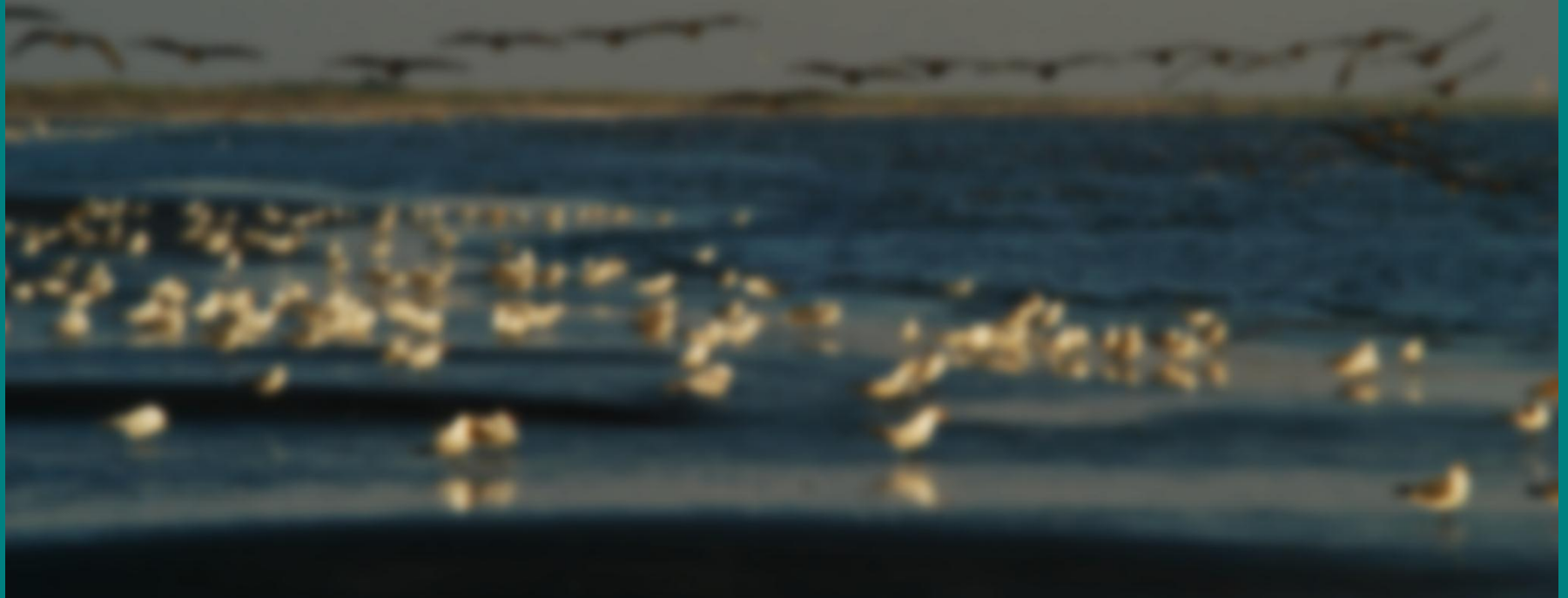


Audubon Coastal Bird Survey: Aging Common Waterbirds



Audubon

Why Age Birds?

- Ratio of juvenile : adult across a broad area can provide an index of regional reproductive success

Breeding season counts of waterbirds at nesting rookeries can provide useful population size estimates, but it can be difficult to determine reproductive success

