

2019 Joint Meeting
Wilson Ornithological Society

and the

**Association of Field
Ornithologists**



October 27-30, 2019
Cape May, New Jersey

Hosted by:



Sponsored by:



ORGANIZERS

We are grateful to the following folks and organizations who have worked so hard to organize this conference:

Local Host Committee: NJ Audubon's Cape May Bird Observatory (CMBO)

Brett Ewald, Director, CMBO;
Lillian Armstrong, Special Events Director
David Mizrahi, VP Research
René Buccinna, Administrative Assistant

Planning Committee: Mark Deutschlander (WOS), Valentina Ferretti (AFO), Paul G. Rodewald (AFO), Jameson Chace (WOS), Brett Ewald (CMBO), Lillian Armstrong (CMBO), René Buccinna (CMBO)

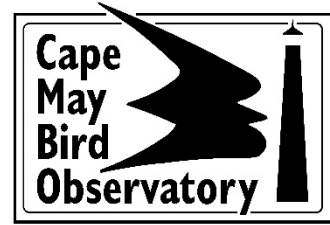
Scientific Program: Timothy O'Connell (WOS); Dan Cristol (AFO)

Student Travel Awards: Dennis Siegfried (WOS); Julie Jedlicka (AFO); Mary Garvin (AFO)

Student Presentation Awards: Jim Chace (WOS); Angela Tringali (AFO)

Student and Early Professional Activities: Auriel Fournier (WOS); Jordan Rutter (WOS); Jennifer Smith (AFO); Kristen Covino (WOS)





Welcome to Cape May, New Jersey!

It seems a fitting location for the annual joint meeting of the Wilson Ornithological Society and the Association of Field Ornithologists. The chronicles of bird studies here are well-documented and stretch far into the past. You are now on the hallowed ground where Witmer Stone, Alexander Wilson, John James Audubon, and Roger Tory Peterson marveled at the number and diversity of avian species year-round, and especially during migration.

Since 1976, New Jersey Audubon's Cape May Bird Observatory has been sharing the seasonal passage of birds with hundreds of thousands of people and continues to monitor bird populations. While you are here, we hope you have the opportunity to visit our local migration watches:

- The Avalon Seawatch, where NJ Audubon has collected data on seabird migration for over 20 years. Over 750,000 seabirds pass by every fall through winter, sometimes topping one million.
- The Morning Flight Songbird Count at Higbee Beach Wildlife Management Area, where birds can be seen moving northward along the Delaware Bayshore beginning pre-dawn.
- The Cape May Hawkwatch, which is famed for outstanding raptor flights as well as the human characters who congregate to observe the birds' passage each fall.

New Jersey Audubon has been fortunate to host other conferences here in Cape May. AFO/WOS (as this conference is fondly known to us), takes the award for packing in the most activities and opportunities for information sharing into a short period of time. We hope you and your nearly 300 colleagues from around the world have a productive meeting. If you don't have time to go birding, you'll just have to come back!

Sincerely,

Brett Ewald

Lillian Armstrong

René Buccinna

Dr. David Mizrahi

		SUNDAY, OCTOBER 27												MONDAY, OCTOBER 28												TUESDAY, OCTOBER 29												WEDNESDAY, OCTOBER 30											
		AM												PM																																			
		6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00	8:30	9:00	9:30	10:00															
		Registration, T-shirt sales, Information, Presentation Preview -- Wicker Room												Welcome Reception - Ballroom 5th Floor												Reception and Poster Session - Ballroom 5th Floor																							
		AFO Board Meeting - Crystal Room												NABC Molt and Ageing Workshop - Grand Ballroom B/C																																			
		WOS Board Meeting - Grand Ballroom A																																															
Bird Walks (on your own) Sunrise 07:20		Registration, T-shirt Sales, Field Trip Info and all other Questions - The Atrium												Presentation Preview, Informal networking, etc. -- Wicker Room																																			
		Continental Breakfast Ballroom 5th Floor				Morning Plenary Grand Ballroom				Concurrent Oral Sessions - See Program for Room #s				Grab & Go Lunch - Twitty's Porch				Concurrent Oral Sessions - See Program for Room #s				Concurrent Oral Sessions - See Program for Room #s																											
		Mentor & Mentee Chat Ballroom 5th Floor												Student / Early Professional Meeting: Social Media																																			
Bird Walks (on your own) Sunrise 07:21		Registration, T-shirt Sales, Field Trip Info and all other Questions - The Atrium												Presentation Preview, Informal networking, etc. -- Wicker Room																																			
		Continental Breakfast Ballroom 5th Floor				Morning Plenary Grand Ballroom				Concurrent Oral Sessions - See Program for Room #s				Grab & Go Lunch - Twitty's Porch				Concurrent Oral Sessions - See Program for Room #s				Concurrent Oral Sessions - See Program for Room #s				Closing Reception & Awards - Ballroom 5th Floor																							
		LGBTQIA+ and Allies Social - Wicker Room												AFO Business Meeting - Grand Ballroom B/C								Judges Meeting - Wicker Room																											
														WOS Business Meeting - Grand Ballroom B/C																																			
		Registration, T-shirt Sales, Field Trip Info and all other Questions - The Atrium												Presentation Preview, Informal networking, etc. -- Wicker Room																																			
		Continental Breakfast Ballroom 5th Floor								Cellular Tracking Technologies Workshop - Crystal Room																																							

General Information

Registration/Information Desk

On-site registration/information for new registrants, as well as check-in for those who have pre-registered, will be available at the following times:

- Sunday, October 27: 2:00pm to 5:00pm - 1st Floor Wicker Room (just off the lobby)
- Monday, October 28: 8:00am to 5:00pm - Atrium (just outside Grand Ballroom)
- Tuesday, October 29: 8:00am to 12noon - Atrium (just outside Grand Ballroom)

Registration for the AFO/WOS joint meeting includes your welcome packet, and admission to all Plenaries and General Sessions. It also covers the following:

- Welcome Reception
(Sunday, 6pm to 8pm)
- Continental Breakfast
(Monday, Tuesday and Wednesday 7:00 am to 8am)
- Coffee/tea station
(Monday and Tuesday, 8 am to 5 pm)
- "Grab-and-Go" Lunch
(Monday and Tuesday 12:30 pm to 1:30pm)
Poster Session and Social
(Monday, 7pm to 10pm)

Note: Please wear your name tag at all times, as it serves as your admission ticket to all events and meals covered by your registration fee.

Conference T-Shirts:

Conference T-shirts will be available at the Registration/Information area for \$10 each for the duration of the conference, while supplies last.

General Networking and Informal Meetings:

The Wicker Room will be open throughout most of the conference for informal meetings and networking. You are welcome to use it during breaks or after evening socials.

- **Exceptions** are Tuesday 7-8am for the LGBTQIA+ and Allies Breakfast Social, and Tuesday afternoon 3:30 to 5pm for a Judges meeting.

Message Board:

A message board will be maintained next to the Registration/Information desk throughout the meeting. Please check it often, as it will be used for important updates, requests for rides, etc.

GENERAL LOGISTICS

Parking:

The hotel has free parking on site for hotel guests. You may also park on the street but be aware that parking meters are active along Beach Avenue. There are no meters on the block behind the hotel.

Special Needs:

The Grand Hotel of Cape May and all meeting rooms are handicapped accessible.

Restrooms:

Restrooms are located on the 1st Floor, just outside the Atrium and Crystal Rooms. There are also restrooms on the 5th Floor lounge, as well as 1st floor at the end of Twitty's Porch. Restrooms on the first floor, to the left as you enter the lobby, have handicapped accessible stalls.

Internet Access:

Wireless internet access is available throughout The Grand Hotel. The password is provided to you when you check into your room. Otherwise, ask at the front desk.

Fax and Copying:

For fax and copy service, go to the hotel front desk. Charges are \$1 per page to send a fax, and \$0.50 per page for copies. If having a fax sent to you at the hotel, please tell the sender to put attention your name on the cover sheet. Hotel fax number is 609-884-4344.

Automated Tellers:

There is an ATM located in the main lobby of The Grand Hotel.

FOOD

Coffee Breaks:

Coffee breaks are scheduled Monday and Tuesday at 9:30 am and 3:30 pm

Hemingway's Restaurant

Located on the 1st floor off the hotel lobby, Hemingway's is a full-service restaurant. Lunch hours for the duration of the conference are 12noon to 3pm.

Other Restaurants Nearby: Please support NJ Audubon Cape May Bird Observatory's business members:

- **Harry's Oceanfront Bar and Grill:** conveniently located 2 blocks south of the Grand Hotel on Beach Avenue

- Fins Bar and Grille: located at 142 Decatur Street on the historic Washington Street Mall. This 3-block walking mall is filled with unique shops and restaurants.
- The Rusty Nail is another beachfront local favorite, about 1 mile south of The Grand Hotel, with casual dining and a lively bar.

