purifying and Directional Selection Across the Speciation Continuum in the Mallard Complex Flor Hernandez, J. Mohl, and P. Lavretsky

14. Estimating Non-Breeding Waterfowl Abundance for Conservation Planning Using Citizen Science Data Joe Lancaster, M.G. Brasher, and B.C. Wilson

15. Waterbird Migration Chronology and Wetland Selection in Georgetown, South Carolina Jordan McCall, J.D. Lanham, D. Kunkel, and J.T. Anderson

16. Evaluating the Impact of Forest Disturbance on Cavity Nesting Sea Ducks in the Interior of British Columbia William O'Shea and M.V. Ross,

17. Nest-Box Mounted Pit Tag Readers Provide New Insight on Breeding Behaviors of Black-Bellied Whistling-Ducks in Louisiana Katie Miranda, D.L. Bakner, and K.M. Ringelman

18. Varying Impacts of H5N1 Infection on Lesser Snow Geese Movement Ecology Jeffery Sullivan, D.J. Prosser, M.L. Casazza, E.L. Matchett, R.L. Poulson, and D.E. Stallknecht

19. Enhancing Breeding Pair Count Surveys of Ducks Through Unmanned Aerial Vehicle Implementation Hannah Sabatier, G.A. Rhodes, K.M. Ringelman, C.A. Nicolai, and B.S. Sedinger

20. Southeast Kansas Mallard GPS Project - Evaluating Mallard Fall, Winter, and Spring Ecology with GPS/ACC Transmitters Ethan Dittmer, M.P. Vrtiska, J.A. VonBank, T.F. Bidrowski

21. Integrated Wetland Management for Waterfowl Conservation and Biological Control of Mosquitoes John Veon, J.M. Eadie, D.S. Karp, S.P. Lawler, A.M. Atkinson, R.E. Pence

22. Environmental Factors Influencing Blue-Winged Teal Spring Migration Initiation and Subsequent Migratory Movements Jeffrey Edwards, L. Webb, D. Fowler, P. Link, B. Leach

23. Variation in Spring Migration Strategies of Northern Pintails and Consequences to Fitness Georgina Eccles, D.P. Collins, K.J. Kraai, P.T. Link, M.L. Casazza, C.T. Overton, M.H. Cline, J.A. VonBank, M.R. Bradshaw, J.D. James, M. D. Weegman, C.D. Hilton, and B.M. Ballard

24. Morphological Consequences of Anthropogenic Hybridization Between Domestic Game-Farm Mallards, Wild Mallards and Hybrids Diane Martinez Ricartti

25. Validating Field Observations with Molecular Sequencing to Quantify Interspecific Brood Parasitism Michael Johnson and C.P. Wells

26. Domestication Results in Physiologically Different Birds: Quantifying Muscle Fiber-Types of Wild, Game-Farm, and Hybrid Mallards Nicholas Enriquez, A. Khan, S. Balivada, and P. Lavretsky

27. Modeling Changing Winter Waterfowl Distribution in Ohio and the Great Lakes Region Andrea Spurck, R.J. Gates, and B.T. Shirkey

28. Distribution of Game-Farm Mallard Release Programs Throughout the United States Hunter Collins, A. LaFever, P. Lavretsky, and M. Schummer

29. Development of an Aerial Waterfowl Survey for Northeastern Louisiana Victoria Drake, and K.M. Ringelman

30. Application of Energetic Models for Migrating Waterfowl to Develop a Wetland Management Decision-Support Tool for the Montezuma Wetlands Complex, New York Emily Miller, C. Bright, H. Collins, J. Green, C. Moyer, M. Roos, R. Stedman, J. Suchewski, J. Coluccy, and M. Schummer

31. Advances in Weather-Related Indices of Waterfowl Abundance in the Central Flyway During Autumn-Winter Emily Miller, M. Schummer, T. Bidrowski and R. Schultheis

32. Wetlands in Working Landscapes: Maintaining Wetland Resilience in the Context of Agroecosystems and Climate Change Matt Dyson, A.C. Collard, J.H. Devries, T. Cobb, R. Hinchliffe, B. Eaton, E. Herdman, and S. Koziel

33. What's a Picture Really Worth? Validating the Use of Camera Traps to Estimate Waterfowl Productivity Matt Dyson, H.V. Singer, A.J. Pidwerbesky, and J.E. Paterson

