



HMANA

Hawk Migration Association
of North America

The Raptor Population Index Partnership



HAWK MOUNTAIN

Hawk Mountain Sanctuary
Association



**HawkWATCH
INTERNATIONAL**

HawkWatch
International

Raptor Population Index *Update* Counting for Conservation

No. 1, March 2005

In January 2005, the Hawk Migration Association of North America (HMANA), Hawk Mountain Sanctuary (HMS), and HawkWatch International (HWI) launched the Raptor Population Index program with support from a 2:1 challenge grant from the National Fish and Wildlife Foundation, generous donations from individuals and hawk watch organizations, and in-kind contributions from each organization.

The goal of the project is to determine annual population indexes and trends of hawks counted during spring and fall migrations at sites throughout the United States, Canada and Central America. Specific objectives are to (1) produce scientifically defensible indexes of annual abundance and trends for each species of migratory raptor, from as many count sites as possible; and (2) make those results available to participating count sites, the scientific community, conservation agencies, and the public.

Since August 2004, Dr. Chris Farmer at Hawk Mountain Sanctuary and project advisor Dr. David Hussell have developed a statistical approach to analyzing raptor migration count data. In January, the RPI Science Advisory Committee met to review the statistical model and scientific approach to be taken with the count data. Representatives from both Canadian and United States wildlife agencies and the three partners were included in the review process (see page 3). The next day, the RPI Management Committee met to map out the overall project goals for the year. Both committees gave input concerning the website development and products that may be created to provide feedback to the sites and information for potential researchers. It was decided to complete a two-site analysis of Hawk Mountain and Cape May data, and then to conduct a seven-site eastern flyway analysis (fall only) followed by a western flyway analysis later in 2005, and to consider an eventual analysis of spring migration sites.

Behind the Scenes: the Website, the Data, and the HMANA RPI Director

The best statistical approach for analysis of migration count data requires hourly data. Because few sites have entered their hourly data into *HawkCount*, the first job for RPI has been to get the count data entered. Hawk Mountain and HMANA volunteers have been working very hard with Laurie Goodrich at Hawk Mountain and their individual sites to enter data in hourly format for future analysis. Line by line great progress is being made. Without these volunteer hours the RPI trend analyses would be difficult to conduct.

The HMANA webmaster, Jason Sodergren, has been busy upgrading the HMANA *HawkCount* website, working on an interface for spreadsheet imports, and improving the website database and hardware.

The HMANA Board has been working to select and hire a HMANA RPI Director to coordinate the RPI work for HMANA and interface with the count sites, agencies, and the public. After many interviews and meetings, the Board has selected Ernesto Ruelas Inzunza who will be joining the project in May. Ernesto will finish his Ph.D. in May and is best known to hawk watchers as one of the founders of the Veracruz River of Raptors project.

Thank you to all the RPI donors and supporters!