Program

Notice to all attendees: As a courtesy to all presenters, we request that all attendees silence all cellular phones while attending the meetings, or general sessions.

Concurrent General Sessions:

The three general sessions will be held in the 1st Floor Crystal Room, Grand Ballroom A and Grand Ballroom B/C. From the lobby, go halfway down the hall to the Crystal Room, and then up the ramp to Grand Ballrooms. Please check your schedule for the location of sessions you are planning to attend. Morning plenaries will be held in the full Grand Ballroom.

Continental Breakfast, Welcome Reception, Poster Session/Reception and Closing Dinner:

All be held in the 5th Floor Penthouse Ballroom. Take the stairs, or use the elevators located across from the hotel front desk.

Presentations

Please take note of your presentation date and time. All presentations have a time limit, including questions. It is extremely important that we maintain this schedule.

All presenters are asked to bring their PowerPoint presentations for loading the day before your presentation. Your file should use the following naming protocol:

Day_Session_Time_LastName" (i.e. Mon_A_0910_Smith). Computers for uploading presentations are located at the Cellular Tracking Technologies tables outside the 1st Floor Grand Ballroom. Hours will be posted for Sunday and Monday to accept and load your presentation.

There is a setup in the Wicker Room if you wish to review your presentation.

Posters

The poster session will be held on Monday, October 28 in the 5th Floor Penthouse Ballroom from 7:00 to 10:00pm. Poster display boards will be set up by early afternoon on Sunday. We suggest you set up your poster upon arrival. Supplies will be available. Posters may be attached to the display boards with push pins, staples, tape, etc. Posters will remain on display for the remainder of the conference

The poster display boards are 4' X 6' foam core pegboards on a wooden frame. There can be 2 posters per side, per board. Each poster should be no larger than 48 inches tall X 36 inches wide.

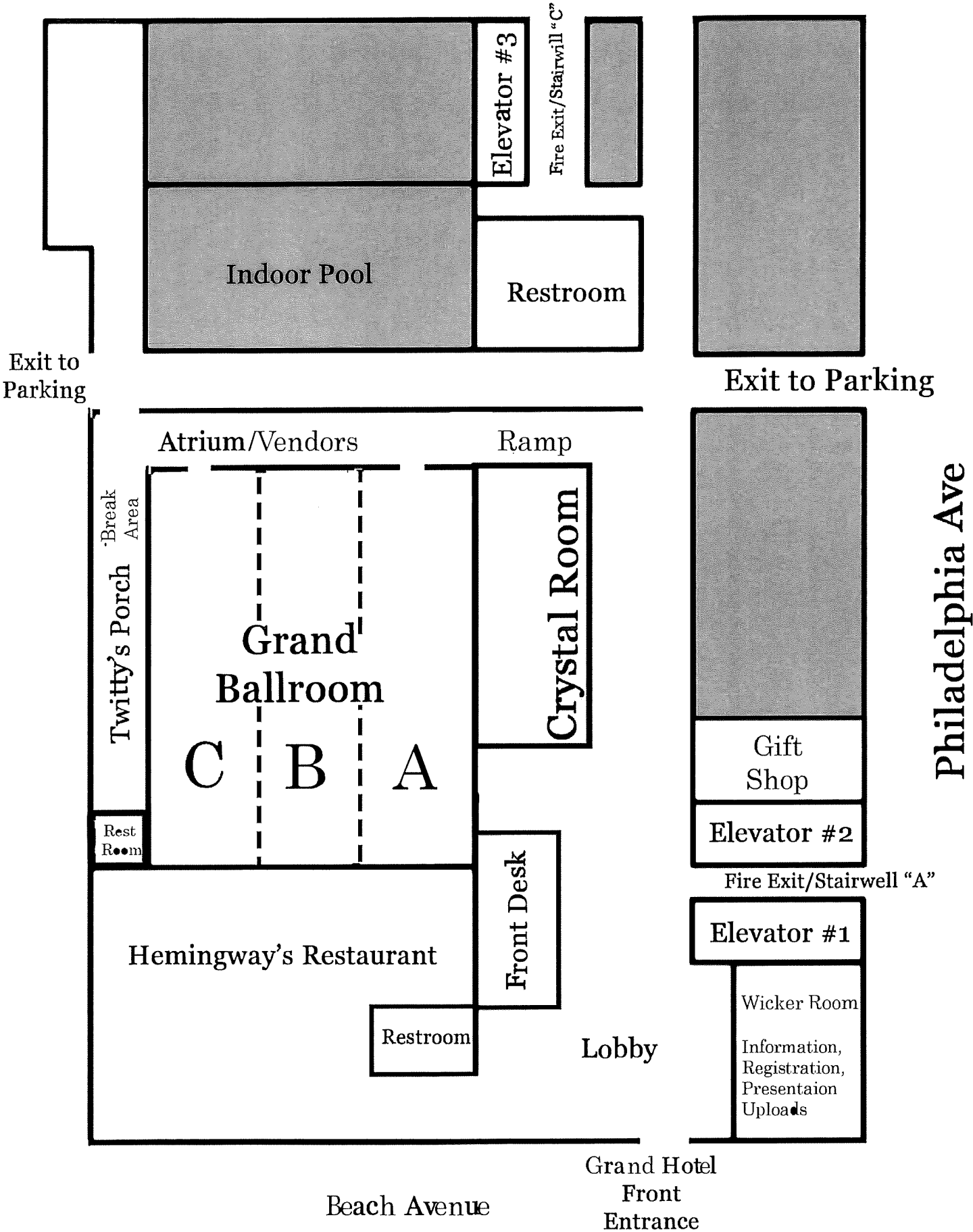
All authors should be at their posters and prepared to discuss their work at the appropriate time on Monday evening. Posters may remain on display until Tuesday evening. All posters must be removed no later than 6pm on Tuesday.

Wednesday, October 30 - Field Trip/Activity Suggestions

- Birding famous Cape May hotspots
 - The Nature Conservancy's South Cape May Meadows
 - Higbee Beach Wildlife Management Area
- Visit Cape May Raptor Project Banding Blind (Limit 6)
- Cape May "Triple Play" trolley trip to migration count sites (Hawkwatch, Songbird Morning Flight and Avalon Seawatch) - \$35/person (Limit 28)
- Cellular Tracking Technologies workshop at Grand Hotel

Pre-registration is required. These field trips are listed in the agenda. Please see Lillian Armstrong or René Buccinna if you wish to register for the Triple Play Trolley; all other field trips are filled to capacity.