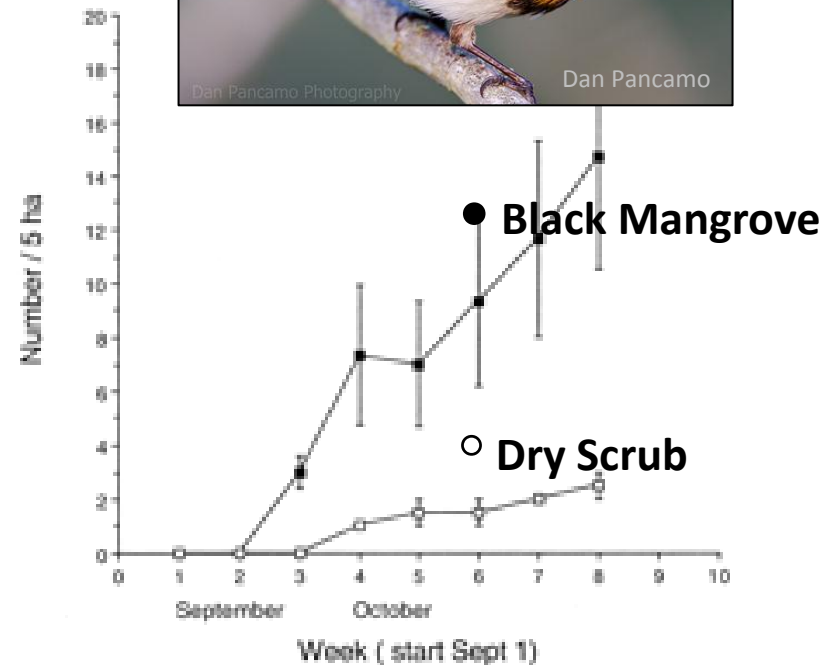
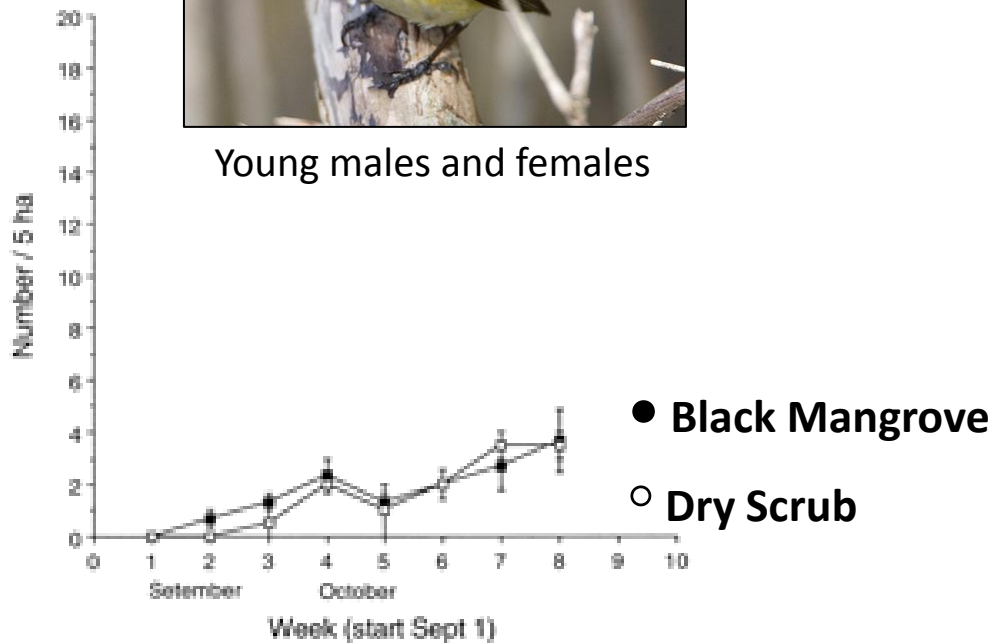


Why Age Birds?

