

Detroit River Hawk Watch

Citizen Science at Work



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DRHW is the premier citizen science initiative of the **Detroit River International Wildlife Refuge**. It is a partnership among the **U.S. Fish and Wildlife Service**, the Refuge's Friends Organization called the **International Wildlife Refuge Alliance**, **Huron Clinton Metroparks**, and the Detroit River Hawk Watch Advisory Committee. Raptor count data are entered into a North American database managed by the **Hawk Migration Association of North America**. More information on DRHW is available online at:

<http://www.drhawkwatch.org/>.

Detroit River Hawk Watch – Citizen Science at Work



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History

1983 – Lake Erie Metropark Hawk Watch started by Tim Smart

- 2 sites: LEMP Boat Launch and PMSGGA HQ

1990 – 1st full season of hawk counting yields 106,235 raptors

1998 – LEMPHW becomes Southeastern Michigan Raptor Research (SMRR) and gains nonprofit status – Jeff Schultz takes over

1999 – Jeff Schultz, Vic Berardi and Tim Smart tally a staggering **543,533 BWHA**, 3263 SSHA, 336 AMKE, and 14 PEFA on 17 September!!!!

2001 – Paul Cypher (LEMP interpreter) became president

- DTE Energy provides stipend to fund full-time hawk counters:
 - Craig Fosdick and Calvin Brennan

2007 – USFWS and IWRA contribute additional funding for a counter

- USFWS also funds data entry into HawkCount

2008 – SMRR turns count over to USFWS at the newly established DRIWR and IWRA.

- IWRA became a sponsor of the annual Hawk Fest at LEMP

2009 – Formal data analysis and compilation of historical data conducted by Drew Panko and Trudy Battaly w/ funding from USFWS.

2010 – Trend Analysis published

2010 – Detroit River Hawk Watch Advisory Committee Formed



History

Detroit River Hawk Watch Advisory Committee

- Advise USFWS on Detroit River Hawk Watch (e.g., count protocol, data management, reports, publications, website and brochure content);
- Actively pursue potential research and monitoring projects;
- Work collaboratively with the USFWS, IWRA, and staff of Huron Clinton Metropolitan Authority to undertake outreach, programming, and interpretation;
- Review/assist in preparing grants (e.g., Challenge Cost Share Grants from USFWS, foundation grants, Friends Group Grants, etc.) with USFWS and IWRA to support an annual counter, publication costs, and other elements of Detroit River Hawk Watch; and
- Recommend contractor/volunteers on an annual basis for count or specific data analysis projects.

2010 – Current website created (drhawkwatch.org); Rob Payne counter

2011 – DRHWAC formalized monitoring protocol

- ensure consistent / reliable data collection using standardized techniques adopted by the Hawk Migration Association of North America (HMANA)

2011 – 2015 – Jonathan Stein counter

2016 – Dustin Brewer counter

2017 – Kevin Georg counter



Factors Influencing Hawk Migration

1. Geography (Lakes)

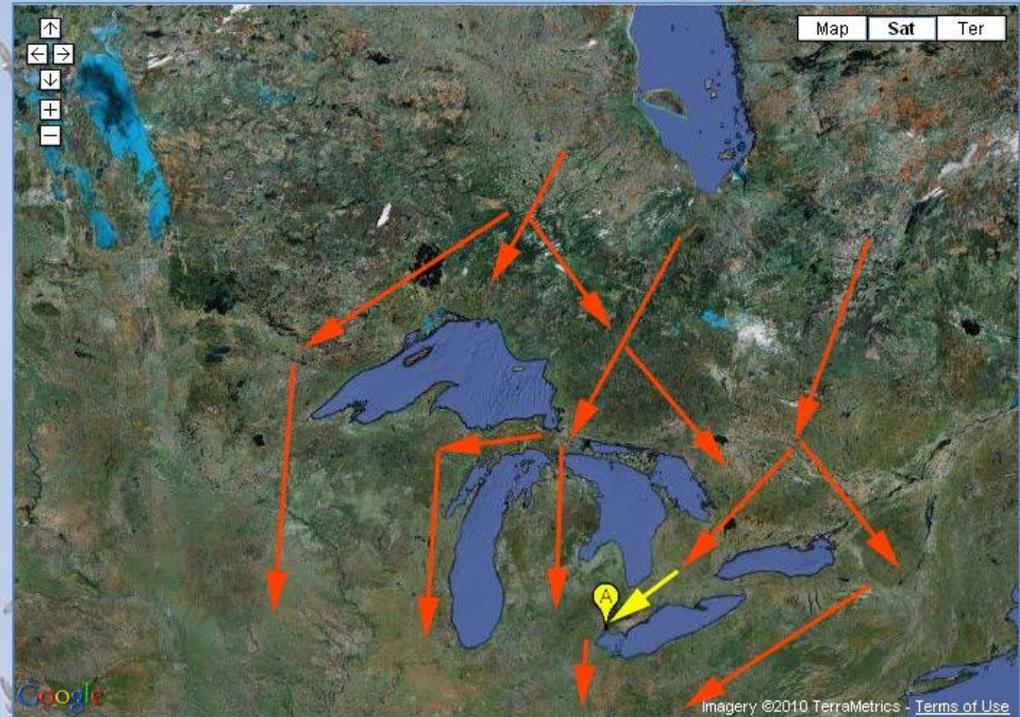
- Georgian Bay and north shores of Lakes Erie and Ontario force birds east around Lake Ontario or west around Lake Erie to the mouth of the Detroit River

