

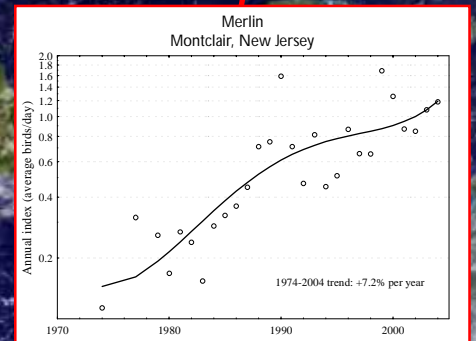
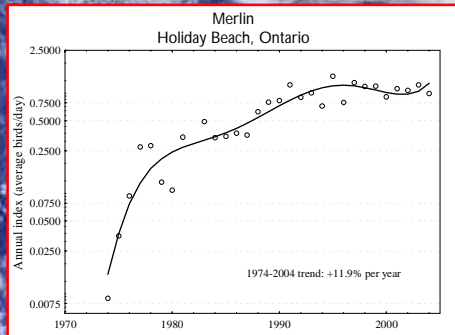
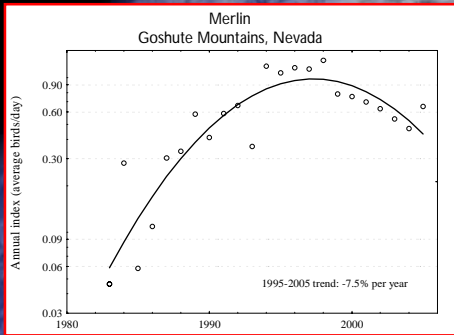
# Eyes on the Sky

## Counting for Conservation



Robert J. Fisher

Merlin



# The Raptor Population Index

## 2006 Annual Report





Pain MacLeod

Osprey

## Counting For Conservation: A Message from the Partners

It is our great pleasure to present to you the second annual report of the Raptor Population Index Project (1 August 2005–31 July 2006).

Our vision of contributing to raptor conservation in North America through migration monitoring is supported by a growing number of enthusiastic contributors of count data and sponsors. We thank you for your involvement and generous support.

Over the past year we have further upgraded our systems for storing and processing migration count data. Here we present a sample of results from watch sites in the Eastern and Great Lakes regions. Other analyses for Western and Gulf Coast sites are underway, and more sites will be added as multi-year data become available.

This monumental task would be impossible without the help of the dozens of raptor migration monitoring sites that continue to support RPI through submissions of count data. The RPI partnership, made up of Hawk Migration Association of North America, Hawk Mountain Sanctuary, and HawkWatch International, continues to receive support from the National Fish and Wildlife Foundation and matching funds provided by foundations, hawkwatches, and individual donors who make this project possible.

We invite you to read this report and learn about the completion of important milestones in our common goal of transforming hawk migration counts into conservation information on behalf of migratory raptor populations.

Ernesto Ruelas Inzunza,  
*RPI Project Manager,*  
HMANA

Keith L. Bildstein,  
*Sarkis Acopian Director*  
*of Conservation Science, HMS*

Jeff P. Smith,  
*Conservation Science*  
*Director, HWI*



Vic Berardi

Broad-winged Hawk

## RPI Purpose, Need, and History

Because diurnal raptors are at the top of many food chains, they are sensitive indicators of ecosystem health. Hawkwatchers, attracted to mountaintops and shorelines to enjoy the spectacle of raptor migrations, have been able to combine their recreational pursuits with collection of valuable long-term data on the status of raptor populations.