Trend Analysis Underway

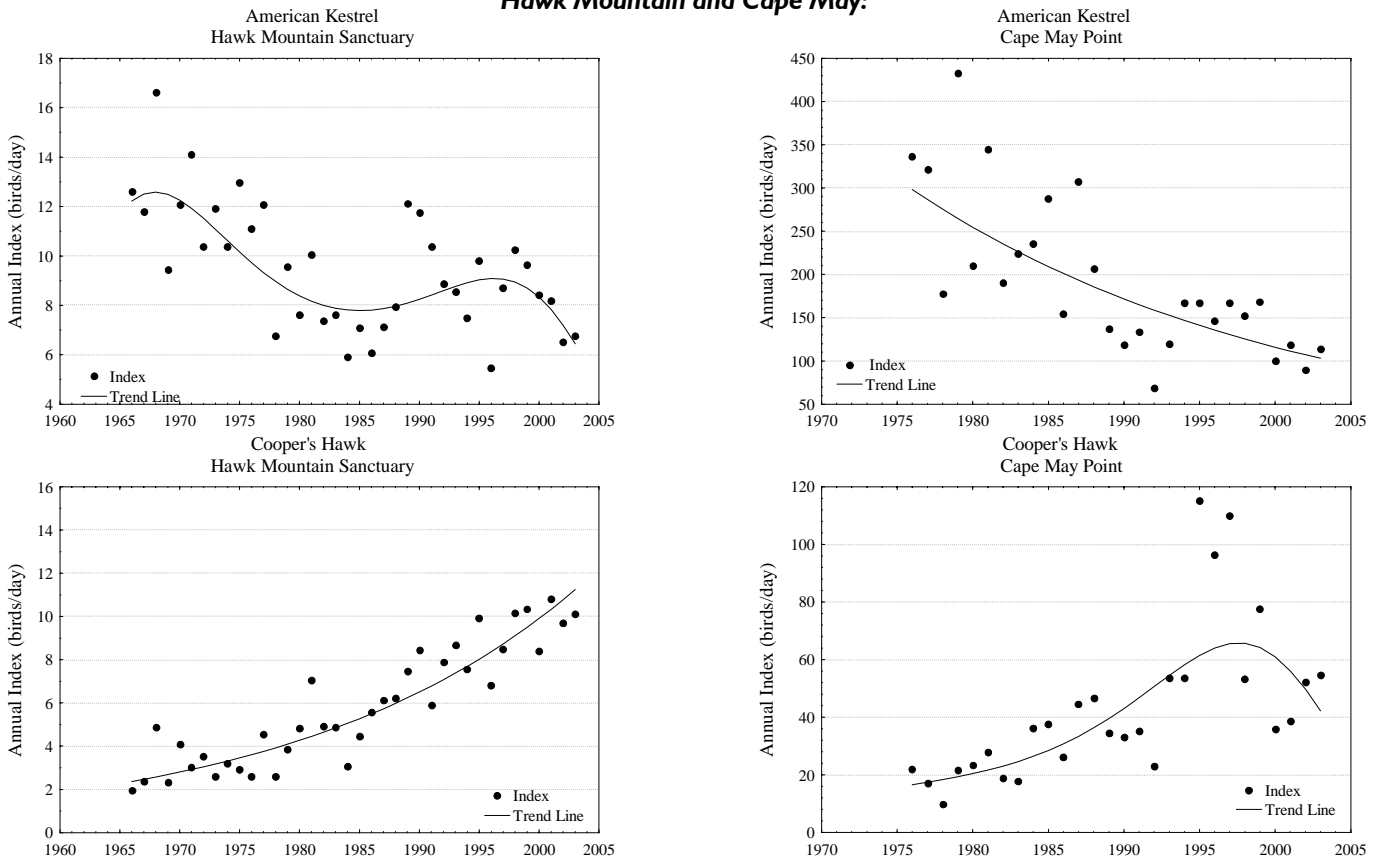
As of March 20th, the first set of analyses, on 11 common species in the Cape May and Hawk Mountain datasets are complete. A scientific manuscript has been completed and is currently undergoing internal review with an anticipated submittal to a journal in July. We compared six different methods for deriving a population index from migration counts in this initial analysis. In this first paper, we compare these methods and recommend the best-performing index to use for future analyses.

Results from the analysis indicates that at Cape May, five species had increasing trends (positive population growth rates) from 1976-2003. Increasing species at Cape May were Bald Eagle, Cooper's Hawk, Merlin, Osprey, and Peregrine Falcon. The same five species increased at Hawk Mountain as well.

Six species decreased at Cape May during the same time period: American Kestrel, Broad-winged Hawk, Northern Harrier, Red-shouldered Hawk, Red-tailed Hawk, and Sharp-shinned Hawk. The same six species also showed declines at Hawk Mountain.

In April, we will begin trend analysis on a new set of sites in eastern North America to gain a more comprehensive view of eastern flyway trends. Currently, we plan to analyze trends for Waggoner's Gap, Pennsylvania; Montclair, New Jersey; Lighthouse Point, Connecticut; Hawk Ridge, Minnesota; and Holiday Beach, Ontario; and we will compare the results from these sites with those from Hawk Mountain and Cape May.

Example of trend analyses produced by RPI project for American Kestrel and Cooper's Hawk from two eastern sites, Hawk Mountain and Cape May:



RPI Management Committee: David Hussell, Chair; Keith Bildstein (HMS), Will Weber (HMANA), Jeff Smith (HWI), Kirk Moulton, Steve Hoffman.

RPI Management Committee support staff: Laurie Goodrich, Chris Farmer, Ernesto Ruelas Inzunza, Iain MacLeod, Casey Lott, Jason Sodergren.

RPI Science Advisory Committee: Jonathan Bart, Keith Bildstein, Charles Francis, Mark Fuller, Laurie Goodrich, Steve Hoffman, David Hussell, David Mizrahi, Jeff Smith.

For further information on the RPI project, please see www.hmana.org, or contact Laurie Goodrich, Goodrich@hawkmtn.org (570-943-3411) or Will Weber, weber@hmana.org (734-913-5679).