34. Eggshell Strength in Three Cavity-Nesting Ducks in Mississippi Hunter Mentges, B. Davis, P. Adhikari, I. Poudel, and S. Rush

35. Brownie-Lincoln Abundance Estimation in a Bayesian Estimation Framework
Cody Deane, J.L. Dooley, and G.A. Breed

36. Atlas of Sea Duck Key Habitat Sites in North America Kate Martin, T. Bowman, J. Churchill, C. Lepage, S. Badzinski, S. Gilliland, N. McLellan, E. Silverman, and K. Martin

37. Environmental Attributes and Wetland Management Influence Seed Abundance in Seasonal Wetlands
Dan Smith, J.T. Ackerman, M.L. Casazza, and J.M. Eadie

38. Use of Thermal-Energetic Environments by Female Northern Pintails Under Current and Future Climatic Conditions Joseph McGovern, B.M. Ballard, C.D. Hilton, and E.P. Tanner

39. Changes in Survival of Upland Duck Nests in Relation to Long-Term System Change in the US PPR Dave Brandt, A. Pearse, M. Szymanski, J. Tack, N. Wright, M. Anteau, and K. Ellis

40. The Effects of Ventilating Wood Duck Nest Boxes on Box Microclimate, Box Use, and Nest Success Tenaya Russell, J.M. Sweeney, and J.M. Eadie

41. Working Lands Programs as a Means to Conserve Waterfowl Habitat Kyle Kuechle, K. Kemink, T. Gue, B. Toay, and A. McDaniel

42. Estimating Apparent Survival Probabilities of Black-Bellied Whistling Ducks Paul Link and P. Garrettson

43. Quantifying Neonicotinoid Concentrations and Toxicity Thresholds in Aquatic Macroinvertebrates: Implications for Wetland-Dependent Wildlife Corinne Sweeney, E.B. Webb, J.A. Steevens, A.F. Messerman

44. Duck Use of Wastewater Treatment Lagoons During the Non-Breeding Season in Oregon, USA Sarah J. Swann and B.D. Dugger

45. Comparing Diet and Body Condition of Male and Female Dabbling Ducks
Jacqueline Satter, H.C. Coates, M.L. Casazza, J.T. Ackerman, C.L. Feldheim, and J.M. Eadie

46. Measuring Efficacy of Artificial Nesting Structures in Breeding Mallard Populations of Northern California
Evan Yunker, B.D. Dugger, and C.A. Nicolai

47. Predicting Waterfowl Productivity and Abundance Using Brood Pair Ratios Catrina Terry, K.J. Kuechle, and K.M. Kemink

48. Impacts of Refuge Connectivity on Waterfowl Distribution and Hunting Opportunities in Western Tennessee
Cory Highway, J.C. Feddersen, A.C. Keever, N.M. Masto, A.G. Blake-Bradshaw, H.M. Hagy, and B.S. Cohen

~~**49. Fowl Play in High Gear: Harnessing the Power of Intensive Cattle Grazing for Waterfowl Production in North Dakota**~~
Taylor Linder, K.M. Kemink, M.A. Ahlering, and S.N. Ellis-Felege **CANCELLED**

50. University Waterfowl Programs: A Resource at Risk? Diane Eggeman, R. Kaminski, M. Brasher, J. Brice, E. Carrera, J. Eadie, D. Eggeman, J. Foth, M. Gloutney, A. Janke, S. Oldenburger, C. Roy, E. Webb, and C. Williams

51. Winter Group Feeding Behavior of Northern Shovelers: Implications for Waterbird Diversity and Conservation in Colorado Drew Bender, D.M. Bender, L.J. Farnsworth, and C.A. Carello

52. Social Associations of the Endangered Koloa Maoli and the Role of Plumage and Genetic Relatedness
Keerthipriya Palanive, K. Palanivel, C.P. Malachowski, B.D. Dugger, K. Uyehara, A. Engilis, Jr., J.M. Eadie, P. Lavretsky, S. Turnbull, and C.P. Wells

53. A Predictive Model of True Metabolizable Energy of Waterfowl Foods from Food Characteristics
Rob Blenk and B.D. Dugger

54. Insights from the Stillaguamish River Delta, Washington: Building Partnerships Through Mallard Banding
Kyle Spragens, J. Sevigny, and A. Summers