2. Thermals

- pockets of rising warm air
- gliding vs. flapping

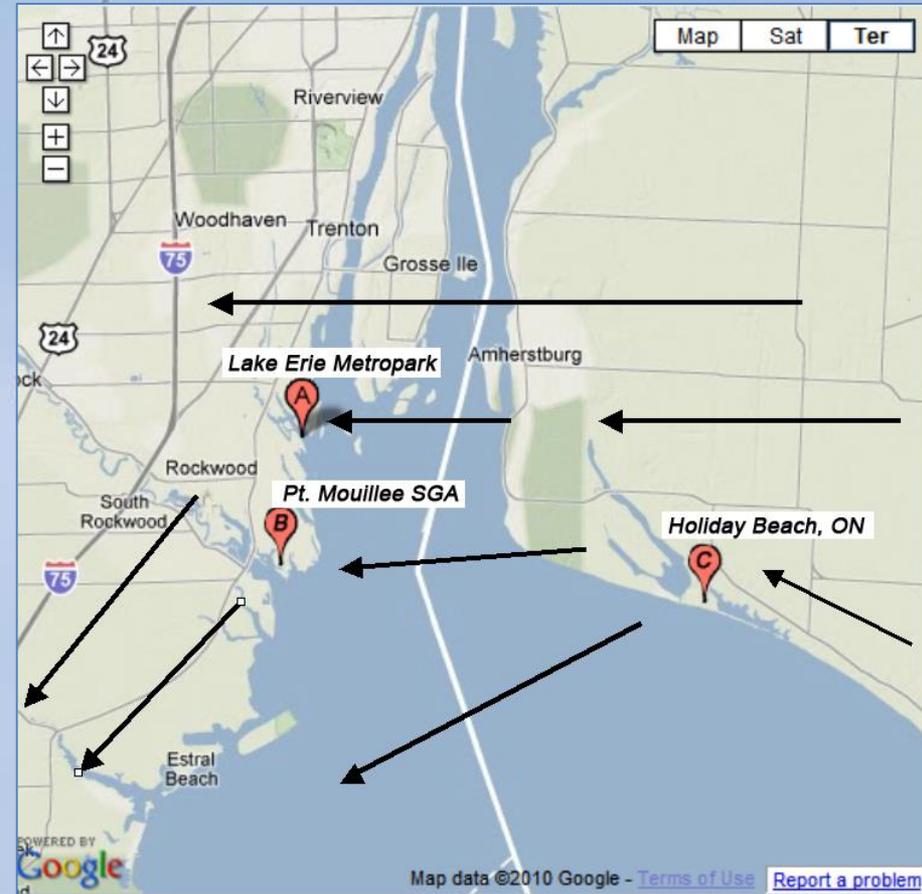
3. Weather

- cold fronts bring clear skies, increased barometric pressure, decreased humidity



Protocol

1. What direction are birds flying?
2. Bird is tallied once it passes w-sw of counter
1. Hourly totals recorded for each species
2. Up to 10X binoculars allowed; scopes only to assist ID
3. Counting Broad-winged Hawks – 1 click = 10 birds
4. Bald Eagles / Osprey – thermals / altitude / straight course



Raptors of the Detroit River Hawk Watch



- broad wings
- pointed primaries
- dark terminal tail bands

Broad-winged Hawk

66,470



- largest wingspan
- dihedral soaring
- T-shaped silhouette
- light underwing linings
- massive kettles!

