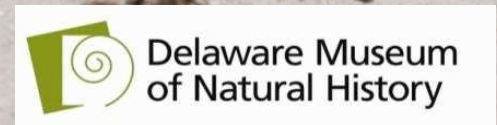
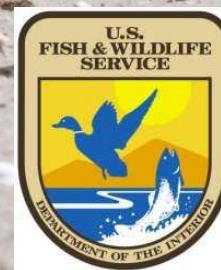


# Resighting Individually Marked Birds

## Part 2





To refresh your memory, there are four species of birds we are targeting, can you identify them?



Note: Refresh your shorebird identification skills by taking the shorebird identification modules.



To refresh your memory, there are four species of birds we are targeting, can you identify them?



**Red Knot (REKN)**



**Ruddy Turnstone (RUTU)**



**Sanderling (SAND)**



**Semipalmated Sandpiper (SESA)**

Note: Refresh your shorebird identification skills by taking the shorebird identification modules.



# Example 1





# Example 1

This is a Ruddy Turnstone,  
with a flag colored light green  
(lime), inscribed with code  
XCM

Or more simply,  
RUTU lg(XCM)



Bill Buchanan

Since this is a 3 character light green flag, this is all the information needed.

Recording the yellow band is not needed, but won't hurt: RUTU FElg(XCM) y

Note the full standard Pan American code would be:

FElg(XCM) | - : y | m

Upper Left-Lime flag (PLE)

Lower Left-nothing (-)

Upper Right-yellow band (y)

Lower Right- metal band (m)



## Example 2





## Example 2

REKN lg(C13)



Greg Breese

Note this is a Red Knot. Since this is a 3 character light green (lime) colored flag this is all the information needed, there is no need to check the legs for other color markers.

Note the full standardized Pan American code would be:

FEIlg(C13) | - : - | m



# Example 3





## Example 3

REKN lg(XL) o

Since this is a 2 character light green flag you need to record the colored band as well as the flag.



Greg Breese

The full standard Pan American code would be:

FE|lg(XL) | - : o | m



## The next 20 slides will give you practice

- Pretend you are in the field.
- Decide what to record (or not).
- Write down flag codes and other banding information.
- After every 5 slides you will see what should have been recorded.
- Accuracy is more important than speed.
- Mark birds with Geolocators (G) or geo if appropriate.
- If you notice a flag who's condition is irregular, report it using the codes:  
Flag [color] Faded (FF), Flag Stained (FS), No Ink(IN), Faded Ink (IF), Flag Upside down (FU), Flag Open (FO), Flag Broken (FB), or Flag Dirty (FD).