New Jersey Ave





NEW JERSEY
AUDUBON



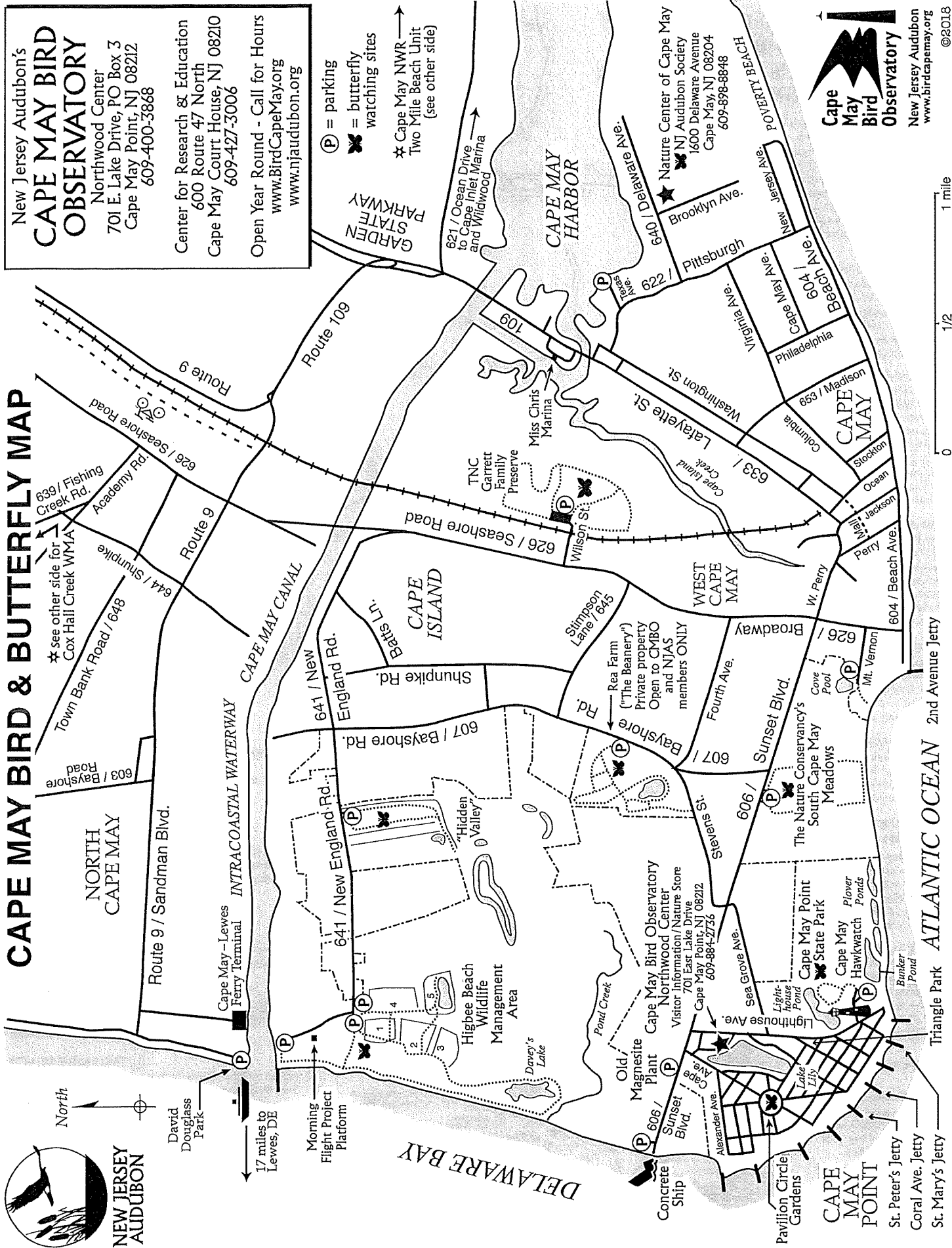
CAPE MAY BIRD & BUTTERFLY MAP

New Jersey Audubon's
**CAPE MAY BIRD
OBSERVATORY**
Northwood Center
701 E. Lake Drive, PO Box 3
Cape May Point, NJ 08212
609-400-3868

Center for Research & Education
600 Route 47 North
Cape May Court House, NJ 08210
609-427-3006

Open Year Round - Call for Hours
www.BirdCapeMay.org
www.njaudubon.org

- (P) = parking
- (B) = butterfly watching sites
- ★ Cape May NWR → Two Mile Beach Unit (see other side)



Cape May Bird Observatory
New Jersey Audubon
www.birdcapemay.org
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CAPE MAY BIRD OBSERVATORY BIRD AND BUTTERFLY MAP TO CAPE MAY COUNTY (& FORSYTHE NWR)

A TUCKAHOE WMA & CORBIN CITY IMPOUNDMENTS

Rt 50 to Rt 631 (Tuckahoe entrance). Rt. 50 to Griscom Mill Rd. (Corbin City entrance). Narrow driving dikes at both sites with freshwater impoundments (waterfowl) on one side and tidal saltmarsh on other. Winter: Short-Eared Owls, eagles and other raptors. Spring: warblers. (About 1.5 hours from Cape May)

B BELLEPLAIN STATE FOREST

From Rt 47, take Rt 557 N (mm 20.1) about 3 mi. At Rt 550 W turn left, about 1.5 miles to entrance on left. Bathroom and map inside. Excellent for spring southern swamp warblers (About 1 hour from Cape May)

C JAKES LANDING

From Cape May take Rt 47 N to mm 19.8; left onto Jakes Landing Rd. From GSP, Exit 10 to Rt 657 E to intersection Rt 47; right to mm 19.8; left onto Jakes Landing Rd. Upland land birds, marsh for rails, Salt-marsh sparrows, raptors. (About 1 hour from Cape May)

D BEAVER SWAMP WMA

From Rt 47 turn at traffic light onto Rt 657 (Courthouse-Dennisville Rd), quick left onto Gravel Hole Rd, very quick right onto Beaver Dam Rd (becomes sand road). At end, walk onto dam to view lake, Bald Eagle nest, creek, marsh. (About 45 min from Cape May)

E CMBO CENTER FOR RESEARCH & EDUCATION

At Rt 47 mm 15.8, center showcases backyard habitat wildlife garden, birdfeeding station, classroom, bookstore, wildlife art exhibit. (About 40 min from Cape May)

F CAPE MAY NWR

Numerous trails, stop at office on Kimbles Beach Rd for map & directions. Trail head begins at Woodcock Ln, mm 10.2 Rt 47. (About 30 min from Cape May)

G SHOREBIRD & HORSESHOE CRAB VIEWING:

Reed's Beach, Cook's Beach, Norbury's Landing Many beaches roped off May-early June; stay within boundaries. Residential area, be considerate of parking. Park in marina lot (small fee) end of Reed's Beach.

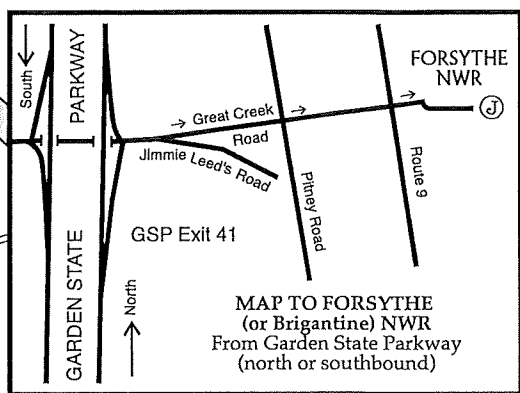
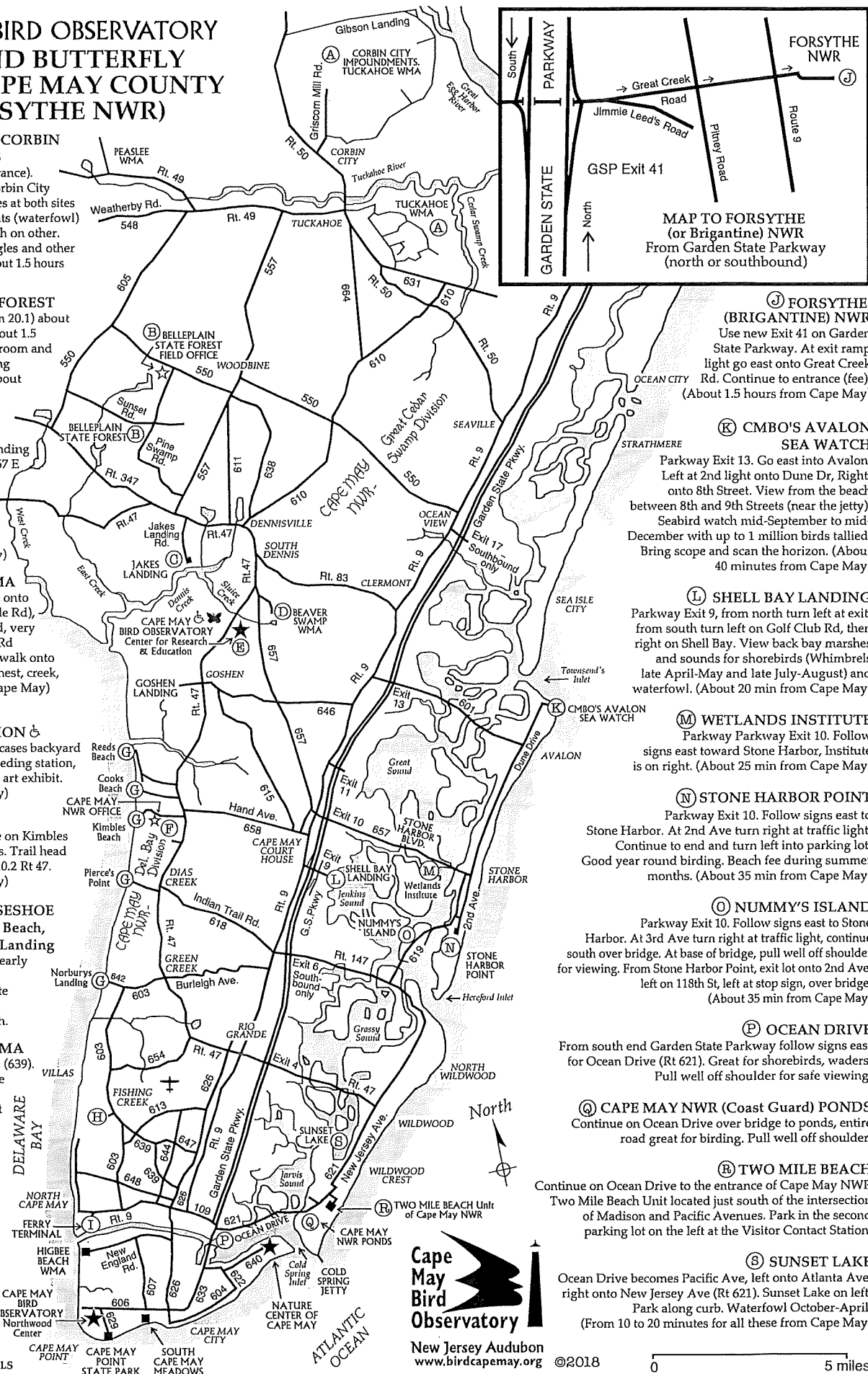
H COX HALL CREEK WMA

Take Rt 626 to Academy Road (639). Follow 639 to light at Bayshore Road (603). Bear right at light and take first left (Shawmount Ave.) after 1/3 mile. Park inside gate at far end.