49,153

Turkey Vulture

LTA = Long-term Average (1998-2016)



Raptors of the Detroit River Hawk Watch



175

- massive wingspan
- adults white head and tail
- white armpits on juveniles
- flat profile (no dihedral)

Bald Eagle



129

- white underneath
- dark carpals
- "wing" flight

Osprey



492

- "Cross-shaped profile"
- protruding head
- longer-tailed
- stiffer, more forceful wingbeats

Cooper's Hawk



912

- smallest falcon
- narrow, pointed wings
- sprinting flight

American Kestrel



Raptors of the Detroit River Hawk Watch



46

- broad, pointy wings
- salt-n-pepper appearance in flight
- tail appears black

Merlin



- white wrist patches
- black terminal band on white tail
- slight dihedral
- bulging secondaries

Golden Eagle

102



- translucent comma-shaped wing panels thru primaries

647

Red-shouldered Hawk



Northern Harrier

© 2014 467



Raptors of the Detroit River Hawk Watch



4677

Red-tailed Hawk

- large buteo
- red tail only in adults
- look for "patagial bars" on shoulders

This panel features several Red-tailed Hawks in flight against a clear blue sky. One hawk is prominently shown in the center with its wings spread, displaying dark 'patagial bars' on its light-colored wings. Two black arrows point to these bars. Another hawk is shown in flight above it, and a third is visible in the lower left. The number '4677' is in a white box on the left, and the name 'Red-tailed Hawk' is on the right.



37

Rough-legged Hawk

- large, massive wingspan
- black wrist patches
- black tail band / white rump
- small bill

This panel shows several Rough-legged Hawks in flight. The largest hawk is on the right, shown from a side profile with its wings fully extended, highlighting its massive wingspan and dark wingtips. An arrow points to a black patch on its wing. The number '37' is in a white box on the left, and the name 'Rough-legged Hawk' is on the right.



6263

Sharp-shinned Hawk

- small head
- 'notched' shoulders in flight
- fast, snappy wingbeats
- 'T-shaped' flight profile

This panel displays several Sharp-shinned Hawks in flight. One hawk is shown in a 'T-shaped' flight profile at the top right, with an arrow pointing to its wings. Another hawk is shown in flight below it, and a third is in the lower left. The number '6263' is in a white box on the right, and the name 'Sharp-shinned Hawk' is on the left.



41

Peregrine Falcon

- long, heavy, pointy wings
- heavy mask
- fast, powerful flight



This panel features several Peregrine Falcons in flight. The birds are shown in various poses, highlighting their long, pointed wings and dark plumage. The number '41' is in a white box on the right, and the name 'Peregrine Falcon' is on the left. A circular logo for 'DETROIT RIVER HAWK WATCH' is in the bottom right corner.

