**Plenary talks**

Join us each morning as we begin the day’s scientific program with addresses by our plenary speakers. In presenting these talks, we recognize the significant contributions of each of our established plenary speakers as well as the exceptional promise of Early Career researchers recognized this year by the American Ornithological Society. Early morning plenaries begin after morning announcements in Wells Hall B115.

Be sure to join us for the talk by the winner of the inagural Early Career Researcher Award from Society of Canadian Ornithologists/ Société des ornithologistes du Canada, which will be held at the special time of Wednesday, August 3, 3:30 pm, in Brody 134-138.

**Wednesday, August 2**

**Dr. Amanda D. Rodewald, Garvin Professor of Ornithology and Director of Conservation Science, Cornell Lab of Ornithology and Department of Natural Resources, Cornell University**

**The Anthropocene frontier: understanding ecological responses to urbanization**

With urban land expected to triple between 2000-2030, understanding socioecological feedbacks that operate within urbanizing landscapes has never been more essential to safeguard ecological services, biodiversity, and human health and well-being. In many respects, cities can be regarded as knowledge frontiers of the Anthropocene. Among the defining characteristics of many urban ecosystems are human disturbance, introduced and/or abundant predators, and a rich assortment of anthropogenic resources like birdseed. The consequences of these urban attributes to population demography, community structure, species interactions, and selective environments can be profound, yet remain poorly understood. From 2001-2014, my students and I investigated individual-, population-, and community-level responses of birds to urbanization and evaluated the underlying behavioral and demographic processes. Human inputs to urban systems fundamentally altered species interactions in ways that affected bird-plant networks, changed the nature of predator-prey relationships, and altered selective environments. Despite the common perception that demographic consequences of urbanization are density-mediated, several lines of evidence suggest that trait-mediated and sometimes nuanced behavioral responses are important drivers of change.

**BIOGRAPHY**: Amanda Rodewald is the Garvin Professor of Ornithology and Director of Conservation Science at the Lab of Ornithology and in the Department of Natural Resources at Cornell University. Amanda received a B.S. in Wildlife Biology from University of Montana (1992), an M.S. in Zoology from University of Arkansas (1995), and a Ph.D. in Ecology from Pennsylvania State University (2000).  From 2000 until joining the Lab in 2013, she was a Professor of Wildlife Ecology in the School of Environment and Natural Resources at Ohio State University.  Amanda is a fellow of the American Ornithologists’ Union (AOU) and of the CIC Academic Leadership Program.  Her leadership roles have included serving on the Science Advisory Board of US EPA, the Scientific Review Committee of the National Socio-environmental Synthesis Center (SESYNC), council of the AOU, editorial boards of scientific journals, and the Faculty Advisory Board for the Atkinson Center for a Sustainable Future.  Amanda’s research program seeks to understand how human activities and global change influence animal communities and then apply that understanding to conservation.  Much of her current research focuses on socioecological dynamics and conservation in working landscapes of Latin America. Amanda tightly integrates her research and outreach efforts to inform policy and management, as such, regularly interacts with government agencies, conservation organizations, and private landowners.  Among her outreach activities, she is a regular contributor to The Hill, a news source for politicians and advisors on Capitol Hill.

**Thursday, August 3**

**Dr. Erin Bayne, Professor, Department of Biological Sciences, University of Alberta**

**How many birds will I kill in my lifetime directly vs. indirectly: Which matters more?**

Every day birds and their nests are killed or destroyed. When people or human infrastructure cause this mortality, it is called incidental take. Incidental take is illegal under the Migratory Birds Convention Act. This has led to concerns from citizens and industry about how to be compliant with the law. Industrial activities during the breeding season are a focal point for incidental take because spring/ summer activities by industry do destroy bird’s nests. Policy to reduce incidental take recommends timing activities outside the avian breeding season. While many industries try to meet such timing constraints, social and economic limitations make this difficult. Thus, during the breeding season many companies plan to avoid areas where there are high densities of nests, try to find nests in areas where they are operating, and buffer the area where known birds are actively nesting. Whether such an approach reduces incidental take remains unclear, which should be a concern given the financial costs involved.

In contrast, millions to potentially billions of birds are killed in collisions with the windows of people’s homes and predation by their cats. From a conservation perspective, finding a solution to these issues may have a far greater “bang for the buck” than mitigating accidental nest destruction by industry. It also may be far more relevant to engaging the average person in avian conservation. I will show cost-benefit analyses that assess how money currently spent by industry to mitigate incidental take might be better spent on engaging homeowners in making their homes more bird friendly.