I CAPE MAY LEWES FERRY

Crosses Delaware Bay (90 minute trip); great seabird watching. Go as walk-on and bird both sides of bay. From Cape May, follow Rt 9 (Sandman Blvd) to entrance. (About 10 min from Cape May)

SEE REVERSE SIDE FOR CAPE MAY POINT AREA DETAILS



J FORSYTHE (BRIGANTINE) NWR

Use new Exit 41 on Garden State Parkway. At exit ramp light go east onto Great Creek Rd. Continue to entrance (fee). (About 1.5 hours from Cape May)

K CMBO'S AVALON SEA WATCH

Parkway Exit 13. Go east into Avalon. Left at 2nd light onto Dune Dr, Right onto 8th Street. View from the beach between 8th and 9th Streets (near the jetty). Seabird watch mid-September to mid-December with up to 1 million birds tallied. Bring scope and scan the horizon. (About 40 minutes from Cape May)

L SHELL BAY LANDING

Parkway Exit 9, from north turn left at exit, from south turn left on Golf Club Rd, then right on Shell Bay. View back bay marshes and sounds for shorebirds (Whimbrels late April-May and late July-August) and waterfowl. (About 20 min from Cape May)

M WETLANDS INSTITUTE

Parkway Exit 10. Follow signs east toward Stone Harbor, Institute is on right. (About 25 min from Cape May)

N STONE HARBOR POINT

Parkway Exit 10. Follow signs east to Stone Harbor. At 2nd Ave turn right at traffic light. Continue to end and turn left into parking lot. Good year round birding. Beach fee during summer months. (About 35 min from Cape May)

O NUMMY'S ISLAND

Parkway Exit 10. Follow signs east to Stone Harbor. At 3rd Ave turn right at traffic light, continue south over bridge. At base of bridge, pull well off shoulder for viewing. From Stone Harbor Point, exit lot onto 2nd Ave, left on 118th St, left at stop sign, over bridge. (About 35 min from Cape May)

P OCEAN DRIVE

From south end Garden State Parkway follow signs east for Ocean Drive (Rt 621). Great for shorebirds, waders. Pull well off shoulder for safe viewing.

Q CAPE MAY NWR (Coast Guard) PONDS

Continue on Ocean Drive over bridge to ponds, entire road great for birding. Pull well off shoulder.

R TWO MILE BEACH

Continue on Ocean Drive to the entrance of Cape May NWR Two Mile Beach Unit located just south of the intersection of Madison and Pacific Avenues. Park in the second parking lot on the left at the Visitor Contact Station.

S SUNSET LAKE

Ocean Drive becomes Pacific Ave, left onto Atlanta Ave, right onto New Jersey Ave (Rt 621). Sunset Lake on left. Park along curb. Waterfowl October-April. (From 10 to 20 minutes for all these from Cape May)



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0 5 miles

THE AFO-WOS CODE OF CONDUCT

The Association of Field Ornithologists' (AFO) and the Wilson Ornithological Society (WOS) are committed to providing a safe, hospitable, and productive environment for everyone participating in our 2019 joint meeting (October 27 - 30) in Cape May, NJ, regardless of gender, race, ethnic origin, nationality, religion, age, marital status, sexual orientation, gender identity, disabilities, physical appearance or any other protected status. We realize that effective communication requires that we treat each other with respect and courtesy in face-to-face, written, and electronic interactions and that we respect the intellectual property of our colleagues. AFO and WOS' Code of Professional Conduct is intended to 1) advance the mission of our societies through the open, respectful, and honest communication of research and exchange of ideas, 2) to promote equality of opportunity and treatment for all members and participants in this meeting, 3) to assure appropriate accessibility of accurate and reliable information to colleagues, policy makers, and the public and, 4) to encourage the effective and ethical professional development of researchers. We represent the field of ornithology and it is imperative that we behave as professionals to each other, society employees, and meeting participants, volunteers, exhibitors, sponsors, and venue staff. This code applies to all venues during the conference, including but not limited to the conference facilities, the convention center, hotels, informal social gatherings and field trips.

Participants in the meeting should be able to engage in open discussions free of discrimination, harassment and retaliation. Harassment will not be tolerated in any form. Harassment includes offensive gestures or verbal comments communicated directly or through social media, deliberate intimidation, stalking, following, unwanted photography, video or audio recording, sustained disruption of talks or other events, inappropriate physical contact, and any unwelcome attention. Participants asked to stop harassing behavior are expected to comply immediately.

Reporting an Incident: Any individual who is aware of breaches of this Code, you should contact the AFO President, Daniel Ardia (daniel.ardia@fandm.edu), the WOS President, Mark Deutschlander (deutschlande@hws.edu) and/or authorities (such as the local meeting organizers) specified in the meeting program. The person reporting, who may be a complainant or witness and may or may not be a meeting registrant, is not required or expected to discuss the concern with the alleged offender. All complaints will be treated seriously and reviewed promptly by the meeting organizer, and or the Executive Committees of both AFO and WOS, and may be investigated by them or their designee. Confidentiality will be honored to the extent permitted, as long as the rights of others are not compromised.

Disciplinary Action: Individuals found to have engaged in behavior prohibited by this policy as well as those making allegations of a breach of Code in bad faith, will be subject to disciplinary action. The Executive Committees of the AFO and WOS may take any action, jointly or individually, they deem legally appropriate, ranging from a written warning or ejection/prohibition from the specific activity in question (e.g. annual meeting, workshop, publication, etc.), to the reporting of their behavior to their employer. Repeat offenders may be subject to further disciplinary action, such as being banned from participating in future society activities, meetings, publications, or other programs. AFO and WOS Bylaws permit Council to terminate the membership of any Member.

Retaliation Is Prohibited: Neither AFO nor WOS will tolerate any form of retaliation against individuals who file a complaint or assist in an investigation. Retaliation is a serious violation of this policy and, like any breach of the Code itself, will be subject to disciplinary action.

Questions & Appeals: Any questions regarding this policy should be directed to the local meeting organizers, as specified in the Meeting Program. If an individual involved in any reported incident is dissatisfied with the disciplinary action, he or she may appeal to the AFO and WOS Executive Committees.

-----SAVE THE DATE-----



Puerto Rico

August 10 – 15,

2020

#NAOC2020

North American Ornithological Conference VII

"Flight paths addressing global change"

Puerto Rico, August 10–15, 2020

Come and join us for a week of sizzling hot ornithology in the Caribbean!

We aim for #NAOC2020 to be the most inclusive and diverse NAO to date. To achieve this, #NAOC2020 is being delivered by a much wider group of societies than previous events, reflecting the increasingly global reach and diversity of NAO conferences. This seventh conference is sponsored by ornithological societies from across the Americas and Europe: American Ornithological Society (AOS), Association of Field Ornithologists (AFO), BirdsCaribbean, British Ornithologists' Union (BOU), CIPAMEX, Neotropical Ornithological Society, Society of Canadian Ornithologists, Waterbird Society and Wilson Ornithological Society.

#NAOC 2020 welcomes all aspects of ornithology, including theoretical and applied. We are nonetheless emphasizing shared hemispheric concerns, indicated by the conference theme ("Flight paths addressing global challenges") and keynote address by Dr. Thomas Lovejoy: "If you take care of the birds you take care of most of the big problems of the world". Knowledge dissemination also involves four morning, hour-long plenary sessions; half- and full-day symposia on themes of particular interest, open to proposal by anyone, and likely to comprise about half the 12-14 concurrent sessions later in the day; invited oral presentations; two evening poster sessions to facilitate direct communication among delegates; and ~20 training workshops representing four content areas (career development, parameter estimation, statistics, and field and lab methods).

Puerto Rico is strategic as the first Caribbean NAO. The Caribbean region also links ornithologists hemisphere-wide via intercontinental travels of migratory birds; shared environmental threats, including climate change, loss and fragmentation of habitat, diverse pesticides, and invasive species; and deep-time evolutionary history of avifaunas, increasingly revealed and appreciated by state-of-the-art, time-constrained phylogenetic hypotheses.

Check out the new NAO website (naobirds.org) from 1 September for more details about how you can participate, present your research and attend #NAOC2020, and look for 'naobirds' on Twitter, Facebook and Instagram to keep up with conference announcements.