- Understand age-specific use of habitats



Young males and females



ACBS Targets

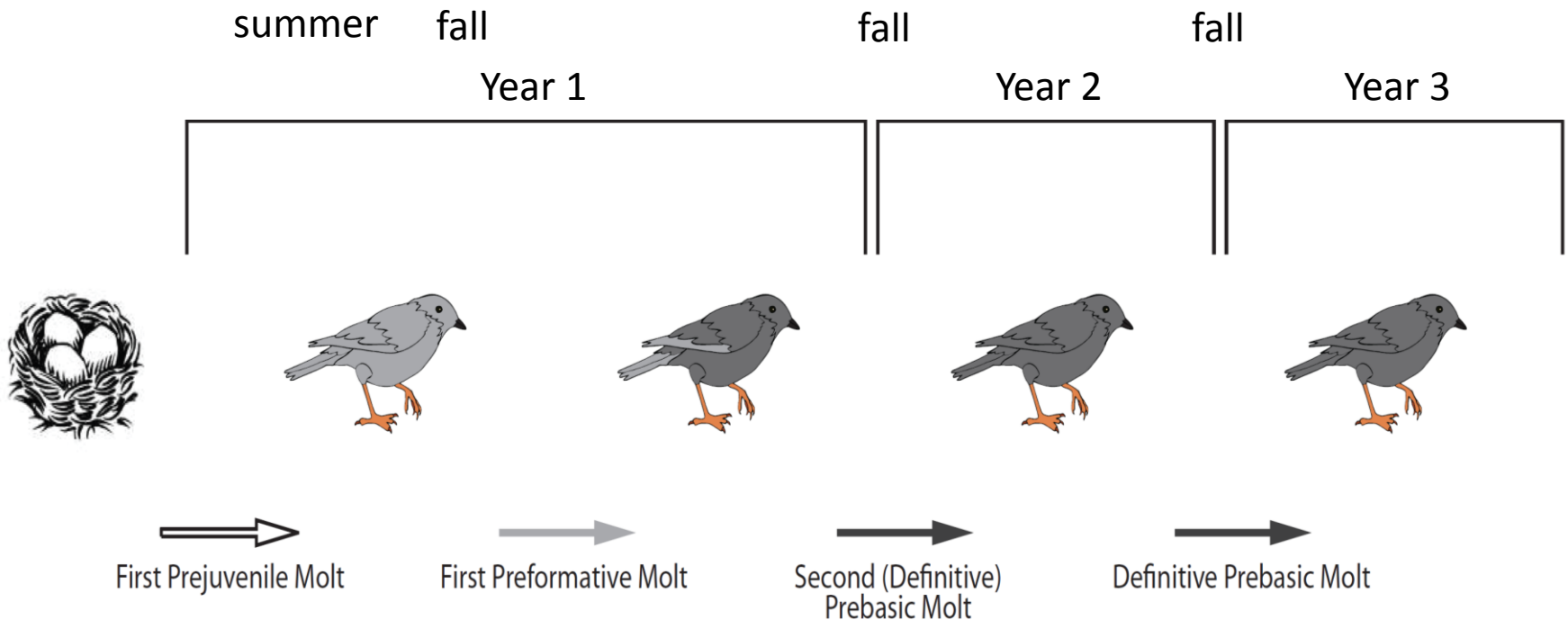
- Report ages of 5 target species
 - Brown Pelican
 - Black Skimmer
 - Laughing Gull
 - Reddish Egret
 - Sanderling
- Only during fall period of ACBS

How Birds Grow Up

- Size is not useful for aging birds.
 - Birds reach their adult size just as they are becoming independent of their parents.
 - For songbirds, this means a couple weeks after leaving the nest (about 1 month old).
 - For shorebirds and waterbirds, this means at about 1-2 months old.
- Use plumage features to successfully age birds

Plumage-based Aging

- Each species process through a predictable sequence of plumages as it ages.
- Feathers are replaced 1-3 (rarely 4) times each year by a process called “molt.”



Awkward Juveniles

- Young quickly replace their natal down with feathers.
 - Called the “juvenile” plumage.
 - The juvenile plumage is typically distinct in pattern from all subsequent plumages.



Downy young



Juvenile Plumage

Leaving Juvenile Plumage

- In late summer, fall, or winter (depending on the species), part or all of the juvenile plumage will be replaced with a “1st winter” plumage.
 - This often looks very much like an adult bird in winter plumage.



