

THE FIRE ISLAND HAWKWATCH

Robert J Kurtz

27 Smith Street, Valley Stream, NY

The Fire Island Hawkwatch (FIRE) is a fall season hawkwatch located at the meeting point of the Fire Island National Seashore (FINS) and the Robert Moses State Park (RMSP). It is a barrier island watch and therefore differs in a number of interesting ways from the vast majority of North American hawkwatches, which are on the mainland. Although the number of raptor species that occur commonly at Fire Island is somewhat restricted compared to mainland watches, FIRE offers exceptional opportunities to see migrating Osprey, Northern Harrier, and falcons, given favorable (northerly) winds. We welcome all raptors, of course, but nature holds the cards and these three types are without question the focus of the FIRE watch.

When—The window for the observation of migrating raptors at the watch is 20 August–20 November, but from 20 August–9 September and 1–20 November, the watch is only conducted on days with favorable winds. The rest of the time the watch is staffed every day unless weather conditions are very bad (e.g., heavy all day rains, hurricanes, etc.). The time frame between 10 September and 31 October is used for statistical analyses, performed by the duo of Drew Panko and Trudy Battaly, yielding insights regarding population trends and comparisons to other watches.

Access and weather—This watch is of course open to one and all, especially those interested in diurnal raptors. Should your time be limited, choose a day when strong (10+ mph) northwest winds are predicted, especially from 21 September–15 October, our peak timeframe. If you are mostly interested in *Buteos* I would suggest an inland watch, as we average only 1–2 individuals of this genus per year.

For those not too familiar with Long Island and its barrier beaches, a search of *Google Earth* will help in getting you to the vicinity of the watch. Once you cross the last bridge heading south on the Robert Moses Causeway there is a traffic circle and tower immediately in front of you. Proceed around the circle 270 degrees and head east. Go past parking field #4 and enter the last field, #5. Fee collection varies seasonally and in other ways, but if you arrive before 7 a.m. you can avoid a parking fee. There are two routes to reach the watch from the east end of parking lot #5. The fastest way is to follow the cinder path that leads out of the parking lot and parallels the northeast exit from field #5. Just follow the cinder path to the east; once you've rounded the bend on this path, the hawkwatch platform will become evident rather quickly. Alternatively, one could take the boardwalk; the entrance is located about half way north/south at the east end of the parking lot. Take the boardwalk to the point where it meets

the road into FINS, turn to the left and walk a short way back up that road; the platform is located ahead on a small rise.

The platform is not large and access on busy days is on a first come first served basis. It can get crowded during the peak of the migration, especially with north or northwest winds. We do try to keep some space available on the upper tier of the platform for the official daily observer(s) since they are, after all, responsible for the count.

We also have gotten an impressive diversity of non-raptor species (including many RBA- and even NYSARC-worthy species!), but these would be the focus of a separate article. As a note of caution, please stay out of grassy areas/underbrush. Ticks can be numerous and many harbor diseases that cause grief to humans—not just Lyme disease, but also other infections that can be substantially more serious.

History of the Watch—The watch at Fire Island was informal with little to no formal data gathered before 1982. Basically, it was a small group of ‘raptorphiles’ who knew that the Fall at the barrier beach on favorable winds meant there would be a hawk flight and so they each watched from their favorite site in the vicinity of where the platform now stands. Then in 1982 it was decided that a formal hawkwatch should be established; the way was led by Drew Panko and Ted Leviness and we became an official HMANA (Hawk Migration Association of North America) site. A designated acronym was chosen: Fire Island Raptor Enumerators (FIRE). The watch site at the beginning was located close to where the platform is now, but the platform itself, built by the State of New York, dates only to circa 2000. Without going into details, let’s just say we were amazed when we heard we were going to get a platform and actually watched it being built! I must add here that the tireless efforts of the late John Fritz were most instrumental in the platform coming to fruition.

Collection of data on migrating birds, with the major emphasis being diurnal raptors, began in the fall of 1982. It has always been an all-volunteer watch staffed by a cadre of dedicated watchers; early on most but not all of the watchers came from Westchester County—quite a trek! The 1982 effort was preliminary and as such there was only 86 hours of coverage on 14 days. For the next five years the average coverage was 250 hours and 38 days of observation. Over the last 20 years the FIRE hawkwatch has matured with regard to total hours and days of coverage (i.e., an average of 432 hours over 61 days of coverage). During 2010 there were 465 hours and 63 days of observation; given weather conditions and the relatively short season associated with this watch, these numbers are about ‘maxed out’.

The number of diurnal raptors seen has varied substantially over the last 20 year. Reasons for the variation likely include weather and breeding success of those species and populations that pass the point of our watch. Changes in the number of hawks can occur dramatically from year to year, for instance, in 2009 we recorded only 2893 raptors during 414 hours (64 days) of coverage; this was the lowest number of diurnal raptors since 1984 when only 212 hours of coverage occurred. Then, in 2010 with 463 hours of coverage we tallied 5781, or

almost exactly twice the number of individuals as during 2009! During 2010 four records for species totals fell, namely Osprey (old record 508, now 557), Northern Harrier (434, now 523), Merlin (1648, now 2119), Peregrine (320, now 325). Additionally, the beleaguered American Kestrel numbers which had fallen to a catastrophic level of 518 in 2009 bounced back to an encouraging 1645! The trend for Sharp-shinned Hawk numbers, which has also shown a dismal decline, was also reversed in 2010; it rose from 291 in 2009 to 543 in 2010. This much variation from year to year is dramatic and, again, likely the result of weather and breeding success. The watch is always hoping for strong 10-20 MPH winds out of the northwest. This wind direction was definitely present during the 2010 watch season, a clear change from the previous year. In fact, the 2010 season featured the most favorable winds we've seen in years.

