

Delaware Shorebird Monitoring Program Field Log 2005



Purpose of the Delaware Shorebird Monitoring Program

The Delaware Shorebird Monitoring Program has been undertaking research into the health and population of several species of trans-continental migratory shorebirds since 1997. The team consists of dedicated trained volunteers, staff, and researchers interested in the conservation of shorebird species.

The purpose of this research is to improve our understanding of the importance of the Delaware Bay in the life cycles of migrant shorebird populations such as the Red Knot, Ruddy Turnstone, and Sanderling.

About this Document

This document is a record of the work done by the Department of Natural Resource & Environmental Control staff, researchers and volunteers during April, May and June 2005. Each team member wrote the Log soon after they returned from the field to provide a record of the level of activity that was undertaken. It also provides additional information to the standardized records. Much of this is anecdotal in nature but could be important in interpreting the results obtained in future years.

Photos courtesy of : Rob Robinson, Kimberly Cole and Pat Erbland

For More Information

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Delaware Shorebird Monitoring Program

2005 Research Plan

OBJECTIVES

1. To complete behavior based models that predict how the density of Horseshoe Crab eggs available to shorebirds affects the birds' rates of weight gain and hence whether they are able to migrate to the Arctic in good condition.
 - o Determine foraging rates
 - o Determine egg depletion rates
2. To undertake fieldwork to assess the length of stay of individually color marked birds and model the length of stay of groups arriving at different times.
3. To undertake fieldwork and assess the demography of shorebirds migrating through the Delaware Bay through stable isotope analysis of feather samples.
4. To undertake banding efforts and analyze the weight data collected in 2005.
5. To undertake fieldwork to understand the impacts of human disturbance on migratory shorebirds in Delaware.
6. To undertake fieldwork to assess how shorebirds utilize Delaware Bay and evaluate the use of Automated Radio Telemetry Systems.
7. To continue training local volunteers in building a dedicated team capable of supporting the monitoring program.
8. To undertake fieldwork to assess Baywide horseshoe crab egg densities.

RESEARCH AND MONITORING PROJECTS

Shorebird Health and Condition

Critical to our understanding of the conditions shorebirds encounter on the Delaware Bay is the ability of birds to gain weight throughout the season. Novel approaches to analyzing weight gained throughout the season have been developed and will be used to assess birds ability to put on weight (energy reserves) while they are here.

Stopover Duration

Monitoring the Delaware Bay passage requires knowledge of how long birds stay in the Bay as well as arrival and departure patterns. It is not sufficient to assume that all birds get to Delaware Bay on May 1 and depart on May 28. There are observable differences in arrivals of different groups of birds and knowing when these events happen will potentially allow us to better assess how different populations of shorebirds are using the Bay. Stopover duration is assessed through resighting of flagged birds and radio telemetry data.

Bay-wide Movement Patterns

Determining where birds go in the Delaware Bay during their stopover is a critical element in directing conservation and protection efforts appropriately. Resighting individually marked birds at various locations throughout the Bay is one method used to evaluate Bay-wide movement patterns. Advances in technology have allowed us to use an automated radio tracking system to extend the scope of "resighting" birds both spatially and temporally. This system, initially developed to track horseshoe crab, will be used to track Red Knot movement patterns by attaching a radio transmitter to a small group of individuals. The

system will allow us to track the movement of the birds almost continuously during their stopover. Sites important for feeding and roosting will be determined by this work.

Survivorship

Shorebirds, particularly Red Knots, are long-lived species with long distance migratory patterns. Given these characteristics, a variety of factors may impact their populations either positively or negatively. These characteristics also limit our ability to accurately determine and monitor their overall population size. We can, though, assess year to year survivorship to help us to monitor their populations. Survivorship is assessed through resighting individually marked birds in subsequent years.

Winter Populations

Molecular analysis of Red Knot feathers (6th primary covert) that were molted on the wintering grounds and collected in Delaware Bay has revealed four distinct wintering areas including Bahia Lomas, Chile; Rio Grande, Argentina; Southeast U.S. (Florida and Georgia); and Northern Brazil/Caribbean. There may be important fitness and survivorship consequences for Red Knots depending on where they spend their winter. This work will continue this year and the results will ultimately be compared to survivorship estimates for wintering groups, arrival/departure dates, movement patterns and weight gain.

Foraging Behavior

Shorebirds rely on horseshoe crab eggs as a source of energy during their stopover in Delaware Bay. Foraging efficiency is dependent on the number of crab eggs available to them as different densities of eggs require different modes of foraging which, ultimately, has consequences for their ability to attain their departure weight. The foraging behaviour of captive Red Knots and Dunlin will be studied to help evaluate the prey availability necessary for shorebirds to meet their departure weight.

Distribution and Abundance of Horseshoe Crab Eggs

The abundance and distribution of horseshoe crab eggs available to shorebirds will be quantified through a horseshoe crab egg survey. This survey will provide an index of horseshoe crab egg abundance, which can be used to help determine if there are sufficient eggs available to shorebirds to support their energetic requirement for migration and arctic breeding. In addition, it will help us to monitor shifts in distribution and trends in egg density in relation to shorebird use among years.

Disturbance Studies

Shorebirds using Delaware Bay as stopover site encounter a number of challenges including Bay-wide variations in food availability, weather, and predators. One challenge birds have are disturbances to feeding and roosting sites including predators, humans (beach combers and researchers), boats, planes, and dogs. Manomet Center for Conservation Sciences is in its second year on the Bay to attempt to quantify these sources of shorebird disturbance and how they affect the birds' ability to use the Bay successfully.

Delaware Shorebird Monitoring Program

2005 Fieldwork Summary

Shorebird Banding

In total, 9 cannon net and 1 mist net catches were made on Mispillion, Slaughter Beach, Port Mahon, and Ted Harvey Wildlife Area. The Delaware Shorebird Monitoring Team caught a total of 2,223 shorebirds and 6 different species, easily reaching our goal of at least 300 for each of the target species Red Knot and Ruddy Turnstone but falling short for Sanderling.

All of the shorebirds caught were ringed with a metal USGS band identifying that individual as to where and when it was captured and processed. Data (including full biometrics) was recorded for all or a sub-sample of the shorebirds including:

- 1) wing length;
- 2) head and bill length;
- 3) age;
- 4) sex (if possible);
- 5) body moult index;
- 6) plumage score and;
- 7) weight.



In addition, captured Red Knot, Ruddy Turnstone, and Sanderling were individually color banded before they were released.

| Date | Location | Method | DUNL | REKN | RUTU | SAND | SBDO | SESA | Grand Total |
|--------------------|------------|------------|------|------|------|------|------|------|-------------|
| 12-May-05 | Mispillion | Cannon Net | 32 | 77 | 15 | 20 | | | 144 |
| 13-May-05 | Port Mahon | Cannon Net | | | 34 | | | | 34 |
| 16-May-05 | Mispillion | Cannon Net | 6 | 62 | 83 | 5 | 41 | | 197 |
| 19-May-05 | Slaughter | Cannon Net | | | | 81 | | | 81 |
| 21-May-05 | Mispillion | Cannon Net | 27 | 92 | 21 | 5 | | 14 | 159 |
| 21-May-05 | Ted Harvey | Mist Net | 15 | | 14 | | | 208 | 237 |
| 26-May-05 | Mispillion | Cannon Net | 43 | 72 | 36 | 12 | 4 | 57 | 224 |
| 27-May-05 | Port Mahon | Cannon Net | 5 | 4 | 43 | 3 | | 25 | 80 |
| 30-May-05 | Mispillion | Cannon Net | 4 | 10 | 75 | 6 | 9 | 397 | 501 |
| 1-Jun-05 | Mispillion | Cannon Net | 53 | 84 | 33 | 22 | 2 | 372 | 566 |
| Grand Total | | | 185 | 401 | 354 | 154 | 56 | 1073 | 2223 |

Shorebird Resighting

Over the spring migration period, volunteers, researchers and staff resighted 10,822 color marked shorebirds of 5 different species along the Delaware Bayshore coast. This data will be used to assess the length of stay of individually color marked birds and model the length of stay of groups arriving at different times, to assess the movement of individuals between sites and to back up radio telemetry studies, and to assess the return rates of individual marked birds to feed into survival analyses.

| Resighted Shorebirds | |
|-----------------------------|--------------|
| Dunlin | 1 |
| Red Knot | 5885 |
| Ruddy Turnstone | 3259 |
| Sanderling | 1607 |
| Semipalmated Sandpiper | 70 |
| Grand Total | 10822 |



Shorebird Research

During May and June, volunteers, researchers and staff prepared 1,079 feather samples taken during banding operations in Delaware and New Jersey for stable isotope analysis. This is the third year that stable isotope analysis has been conducted on feathers sampled in Delaware Bay which enables us to identify the wintering areas of the shorebirds. There may be important fitness and survivorship



consequences for Red Knots depending on where they spend their winter. The results from this research will ultimately be compared to survivorship estimates for wintering groups, arrival/departure dates, movement patterns and weight gain.

Delaware Shorebird Monitoring Program

2005 Research Team

Over 75 North American and 12 European volunteers spent 4,522 hours assisting staff and researchers with the research for the Delaware Shorebird Monitoring Program.

Olin Allen
Tricia Arndt
James Ashby
Emalie Baker, Gibbons
Phil Atkinson
Gary Austin
Graham Austin
Naomi Avissar
Matt Baily
Alan Baker
James Barry
Chris Bennett
Karen Bennett
Jessica Bercume
Rebecca Boutz
Lynn Bowen
Ted Bowen
Christy Bowersox
Eric Braun
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Greg Breese
Bill Brown
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Bill Buchanan
David Carter
Ed Cervone
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Kimberly Cole
Mark Collier
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Sarah Dawkins
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Matt Dibona
Andre Duiven
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Marcia Fox
Katie Froning
Aaron Gheris
Simon Gillings

Sharon Goldsmith
Jerry Goldsmith
Patricia Gonzalas
Larry Graff
Richard Hall
Deborah Hanley
Rebecca Hargrove
John Hargrove
Brian Harrington
Gene Hess
Erin High
Annie Jacobs
Kevin Kalasz
Sarah Karpanty
Beth Krumrine
Mike Krumrine
Uday Kumar
Meta Little
Cynthia Loeper
Mike Lohr
Don Long
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Anna Macan
Steve McGruder
Arthur Melvin
Sallie Melvin
Liz Mountz
Lys Muirhead
Holly Niederriter
Debbie Nissley
Ashly Nissley
Sally O'Byrne
Timothy O'Conner
Diane O'Shea
George O'Shea
Robert O'Shea
Colleen Olfenbittel
Chris Ordiway
Marnie Pepper
Colin Powers

Michael Remus
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Matt Robinson
Bob Rufe
Alice Schaller
Sally Shelton
Charlie Sheppard
Julie Smith
Heidi Stout
John Tayleur
Shelly Tovell
Linda Tran-Barry
Arnella Trent
Jamie Trivett
Judy Urwin
Jake Walker
Larry Watson
Robert Weaver
Erin Weaver
Bonnie Willis
Nancy Carol Willis
Jean Woods
Karen Wray
Richard Wray
Pete Zeigler

Groups Represented Include:

- British Trust for Ornithology
- Wash Wader Ringing Group
- Department of Natural Resources and Environment: Control
- US Fish and Wildlife Service
- Delaware Museum of Natural History
- Tri-State Bird and Rescue
- Manomet Center for Conservation Sciences
- Virginia Tech
- Royal Ontario Museum

Delaware Shorebird Monitoring Program

2005 Fieldwork Log

This Log is a record of the fieldwork undertaken in the State of Delaware to monitor shorebird migration. It gives supplementary information that may be of use in interpreting changes in migration patterns and numbers over time. Following each visit to the field, records of the general results of fieldwork including weather, birds species and numbers observed, flagged birds and other anecdotal details of the visit were recorded in this log.