# Example 4





## Example 5





## Example 6





# Example 7



© photo by Jean Hall



# Example 8



## Answers

**Example 4:** REKN lg(3X7)

**Example 5:** nothing to record for this Sanderling (SAND)

**Example 6:** REKN lg(EMP)

**Example 7:** REKN dg(CHY)

**Example 8:** REKN lg(UKV)



# Example 9



Greg Breese

# Example 10





# Example 11





## Example 12



*©photo by Jean Hall*



# Example 13



## Answers

**Example 9:** nothing to record for this REKN

**Example 10:** SAND lg(CJ3)

**Example 11:** REKN lg(TNH)

**Example 12:** RUTU lg(4LX)

**Example 13:** REKN w(V7)



# Example 14



# Example 15





# Example 16





# Example 17





# Example 18



## Answers

**14:** RUTU lg(KPN) IF (ink faded)

**15:** REKN o(NJ); dg

**16:** nothing to record on this REKN

**17:** REKN lg(CX5) IF

**18:** REKN r(HMN)



# Example 19





# Example 20



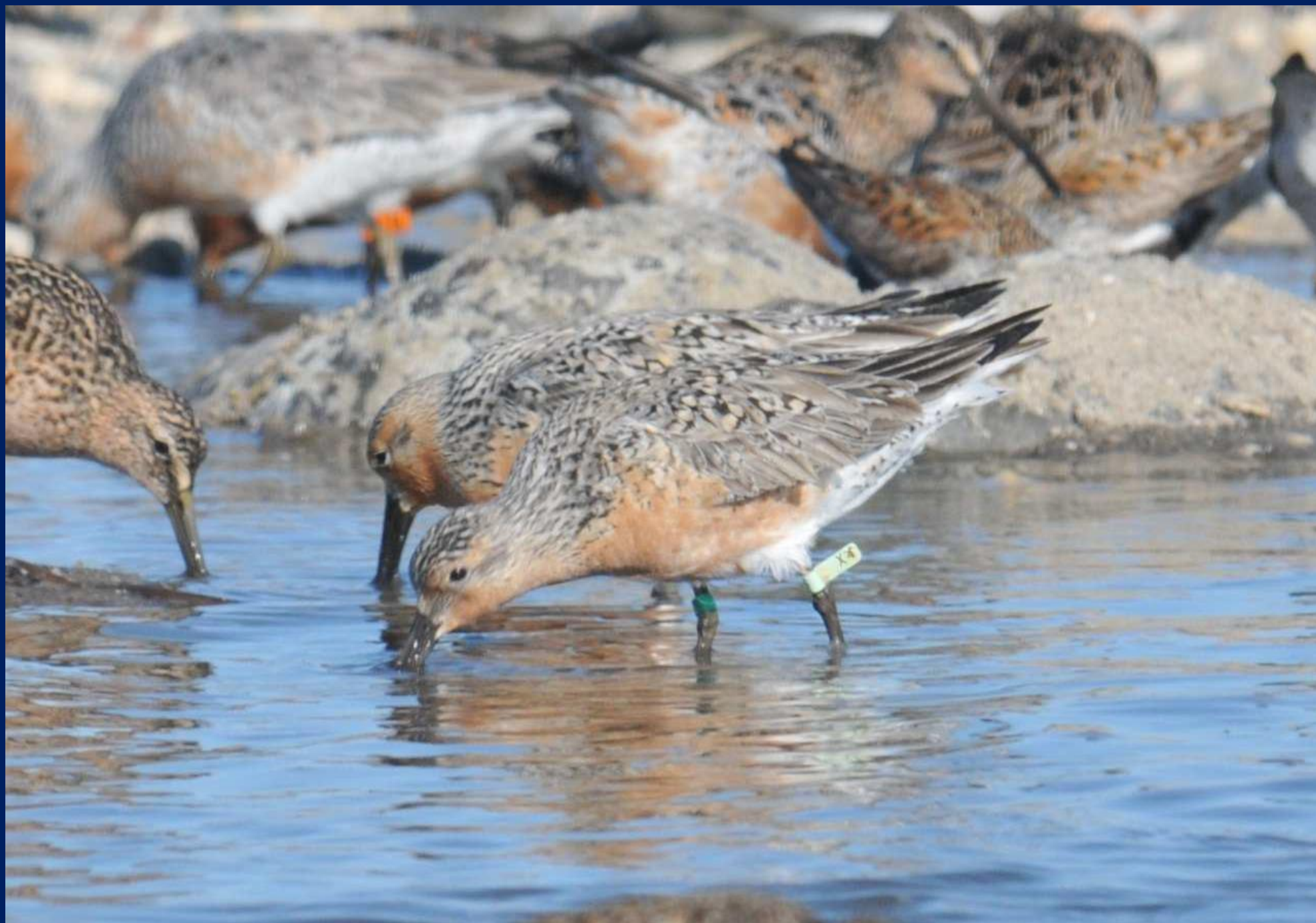


# Example 21





# Example 22





# Example 23



## Answers

**19:** REKN o(H9S); -

**20:** REKN lg(U1Y)

**21:** RUTU nothing to report (flag code obscured)

**22:** REKN lg(X4); dg FS

**23:** SAND lg(PLK)

*Note that the orange flag needs to have any color markers recorded, or in this case, a dash to signify that a color band was not present/missing. Also the 2 character light green needs the additional color marker recorded too.*



# Example 24





# Example 25





## Example 26



# Example 27





# Example 28



*©photo by Jean Hall*

# Example 29



©photo by Jean Hall



## Answers

**24:** RUTU Dg(LAY) FD (flag dirty)

**25:** SAND flag is obscured and cannot be reported

**26:** REKN db(AB); y

**27:** SESA lg(YV1)

**28:** REKN lg(8AH) FS

**29:** SESA lg(5M4)

*Note that the dark blue flag requires an additional color marker to be recorded.*

A large colony of shorebirds, likely sandpipers or similar species, is gathered on a sandy beach. The birds are densely packed, with many individuals in the foreground and background. Some birds are standing, while others are in flight, their wings spread. The ground is a mix of sand and small pebbles. The overall scene is a natural, outdoor setting, possibly a nesting ground or a feeding area.

