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SHOREBIRD PLUMAGES

► Teaching Points

- 3 plumages – what do they look like
- Wear & Molt – what do they look like
- Brown Vs “frosty” – what does it look like

MODERN BIRDING

- Field guides – the great invention of (primarily) Roger Tory Peterson in the 1930s.
- Mostly plumage-based – “field marks”
- Modern birding – Structure + Plumage
 - More emphasis on **shape**
 - GISS
 - Structure
 - Relative Size
 - Plumage

PLUMAGE

- ▶ *“It is nearly impossible to come up with a set of plumage-based “field marks” that always work.”*
 - ▶ Obrien, Crossley, Karlson
- ▶ Plumage “Topography” – “map” of the feather groups
- ▶ Plumage Variation
 - ▶ Molt
 - ▶ Wear
 - ▶ Age
- ▶ Try to determine:
 - ▶ What plumage am I looking at?
 - ▶ What feather group am I looking at?

SHOREBIRD “TOPOGRAPHY”

FEATHER GROUPS

VARIATION IN PLUMAGE

- ▶ Differences can be subtle, but sometimes dramatic

- ▶ **Age variation**

- ▶ Chick
 - ▶ Juvenile
 - ▶ Adult

- ▶ **Seasonal variations**

- ▶ Fall Transition
 - ▶ **Basic** (winter, non-breeding)
 - ▶ Spring Transition
 - ▶ **Alternate** (summer, breeding)

- ▶ **Gender variation** – Only in a few species

- ▶ **Geographic variation** – Subspecies

- ▶ **Individual variation**

- ▶ **Wear & Molt**

- ▶ **Wear** –important in aging shorebirds
 - ▶ **Molt**
 - ▶ Protracted in shorebirds
 - ▶ Individuals molt at different times
 - ▶ Species molt using different “strategies”



Photos by Jeffrey E. Patterson



**Plumage
differences
are glaring**



Secondaries

(white)

Tertiaries

Scapulars

Mantle

(white)