Saturday, April 16th

The first Training session for the Shorebird Monitoring Team was held at the DNERR and Ted Harvey today. Chris Bennett, Olin Allen, Kim Cole and Greg Breese took the team through shorebird identification, resighting, handling and processing birds as well as a step by step cannon netting exercise at Ted Harvey for the volunteers. Kevin Kalasz and Marnie Pepper took the more experienced volunteers to hone their skills with flock size estimation and a field visit to Bombay Hook National Wildlife Refuge.

Saturday, April 30th

The second Training session for the Shorebird Monitoring Team was held at the DNERR and Ted Harvey today. There was a HUGE turnout. Chris Bennett, Olin Allen, Kim Cole, Bonnie Willis and Greg Breese took the team through shorebird identification, resighting, handling and processing birds as well as a step by step cannon netting exercise at Ted Harvey for the volunteers. Kevin Kalasz, Karen Bennett and Marnie Pepper took the more experienced volunteers to hone their skills with flock size estimation and a field visit to Bombay Hook National Wildlife Refuge.

Monday, May 2nd

Port Mahon:

Dave C. had two individual Turnstones banded on May 9, 2004 Fl(ALH) and Fl(AEJ) out of 38 scanned. He also had 45 Dunlin and a smattering of other species.

Pickering:

15:30 Uday Kumar and Bill Brown. 100 Greater Yellowlegs, 6 Sanderling, 3 Lesser Yellowlegs and 2 Willet were feeding along the shoreline.

Kitts Hummock:

14:30 Uday Kumar and Bill Brown saw just one Turnstone at Kitts Hummock but also had 40 Lesser Yellowlegs and 60 Greater Yellowlegs.

North Bowers and Ted Harvey:

KBC – No color marked birds on either beach. Quite a few gulls and I had the joy of watching a pair of Black necked Stilts feed along the shore along with some Willet, but that's about it. There were a pair of dogs running about loose on North Bowers as well.

I did see Dave Smith and Andrew when I was walking out to the North Bowers beach. He was saying that there has been some spawning activity already, as he's found stranded males along the shore. The first spawning survey is this Sunday, so we'll get a better idea of what's happening then. Dave S. was heading out to work on turning on the Telemetry Receivers.

South Bowers:

15:15 Marnie Pepper, Christy Bowersox. 22 Willet on the beach with just 14 Sanderling and 4 Turnstone. Unsurprisingly with few birds present, no colour-sightings.

Brockenbridge Gut:

13:45 Marnie Pepper, Christy Bowersox. Few birds here, only 30 Turnstone, 14 Dunlin and 6 Sanderling plus about 100 gulls and 30 Willet. A few colour-marked birds seen.

Tuesday, May 3rd

Gene K. Hess arrived & did first boat survey with Kevin, Olin, Marnie, & Ed (driving). Interesting birds included Bonaparte's Gull, Merlin -1, Whimbrel – 1, Northern Harrier – 1, American Avocet. Kevin had 1 Red Knot. Also present were Sanderling, Turnstone, AMOY, BNST.

Wednesday, May 4th**Port Mahon & Pickering Beach:**

Gene & Christy Bowersox did resighting at Port Mahon in morning (0815-0940) & Gene & Marnie in the afternoon (1615-1726). Marnie did Pickering Beach (1535-1821).

Thursday, May 5th**Port Mahon:**

Gene & Arthur Melvin resighting from 1021-1129. There were Sanderling, Turnstone, Dunlin, Spotted Sandpipers, both yellowlegs and a raccoon.

Gene & Christy Bowersox resighting 1620-1715. Very few birds on beach – practically none. 3 red fox. Weather cool & overcast.

South Bowers:

11:00-11:35 Christy Bowersox and Annie Jacobs. 50 Sanderlings, including one with strikingly red plumage. There were also gulls (15 Black-backed, 5 Laughing Gulls, one Ringbilled and one Bonaparte)

Slaughter Beach:

17:19-17:40 Sally O'Byrne and Annie Jacobs.. Overcast and hazy. There were 7-10 horseshoe crabs mulling about in the waves 10-5 ft from shore. There was one female crab up on the beach with peat caught up in her legs. Also lots of barnacles on her. Not many birds, one spotted sandpiper and approx. 20 birds took flight at a distance that may have been Sanderlings.

Friday, May 6th

Port Mahon:

12:00-12:50 PM Gene Hess and Annie Jacobs. The tide was still somewhat high and waves were somewhat rough with a gentle to moderate breeze. Small flocks of Turnstones (15 -20 at most) were flying about and looking for places to land. A few Turnstones were feeding along the shoreline. There was one lime flagged Turnstone but it flew off before we could read the code. Groups of gulls (Great Black Backed, Herring, Ring Billed and one Laughing) were loafing on pilings. Seven Dunlin were spotted south from the southern end of the road in mud flats. Threat of storm later in the day may cancel out afternoon resighting.

Saturday, May 7th

Port Mahon:

Gene & 2 volunteers resighting from 1205-1306. Still not many birds around but more than a few days ago. Osprey on nest at pier. Also seen were 5 Snow Geese.

Pickering Beach:

The two volunteers with Gene resighting 1315-_____. The volunteers spent along time walking farther then they needed causing some panic on Gene's part. They did return before a "rescue" party was organized to find them.

Slaughter Beach:

12:00 It looked pretty bleak when we started by the firehouse on. We moved up the beach a ways and it got a bit better. Then we went to the north end of the beach and as the tide went out, the birds flew in by the hundreds.

Sharon scribed as Marnie and I scanned and I practiced my bird ID and counting. The interesting findings-a single red Knot, five skimmers (later seen sitting at Mispillion Harbor), one bald eagle, a couple of Osprey, but no flagged birds.

Jerry and Sharon Goldsmith

The UK team arrived at the St Jones Reserve at c2300hrs and pretty much went straight to bed!

Sunday, May 8th

Port Mahon,

0830-0915 SG, NAC, RAR, JRT. High tide. Since last year the road has been paved but a recent storm had washed large quantities of fine sand over the road. Furthermore there

was no tide rack on the beaches – it, along with many small rocks were on the road! With this, and the very high tide and early date it was no surprise that there were only c.30 Turnstones present, none of which were colour-marked.

Ted Harvey

Mispillion

SG, NAC, KSK, RAR, JRT,. Virtually no shorebirds, gulls or spawning evidence within the harbour. Motored out to the islands down the channel and found small numbers of Knot and large numbers of Dunlin and dowitchers spread from there round Cedar Creek onwards.

Slaughter Beach

11:10 The Goldsmith's. Just got back from the beach. A bit windy, and just before high tide. Along the sandy part of the beach were a lot of Sanderlings and a few Turnstones. But about 150 yards north of our property (593 Bay Avenue) , just about where the peat begins to cover the sand, were large groups of Sands (100+) and Turnstones mixed, and the further up, another large group of Dunlin and Turnstones. The first group was just sitting there, resting. The further group seemed to be feeding but all bunched together. Most interesting, a lot of the Turnstones were feeding just above the beach in the dried grass. No flags on any of the Turnstones.

Monday, May 9th

Port Mahon

NAC/SG/JRT Again tide very high and no spawning, very few Turnstones. Highlight, a stunning Belted Kingfisher on wires along the access road.

Spring Meeting at Lewes Ferry Terminal.

Mispillion:

Kim Cole — 60 Knot feeding on central island.

Tuesday, May 10th

Port Mahon

0830-0845 SG on high rising tide. Water rather high. No real evidence of spawning. Only 21 Turnstones strung out along the whole beach, plus 2 Sanderling, 1 Spotted Sandpiper, 1 Greater Yellowlegs and the usual flock of c.20 Dunlin to the south on the peat.

Ted Harvey

0915-0930 SG, mid rising tide

Owing to very small numbers of birds (c25 total visible) did not walk the beach but a reasonable number of upturned crabs on the beach and evidence of spawning in places. On return called in briefly at the northern impoundment where again c3000 mixed

waders, predominantly Dunlin and Semi-palmated Sandpipers, plus dowitchers, Semipalmated Plovers and yellowlegs. Also c.150 Skimmers.

Pickering

14:30-15:00. Annie Jacobs, Katie Froning, Aaron Gheris. Winds and hazy conditions made viewing birds difficult. Just some Laughing Gulls, Great Black-backed Gulls, Willits one Turnstone and then in the far distance some unidentified shorebirds looking for a place to land and having a hard time because of the wind, then landing out of view due to slope of the beach. Then four Knots in flight! Followed them with the scope across the water and up into the sky a bit, then lost them. They had clearly red plumage and seemed intent flying against the wind. Also a fair number of horseshoe crabs spawning and crawling and overturned. We flipped them on the walk back.

North Bowers:

1530-1715, JLW, Meta Little. Still very windy and getting colder. A little group of Turnstone (25) on inlet by docks. Good group of Turnstone, Sanderling and Dunlin at north end of Bowers (by last 2 houses) as tide was going out. Saw 5 individually flagged birds. Turnstones nice and calm and cooperative. Some spawning at north end, little sign to south.

Brockenbridge:

1325-1500, JLW, Meta Little, Very windy, birds were at far north end, 38 semis, 46 Turnstone, 2 Knot on far side of gut, 36 Sanderling and 8 Dunlin. Also 3 dowitchers. Hard to get close enough to birds to check for flags. Birds seemed very flighty. Turned over a moderate number of crabs (falling tide).

Cedar Creek and Osprey Beach

1530-1600 NAC/RAR. Walked into Osprey Beach from Cedar Creek. As we were the first team to walk in this season finding the route was slightly difficult! 600 Dunlin, 80 Knot, 150 Sanderling, 400 Turnstone 10 Semi-palmated sandpipers, 40 Short-billed Dowitchers and 200 Laughing Gulls.

Boat survey Mispillion-Port Mahon:

09:00 – 12:00. NAC/RAR/JRT/KSK et al. Surprisingly windy making counting difficult very few Knot except in Mispillion decided that it would be impossible to count off Kelly Island so stopped at Mahon. There was evidence of spawning as far north as Ted Harvey. Did a few resightings at Mahon whilst waiting for the car to fetch us.

Wednesday, May 11th

Port Mahon:

0835-1015, Jean Woods. Overcast and hazy but much less windy. Good group of Turnstone and Dunlin at south end in peaty bit. 2 individuals here. A few more Turnstone and Dunlin by fishing pier including 3 more individuals. No signs of spawning.

North Bowers:

0830-0930 SG, JRT and RAR: 200 Ruddy Turnstone (6 individuals), 3 Red Knot, 20 Sanderling, 5 Dunlin, 5 Semi-palmated sandpipers. Limited evidence of spawning on the sandy areas though a lot of shorebird feeding activity high up the shore in the shingle area to the north end of the beach.

South Bowers:

1700-1820 JLW, RAR. A few Dunlin at south access road. Got Jeep stuck and unstuck. 270 Turnstone at north end on bay and inlet side of jetty, all feeding, with good numbers of Sanderling. No significant spawning.

Brockenbridge:

13:05-14:35 Jake Walker and Mike Lohr. Low numbers of shorebirds – 64 Turnstone, 3 Knot, 14 Sanderling and 6 Dunlin. But 240 gulls. Most of flock feeding rapidly on shore edge allowed 3 resightings to be recorded.

Slaughter Beach:

1530-1630 JLW, RAR. Checked from Delaware of the North and north to end of houses. Some Sanderling at south end of that area. Thousands of Dunlin and some dowitchers and BBPL at north end in peaty area up into Cedar Creek. No significant spawning.

Thursday, May 12th

Mispillion

Catch on Osprey Beach. More birds on the beach than we expected when we arrived to set- got into the hide a quickly as possible numbers slowly built up to 50 Turnstone but only 10 Knot. After several fly rounds suddenly got a flock of Knot land in the catching area – made a quick catch- 78 Knot 14 Turnstone 19 Sanderling and 32 Dunlin. All went very well. 10 Dunlin were whisked away once the boats had been de-beached, and taken to the compound in Little Creek, to be held in captivity for feeding experiments. They seemed to settle fairly well and were left to get used to their temporary new home.