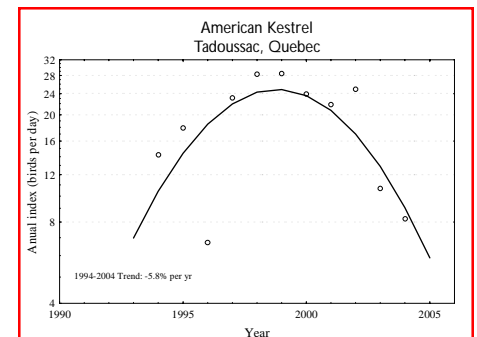
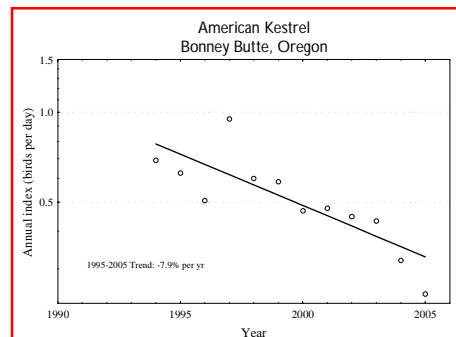
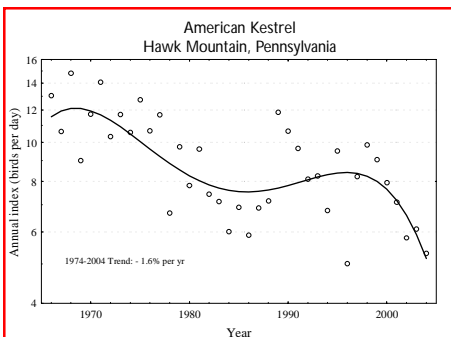
Over the past several decades, hundreds of independent watchsites have contributed meticulously collected data, stored on paper forms, to a central repository. Although one of their goals was to monitor the health of migratory raptor populations, these count results rarely reached the analysis stage and were left for many years as an unused but precious information resource.

RPI, the Raptor Population Index Project, was formally started in the summer of 2004 in response to this need. The existing network of independent watchsites, operated by hundreds of volunteer citizen scientists and professional biologists, was brought together to fill this gap by submitting count data collected at their sites to the HawkCount.org web site, RPI's central data bank.



Corel

American Kestrel







Zach Smith

Peregrine Falcon

## RPI Vision and Objectives

The RPI partner organizations believe that raptor migration counts can contribute effectively to long-term population monitoring by producing scientifically sound assessments of population status that are shared widely through public outreach and education.

### Specifically, the Raptor Population Index Project is:

- (1) Producing statistically defensible indexes of annual abundance and trends for each species of migratory raptor from as many count sites as possible
- (2) Providing frequently updated assessments of the status of each species and
- (3) Making those results widely available to participating count sites, the scientific community, conservation agencies, and the public.

## RPI in Flight: Progress Review 2005–2006

### During the last year the Raptor Population Index Project:

- ◆ Expanded and developed the hardware and database capabilities of HawkCount.org, its on-line information system
- ◆ Developed a scientifically-defensible method to assess population trends using migration count data
- ◆ Expanded the network of hawkwatches contributing data to HawkCount.org and transferred historical data to electronic format from nine fall and spring sites
- ◆ Produced initial population trend estimates for the Eastern and Great Lakes regions
- ◆ Established a model protocol to standardize data collection
- ◆ Reached multiple audiences through its new website ([www.rpi-project.org](http://www.rpi-project.org)) as well as reports, general audience papers, and slide programs to promote the RPI Project
- ◆ Developed regional conservation assessments for several species



Corei

Sharp-shinned Hawk

## Trend Analyses and Conservation Assessments

RPI has produced a comprehensive analysis of population trends of 13 species of raptors based on counts from eight Eastern and Great Lakes regions watchsites (Table 1).

Across the region, American Kestrels show decreases at several sites whereas the Bald

Eagle, Cooper's Hawk and Merlin have increased at many sites. Hawk Ridge, Minnesota, reports significant increases in 8 species, while Hawk Mountain, Pennsylvania, reports decreases in 5 species.

RPI also has produced its first conservation assessments for the Bald Eagle, American Kestrel, and Peregrine Falcon for Eastern North America, based on migration count data and other monitoring data from Breeding Bird Survey and Christmas Bird Counts (available on-line at [www.hawkmountain.org](http://www.hawkmountain.org)).