Scientific Program

Monday, 28 October

8:00–9:30 am

Wilson Ornithological Society plenary address – 2019 Margaret Morse Nice lecture
Dr. Robert Curry: *Transformation of familiar birds into model organisms: What chickadees can teach us*. Located in Grand Ballroom

9:30–10:00 am

BREAK

10:00 am–12:30 pm

Oral Presentations, Monday morning sessions
(student presenters: *doctoral, **master's, ***undergraduate)

Time	Session A: Migration and Stopover – Crystal Room	Session B: Song and Vocal Communication - Grand Ballroom A	Session C: Nest Selection and Success Grand Ballroom “B/C”
Mod	Adele Balmer	Heather Kenny	Eric Margenau
1. 10:00–10:15	<u>Chace</u> and Griffin. Stopover habitat quality in a conserved urban riparian zone in Rhode Island.	<u>Roach</u> et al. Division of labor: the communicative functions of hermit thrush (<i>Catharus guttatus</i>) song components.	* <u>Appgar</u> and Elphick. Tidal marsh bird behavioral plasticity in response to nest flooding events.
2. 10:15–10:30	<u>Bellman</u> et al. All our eggs in one basket: The importance of Mispillion Harbor, Delaware, for migratory birds.	<u>Tracey</u> et al. Classification of alarm calls of nesting Northern Mockingbirds by predator type.	* <u>Straley</u> et al. Hard-working Parents: Provisioning of Wood Thrush nestlings in suburban forest fragments.
3. 10:30–10:45	<u>Winkler</u> et al. VultureNet and how large animal movements can inform those of much smaller species.	<u>Odom</u> et al. Sex role similarity and sexual selection shape male and female song structure in fairy-wrens.	*** <u>Varra</u> et al. The effect of predator threat to adults on variation in Gray Catbird nest defense.
4. 10:45–11:00	<u>Merker</u> et al. A brief history of the Cape May Raptor Banding Project: 52 years of continuous data on migratory raptors on the east coast of the US.	<u>Lohr</u> and Kaiser. Geographic song variation in migratory and sedentary subspecies of Grasshopper Sparrows in North America and the Caribbean.	*** <u>Duran</u> and Ramos. Possible shared parental care in Lark Sparrows (<i>Chondestes grammacus</i>).
5. 11:00–11:15	<u>Lefevre</u> et al. Tracking the movement of Black Skimmer fledglings at breeding colonies on the Gulf of Mexico.	* <u>Hill</u> and Lohr. Grasshopper Sparrow call development during the nestling period.	*** <u>LaBlue</u> and Danner. Sweating the speckles: darker Least Tern (<i>Sternula antillarum</i>) eggs become hotter under direct solar radiation.
6. 11:15–11:30	* <u>Hromádková</u> et al. The ecology of the longest migration – facilitation by wind patterns and ocean productivity.	* <u>Kroner</u> et al. Pair associated variation in alarm call acoustics of wild Mariana Crows (<i>Corvus kubaryi</i>).	* <u>Stillman</u> et al. Nest site selection and nest survival of Black-backed Woodpeckers after wildfire.
7. 11:30–11:45	** <u>Tatten</u> et al. Priority bird migration at an inland stopover site using nanotags.	** <u>Ryan</u> and Woltmann. Geographic and Subspecies Variation in the Song Structure of the Seaside Sparrow, <i>Ammodramus maritima</i> .	<u>Newberry</u> and Swanson. Nest success, heat tolerance and nest microclimate of rooftop nesting Common Nighthawks (<i>Chordeiles minor</i>) in an agriculturally dominant landscape.
8. 11:45–12:00	** <u>Skinner</u> et al. Using GPS-tracking to fill knowledge gaps in the full annual cycle of an elusive aerial insectivore in steep decline.	** <u>Dargis</u> and Benedict. Does population density affect singing behavior of Canyon Wrens (<i>Catherpes mexicanus</i>)?	<u>Gill</u> et al. Measuring clutch success: 16 years in Maryland Grasshopper Sparrows.
9. 12:00–12:15	*** <u>Driscoll</u> et al. Wintering ground habitat selection by the Eastern Whip-poor-will.	* <u>Grames</u> et al. Separating behavioral processes underlying song patterns into component parts with self-exciting point process models.	<u>Powell</u> and Woltmann. Louisiana Waterthrush (<i>Parkesia motacilla</i>) nest placement patterns and nest predator identities in central Tennessee.
10. 12:15–12:30	* <u>Korpach</u> et al. Investigating individual consistency at multiple spatiotemporal scales in migrating Eastern Whip-poor-wills (<i>Anthus vociferous</i>).	* <u>Mahoney</u> et al. Assessing geographic variation in song structure and plumage coloration in the Willow Flycatcher (<i>Empidonax traillii</i>) species complex.	<u>Redmond</u> . Seasonal variation in clutch size and egg mass in Gray Catbirds.

12:30–2:00 pm
2:00–3:30 pm

LUNCH

Oral Presentations, Monday afternoon sessions 1
(student presenters: *doctoral, **master's, ***undergraduate)

Time	Session D: Migration and Dispersal Crystal Room	Session E: Parasites and Disease Grand Ballroom "A"	Session F: Conservation & Restoration Grand Ballroom "B/C"
Mod	Paul Rodewald	Alix Matthews	Petra Wood
1. 2:00– 2:15	* <u>Wright</u> et al. Full annual cycle ecology of the Rusty Blackbird (<i>Euphagus carolinus</i>) revealed through archival GPS tracking.	** <u>Krajcir</u> et al. Environmental context mediates the functional relationship between feather mites and their hosts.	* <u>Kuwabara</u> et al. Characteristics of non-breeders in the Japanese Oriental White Stork (<i>Ciconia boyciana</i>) reintroduced population.
2. 2:15– 2:30	*** <u>Thompson</u> et al. Breeding dispersal of Gray Catbirds.	** <u>Rice</u> et al. Do irruptive bird movements allow exchanges of blood parasites? A case study in Pennsylvania chickadee populations.	** <u>Izaki</u> and Deguchi. Reintroduction of the Oriental White Stork (<i>Ciconia boyciana</i>): Habitat restoration and placement of artificial nest poles.
3. 2:30– 2:45	*** <u>Kauffman</u> et al. Possible evidence of itinerant breeding in Lark Buntings.	** <u>Herzog</u> and Kendall. Parasite surveys of passerine birds and Northern Bobwhite Quail (<i>Colinus virginianus</i>) in the Rolling Plains Ecoregion.	** <u>Doublet</u> et al. Lessons learned: Effects of translocation on Burrowing Owl survival and reproduction in Arizona.
4. 2:45– 3:00	** <u>Olah</u> et al. Movement patterns, habitat use, and survival of dependent Kirtland's Warbler fledglings in Wisconsin.	* <u>Starkloff</u> et al. Effects of host phylogeny and elevation on avian malarial parasite dynamics in <i>Catharus</i> thrushes in eastern North America.	Bellman et al. Piping plover population increase following habitat creation in Delaware, USA: Benefits for the wider recovery unit.
5. 3:00– 3:15	* <u>Suh</u> et al. Alternative pathways to success: transient dispersers in a cooperative breeding corvid.	** <u>Walker</u> . Analysis of avian parasite diversity and infection rates as reported by New Jersey state wildlife rehabilitator.	<u>Johnson</u> et al. Least Tern, Wilson's Plover, and Common Nighthawk responses to beach renourishment in Louisiana: Building climate resiliency or ecological traps?
6. 3:15– 3:30	* <u>DeSimone</u> et al. Prepare or escape? The behavioral, physiological, and hormonal responses of a facultative migrant to declining food availability.	* <u>Russo</u> et al. Spring bird migration as a dispersal mechanism for a forest insect invasion.	<u>Percy</u> et al. Can coastal restoration projects preserve Bald Eagle (<i>Haliaeetus leucocephalus</i>) breeding habitat in the Barataria Basin of Southeast Louisiana?

3:30–4:00 pm

BREAK

4:00–5:30 pm

Oral Presentations, Monday afternoon sessions 2
(student presenters: *doctoral, **master's, ***undergraduate)