Tail

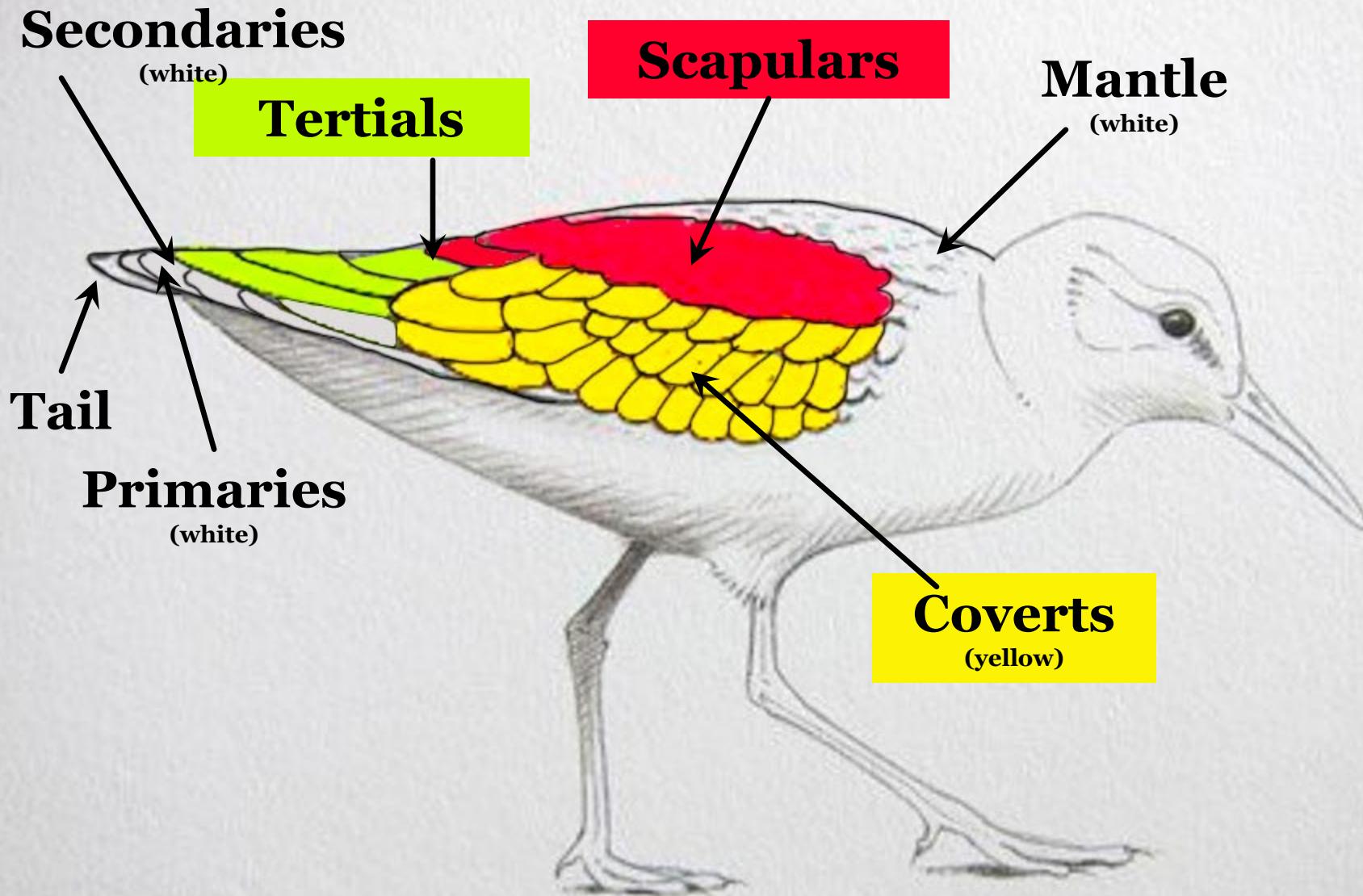
Primaries

(white)

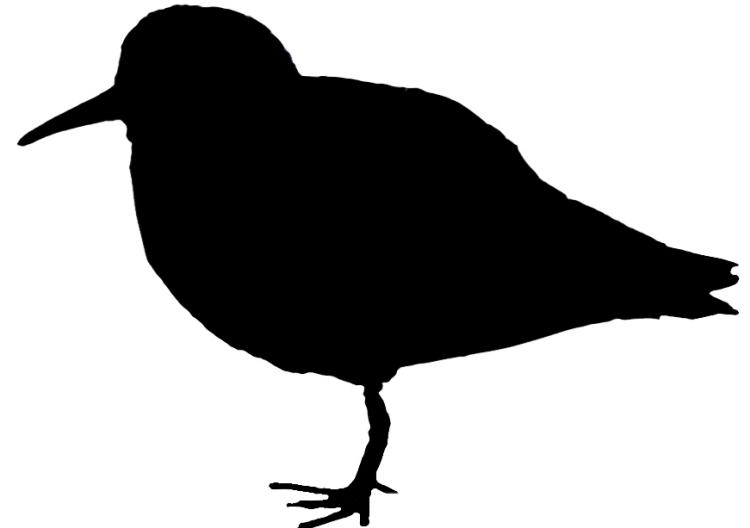
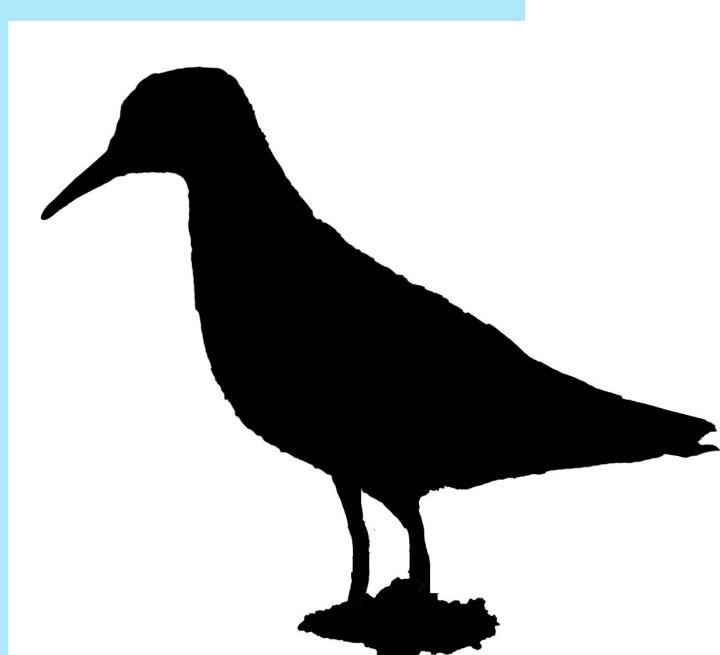
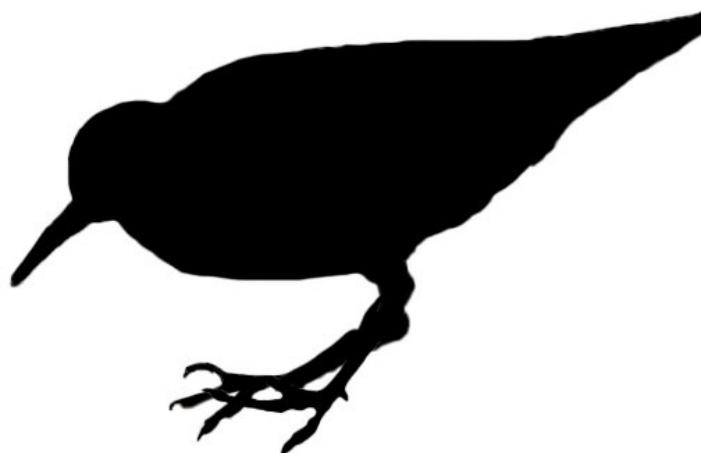
Covers

(yellow)

Least Sandpiper



ONLY ONE STRUCTURE !!!!



