

BIOL 427: Registration update

- We are limited by lab space (and lecture space)
- The course is presently full (20 per lab section).
- If you are on the wait list, getting in will depend on someone dropping.
- If you are not yet on the wait list, unfortunately it looks unlikely there will be room for you in the course. (I hope you are able to take it next year.)

*Lab this week is outside, so not limited by space
(so you can come if you are on the wait list).*

Binoculars

If enrolled in the course, you may borrow a binocular for the term.

- You must return it in good shape or pay \$200 replacement cost.

For the 7 or so of you who have a class at 10am, pick up today right after lecture.

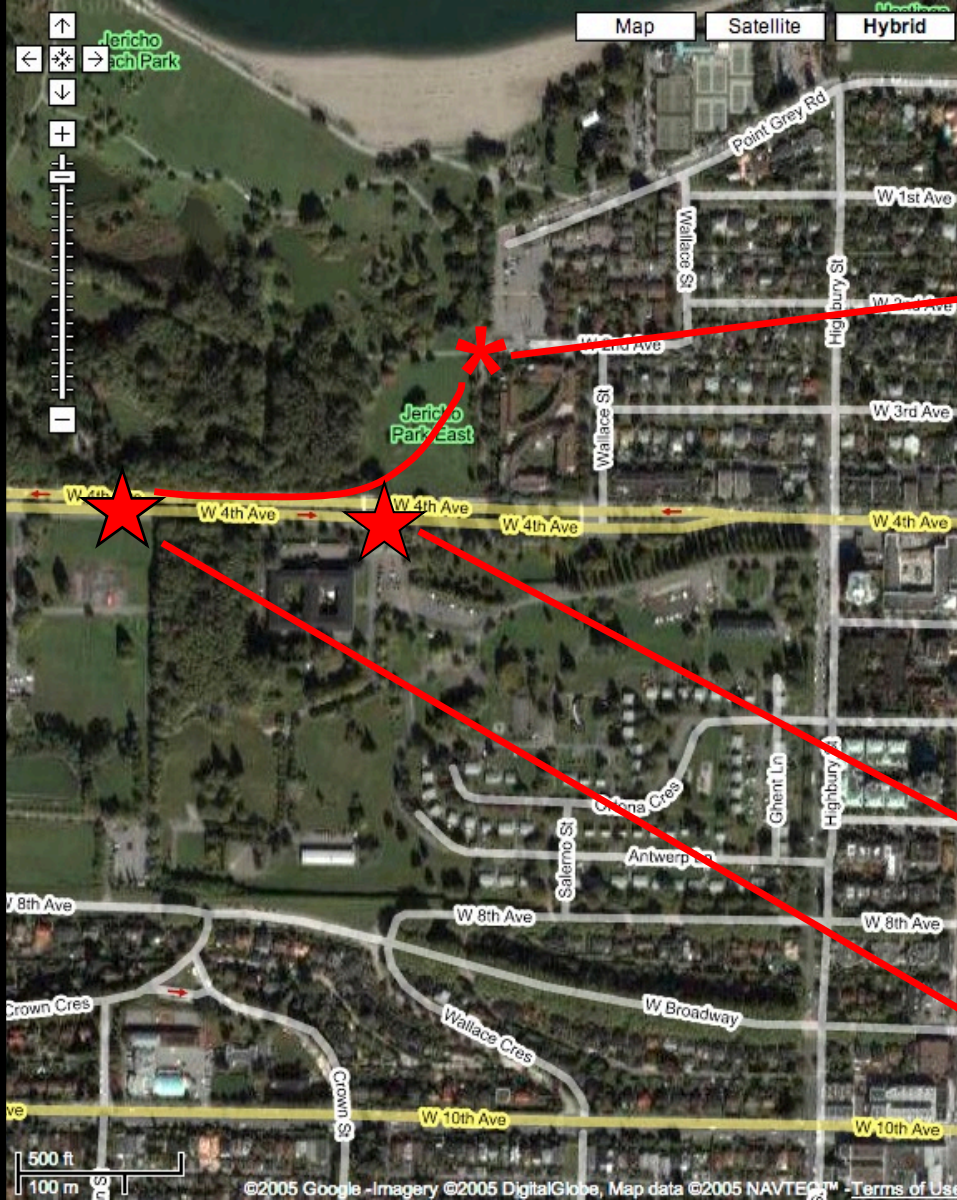
For the rest of you, after lecture follow Claudie over to the Biodiv building to pick them up.