# Ratio Counts



# Ratio of Marked: Unmarked

After you have gained experience and knowledge resighting, you may be asked to collect Ratio Scan data as well. The purpose of this data is to provide estimates of population size.

The protocol for collecting this data has been carefully worked out to meet statistical needs.

Further, it is not easy to do this as birds run back and forth across the beach.

It is important to get enough experience that you are comfortable and confident in your resighting data, before you begin collecting ratio scan data.

# Ratio of Marked: Unmarked

Any bird without an inscribed flag is an unmarked bird and any inscribed flag of any color is a marked bird, for this purpose.

People typically record ratio scans in their notebook.

Make sure you record:

Species

Number with inscribed flags

Total number of birds scanned





# Ratio Count Do's

- Do Ratio Scans for REKN, RUTU, SESA, and SAND for every site visit if possible. Be sure to record the species scanned for each scan ratio recorded. Do one species at a time; REKN is the top priority.
- Choose a representative portion of the flock and count in one direction to minimize double counting.
- Scan up to 50 birds, if you can.
- Record the total number of birds scanned. You must be able to see both legs to determine that a bird either has or does not have an inscribed flag.
- Record the number of birds that have an inscribed flag.
- Repeat this count every 30 min if you are there long enough.

# Ratio Count Don'ts

- Do not count birds unless you are sure they have or do not have inscribed flags. This means that you will not be able to include every bird you see in this ratio scan, and in practice you will need more than 50 birds in a flock to get a 50 bird ratio scan. That is fine, what is needed is an accurate ratio.
- If you only have a small number of birds, do a scan when you first arrive, but do not repeat it on the substantially same birds multiple times.
- Do not include birds with a leg tucked up against their body, or that have a leg blocked from your view.