ONLY ONE STRUCTURE ???
“WE WON’T GET FOOLED AGAIN !!!”



Shorebird Photos by Jeffrey E. Patterson

BIRDS MOVE, FEATHERS MOVE

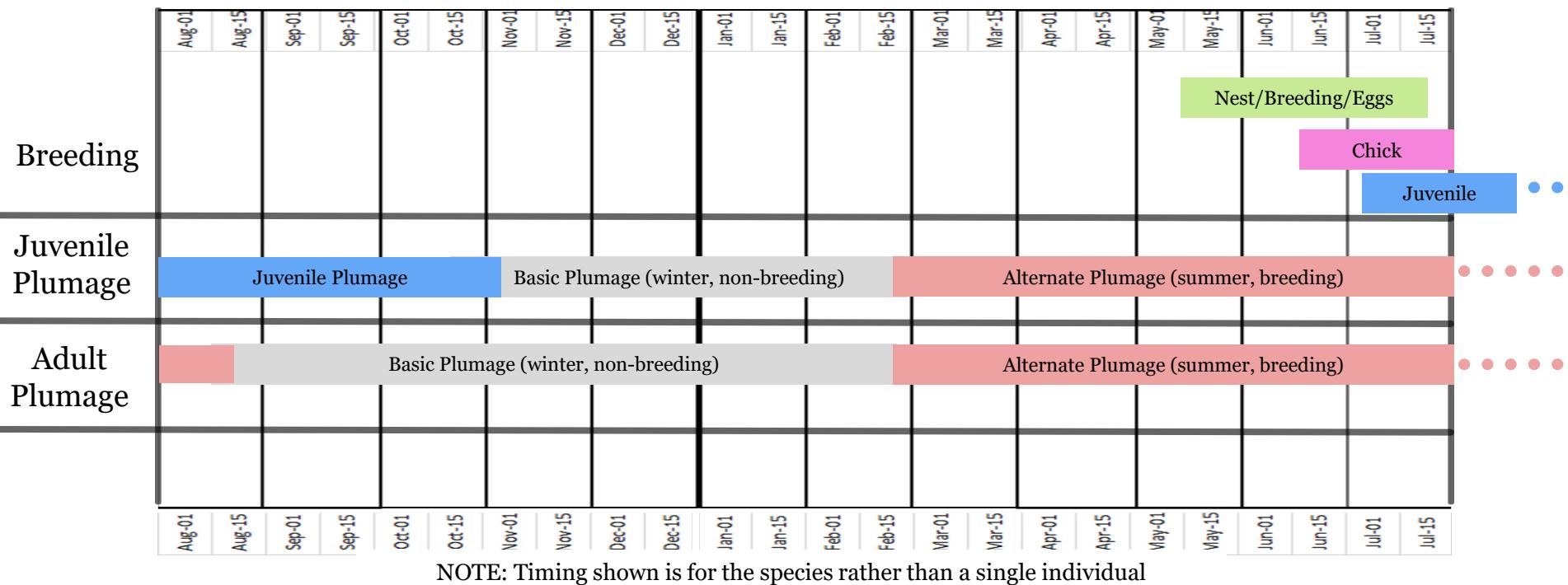


Photos by Jeffrey E. Patterson

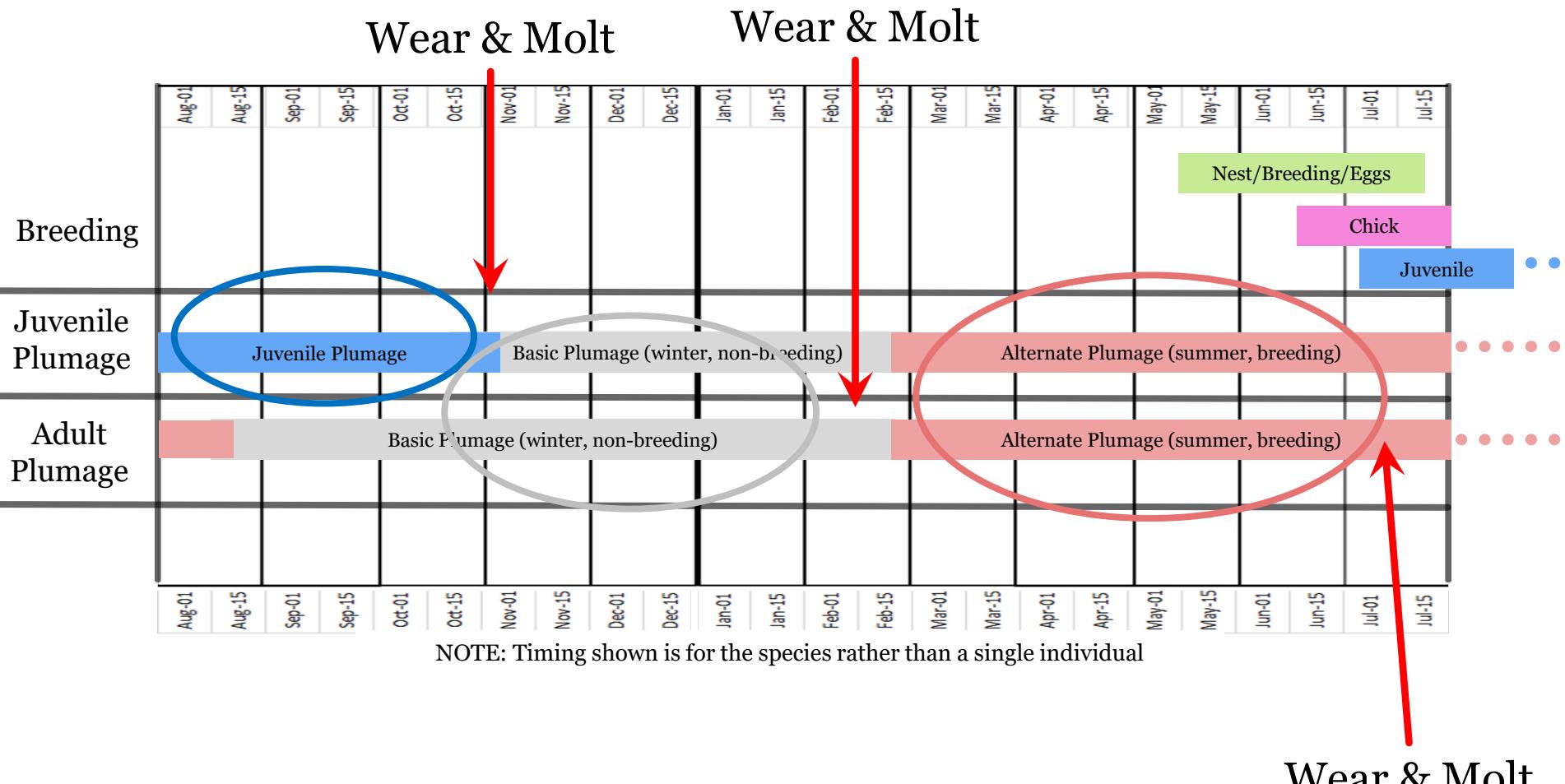
3 PLUMAGES

- ▶ Only 3 plumages
 - ▶ Juvenile
 - ▶ Basic (winter, non-breeding)
 - ▶ Alternate (spring, breeding)
 - ▶ Complications
 - ▶ Wear & Molt
 - ▶ Knowing which plumage can help ID
 - ▶ Consider time of year !!
-
- The diagram consists of three red arrows pointing from the text labels 'Juvenile', 'Basic (winter, non-breeding)', and 'Alternate (spring, breeding)' to a light green rectangular box containing the text 'Wear & Molt'. The