Lab this week: birding at Jericho (not required)

- Dress for the weather. Bring your bird books, binoculars, and notebooks. This is where to meet and how to get there:
 - **Meet at the SW corner of the Jericho parking lot (the east one, near the duck ponds) at 2:45pm Monday or 3:45pm Tuesday.**
 - You can get there by riding Bus #84, leaving UBC Exchange Bay 2 every 15 minutes, getting off at “EB W 4th Ave @ 4100 Block” 10 minutes later; then walk NE for about 5 minutes.
 - Or: Bus #4, leaving UBC (University Blvd.) every 15 min, getting off at “EB W 4th Ave @ Dieppe Lane” 11 min. later; then cross street and walk across field.
 - If riding a bus, remember to bring your U-pass or bus fare.
- Done at Jericho after about 1.75 hours, so you can be back on campus within the 3-hour block.

Bus 84 or 4 (run every 15 min.)





Lab trip to Jericho

(this week, Monday or Tuesday)

- Meet at this corner of the Jericho parking lot (the east one, near the duck ponds) at 2:45pm Monday or 3:45pm Tuesday

- Bring your notebook, bird book, binocular

- Rain or shine! (dress appropriately for weather)

“EB W 4th Ave @ Dieppe Lane” stop of Bus 4

“EB W 4th Ave @ 4100 Block” stop of Bus 84



Our route
(approx.)

End

(old route in orange)

*
Start

The schedule below is tentative. **Some adjustments are likely to be needed during the term**, due to the changing pandemic situation or other reasons. We will inform you of any important changes.

Lecture schedule (M & W 9-9:50am)

<u>Date</u>	<u>Topic</u>	<u>Lab topics for the week</u>
Wed. Sept. 7	Introduction to course; Tetrapod biodiversity and its importance	
Mon. Sept. 12	Introduction to bird identification (1)	Field trip: observing birds
Wed. Sept. 14	Introduction to bird identification (2)	
Mon. Sept. 19	Taxonomic methods; Evolution of tetrapods	Lab intro and ID 1
Wed. Sept. 21	Introduction to the field project: Survey methods	
Mon. Sept. 26	Origin of tetrapods, amphibians, and amniotes	ID 2
Wed. Sept. 28	Early bird evolution	
Mon. Oct. 3	Bird diversity and adaptations	ID 3
Wed. Oct. 5	Species, speciation, and biogeography of BC	
Mon. Oct. 10	<i>No class (Thanksgiving)</i>	<i>No labs this week</i>
Wed. Oct. 12	Analytical methods for the field project	
Mon. Oct. 17	Mating systems and sexual selection	Lab quiz
Wed. Oct. 19	Ildiko Szabo: Bird anatomy and specimen preparation	
Mon. Oct. 24	Vocal communication in birds	Wing specimen preparation
Wed. Oct. 26	Visual communication in birds	
Mon. Oct. 31	Bird migration and orientation	ID 4
Wed. Nov. 2	Bird migration and orientation (2)	
Mon. Nov. 7	lecture exam	ID 5
Wed. Nov. 10	<i>No class (mid-term break)</i>	

