



Annapolis, Maryland February 1-5, 2016

# North American Duck Symposium and Workshop

Ecology and Integrated Management of Waterfowl

7th North American Duck Symposium						Field Trips	
TIME	MONDAY 1-Feb-16	TUESDAY 2-Feb-16	WEDNESDAY 3-Feb-16	THURDAY 4-Feb-16	FRIDAY 5-Feb-16	SATURDAY 6-Feb-16	
06:30 - 08:00	Breakfast (included with registration)					Field Trips	
08:10 - 08:20	Opening Remarks & Announcements						
08:20 - 09:40	Plenary Dan Ashe	Plenary Ken Williams	Plenary Bob Clark	Plenary Michael Anderson			
09:40 - 10:00	Coffee break						
10:00 - 12:00	Special Session Waterfowl Legacies	Special Session Strengthening the Links	Special Session Integrated Population Models	Special Session NAWMP Revisions			
12:00 - 13:20	Registration Open	Lunch (included with registration)					Lunch (on your own)
13:20 - 15:20	Workshop: Remote Spatial Data Collection	Sea Ducks 1 Foraging, Nutrition 1 Breeding Ecology 1 Climate Change	Evolution 1 Hydrologic 1 Management Techniques 1	Looking Ahead 1 Mexico 1 Population Dynamics Harvest	Waterfowl & Water 1 Pride of the Salt Marsh 1 Winter Ecology Foraging Ecology		
15:20 - 15:40	Break						
15:40 - 17:40	Workshop: Remote Spatial Data Collection	Sea Ducks 2 Foraging, Nutrition 2 Breeding Ecology 2 Habitat Use	Evolution 2 Hydrologic 2 Human Dimensions Techniques 2	Looking Ahead 2 Mexico 2 Conservation Planning Physiology	Waterfowl & Water 2 Pride of the Salt Marsh 2 Miscellaneous Energetics		
17:40 - 18:00	Welcome Reception	Dinner (on your own) Pintail Action Group	Dinner (on your own) NADS Board Meeting	Dinner (on your own)	Banquet & Awards Dinner		
18:00 - 19:00		Mentor/Mentee & CWA Hospitality	Poster Session I & CWA Hospitality	Poster Session II & University-based Studies			
19:00 - 22:00							

## Schedule Overview

<b>MONDAY, 1 FEBRUARY 2016</b>	
<b>12:00</b>	<b>Registration Open</b>
<i>Senate</i>	
<b>13:20 - 15:15</b>	<b>Workshop: Remote Spatial Data Collection</b> (Organizers: David Brandt & Bart Ballard)
13:20	<b>Introduction to the Workshop</b>
13:30	<b>GPS PTTs on Mallards</b> (Elisabeth Webb, USGS Missouri Cooperative Fish and Wildlife Research Unit)
13:55	<b>GPS PTTs on Lesser Snow Geese</b> (Ray Alisauskas, Environment Canada, Prairie and Northern Wildlife Research Center)
14:20	<b>GPS PTTs</b> (Keith LeSage, Dave Evans, GeoTrak Inc.)
14:45	<b>ICARUS INITIATIVE, A New Experimental Global Small-animal Observation System</b> (Martin Wikelski, via Skype)
<b>15:15 - 15:30</b>	<i>Coffee break</i>
<i>Senate</i>	
<b>15:30 - 17:30</b>	<b>Workshop: Remote Spatial Data Collection</b> (Organizers: David Brandt & Bart Ballard)
15:30	<b>GSM CTTs on Mallard and Gadwall</b> (Michael Casazza, USGS, Dixon Field Station)
15:55	<b>GSM CTTs</b> (Andrew McGann, Product Specialist, Cellular Tracking Technologies)
16:20	<b>VHF/UHF Linked GPS Dataloggers on White-fronted Geese</b> (Brandt Meixell, USGS, Alaska Science Center)
16:45	<b>Geo-locators on Ducks</b> (Chris Nicolai, US Fish and Wildlife Service)
17:10	<b>Discussion</b>
<b>17:40 - 18:00</b>	<i>Break before Welcome Reception</i>
<b>19:00 - 22:00</b>	<b>Welcome Reception – Capital Ballroom</b>