box is divided into two horizontal sections by a thin horizontal line, with 'Wear & Molt' appearing once in each section.

Generic Shorebird Life Cycle (3 plumages)



GENERIC SHOREBIRD LIFE CYCLE (3 PLUMAGES)



WHAT DO THESE
3 PLUMAGES
LOOK LIKE?

3 Plumages

Western
Sandpiper



Basic



Alternate



Juvenile

Least
Sandpiper



3 Plumages

Western
Sandpiper



Basic

Alternate

Juvenile

Least
Sandpiper



BASIC
(WINTER, NON-BREEDING)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Adult Basic (non-breeding, winter)

Western Sandpiper

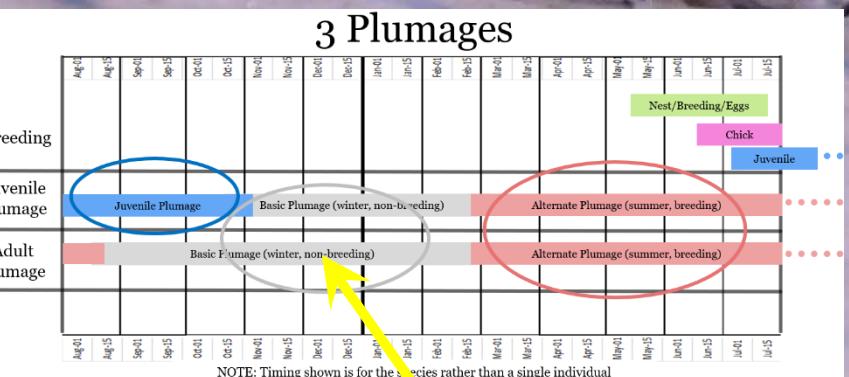


Photo by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Adult Basic (non-breeding, winter)