Introduction to Birding

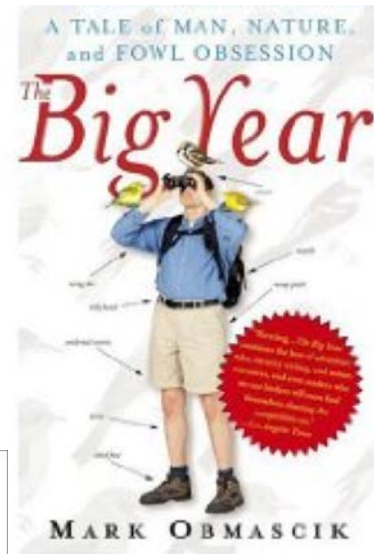
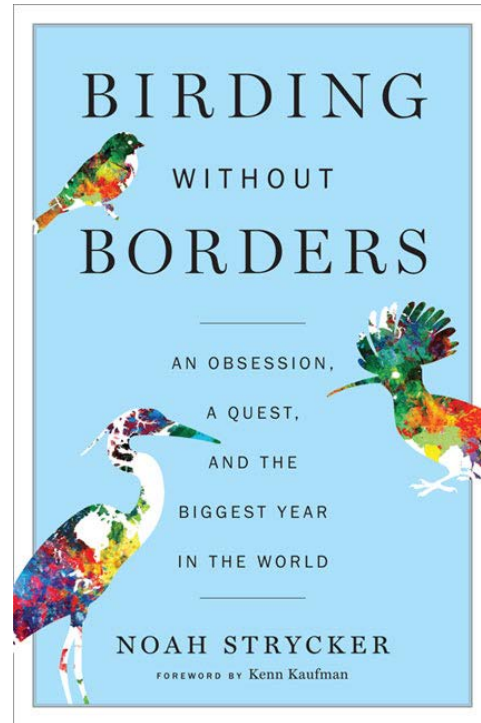
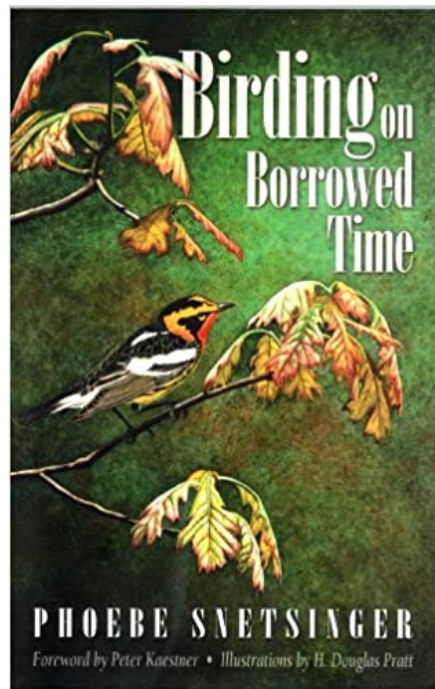
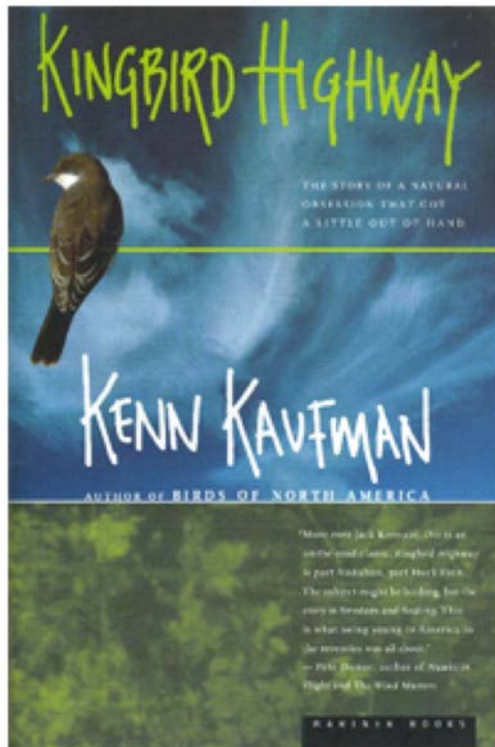


Photos: D. Irwin

Types of “birding”

- Watching backyard bird feeders
- Learning local birds in neighborhood
- “Birdwatching”—becoming interested / aware of behaviors
- Birding—keeping list of all species seen (and location, date)
- Competitive birding
- Photographic birding
- Biodiversity surveys (usually for conservation reasons)
- Research on specific species

Easy to begin; a lifetime to master!





ABA Area big year rankings [\[edit \]](#)

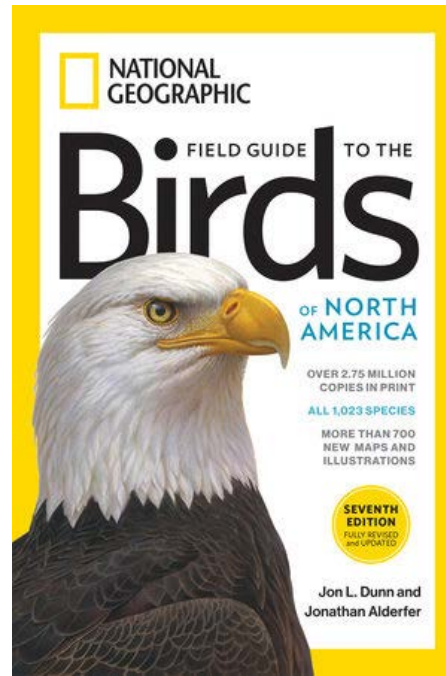
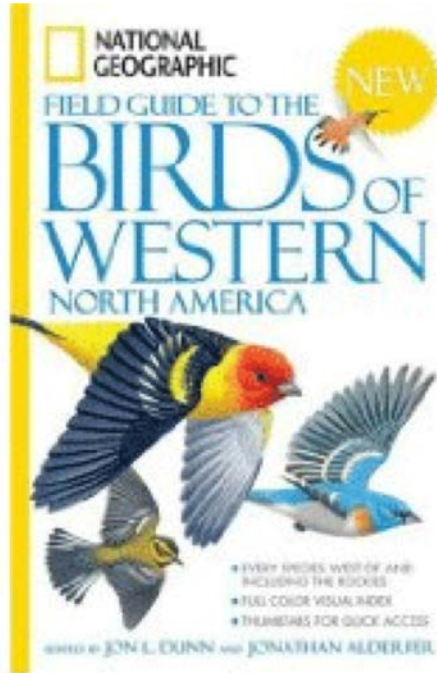
The ABA Area includes Canada, the 50 US states including Hawaii, the French islands of [St. Pierre et Miquelon](#) off Canada, and adjacent waters out to 200 nautical miles.