12:30 – 15:15 SG and MP scanned back beach area but the strong wind meant that keeping the boat sufficiently stationary to scan was very hard. MP soon mastered controlling the boat and we managed to make a series of close inshore passes to read colour-rings with binoculars. Scanning with scope only revealed an alternating view of water-sky-water-sky!

16:00-18:00 NAC, JT and KBC. Approximately 2500 Knot now in Mispillion. Also large numbers of Turnstone (500), Dunlin (2000) and Sanderling (700). Nearly 50 individuals resighted. More work required to stabilise the boat for offshore resighting work.

Friday, May 13th

Port Mahon:

06:30-07:45 NAC. Early morning start to see what the birds were doing prior to attempting to catch at Mahon and also to get some resightings. 400 Turnstone present with 50 Least Sandpipers and 50 Dunlin, but only 50 Gulls – it would seem large numbers only build during the day. 7 colour sightings.

09:45-11:30 RAR, NAC and SG went scanning prior to the catch. Only 210 Turnstone present with approximately 20 Sanderling and 10 Dunlin. 18 individual colour sightings recorded.

Catch conducted a catch on Turnstones, 35 were caught. Did not have to wait too long everything went smoothly.

North Bowers:

13:00-14:00 RAR and SG after the catch. About 30 Knot with 250 Turnstone and 120 Sanderling on the beach amongst which were 6 individually marked birds.

South Bowers:

14:30-16:40 RAR and SG went to North and South Bowers after the catch where we had large numbers of Turnstone (2000) and Sanderling (1000) feeding in along the shoreline. Individuals with 50 Dunlin. Only 6 Knot. 32 individually marked birds seen.

Big Stone Beach:

16:55-18:25 Jake Walker. One colour-sighting from 28 Turnstone present. Also 6 Willet, 1 Spotted Sandpiper, 1 Whimbrel and 1 Semi-palmated sandpiper.

Cedar Creek:

16:15-17:20 AJ, ERH, JCR. Lots of birds here. 1300 Sanderling, 1820 Dunlin and approximately 280 Short-billed Dowitchers but only 6 Knot and 18 Turnstone. No individuals resighted.

Slaughter Beach:

17:30-18:20 AJ, ERH and JCR. 410 Sanderling, 20 Dunlin and 4 Turnstone and a couple of marked birds which were not fully read unfortunately.

Saturday, May 14th

Port Mahon

0830-0930 NAC visited and saw 400 Ruddy Turnstone and got about 20 sightings.

11:45-13:55 Uday Kumar and Deborah Nissley noted approximately 340 Turnstone with 10 Sanderling and 3 Dunlin. There were also lots of gulls along the shoreline. Vehicles and a transporter plane did not cause any disturbance to the birds.

Kitts Hummock:

11:15 Uday Kumar and Deborah Nissley. The only shorebirds here were 3 Willet.

Ted Harvey:

11:45 Annie Jacobs and JT noted very few birds – just 6 Turnstone, 1 Sanderling and less than 50 Laughing Gulls. Lots of horseshoe crabs stranded along the shore from the previous night's spawning. A caterpillar tracked vehicle had been driven along the shoreline prior to the survey.

North Bowers:

11:35-13:26 Deb Hamley, Beth and Mike Krumine. A flock of 200 skimmers roosting just off shore. 500 Turnstone feeding along the tide edge. Significant disturbance at southern end of beach.

South Bowers:

17:25-18:25 JLW saw 7 Knot, 40 Sanderling and 250 Turnstone resighting 6 individual colour marked birds. Good crab spawning which the birds were taking advantage of.

Brockenbridge Gut:

11:15-12:15 Karen Bennett and Julie Smith. 60 Turnstone, 2 Knot, 27 Sanderling, 12 Dunlin and a large number of gulls. ATV driver on the beach caused significant disturbance to the birds.

Mispyllion:

0730-1120 SG, RAR, BAH, KBC low tide. Just short of 2000 Knot and Sanderling. We scanned from the submerged island but light was poor. Then moved to back beach. Initially we scanned from the boat moored just offshore, but after a while decided to brave the chilly water and just stand in the water (below the low tide mark, honest!) and scan with tripods set up in the water too. Noticeably there were virtually no crabs around our feet – unusual for this site and perhaps an indication of the water temperature. Managed a good haul of individual colour marks on Knot and Sanderling, plus a couple of Turnstones, including one from New Jersey 2004.

Nigel and Dave did a Sams club run and also got equipment to make stabilizers for the Jon boat. Spent the afternoon modifying the Jon boat while waiting for the rest of the WWRG team to arrive. All arrived just in time for a fantastic Mexican evening prepared by Gene Hess & Sally Shelton.

Sunday, May 15th

Port Mahon

06.30 – 09.00 SLD, RAR, GEA up early and off to Mahon to get color-sightings of Turnstone. c1250 Turnstone fairly evenly distributed along beach, no real evidence of spawning. A couple of Knot. About 25 individual birds with a mix of 2004 and those from early 2005 catches.

0930 – 1345hrs GH and UK saw 770 Ruddy Turnstone, 29 Sanderling and got over 60 flagged birds.

1335 – 1450 hrs GEA, KSK and J Smith visited saw about 950 Ruddy Turnstone with about 20 sightings.

1800hrs SG, JRT and PWA called in to dump used sand from the cages. Heavy spawning at least on the southern bays. On the way back a flock of c10 Bobolinks in a grass field on the edge of Little Creek village, and a Savannah Sparrow, Turkey, female Merlin and Meadowlark near the airbase.

1805-1950 hrs DC, GH and NAC counted 850 Ruddy Turnstone and 2,000 gulls and about 35 sightings.

Port Mahon

ML disturbance study lasted 90 min. Good numbers of Turnstones but not much else. Disturbances were often caused by fast vehicles. Lots of mating LAGUs. After that went to Kitt's Hummock/Pickering. The lack of shorebirds and large numbers of nasty biting flies made it necessary to leave early. No shorebirds=no disturbances. Large flock of skimmers flying by nearly compensated for the gnats.

Pickering:

1300 -1317 KSK, Julie Smith. 70 Ruddy Turnstone present, no sightings.

Kitts Hummock:

1210 -1230 KSK, Julie Smith 115 Least Sandpipers and a few Semi-palmated Sandpipers, little else.

Ted Harvey

11:30-13:30 Eric Braun and Liz Mountz went to where they saw 380 Ruddy Turnstone, 115 Red Knot and 22 Dunlin and saw at Small numbers of flagged birds seen.

North Bowers.

11:30-13:30 Eric Braun and Liz Mountz saw 560 Ruddy Turnstone and 111 Red Knot looking across from Ted Harvey.

Bigstone Beach:

1200 RAR, Kar de Geiso 120 Sanderling, 26 Ruddy Turnstone, 5 Knot, 2,000 gull and no sightings.

South Bowers:

0900-1145 – low tide. SG, JRT, LBM Again >1000 Turnstone and c200 Sanderling, 30 Knot but birds were very jumpy. Not in response to us as they remained for several minutes after each approach but then for no apparent reason all birds on beach lifted and moved 50m down the beach. Very frustrating. Also large numbers of voracious No-see-ums.

Brockenbridge Gut:

12:45. AGD and JB (James ?) Arrived at site Gut, nothing noteworthy during the walk along the beach. Tide was rising and the spit was soon to be covered. Large group of Greater Black Backed Gulls present (150) and a smaller number of Laughing Gulls (100). At arrival only two Knot present, one cohort marked bird and one unmarked. That meant 50% of the flock was marked! Also present 20 Turnstone, 22 SEMI and 3 LESP. Sanderling were most numerous with 160 birds. Two were seen with lime flags: F₁ JMN/-;Y/M and F₁ CPT/-;-/M. Towards high tide, when the spit got covered, small flocks of mainly Sanderling and some Knot were seen passing by towards Bowers. When a larger flock of Sanderling landed in front of us, two locals arrived on quads (making a significant amount of noise) causing the flock to move off as we were preparing to find some more flagged birds. The quad-drivers asked if we were OK with them driving there and we replied we were just leaving. The quad-drivers then proceeded to the mouth of the river and drove back through the marshes, spurting fountains of mud and vegetation behind them. As we did not know quads are banned from BBG, we did not take photographs, nor did we point this out to them. During our whole stay the mouth and other side of the river carried no bird numbers of any consequence. As we walked back some rain fell, but not very much.

North Bowers

1230-1430 hrs SLD, GKA and Lois Bryman saw 500 Turnstone, 400 Sanderling and 50 Knot and a flock of 100 roosting Skimmers. Eight colour sightings made.

Mispyllion

0930 -1245 NAC, JAC, PWA went to Mispyllion in the morning to do resightings. There were about 2,500 Knot present, 800 Turnstone, 1,000 Sanderling, 700 Dunlin, 200 Dowitchers and 1,500 very noisy gulls. About 120 Knot sightings and a few others

17:30-19:30 SLD, LBM,GEA & Kevin sightings from boat for 2 hours plus until light was failing. New boat stabilizers works well but four people on board was a little awkward with tripods and synchronizing movements. Avoided disturbing the catch site for the next day and concentrated on the back beach. Good numbers of Knot resightings plus a smattering of Turnstone and Sanderling. High numbers of Gulls seemingly displacing shorebirds from large stretches. Rain that had been threatening for most of the time had gotten quite heavy by the time we left cold but happy.

Little Creek compound - Feeding Experiments

The Dunlin are settling well, having eaten all the food over night. Though still a little nervous they were content to feed whilst we watched. All birds were caught, weighed and colour-banded.

The captive Dunlin have settled in with remarkable flexibility, and are happily chomping away on the eggs given to them. Weights are a little down, but such is their apparently relaxed attitude to life in captivity, and to human presence, that a decision is taken to bring in the Knot when they are next caught. Dunlin will be subjected to experimental rigors as of tomorrow also – a seminal day.

Monday, May 16th

Port Mahon:

06:20-08:30 SLD up early again to do resightings in Port Mahon. First pass along the beach was fairly fruitless – high tide and the birds were mostly amongst the rocks and not showing legs. A total of 27 colour banded Ruddy Turnstone from an estimated flock of 2000, slightly up on the previous morning. Second pass along the beach was much more profitable. [Note to self, check tide times before deciding on an early morning at Mahon to make sure it will be worth it!!!]

Bigstone

1510-1525 hrs Jake Walker. 10 Turnstone, 400 Sanderling and 200 gulls seen. Had eight Sanderling colour-sightings, including one Brazilian picric-dyed bird.

Mispillion:

10:30-15:00 RAR, AGD and PWA. Did scans from the Jon Boat on both Osprey beach and the back beach. Numbers seemed to have increased markedly overnight. When we arrived a Peregrine was terrorizing the area and large flocks were seen swirling around (great picture moment!). Estimated numbers present: Knot 4000, Sanderling 1500-2000, Dunlin 800 and 750-1000 Laughing Gulls and tens of Great Black-backed Gull. We managed to identify more than 20 indy's, but were slightly hampered by the Jon Boat's instability and the density of the flocks. Only birds along the edges could be read, the actual number of individuals will have been much higher (as the scanning team in the afternoon proved). When we just started to scan a large group of Knot that had just landed smack in front of us we were informed that the catch was made and we had to discontinue our efforts to join the processing. One inscribed blue flagged individual was spotted on Osprey Beach. Next time we go scanning in Mispillion by boat we might consider taking an extra radio and drop one person of at the islands south of the jetty.

Mispillion Catching Team:

Setting team departed 09:30 but lost the hub on the boat trailer and required rescue by the basecamp team who brought another boat down. Good set but birds trying to get onto beach even whilst we were still there. Team in hide to wait for birds to reappear. Birds eventually started coming back onto the beach and numbers began to build up. Numbers quickly rose, dominated by Turnstone (c150) but we struggled to get above 30 Knot. Several lift offs. A highlight to relieve our sufferings, 8 Whimbrel landed about 12 feet in front of the hide. But unfortunately they proved a draw to the birds in our catching area when we had a lift off. Things began to settle down again but rapidly built to too many birds but a fly around lost some and the birds that landed drew in another small flock of Knot. Noting about 50 Knot and 70 Turnstone Nigel was questioning whether this was a good time to take the catch. A Mexican Wave of "Yes" along the hide and we got what felt like the World's slowest count down. The net went out really well but unfortunately a peg came out. However, a good catch of:

82 Turnstone

62 Knot

41 Short-billed Dowitcher
5 Sanderling
6 Dunlin

Good spawning as team departed leaving NAC, RAR and SLD to spend a few hours resighting on the back beach. Counted 2,500 Knot, 200 Turnstone, 500 Dunlin, 50 Sanderling and lots of gulls. About 100 colour flag sightings.