Western Sandpiper



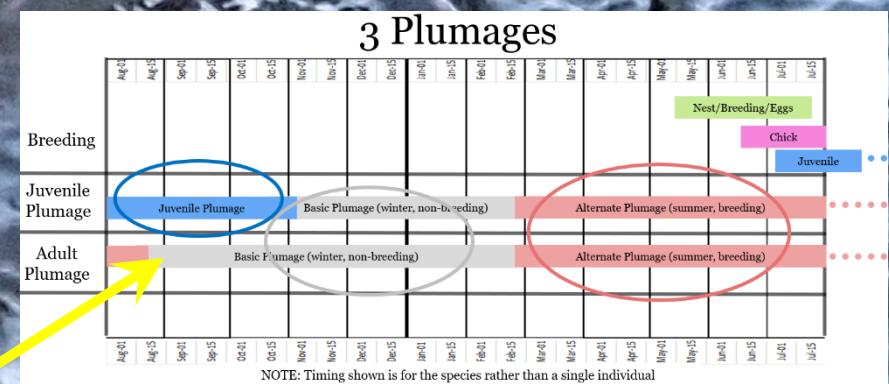
3 Plumages

NOTE: Timing shown is for the species rather than a single individual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Least Sandpiper

Adult Basic



ALTERNATE (SUMMER, BREEDING)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Western Sandpiper

Adult Alternate
(breeding, summer)



3 Plumages

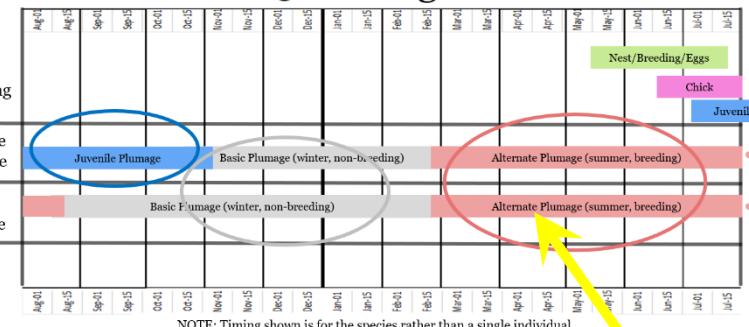


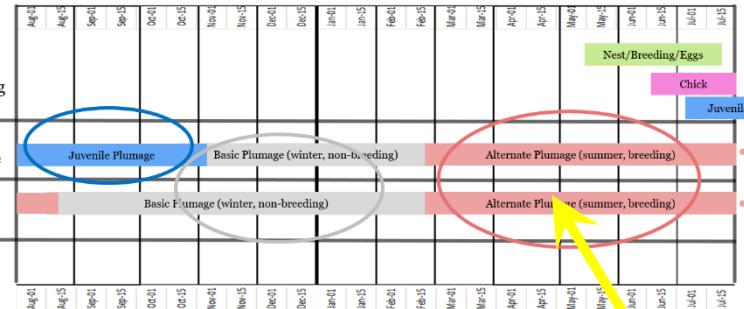
Photo by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Western Sandpiper

Adult Alternate
(breeding, summer)

3 Plumages



NOTE: Timing shown is for the species rather than a single individual

Photo by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Adult Alternate

Least Sandpiper



3 Plumages

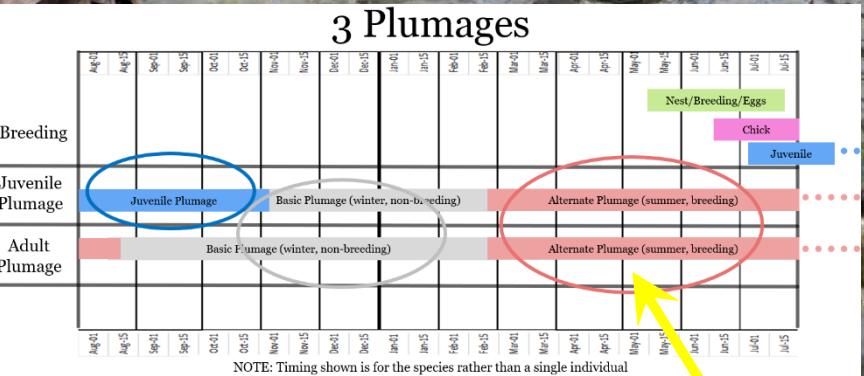


Photo by Jeffrey E. Patterson

Jan Feb Mar **Apr** May Jun Jul Aug Sep Oct Nov Dec

White-rumped Sandpiper

Adult
Alternate

JUVENILE
ONLY IN THE FALL
(JULY~OCTOBER)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Juvenile

Back feathers are:
1) Uniformly fresh,
2) Relatively small,
3) Of similar size,
4) Crisply pale edged.