**Table 1: Percentage of annual change in populations of migratory raptors, 1990–2000 (trends for Tadoussac are for the period 1994–2004). Results marked (-) have decreasing populations; results not marked indicate positive change. Statistically significant trends are marked with asterisks (\*  $P \leq 0.05$ ; 1 in 20, or less, chance that trend was zero).**

Species	Hawk Ridge MN	Holiday Beach ON	Waggoner's Gap PA	Hawk Mountain PA	Montclair NJ	Cape May NJ	Lighthouse Point CT	Tadoussac QC
Turkey Vulture	3.9 *	7.1 *	29.8 *	7.0 *	8.5 *	1.5	6.9 *	n/a
Osprey	3.6	2.0 *	-0.9	-2.7 *	-1.2	-0.7	-9.0 *	-4.7
Bald Eagle	16.1 *	3.8	4.4 *	5.9 *	9.2 *	10.8 *	8.8 *	3.3
Northern Harrier	0.6	-8.2 *	-0.8	-3.0 *	0.7	-0.7	-1.9	-0.6
Cooper's Hawk	8.1 *	-1.2	5.1 *	4.1 *	10.2 *	3.3	-4.0	n/a
Sharp-shinned Hawk	2.3	-1.8	-0.6	-3.3 *	0.2	3.0	-3.3 *	-1.0
Broad-winged Hawk	1.1	-2.2	4.1	-3.1 *	-6.4 *	-1.4	-2.3	-1.7
Red-shouldered Hawk	-0.7	-5.0 *	1.0	-0.6	1.3 *	-0.3	-2.1	n/a
Red-tailed Hawk	6.1 *	-3.4	4.3 *	-1.9 *	-2.8	0.3	3.1 *	1.6
Golden Eagle	5.7 *	1.1	3.0 *	2.1 *	1.1	0.2	4.7 *	-3.2
American Kestrel	5.3 *	-2.6	3.1	0.1	-3.3 *	-4.5 *	-7.1 *	-5.8
Merlin	3.7 *	3.0	11.0 *	4.1 *	4.0	0.2	-3.7	-3.7
Peregrine Falcon	7.8 *	4.6 *	2.1	1.6	3.3	3.4	-0.5	3.5



Zach Smith

Cooper's Hawk

## HawkCount.org and new RPI website (rpi-project.org)

The HawkCount.org web site has improved its capabilities. A new server offers increased data and back-up security, mapping capabilities, and a new watchsite database (which will contain detailed site descriptions) initially with the profiles of the first eight sites used in our Eastern and Great Lakes analyses. Currently, HawkCount.org archives data from 163 sites. More descriptions will be added soon. Please visit HawkCount.org and explore its new on-line data reporting capabilities.

The new RPI website will become the main outlet of RPI products. Browse through its pages and consult a data base of sites, results of trend analyses, data collection protocols, RPI project reports, and more.

## Funding Development

Funding for RPI comes from a 2:1 challenge grant from the National Fish and Wildlife Foundation. For the second year of RPI, NFWF has approved a grant of \$105,700. To fully access the grant, those dollars must be matched with \$211,600 from non-federal sources.

Hawk Mountain continues its long-term commitment to supporting the position of our North American Monitoring Coordinator, along with a proportion of their Senior Monitoring Biologist, and many other in-kind contributions. HawkWatch International and the Hawk Migration Association of North America also are making significant contributions to the matching funds needed.

During the next year, our goal is to raise \$61,000 dollars in cash so that we may access the NFWF grant in full. All cash contributions will be worth \$1.50 to RPI for each \$1.00 donated and will help to keep RPI in flight.

## Plans for 2006–2007

### During the next year, RPI will:

- ◆ Strengthen collaboration with count sites and assist them in data collection and data transfer into the HawkCount.org website
- ◆ Expand and improve HawkCount.org's reporting capabilities and graphic design, develop watchsite database
- ◆ Complete a second series of regional analyses from Western sites, including
 

