

SCIENCE

'Banders' have hands-on approach to bird studies

By **CHRISTIAN BERG**
The Morning Call

ALLENTOWN, Pa. — Paul Karner loves to tell stories about how keen a hawk's eyes are.

But it's hard to understand just how keen until you've watched a red-tail size up a meal from a mile away, tuck its wings and swoop in for a landing just 20 feet in front of your face.

"They're so amazing how they can see that target from so far away and just lock on," Karner said. "When they come in for a pass, they turn into a teardrop, and their tail is their rudder. It really takes your breath away."

Karner, 49, of Bangor, Pa., spends hundreds of hours each autumn sitting inside banding stations atop the Blue Mountain, where thousands of hawks, eagles, falcons and other raptors soar through on their southward migration.

With the help of his prized racing pigeons and plenty of patience, Karner lures some of those birds in for a landing outside his blind, where they are captured in nets. Over the next several minutes, Karner weighs and measures the birds, determines their age and sex when possible and checks to see how much body fat they have, which is an indication of their overall physical condition. Finally, he attaches a metal leg band and releases them back into the wild.

As of last week, Karner had logged 37 hours this fall and banded 23 red-tailed hawks, six sharp-shinned hawks and two Cooper's hawks. Those 31 birds, however, represent just a fraction of the total raptors he has observed, which include 203 red-tailed hawks, 51 sharp-shinned hawks, 23 Cooper's hawks, 22 golden eagles, 14 bald eagles, two American kestrels, one merlin and one peregrine falcon.

"With banding, you see the birds you miss as well as the birds you capture, which I think



Associated Press file

A red-tailed hawk known as Pale Male carries a twig to its nesting area on a Manhattan building in 2004.

adds to the excitement," said ornithologist Keith Bildstein, director of conservation science at Hawk Mountain Sanctuary. "You are constantly watching and learning."

Karner is among 3,000 federally licensed, volunteer bird banders across the United States. Although the work of an individual bander may go largely unnoticed, their collective efforts result in 1.1 million bandings each year and provide a wealth of data to the scientific community.

All information is sent to the U.S. Geological Survey's Bird Banding Laboratory in Laurel, Md., which serves as a central repository for the nation's banding data.

Banding "is a primary technique in developing our understanding of the movements and migrations not only of raptors, but of other birds as well," Bildstein said. "There's a direct and meaningful tie-in between banding activity and the scientific information that results."

For Karner, who has been banding for 25 years, contributing to conservation science is just half of the reward he gets from his hobby. The other is simply having an opportunity to

be amongst the birds and observe their habits.

"It's just the joy of loving raptors," Karner said.

Up until the past 100 years or so, Bildstein said, almost all raptor trapping was done to acquire birds for hunting use by falconers, who train the birds to kill rabbits and other game. The first record of raptors being banded for scientific purposes was in Europe in 1899.

While the use of identification bands is a relatively recent phenomenon, the practice has spread quickly. By 2000, more than 1 million raptors had been banded in North America alone. Although that's a huge number, Bildstein said large-scale efforts are needed because so few banded birds are recovered.

Karner said the long odds of a banded bird being recovered make each report that much more exciting. For example, Karner and fellow bander Dave Fluri were amazed earlier this fall when they received a report that another bander near Carbondale, Pa., had captured and released a red-tailed hawk they banded in 1984.

"It's alive and it's flying 22 years later," Karner said.

By **CHRIS PAGAN**

Sunday: After evening twilight tonight go outside and look to the north. High in the north-northeast is the constellation of Cassiopeia. This constellation looks like the letter W rotated 90 degrees. Cassiopeia is a queen sitting on a throne. About 15 degrees west of Cassiopeia is her husband, Cepheus. The stars that form Cepheus are not as bright as Cassiopeia, but the constellation is in a relatively empty portion of the sky. The king is also sitting in a throne like his wife, and the stars form a square resembling the base of the throne and a star to the north of the square forms the top of the throne.

Monday: The new moon occurs at 4:18 p.m. today. Tomorrow at 6:30 a.m. Mercury will be 12 degrees above the east-southeast horizon. Seventeen degrees to the upper right of Mercury is the star Spica in the constellation Virgo.

Tuesday: Jupiter is in conjunction with the sun today. This giant planet will not easily be seen for the next three weeks. When it does reappear in the morning sky, look for Mars and Mercury to be close by.

Wednesday: Though Cepheus is not one of the easiest constellations to spot, it does contain a star that changes in brightness at an extremely precise rate. Delta Cephei is a variable star and is the icon for a class of variables known as Cepheids. These variable stars change in brightness and can therefore be used as a tool to measure the distance to other galaxies. To find Delta Cephei first find Zeta Cephei, which is in the upper left corner of the square in Cepheus. Delta Cephei is 2.5 degrees to the upper right of Zeta Cephei. When Delta Cephei is at its brightest, its brightness resembles that of Zeta, and when Delta Cephei is at its dimmest, its brightness appears similar to Epsilon Cephei, 1 degree above Zeta.