“Scaley” look



Black-necked Stilt

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Least Sandpiper

Juvenile

Back feathers are:
1) Uniformly fresh,
2) Relatively small,
3) Of similar size,
4) Crisply pale edged.

“Scaley” look



White marks on scapulars & mantel often form a line

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Juvenile

Crisply pale-fringed
(scaly look)

Brown

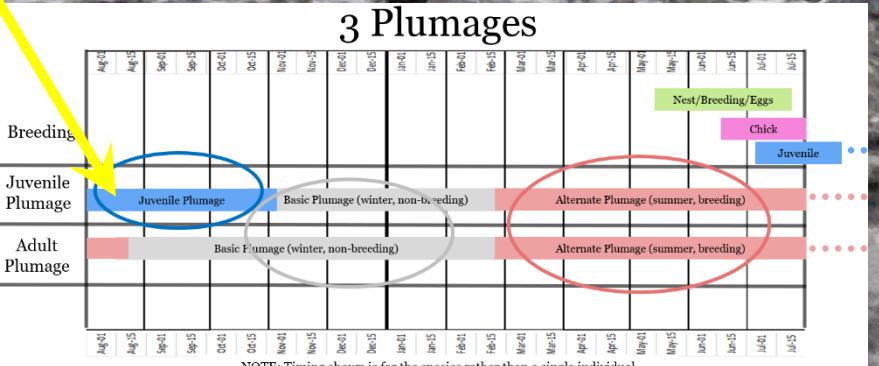
**Pectoral
Sandpiper**

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Western Sandpiper

Juvenile (fresh)

Fresh, crisp pale edges,
relatively small feathers
of similar size
“scaly” look



Photos by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Juvenile

Semipalmated Plover

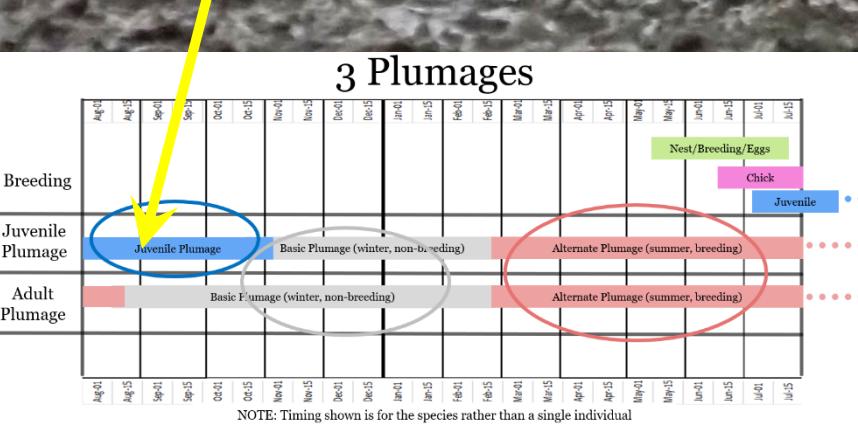


Photo by Jeffrey E. Patterson

3 Plumages

Western Sandpiper



Wear & Molt



Wear & Molt



Wear & Molt

Least Sandpiper



Basic



Alternate



Time

WHAT DO
WEAR & MOLT
(TRANSITIONS)
LOOK LIKE?

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Western Sandpiper

Adult Alternate
(breeding, summer)