Simon Gillings



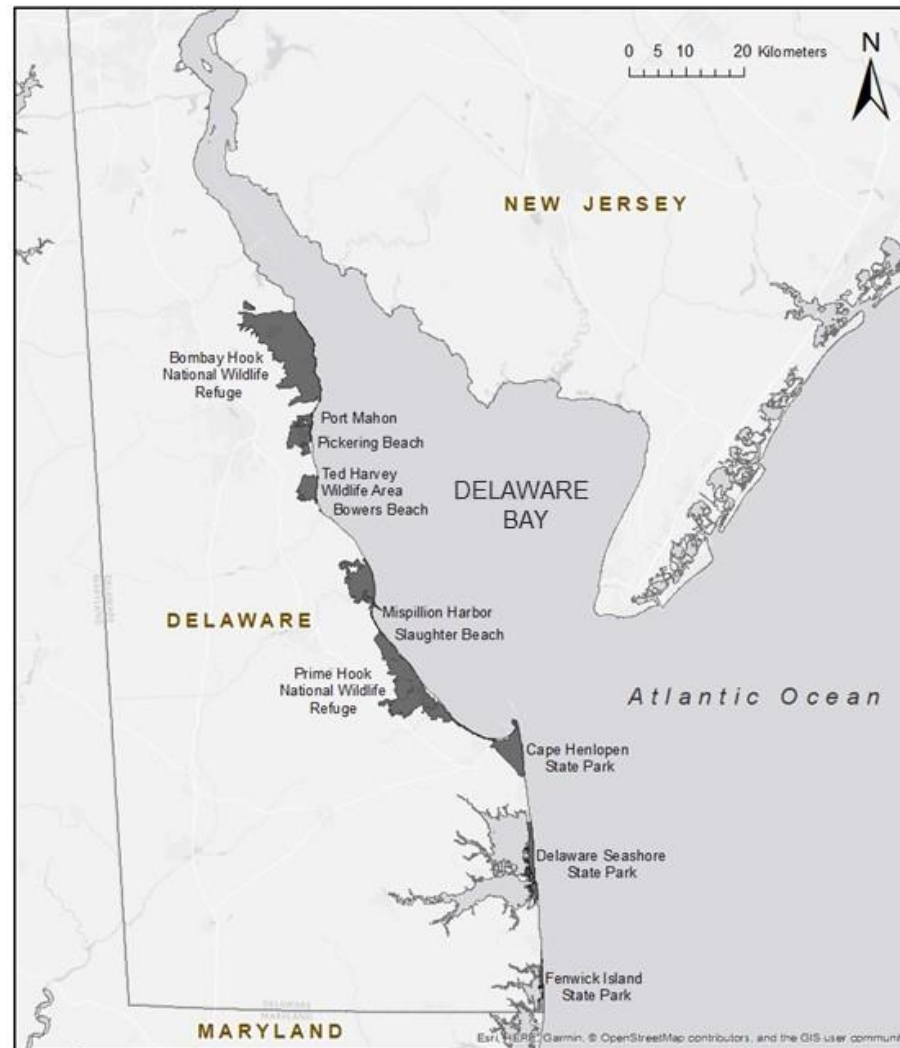


*©photo by Jean Hall*

In the above photo, there are eight Ruddy Turnstones although both legs are only visible on two of them. To complete a ratio count on these Ruddy Turnstone, we would write:

RUTU 1 flagged, 2 scanned

# Field Forms and How to Complete Them





# 12 Hour Time vs 24 Hour Time

Please record times on the data sheets in the 24-hour format

Standard Time		24 Hour Time	
8:00am	=	08:00	
10:15am	=	10:15	
12:00pm	=	12:00	← noon
1:00pm	=	13:00	
3:20 pm	=	15:20	
4:00pm	=	16:00	
6:30pm	=	18:30	
9:57pm	=	21:57	
11:59pm	=	23:59	
12:00am	=	00:00	← midnight
2:00am	=	02:00	
4:00am	=	04:00	

# Visit Summary Form

The Visit Summary Form begins with general information that includes:

Observers

Date and time

Location

Number of attached  
flag sheets

*Remember,*

- Please write clearly and legibly
- Complete data sheets promptly after you return from the field

Visit Summary Form: fill out on every visit (even if no shorebirds are present)



Site: _____		Did you survey the entire site? Y/N _____	FOR OFFICE USE: Sheet ID: 2019 _____																				
Date: Day   Mon	Survey Time (24 hr) Start: 00:00 End: 00:00		# ratio sheets <input type="checkbox"/> # of flag sheets: enter a "0" if observer has no flag sheets																				
<p>Did you check all legs for flags? (to be filled out by the Scribe)</p> <p>nearly all: you walked entire site AND repeatedly saw the same flags (large flocks) OR you saw the legs of nearly all birds (small flocks). OR you're confident no birds of that species were present</p> <p>about half: you only walked about half the site, OR you saw legs of about half of the birds in the flock</p> <p>fewer than half: you walked less than half the site, OR you did not attempt to resight any birds, OR you saw legs of fewer than half the birds in the flock</p> <p>Check the box to indicate the portion of the flock you checked for leg flags.</p>			Observers _____ # of flag sheets _____																				
<table border="1"> <tr> <td>Portion of legs checked:</td> <td>nearly all</td> <td>about half</td> <td>fewer than half</td> </tr> <tr> <td>Red Knot</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Ruddy Turnstone</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Sanderling</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Semipalmated Sandpiper</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>			Portion of legs checked:	nearly all	about half	fewer than half	Red Knot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ruddy Turnstone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sanderling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Semipalmated Sandpiper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scribe: _____ _____ _____ _____ _____
Portion of legs checked:	nearly all	about half	fewer than half																				
Red Knot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
Ruddy Turnstone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
Sanderling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
Semipalmated Sandpiper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
			Notes on survey completeness and resighting effort/quality: _____																				

**Human and predator activity:** Record number of stimuli present every half hour (if you arrive at 11:10, start at 11:30) even if NONE. For PEFA and MERL record time of each flight (must see falcon; don't record if suspected but falcon not seen).

ODOG: Off leash dog, LDOG: Leashed dog, HUMN: Human, CAR: Any type of vehicle, BOAT: Any watercraft, PEFA: Peregrine Falcon (exact time), MERL: Merlin (exact time), FOX: Red fox, OTHER: write in

Time	Activity	Quantity	Time	Activity	Quantity	Time	Activity	Quantity
0:00			0:00			0:00		
0:00			0:00			0:00		
0:00			0:00			0:00		

**Flocks Counts:** Every cell must be filled. Record "0" if your count was zero. Record "--" for any species you did not attempt to count. Please indicate accuracy "T", "E", or "G" for all counts, even 0 counts.