55. Mallard Ecology in the Columbia Basin Washington: Embarking on New Insights Kyle Spragens, and M.T. Wilson

56. Evaluating the Effectiveness of Gull Control as a Management Tool for Increasing Common Eider Duckling Survival Dustin Meattay, L. Savoy, K. Sullivan, B. Allen, D. McAuley, R. Dyer, and C. Dwyer

57. Rapid Assessment Models with Standardized Applications to Support Bioenergetic Modeling Cole Howard, H. Hagy, and B. Cohen

58. Use of Intracoelomic GPS/GSM Transmitters in Mallards and Pintails: An Interim Look at Performance and Expectations Mike Szymanski, A.T. Pearse, and D.P. Collins

59. Avian Use of Marsh Terraces in Coastal Louisiana Madelyn McFarland, J.B. Davis, M.G. Brasher, M. Woodrey, and F. Vizcarra

60. A Statewide Survey of California's Breeding Redheads to Guide Conservation, 2017-2020 Cliff Feldheim, S. Pagliughi, and S. McAllister

61. Rangelands: Working Lands for Waterfowl and Other Wildlife
Josh Vest, D. Haukos, N. Niemuth, C. Setash, J. Gammonley, S. Stephens, D. Dahlgren

62. Insights and Observations of Emperor Goose *Anser canagicus* Broods Using Harness Transmitters on the Yukon Delta NWR, AK Mairin Murphy, B. Daniels, T. Lewis, and B. Sedinger

63. Atlantic Brant Upland Habitat Use and Bioenergetics on Wintering Grounds David Weber, C. Williams, T. Nichols, and J. Stiller

64. A Global Comparison of Migration Strategies of an Arctic-Nesting Bird
Amy Shipley, A. Fox, L. Cao, A. Kölzsch, H. Kruckenberg, M. Casazza, C. Overton, B. Ballard, Y. Si, and M. Weegman

65. Winter Habitat Use of Canvasback in California Laurie Hall, S.E.W. De La Cruz, L.A. Hall, S.M. Moskal, M.A. Hill, A. McCarthy, and C. Feldheim

66. Ducks and Submersed Aquatic Vegetation Respond Positively After Invasive Carp Exclusion Vanessa Harriman, L.E. Bortolotti, R.B. Emery, P.D. Kowal, L.M. Armstrong, H.V. Singer, M.J. Anteau, F.B. Baldwin, C. Meuckon, and D.A. Wrubleski

Notes

Thursday, 8 February, 2024
Program Overview

6:30 - 8:00	Breakfast
8:00 - 9:30	Plenary 3: Changing Duck Population Sex Ratios: Cause for Concern? (Governor's Ballroom)
9:30 - 10:00	Coffee Break
10:00- 12:00	Plenary 3 Continued
12:00 - 13:20	Lunch Break
13:20 - 15:20	Concurrent Oral Sessions A3.1: Wood Duck Ecology (Card Room) A3.2: Waterfowl Distributions (Renaissance Room) A3.3 Human Dimensions (Library) A3.4: Remote Sensing (Billiard Room)
15:20 - 15:40	Coffee Break
15:40 - 17:40	Concurrent Oral Sessions A3.1: Wood Duck Ecology (Card Room) A3.2: Waterfowl Distributions (Renaissance Room) A3.3 Human Dimensions (Library) A3.4: Remote Sensing (Billiard Room)
17:20	Dinner on your own
19:00 - 22:00	Hospitality Suite, Sponsored by Ducks Unlimited

Detailed Program

6:30 - 8:00	Breakfast
8:00 - 9:30	Plenary 3: Changing Duck Population Sex Ratios: Cause for Concern?
8:00	Changing duck population sex ratios: cause for concern? Thomas Riecke
8:20	How Do Waterfowl Sex Ratios Change: Pacific Black Brant as a Case Study Caroline Blommel
8:40	What Lincoln's Estimates Suggest About the Midcontinent Population of Mallards: Should We Be Worried? Ray Alisauskas
9:30 - 10:00	Coffee Break
10:00	Cross-seasonal survival models indicate that increased female summer mortality drives diverging sex ratios in midcontinent mallards Benjamin Sedinger
10:20	Sex-Specific Survival in Mallards May Be Related to Spatial Variation in Habitat Madeleine Lohman
10:40	Shifts in Sex Ratios of Dabbling, but Not Diving Ducks Are Driven By Declines in Survival of Females Daniel Gibson
11:20	Implications of Changing Duck Population Sex Ratios for Habitat and Harvest Management Thomas Riecke
12:00 - 13:20	Lunch break