Time	Session G: Technology and Analysis of Movements – Crystal Room	Session H: Anatomy, Plumage, and Physiology – Grand Ballroom “A”	Session I: Foraging and Fitness Grand Ballroom “B/C”
Mod	Mark Deutschlander	Lorraine Dargis	Julie Jedlicka
1. 4:00– 4:15	<u>LaPuma</u> et al. The Internet of Wildlife: Connecting technology and wildlife to answer the big conservation questions of today and tomorrow.	* <u>Falk</u> et al. Expression of male coloration in immature females of a hummingbird.	* <u>Zipf</u> et al. Spring temperature and precipitation important determinants of reproductive phenology and success for a migratory aerial insectivore.
2. 4:15– 4:30	<u>Lanzone</u> et al. High-resolution tracking of small organisms with Motus-compatible transmitters.	* <u>Ausprey</u> et al. Eye size predicts light microenvironment use, foraging niche, and sensitivity to habitat disturbance of Neotropical cloud forest birds.	* <u>Schilke</u> and Pidgeon. Emergent aquatic insect abundance structures bird communities in a northern Wisconsin forest.
3. 4:30– 4:45	<u>Barrowclough</u> . Natal dispersal distances in Spruce Grouse (<i>Falcapennis canadensis</i>): Sampling bias estimation and correction.	<u>Rueles Inzunza</u> . Wing form and function are rooted in the evolutionary history of Neotropical birds.	* <u>Palacio</u> and Ordano. How do plants set the table for birds? Frugivorous birds as natural selection agents on fruit display traits.
4. 4:45– 5:00	<u>Baldassarre</u> et al. GPS tracking and population genomics suggest itinerant breeding across drastically different habitats in the Phainopepla.	<u>Lombardo</u> and Thorpe. The factors that affect Tree Swallow egg mass vary yearly.	** <u>Donahue</u> et al. Winter behavior and diet of Loggerhead Shrikes (<i>Lanius ludovicianus</i>) in an intensive agricultural area of northeast Arkansas.
5. 5:00– 5:15	<u>Tonra</u> et al. Concentration of a widespread breeding population in few critically important nonbreeding areas: Migratory connectivity in Prothonotary Warbler.	<u>Reudink</u> et al. Age and weather influence feather coloration in Mountain Bluebirds.	* <u>Tyson</u> et al. Provisioning coordination increases with mate familiarity in a long-lived pelagic seabird, the Manx shearwater.
6: 5:15– 5:30	<u>Sargent</u> and Koitsch. Contrasting movements of Blackpoll Warblers and Swainson's Thrushes through a semi-urban environment during spring migration.	<u>Jackson</u> and Jackson. The diverse adaptations, functions, and consequences of the Anhinga's tail.	<u>Jedlicka</u> . Three methods to uncover diets of insectivorous birds foraging in temperate and tropical agricultural lands

5:30–6:00 pm

BREAK

6:00–9:00 pm

Poster Session and Reception

Tuesday, 29 October

8:00–9:30 am

Association of Field Ornithologists plenary address

Dr. Christina Riehl: *Cooperative breeding in the Neotropics: Important lessons from obscure players*. Located in Grand Ballroom

9:30–10:00 am

BREAK

10:00 am–12:30 pm

Oral Presentations, Tuesday morning sessions

(student presenters: *doctoral, **master's, ***undergraduate)

Time	Session J: Habitat Use & Selection - Crystal Room	Session K: Climate and Weather - Grand Ballroom "A"	Session L: Behavioral Ecology -- Grand Ballroom "B/C"
Mod	Facundo Palacio	Jordan Rutter	Rachael Mady
1. 10:00–10:15	* <u>Lindquist</u> et al. Characterizing movements of Saltmarsh and Seaside Sparrows on wintering grounds using radio telemetry.	** <u>Youtz</u> et al. Bergmann's rule is followed at all stages of development in a migratory songbird, but climate change may soften this relationship.	<u>Solis</u> and Skipper. Extra-pair paternity in the Bewick's Wren.
2. 10:15–10:30	** <u>Grisales-Jimenez</u> and Gawlick. Evidence for a daily re-assessment of micro-habitat by wading birds.	* <u>Spence</u> et al. Population response to temperature and precipitation across 156 North American passerine distributions.	<u>Underwood</u> and Sealy. Cowbird egg burial by hosts other than the Yellow Warbler: Anti-parasite adaptation or mistimed laying?
3. 10:30–10:45	*** <u>Parkhill</u> et al. Wood thrush nest-site selection suggests the importance of uneven aged forest processes in mature oak forests.	*** <u>Hamilton</u> et al. The effects of climate change on body size in the Red-bellied Woodpecker (<i>Melanerpes carolinus</i>).	<u>Milenkaya</u> et al. Just a few Carolina chickadees respond adaptively to competitive house wren in area of relatively recent contact.
4. 10:45–11:00	** <u>Wisneskie</u> et al. Intensification of agricultural wetlands and its effects on birds: A systematic map.	*** <u>Canney</u> et al. Effects of precipitation on the avian biodiversity community on the short grass prairie.	*** <u>Heuermann</u> and Curry. Inter- and intra-specific variation in boldness behavior of hybridizing Black-capped and Carolina chickadees.
5. 11:00–11:15	* <u>Margeneau</u> . Managing forest birds in forested rights-of-way landscapes.	* <u>Merker</u> and Chandler. Identifying global hotspots of trailing-edge population diversity: A case study of the Southern Appalachian Mountains.	** <u>Rowley</u> et al. How does irruption impact the social structure of Carolina and Black-capped chickadees?
6. 11:15–11:30	** <u>Sherer</u> et al. Natal territory conditions predict habitat preference along a fire-history gradient during pre-dispersal forays by juvenile Florida Scrub-Jays.	** <u>Rosenblatt</u> et al. Modeling population dynamics of Northern Bobwhite (<i>Colinus virginianus</i>) in response to future changes in winter weather.	** <u>Bennett</u> et al. Won't you be my neighbor? Distribution of nesting pairs within a hybrid-zone chickadee population.
7. 11:30–11:45	<u>Smith</u> et al. Use of salt marsh by wintering Ipswich Sparrows for feeding and roosting.	*** <u>Sinker</u> et al. Effects of drought on sex biasing in Cassin's Sparrows (<i>Peucaea cassinii</i>).	* <u>LaPergola</u> . Ecological drivers of colonial nesting in the Hispaniolan Woodpecker (<i>Melanerpes striatus</i>).
8. 11:45–12:00	<u>Wood</u> and Nareff. Cerulean Warbler and associated species response to operational silviculture.	<u>Kozlovsky</u> et al. Annual climate extremes and reproduction in chickadees inhabiting different elevations.	*** <u>Galati</u> and Bulluck. Quantifying competition between Golden-winged and Blue-winged Warblers to assess competitive exclusion as a mechanism for recent range shifts.
9. 12:00–12:15	<u>Pfeiffer</u> et al. Habitat use by Northern Goshawks in the Allegheny National Forest, Pennsylvania.	<u>Courter</u> et al. Climate-related changes in the nesting phenology and incubation periods of Tree Swallows in Northeast Ohio from 1966–2016.	** <u>Kenny</u> et al. Investigating the behavioral response of bold and shy eastern bluebirds to experimental traffic noise.
10. 12:15–12:30	<u>Tingley</u> et al. Black-backed woodpecker occupancy in burned and beetle-killed forests: disturbance agent matters.	<u>Jankowski</u> et al. Species distributions, interactions and population variability in a Neotropical cloud forest: forecasting the reassembly of Monteverde's bird community.	** <u>Luttman</u> and Smallwood. Reproductive success increases with age in American Kestrels, especially in breeding males.

12:30–2:00 pm

LUNCH

2:00–3:30 pm

Oral Presentations, Tuesday afternoon sessions 1
(student presenters: *doctoral, **master's, ***undergraduate)

Time	Session M: Communities and Habitat – Crystal Room	Session N: Conservation Genetics and Management Implications -- Grand Ballroom "A"	Session O: Habitat and Fitness -- Grand Ballroom "B/C"
Mod	Conner Rosenblatt	George Barrowclough	Lucy Zipf
1. 2:00–2:15	**Brofsky et al. Bird abundance and habitat associations on small, diversified farms in New England.	Catanach, Weckstein et al. Phylogenetic relationships and species limits of the Sharp-shinned Hawk complex with a focus on Caribbean populations.	**Bomboy and Larkin. Breeding ecology of <i>Vermivora</i> warblers in managed shrublands of southwestern Pennsylvania.
2. 2:15–2:30	*Bangal et al. Phenotypic clumping reduces with flock size in heterospecific bird flocks.	Weigardt et al. The relationship between phenotypic and genomic divergence under selection.	**Wessels and Boves. Cerulean Warbler habitat selection, breeding biology, survival, and movements in the Ozark region.
3. 2:30–2:45	*Moretti and Johnson. Late Pleistocene birds of the Macy Fork local fauna, Southern High Plains, Texas.	***Lopez et al. Mitochondrial DNA suggests potential for Z-W chromosome involvement in reproductive isolation between subspecies of the Long-tailed Finch.	**Deckel et al. Mechanisms that drive breeding success in Swainson's thrush (<i>Catharus ustulatus</i>) across an elevational gradient.
4. 2:45–3:00	**Owen and Mennill. Bird communities in an endangered tropical ecosystem: A bioacoustic approach to monitoring forest recovery.	**Lydeard . A multi-taxon bioassessment of the Land Between the Lakes Recreation Area: Do riparian bird, fish, and macroinvertebrates correlate to predict ecosystem quality?	**Trumbo et al. Post-fledging survival, behavior, and habitat use of an endangered species: the Golden-cheeked Warbler.
5. 3:00–3:15	**Parker and Larkin. A comparison of vegetation structure, species composition, and avian abundance within ungulate-excluded and unexcluded timber harvests.	**Mady et al. The effect of supplemental food availability on avian space use.	**Persche and Pidgeon. Resilient habitat for forest birds: The influence of topographic position in a temperate deciduous forest.
6. 3:15–3:30	*Stevens et al. Using time-to-detection to model occupancy in songbirds in an urban bottomland forest.	*Lewis et al. Long-term demographic changes of Black-throated Blue Warblers (<i>Setophaga caerulescens</i>) from across the breeding range.	*Kingsbury et al. Threatened birds, dynamic habitats and disturbance: Understanding links between disturbance, habitats, and birds across the Cerrado grassland gradient.