If over the course of counting you do some of each type record as the least accurate.

True Count (T): an actual count of each bird observed, usually done with small flocks, or when a flock is spread out along the waterline

Estimate (E): systematic count of the number of birds of each species in a block, extrapolated to estimate flock size

Guestimate (G): a guess, or nonsystematic count based roughly on flocks size and proportion of each species that comprise it, useful for very large flocks or when flocks are flying

Species	Total	Accuracy	Count (workspace)
Red Knot		T E G	
Ruddy Turnstone		T E G	
Sanderling		T E G	
Semipalmated Sandpiper		T E G	
Dunlin		T E G	
Short-billed Dowitcher		T E G	
Small Gull (laughing gull and similar)		T E G	
Large Gull (great black-backed gull, herring gull, ring-billed gull)		T E G	
American Oystercatcher			
Piping Plover			
Black-Necked Stilt			

Other rare or especially interesting observations

Report all sightings of sturgeon immediately to Ian Parks at 302-735-8850. Send photos if available to ian.park@state.de.us.

Entered by \_\_\_\_\_

Checked by \_\_\_\_\_

Corrected by \_\_\_\_\_



# Visit Summary Form

Please double check and make sure you have filled out all parts of each form. This helps the people doing data entry and data error checking (quality control). If data is missing, there may be no way to get it later, potentially rendering the associated data useless.

Be sure to complete this when you get back to the house and definitely before you leave the house for the day. Data on “orphaned” forms may have to be discarded or the data entered out of the normal sequence for error checking, increasing the chance of making mistakes.

# Visit Summary Form: Header

This section is used to record who visited the site, who was the scribe (completed the site visit form), the date and time of the visit, and the location visited.

Fill out all boxes

Be consistent with sites names

Visit Summary Form: fill out on every visit (even if no shorebirds are present)

Site: N. Bowers Did you survey the entire site?  Y  N

Date: 10/May/19 Survey Time (24 hr)  
Start: 09:15 End: 10:30

Write the month as a word to avoid confusion

Use 24 hour time and use leading zeros (eg. 9am = 09:00)

FOR OFFICE USE:

Sheet ID: 2019 001

# ratio sheets

# of flag sheets: enter a "0" if observer has no flag sheets

Observers # of flag sheets

Scribe: N. Schwarz

H. Bellman

Use first initial and complete last names to avoid confusion



# Visit Summary Form: Leg Check

This section provides a record of how thorough the site visit was and should not be skipped.

## Did you check all legs for flags? (to be filled out by the Scribe)

**nearly all:** you walked entire site **AND** repeatedly saw the same flags (large flocks) **OR** you saw the legs of nearly all birds (small flocks), **OR** you're confident no birds of that species were present

**about half:** you only walked about half the site, **OR** you saw legs of about half of the birds in the flock

**fewer than half:** you walked less than half the site, **OR** you did not attempt to resight any birds, **OR** you saw legs of fewer than half the birds in the flock

Check the box to indicate the portion of the flock you checked for leg flags.

Portion of legs checked:	nearly all	about half	fewer than half
Red Knot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ruddy Turnstone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanderling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Semipalmated Sandpiper	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

# Visit Summary Form: Disturbance

**Human and predator activity:** Record number of stimuli present every half hour (if you arrive at 11:10, start at 11:30) even if NONE. For PEFA and MERL record time of each flight (must see falcon; don't record if suspected but falcon not seen).

**ODOG:** Off leash dog, **LDOG:** Leashed dog, **HUMN:** Human, **CAR:** Any type of vehicle, **BOAT:** Any watercraft, **PEFA:** Peregrine Falcon (exact time), **MERL:** Merlin (exact time), **FOX:** Red fox, **OTHER:** write in

Time	Activity	Quantity	Time	Activity	Quantity	Time	Activity	Quantity
9:30	None							
10:00	HUMN	2						
10:30	HUMN	3						

Note: If a merlin or peregrine are seen, the exact time of disturbance is recorded.

Disturbance is recorded every ½ hour, even if there is none.

This section is completed later when the data is entered into the computer and checked for accuracy.

	0		
	0		
Black-Necked Stilt	0		

Other rare or especially interesting observations

Report all sightings of sturgeon immediately to Ian Parks at 302-735-8650. Send photos if available to [ian.park@state.de.us](mailto:ian.park@state.de.us).