3 Plumages

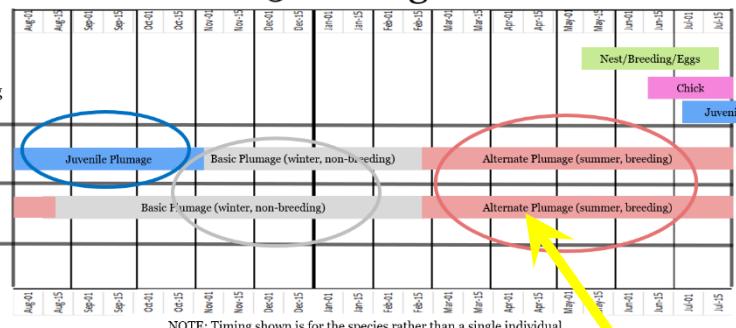


Photo by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec



Very Worn
Alternate

Western Sandpiper

Colors fade &
white edges of feathers abrade, making the
bird much darker

Colors fade &

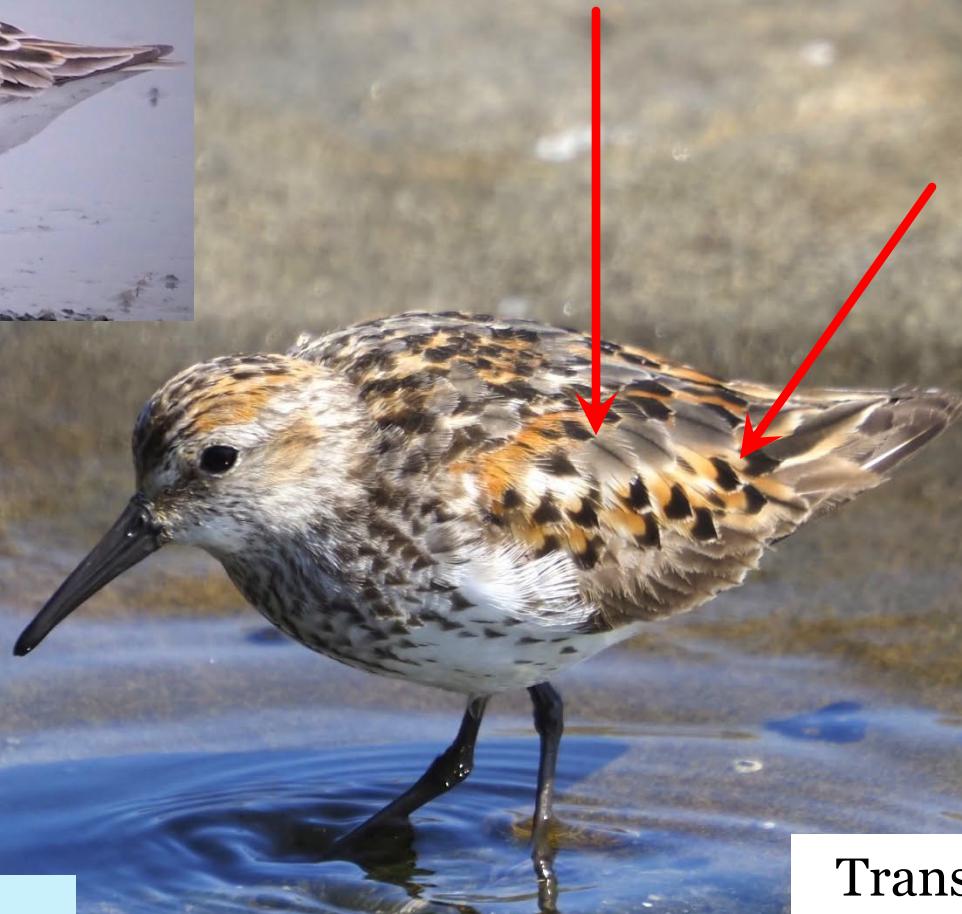
white edges of feathers abrade, making the
bird much darker



Photo by Tom Edell

Photo by Tom Edell

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec



Western Sandpiper

Transition from
Alternate to Basic

Photos by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Gray feathers
begin to emerge

Western Sandpiper

Transition from
(worn) Alternate to
Basic

Photo by Nick Tepper

Jan Feb Mar **Apr** May Jun Jul Aug Sep Oct Nov Dec

Least Sandpiper

More colorful feathers
push out the gray (basic)
feathers

Transition from
Basic to Alternate

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

1

2

3

Least Sandpiper



Basic



Very Worn
Alternate



Alternate

Photos by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec



Western Sandpiper

Transition from
Juvenile to Basic

BROWN
VS
“FROSTY”

THE ULTIMATE BROWN VS “FROSTY” (LEAST SANDPIPER VS SANDERLING)



Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Which are Brown?

Which are “Frosty” ?



Photo by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Juvenile

“Frosty”

Semipalmated Sandpiper

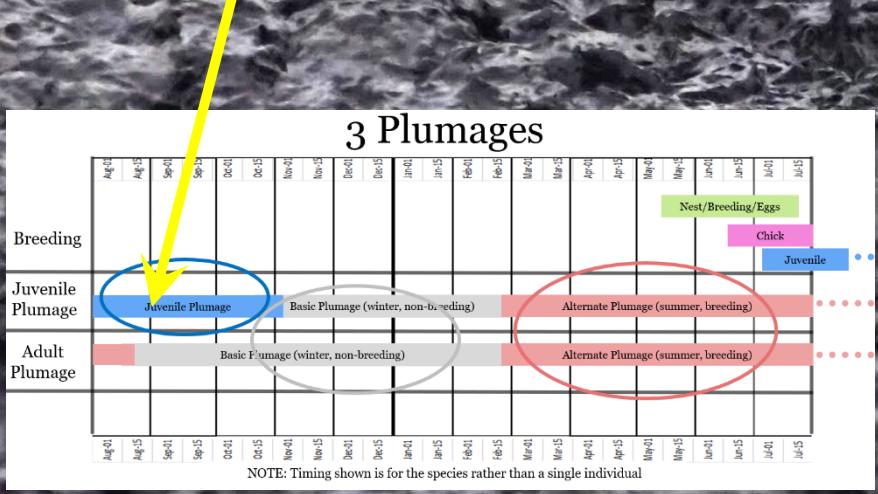


Photo by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Juvenile

“Frosty”

