

ANNUAL ISS/PRISM NEWSLETTER, JUNE 2009

THE INTERNATIONAL SHOREBIRD SURVEYS AND PROGRAM FOR REGIONAL AND INTERNATIONAL SHOREBIRD MONITORING



This is our annual newsletter to cooperators and friends of the ISS and PRISM. In 1974 Manomet Center for Conservation Sciences organized the International Shorebird Surveys (ISS) to gather information on shorebirds and the wetlands they use. Together we have completed almost 80,000 census counts at 1200 locations in 47 states of the U.S., with additional counts from Central and South America too. PRISM, the Program for Regional and International Shorebird Monitoring, is a complementary project aimed to better track population change in shorebirds.

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We are pleased to bring you a new format for our newsletter this year — a melding of ISS and east coast PRISM news. Each year we will provide ISS/PRISM-based shorebird perspectives that illustrate the importance of the information *you* collect at these sites.

Data on shorebirds and their wetland choices began to be collected from ISS sites 35 years ago. This long-term, hemispheric-wide dataset elucidated important migration staging areas as well as highlighted declining populations of several shorebird species. PRISM is a complementary project that aims for closer coordination and continuous long-term coverage at selected sites. Sites are selected to provide a framework for detecting shorebird population trends. PRISM sites are considered "focal sites" for ease of communication. Some PRISM sites are large and they may include several traditional ISS sites.

Regions of the USA are coordinated by different PRISM units. In northeast USA, from Maine to Virginia and west to Ohio, ISS/PRISM focal sites are coordinated by Manomet Center for Conservation Sciences. The data from the east coast are integrated with the ISS database. This is good news for cooperators who survey PRISM sites on the Atlantic Coast as they can take advantage of ISS eBird (However, we welcome data from *any* PRISM program. Data may be entered either through ISS eBird or sent directly to us for entry. Please contact us.)

Data from **both** ISS and PRISM are important! ISS gives a broad view of shorebird behavior and can be instrumental in highlighting changes in migration routes due to climate change or other factors. The focused PRISM sites will help us to evaluate shorebird populations with higher confidence. Regardless of what the program is called, one of the most important tools for shorebird conservation is monitoring sites...and having fun doing it!

As always, we welcome suggestions and feedback from our Cooperators. Your stories from the field and photos are welcome for next year's newsletter. We hope this brief summary reminds you of the contributions that we are all making to better conservation planning and to the understanding of shorebirds for the remarkable animals they are. ***Thanks to all for a great effort in 2008!***

Red Knots Numbers in Massachusetts

By Brian Harrington

As a part of an historical review of knot numbers in Massachusetts, we reviewed ISS data and verified that numbers of knots in Massachusetts have declined substantially during the last few decades. But we also turned up a curious result which was that the numbers had declined hugely at one migration area (Western Massachusetts Bay), but not at another (Eastern Cape Cod). This seemed perplexing, but on closer examination, we feel the inconsistency can be explained.

As background we note statements made by Harrington/Hagan (in the Auk, in 1988) to the effect that Western Atlantic knots have at least two major winter grounds, one in Patagonia and one on coasts of Florida (and possibly Brazil). They noted that:

- the wintering populations (Argentina/Florida) are discrete,
- Argentina knots were found 4.5 times more of ten at NJ (Delaware Bay) and MA than FL-banded knots,
- the probability that knots wintering in Florida will live to the next year was more than twice that of knots banded in Massachusetts and NJ (i.e. birds of the Argentina wintering group).

Our studies of knots on Western Massachusetts Bay prior to 1990 showed that most knots there were preparing for non-stop flights to South America. Evidence included their rapid fattening, their plumages, the relatively short duration of their visits, and the non-molting condition of their flight feathers. No data on these parameters were collected during the 20th Century from knots on Cape Cod, but comparisons of the migration phenology there and on Western Massachusetts Bay suggest that, unlike today, there was little difference in seasonal use of sites on Western Massachusetts Bay and Cape Cod before 1990 (Fig. 1).

Beginning in 2002 we began finding knots in Massachusetts during July-September with actively molting flight feathers. We also began counting relatively high numbers of adult knots after the formerly traditional maximum count dates (~ 10 August).