Rank	Name	Species count	Year
1	John Weigel	840	2019
2	John Weigel	836	2016
3	Nicole Koeltzow	830	2018
4	Olaf Danielson	829	2016
5	Charlie Bostwick	821	2021
6	Yve Morrell	816	2017
7	Laura Keene	815	2016
7	Ruben Stoll	815	2017
7	Victor Stoll	815	2017
10	Amanda Damin	795	2019
11	David McQuade	788	2019
11	Tammy McQuade	788	2019
13	David McQuade	764 (+1)	2022
13	Tammy McQuade	764 (+1)	2022
15	Gaylee Dean	763	2019
15	Richard Dean	763	2019

Birding gear

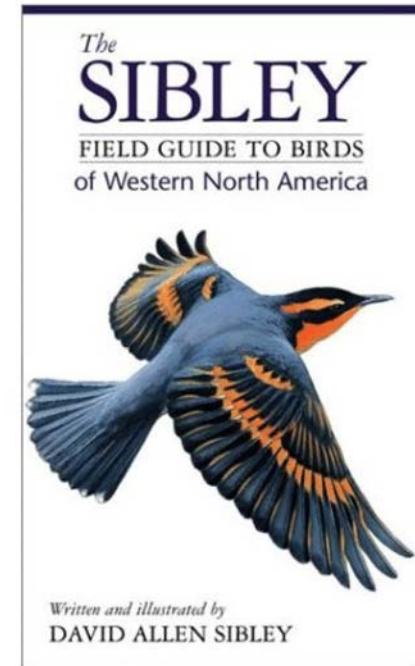
(from most important to least)

- Your brain (perception, analysis, memory)
- Your ears
- Your eyes
- Notebook / sketchbook
- A good bird book
- Warm clothes / good footwear
- Binoculars
- Knowledgeable friend
- Camera / Microphone and sound-recording device
- Spotting scope
- Map
- smartphone for ID help (e.g. “Merlin” app), or for playing sound

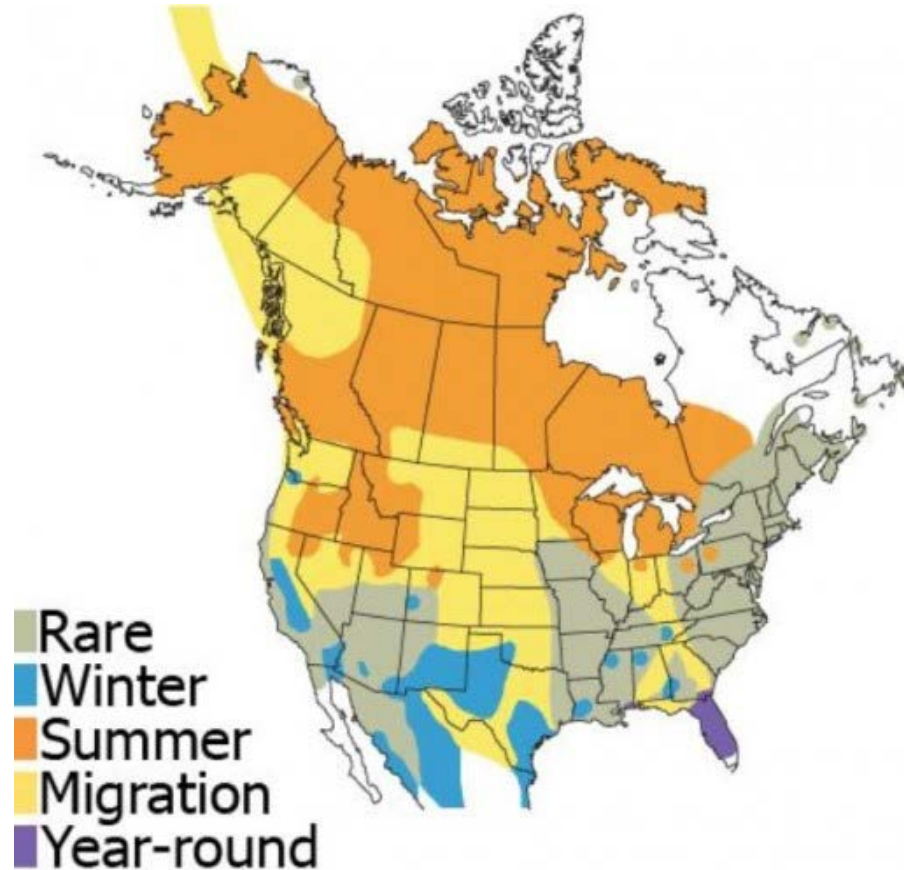


*Whatever book you have,
get to know it well!*

*The first challenge is
knowing where to look
in the book*



Pay attention to range maps



Sandhill Crane Range Map (Sibley Guide to Birds)