Little Creek Compound - Feeding Experiments:

JRT & SG began feeding experiments to iron out any potential problems. Reflection from the Perspex window could be problematic, as well as contrast on the film due to bright light background. However, the first three treatments appear to be useful, and data is now trickling in.

Ten Red Knot from the catch in Mispillion were taken back to St. Jones Reserve, where JRT & SG moved them on to the compound and into the cages, already prepared and homey. Nervous behaviour as expected, so they were left in the company of the Dunlin to settle down.

Tuesday, May 17th

Port Mahon

0800–1000 hrs GEA, GKA. 1,700 Turnstone, 200 Sanderling, 100 Semi-palmated Sandpiper, 100 Dunlin but only 10 Red Knot and got 13 colour sightings.

0945-1410 hrs Annie Jacobs and Gene Hess. 1,230 Ruddy Turnstone, 38 Sanderling, 22 Dunlin.

1140-1315 hrs JT, PWA. 1,180 Turnstone, 34 Sanderling, 10 Dunlin and only 1 Knot. About 30 sightings.

Kitts Hummock

1315-1410 hrs KSK, Meta Little. 100 Turnstone, 15 Sanderling, 25 Semi-palmated Sandpipers and 22 Least Sandpipers. No resightings.

Ted Harvey

0630-0830 hrs GEA, GKA. No Shorebirds to speak of looking north from beach entrance but about 8,000 gulls. Walked south and found about 1,500 Dunlin, 200 Ruddy Turnstone and 1,100 Semi-palmated Sandpipers. Only one Red Knot seen, but at least it was a flagged bird. Another 3,000 gulls to the far south.

1620-1750 hrs Jake Walker. Saw 3 Knot, 120 Turnstone, one Sanderling and one Dunlin. Got one colour-flagged Knot.

North Bowers

1230–1300 NAC, JAC, SLD, JW. No birds along front edge of beach. Approximately 350 (6 colour-ringed) Turnstone with 75 Sanderling and 25 (1 colour ringed) Knot at the

river mouth. Big flock of 300 skimmers and a few waders but not as many as Sunday although admittedly a very different state of tide.

South Bowers:

13:30 – 16:00 NAC, JAC, SLD, JW. Very large flock of Turnstone on beach c2000 and 700 Sanderling. Working in pairs we carefully worked along checking c75% of the flock and recorded 4 c/r Sanderling, 44 c/r Turnstone and 25 c/r Knot.

Brockenbridge Gut:

12:30-16:30 AGD, GEA, GKA. Again a beautiful afternoon at Brockenbridge Gut . Upon arrival a reasonable number of birds were present. Mainly Sanderling (750) and Turnstone (1500) with smaller numbers of Red Knot (100) and the usual and ever present gulls. We pretty much exhausted the flocks present for flags, and towards hightide small numbers joined in from the south. This yielded another few individuals to the tally. The situation was pretty similar during our stay. The majority of the birds were feeding, with small flocks, usually Sanderling and Turnstone, roosting high up on the spit. Turnstone were spread evenly over the spit whilst feeding, with the Knots and especially the Sanderling feeding along the waters edge. When we arrived a noticeable concentration of mainly Turnstone and some Sanderling and Knot were feeding in a depression high up on the spit and a second concentration along the high tide mark at the base of the spit. Finally some tens of Horseshoe Crabs came spawning at high tide, we were able to spot four tagged crabs. AGD also read the metal ring on a Willet.

Misphillion

1115-1500 hrs SG, RAR, LBM. 4,000 Knot counted as well as 2,000 Dunlin, 800 Turnstone, 500 Sanderling, 10 Semi-palmated Sandpiper and 200 Dowitchers. Lots of sightings made, nearly 200 in total.

Slaughter

16:30 -17:30 NAC, JAC, SLD, JW. Arrived right on high tide. No birds on the beach at Fire Station end. A big roosting flock of 2500 Sanderling about half way along (Harrison ?) represented a potential catch option for later this week. 400 Turnstone and 100 Dunlin but very few Knot. 4 c/r Sanderling but very difficult resighting with the numbers and density of the roosting flock.

Feeding Experiments:

JT & PWA adapted the conditions for filming by placing a large pieces of plywood behind the cage, and a curtain of Hessian sacking over the awning. The contrast is cut down, and the colour rings are now patently more clear on the film. Six treatments were done before the ritual clean out of cages, and feeding of birds.

Wednesday, May 18th

Port Mahon

0900-1130 hrs GEA. From fisherman's pier south, counted 1,250 Turnstone, 100 Dunlin, 150 Semi-palmated Sandpiper, 90 Sanderling, but no Knot at all. About 10 resightings.

0925-1336 hrs GH, Art Melvin, Sallie Melvin. Counted a total of 1,070 Turnstone, 30 Sanderling, 24 Dunlin, 1 Semi-palmated Sandpiper and 1 Knot(!), also 33 Least Sandpipers. There was lots of human activity (cars, planes etc), but this caused little disturbance to the birds.

RAR & JRT Had a quick check along the beach we met the previous crew coming back. Good numbers of birds all along the beach.

Ted Harvey

1010-1020 hrs NAC, LBM. Saw 40 Knot, 300 Turnstone, 100 Sanderling, 5,000 Dunlin and 1,000 Semi-palmated Sandpipers – the Semi-palmated Sandpipers have arrived! One colour-marked Sanderling read.

South Bowers

1130-1310 hrs NAC, LBM. Saw 2,500 Turnstone, 1,000 Sanderling, 300 Knot and 700 gulls. Got over 40 colour-sightings. People walking on the beach caused disturbance from 200 m. Locals were putting up signs to say no Horse Shoe Crab fishing, but were very friendly to researchers!

Brockenbridge Gut

1315-1540 hrs JLW and SG. All birds were at the north end. About 300 Turnstone, 120 Sanderling and about 20 Knot. A mixture of feeding and roosting birds. A Merlin came in from the west and put all the birds up, but they mostly returned. Additional Knot and Sanderling came in as the tide rose. Eight each ringed Sanderling and Turnstone, three Knot, two of which were 2003 birds.

Bigstone

1300-1630 hrs GES, GKA. Total of about 150 Turnstone and a smattering of Dunlin and Semi-palmated Sandpiper along shore between Bigstone and entrance to Brockenbridge.

Mispillion

1000-1600 hrs SLD, PWA. Found increased numbers of Knot – now up to 7,000 in the harbour. There were also 1,000 Turnstone, 1,000 Sanderling, 750 Dunlin and 750 Dowitchers. The flocks were significantly disturbed by a helicopter and a USAF transporter from about half a mile away. Around 180 resightings!

10:30 – 12:25 Shell Beach. AGD abandoned on shore here whilst Phil and Sarah went to view other beaches from the Jon Boat. Birds feeding along the tide edge in quite a dense flock remained fairly undisturbed throughout the survey making it difficult to get good numbers of resightings. 200 Knot, 400 Turnstone, 20 Sanderling, 150 Dunlin and 10 Semi-palmated sandpipers present and a female ruff (reeve) on the beach resulted in 12 resightings.

12:30-16:00 Osprey Beach. AGD The feeding flock on Osprey Beach was composed of 800 Turnstone, 400 Knot, 100 Sanderling, 200 Dunlin, 20 Semi-palmated sandpipers and

5 Short-billed Dowitchers. Only 150 gulls on this beach, much lower numbers than seen elsewhere in the Harbour. 29 individuals seen but again, more difficult to observe the flock here than it would have been from the boat offshore as only able to see one edge and the majority of the movement through the flock was vertically on the beach to the tide edge rather than parallel with the tide edge. On arrival birds were both feeding along shoreline and roosting higher up on the beach in dense flock.

Feeding Experiments: JRT & RAR completed six treatments, cleaned out the cages and fed the birds.

Thursday, May 19th

Port Mahon:

09:00-12:30 GEA on foot from south end to south pier. 1900 Turnstone with 20 flags read. Small numbers of Dunlin, Semi-palmated Sandpiper and Sanderling.

Port Mahon:

09:00-12:30 Gene Hess & Gary Austin. 20-30 flagged Turnstone of which only one overlapped with those read by GEA

1300 hrs JRT , AGD. Counted 1,790 Turnstone, 22 Knot, 100 Sanderling, 155 Dunlin and 250 Semi-palmated Sandpipers. Got over 20 resightings.

Ted Harvey Impoundment

17:00-20:00 hrs. Mistnetting trial. GEA, Gary A, Jean Woods and AGD went to Ted Harvey to do a trial run for the mistnetting. At first the “old spot” on the sand bar was opted for, but upon arrival, with net setting equipment, this was quickly concluded to be impossible as there was no water, nowhere! Furthermore, in comparison with last year, a number of ditches had been dug. This made access to the projected sites to erect mistnets impossible without some major bridge building. Therefore the impoundment north of the access road was opted for. Here a considerable flock of Turnstone, Dunlin and Semi-palmated Sandpipers were present and the impoundment held enough water to be a viable option for catching and water level was low enough for birds to feed almost anywhere.

The big flock was present near the duck blind, but yet again a ditch proved to be a major hindrance. More inland, along the spit northwest of the carpark, another group of shorebirds was present. Either site would be viable for catching, but the one along the dunes not without considerable logistical problems. As time was proceeding rapidly, we decided to abandon any attempt to mistnet at this time, and leave the site undisturbed for the mist-net training on Saturday. 1 black tern seen during the visit

North Bowers

0930-1300 hrs RAR & LBM Birds all along beach, Turnstone mostly at north end, Sanderling more at south end. Around 500 Turnstone and some others at south end of Ted Harvey which left as the tide dropped. Both Turnstone and Sanderling flew south as the tide dropped off and ended up on south bowers.

South Bowers

1010-1330 hrs SLD, PWA, KSK, JLW. Worked in pairs leap-frogging down the beach. Saw 200 Knot, 2,250 Turnstone, 1,000 Sanderling, 85 Dunlin and 25 Semi-palmated Sandpipers. One couple walking along the beach caused slight disturbance from about 30 m – birds stirred up a bit, so could get more sightings (total of over 70). Met lady from one of the southern houses who was happy for us to park in her yard and walk through her garden (the one with the roses) if we were working at South Bowers. She was very interested in the research work we were doing and keen to know how the birds were doing a good bit of local PR work.

Mispillion

0950-1645 hrs SG, NAC, JAC. Knot numbers had climbed to 10,000 and significant numbers of other species were present. 2,000 Sanderling, 2,000 Turnstone, 1,500 Dunlin, 100 Semi-palmated Sandpipers and 800 Dowitchers. Good days for sightings with 248 individual Knot seen! However all three observers had difficulty focusing with their ‘telescope eye’ as a result we decided to split Mispillion surveys into morning and evening surveys with a changeover half way through the day.

Friday, May 20th

IT RAINED – A LOT (3.27” in the 24h to 5pm), so a day in the office. Dave and Nigel went to Mispillion with the polar craft to take the Nature Conservancy visit out if they wanted to. There was relief when they thought a series of presentations would be more valuable. Team members not involved in the presentations entered the backlog of re-sighting data and began the process of sorting through feathers by scoring parasite loads and cleaning and cutting up feathers.

Port Mahon:

Gene Hess went to Mahon in the morning and got good footage of the storm battering the frontage but didn’t venture far. Very few birds seen – those which were seen were trying to find what shelter they could. He called back to the Reserve to suggest that nobody was allowed to Mahon whilst the storm raged as it wasn’t safe.