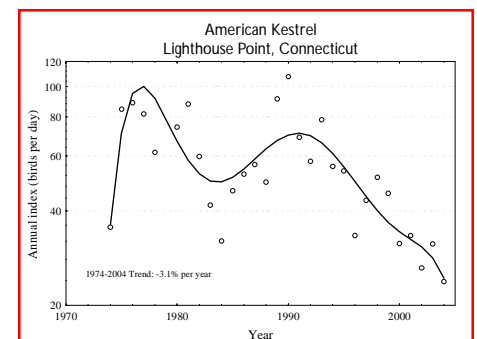
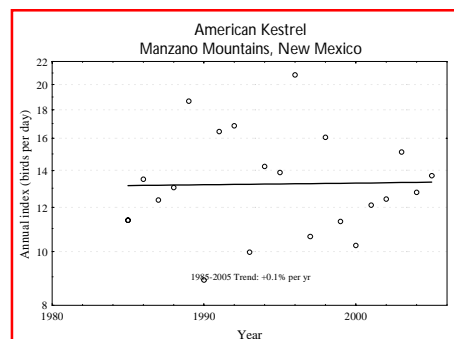
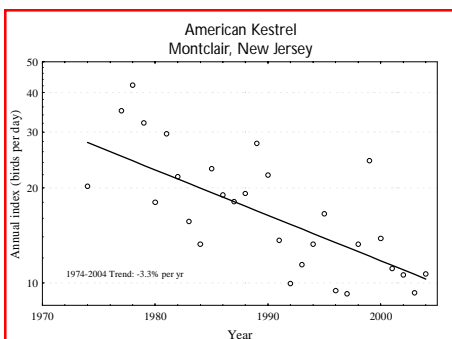
Chelan Ridge, WA	Bridger Mountains, MN	Yaki Point, AZ
Bonney Butte, OR	Wellsville Mountains, UT	Manzano Mountains, NM
Goshute Mountains, NV	Lipan Point, AZ	
- ◆ Complete a third series of regional analyses for Gulf sites, including
 

Corpus Christi, TX	Smith Point, TX	Veracruz, Mexico
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- ◆ Produce conservation assessments for 10 species
- ◆ Continue to disseminate information on RPI to target audiences
- ◆ Deliver many of these results in a book entitled "The State of North American Birds of Prey", to be published in September 2007.



Iain MacLeod

Biologists, citizen scientists, birdwatchers, and the interested public gather at migration sites to identify and count raptors or simply to enjoy one of nature's most magnificent spectacles.



## RPI Sponsors:

### Grants:

#### Golden Eagle (\$5,000+)

National Fish & Wildlife Foundation

#### Northern Goshawk (\$1,000-\$4,999)

James L. Baillie Memorial Fund (Bird Studies Canada)

### Organizations:

#### Broad-winged Hawk (\$100-\$499)

Highlands Audubon Society  
Pronatura A.C.

### Individuals:

#### Golden Eagle (\$5,000+)

Anonymous  
Jennifer P. Speers

#### Northern Goshawk (\$1,000-\$4,999)

George N. Apell  
Edith K. Coxe

#### Peregrine Falcon (\$500-\$999)

Andrew Francis  
Laurie J. Goodrich  
David J.T. Hussell & Erica Dunn  
Iain & Susan MacLeod  
Stephen B. Oresman  
Jason J. Sodergren  
Will Weber  
Joseph E. Wojtanowski

#### Broad-winged Hawk (\$100-\$499)

David W. Babington  
Donald Barnes  
John B. Bazuin, Jr.  
Adele Bennett  
Peter H. Bloom  
Robert F. Boehm  
Donald A. Bryant  
Mary E. Clemesha  
Russell D. & Ann F. Edmonds  
Robert E. & Karen D. Fisher  
Ralph W. & Jane R. Geuder  
John C. & Marya B. Halderman  
Mabel McIntosh  
C. Kay Millar  
Benjamin Olewine, IV  
R. Gilbert & Jann M. Randell  
Frank L. Rawling, Jr.  
John J. Reed  
Chandler S. Robbins  
Paul M. & Julia S. Roberts  
Ernesto Ruelas Inzunza  
Susan K. Simovich  
Stephen M. Small  
Pamela Kim VanFleet