To identify birds, we use:

- Sight:
 - Shape and size (i.e. “GISS”)
 - Posture
 - Flight pattern
 - Color patterns
- Sound:
 - Songs
 - Calls
 - Wing sounds
- Habitat
- Location
- Time of day / year

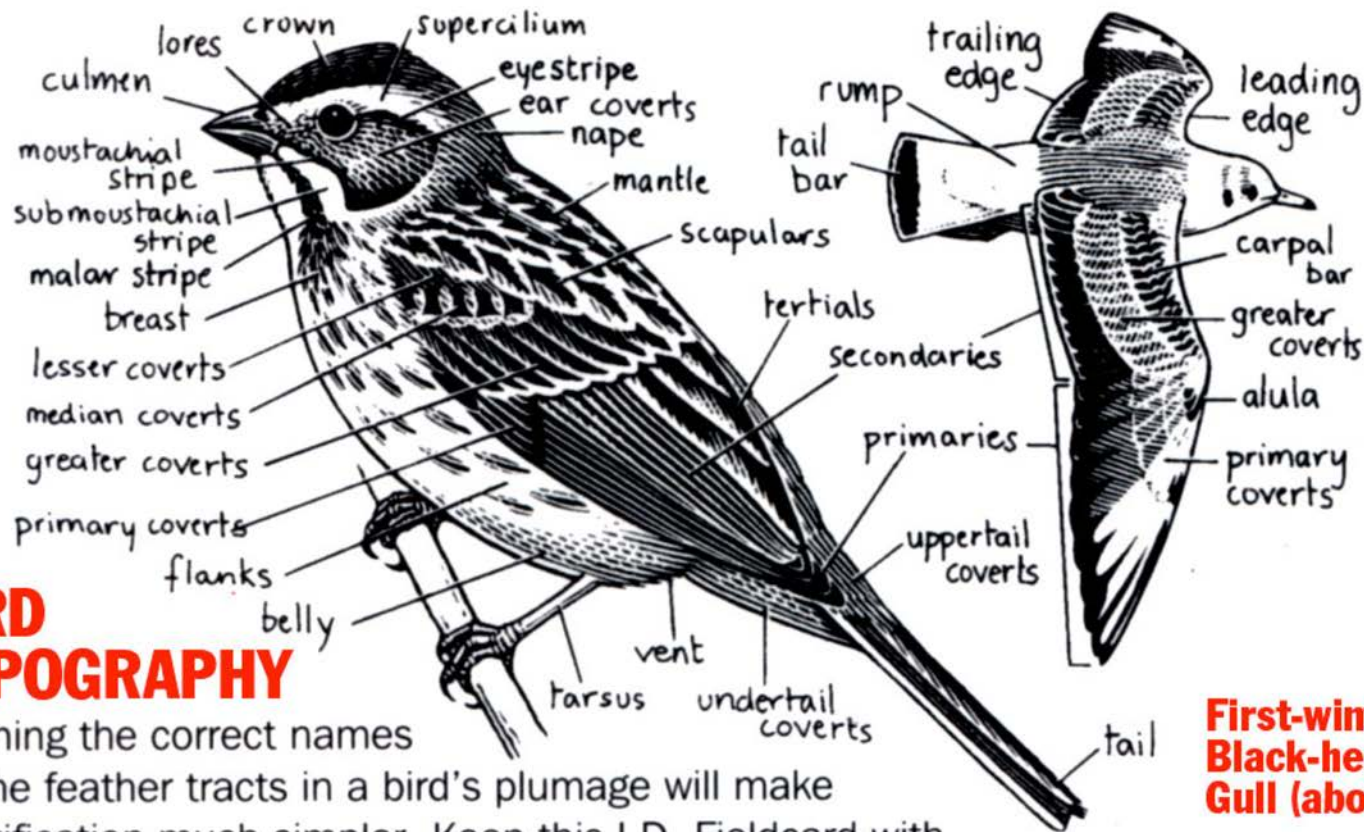
*First, try to get a
rough idea of the
general type of bird.
Then try to identify
the exact species.*



Feathers allow a wide
variety of colors



del Hoyo *et al.* (1992) *Handbook of the Birds of the
World*, Vol. 1. Lynx Edicions