We believe that some of the knots that had traditionally wintered in the northern hemisphere, and were formerly scarce in Massachusetts, are now using the Massachusetts coast, and specifically sites on eastern Cape Cod, as a molting area. Meanwhile, the (now declined) numbers of knots with Patagonian wintering-ground destinations were greatly reduced in Massachusetts, especially at the sites on Western Massachusetts Bay. All of this is in keeping with the well documented declines of knot numbers in the Patagonian wintering areas.

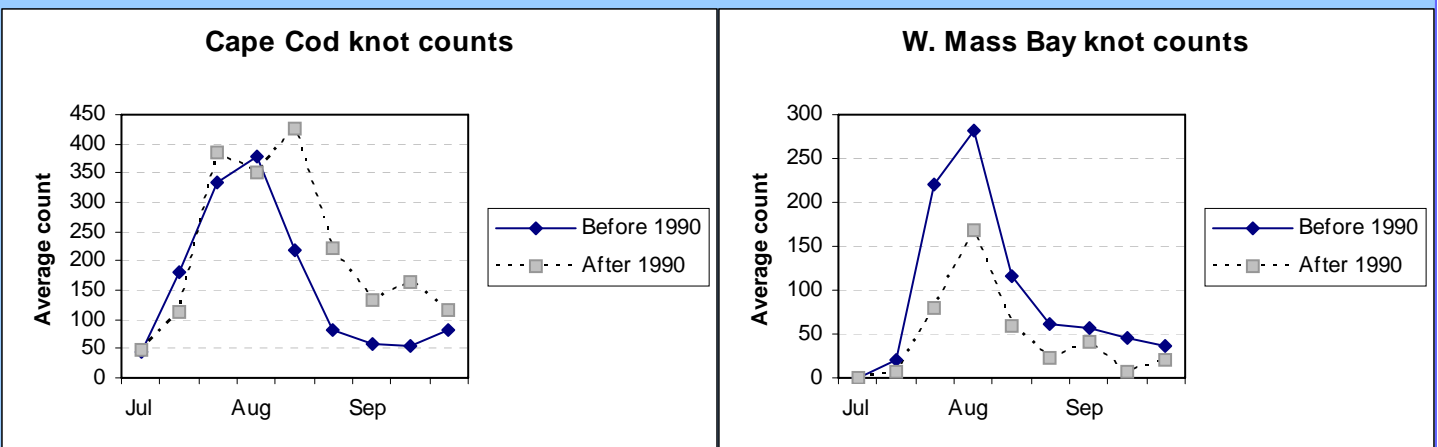


Figure 1. Average numbers of Red Knots counted before 1990 compared to numbers counted after 1989 on Eastern Cape Cod versus mainland sites on Western Massachusetts Bay (data from the International Shorebird Surveys).

What you can do with your ISS eBird data

You may or may not have heard by now that the ISS/PRISM has its own on-line data entry portal at ISS eBird (<http://ebird.org/content/ISS/>). We are thrilled to offer this useful tool to our cooperators. ISS Data entry through ISS eBird not only provides data instantly to the ISS and PRISM programs, but also allows you to access those observations (along with other observations entered through any eBird portal) via your account. Furthermore, your observations can be summarized with those of others using the eBird output tools. The following are just a few of the features available within the new ISS eBird portal.



Figure 1 is a bar chart of the frequency of species occurrence at the Point of Pines, Revere

Beach site in Massachusetts. In ISS eBird "frequency" means the percentage of times the particular species is observed within a specified date range. Since this chart considers multiple years, the bar indicates the frequency by week over the combined years.

If this was your site, you could quickly see that some shorebirds, such as Sanderling, are found frequently at this site throughout fall migration while others, such as Dunlin migrate through later. If you have monitored this site for several years you can investigate