3:30–4:00 pm

BREAK

4:00–5:30 pm

Oral Presentations, Tuesday afternoon sessions 2 (no student presenters)

Time	Session P: Populations and Habitats Crystal Room	Session Q: Population Estimates and Conservation – Grand Ballroom “A”	Session R: Ornithological Wild Card! - Grand Ballroom “B/C”
Mod	Katie Percy	Charles Smith	Breanna Bennett
1. 4:00– 4:15	<u>Cooper</u> and Marra. Tracking Kirtland's Warblers across the annual cycle using the Motus Wildlife Tracking System.	<u>Shumar</u> and Matthews. A comparison of traditional and autonomous methods for detection and monitoring of nightjars.	<u>Ramos</u> and Fair. Offspring sex ratios do not reflect adult sex ratios in Lark Buntings
2. 4:15– 4:30	<u>Windsor</u> et al. Presence of breeding Florida Grasshopper Sparrows on a private cattle ranch drives a shift in habitat occupancy paradigm.	<u>Wilson</u> et al. Airborne bioacoustics — a new way to survey birds.	<u>Benitez Saldivar</u> et al. Song and delayed plumage maturation: assessing their effect on extra-pair paternity in the Saffron Finch.
3. 4:30– 4:45	<u>Pangman</u> and Reitsma. Group selection harvest increases avian diversity on an American Tree Farm in west-central New Hampshire.	<u>George</u> and Godshall. Quantifying method based variability in population estimates of the Cerulean Warbler (<i>Setophaga cerulea</i>).	<u>Bennett</u> et al. Bird-friendly chocolate: Promoting biodiversity conservation within cocoa agroforests.
4. 4:45– 5:00	<u>Williams</u> et al. Managing Ruffed Grouse in the age of West Nile Virus? Implications for vulnerable woodland birds.	<u>Omland</u> et al. Conservation biology of the Bahama Oriole: Incomplete data can lead to destructive conservation actions.	<u>Fournier</u> et al. Unpaid work and access to science professions.
5. 5:00– 5:15	<u>Brinker</u> . Rise and fall of Northern Goshawks in the Central Appalachian Mountains: Is there reason for conservation concern in the Northeastern U.S.?	<u>Bowman</u> et al. Unintended consequences of translocation: Reproductive skew and reduced effective population size in the red-cockaded woodpecker.	<u>Morris and Stewart</u> . Biology Boot Camp: Helping Biology students hit the ground running.
6. 5:15– 5:30	<u>O'Connell</u> et al. Temporal variability in abundance estimates for breeding birds in the Oaks and Prairies.	vacant	vacant

5:30–6:00 pm

BREAK

6:00–9:00 pm

Banquet and Awards Presentations

	Poster presentations (student presenters: *doctoral, **master's, ***undergraduate)
1	***Hannah Wait and Daniel Shustack. Morphology of <i>Junco hyemalis</i> (Dark-eyed juncos) in Western Massachusetts.
2	David R. Barber and Laurie J. Goodrich. Population Trends of Forest Interior Birds on Hawk Mountain Sanctuary, Pennsylvania, 1982-2018.
3	***Patrick B. Newcombe and Kyle G. Horton. Migratory flight on the Pacific Flyway: strategies and tendencies of wind drift compensation.
4	Sriya Revankar, Luke K. Butler and Alexandra Immerso. Physiological changes associated with the transition to molt in a rapid-molting songbird.
5	***Juan Zuluaga. Determining the Migratory Status of Seaside Sparrows (<i>Ammodramus maritimus</i>) via Motus Radio Telemetry.
6	Andrew W. Jones, Tim Jasinski, Courtney L. Brennan, Sylvie F. Crowell, Gary Fowler, Laura Gooch, Moira Meehan, Stephanie Secic, Harvey Webster and Matt Shumar. Lights Out Cleveland: collision patterns revealed through a collaborative, citizen science effort.
7	Kayleigh Kueffner, Sean Lyon and Ben D. Marks. PLUME: Phenotype Linkage Utilizing Multimedia in Emu.
8	Christine Sheppard and Jordan Rutter. The "Tunnel Test": evaluating the effectiveness of bird-friendly glass and other materials.
9	Bryan Lenz, Christine Sheppard and Jordan Rutter. The Truly Sustainable Campus: Reducing Bird Mortality from Collisions with Glass.
10	Robert J. Smith, Margret I. Hatch and Michael Carey. Possible carryover effects of temperature and precipitation in Field Sparrows (<i>Spizella pusilla</i>) breeding in northeastern Pennsylvania, USA.
11	David E. Blockstein. Solve Climate by 2030: Solar Dominance.
12	*Elizabeth Besozzi and Michael Patten. Patterns of Volcano Junco resource-use in the highlands of Costa Rica.
13	**Ramon J.T. Williams, Miya Warrington and Nicola Koper. Distribution, diversity, and abundance of Grenadian terrestrial birds, including endemic and restricted-range species.
14	**Augustus W Forrest, Claire Ramos and Garrett Visser. The Effects of Territory Size and Territory Quality on Mating and Nesting Success of Male Cassin's Sparrow (<i>Peucaea cassinii</i>) in Southern Colorado.
15	Jeffrey A. Spendelov. Evaluating current limiting factors and future threats to recovery of endangered Roseate Terns.
16	***Gage Barnes, John Hewlett, Kate Slankard, Loren Taylor and Andrea Darracq. Assessing the Influence of Telecommunication Towers on Osprey (<i>Pandion haliaetus</i>) Nesting and Behaviors in Western Kentucky.
17	***Jadzia M. Rodriguez, Dejeanne Doublet, Martha J. Desmond, David H. Johnson and Fitsum Abadi. Factors Affecting the Presence of Burrowing Owls at Artificial Habitat Sites in Arizona.
18	**Henry L. Symanski and Jeff P. Hoover. Effects of forest management on breeding bird abundances in southern/central Illinois.
19	Kristin A. Mylecraine, David S. Mizrahi, John Cecil, Sharon Petzinger and David W. Grossmueller. Managing for Golden-winged Warbler (<i>Vermivora chrysoptera</i>) along transmission line corridors in the New Jersey Highlands region.
20	Evangelyn Buckland, Dr. Raymond Danner, Marae Lindquist and John Carpenter. Overwinter Survival and Population Size Estimates of Seaside and Saltmarsh Sparrows in Southeastern North Carolina.
21	***Kimberly I Fonseca, Dejeanne Doublet, Martha J Desmond, David H Johnson and Fitsum Abadi. Factors affecting Western Burrowing Owl nest site selection of artificial burrow systems in Arizona.