SPECIES ACCOUNTS AND TRENDS

Trends of course are a critical component of the migration monitoring efforts. Any given watch site is not likely to show meaningful trends (perhaps some exceptions exist, such as Hawk Mountain Sanctuary and Cape May), in part due to inherent variables. It is, however, the combined observations at all of the HMANA sites that provide a window into population trends. The information presented below is the result of the continuous effort of Drew Panko and Trudy Battaly, without whose efforts the following population profiles would be unlikely to have been attempted except in the most general way.

Table 1. Seasonal averages for nine species of diurnal raptors at the FIRE watch, 1991-2010. OS—Osprey, BE—Bald Eagle, NH—Northern Harrier, SS—Sharp-shinned Hawk, CH—Cooper's Hawk, NG—Northern Goshawk, AK—American Kestrel, ML—Merlin, PG—Peregrine Falcon.

OS	BE	NH	SS	CH	NG	AK	ML	PG	Total	Hrs	Days
305	3	230	455	28	2	1360	1291	180	3876	432	61

Osprey

The trend analysis at Fire Island has been very positive, unlike Lighthouse Point, CT (LPH), where the trend has been negative (but not as negative as FIRE is positive), while the trend at Cape May Hawk Watch, NJ (CMHW) is almost flat. During the 2010 season, both Cape May and FIRE exhibited a sharp increase in the number of Osprey passing by; this was not the case at LHP, where numbers remained below average. Why this 'problem' at LPH? Good question! Considering observational data it would appear that the decline at LPH may be due to a local condition associated with nesting Osprey along the coast east of LHP in Connecticut and Rhode Island. Additionally, the Osprey passing at LHP are only remotely likely to be some of the same individuals as those seen at

FIRE due to location of the LHP watch in relation to FIRE, approximately 50 miles to the north-northeast.

Bald Eagle

While numbers seen at the FIRE watch are too small to allow true statistical conclusions and comparisons, it is interesting to note that the trends at the FIRE watch mimic to some degree the very positive trends at mainland sites.

Northern Harrier

Numbers were up sharply at all three sites (FIRE, LHP, and CMHW). Given that the vast majority of harriers seen at FIRE during 2010 were hatch year (HY) birds, it seems reasonable to conclude that a very successful hatch year for this species took place. The trend, however, is somewhat confounding in that at FIRE there is a substantial positive trend while at LHP and CMHW the trends are negative. It is possible that several years of less than successful nesting resulted in fewer adults and since both LHP and CMHW are on the mainland, they are more likely to see more adult harrier in their totals versus FIRE, hence a negative slope.

Sharp-shinned Hawk

Alas, for this species, the smallest of the North American *Accipiters*, the trend is downward at all three sites and at about the same slope. The only encouraging sign is that all three watches had moderately to sharply increased numbers in 2010.

Cooper's Hawk

Neither statistical analysis nor comparison to other hawkwatches was performed. It can be said that in general the number of Cooper's Hawk at FIRE for the last six years are the highest numbers since the watch began.

Northern Goshawk

No analysis could be performed because only an average of two individuals per Fall season pass the FIRE watch.

American Kestrel

Sadly, the trend for the smallest of North American falcons is quite negative and about at the same slope at all three hawkwatches analyzed. As with the Sharp-shinned Hawk, the 2010 season provided a bright spot in that all three sites exhibited a sharp increase in sightings. And as with the Sharp-shinned Hawk, it will take several years of improved nesting success to turn the tide of the decline.

Merlin

While Merlin trends have remained nearly constant for LHP and CMHW, the trend at FIRE is up at a substantial slope, even without the 2010 record setting year. The upward trend is, however, confounded by the first few years of records

(i.e., 1982-1984) where only low numbers of Merlin were seen, most likely due to hours expended at the watch. If one eliminates these years as not representative due to effort, then the Merlin trend line is still positive but not in a statistically significant way. By adding the years 1984 and 2010 (record year) to the analysis, the positive trend slope is increased. Adding these two years represent the 'front' and 'back' end of the Merlin data collected to date, however, the statistical analysis to determine if this positive increase in slope is statistically significant has not yet been undertaken. The 'gut feeling' is that while the positive trend has increased with the addition of these two years, the slope is not steep enough to indicate a positive statistical increase. Still, the math needs to be performed to accept or reject the 'gut feeling'. As Drew Panko stated, he would not trust the trend unless it continued for another few years.

Peregrine Falcon

All three watches analyzed have a very positive slope; the only rational conclusion is that the species population is growing. The growth is no doubt due to the end of the use of DDT as well as the Peregrine hacking program that has resulted in a remarkable increase in local nesting throughout the northeastern USA.

As birders, we know that bird populations are dynamic and changes will continue to occur. We at the FIRE hawkwatch will continue to observe, report and calculate the trends of the diurnal raptors passing by each fall and forward our information in our efforts to continue to add to the raptor record.

ACKNOWLEDGMENTS

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