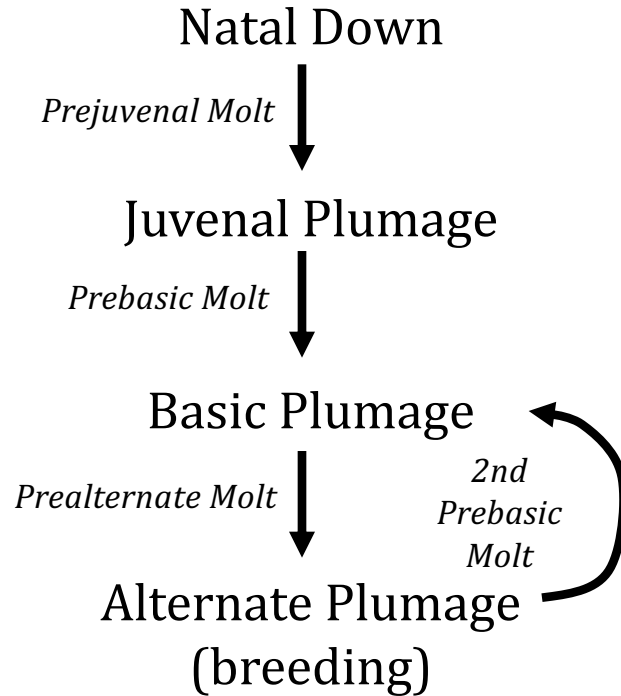
BIRD TOPOGRAPHY

Learning the correct names for the feather tracts in a bird's plumage will make identification much simpler. Keep this I.D. Fieldcard with you at all times when birdwatching and use it to assist in describing and identifying unfamiliar or rare birds (see overleaf).

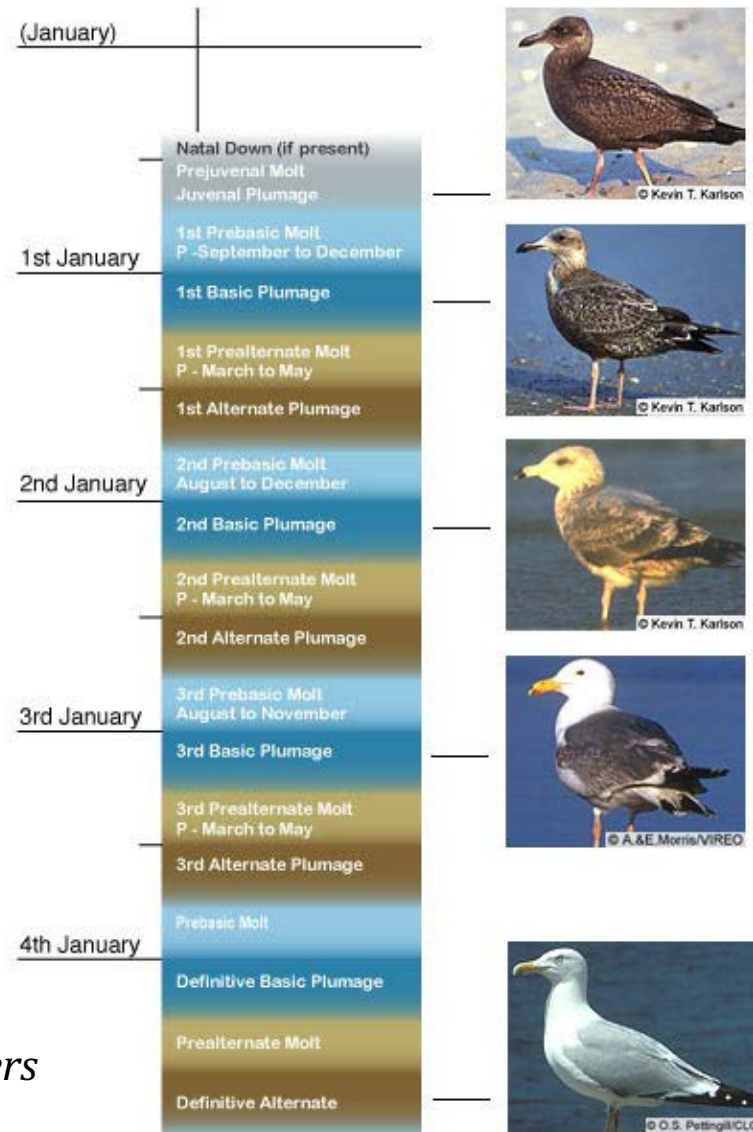
**First-winter
Black-headed
Gull (above).**

**Female Reed
Bunting (left).**

Molt



*Some molts are **complete**, whereas others are not. This helps us age birds.*



Getting close to birds

- Dress in drab clothing
- Walk slowly and quietly
- Sit quietly
- Bird blinds
- Use binoculars / spotting scopes
- Feeders
- “Pishing”
- More intrusive techniques (use only with wise ethical awareness):
 - Immitate a predator (e.g. screech owl) to cause mobbing
 - Song / call playback to simulate a territorial intruder
 - (Never do these to an endangered species, or in an area where you will disturb or attract other birders).