However, we can’t forget the “elephant in the room”. Industry’s major impact is not the number of nests lost by summer land-disturbance rather the lost breeding productivity from landscape-level reduction of habitats for extended periods. As citizens who use the resources provided by industry understanding such effects is important if one is truly concerned about birds. Unfortunately, such issues often get lost in incidental take discussions and may be taking away conservation capital from effective land-use planning, setting of thresholds, and habitat protection. We must be cautious that perverse consequences do not result from focusing too narrowly on the issue of incidental take at the detriment of effective habitat planning. Examples of where this may be occurring will be discussed.

**BIOGRAPHY**: Erin Bayne is a Professor in the Department of Biological Sciences at the University of Alberta. Erin received a B.Sc. (Hons.) from the University of Regina (1993), followed by an M.Sc. and Ph.D. from the University of Saskatchewan, done in collaboration with Environment Canada – Canadian Wildlife Service, in (1996 and 2000). This was followed by a Postdoctoral Fellowship at the University of Alberta, prior to accepting a faculty position there in (2004). Erin is an elected member of the American Ornithologists’ Union (2003) and was made a Fellow in 2016. He has served as a councilor of the Society of Canadian Ornithologists/Société des Ornithologistes du Canada and is a collaborator on the Alberta Biodiversity Monitoring Institute, Integrated Landscape Management Group, and Boreal Avian Modeling Project at University of Alberta. As the author/co-author of 110 refereed publications and 20 government/industry reports, Erin’s research interests lie mainly on the behavioral, population, and community responses of different wildlife species to human impacts with an emphasis on birds and how humans alter relationships between birds, their predators, and their prey. His current focus is on how to use autonomous recording unit to advance ecological monitoring in Alberta’s oilsands region in the areas of sound triangulation and automated recognition.

**Saturday, August 5**

**Dr. Michael Sorenson, Professor and Associate Dean, Faculty for the Natural Sciences, College of Arts and Sciences, Boston University**

**Birds Behaving Badly and the Genetics of Speciation**

Birds have long provided inspiration and insight to evolutionary biologists and have figured prominently in the development of ideas about species and speciation. Beginning with the analysis of mere snippets of each species’ genetic code, molecular genetic data have been critical in advancing our understanding over the past few decades, but the field is entering a new and exciting phase; the burgeoning field of avian speciation genomics is allowing long-standing questions to be addressed in powerful new ways, while also stimulating new ideas and controversies. Within this context, there is value in examining unusual clades and species that may not conform to the typical patterns and processes of divergence. I review recent genetic analyses of brood parasitic birds, including apparent examples of genetic divergence without speciation and speciation without genetic divergence, and also summarize results for a previously unrecognized example of explosive diversification in which the phenotypic diversification of species may be based on the shuffling of ancestral genetic variation rather than the evolution of novel genetic variants. I will also comment on the implications of these results for the generality and limits of “trending topics” such as recurrent divergence due to background selection and mito-nuclear incompatibility.

**BIOGRAPHY**: Mike Sorenson is the Associate Dean of the Faculty for the Natural Sciences in the College of Arts and Sciences at Boston University, and previously served as Chair of the BU Biology Department. He earned his PhD in Ecology, Evolution and Behavior from the University of Minnesota in 1990, before conducting postdoctoral research at the Smithsonian Institution and University of Michigan. An elected Fellow of the American Ornithologists’ Union, Mike is a behavioral and evolutionary ecologist and population geneticist known for using molecular genetic and genomic data to investigate the evolution of brood parasitic birds (species that reproduce only by parasitizing the parental care behavior of other species). Recent work has focused on the brood parasitic indigobirds of Africa, in which learning and mimicry of host songs facilitates an evolutionary process of speciation by host shift, and on the speciation genomics of a group of 12 *Lonchura munia* species in Papua New Guinea and northern Australia that represent an extraordinary example of rapid evolutionary diversification. Together with colleagues, Mike has also recently examined the genetic basis of host specific adaptation in several different groups of brood parasitic birds, and has worked on the evolutionary ecology of bat populations, including those affected by white-nose syndrome, an emerging fungal pathogen that has devastated bat populations in eastern North America.