Trends

- based on 3-day running average
of count data collected between 1991-
2008

September

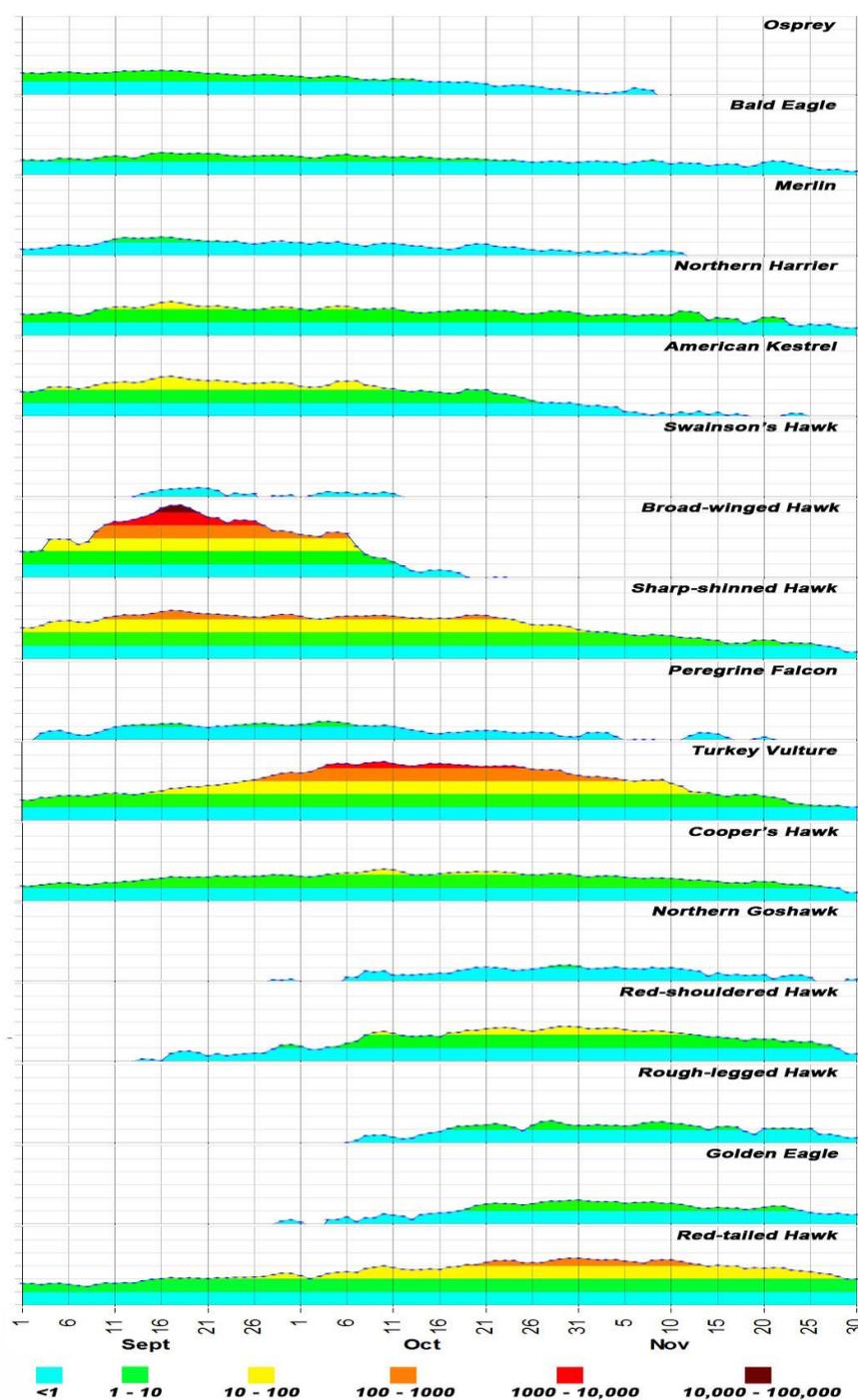
- Broad-wings
- Sharp-shinned

October

- Turkey Vultures
- Cooper's
- all 16 spp. possible
in a single day!

November

- Red-tailed
- Rough-legged
- Red-shouldered
- Golden Eagles



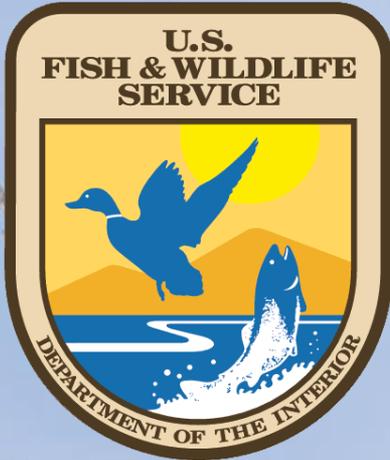
Daily Raptor Counts: Nov 07, 2017			
Species	Day's Count	Month Total	Season Total
Black Vulture	0	0	0
Turkey Vulture	563	5690	52727
Osprey	0	0	34
Bald Eagle	9	43	182
Northern Harrier	1	18	296
Sharp-shinned Hawk	11	142	4045
Cooper's Hawk	4	28	90
Northern Goshawk	0	1	1
Red-shouldered Hawk	17	164	238
Broad-winged Hawk	0	0	10392
Swainson's Hawk	0	0	2
Red-tailed Hawk	368	1100	1911
Rough-legged Hawk	0	15	24
Golden Eagle	14	56	72
American Kestrel	0	0	538
Merlin	0	3	57
Peregrine Falcon	0	5	65
Unknown Accipiter	0	0	1
Unknown Buteo	0	1	3
Unknown Falcon	0	0	0
Unknown Eagle	0	0	0
Unknown Raptor	0	0	3
Total:	987	7266	70681

<u>LTA</u>	<u>2016</u>
49153	38528
129	23
175	142
467	377
6263	4456
492	169
20	4
647	448
66470	17529
4	0
4677	2917
37	19
102	77
912	551
41	41
55	28
129690	65398



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Support



References:

1. Brewer, D., Cypher, N., Detroit River Hawk Watch 2016 Season Summary, DRIWR.
2. Panko, D., Battaly, G., 2010. Detroit River International Wildlife Refuge-Raptor Monitoring: Compilation and Analysis of Hawk Watch Data, Lake Erie Metropark and Pointe Mouillee, 1991-2008. Report to Detroit River International Wildlife Refuge, Grosse Ile, MI.
3. Detroit River Hawk Watch. 2011. The Detroit River Hawk Watch Monitoring Protocol: A Review and Implementation for Scientific Integrity. U.S. Fish and Wildlife Service. Grosse Ile, Michigan
3. <http://drhawkwatch.org>