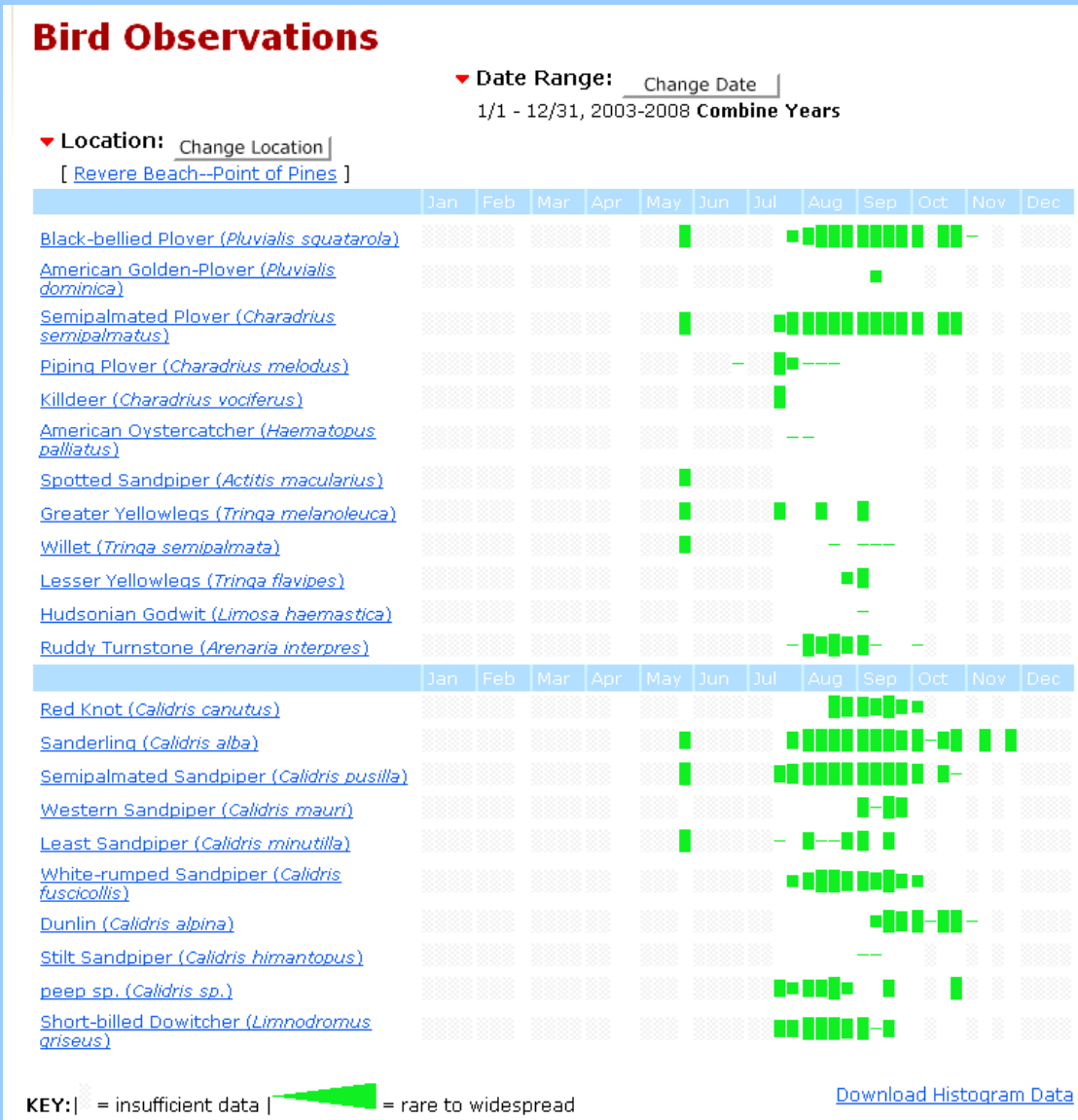


Figure 1. Frequency of shorebird species occurrence at Point of Pines, Revere Beach, Massachusetts.

species' migration patterns over time by choosing each year separately. You can easily bring up your high counts by species or species totals over a specified time.

Through ISS eBird, data summaries can be tailored to your needs. You can chose to summarize data from just favorite shorebirding location or several "hotspots" or over broader geographic regions such as entire states and Bird Conservation Regions. You can chose a single or multiple shorebird species. The time span can be one week, a migration season, a year, multiple years combined. Also, you can work with only your own observations or you can summarize combined data at a site from all

birders who entered data for that site.

For example, Bombay Hook National Wildlife Refuge on Delaware Bay in Delaware is a large PRISM site with several ISS sites contained within it. The sites encompass the diversity of shorebird habitats such as marsh and tidal pools as well as the bay shoreline. Figure 2 is a graph of overall abundance for Black-bellied Plover (BBPL) and Red Knot (REKN) for all the sites that are surveyed over all ISS years, 1974 to 2009. Abundance is defined as the average number of birds recorded by all cooperators within specified times. The graph shows that Black-bellied Plover use Bombay Hook NWR for protracted periods during spring and fall migration. Red Knot utilize the area for a short window of time and have rarely been observed during fall migration.