## Schedule Overview

<b>TUESDAY, 2 FEBRUARY 2016</b>				
<b>06:30 - 08:00</b>	<i>Breakfast in Capital Ballroom</i>			
<b>08:10 - 08:20</b>	<b>Opening Remarks &amp; Announcements</b>			
<b>08:20 - 09:40</b>	<b>A.1: Plenary</b>			
8:20	<b>A.1.1: Plenary Dan Ashe</b> <b>The Migratory Bird Treaty at 100: Charting a Course for the Next Century of Bird Conservation</b>			
9:00	<b>A.1.2: Plenary Jerry Serie &amp; Bob Bholm</b> <b>Migratory Bird Treaty: Legacy and Foundation for Waterfowl Management in North America</b>			
<b>09:40 - 10:00</b>	<i>Coffee break</i>			
<b>10:00 - 12:00</b>	<b>B.1: Featured Special Session: Waterfowl Legacies: Pioneering Diplomacy, Science, and Management: Celebrating 100 Years of the Migratory Bird Treaty Act (Organizer: David</b>			
10:00 - 10:25	B.1.1: Perry	<b>Management Research on Waterfowl Life Cycles, Populations and Energetics</b>		
10:25 - 10:50	B.1.2: Fredrickson	<b>A Century of Land Management Evolution: From Guess Work to Complex Decision-making in Highly Modified Landscapes Exhibiting Extreme Variability</b>		
10:50 - 11:15	B.1.3: Batt	<b>Shifting Paradigms for Prairie Habitat Conservation</b>		
11:15 - 11:40	B.1.4: Sedinger, J.	<b>Eighty-five Years of Monitoring and Modeling Waterfowl Populations</b>		
11:40 - 12:00	B.1.5: Anderson	<b>Evolving Perspectives on Waterfowl Research and Conservation: Scale, System Integrity and Human Impacts</b>		
<b>12:00 - 13:20</b>	<i>Lunch in Capital Ballroom</i>			
	<i>Capital ABC</i>	<i>Capital D</i>	<i>Senate</i>	<i>Caucus</i>
<b>13:20 - 15:00</b>	<b>C.1: Sea Ducks 1</b>	<b>C.2: Foraging, Nutrition 1</b>	<b>C.3: Breeding Ecology 1</b>	<b>C.4: Climate Change</b>
13:20	C.1.1: Koneff	C.2.1: Heitmeyer	C.3.1: Hepp	C.4.1: Guillemain
13:40	C.1.2: Pearce, J.	C.2.2: Heitmeyer	C.3.2: Dyson <sup>^</sup>	C.4.2: Nilsson
14:00	C.1.3: Rothe	C.2.3: Lovvorn	C.3.3: Hartke	C.4.3: Vanden Elsen <sup>^</sup>
14:20	C.1.4: McClellan	C.2.4: Webb	C.3.4: Carrlson	C.4.4: Schummer
14:40	C.1.5: Silverman	C.2.5: Johns <sup>^</sup>	C.3.5: Eichholz	C.4.5: Beaman <sup>^</sup>
15:00	C.1.6: Woehr	C.2.6: Williams	C.3.6: Feldheim	C.4.6: Baranyuk
<b>15:20 - 15:40</b>	<i>Coffee break</i>			
<b>15:40- 17:40</b>	<b>D.1: Sea Ducks 2</b>	<b>D.2: Foraging, Nutrition 2</b>	<b>D.3: Breeding Ecology 2</b>	<b>D.4: Habitat Use</b>
15:40	D.1.1: Hindman	D.2.1: Guillemain	D.3.1: Pöysä	D.4.1: Janke <sup>^</sup>
16:00	D.1.2: Spragens	D.2.2: Guillemain	D.3.2: Craik	D.4.2: Schepker <sup>^</sup>
16:20	D.1.3: Wiese	D.2.3: Alisaukas	D.3.3: Ward	D.4.3: Palumbo <sup>^</sup>
16:40	D.1.4: Bowman	D.2.4: Perry	D.3.4: Nissley <sup>^</sup>	D.4.4: Foth <sup>^</sup>
17:00	D.1.5: Bowman	D.2.5: Coluccy	D.3.5: Straub	D.4.5: Pernollet <sup>^</sup>
17:20	D.1.6: Dwyer	D.2.6: Krapu	D.3.6: Stair <sup>^</sup>	D.4.6: Austin
<b>17:40 - 19:00</b>	<i>Dinner break (on your own)</i>			
<b>17:30 - 18:30</b>	<b>Pintail Action Group/Scaup Action Team - Senate</b>			
<b>19:00 - 20:00</b>	<b>Mentor/Mentee – Caucus</b>			
<b>19:00 - 22:00</b>	<b>Hospitality hosted by California Waterfowl Association - Parks Place</b>			