#### American Kestrel (up to \$100)

Renee Baade  
Hugh Barr  
William P. & Kate Wengler Blakeslee  
Nicholas Bolgiano  
David & Catherine A. Brandes  
John M. Brotherton  
Philip Campbell  
Louis S. Diamond  
Cynthia D. Ellis  
Brian & Ann Gray  
Gregory W. & Deborah Shuey Grove  
Brian S. Hillegass  
Libby Huffman  
James T. Jennings  
Barton D. Kamp  
Lloyd F. & Julia L. Kiff

## Collaborate with RPI!

### Why should your hawkwatch be part of RPI?

- ◆ HawkCount.org provides safe storage of data
- ◆ RPI site makes data visible, and available for use, upon permission from data owner, to researchers, conservation managers, and the general public
- ◆ HawkCount.org provides results to many data queries in real time (and continues to improve and further develop its reporting capabilities)
- ◆ RPI will provide you with statistically valid assessments of trends of raptors at your site and comparisons with other sites. As RPI develops we expect to give increasingly frequent and timely feedback to participating sites.
- ◆ Through RPI, counting hawks at your site counts for raptor conservation.

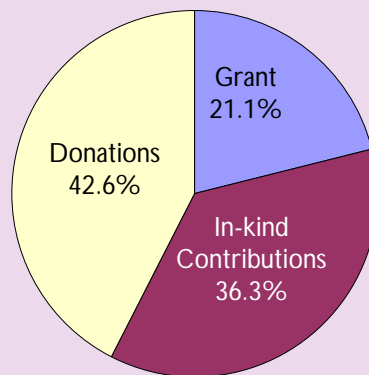
### How can you contribute to RPI?

- ◆ Collect data systematically at your watchsite and enter it in hourly format in the HawkCount.org web site
- ◆ Encourage adoption of the new HMANA standard data collection protocol (available at [www.rpi-project.org](http://www.rpi-project.org))
- ◆ Enter historical data from your site into the HawkCount.org database
- ◆ Help promote awareness of the RPI Project and its values among your local Hawkwatching community
- ◆ Make a donation to RPI (as individual or watchsite)

## Financial Summary (Year ending July 31, 2006)

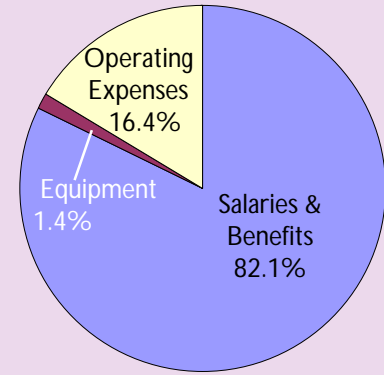
### INCOME

\$276,422



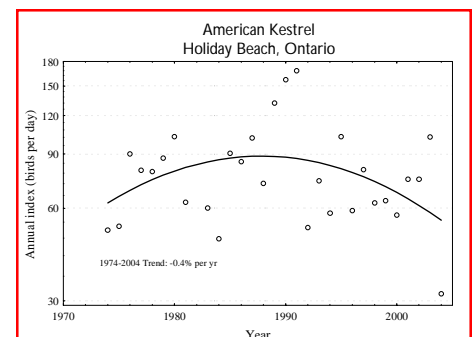
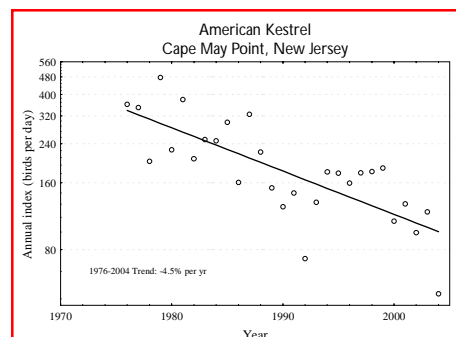
### EXPENSES

\$276,422



Donations include \$91,605 contributed to staff time and expenses by HMS and \$26,095 cash donated by members and friends of HMANA. In-kind Contributions include value of time and other expenses donated by committee members and other volunteers.