Juvenile Plumage

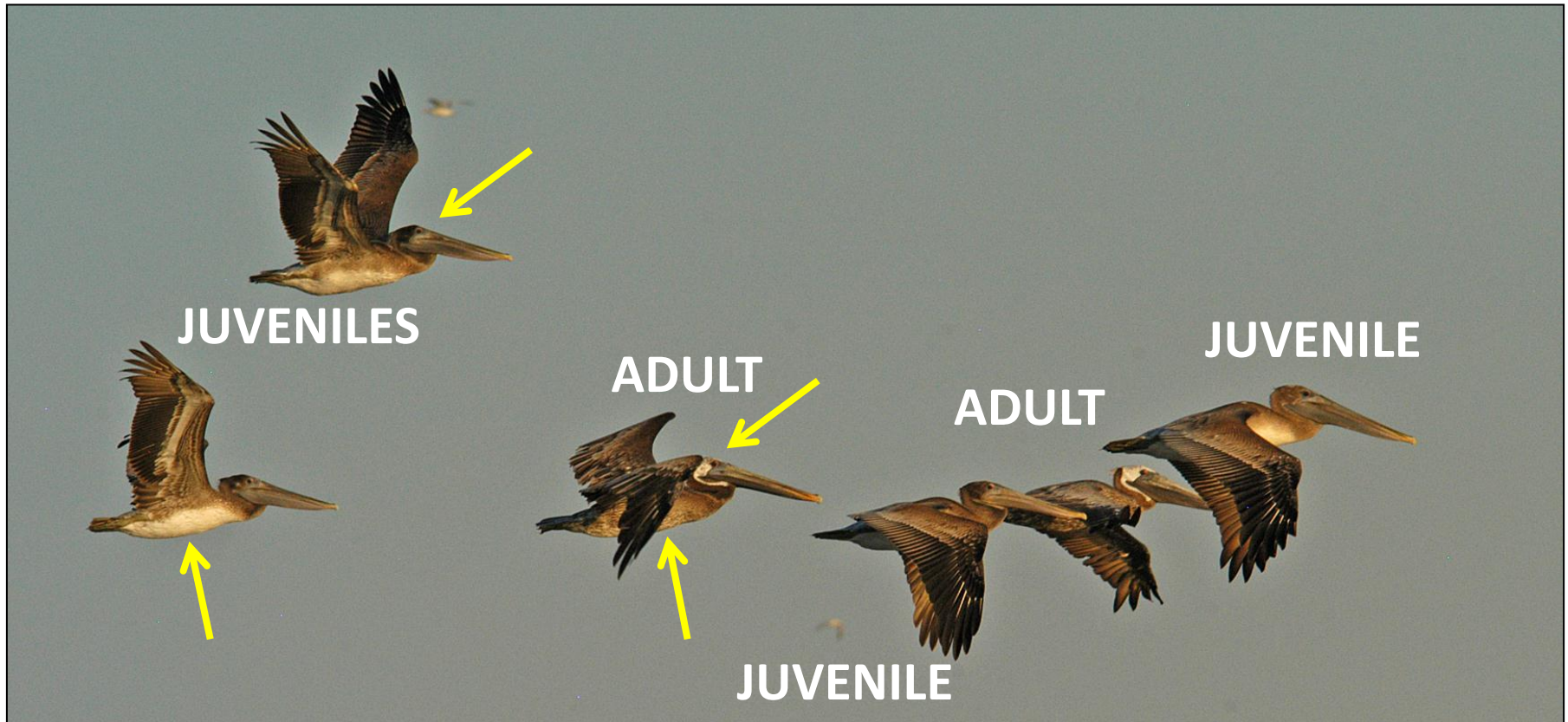


Formative or “1st winter” Plumage

What is an “Immature”?

- It can refer to one or more plumages between the juvenile and “adult” or “definitive” plumage.
 - Interchangeable with “sub-adult”;
 - Some field guides incorrectly use this as synonymous with “juvenile”.
- It is not a useful term for understanding plumage-based bird ages.
- Yet, eBird uses it. I’ll get back to this later.