A3.1: Wood Duck Ecology - Card Room

Moderator: Chris Williams

- 13:20 **Evaluating Deterrents to Reduce Depredation of Wood Duck Eggs in Nest Boxes** Emily Miller, R.M. Kaminski, B.A. Bauer, G.K. Yarrow, and K. Barrett
- 13:40 **Productivity of Wood Duck Clutches Parasitized by Hooded Mergansers and Black-Bellied Whistling-Ducks** Dylan Bakner, K.M. Ringelman, L.A. Reynolds
- 14:00 **A Study on Wood Duck Population Size and Harvest Effects: Unveiling the Complexities of Wood Duck Mortality Dynamics** Andrew Greenawalt, B.S. Sedinger, T.V. Riecke, and D.N. Fowler
- 14:20 **Wood Duck Artificial Nest Box Selection in the Delmarva Peninsula** Blake Struthers, C. Williams, J. Buler, J. Homyack, and G. Macy
- 14:40 **The Influence of Shavings on Wood Duck Reproductive Ecology and Eggshell Bacteria** Jacob Shurba, K.J. Whitehead, B.A. Bauer, R.K. Barrett, G.D. Yarrow, and J.T. Anderson
- 15:00 **Method for Evaluating Cavity Suitability for Nesting Wood Ducks** Cindy Von Haug and J.T. Anderson

A3.3: Human Dimensions - Library

Moderator: Barb Avers

- 13:20 **Evaluation of Students' Perceptions of an Online University Course in Waterfowl Ecology and Management** Lauren Hernandez-Rubio, R.M. Kaminski, S.L. Rodriguez, A.H. Hagan, D.R. Hitchcock, and W.H. Conner
- 13:40 **The North American Waterfowl Professional Educational Plan for the Next Generation of Waterfowl Conservationists** Diane Eggeman, M. Brasher, J. Brice, E. Carrera, J. Eadie, J. Foth, M. Gloutney, A. Janke, R. Kaminski, S. Oldenburger, C. Roy, E. Webb, and C. Williams
- 14:00 **An Assessment of the Limitations to Retain Waterfowl and Wetland Trained Graduate Students** Chris Nicolai, J. Brice, and M. Brasher
- 14:20 **Assessment of Credentials and Experiences for a Successful Career in Waterfowl Science and Conservation** Lauren Hernandez-Rubio, R.M. Kaminski, S.L. Rodriguez, A.H. Hagan, D.R. Hitchcock, and W.H. Conner
- 14:40 **Building Diverse Support for Coastal Wildlife Management Areas to Achieve NAWMP's Third Goal** Barbara Avers and H. Triezenberg
- 15:00 **Profitability of Farming Wetlands Does Not Meet Farmer Expectations** Dustin Toy, M.J. Anteau, A.T. Pearse, E.S. DeKeyser, and D.C. Roberts

A3.2: Waterfowl Distributions - Renaissance Room

Moderator: Bram Verheijen

- 13:20 **Evaluating Approaches for Integrating Species Distributions in Spatial Conservation Planning** Jacob Straub, J.M. Winiarski, A.A. Shipley, D.N. Fowler, M.D. Palumbo
- 13:40 **Human-Induced Range Expansions Result in a Hybrid Zone Between Mottled and Mexican Ducks in South Texas Brush Country** Philip Lavretsky, K. Kraai, D. Butler, J. Morel, J. Marty, V. Musni, and D. Collins
- 14:00 **Waterfowl Survey Design and Species-Habitat Relationships in the Ring of Fire Region of Ontario** Matt Dyson, S. Badzinski, S. Meyer, C. Sharpe, R. Wood, and B. Collins
- 14:20 **Abundance and Distribution of Blue-Winged Teal in California: A Review of the Last 150 Years** Cliff Feldheim, M. Gere, and E. Pandolfino
- 14:40 **Evidence of Shifts in the Spatial Distribution of Harvested Gamebirds from the Prairie Potholes Over Time** Daniel Gibson, A.R. Cox, K. Bianchini, and C. Roy
- 15:00 **Factors Driving Long-Term Changes in Duck Harvest Distributions in the Central and Mississippi Flyways** Bram Verheijen, E.B. Webb, M.G. Brasher, and H.M. Hagy