Vancouver is a great place for year-round birding



Biological Flyways, Credit: Michael A Johnson, North Dakota Game and Fish
<http://www.fws.gov/migratorybirds/NewReportsPublications/flyways.html>



Major groups of birds in BC

(a quick introduction, focusing on major “groups” of birds by appearance; you will learn much more detail in labs during the term)

Ducks, Geese, Swans

Anseriformes: Anatidae



Photos from Wikipedia

Other swimming birds

Podicipediformes; Gaviiformes;
Suliformes: Phalacrocoracidae;
Gruiformes: Rallidae; Charadriiformes: Alcidae



Photos from Wikipedia

“Chicken-like” birds

Galliformes



Photos: Wikipedia and Michelle Lamberson

Pigeons

Columbiformes



Photos: Wikipedia

Swifts

Apodiformes: Apodidae



Photo: Peter LaTourrette

Hummingbirds

Apodiformes: Trochilidae

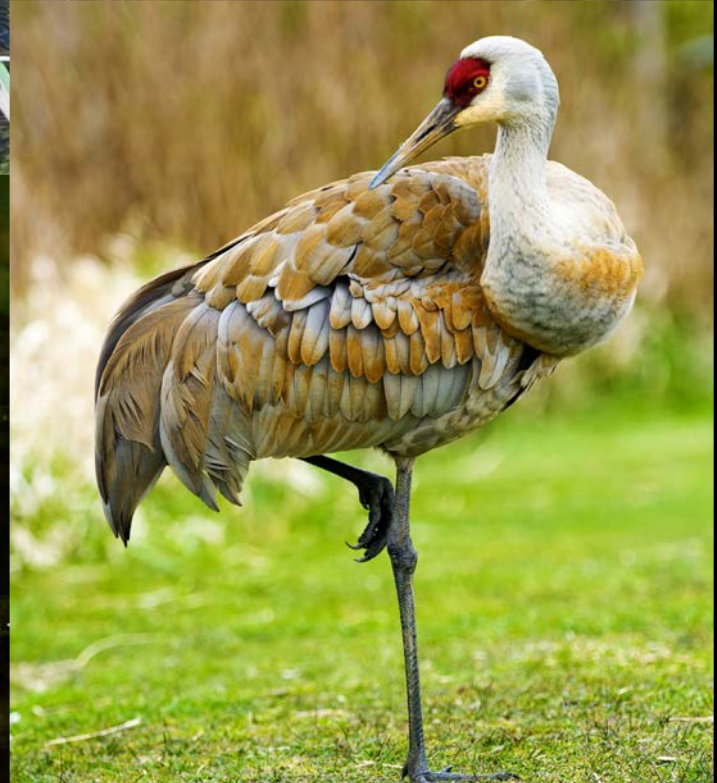


Photos: Michelle Lamberson

“Wading birds”

Gruiformes: Rallidae, Gruidae:

Pelecaniformes: Ardeidae;



Photos: Michelle Lamberson and Wikipedia

Shorebirds

Charadriiformes: Charadriidae, Scolopacidae



Photos: Michelle Lamberson

Aerial waterbirds

Charadriiformes: Laridae;

Procellariiformes: Procellariidae



Photos from Wikipedia

Diurnal Raptors (and Vultures)

(vultures, osprey, hawks, eagles, falcons)

Cathartiformes;

Accipitriformes: Pandionidae, Accipitridae;

Falconiformes



Photos from Wikipedia

Nocturnal raptors (owls) and nighthawks

Strigiformes; Caprimulgiformes



Photos: Wikipedia and Bill Schmoker

Kingfishers

Coraciiformes: Alcedinidae



Photos: Michelle Lamberson

Woodpeckers

Piciformes



Photos: Michelle Lamberson and Wikipedia

Passeriformes (“perching birds”)

- Suboscines
- Oscines (“true songbirds”)

Tyrant Flycatchers (a group of suboscines)

Tyrannidae



Photos: Wikipedia

Passeriformes (“perching birds”)

- Suboscines

- **Oscines** (“true songbirds”)

Shrikes

Laniidae



Photos: Michelle Lamberson

Vireos

Vireonidae



Photos: Wikipedia

Corvids (jays, crows, etc.)