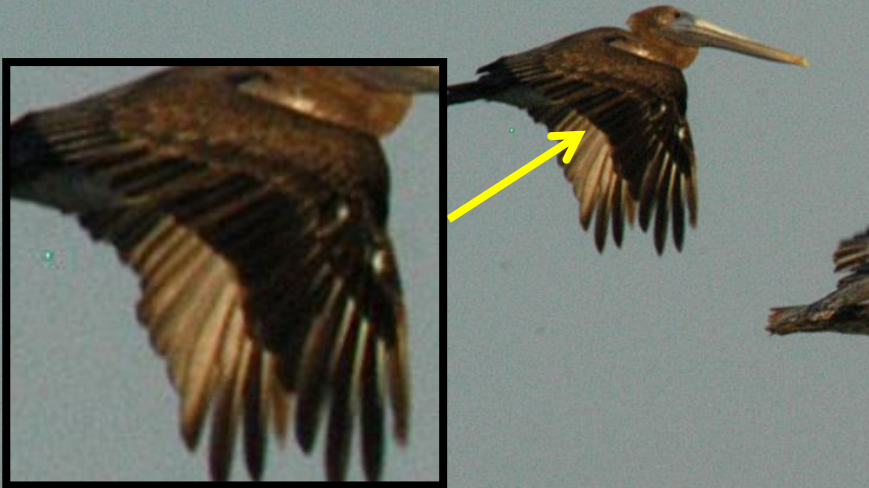
Brown Pelican



Juveniles (1st fall) nearly identical to 2nd fall birds, except that 2nd fall birds will be molting flight feathers. Both have brown heads, with little to no white.

Brown Pelican

IMMATURE (2nd fall)



Juveniles (1st fall) are nearly identical to 2nd fall birds.

Except, 2nd fall birds will be molting or have a mix of light and dark brown flight feathers.

Both have brown heads, with little to no white.

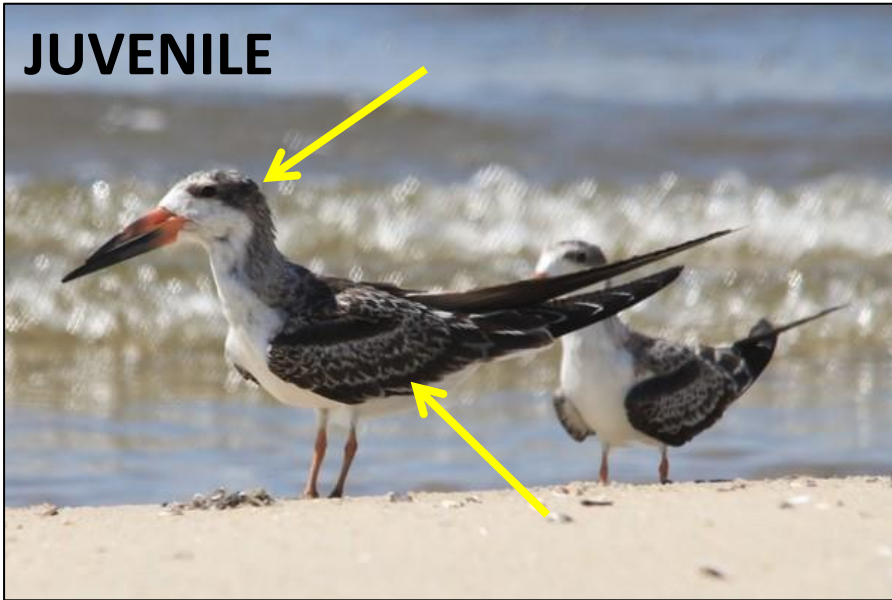
For our purposes, call both “juvenile” unless you can determine molt status



JUVENILE (1st fall)