A3.4: Remote Sensing - Billiard Room

Moderator: Reid Vieght

- 13:20 **Optimizing Surveys of Fall-Staging Geese Using Aerial Imagery and Automated Counting** Emily Weiser, P.L. Flint, D.K. Marks, B.S. Shults, H.M. Wilson, S.J. Thompson, and J.B. Fischer
- 13:40 **Remote Sensing for Broad-Scale Population Surveys of Waterfowl: Progress and Challenges** Bradley Pickens, M. Koneff, R. Dotson, T. White, K. Landolt, L. Fara, A. Murphy, and J. Dieck
- 14:00 **Visibility Correction Factors for Multiple Species of Waterfowl Using an Aerial Remote Sensing Approach** Luke Fara, W. Beatty, M. Koneff, D. Fowler, T. Finger, K. Landolt, B. Finley, J. Ruhser, B. Gray, S. Houdek, A. Wright, and G. Marchel
- 14:20 **An Integrated System of Drones and Artificial Intelligence for Estimating Non-Breeding Waterfowl Abundance** Reid Viegut, L. Webb, A. Raedeke, Z. Tang, Y. Zhang, Z. Zhai, S. Wang, Z. Liu, and Y. Shang
- 14:40 **Progress Toward Automated Migratory Waterfowl Census Using Drones and Deep Learning** Rowan Converse, C.D. Lippitt, G.M. Harris, S.E. Sesnie, M.J. Butler, and D.R. Stewart
- 15:00 **Evaluation of Traditional Aircraft and UAV Survey Methodologies to Assess Wintering Waterfowl Populations** Stephanie Braswell, R.A. Gitzen, W.D. Gulsby, H.M. Hagy, and S.A. Maddox

15:20 - 15:40

Coffee Break

A3.1: Wood Duck Ecology - Card Room

Moderator: Chris Williams

- 15:40 **Egg Morphometrics and Egg Hatchability in Box-Nesting Wood Ducks** Hunter Mentges, B. Davis, P. Adhikari, S. Rush, and B. Bauer
- 16:00 **Ducklings in a Dangerous Spacetime: Investigating the Relationship Between Personality and Growth Across Ontogeny in Captive-Reared Wood Ducks (*Aix sponsa*)** Mitch Hinton and J. Eadie
- 16:20 **Limited Evidence of Biased Offspring Sex Allocation in a Cavity-Nesting Conspecific Brood Parasite** Caitlin Wells, B.E. Lyon, C.M. Thow, T.F. Stair, M. Jones, M. Hinton, and J.M. Eadie
- 16:40 **Postbreeding Ecology of Wood Ducks in the Illinois River Valley** Andrew Gilbert, A.P. Yetter, C.S. Hine, J.D. Lancaster, J.M. Osborn, C.S. Kross, and A.M.V. Fournier
- 17:00 **No talk scheduled**
- 17:20 **No talk scheduled**

A3.3: Human Dimensions - Library

Moderator: Barb Avers

- 15:40 **Social Science Integration Across Migratory Bird Joint Ventures** Barbara Avers, G. Soulliere, M. Petrie, D. Eggeman, D. Humburg, M. Brasher, A. Gramza, J. Barnes, A. Bartuszevige, B. Wilson, and K. Spragens
- 16:00 **Expectations Influence Satisfaction Among Louisiana Waterfowl Hunters** Michael Sullivan
- 16:20 **Implications of Hunting Outfitters in Saskatchewan** Matthew Gruntorad, C.J. Chizinski, and M P. Vrtiska
- 16:40 **Cessation of Mentors to Waterfowl Hunting** Mark Vrtiska, M.P. Gruntorad, and C.J. Chizinski
- 17:00 **Delta's University Hunting Program: Bringing the NA Wildlife Conservation Model to Campus** Stephen Sowell and J. Brice
- 17:20 **No talk scheduled**