Corvidae



Photos: Michelle Lamberson and Wikipedia

Larks

Alaudidae



Photos: Wikipedia

Swallows

Hirundinidae



Photos: Michelle Lamberson

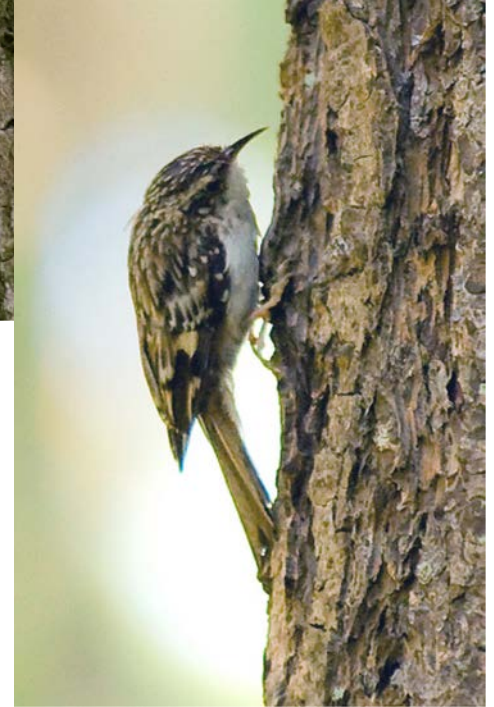
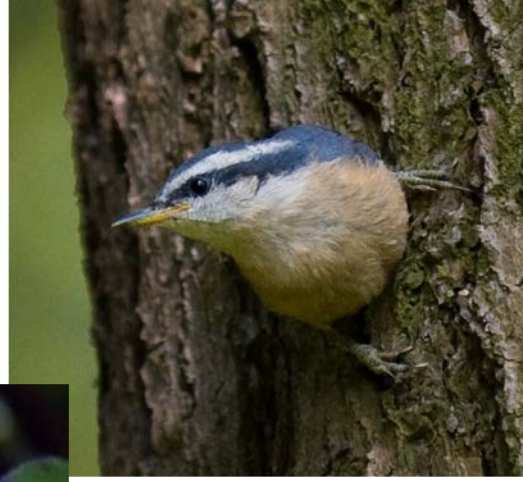
Chickadees, bushtits, nuthatches, creepers

Paridae

Aegithalidae

Sittidae

Certhiidae



Photos: Michelle Lamberson

Wrens

Troglodytidae



Photos: Michelle Lamberson

Dipper

Cinclidae



Photos: Wikipedia

Kinglets

Regulidae



Wood-Warblers

Parulidae



Photos: Michelle Lamberson

Thrushes

Turdidae



Photos: Michelle Lamberson

Pipits

Motacillidae



Starlings

Sturnidae



Photos: Wikipedia

Waxwings

Bombycillidae

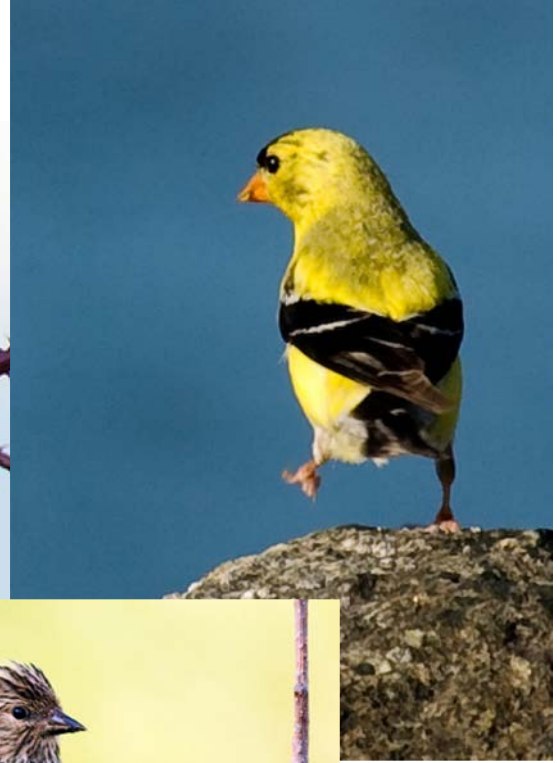


CEDAR WAXWING *Bombycilla cedrorum*

Photos: Michelle Lamberson

Finches

Fringillidae



Photos: Michelle Lamberson

Sparrows

Passerellidae



Photos: Michelle Lamberson and Wikipedia

Eurasian Sparrows

Passeridae



Photos: Michelle Lamberson

Tanagers and Grosbeaks (some of them)

Cardinalidae



Photo: Wikipedia



Photo: Michelle Lamberson

Icterids (orioles, meadowlarks, blackbirds, cowbirds)

Icteridae



Photos: Michelle Lamberson and Jim Huddle

That was just an intro to the
major groups of birds

You will learn details of each species in
the lab sessions and through individual
study and observation.