After discovering that the storm had broken one of the bamboo poles that supported the shade net awning over the captive birds, JRT and SLD rushed out to do some emergency repairs. An hour in the cold rain sorted the problem out, and the birds were left to contemplate the dire weather, with a huge stock of crab eggs to snack on.

15:30-16:30 SLD, RAR and GKA braved the weather to visit Mahon (ignoring road closure signs as were 3 other vehicles) and returned with 8 colour-ring sightings to prevent a completely blank day. Strangely there were no people walking on the beach and the flock was fairly undisturbed however it was very jittery with the weather conditions and kept well down amongst the rocks. Lots of debris across the road including good numbers of crabs, those which had been run over by vehicles providing the Turnstones with rich food supplies. The biggest flocks of birds seen were those on the road.

Saturday, May 21st

Port Mahon:

17:30-18:45 JAC and SLD had a quick trip in whilst the talks were underway at the Reserve trying to get a few resightings so that the daily tallies weren't hit too badly with most people involved in catching all day and also to see whether there was a catch option to make up for not getting a full sample of Turnstone in Mispillion earlier in the day. Only 600 Turnstone along the beach with 100 each of Sanderling and Dunlin, 50 each of Semi-palmated sandpipers and Short-billed Dowitchers and only 10 Knot. Very few colour-marked birds present with only 8 recorded in total, partly hampered by the rain and partly by most birds being in amongst the rocky sections determined not to show us their legs. Definitely felt a cannon net option existed in the first main bay where birds were constantly feeding in the corner but there was also a significant number up high on the sand roosting and it seemed likely that whoosh netting or trapping could be successful to catch the sorts of numbers of birds needed (20-30).

Ted Harvey Impoundment

08:00-09:00 hrs AGD, GEA and GKA went to see what the rainfall of the previous day had done to the water level. As expected water level had risen markedly. This made the northern side of the impoundment unsuitable (water too high, hardly any birds present), but made mistnetting on the sand bar possible, if the ditch would be bridged.

17:00-00:30 Mist-net training. GEA, GKA and AGD started early to build a bridge over the ditch. When doing so another bridge seemed to be necessary to access the area directly adjacent to the sand bar. When present birds were seen entering the impoundment by skipping over the dunes and passing quite low over this area; a potentially very good site for a few nets. AGD went back to base to get some more bridging materials and GEA and GKA, with the now arrived body of volunteers, started putting up nets on the landward side of the ditch. A big flock of Turnstone, Dunlin and semi-palmated sandpipers were roosting there and remained there until after the nets had been set up. Graham decided not to put up nets on the second spot, thinking the 6 nets that had been put up would catch us a sample. A wise decision because we caught more than a sample with just the nets that we'd already set.

Shortly after leaving the nets, when still dusk, a helicopter passed over low and caused quite a disturbance. The first group to check the nets quickly informed base that a great amount of birds were already in the nets and extra hands were needed quickly. Nets were so full of birds that every experienced extractor was needed to quickly take the birds out of the nets. As soon as all the birds were extracted and taken back to base on the beach the nets were taken down. Processing was completed before midnight.

Catch Totals:

208 Semi-palmated sandpipers

14 Turnstone

16 Dunlin

South Bowers:

16:50-17:00 SLD and JAC looked at South Bowers to check out potential catching options for small numbers of Turnstone and also to get some colour sightings done. There were 350 Turnstone, 10 Knot, 50 Sanderling and 50 Semi-palmated sandpipers on the beach, mostly around the breakwater. Only 5 individuals. No obvious catch option today with the birds not behaving in the same way as on previous surveys here. It would be very difficult to make a small catch of Turnstone without getting significant numbers of other species.

Mispiration

09:00-16:00 RAR, SG went to resight from the Jon Boat in the harbour. There were about 4000 Knot, 2000 Turnstone, 2000 Dunlin and 100 Sanderling with 500 Short-billed Dowitchers mixed in. Good opportunity to get resightings with 180 individuals seen.

Catch on Osprey Beach. Decided to set on Osprey beach directly in front of the cedar trees. Whilst setting we had in excess of 100 Dunlin on the waters edge 5 yards from the net with 10 Knot amongst them – mad! Got into the hide (except Phil who sat beside it) and birds immediately landed into the catching area. It was very difficult to get a catch option on the numbers of birds of the species we were after with numbers of Knot fluctuating between too many and not enough. Eventually an opportunity presented itself and we fired.

Birds taken back away from the beach into a clearing in the cedars for banding and processing to minimize disturbance. Non-caught birds were quickly back onto the beach feeding.

Catch summary:

| | |
|----|-------------------------|
| 27 | Dunlin |
| 14 | Semi-palmated Sandpiper |
| 5 | Sanderling |
| 91 | Red Knot |
| 21 | Ruddy Turnstone |

Not quite a sample of Turnstone which meant options for a catch of these were required for the following day.

Team off early to get ready for the mist-net training whilst the remainder stayed behind to pack up kit and to get a few resightings.

Feeding Experiments:

After a distinct lack of experiments due to meteorological problems yesterday, and with several days of experience, comments from many helpers and thus refinement of the protocol, 12 treatments were completed in a days work.

Sunday, May 22nd

Port Mahon:

10:40-12:45 Gene Hess and Sally Shelton. Turnstone numbers appear to have returned to normal levels after Friday's storm with 1233 along the beach. Only 4 Knot seen this morning here. Sanderling numbers are much lower than on previous surveys at just 26 whilst Dunlin numbers also appear to have climbed again after the storm now at 400. 1380 Semi-palmated sandpipers and 12 Least sandpipers. 17 colour-marked individuals recorded.

10:30-12:30 GEA just surveyed the northern end of Mahon from the second pier. Approximately 1000 gulls on the beach with 750 Turnstone and 900 Semi-palmated sandpipers but very low numbers of Dunlin (50) at this northern end of the beach. Most birds were roosting for the first half of the survey period making resightings a bit difficult but still managed to get 9.

12:00-13:30 JRT and JAC went to Mahon as a short respite from the experiments with the captive birds. Approximately 1550 Turnstone were observed along the beach with 1080 Semi-palmated Sandpipers, 680 Dunlin and only 10 Knot. 20 Turnstone were resighted by this team in their short visit.

15:25-17:35 Gene Hess and Sally Shelton. c1130 along the beach. Dunlin numbers are higher than this morning, now at 620. Also 355 Semi-palmated sandpiper and 346 Short-billed Dowitchers. 22 colour sightings recorded.

Turnstone Catching at Port Mahon:

Graham, Kevin & Olin went to try for a small Whoosh-net catch of Turnstone leaving at 10:00. Net set but angle iron for pin-release were not in the box. Olin returned to base to pick them up but all doors were locked. He claims to have stopped by the jail-bird compound where he picked up a couple of stakes but John say he didn't see him so he had probably just raided a random back yard. Finally net set using release mechanism improvised from junk off the beach. No chance of a pull on Turnstones but could have had loads of Semi-palmated Sandpipers and a stilt. Loads of birdwatchers about so we thought it not good politics to twinkle Turnstone off the rocks. Returned home empty handed. Another visit in the late afternoon / evening also unsuccessful as tide was rising fast and birds (Semi-palmated Sandpiper aside) did not return to catch area. Incoming birds clearly startled by the bright green net and the gloriously yellow and orange elastics however they are reasonably happy to walk up to it, or in the case of Semi-palmated sandpipers climb all over it, once they have landed. Only a handful of birds scanned while watching the net.

Ted Harvey:

Uday Kumar and MPC. Walked front of Ted Harvey down to the point. Only 25 Knot and 150 Turnstone seen but approximately 1000 Dunlin and 10,000 Semi-palmated

sandpipers – the Semi's have definitely arrived!!! A few individually marked birds recorded.

North Bowers:

Dave Carter, SLD. Having dropped Andre and Rob at Brockenbridge, we went to the northern end of South Bowers to count and resight. No birds on the beach here.

South Bowers:

13:00-16:00 Dave Carter, SLD. Having given up on North Bowers, we went to South Bowers where we found so many birds, including 1500 Semi-palmated Plovers, 200 Dunlin, 500 Sanderling, 1000 Turnstone, 100 Short-billed Dowitchers and 300 Knot, that we never got further than the breakwater. Based here we were able to get lots of resightings of birds feeding at low tide on a wet pool close to the breakwater and also a few resightings of birds on the offshore island. Birds were flipping between the two sides of the river mouth but disturbance on North Bowers side kept most of the birds with us. We also did a few random scans of Knot to get abdominal profile scores.

Rob and Andre crossed the river from Brockenbridge (see below) at great peril during low tide to proceed to South Bowers South. Here yet another flock of Knot and Turnstone was scanned; yielding 6 more individually marked birds. Numbers were Knot 85 and Turnstone 175, with hardly any other species. After this RAR and AGD then reunited with DBC and SLD who really had been scanning at South Bowers jetty. RAR spotted an immature Bald Eagle flying over high in Westerly direction.

Brockenbridge Gut:

13:30-15:00 AGD and RAR. Rob and André were abandoned at Brockenbridge Gut by Dave and Sarah, who then went on to North and South Bowers. After a leisurely stroll the Gut was reached and present were a good number of the target species: Knot 300; Turnstone 500; Sanderling 400; Dunlin 50; Semi-palmated Sandpiper 150 and one LESA. We were able to record almost 30 Knot individuals and a few Turnstone and Sanderling. Our work was cut short around 15:00 hrs by a person with two dogs who scared the whole lot off. Fortunately we had already scanned thoroughly the whole of this flock. Disturbance levels were unprecedented with several quads, 4X4's, people and dogs.

Mispyllion:

10:55-16:10. NAC, PWA, SG, KB, LBM, GKA. Beaches appeared very busy with 8000 Dunlin, 2000 Knot, 1500 Turnstone, 300 Sanderling, 1000 Short-billed Dowitchers and 600 Semi-palmated sandpipers. Lots of boat activity in the Harbor caused no disturbance to the birds but the peregrine caused lots of disturbance to the feeding birds. 128 resightings of colour-marked birds achieved by the team.

Feeding Experiments: JRT & JAC completed the last set of surface treatment experiment that the Dunlin will be subjected to.

Monday, May 23rd

Port Mahon:

08:20-09:30 Gene Hess. The road grader was restoring the beach after the storm so it was only possible to view the southern part of the beach. In this section there were only about 400 Turnstone at Mahon this morning with 6 Knot, 25 Dunlin and 550 Semi-palmated Sandpipers. Only 3 marked birds recorded.

10:18-12:00 Gene Hess, LBM. It was now possible to view along the full length of Mahon and the Turnstone count was approximately 700 birds. There were also 53 Knot and 19 Knot but only 510 Semi-palmated sandpipers. This trip was slightly more profitable for resightings with 15 birds.

15:40-18:00 Gene Hess, Susan Love. The survey was only conducted from the southern end of Mahon to just north of the fishing pier. Turnstone numbers had significantly increased from earlier in the day now at approximately 1230. Sanderling numbers had also increased, up to 65 birds and there were now 41 Knot and 100 Dunlin. Semi-palmated sandpiper numbers were also higher than on previous visits with approximately 1000 birds in this section of beach. Another 35 resightings to add to the morning's tally.

Ted Harvey

09:30-12:30 RAR LBM GKA and Judy walked down to the point. Good numbers of birds all the way down the beach, lots of Semi-palmated Sandpipers, but relatively few Knot and Turnstone. 22 resightings. A corn snake was spotted in the dunes.

Kitts Hummock:

12:07-15:02 Sally Byrne, Steve McGruder A large flock of Semi-palmated Sandpipers (1240) along the beach with 610 Dunlin and 366 Turnstone and also 66 Knot 18 Short-billed Dowitchers and 2 Sanderling. A few individual colour-marked birds were observed.

North Bowers:

11:30-12:00 JAC & SLD (north end), GEA (south end) southern part held 200 Semi-palmated Sandpiper, 150 Sanderling and 20 Turnstone. Heat haze prevented resightings of several flagged Sanderling.