Waterfowl Distributions - Renaissance Room

Moderator: Bram Verheijen

- 15:40 **Assigning Harvested Waterfowl to Geographic Origin Using Isoscapes: What Is the Best Analytical Approach?** Jackson Kusack, D.C. Tozer, K.M. Harvey, M.L. Schummer, and K.A. Hobson
- 16:00 **Integrating GPS Telemetry and $\delta^{2}H$ Isoscapes to Identify Breeding Ground Fidelity and Dispersal by Mallards** Drew Fowler, N.M. Mastro, S.C. Stemaly, A.C. Keever, M.L. Schummer, P. Lavretsky, A.G. Blake-Bradshaw, C.J. Highway, J.C. Feddersen, H.M. Hagy, and B.S. Cohen
- 16:20 **Natal Origins of Mallards in the Atlantic Flyway of North America: Implications for Conservation and Management** Samuel Kucia, M.L. Schummer, J.W. Kusack, K.A. Hobson, and C.A. Nicolai
- 16:40 **Combining Stable Isotopes and Band Returns to Derive Origins of Great Lakes Waterfowl** Jackson Kusack, D.C. Tozer, M.L. Schummer, and K.A. Hobson
- 17:00 **Estimating Origins of Greater (*Aythya marila*) and Lesser (*A. affinis*) Scaup Wintering Along the Atlantic Coast Using Stable Isotopes and Band Recoveries** Brittnie Fleming, M. Schummer, J. Kusack, and K. Hobson
- 17:20 **Geographic Origins and Genetics of Banded Mallards in the Northern Atlantic and Mississippi Flyway** Kayla Harvey, M. Schummer, P. Lavretsky, J. Cohen, C. Nicolai, J.W. Kusack, K.A. Hobson, and D.C. Tozer

A3.4: Remote Sensing - Billiard Room

Moderator: Reid Vieght

- 15:40 **UAV-Based Waterfowl Detection Using Deep Neural Networks** Zack Loken and K.M. Ringelman
- 16:00 **Uncrewed Aerial Systems Provide a Valuable Tool for Assessing Duck Production at Local Scales** Amanda Griswold, B.S. Sedinger, and A.A. Shipley
- 16:20 **No talk scheduled**
- 16:40 **No talk scheduled**
- 17:00 **No talk scheduled**
- 17:20 **No talk scheduled**

17:40 **Dinner on your own**

19:00 - 22:00 **Hospitality Suite, Sponsored by Ducks Unlimited**

Notes

Friday, 9 February, 2024
Program Overview

6:30 - 8:00	Breakfast
8:00 - 10:00	Plenary 4: Managing Waterfowl at a Continental Scale: Challenges and Opportunities
10:00 - 10:20	Coffee Break
10:20 - 12:05	Plenary 4 Continued
12:05 - 13:20	Lunch Break
13:20 - 15:20	Concurrent Oral Sessions A4.1: Tracking Technologies (Renaissance Room) A4.2: Conservation Planning (Billiard Room) A4.3 Non-breeding Habitat Use and Movement (Library)
15:20 - 15:40	Coffee Break
15:40 - 17:40	Concurrent Oral Sessions A4.1: Tracking Technologies (Renaissance Room) A4.2: Conservation Planning (Billiard Room) A4.3 Non-breeding Habitat Use and Movement (Library)
17:40 - 19:00	Break
16:30 - 19:00	Cocktails
19:00 - 22:00	Banquet Dinner and Awards

Detailed Program

6:30 - 8:00	Breakfast
8:00 - 10:00	Plenary 4: Managing Waterfowl at a Continental Scale: Challenges and Opportunities
8:00	Waterfowl Management: A Century of Progress and Future Challenges Dale Humburg
8:30	Waterfowl Monitoring and Management: Resiliency in a Resource Constrained Future Patrick Davers
9:00	Risk and Resilience: A Call for Flyway Scale Habitat Monitoring in the New Era of Climate Change Patrick Donnelly
9:30	Prairie Pothole Region Status Report: Implications for Continental Duck Populations Scott Stephens
10:00 - 10:20	Coffee Break
10:20	Meeting Cross Seasonal Habitat Requirements of Waterfowl in a Shrinking Wetland Landscape John Vradenburg
10:50	The North American Waterfowl Management Plan: 40 years of adaptive conservation. Where do we go now? Tom Moorman
11:15	Integrating People in Waterfowl Conservation Diane Eggeman
11:40	Migratory Bird Joint Ventures: Delivering Waterfowl Conservation and More, Now and in the Future Tony Roberts
12:05 - 13:20	Lunch break