Entered by \_\_\_\_\_

Checked by \_\_\_\_\_

Corrected by \_\_\_\_\_



# Visit Summary Form: Flock Count

Total numbers of birds are recorded on the Visit Summary Form.

**Flocks Counts:** Every cell must be filled. Record "0" if your count was zero. Record "-" for any species you did not attempt to count. Please indicate accuracy "T", "E", or "G" for all counts, even 0 counts.

If over the course of counting you do some of each type record as the least accurate.

**True Count (T):** an actual count of each bird observed, usually done with small flocks, or when a flock is spread out along the waterline

**Estimate (E):** systematic count of the number of birds of each species in a block, extrapolated to estimate flock size

**Guesstimate (G):** a guess, or nonsystematic count based roughly on flocks size and proportion of each species that comprise it, useful for very large flocks or when flocks are flying

Species	Total	Accuracy	Count (workspace)
Red Knot	25	T E G	
Ruddy Turnstone	250	T E G	
Sanderling	550	T E G	
Semipalmated Sandpiper	10,000	T E G	
Dunlin	37	T E G	
Short-billed Dowitcher	5	T E G	
Small Gull (laughing gull and similar)	45	T E G	
Large Gull (great black-backed gull, herring gull, ring-billed gull)	18	T E G	
American Oystercatcher	0		
Piping Plover	0		
Black-Necked Stilt	0		

Other rare or especially interesting observations

Report all sightings of ... immediately to Ian Parks at 302-735-8650. Send photos if available to i...

Checked by \_\_\_\_\_

Corrected by \_\_\_\_\_

This is an empty workspace, if needed

Indicate whether it is a True Count (T), Extrapolated Estimate (E), or a Guesstimate (G).

**True Count:** Each bird was counted

**Extrapolated Estimate:** Numbers were systematically estimated

**Guesstimate:** A quick estimate was done, basically a first impression

Enter a "-0-" in the block for species not observed rather than just leaving it blank. This will ensure that the person entering the data knows that species were not present rather than not counted

# Mispillion Harbor Visit Summary Form

For Mispillion Harbor, there is a modified Site Visit form. This includes more detail for bird numbers at specific locations in Mispillion Harbor.

Mispillion Harbor Visit Summary Form: fill out on every visit (even if no shorebirds are present)

Did you survey all the beaches in Mispillion?  Y/N

Date:  Survey Time (24 hr)

Start:  End:

FOR OFFICE USE:  
Sheet ID: 2019

# ratio sheets

# of flag sheets: enter a "0" if observer has no flag sheets

Observers  # of flag sheets

Sortbe:

Did you check all legs for flags? (to be filled out by the Sorbe)

nearly all: you resighted at nearly all beaches with target species present AND repeatedly saw the same flocks (large flocks) OR you saw the legs of nearly all birds (small flocks), OR no birds were present  
 about half: you only resighted about half the beaches, OR you saw legs of about half of the birds in flocks on beaches where you resighted.  
 fewer than half: you resighted at fewer than half the beaches with large flocks of the target species, OR you saw legs of a lot fewer than half the birds in the flock, OR you did not attempt to resight any birds

Check the box to indicate the portion of the flock you checked for leg flags.

Portion of legs checked:	nearly all	about half	fewer than half
Red Knot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ruddy Turnstone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanderling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Semipalmated Sandpiper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes  
--

Human and predator activity: Record number of stimuli present every half hour (if you arrive at 11:10, start at 11:30) even if NONE. For PEFA and MERL record time of each flight (must see falcon; don't record if suspected but falcon not seen).

ODOG: Off leash dog, LDOG: Leashed dog, HUMN: Human, CAR: Any type of vehicle, BOAT: Any watercraft, PEFA: Peregrine Falcon (exact time), MERL: Merlin (exact time), FOX: Red fox, OTHER: write in

Time	Activity	Quantity	Time	Activity	Quantity	Time	Activity	Quantity
			0:00			0:00		
			0:00			0:00		
			0:00			0:00		

Flocks Counts: Every cell must be filled. Record "0" if your count was zero. Record "-" for any species you did not attempt to count. Please indicate accuracy "T", "E", or "G" for all counts, even 0 counts.

If over the course of counting you do some of each type record as the least accurate.