We can further analyze the use of the differing habitats by the two shorebirds. Figure 3a shows birds' abundance at the tidal marsh and tidal pool sites while Figure 3b shows abundance at the beach site. Red Knot are overwhelmingly more abundant at the beach site than in the inland sites. Red Knots arrive at Bombay Hook in time to feed on horseshoe crab eggs, an important

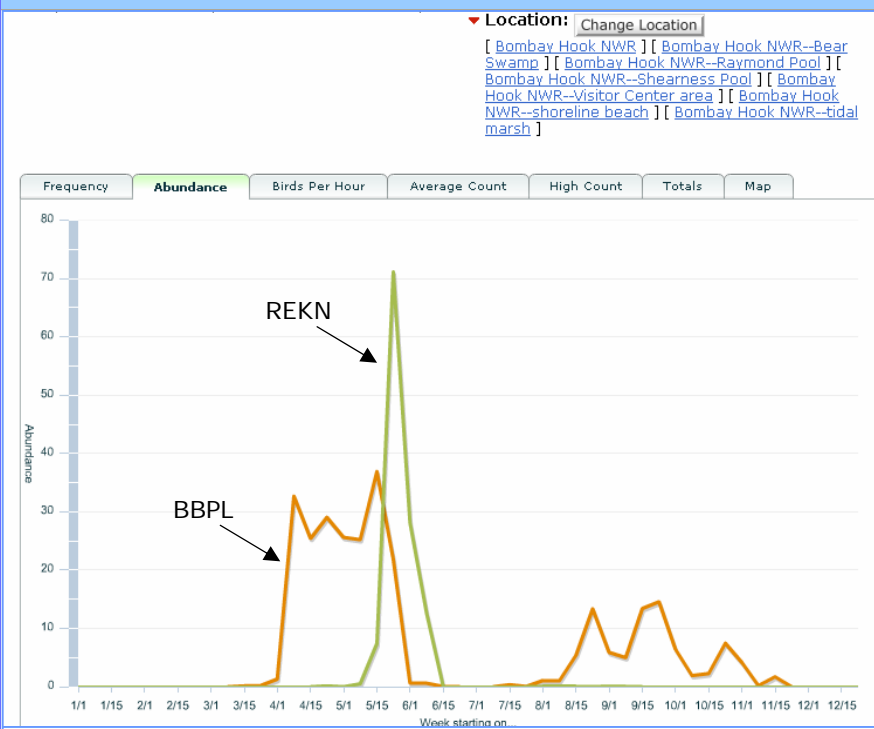


Figure 2. Overall abundance of Black-bellied Plover and Red Knot over 35 years at all ISS sites within Bombay Hook National Wildlife Refuge.

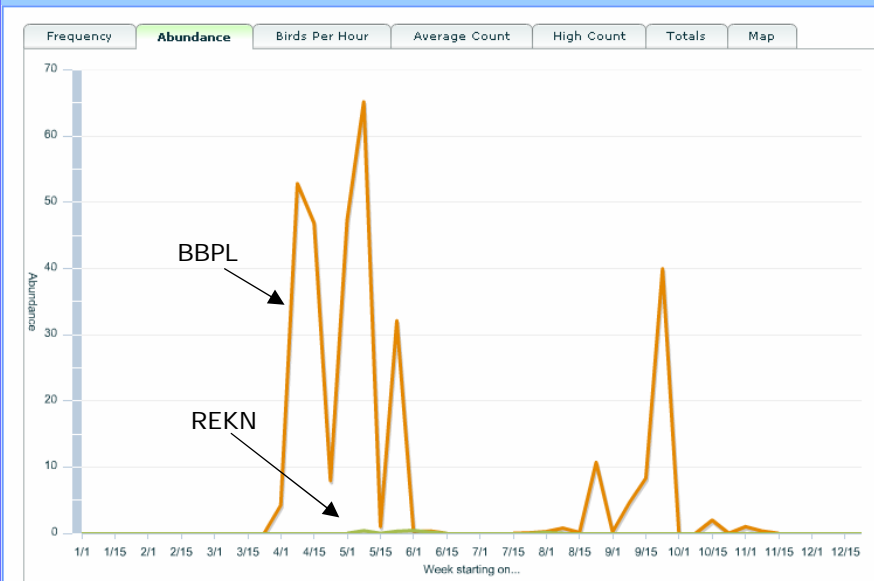


Figure 3a. Abundance of BBPL and REKN at the marsh and tidal pool sites at Bombay Hook NWR.