Friday, 9 February, 2024 // Concurrent Oral Sessions 1

A4.1: Tracking Technologies - Renaissance Room

Moderator: Brad Cohen

- 13:20 **AIMS for Wildlife: Developing an Automated Interactive Monitoring System for True Adaptive Management** Mike Casazza, A.A. Lorenz, C.T. Overton, E.L. Matchett, A.L. Mott, D.A. Mackell, and F. McDuie
- 13:40 **Lucky Ducks: North American Waterfowl Hold Secrets of Successful Conservation Strategies** Fiona McDuie, A.A. Lorenz, J.P. Donnelly, M. Petrie, A.L. Mott, D.A. Mackell, C.T. Overton, J.Y. Takekawa, J.T. Ackerman, and M.L. Casazza
- 14:00 **Spatiotemporal Variation in Space-Use of Mallards and Northern Pintails Wintering in Southwest Louisiana** Katharine Goodenough and D.N. Fowler
- 14:20 **Leveraging Telemetry Data to Understand Avian Influenza Ecology in Wild Birds** Diann Prosser
- 14:40 **Not All Sanctuaries Are Created Equal: Variation in Protected Area Selection by Wintering Mallards** Ethan Dittmer, R.J. Askren, H.M. Hagy, A.N. Hitchcock, Jr., and D.C. Osborne
- 15:00 **Effects of Landscape Patterns on Northern Pintail Movement and Energetics During Late Winter** Georgina Eccles, K.J. Kraai, D.P. Collins, P.T. Link, M. L. Casazza, C.T. Overton, M.H. Cline, J.C. Giese, M.R. Bradshaw, J.A. VonBank, J.D. James, M.D. Weegman, C.D. Hilton, and B.M. Ballard

A4.3: Non-breeding Habitat Use and Movement - Library

Moderator: Brett Leach

- 13:20 **Habitat Selection of American Black Ducks Wintering in an Urban Estuary with Increasing Shellfish Aquaculture** Tori Mezebish Quinn, P. Paton, B. Gerber, J. Kilburn, and S. McWilliams
- 13:40 **Non-Breeding Habitat Selection of Blue-Winged Teal Throughout the Central and Mississippi Flyways** Brett Leach, L. Webb, W. Beatty, and P. Link
- 14:00 **Evaluating Potential Drivers of Spring Migration Departure for Northern Pintail Wintering in the Central Valley of California** Aliya McCarthy, B.D. Dugger, M.L. Casazza, and C.T. Overton
- 14:20 **Contrasting Migratory Chronology and Routes of Lesser Scaup** Laurie Hall, C.J. Latty, J.M. Warren, J.Y. Takekawa, and S.E.W. De La Cruz
- 14:40 **Hunting Constrains Wintering Mallard Response to Habitat and Environmental Conditions** Cory Highway, A.G. Blake-Bradshaw, N.M. Mastro, A.C. Keever, J.C. Feddersen, H.M. Hagy, D.L. Combs, and B.S. Cohen
- 15:00 **Evaluating Waterfowl Use of Rice Agriculture in California's Central Valley Under Shifting Landscape Conditions** Cory Overton, D. Mackell, A. Lorenz, E. Matchett, F. McDuie, N.M. Carpenter, A. Mott, J. Chappell, and M. Casazza

A4.2: Conservation Planning - Billiard Room

Moderator: John Coluccy

- 13:20 **Incorporating Dynamic Processes into Conservation Planning Tools** Kaylan Kemink
- 13:40 **Developing a Decision Support Tool for American Black Duck Conservation During the Non-Breeding Period** John Coluccy, J.E. Skillman, M. Mitchell, J.D. James, P.K. Devers, and K. Luke
- 14:00 **Strategic Habitat Conservation Drives Conservation Delivery for Prairie-Breeding Waterfowl** Heath Hagy, K. Barnes, M. Estey, N. Niemuth, A. Ryba, J. Tack, N. Wright, and J. Vest
- 14:20 **Evaluating Conservation Units at the Continental Scale Using Network Analysis: A Sea Duck Case Study** Juliet Lamb, C. Cooper-Mullin, S.G. Gilliland, A.M. Berlin, T.D. Bowman, W.S. Boyd, S.E.W. De La Cruz, D. Esler, J.R. Evenson, P.R. Flint, C. Lepage, D.E. Meattay, J.E. Osenkowski, P.W.C. Paton, M.C. Perry, D. Rosenberg, J.-P.L. Savard, L. Savoy, J. Schamber, J.Y. Takekawa, and S.R. McWilliams
- 14:40 **SWAMP: Updates on an Agent-Based Model of Winter Foraging and Energetics** Rob Blenk, S.P. Fogenburg, K. Ringelman, M. Miller, C. Overton, J. Ackerman, M. Casazza, and J.M. Eadie
- 15:00 **Informing Waterfowl Conservation Planning with an Agent-Based Model: Quantifying Mallard Response to Wetland Composition and Configuration** Lisa Webb, F.W. Weller, E.B. Webb, W. Beatty, S. Fogenburg, D. Kesler, R. Blenk, K. Ringelman, M. Miller, and J. Eadie