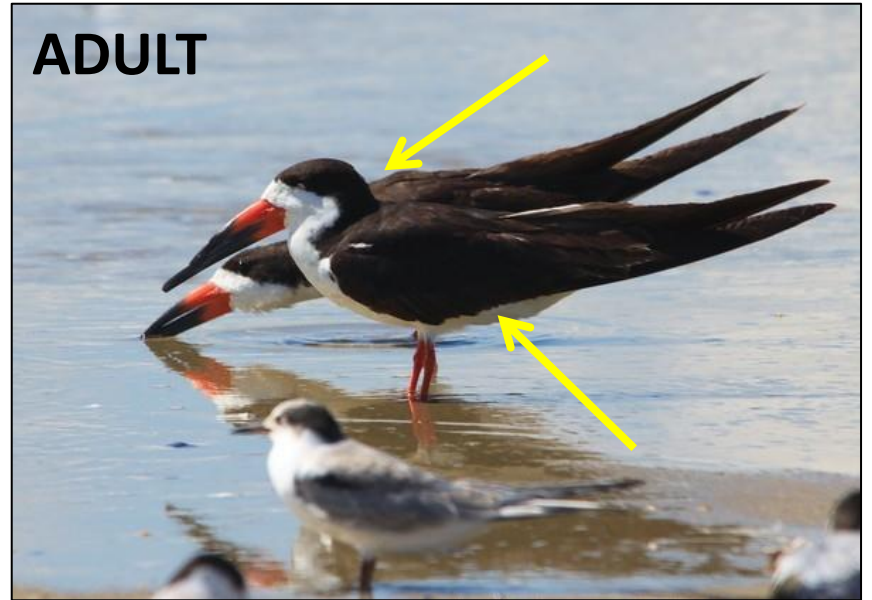
Black Skimmer

JUVENILE



Does not molt wing flight feathers in fall

ADULT

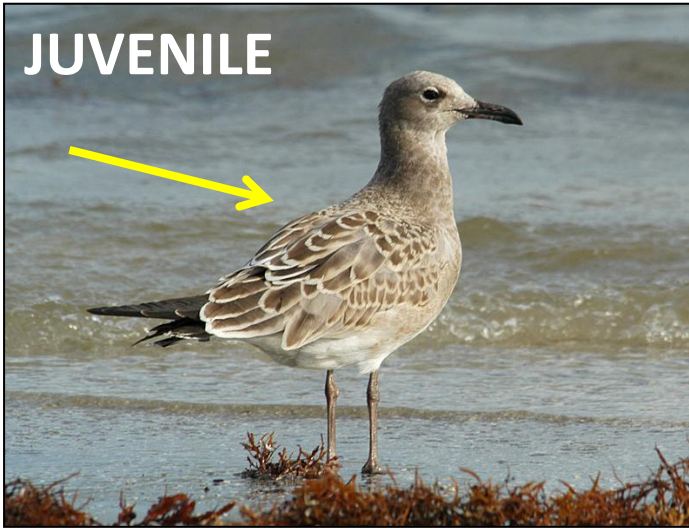


May or may not molt wing flight feathers in fall – if a **bird is molting flight feathers, it has to be an adult**

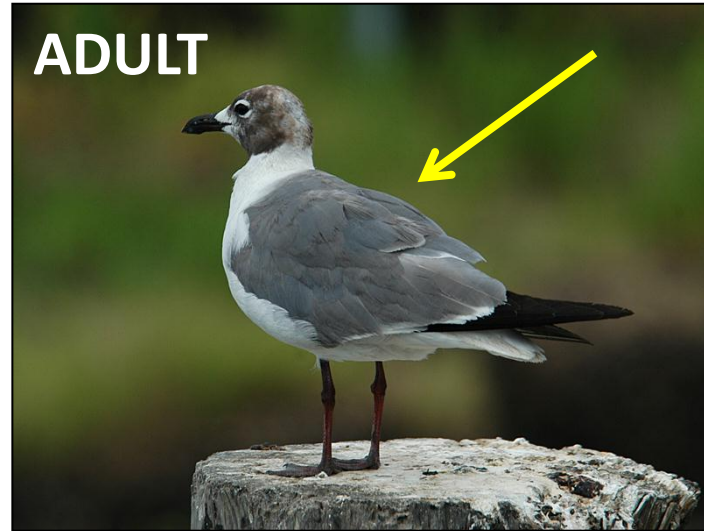


Laughing Gull

JUVENILE



ADULT



Does not molt wing flight feathers
in fall



May or may not molt wing flight feathers
in fall – if a **bird is
molting flight
feathers, it has to
be an adult**