<b>WEDNESDAY, 3 FEBRUARY 2016</b>				
<b>06:30 - 08:00</b>	<i>Breakfast in Capital Ballroom</i>			
<b>08:10 - 08:20</b>	<b>Opening Remarks &amp; Announcements</b>			
<b>08:20 - 09:40</b>	<b>E.1: Plenary</b>			
8:20	<b>E.1.1: Plenary B. Ken Williams</b> <b>Prospects for the Integration of Waterfowl Science and Management</b>			
9:00	<b>E.1.2: Plenary Jim Nichols</b> <b>Adaptive Waterfowl Harvest Management: Where Are We and How Did We Get Here?</b>			
<b>09:40 - 10:00</b>	<i>Coffee break</i>			
<b>10:00 - 12:00</b>	<b>F.1: Featured Session: Strengthening the Links between Waterfowl Research and Management</b> (Organizer: Tony Roberts)			
10:00	F.1.1: Runge	<b>Decision Analysis as a Framework to Link Waterfowl Research and Management</b>		
10:24	F.1.2: Johnson	<b>Waterfowl Conservation and the Value of Information</b>		
10:48	F.1.3: Howerter	<b>Using Science to Inform Waterfowl Habitat Acquisition and Management Decisions</b>		
11:12	F.1.4: Vrtiska	<b>State and Flyway Perspectives on the Linkage between Research and Waterfowl Management and Conservation</b>		
11:36	F.1.5: Eadie	<b>Muddy Boots and Ivory Towers: Challenges and Opportunities of Applied Waterfowl Research in Academic Institutions</b>		
<b>12:00 - 13:20</b>	<i>Lunch in Capital Ballroom</i>			
	<i>Capital ABC</i>	<i>Capital D</i>	<i>Senate</i>	<i>Caucus</i>
<b>13:20 - 15:20</b>	<b>G.1: Evolution 1</b>	<b>G.2: Hydrologic 1</b>	<b>G.3: Management</b>	<b>G.4: Techniques 1</b>
13:20	G.1.1: Dugger	G.2.1: Fredrickson	G.3.1: Hindman	G.4.1: Evenson
13:40	G.1.2: Lavretsky	G.2.2: Tashjian	G.3.2: Nichols, T.	G.4.2: Yetter
14:00	G.1.3: Wells <sup>^</sup>	G.2.3: Henry	G.3.3: De La Cruz	G.4.3: Otto
14:20	G.1.4: Devers	G.2.4: Nelson	G.3.4: Perry	G.4.4: Gilliland
14:40	G.1.5: Wells <sup>^</sup>	G.2.5: Cordell	G.3.5: Elmberg	G.4.5: Roche
15:00	G.1.6: Haukos	G.2.6: Vradenburg	G.3.6: Olsen, A. <sup>^</sup>	G.4.6: Shaffer
<b>15:20 - 15:40</b>	<i>Coffee break</i>			
<b>15:40 - 17:40</b>	<b>H.1: Evolution 2</b>	<b>H.2: Hydrologic 2</b>	<b>H.3: Human Dimensions</b>	<b>H.4: Techniques 2</b>
15:40	H.1.1: Krainyk <sup>^</sup>	H.2.1: Papon	H.3.1: Tapp	H.4.1: Hidden <sup>^</sup>
16:00	H.1.2: Fedderson	H.2.2: Pagan	H.3.2: Devers	H.4.2: Brown
16:20	H.1.3: Varner	H.2.3: Smith	H.3.3: Lindstrom	H.4.3: Nicolai, C.
16:40	H.1.4: Pollander <sup>^</sup>	H.2.4: Vorland	H.3.4: Slattery	H.4.4: O'Connel <sup>^</sup>
17:00	H.1.5: Kneece <sup>^</sup>	H.2.5: Fredrickson	H.3.5: Dorak <sup>^</sup>	H.4.5: Webb
17:20	H.1.6: Shipes	H.2.6: Discussion	H.3.6: Open	H.4.6: Laborde
<b>17:40 - 19:00</b>	<i>Dinner break (on your own) - NADS Board Meeting - Senate</i>			
<b>19:00 - 22:00</b>	<b>Poster Session I – Annapolis Ballroom</b>			
<b>19:00 - 22:00</b>	<b>Hospitality by California Waterfowl Association - Parks Place</b>			