15:20 - 15:40

Coffee Break

Friday, 9 February, 2024 // Concurrent Oral Sessions 2

A4.1: Tracking Technologies - Renaissance Room

Moderator: Brad Cohen

- 15:40 **Transmitter Effects on Spring Migratory Step-Lengths and Latitudinal Positioning of Winter-Marked Female Mallards** Douglas Osborne, R.J. Askren, B. Leach, M. Brasher, and A. Raedeke
- 16:00 **A Closer Look at Staging Areas: Linking Atlantic Brant Behaviour with Habitat Type in James Bay** Lindsay Carlson, J.C. Stiller, T.C. Nichols, M. Dunn, E. Rabbitskin, J. Lefebvre, K.F. Abraham, M-L. Leblanc, J.O. Leafloor, F.B. Baldwin, S.G. Gilliland, A. Hanson, S.M. Slattery, and M.D. Weegman
- 16:20 **Altitude Selection in Migrating Geese Produces a High Risk of Collision with Offshore Wind Turbines** Emily Weiser, C.T. Overton, D.C. Douglas, M.L. Casazza, and P.L. Flint
- 16:40 **Validating eBird Using GPS Telemetry to Inform Waterfowl Responses to Extreme Weather Event** Orin Robinson, N.M. Masto, M.G. Brasher, A.G. Blake-Bradshaw, C.J. Highway, A.C. Keever, J.C. Feddersen, H.M. Hagy, D.C. Osborne, D.L. Combs, and B.S. Cohen
- 17:00 **Panel Discussion**
- 17:20 **Panel Discussion**

A4.3: Non-breeding Habitat Use and Movement - Library

Moderator: Brett Leach

- 15:40 **Impact of Temporal Refuge on Hunter Success at a Texas Wildlife Management Area** Trey McClinton, J. Morel, and D. Butler
- 16:00 **Winter Habitat Selection of Mallards (*Anas platyrhynchos*) and American Black Ducks (*Anas rubripes*) on Eastern Long Island, NY** Riley Stedman, M. Schummer, E. Gurarie, and C. Nicolai
- 16:20 **Wetland Bird Use and Management of Louisiana and Texas Gulf-Coast Ricelands** Frances Buderman, J. Marty, R. Kaminski, M. Brasher, S. Rush, and B. Davis
- 16:40 **Associating Sea Ducks with Coastal Habitats in British Columbia** Bruce Harrison, K. Moore, L. Armstrong, J. Devries, and D. Buffett
- 17:20 **No talk scheduled**
- 17:40 **No talk scheduled**

17:40 - 19:00 **Break before banquet**

18:30 - 19:00 **Cocktails**

19:00 - 22:00 **Banquet Dinner and Awards**

A4.2: Conservation Planning - Billiard Room

Moderator: John Coluccy

- 15:40 **Conservation Planning for Western Gulf Coast Mottled Ducks** Joe Lancaster, M.G. Brasher, and B.C. Wilson
- 16:00 **Incorporating Wetland Complex Characteristics to Improve Conservation Planning for Waterfowl and Hunters in the Lower Mississippi Valley** Anne Mini, L. Lyon, H. Hagy, and K. McKnight
- 16:20 **Human Access Constrains Optimal Foraging and Habitat Availability of Mallards in an Agriculturally-Dominated Landscape** Nicholas Masto, A.G. Blake-Bradshaw, C.J. Highway, A.C. Keever, J.C. Feddersen, H.M. Hagy, and B.S. Cohen
- 16:40 **Better Understanding Effects of Climate Change on Conservation of Breeding Waterfowl in the Prairie Pothole Joint Venture: A Review** Heath Hagy, N. Niemuth, K. Barnes, and J. Vest
- 17:00 **The Sea Duck Joint Venture: Accomplishments and Future Directions** Kate Martin, M. Campbell, K. Richkus, A. Hanson, D. Safine, and S. Badzinski
- 17:20 **Can the Lessons from the North American Waterfowl Management Plan Be Leveraged for Shorebird Conservation** Christian Roy, A. Cox, B. Laliberté, F. Tremblay, and E. Reed

Thank you for attending.
See you at Ducks 10!

Notes