True Count (T): an actual count of each bird observed, usually done with small flocks, or when a flock is spread out along the waterline

Estimate (E): systematic count of the number of birds of each species in a flock, extrapolated to estimate flock size

Guessimate (G): a guess, or nonsystematic count based roughly on flock size and proportion of each species that comprise it, useful for very large flocks or when flocks are flying

Species	Lighthouse Rd	Shell	Swains	Ogony	Channel Breakwall	Outer Island	Point South	Point North	Rock Dike	DNC	Mid South	Mid North	Back East	Back North	Back Orasco
Subsite not counted (use check mark)															
Red Knot	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Ruddy Turnstone	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Sanderling	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Semipalmated Sandpiper	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Dunlin	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Short-billed Dowitcher	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Small Gull (Laughing gull)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Large Gull (great black-backed gull, herring gull, ring-billed gull)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
American Oystercatcher															
Piping Plover															
Black-necked Stilt															
Other Rare or Interesting Obs:															

Report all sightings of sturgeon immediately to Ian Parks at 802-736-8860 (office) or 410-886-8742 (cell). Send photos if available to [ian.parks@state.de.us](mailto:ian.parks@state.de.us).

Entered by \_\_\_\_\_

Checked by \_\_\_\_\_


Corrected by \_\_\_\_\_



# Resighting Transcription Form

When you return to the Shorebird House at the end of the day, you will fill out a transcription sheet for data entry. Be sure to do this by the end of the day, so the data is not lost and all data sheets for a given visit are kept together.

FOR OFFICE USE:  
Top Sheet ID: 2020 \_\_\_\_\_



## Resighting Transcription Form

Site/subsite:	Date: <small>Day   Mon</small>	Species: Sheet #:	Observer: Scribe (if different):
---------------	-----------------------------------	----------------------	-------------------------------------

Record only ONE SPECIES per sheet. Work down the columns.  
 Indicate each half hour time block (e.g. 0830 for 0830 to 0859) in 24 hr time.  
 Group by flag color within each half-hour time period. Draw line down column for repeating entries for time and flag color. Use \$ for S and cross Z, 7, and 0. Make V, 5, G, B, and D very square/pointy  
 Record extra color on opposite leg for 2-character lime flags.  
 Geolocator: Note whether a bird is carrying a geolocator (Geo) or other additional tracking devices  
 Flag Condition: Record any irregular condition of the flag: Flag Color Faded (FF), Flag Stained (FS), Flag Upside down (FU), Flag Open (FO), Flag Broken (FB), or Flag Dirty (FD), or Flag Abraded (FA- top layer of flag worn through; rare).  
 Note: generally ink fades not flags (i.e. IF not FF)  
 Ink Condition: Record partially or completely faded ink: Ink-None (IN), Ink Faded (IF), Ink (white) Stained (IS)  
 Record the number of flag sheets on the Visit Summary Form to indicate you have completed your flag re-sighting sheets  
 Last person to fill in flag resighting sheets - order sheets by species, observer name, and time, and attach to Visit Summary Form

	Time (24 hr)	Flag Color	Flag Code	Extra Color	Flag Cond.	Ink Cond.	Geolo cator		Time (24 hr)	Flag Color	Flag Code	Extra Color	Flag Cond.	Ink Cond.	Geolo cator
1								26							
2								27							
3								28							
4								29							
5								30							
6								31							
7								32							
8								33							
9								34							
10								35							
11								36							
12								37							
13								38							
14								39							
15								40							
16								41							
17								42							
18								43							
19								44							
20								45							
21								46							
22								47							
23								48							
24								49							
25								50							

Entered by \_\_\_\_\_      Checked by \_\_\_\_\_      # errors to be corrected \_\_\_\_\_ / None      Corrected by \_\_\_\_\_

# Resighting Transcription Form

One species per sheet

Site/subsite: <i>S. Bowers</i>	Date: <i>10/May</i> Day   Mon	Species: <i>REKN</i> Sheet #: <i>1/1</i>	Observer: <i>T. Smiths</i> Scribe (if different):
-----------------------------------	----------------------------------	---	--

Record only **ONE SPECIES** per sheet. Work down the columns.

Indicate each half hour time block (e.g. 0830 for 0830 to 0859) in 24 hr time.

Group by flag color within each half-hour time period. Draw line down column for repeating entries for time and flag color. Use \$ for S and cross Z, 7, and 0. Make V, 5, G, B, and D very square/pointy

Record extra color on opposite leg for 2-character lime flags.