15:00-16:30 KBC was out at North Bowers doing a disturbance survey during which she recorded 32 Knot spread sparsely along the shore. 300 Turnstone, 120 Sanderling and 500 Semi-palmated sandpipers were feeding on the beach. 4 colour-marked birds seen. A plane from Dover base disturbance to the birds.

South Bowers:

1445-1615 RAR scanned the flock of Turnstone for colour rings. They seemed to prefer the river shore rather than the peat embayment behind the breakwater. The flock contained approximately 200 Knot, 1500 Turnstone, 200 Sanderling, 50 Dunlin and 1000 Semi-palmated Sandpipers.

Brockenbridge Gut:

13:55 – 15:25. LBM, GKA, George O’Shea and Judy (volunteer) walked along to the point. The birds were scattered in groups along the tide edge and on the peat banks low down on the beach. Totals of 370 Knot, 545 Turnstone, 650 Sanderling, 8 Dunlin, 370 Semi-palmated Sandpiper 20 SBDO, 1 SPPL, and 175 gulls. As the tide dropped the birds moved from the shore to the sandy island just north of the spit. Fourteen re-sightings were made.

Mispillion

09:15-12:30 PWA, AGD, MPC. Decision made that it would be more effective to split the day into two sessions for resighting to try and minimize eye-strain etc. Phil took the first shift in for the morning. The estimates were of 2000 Knot, 1000 Turnstone, 5000 Dunlin and 750 Semi-palmated Sandpipers. A peregrine came through 3 or 4 times causing significant disturbance to the flock. Quite difficult resighting as the birds were very clumped over the high tide period with little beach available for the birds to spread out on. About 70 resightings were made and the conditions were just getting good when we had to leave the beach to go and swap with the second shift.

13:00-16:00 SLD, GEA, JAC. Falling tide and low water!!! A novice team in terms of boat handling within Mispillion and trailer backing anywhere. But we did commendably well (until we thought the best way to get in close to the birds on the Main Island would be to go between the Island and the submerged island. Apparently that’s very foolish at this state of tide! But we sorted ourselves out. Good resighting from the boat. We operated a system of two observers and a scribe at any one time. This appeared to work well with the scribe constantly busy and everyone getting a chance to rest flag-weary eyes. About 120 individually marked birds recorded.

Slaughter:

10:00-11:30 KBC undertaking disturbance studies on the beach. The beach had 3000 Semi-palmated sandpipers, 260 Turnstone, 500 Sanderling, 100 Dunlin and just 17 Knot mixed in amongst them. No colour-sightings. A school party on the beach.

Feeding Experiments: JRT & SG began the buried egg experiments with considerable success. Surface treatment experiments yield one bag of sand per experiment, but suddenly buried egg experiments yield 16. Processing and counting of eggs will require volunteers.

Tuesday, May 24th

Port Mahon:

09:20-12:00 GEA, GKH. The road was covered in debris after the storms and was impassable beyond the first set of rocks so the survey was restricted to the southern end of the beach to the fishing pier. Approximately 1400 Turnstone were present in this area with 1500 Semi-palmated sandpipers, 100 Dunlin, 30 Sanderling, 20 Short-billed Dowitchers and 15 Knot. Birds were feeding and loafing and reasonably undisturbed by the human activity along the beach, including the tow truck required to pull one vehicle

out of the soft sand. 17 resightings were not a bad reward for the efforts under difficult conditions.

17:15 L Graff scanned through a few Turnstone and Dunlin and found a few marked birds (including just metal banded).

18:30-19:10 KBC, GKH. 8 marked Knot and 2 marked Turnstone were recorded during this survey visit.

Pickering:

11.15-12.00 MPC and RAR, again numbers of birds spread along the beach, but relatively few Knot. A party of visiting birdwatchers (traveling in USFWS vehicles) did not seem to disturb the birds too much.

Kitt's Hummock:

09.30-11.00 MPC and RAR walked along the beach northwards, about 2000 Semi-palmated Sandpiper and perhaps 500 Turnstone along the beach, particularly towards the north end. Large numbers of overturned crabs suggested a good spawning the previous night. We quickly revisited Kitts after Pickering to see the aerial survey go over at about 12.10, and there had been relatively little change in the number of birds present.

Ted Harvey:

13:25-14:00 B. Rufe, KBC. 120 Semi-palmated sandpipers, 150 Turnstone and 35 Knot were feeding along the shore edge. There were also 10 Dunlin and 12 Sanderling. Over 4000 shorebirds were visible on the peat at the far end of the beach. It was estimated on size, that about 5% may have been Ruddy Turnstone and the rest were probably Semi-palmated sandpipers.

North Bowers:

12:00-12:20 B Rufe, KBC. Quick trip to North Bowers. Only 20 Knot, but the flock also contained 207 Turnstone, 450 Sanderling, 460 Semi-palmated Sandpipers and 32 Dunlin. Fairly low numbers of gulls. All birds were very flighty and headed south to South Bowers if disturbed. One orange flagged Knot amongst them but it wasn't possible to get the full combination.

South Bowers:

12:00 – 16:00 GEA, Annie and the Melvins. Majority of birds south from beach access. Total about 4000 Turnstone, 200 Sanderling, 2000 Semi-palmated Sandpiper, 100 Knot & 50 SHDO. Resighted about 20 Turnstone and a few Knot. The majority of the birds were feeding in a line of pools left by the falling tide about half way up the beach and extending several hundred yards southwards. Of the Turnstone about half of the birds were feeding on peat about $\frac{3}{4}$ the way down to Brockenbridge Gut. There was a large movement of birds from South Bowers to Brockenbridge towards low tide (15:30 onwards). Prior to this numbers at Brockenbridge (as scoped from South Bowers) were 200 Semi-palmated Sandpiper, 50 Dunlin and 100 Turnstone.

Mispillion:

08:30-13:30 NAC, JAC, SLD. 2000 Knot, 1500 Turnstone, 1000 Sanderling, 10,000 Dunlin, 1000 Short-billed Dowitchers and 4000 Semi-palmated sandpipers. Most of the birds were on back beach giving good opportunities for resighting from the JohnBoat. We waited for the aerial survey to go overhead to get a ground-based count at the same time as the aerial survey. Given the time, and the fact that Nigel had to be at the boat ramp for 14:00 but that we weren't certain (given the slightly adverse weather conditions) that the visit he was involved in was happening, we decided the best option was to stay a little later and wait for the visit crew rather than abandon Nigel.

16:45-18:30 PWA, JLW. The second crew into Mispillion were later arriving in Mispillion than originally planned. The team were able to get a few individually marked birds before failing light meant a return to base.

Cedar Creek and Slaughter beach

11:00- 14:00 AGD with Judy Urwin and Meta Little counted and recced Cedar Creek and Slaughter beach

Feeding Experiments: Experiments completed without a hitch, and 96 bags of sand brought back to St. Jones. NAC, SG, MPC, AGD & JRT rattled through them, counting thousands of crabs eggs in a matter of just two hours.

Wednesday, May 25th

Another wet day. As surge tides were predicted, it was felt prudent not to have people out on the beaches until after high tide. Plans kept changing throughout the day based on weather conditions. People back at St Jones spent time profitably sorting and processing more feathers, entering and checking data.

Port Mahon:

09:00-12:30 GKH and GEA. Road blocked by bogged down car so GKH scanned south end from vehicle and GEA scanned northwards on foot. Very high tide but sea relatively calm - nothing much in the way of exposed beach. Many birds on road and in north end car park. Rained (horizontally) most of the time making scanning possible only when viewing southwards and then most birds huddled together facing into the wind. About 15 resightings obtained. 1400 Turnstone, 15 Knot, small numbers of Dunlin, SHDO and Sanderling and shed-loads of Semi-palmated Sandpiper.

15:30-18:00 GKH, NAC. 3450 Semi's, 79 Knot, 2430 Turnstone, 250 Dunlin, 190 Sanderling, 150 Short-billed Dowitchers, 400 Laughing Gulls and 70 other gulls.

19:45-20:15 RAR, SLD 100 Dowitchers, 1000 Semi, 100 Dunlin, 10 Knot and 750 Turnstone. A few resightings possible before dark.

Pickering:

19:30-19:35 RAR, SLD. We went to Pickering in pursuit of the large flock of Knot that had been reported there to find just 3 Sanderling, 50 gulls, 100 Semis, 1 Dunlin and 1 Turnstone.

North Bowers:

11:45 NAC, AGD. By the mouth of the St Jones there were about 100 Sanderling and 300 Semi-palmated sandpipers and approximately 5000 Semi-palmated sandpipers on the front face of Ted Harvey beach.

South Bowers:

11:45 NAC, AGD. Approximately 100 Sanderling and 70-80 Turnstone spread along the beach. No concentrations of birds anywhere. Beach had clearly been washed clean right up into the dune vegetation on the previous night's tide.

Mispillion

06:00 PWA, SG, RAR. A team went into Mispillion early to try and find a catching option. Inclement weather meant that the team were totally soaked, didn't see any birds and definitely didn't see a catching option. Team left the harbour, and came back to the reserve via Walmart to get consolation breakfast rations.

12:15 NAC, AGD. On the road at Mispillion the water was partly over the road. There were approximately 500 Semi-palmated sandpipers on the road. There were up to 35 Knot on the road as well as 150 Short-billed Dowitchers. Each time a car went along all birds flew off the road through the powerlines, saw one bird strike the line and went to pick up it's corpse and found another 5 others. 5 reasonable corpses brought back for the Museum collection. Managed to get 3 colour-marked birds so it's not a complete wash out day for resighting data.

Feeding Experiments: JRT & LBM completed the experiments with the help of a poncho over the camera and a few fleeces over ourselves. Camera appears to be functional despite a few bursts of rain. GEA, RAR, MPC & JRT counted the eggs.

Thursday, May 26th**Port Mahon:**

09:15-10:30 George O'Shea and Robert McGuire. Surveyed to first pier. Relatively few Knots; lots of semi-palms and good numbers of ruddy Turnstones. Could only find one with lime tag with letters but were unable to read. Lots of disturbance by aircraft; 15- 20 birders and two dogs. Found and recorded several cohorts for Turnstone.

09:50-12:20 Greg Breese & GKH. Had 137 Sanderling, 110 Dunlin, 2 Least sandpipers 1580 Semi-palmated sandpipers, 638 Turnstone 22 Knot and 4 Short-billed Dowitchers.

15:40-18:45 Uday Kumar and Susan Love. 82 Dunlin, 16 Knot, 11 Sanderling, 1400 Semi's, 12 Short-billed Dowitchers, 145 gulls and 2 black-necked stilts, 535 Turnstone.

Ted Harvey:

13:15-14:20 George O'Shea and Charlie Sheppard. 44 gulls, 50 Turnstone, 225 Sanderling, 1625 Semi's, 3 willet, 2 short-billed dowitchers, 17 Dunlin and 10 Knot.

South Bowers:

09:30-10:50 PWA, KBC. 300 Sanderling, 80 Knot, 500 Turnstone, 1750 Semi's.

Mispillion:

08:30-10:30 NAC, JAC, AGD. Went out to try and find catch options in Mispillion. Decided there was a catch option on the main island which would be very difficult – getting enough Knot without too many of other species. But it was worth giving a go as there were no options on Osprey or Shell beaches. Counts of 50 gulls, 1 Oystercatcher, 800 Turnstone, 4000 Dunlin, 250 Semi's, 750 Short-billed Dowitchers, 400 Sanderling and 400 Knot. Went back to base to organize catching.