Pelicans, Terns, and Gulls – just FYI

Juvenile (1st fall)



2nd Fall (immature)



3rd Fall



After 3rd Fall (adult)



“Micro-aging” gulls, terns, pelicans, and some other waterbirds is possible through the 3rd or 4th year of life, but requires a detailed examination of flight feathers. The amount of black in the head is not a particularly useful indicator, even it looks like it here.

**-- DON'T WORRY
ABOUT MICRO-AGING
FOR ACBS! --**

→ ADULT

Reddish Egret (dark morph)

JUVENILE

December



JUVENILE

September



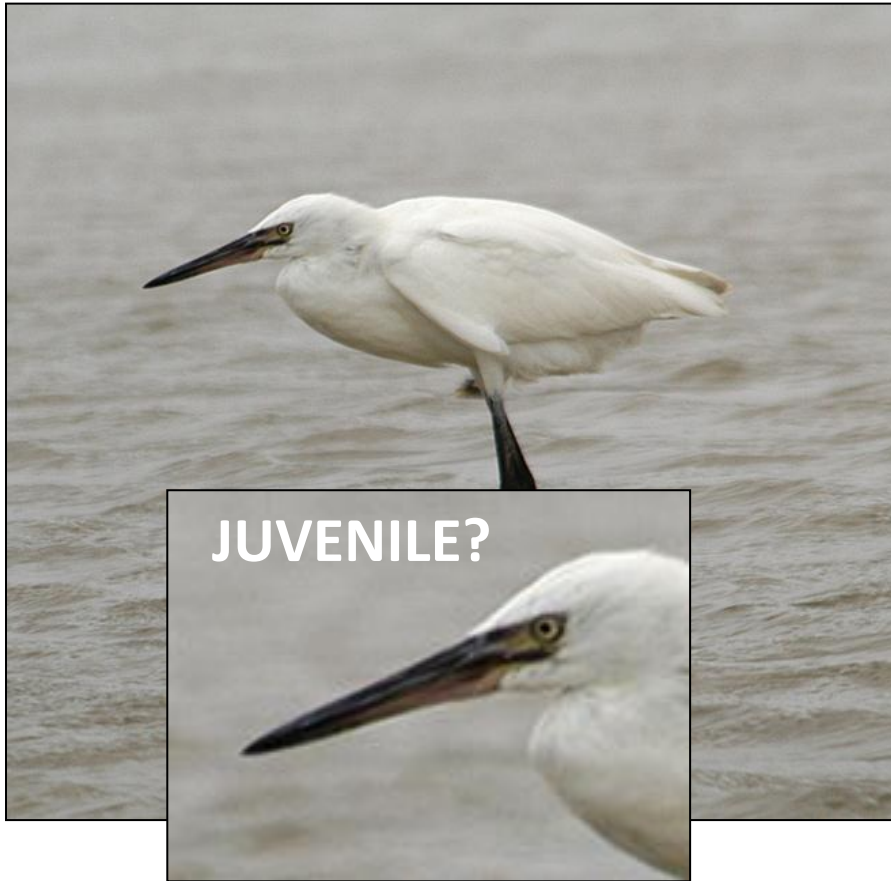
ADULT



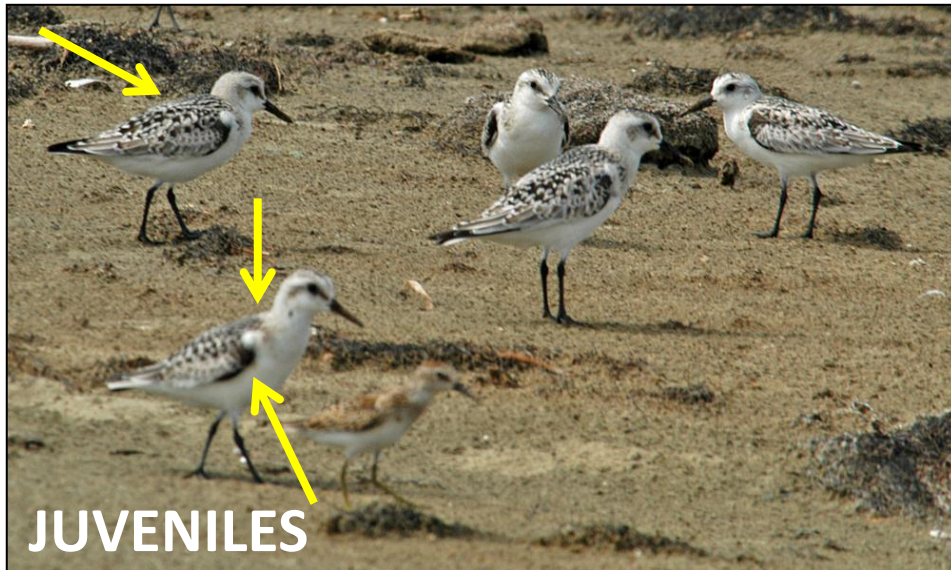
In fall, bill often does not have a pink base in adults or juveniles

Reddish Egret (white morph)

Probably best to leave white morph birds as “age unknown”



Sanderling



Juveniles are distinct with black “shoulder”, spangled back and middle of crown, and often buffy collars

Adults can be variable, which is age and sex related, but always lack black wrist.



Data Entry: eBird

The screenshot displays the eBird data entry interface. On the left, a list of bird species is shown, with counts in yellow boxes. The 'Least Sandpiper' entry is highlighted with an orange box around its 'Add Details' button. The species list includes: Greater/Lesser Yellowlegs, Upland Sandpiper, Whimbrel, Long-billed Curlew, Marbled Godwit, Ruddy Turnstone (20), Red Knot, Sanderling (220), Semipalmated Sandpiper, Western Sandpiper, Least Sandpiper (60), Baird's Sandpiper, peep sp., Pectoral Sandpiper, Dunlin, Stilt Sandpiper, Buff-breasted Sandpiper, Short-billed Dowitcher (1), Long-billed Dowitcher, Short-billed/Long-billed Dowitcher, Wilson's Snipe, Wilson's Phalarope, shorebird sp., and Laughing Gull (136).