**Geolocator:** Note whether a bird is carrying a geolocator (Geo) or other additional tracking devices

**Flag Condition:** Record any irregular condition of the flag: Flag Color Faded (FF), Flag Stained (FS), Flag Upside down (FU), Flag Open (FO), Flag Broken (FB), or Flag Dirty (FD), or Flag Abraded (FA- top layer of flag worn through; rare). Note: generally ink fades not flags (i.e. IF not FF)

**Ink Condition:** Record partially or completely faded ink: Ink-None (IN), Ink Faded (IF), Ink (white) Stained (IS)

Record the number of flag sightings on each sheet

Last person to fill in flag resighting summary form, and attach to Visit Summary Form

Geolocator and Flag Condition notes at top of sheet, use accordingly.

Group your observations by time and flag color to make data entry easier

Time is broken into 30 minute increments

**Do not repeat** birds within the 1/2 hr

**Do repeat** birds across 1/2 hr segments, for example flag code "NJ" is in both 13:00 and 13:30 half hour segments

A vertical line indicates repeated data

	Time (24 hr)	Flag Color	Flag Code	Extra Color	Flag Cond.	Ink Cond.	Geolocator		Time (24 hr)	Flag Color	Flag Code	Extra Color	Flag Cond.	Ink Cond.	Geolocator
1	13:00	B	H4J					26							
2		O	NJ	DG				27							
3		L	BL	DG				28							
4			CX5		IF			29							
5			IJK					30							
6	13:30	W	T8					31							
7		O	NJ	DG				32							
8		L	CX5		IF			33							
9			LOL					34							
10			KAY					35							
11								36							
12								37							



# Ratio Scan Form

Back at the shorebird house, fill out the Ratio Scan Form if you completed ratio counts.

## Ratio Scan Form

FOR OFFICE USE:  
Top Sheet ID: 2020 \_\_\_\_\_



Begin scanning across a flock counting each bird you see and total number with inscribed flags of any color (use tally counter). You must see both legs to confirm that a bird is not flagged. Target sample for each scan is 50, but if there are fewer than 50 birds or birds fly before 50 are counted record counts to that point. Attach this data sheet to your cover sheet. Combine data from multiple observers who were at the same site at the same time.

Date: <i>17/May</i> Day   Mon	Site: <i>N. Bowers</i> (enter Mispillion subsite below)
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	Species	Time (24 hr)	Total # Scanned	# w/ flags	# w/o flags	Misp. subsite	Observer
1	<i>REKN</i>	<i>10:30</i>	<i>27</i>	<i>7</i>	<i>20</i>		<i>T. Smiths</i>
2	<i>RUTU</i>	<i>10:30</i>	<i>50</i>	<i>12</i>	<i>38</i>		<i>T. Smiths</i>
3	<i>REKN</i>	<i>11:00</i>	<i>5</i>	<i>1</i>	<i>4</i>		<i>T. Smiths</i>
4	<i>RUTU</i>	<i>11:00</i>	<i>31</i>	<i>11</i>	<i>20</i>		<i>T. Smiths</i>
5	<i>REKN</i>	<i>11:30</i>	<i>15</i>	<i>3</i>	<i>12</i>		<i>M. Addams</i>
6	<i>SAND</i>	<i>11:30</i>	<i>50</i>	<i>18</i>	<i>32</i>		<i>M. Addams</i>
7							
8							

All observers from a site can put their data on one sheet. For example, if three observers did ratio scans for REKN, then all three can put their data on one sheet.

# Tagged Horseshoe Crabs



Greg Breese





Occasionally dead sturgeon are encountered on the beach. Sturgeon are ancient fish, dating back at least 70 million years, and can be found along the entire Atlantic coast from Florida to Labrador, Canada. Currently rare, sightings provide valuable information for scientists and managers working to conserve them.

Sturgeon are a state protected species and if encountered, are reported to Delaware Fish & Wildlife.





# Further Information

On arrival, you will be provided additional information in the form of verbal instruction, written instructions, and practical experience with more advanced team members.

Please ask questions when you are uncertain.

Remember, it is better to have only a few resightings that you are sure about, than a lot of uncertain resightings. Take time to be certain.

# Credits

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Photos credits given by photos

*Updated April 2020*