THURSDAY, 4 FEBRUARY 2016				
06:30 - 08:00	<i>Breakfast in Capital Ballroom</i>			
08:10 - 08:20	<b>Opening Remarks &amp; Announcements</b>			
08:20 - 09:40	<b>I.1: Plenary</b>			
8:20	<b>I.1.1: Plenary Bob Clark</b> <b>Using Population Models to Test Ecological Hypotheses and Guide Conservation Decisions</b>			
9:00	<b>I.1.2: Plenary Michael Schaub</b> <b>Inference about Population Processes by Combining Counts and Demographic Data using Integrated Population Models</b>			
09:40 - 10:00	<i>Coffee break</i>			
10:00 - 12:00	<b>J.1: Featured Session: Integrated Population Models to Inform Waterfowl Ecology and Conservation</b> (Organizers: Todd Arnold, David Koons)			
10:00	J.1.1: Weegman	<b>Integrated Population Modelling Reveals a Perceived Source to be a Cryptic Sink</b>		
10:20	J.1.2: Koons	<b>Drivers of Lesser Scaup Population Dynamics at a Continental Scale</b>		
10:40	J.1.3: Osnas	<b>An Integrated Population Model for Northern Pintail to Guide Harvest and Habitat Management</b>		
11:00	J.1.4: Arnold	<b>An Integrated Population Model for American Black Ducks</b>		
11:20	J.1.5: Riecke <sup>^</sup>	<b>Integrated Population Models for Black Brant: Derived Parameters and Sampling Variance</b>		
11:40	J.1.6: Arnold, Koons	<b>Integrated Population Models to Inform Waterfowl Ecology and Conservation: Pitfalls and Promises</b>		
12:00 - 13:20	<i>Lunch break in Capital Ballroom</i>			
13:20 - 15:20	<i>Capital ABC</i>	<i>Capital D</i>	<i>Senate</i>	<i>Caucus</i>
	<b>K.1: Looking Ahead 1</b>	<b>K.2: Mexico 1</b>	<b>K.3: Population Dynamics</b>	<b>K.4: Harvest</b>
13:20	K.1.1: Anteau	K.2.1: Carrera-	K.3.1: Malachowski <sup>^</sup>	K.4.1: Boomer
13:40	K.1.2: Vitense <sup>^</sup>	K.2.2: Valverde	K.3.2: Warren	K.4.2: Sedinger, B. <sup>^</sup>
14:00	K.1.3: Wiltermuth	K.2.3: Lafón-Terrazas	K.3.3: Messmer <sup>^</sup>	K.4.3: Vaske
14:20	K.1.4: Hanson	K.2.4: Carrera-	K.3.4: Sheppard <sup>^</sup>	K.4.4: Deane <sup>1^</sup>
14:40	K.1.5: Zimmer	K.2.5: Lafón-Terrazas	K.3.5: Leach <sup>^</sup>	K.4.5: Soulliere
15:00	K.1.6: Hansel-Welch	K.2.6: Carrera-	K.3.6: Riecke <sup>^</sup>	K.4.6:
15:20 - 15:40	<i>Coffee break</i>			
15:40 - 17:40	<b>L.1: Looking Ahead 2</b>	<b>L.2: Mexico 2</b>	<b>L.3: Conservation Planning</b>	<b>L.4: Contaminants, Disease, Genetics</b>
15:40	L.1.1: Hagy	L.2.1: Lafón-Terrazas	L.3.1: Bartuszevige	L.4.1: Latty <sup>^</sup>
16:00	L.1.2: Evelsizer	L.2.2: Wortham	L.3.2: Fleming, K.	L.4.2: Miller, M. <sup>^</sup>
16:20	L.1.3: Wrubleski	L.2.3: Fredrickson	L.3.3: Doherty	L.4.3: England <sup>^</sup>
16:40	L.1.4: Hutchins	L.2.4: Vradenburg	L.3.4: Laing	L.4.4: Spivey <sup>^</sup>
17:00	L.1.5: Anthony <sup>^</sup>	L.2.5: Goodman <sup>^</sup>	L.3.5: Devney	L.4.5: Meixell <sup>^</sup>
17:20	L.1.6: Discussion	L.2.6: Discussion	L.3.6: Ringelman	L.4.6: Lavretsky
17:40 - 19:00	<i>Dinner Break (on your own)</i>			
18:30 - 20:00	<b>Special Session: University-based Waterfowl Programs: Past, Present &amp; Foresights</b> (Organizers: Rick Kaminski, Bart Ballard, Warren Conway, Brian Davis, John Eadie, Jake Straub) <b>Drinks and food at 18:30 hosted by Jim Kennedy Endowed Waterfowl Programs - Caucus</b>			
19:00 - 22:00	<b>Poster Session II - Annapolis Ballroom</b>			
19:00 - 22:00	<b>Hospitality by California Waterfowl Association - Parks Place</b>			