Semipalmated Sandpiper

Brown vs “frosty”
is
relative

Brown

3 Plumages

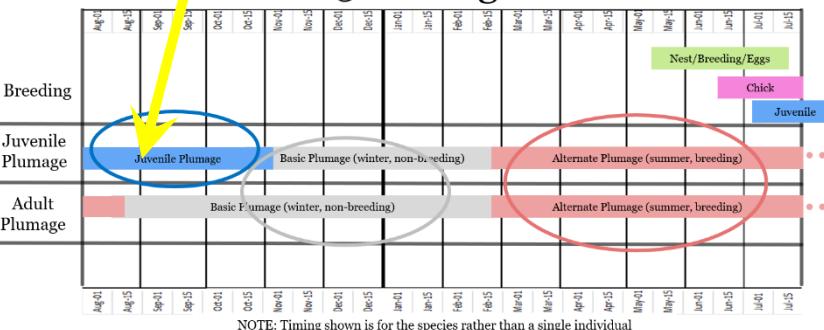


Photo by Jeffrey E. Patterson

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

“Frosty”

• Brown

3 Plumages

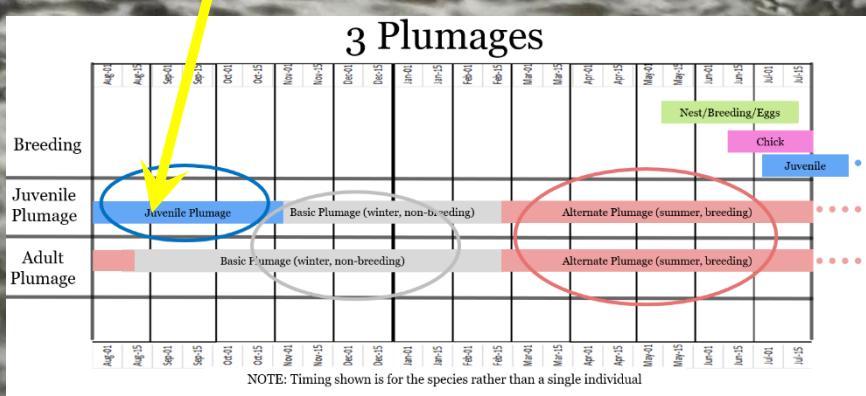


Photo by Jeffrey E. Patterson

BROWN VS “FROSTY”

“Frosty” probably
Semipalmated Sandpiper

“Frosty” phalaropes

Most shorebirds at Hornsby
are brown-hued

WESTERN SANDPIPER YEAR IN PLUMAGE

Juvenile



No Photo yet

2

Juvenile Transition to Basic

September

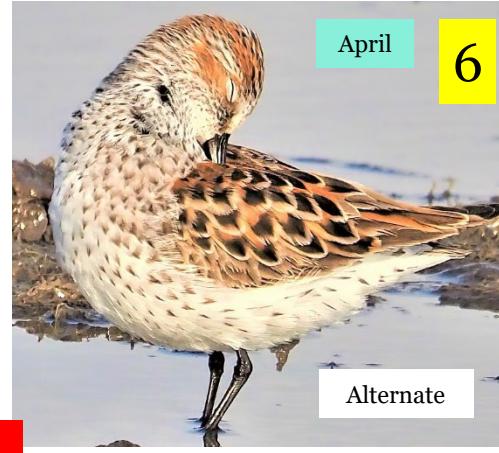
October

3

No Photo yet

Juvenile Transition to Basic

Adult



A Year of Western Sandpiper Plumage



Juvenile

1

August

Fresh Juvenile

Uniformly fresh plumage with crisply pale edges, relatively small scapulars and coverts – a “scaly” look.

2

September

Juvenile Transition to Basic

A few replaced scapulars look larger & plain gray

3

October

Juvenile Transition to Basic

Juveniles only molt most head & body feathers & some wing coverts during their first Pre-basic molt.

A few replaced scapulars look larger & plain gray.

4

December

Basic

For Adults all feathers will be molted in the Pre-basic molt. Non-breeding plumage shows no contrast between coverts and scapulars

5

Late March

Transition to Alternate

Birds in transition may show any combination of old, worn feathers from one plumage & new, fresh feathers from the next.

6

April

Alternate

Only body & head feathers will be molted in the Pre-alternate molt, (primaries, secondaries, tertiaries, & wing coverts are not molted, generally).

Some have very bright scapulars & head, & have chevrons on chest & flanks

Comments on A Year of Western Sandpiper Plumage

Adult

7

June

Worn Alternate

By summer feather wear is apparent

8

July

Very Worn Alternate

Colors fade & white edges of feathers abrade, making the bird much darker

9

August

Transition to Basic

By fall-migration gray scapular & covert feathers of basic plumage begin to emerge