Mispillion Catching:

The best site for catching looked like the main island so we put two nets down quickly on the northern end of the island and pushed the Jon Boat about 20 yards along to the end of the beach and crouched in or behind the boat. Birds began to come back in almost immediately but caused a few early problems. A Laughing Gull got caught up in the jigglers which needed to be released. The next problem with jigglers was the crabs walking off with it which also needed rescuing. Eventually things settled back down and we gained huge numbers of birds in the catching area including the area directly in front, over and behind the net more interesting, particularly the disturbed ground where we'd dug cannons into the ground etc. A small roost of semi's began to form on the trace ropes of one net. Nigel was sent out to crawl behind the nets and try and push birds back below safety. At one point we had a good sample of Knot and Turnstone in the near net, then it was the far net and so on. Throughout, we were conscious of two other things, the sheer carpet of semi's that we were going to catch and the large numbers of large gulls on the tide edge that we couldn't miss. Eventually we got a window to fire and made a nice catch. All birds boxed and taken across to Osprey Beach by boat where we could set up banding and processing away from the beachfront and let everything return to normal as soon as possible. According to the Manomet guys studying disturbance, there were fewer disturbance events after the catch as the gulls never returned.

Catch Total

72 Knot

43 Dunlin

57 Semi-palmated Sandpiper

4 Short-billed Dowitchers

35 Turnstone

12 Sanderling

Resightings were possible whilst waiting for the catch and we managed to get a few.

Feeding Experiments: Last day of experimentation for the Dunlin! Not that they took much notice of this momentous occasion, but everything went smoothly, and release is set for tomorrow.

Friday, May 27nd

Port Mahon

06:30-08:30 RAR went out for an early morning check of Mahon where he saw 1500 Turnstone and 40 Knot.

09:40-11:15 GKH, Chris Ordiway. Whilst waiting for the others to catch we viewed a small part of Mahon beach and counted 425 Turnstone, 37 Knot, 2 Black-necked stilt, 3250 Semi's and 1 Least sandpiper.

Port Mahon catch:

Eventually decided to set at the far end of Mahon running nets from the concrete blocks. Took longer than intended to set properly and during setting birds were being disturbed from further south on Mahon flew past us, looked at our bit of beach and then flew on to Kelly Island. Got into position and birds slowly started coming back onto the beach. We didn't back the vehicles off far enough and, two vehicles, plus others slowing so much to get past us with all the debris still on the road, caused lots of lifts from birds. Eventually, we backed off another 100 yards which seemed to work. After several lifts, numbers of birds steadily climbed and we took a catch but, by now, the tide was much higher than we'd been aiming for so the net went along way into deep water. The lift didn't go as well as possible which in turn made extraction difficult. All birds extracted and into cages. Two processing teams set up to quickly deal with the catch and all Sanderling, Knot and Turnstone colour-marked.

Catch Total:

4 Knot

5 Dunlin

25 Semi-palmated Sandpiper

43 Turnstone

3 Sanderling

North Bowers:

10:00-11:00 JAC, SG 110 Turnstone, 2 spotted sandpipers, 15 short-billed dowitchers, 40 Dunlin, 110 Sanderling, 7 Knot, 720 Semi-palmated sandpipers were spread along the beachfront to the Murderkill with most Turnstone on the straight beach towards the Ted Harvey end. Resightings included an individually marked semi and a white flagged semi. Looking across to South Bowers we were able to see large numbers of birds at the river mouth end which Graham and Gary were unable to see from their vantage point.

South Bowers:

09:20-09:50 GEA & GKA river mouth. Lots of disturbance from dog and beach walkers so only small numbers of Knot, Turnstone and Sanderling although heaps of Semi-palmated Sandpiper.

09:50-11:00 moved to beach entrance and scanned both ways. Difficult due to heat haze and more dog walkers. Apparently at this time birds had returned to river mouth (JAC from north Bowers). Only a couple of resightings of Turnstone and Sanderling obtained.

16:55-19:00 LBM, SLD, Chris Ordiway. 50 Knot, 1500 Turnstone, 500 Sanderling, 200 Dunlin, 5000 Semi's, 200 Laughing Gulls, 50 Least sandpipers and 3 Willets. Lys and Chris walked along the back of the beach whilst Sarah resighted from the breakwater. The team managed a respectable haul of resightings before the light started to make things difficult.

Brockenbridge Gut:

11:10-16:00. GEA & GKA Very very busy with fishermen all along the shore and a steady trickle of vehicles up and down the beach. This probably explains the lack of any large concentrations of birds with those present spread all the way along. Quite a lot of birds though. Scanning difficult due to repeated disturbance, heat haze and the fact that most of the time the birds were sitting down. Very little feeding activity throughout. About 12 Sanderling and two Turnstone resightings in five hours – not a red letter day!.

Mispyllion:

10:00-13:00 PWA, LBM, RAR. 400 Sanderling, 3000 Dunlin, 1000 Semi's, 500 Short-billed Dowitchers, 50 gulls, 750 Turnstone, 1250 Knot.

16:30-19:00 KBC, JAC, AGD. Went up to the back beach first but birds very difficult to resight here. Got the boat slightly stuck on the mud. Gave up and moved to a more profitable area by main beach. Beached the boat almost on the point giving visibility along both sides of the island. Andre enjoyed himself multi-tasking, taking lots of pictures, scribing and getting a few resightings through the camera lens. 2000 Knot, 1 Semi-palmated plover, 350 skimmers, 2 oystercatchers, 1 American Golden Plover, 1 Whimbrel, 3000 semi's, 1750 Dunlin, 1750 Sanderling, 2500 Turnstone and 200 gulls.

Saturday, May 28th

Port Mahon:

15:00-17:00 KBC and Chris Ordiway. Saw 750 Turnstone, 6 Knot, 19 Dunlin, 3000 Semi's, 29 Short-billed Dowitchers, 325 gulls and 7 Willets.

Ted Harvey:

11:00-13:00 RAR and Chris Ordiway saw 25 gulls, 600 Semi's, 70 Dunlin, 80 Turnstone and 10 Sanderling.

Mispyllion:

10:15-13:15 BAH, LBM and SLD saw 3000 Semi's, 1500 Short-billed Dowitchers, 500 Laughing Gulls, 7000 Dunlin, 100 skimmers, 1000 Sanderling, 1000 Turnstone and 1200

Knot. We started on the main island beach where, with one person amongst the rocks at each end and one still in the boat, we managed to get a good number of sightings. Most birds were on the back beach and we were able to beach and hide amongst the vegetation to get the majority of sightings.

15:30-19:30 GEA, NAC and RAR had 5000 Semi's, 3000 Knot, 1500 Turnstone, 5000 Dunlin, 800 Short-billed, 800 gulls, 2000 Sanderling. Again, numbers of most species had built during the day and the second team counted more than the early team.

Broadkill Beach, Prime Hook Impoundments, Big Stone Beach, Brockenbridge Gut, Slaughter Beach and South Bowers:

10:00-16:00 GKA and AGD. Visited the Milton Horseshoe Crab festival first and then proceeded along the above mentioned localities.

Fowlers Beach and Prime Hook:

10:45-14:20 Uday Kumar and Judy Urwin. 3350 Semis, 300 Sanderling, 5 Dunlin, 150 gulls, 7 Knot, 43 Turnstone.

Labwork

During the whole day processing feather samples (isotope and parasite analysis) and sifting sand from the jailbird experiments was carried out by the majority of the team and volunteers. PWA was confined to the cupboard all day (doing feather stuff), JAC did the parasite analysis on the Knot feather samples and SLD did data checking.

Milton Gene, Sally, Annie & Kevin worked at the 2nd annual Horseshoe Crab Festival all the day.

Sunday, May 29th

Port Mahon:

09:00-11:30 NAC, JAC. Incredibly busy in terms of human activity. Every other car stopped to talk to us because we were in a Federal Vehicle and had telescopes, including one father with two small children who later posted his sightings on the web. Not many sightings possible. 50 short-billed dowitchers, 200 Laughing Gulls, 40 big gulls, 100 Dunlin, 800 Turnstone, 18 Knot and 8000 Semi-palmed Sandpipers.

1130-1250 Gene & Sally resighted. They saw 11 Knot, 770 Turnstone, 2 Sanderling, 37 Dunlin, 3820 Semi-palmed Sandpipers, 1 Short-billed dowitcher, 15 Black-necked stilts and 1 Willet.

Kitts Hummock:

09:00-10:20 Lys and Kar had 15 gulls, 1300 Semi-palmed Sandpipers, 220 Sanderling, 400 Dunlin, 80 Turnstone. There were no Knot on this beach.

North Bowers:

08:50-09:45 KCB and SLD 51 Sanderling, 150 Turnstone, 33 Knot and 33 Dunlin, 3350 Semi-palmated Sandpipers, 2 Willet, 1 Spotted Sandpiper. All birds were at the northern end of the beach and the Knot were concentrated around a wet flush running down the beach. It was possible to get a few resightings although heat haze prevented some from being read.

South Bowers:

09:15-13:10 GEA and Jean Woods. Arrived at 0915 when tide very low. Not much in the river mouth other than about 2K Semi-palmated Sandpiper. Huge numbers of SASA along beach front, 15K being a conservative estimate. About 3K Turnstone, 500 Sanderling and 300 Dunlin. Few Knot present early on but numbers built to a peak of about 200 over the course of the morning. These spread along the full length of the beach with no concentrations. Relatively high disturbance beach and dog walkers and a badly timed helicopter. Bird quite twitchy. 6 Knot flags, 28 Turnstone flags and 3 Sanderling flags read.

Mispillion:

Morning. PWA, GKA, Uday. Went into Mispillion for the early shift. Resightings were just getting good on the Back Beach when we had to leave to hand over to the second shift.

13:00-16:15 SLD, BAH, MPC. We abandoned Mark sitting in the rocks on the breakwater behind the Main Island. Mark counted 40 Dunlin, 2 Turnstone, 50 Laughing Gull and 100 other gulls, 47 short-billed dowitchers, 80 semi's and 41 Knot. A few resightings from these birds. Brian and Sarah went to back beach where they estimated 1000 Knot, 2500 Turnstone, 750 Sanderling, 5000 Dunlin, 5000 Semi-palmated Sandpipers, 20 black-bellied plover, 5 White Rumped Sandpipers. We were able to get in amongst the birds well and get lots of resightings.

Cedar Creek

09:00-09:20 MPC and Chris Oridway. 500 Short-billed Dowitchers, 7000 Semi-palmated Sandpipers, 60 Dunlin, 20 Laughing Gulls, 5 Herring Gulls, 4 Willet, 30 Turnstone. No red Knot.

Slaughter:

09:40-11:30 MPC and Chris Oridway. 4 Black-bellied plover, 5 willet, 16 Laughing Gulls, 89 Turnstone, 15 Sanderling, 100 Dunlin, 1145 Semi-palmated Sandpipers, 12 Short-billed Dowitchers, 1 herring gull, only 3 Knot.

Jail Bird Duty: JRT, AGD morning; JRT, GKA afternoon

Feathers: RAR and Debbie worked on feather processing in the morning.

NJ&DE BBQ 16:00 onwards. Which was a very successful evening.

Lys and Rob were taken to the airport by Annie.

Monday, May 30th

Memorial Day. Heavy congestion expected on northbound roads, especially in the afternoon.

Mispillion:

Setting team got into Mispillion at 9am, checked out all beaches to find an option but nothing looked particularly convincing. A near miss in the boats before we decided to set both nets at the northern end of Main Island. Attention to detail meant that we cleared all crabs from the net and jigglers path this time. Firing position in the rocks with the JonBoat and three people beached just on the point. All birds began to return to the Main Island – on the southern end which gave opportunities for resighting but wasn't very positive for our catch attempt. Eventually gave up and moved one net to the southern end where Knot had been congregating. Birds began to return but still not enough birds in the catching areas. At 14:30 we sent a team away for food and kept 4 people on the main island to debate our options. Decided that, based on numbers of birds on Osprey Beach, and the amount of pressure we were putting on birds on Main Island, that we should pick up all nets and go to Osprey. After lunch, set one net on Osprey Beach. Team into the hide and birds began to build in number but boats returning from Memorial Day jollies caused lots of disturbance – including to the team when Trail's End began to sink after hitting the pilings. Nigel left the hide and walked along the water's edge to get a better view of the near end of the catching area. Eventually got an option on a catch but a Willet strolled into safety immediately followed by 2000 semi's landing in the catching area. This lost us a catch of 30 Knot and 80 Turnstone. Jiggled to get rid of birds and allow the situation to build again. Fired and caught:

Catch Total:

6 Sanderling

74 Turnstone

10 Knot

4 Dunlin

318 Semi-palmated Sandpipers

9 Short-billed dowitcher

(1 Willet which escaped from the cage).