*(Unaudited financial summary based on RPI project accounts)*



## American Kestrel *(continued)*

Thomas & Janet Kuehl  
William C. Latta  
Marian L. & Angelo C. Mincone  
Mary Normandia  
Darrin O'Brien  
Thomas M. O'Donnell  
Betty E. O'Leary  
Richard Peake  
Autumn L. Pfeiffer  
Alan F. & Wendy Rawle Howes  
Sue Ann Ricciardi  
Jeffrey Sanders  
Rick Schmude  
Joan M. Schnabel  
Dan & Jeannie Ward

## Data Entry Volunteers

Laurie Conlon  
Greg Cryer  
Neil W. Currie  
Mark Dristy  
Susan Guers  
Eleanor Kline  
Ann Lessel  
John Levin  
Cindy Marakovits  
Jack McGuire  
Jim Morris  
Marc Robinson  
Sharon Wienrick  
Mary Zalot  
HawkCount.org site compilers

## RPI Watch Sites

*Thanks to the following watch sites that have submitted at least 250 site-days of hawk counts in hourly format, over 5 years or more, for analysis by RPI (as of 9/15/06).*

Allegheny Front, PA  
Blueberry Hill, MA  
Boise Ridge, ID  
Bonney Butte, OR  
Braddock Bay, NY  
Bridger Mountains, MT  
Cape May, NJ  
Chelan Ridge, WA  
Corpus Christi, TX  
Derby Hill, NY  
Florida Keys, FL  
Fort Smallwood Park, MD  
Franklin Mountain, NY  
Goshute Mountains, NV  
Hamburg Hawk Watch, NY  
Hawk Mountain Sanctuary, PA  
Hawk Ridge, MN  
Holiday Beach, ON  
Jacks Mountain, PA  
Lighthouse Point, CT  
Lipan Point, Grand Canyon, AZ  
Manzano Mountains, NM  
Montclair Hawk Lookout, NJ  
Mount Lorette, AB  
Picatinny Peak, NJ  
Pilgrim Heights, MA  
Rose Tree Park, PA  
Sandia Mountains, NM  
Second Mountain, PA  
Smith Point, TX  
Tadoussac (OOT), QC  
Veracruz, MEX  
Waggoner's Gap, PA  
Wellsville Mountains, UT  
Yaki Point, Grand Canyon, AZ

# Become a Sponsor of the RPI Project and support raptor conservation

Generous support by individuals and hawk watches has been critically important to the successful launching of RPI. Once again, we cordially invite individuals and hawk watches to help bring the RPI vision to reality by becoming Annual Sponsors.

## Choose one of the following six levels of sponsorship:

Golden Eagle .....	\$5,000+
Osprey .....	\$2,500-\$4,999
Northern Goshawk .....	\$1,000-\$2,499
Peregrine Falcon .....	\$500-\$999
Broad-winged Hawk .....	\$100-\$499
American Kestrel .....	<\$100

Please make checks payable to:

"**HMANA (RPI project)**" and send to:  
Ernesto Ruelas Inzunza,  
Raptor Population Index Project Manager,  
Cornell Laboratory of Ornithology,  
159 Sapsucker Woods Road,  
Ithaca, NY 14850.

Alternatively, you may contribute on line at <http://hmana.org/rpi>

All contributions are tax deductible to the extent allowed by law.

## The RPI Team

### Management Committee:

Keith L. Bildstein, Stephen W. Hoffman, David J.T. Hussell, Kirk Moulton, Jeff P. Smith, Will Weber.

### Science Advisory Committee:

Jonathan Bart (United States Geological Survey), Keith L. Bildstein (Hawk Mountain Sanctuary), Charles M. Francis (Canadian Wildlife Service), Mark R. Fuller (United States Geological Survey), Laurie J. Goodrich (Hawk Mountain Sanctuary), Stephen W. Hoffman (Bozeman, Montana), David J.T. Hussell (Ontario Ministry of Natural Resources), Steven T. Kelling (Cornell Lab of Ornithology), David Mizrahi (New Jersey Audubon Society), Bruce Peterjohn (United States Geological Survey), Jeff P. Smith (HawkWatch International).

### RPI Staff:

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### Organization Support:

Laurie J. Goodrich (HMS), Iain MacLeod (HMANA), and Casey Lott (HWI)

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