The right sidebar contains a search bar labeled 'Jump to Species...', a '+ Add Species' button, a 'Top' button, and filter options: 'Show Rarities' (unchecked), 'Show Subspecies' (checked), and 'Group by Most Likely' (unchecked). Below these are 'Shortcuts' and 'Preferences' icons. At the bottom of the sidebar, a question asks 'Are you submitting a complete checklist of the birds you were able to identify?' with 'Yes' (selected), 'No', and '?' radio buttons. A 'Save' button is at the bottom right.

Data Entry: eBird

20 Ruddy Turnstone					Delete
220 Sanderling					Delete
Age & Sex	Juvenile	Immature	Adult	Age Unknown	
Male					
Female					
Sex Unknown	70		120	30	
60 Least Sandpiper					Delete
1 Short-billed Dowitcher					Delete
136 Laughing Gull					Delete
Age & Sex	Juvenile	Immature	Adult	Age Unknown	
Male					
Female					
Sex Unknown	1		125	10	
3 Ring-billed Gull					Delete
Age & Sex	Juvenile	Immature	Adult	Age Unknown	
Male					
Female					
Sex Unknown			3		

A first priority with ACBS is to identify and count birds – aging birds adds value to surveys, but we recognize the challenges in doing this. If you cannot age a bird because it is not seen well, this is fine. This page is an example of a recent ACBS survey done by an experienced Audubon bird biologist.