22	*Mackenzie R. Roeder, Adrienne Kovach and Brian Olsen. Thermoregulation strategies differ across closely related taxa in a highly saline environment.
23	**Grace Wilson and Jeff Hoover. Woodpecker use of managed forests in central Illinois.
24	**Courtney Kern and Kara Lefevre. Exploring black skimmer (<i>Rynchops niger</i>) population dynamics as an indicator for overall ecosystem integrity.
25	Elissa M Landre and Lucy R Zipf. Updating a unique historic insect abundance dataset to determine the direction and magnitude of change in prey availability to diurnal aerial insectivores.
26	Adrienne Kovach, Brian Olsen, Kristina Cammen, Serita Frey, Benjamin King, Michael Kinnison, Michelle Smith, Kelley Thomas, Anthony Westbrook, Lindsey Fenderson, Zachery Wood, Kayla Barton, Jonathan Clark, Alice Hotopp and Emily Patterson. Genomic Ecology of Coastal Organisms (GECO): Using Tidal Marsh Birds to Study Genome-Phenome Relationships in the Wild.
27	Samantha A. Collins and Lisa M. Ferguson. Habitat use and reproductive success of wading birds nesting on marsh islands in Cape May County, New Jersey.
28	***Kayla Pruitt, Jennifer Driscoll, Tham Mana, Shane Andrews, Cassidy Hanson, Damon Roznowski, Sean Beckmann and James S. Marshall. Patterns of <i>Borrelia burgdorferi</i> infection in urban versus rural birds of northern Illinois.
29	James S. Marshall, Bethany Hanson, Alissa Johnson, Jennifer Driscoll, Tham Mana, Shane Andrews, Cassidy Hanson, Damon Roznowski and Sean Beckmann. Effects of <i>Borrelia burgdorferi</i> infection on the body condition of fall migratory and resident birds in northern Illinois
30	**Eres A. Gomez and Jennifer A. Smith. Evaluation of the Potential Effects of Anticoagulant Rodenticide Exposure to Raptors in San Antonio, Texas.
31	**Sara Meissner, James Rotenberg and Joanne Halls. Focused citizen science helps determine dates of annual cycle for Atlantic Painted Buntings (<i>Passerina ciris</i>) and create new range maps through spatial modelling.
32	**Amanda M. Lamberson and Jennifer A. Smith. A multi-step approach to understanding the effects of backyard bird feeding on the abundance and diversity of birds in San Antonio, Texas.
33	*Matthew H. Anthony, Lucy Greenman, Jared A. Grooms, Andrew J. Rapp, Frances Zidonis and Daniel A. Cristol. Justification for recreation: trends in marketing appeals to amateur ornithologists in the late-twentieth and early twenty-first centuries.
34	***Noah M. Henkenius and Daniel P. Shustack. Presence and Abundance of Avian Ticks on Breeding Forest Birds in the Northern Berkshires, MA.
35	Andrea Patterson, Lesley Howes and Anthony Hill. Developing best practices for photography and videography in the age of social media.
36	Cynthia A. Ursino, M. Cecilia De Marsico and Juan Carlos Reboreda. Brood-parasitic nestlings benefit from unusual host defenses against botfly larvae (<i>Philornis</i> spp.).
37	***Christopher J. Sayers II, Mackenzie R. Roeder, Lindsay Forrette, Daniel Roche, Gaetan L. B. Dupont, Samantha Apgar, Alison R. Kocek, Alexandra M. Cook, Greg Shriver, Chris S. Elphick and David N. Bonter. Geographic variation of mercury in breeding tidal marsh sparrows of the northeastern United States.
38	***Lily A. Day and Robert L. Curry. Song discrimination and male aggressive behavior within a songbird hybrid zone.
39	*Justin T. Mann and Anne B. Clark. Quantitative classification of the Black-and-white Warblers (<i>Mniotilta varia</i>) song types and analysis of their habitat and social context dependent use.
40	***Dylan Allenback. Cassin Sparrow Song Behavioral Analysis.
41	Douglas W. White and E. Dale Kennedy. Retiring wrens: evening behaviors in nesting male and female House Wrens (<i>Troglodytes aedon</i>).
42	***Jessica Knight, Andria Kroner and Anne B Clark. Changes in captive Mariana Crow (<i>Corvus kubaryi</i>) chick vocalizations throughout development.
43	***Tricia E. Blankenship, Norbert J. Cordeiro and Jay P. McEntee. The structure of male-female duets in <i>Artisornis</i> tailorbirds of eastern Africa.

44	***Yuting Deng, Russ Charif and David N. Bonter. Comparisons Between Birds Detected by Autonomous Recordings Units (ARU) and Mist Net Captures at a Migration Banding Station.
45	*Connor O'H. Loomis, Anne B. Clark, John Confer and Kevin J. McGowan. Behavioral interactions between nest-parasitic Merlins (<i>Falco columbarius</i>) and nest-building Fish Crows (<i>Corvus ossifragus</i>) in a new zone of overlap.
46	**L. Abigail Walter, Catherine Viverette and Lesley Bulluck. Factors influencing parental care in a monomorphic species, the Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>).
47	***Kerilynne Spiess, Dominique Varra and Lucas J. Redmond. Is nest defense in Gray Catbirds (<i>Dumetella carolinensis</i>) a repeatable behavior?
48	**Jacalyn Speicher and Letitia M. Reichart. Nesting in an invasive shrub, breeding Gray Catbirds (<i>Dumetella carolinensis</i>) in northeastern Pennsylvania.
49	***Sam Koch and Lindsey Walters. Eastern Bluebird nest sanitation: Do different sexes display equal effort?
50	**Garrett Visser and Claire V.W. Ramos. Extra-pair copulation and male parental investment in Cassin's Sparrow (<i>Peucaea cassinii</i>).
51	*Maria G. Smith and Christina P. Riehl. Task specialization and division of workload in the communally nesting Greater Ani (<i>Crotophaga major</i>).
52	*Amanda G. Savagian and Christina Riehl. The functions of group chorusing in the joint-nesting Greater Ani (<i>Crotophaga major</i>).
53	Valerie Galati, Gunnar Kramer, Henry Streby and Lesley Bulluck. Variation in crown feather reflectance in two species of hybridizing warblers.
54	***Caroline Gammons and Robert Curry. Achromatic plumage brightness in Carolina, black-capped, and hybrid chickadees: implications for social dominance and mate choice.
55	Kristen M. Covino, Francesca Foltz, Alessandra Waller, Brielle Michener, Sarah J. Courchesne and Mary E. Everett. Using excreta samples to study the link between testosterone and aggression in breeding Great Black-backed Gulls.
56	Chris Watson and Julie Jedlicka. Avian biodiversity of Missouri Ozark glades increases with prescribed burn frequencies.
57	***Ashley C. Nunez, Henry Streby and Jeanine Refsnider. Microcystin algal blooms cause chronic stress in wetland associated songbirds.
58	Charlotte Probst and Joel Ralston. The effect of climate on bill morphology divergence in <i>Toxostoma</i> thrashers.
59	*Facundo X. Palacio, Francisco Cataudela, Diego Montalti and Mariano Ordano. Eating the fruit of passion: bird functional traits and geography explains fruit removal by frugivorous birds in Blue Passionflower (<i>Passiflora caerulea</i>).
60	**Elsa Chen and Lesley Bulluck. Examining the tradeoffs of female aggression in high- and low-density breeding sites for a migratory songbird.
61	***Michael Fleming, Eric Nathan Thompson and Lucas J. Redmond. Offspring sex ratio bias in a Pennsylvania population of Gray Catbirds.
62	Meghan J. Strong, Benjamin L. Sherman and Christina Riehl. Home field advantage, not group size, predicts outcomes of intergroup conflicts in a social bird.
63	Meredith Heather, Chelsey Hunts, Eliseo Parra and Ari E. Martínez. Alarm eavesdropping by two <i>Thamnomanes</i> antshrikes within Amazonian mixed-species flocks.
64	*Alix E. Matthews and Than J. Boves. Integrating next-generation sequencing and ecology to understand host specialization and coevolution of symbiotic feather mites.
65	Jameson F. Chace and Erin O'Neill. Factors affecting the abundance and distribution of wintering waterfowl in Narragansett Bay, Rhode Island.
66	Alexandra Immerso, Sriya Revankar and Luke K. Butler. Relationship between body condition and distance-to-road in an area-sensitive migrant, the Ovenbird, on its breeding grounds.
67	Sarah Polekoff, Opaline Picard and Pierre Deviche. Adjusting to city life: oxidative stress in adult and juvenile urban House Finches, <i>Haemorhous mexicanus</i> .

68	***Sarah Rackowski. Investigation into phenotypic variance and microevolution in introduced populations of feral North American rock pigeons (<i>Columba livia</i>).
69	Andrew Vitz, John Scanlon and David King. Avian Response to Young Forest Habitat Created from a Large-scale Tornado in Massachusetts.
70	*Sheila R. Moore and Anne B. Clark. Behavioral lateralization in American Crows (<i>Corvus brachyrhynchos</i>): Individual differences in eye and foot use bias may develop over time.
71	***Kevin Black and Lindsey Walters. The relationship between ambient temperature and the incubation behavior of female Eastern Bluebirds.
72	***Samantha Hagler, Vanya Rohwer and Shawn M. Billerman. Differential Survival Estimated Using Age Ratios of Museum Specimens Across Two Great Plains Hybrid Zones.
73	***McKenzie Somers , Marisa Immordino, Precious Ozoh, Lauren Sherman, and Andy Wilson. Estimating songbird abundance using drones.
74	***Kai Victor and Vanya Rohwer. Are birds becoming vain? Exploring the occurrence and function of eyelashes in birds.
75	Kristin Mylecraine and Nellie Tsipoura. Surveying for Ruffed Grouse (<i>Bonasa umbellus</i>) in northwestern New Jersey.
76	*Daniela M. Depalma and Myriam E. Mermoz. Birds breeding on roadside borders of the Argentine Pampas: assessing predation risk through the monitoring of artificial and real nests
77	*Adele Balmer, Lesley Bulluck, Derek Johnson and Catherine Viverette. Demographic Trends in a Breeding Population of a Migratory Songbird.
78	*Jorge L. Garzon, Daniel Buitrago-Rosas and Matthew J. Miller (3). Morphometric criteria as an indicator of population differences in <i>Mionectes oleagineus</i> (Lichtenstein, 1823) (Passeriformes: Tyrannidae).
79	Jeremy J. Kirchman, Nancy Rotzel McInerney, Tom C. Giarla, Storrs L. Olson and Robert C. Fleischer (2). Phylogeny of Rails (Ralloidea: Rallidae) Based on DNA Sequences from Thousands of Ultra-Conserved Elements.