FRIDAY, 5 FEBRUARY 2016				
06:30 - 08:10		<i>Breakfast in the Capital Ballroom</i>		
08:10 - 08:20		<b>Opening Remarks &amp; Announcements</b>		
08:20 - 09:40		<b>M.1 Plenary</b>		
8:20	<b>M.1.1 Plenary: Michael Anderson</b> <b>From Coherence to Integration: Challenges of Multiple Scales, Decision Authorities, and Processes</b>			
9:00	<b>M.1.2 Plenary: David Fulton</b> <b>Values Translated into Objectives: Engaging Waterfowl Stakeholders</b>			
09:40 - 10:00		<i>Coffee break</i>		
10:00 - 12:00		<b>N.1 Featured Session: Implementing the 2012 NAWMP Revision: Management Decisions to Integrate Multiple Objectives at Varying Scales</b> (Organizer: Dale D. Humburg)		
10:00 - 10:05	N.1.1: Humburg	<b>Introduction to the Session</b>		
10:05 - 10:20	N.1.2: Runge	<b>Modeling and Managing Linkages across Objectives: Beyond the JTG</b>		
10:20 - 10:35	N.1.3: Vrtiska	<b>Adaptive Harvest Management: Re-examining Harvest Objectives and Approaches</b>		
10:35 - 10:50	N.1.4: Carter	<b>Integrating Human Dimension Considerations into Joint Venture Habitat Delivery</b>		
10:50 - 11:05	N.1.5: Brasher	<b>Focusing Resources on Important Landscapes: A Spatial Framework for Integrating NAWMP Objectives</b>		
11:05 - 11:20	N.1.6: Eadie	<b>Integrated Annual Cycle Models of North American Ducks: Progress, Pitfalls and Prospects</b>		
11:20 - 11:50	N.1.7: Johnson	<b>Multi-Level Learning in Waterfowl Conservation</b>		
11:50 - 12:00	N.1.8: Humburg	<b>Closing Comments: A Challenge to the Technical Community</b>		
12:00 - 13:20		<i>Lunch break</i>		
		<i>Capital ABC</i>	<i>Capital D</i>	<i>Senate</i>
13:20 - 15:20		<b>O.1: Waterfowl &amp; Water 1</b>	<b>O.2: Pride of the Salt Marsh 1</b>	<b>O.3: Winter Ecology</b>
		<b>O.4: Foraging Ecology</b>		
13:20	O.1.1: Petrie	O.2.1: Serie	O.3.1: Collins	O.4.1: Vanderhorst <sup>^</sup>
13:40	O.1.2: Zarzycki <sup>^</sup>	O.2.2: Sauer	O.3.2: Lancaster1 <sup>^</sup>	O.4.2: Behney
14:00	O.1.3: Yarris	O.2.3: Conroy	O.3.3: Williams	O.4.3: DuBour <sup>^</sup>
14:20	O.1.4: Brasher	O.2.4: Robinson	O.3.4: Askren <sup>^</sup>	O.4.4: Marty <sup>^</sup>
14:40	O.1.5: Vest	O.2.5: Devers	O.3.5: Kennedy <sup>^</sup>	O.4.5: Drahota
15:00	O.1.6: James	O.2.6: Darveau	O.3.6: Raquel <sup>^</sup>	O.4.5: Von Bank <sup>^</sup>
15:20 - 15:40		<i>Coffee break</i>		
15:40 - 17:40		<b>P.1: Waterfowl &amp; Water 2</b>	<b>P.2: Pride of the Salt Marsh 2</b>	<b>P.3: Miscellany</b>
				<b>P.4: Energetics</b>
15:40	P.1.1: Dugger	P.2.1: Coluccy	P.3.1: Ross, B.	P.4.1: Mini <sup>^</sup>
16:00	P.1.2: Fleming, S.	P.2.2: Peck	P.3.2: Moon	P.4.2: Garrick, M. <sup>^</sup>
16:20	P.1.3: Eadie	P.2.3: English <sup>^</sup>	P.3.3: Lancaster2 <sup>^</sup>	P.4.3: McClain
16:40	P.1.4: Smith	P.2.4: Ringelman	P.3.4: Minor <sup>^</sup>	P.4.4: Boyd
17:00	P.1.5: Overton <sup>^</sup>	P.2.5: Jones	P.3.5: Pokley <sup>^</sup>	P.4.5: Fino <sup>^</sup>
17:20	P.1.6: Symmank	P.2.6: Discussion	P.3.6: Martorelli <sup>^</sup>	P.4.6: Henson
17:40 - 19:00		<i>Break before banquet</i>		
19:00 - 22:00		<b>BANQUET &amp; AWARDS DINNER</b>		

\*Speaker; <sup>^</sup>Student