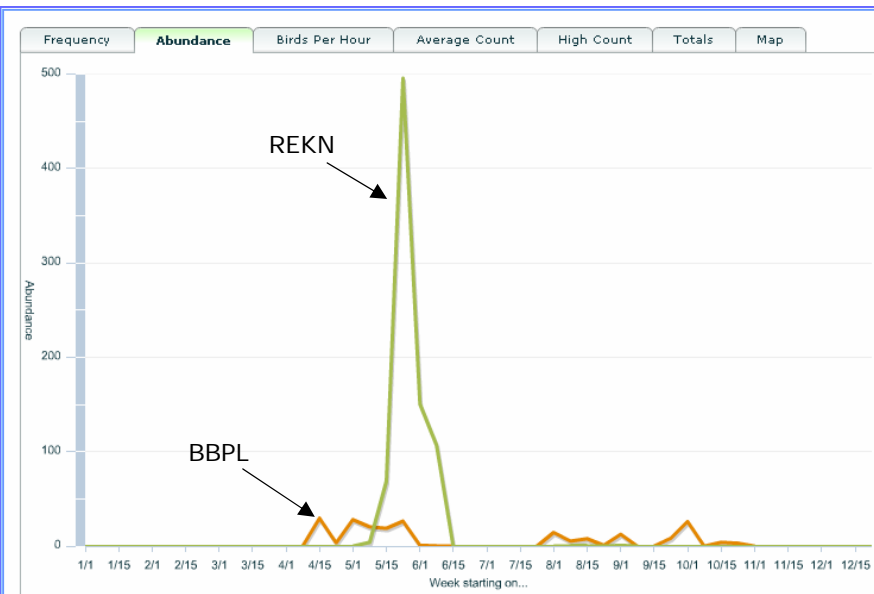


Figure 3b. Abundance of BBPL and REKN at the beach site of Bombay Hook NWR.

source of energy for the next stage of their journey.

ISS eBird offers tools to assist in management of sites for shorebirds, assessments of population abundance, or just a fun way to explore the data cooperators work diligently to collect!

We hope that you find this tool useful and encourage you to enter your ISS/PRISM data through this portal. Of course, traditional paper reports or electronic spreadsheets will continue to be welcomed from persons choosing that option.

Questions and comments are welcome. Please feel free to contact Brian Harrington (bharrington@Manomet.org) or Marshall Iliff (mji26@cornell.edu).

Most of the surveys for ISS/PRISM are conducted through citizen science. In some cases, the coordination, recruitment, and training of cooperators is facilitated through local contacts. This year we wanted to acknowledge two state wildlife and one non-governmental personnel who have made shorebird monitoring a priority in their states and whose help is greatly appreciated. They are Kevin Kalasz (Delaware Division of Fish and Wildlife), Nellie Tsipoura (New Jersey Audubon Society), and Lindsay Tudor (Maine Department of Inland Fisheries and Wildlife).

Kevin has a great program to recruit and train volunteers to monitor shorebirds at ISS/PRISM sites along Delaware Bay. Nellie's citizen science program works in conjunction with the State of New Jersey to monitor shorebirds along Delaware Bay as well as ISS/PRISM sites along the Atlantic coast. In Maine, Lindsay helps us find cooperators or fills in herself for some of the sites and last year she coordinated a detectability study at Scarborough Marsh that will help us to estimate the error associated with surveying large marsh sites.

THANKS KEVIN, NELLIE, and LINDSAY!!!

Citizen Science, Volunteering and the Surveys. An important goal of our surveys is to have an operational monitoring program that will be sustained for decades on end. Crucial to this goal are low costs, operations on a broad geographic scale, and competent, fulfilled personnel. We think the ISS is meeting these goals, and has proven itself to be sustainable. Clearly our project depends largely on the work of volunteers. As we consider refinements needed for improved population monitoring, we also must consider the project's ability to keep volunteers engaged in helping to gather the factual information so badly needed for sound conservation planning. **Help us with your comments and continued participation!**