Again, towards the end of extraction, things were complicated by the number of birds that had managed to get out from under the net and were running around loose under the covering material. Everything was banded and processed most including a sample of semi's. Some semi's released directly from the net but we managed to keep 2 white flagged semi's. Last of the team walked off through Cedar Creek where it was obvious from the droppings on the beach that there had been a very significant flock of Semi-palmated Sandpipers. Whilst walking off, Brian Harrington noted a large flock of Dunlin migrating and Nigel and Sarah also had flocks of 100 Dunlin, 150 Short-billed Dowitchers, several small flocks of black-bellied plovers totaling at least 80 were migrating.

Andre, GEA and GKA had decent number of resightings in the two hours running up to the catch and also counted 4 Oystercatchers, 2 White-rumped sandpipers, 150 skimmers, 2 black-necked stilts, 250 gulls, 400 short-billed dowitchers, 10,000 semi's, 7500 Dunlin, 250 Sanderling, 1000 Turnstone, 300 Knot, 80 Black-bellied plover from their vantage point in the JonBoat beached on Main Island.

Jailbirds:

In the afternoon, JAC and JRT went and did two sets of replications with the Knot and released birds at Mahon afterwards.

Tuesday, May 31st

Port Mahon:

10:00 – 11:15 Gene & Meta Little resighted. Not many flagged birds present, found 5 flagged Turnstone. Saw 6 Great black-backed gulls, 4 Willet, 4 Black-necked stilts, 85 Ring billed gulls, 2 leasts, 5 Knot, 3530 Turnstone, 7 Sanderling, 56 Laughing Gulls, 226 Dunlin, 1 Short-billed Dowitchers, 12,082 Semi-palmated Sandpipers.

1430-1520 Gene & Meta again. Saw 500 gulls, 3 Knot, 1102 Turnstone, 10 Dunlin, 1 Short-billed dowitcher, 3 Willet, 1 Least Sandpiper and 1 Black-necked stilt and 806 Semi-palmated Sandpipers.

Kitts Hummock:

13:15-14:45 Charley had 535 Dunlin, 1350 Semi-palmated Sandpipers and 75 Laughing Gulls.

Mispillion:

10:00 – 14:00 NAC & GEA. At first the harbor had a distinctly end of season feel about it with distinctly low numbers compared with the day before and very edgy birds. After about an hour things took a turn for the better with birds much more settled. We suspected that some raptor activity may have taken place just before our arrival. Knot built to about 300-400 by the end of the morning session with good concentrations on Osprey beach, Oyster beach and the back beach. Reasonable numbers of Turnstone on Osprey beach and Semi-palmated Sandpiper everywhere. Dunlin numbers still good on most beaches. Most Sanderling were on the back beach. 54 resightings seemed quite reasonable for the number of birds present.

14:50-18:00 AGD and MPC. 500 Knot on back beach.

Slaughter Beach:

14:00-15:20 NAC & GEA Count but no resighting undertaken. Few Knot & SHDO, no Sanderling, Turnstone in their hundreds and 15K Semi-palmated Sandpiper.

Boat Count:

KSK, SLD, GKA, Marnie, Annie, Ed. Slightly late departing for boat count but not a problem. Majority of Knot etc found in Mispillion as would be anticipated. Calm

enough to do whole run to Woodland Beach. Mahon very difficult to count because of state of tide. One radio-tagged Knot recorded here but no Knot seen during count. A few radio-tagged crabs recorded on route too. Clear that large numbers of Dunlin and short-billed dowitchers had already left the bay but good numbers of semi's found still. No obvious catch option spotted whilst counting.

Labwork:

Jacquie and Phil in the lab all day working on feather samples.

Wednesday, June 1st

Port Mahon:

14:00-16:00 SG Highish tide and rough onshore waves meant few Turnstones – only 270 at north end. Only 2 Knot present, one 2003 individual. Small clusters of Semi-palmated Sandpipers here and there. One of the Semi-palmated Sandpipers bearing yellow flag over lime flag indicating banding origin in Guadeloupe. Patricia has kindly provided the email address of the chap who banded them. Anyone speak French....Also a birder from Virginia approached me having just seen a 'funny bird' at Bombay Hook. From the description it sounds like one of Dave Misrahe's Semi-palmated Sandpipers with red plumage dye on the breast and a 'ribbon' (probably a flag) on the leg.

North Bowers:

15:45-17:00 Susan Love and Beth. 12 Skimmers, 50 Laughing Gulls, 150 semi's, 75 Knot, 300 Turnstone and 2 Sanderling. Very windy so not possible to get any resightings.

Mispillion:

At 0820 Gene & Sarah leave in an attempt to deliver Kim & Tricia to an island on the south side of the inlet for survey, but the tide was too low. Kim & Tricia were returned to the dock at 1015. Sarah & Gene headed for Back Beach for resighting before the catch. Original plan was to catch on Osprey Beach but there were very few birds in that area and it seemed highly unlikely that the situation would change. Checked out other sites and saw about 300 Knot together with a substantial number of Sanderling Turnstone and Semi-palmated Sandpipers although the Semi-palmated Sandpipers never outnumbered the other species on Back Beach and decided that it was worth a try. So, Sarah and Gene were unable to do any resighting here. Sarah ferried people to base camp whilst the setting team got on and set one net in a deep furrow at right angles to the shore firing across a dense patch of dug in crabs on the flat surface on top of Back Beach. Only set the one net and only moved those crabs which were directly in the way of the set net. The birds had all left the beach when the boat beached and went over the breakwater to roost on the mudflat in the bayfront. Set as rapidly as possible with a hide at the end of the cables close to the vegetation. Birds rapidly came back but tended to feed on the tide edge out of the catching area. Over time the flock slowly moved higher up the beach diagonally across the net. By this time the easterly wind had become about force 5 making us certain that the net would not catch to the markers. Eventually started to get good numbers in the catching area but couldn't see clearly to observe safety at the far end

of the net. Sarah, Erin, Jason, & Gene were the last boat load & parked on an oyster bar by restaurant to observe the end of safety area furthest from the hide. Frequently got large numbers of semi's in the catching area and in safety often having 1500 semi's and several hundred Knot catchable but always with birds in safety. However much we jiggled (two jigglers set) we couldn't get the birds to move, and at one point we even had a Knot stood one side of the jiggle and leaning over the jiggle to probe the ground the other side. We could see the jiggles touching the bird but it still continued feeding and ignored the irritation. Eventually sent Kevin out of the hide to crawl behind the net and hopefully reduce the catch that at that time had got up to 1500 semi's, 400 Knot and another 500 mixed other species and also clear safety. When Kevin had got halfway to the position required there was a natural lift off of the Knot and Semi-palmated Sandpipers. The number that relanded safe in the catching area was acceptable so took a rapid catch. By firing time at 1428 the water was halfway to Sarah's knees. Finished processing at about 1830.

Catch Total:

84 Knot
33 Turnstone
22 Sanderling
2 Short-billed Dowitchers
53 Dunlin
345 Semi-palmated Sandpipers

18:00-19:15 NAC, SLD. After most of the colour-banding was done, Nigel and Sarah dipped out to get as much resighting as possible since we hadn't managed any during the day. 500 gulls, 700 Turnstone, 300 Sanderling, 500 Dunlin, 200 Short-billed Dowitchers, 4000 Semi-palmated Sandpipers and 700 Knot. We managed to set up 2 resighting locations and good numbers of birds were recorded but clearly by the end of the session birds had mixed around and we were getting repeats. Most resightings were of Knot (including lots not from today's catch!) despite good numbers of Turnstone on the beach.

Thursday, June 2nd

Port Mahon

10:25-12:00 GKH, RW. 8 Knot, 872 Turnstone, 1 Sanderling, 1 Dunlin, 1311 Semi-palmated Sandpipers, 1 Least Sandpiper, 6 Willet and 4 Black-necked stilts.

16:20-17:40 GEA, GKA & GKH. Gene worked from north end, southwards and GEA/GKA worked south end northwards on foot. 150 Turnstone, 10 Dunlin and 500 Semi-palmated Sandpiper on peaty beach at extreme south end (not scannable from road Only one flag found and eventually read (peat on flag made reading very difficult but no other birds to go at) northwards there was about another 400 birds and five flags read. 1 Spotted Sandpiper, 4 Willet, 506 Semi-palmated Sandpipers 10 Dunlin, 1 Sanderling, 3 Knot and 518 Turnstone.

South Bowers

1020-1300 GEA & GKA. All birds concentrated in river mouth, included a peak of 200 Knot, 350 Turnstone and 50 Sanderling. About 1000 Semi-palmated Sandpiper, zero Dunlin and ZERO SHDO. About 100 gulls. 25 flags read. Last three read included three of the first four read suggesting little or no turnover. Virtually all birds left at about 12:30 so indulged in some crab-tag searching until taxi-cab, in the form of Andre, arrived.

Brockenbridge:

15:50-16:30 NAC, JRT. 1000 Semi-palmated Sandpipers, 250 Knot, 800 Turnstone, 1200 Sanderling, 2 Dunlin, 50 Laughing Gull, 150 gulls. Birds were coming up and feeding on the island part of the spit and on the rising tide there was quite a lot of disturbance, seemingly natural. Every time the birds were disturbed they drifted southwards but new birds were arriving from the north all the time. We suspected quite a bit of turnover during the time that we were there.

Misphillion:

0835-1100 SG & KSK. Went in on the falling tide but water very high. Exclusively gulls on what remained of Osprey Beach and Point Island Beach, all shorebirds being on the top of Back Beach (virtually none in back bay). Large number of Semi-palmated Sandpipers and Sanderling. Only a maximum of c300 Knot at any one time but 60 individual resightings suggests a degree of turnover during our time scanning. Refound FWFY(AB) which Brian H saw yesterday at Brockenbridge. Also a Semi-palmated Sandpiper bearing an individual band combination.

Meetings:

Jacquie and Karen visited the Bird Banding Lab in Patuxent for a very informative meeting.

Days off:

Mark and Sarah had a day off and went to Prime Hook, Rehoboth for some retail therapy and Bombay Hook.

An evening out for a meal at Lone Star. Given that Dover had been invaded for the Nascar, most of the other customers couldn't understand what we were doing there if we weren't up for the race. Nigel got Andre big time! Having seen the waiters sing for another customer's birthday, he decided to ask for them to honour Andre in that way. Hysterical for us watching and for Andre – he couldn't speak for ages...!

Friday, June 3rd

Fieldwork was rained off but that gave a useful opportunity to catch up on paperwork and feather processing in the lab.

Days Off:

5 went to Cabellas to spend lots of money.

BBQ at Dave's in the evening which was a great way to wind down at the end of the season.

Saturday, June 4th

Alas, the Europeans leave. The reserve staff cheer and whoop for joy! But Kim cries and is inconsolable.

Key to Initials

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| AGD | Andre Duiven |
| AJ | Annie Jacobs |
| BAH | Brian Harrington |
| DC | David Carter |
| ERH | Erin High |
| GEA | Graham Austin |
| GH | Gene Hess |
| GKA | Gary Austin |
| JAC | Jacquie Clark |
| JB | James Barry |
| JCR | Jason Reppert |
| JLW | Jean Woods |
| JRT | John Tayleur |
| JW | Jean Woods |
| KB | Karen Bennett |
| KBC | Kimberly Cole |
| KSK | Kevin Kalasz |
| LBM | Lys Muirhead |
| ML | Mike Lohr |
| MP | Marnie Pepper |
| MPC | Mark Collier |
| NAC | Nigel Clark |
| PWA | Phil Atkinson |
| RAR | Rob Robinson |
| SG | Simon Gillings |
| SLD | Sarah Dawkins |
| UK | Uday Kumar |