Thursday: There will not be any turkeys in the sky tonight, but two other birds will be visible after dark. At 7 p.m. look for Cygnus the Swan high in the western sky. To the lower left, you'll see Aquila the Eagle in the west southwest. Cygnus will be easy to spot with the bright star Deneb in its tail and then three more stars in a nearly straight line, which form the swan's body and neck pointing toward the southwest. From the first star southwest of Deneb extending to either side are the wings of the Swan. Altair, the brightest star in

SKY WATCH

Aquila, is about 20 degrees to the southwest of the tip of Cygnus. Altair is near the tail of the Eagle, and from either side stars extend in a diamond shape to the lower right and left of the star to form the Eagle's wings. Just like Cygnus the stars that form Aquila's body and head extend to the southwest.

Friday: Those of you dragging yourselves out of bed to find super holiday-shopping deals have a great chance to see that early morning sky you may not normally be awake to see. The planet Mercury rises at 5:30 a.m. and by 6:30 a.m. will be 12 degrees above the horizon. In the morning sky, Mercury will reach 12 degrees above the horizon at 6:30 a.m.

Saturday: The Pleiades in the constellation Taurus are a nice example of an open star cluster. In the constellation of Perseus there is a pair of open star clusters very near each other. The two clusters are found halfway between the head of the constellation Perseus and the constellation Cassiopeia. Without using a telescope or binoculars, this pair of open clusters look like a hazy patch of light under dark skies. With binoculars dozens of stars will resolve themselves into points of light.

Chris Pagan is planetarium director at Tulsa Air and Space Museum, www.tulsaairandspacemuseum.com

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Here Are Your Directions For Fests, Friday Fireworks and a Parade This Weekend:

Head To The Arkansas River, The Fest Is Up To You.

River Parks West Bank Festival Area: (11th Street to 21st Street)
See what's happening in Tulsa and from all over the state during Best Fest!
Sample Oklahoma products and enjoy treats from QuiTrip!

River Parks East Bank Festival Area: (11th Street to 21st Street)
Complete the weekend by taking in Oklahoma art, wineries, and Sooner jazz along the east bank of the Arkansas.
Plus, enjoy food vendors, a Kid's Zone, and more!

Don't miss one of the fabulous firework shows, **Friday, November 17, 6:30pm from the 21st Street Bridge.**

Main Fest

November 17, 18 & 19

Friday 3:00pm - 8:00pm
Saturday 10:00am - 6:00pm
Sunday 10:00am - 4:00pm
Free Event

Opening Night Concert

Friday, November 17
Fireworks Display 6:30pm
Free to the Public Concert
Opening Act: My-Tea Kind
Headliner Act: Red Dirt Rangers
7:00 - 9:00pm

Main Stage

Saturday and Sunday

Jared Tyler
Steve Liddell
Jesse Aycock
Brain Parton
Tribe of Souls
Red Alert
Charlie Redd
Jirrhaf
More to be announced...
Skate Competition
Saturday, 12:00pm - 5:00pm
Sponsored by: City of Tulsa and The Board Shop. Location: The River Skate Park - South of festival grounds, 424 West 23rd Street
Kids Tough Bicycle Rodeo
Saturday, 11:00am - 5:00pm
Sunday, 11:00am - 4:00pm
Sponsored by: Tulsa Tough and Troop 1 Boy Scouts of America
Location: Kids Zone at Best Fest

Oklahoma Historical Society Kids Crafts

Saturday and Sunday
Location: Kid's Zone at Best Fest

Speed Dating

Saturday and Sunday

Oklahoma Authors Book Signings

Saturday and Sunday
Times to be determined. Location: Best of Tent at the Steve's Sundry booth

"Best of" Cultural Stage

Saturday and Sunday
Cherokee Nation Youth Choir
Little Miss & Mister Centennial
Union Highsteppers
Dance Point
Miss Tulsa
TJ Rocks
Tulsa East Indian Society of Tulsa
Claremore High School
Performance Choir
Miss Route 66-Gentry, Johnson
OKC-Elisabeth Douglas Troupe
Eisenhower Elementary Hispanic
Dance Performance
Pendleton Family Fiddlers
Miss Tulsa State Fair
U.G.C.: The Underground Clisc
Chinese Organization of Tulsa
Gimme the Mike performers-Cassandra
All Weekend:
Authors, Food, Exhibitors, Kid's Zone

RiverFest

November 17, 18 & 19

Friday 3:00pm - 8:00pm
Saturday 10:00am - 6:00pm
Sunday 10:00am - 4:00pm
Free Event

RiverFest Schedule of Bands

Tent/ Stage 1

Friday, November 17
Frank Brown Duo & Annie Ellicott
4:30-6:30pm

Saturday, November 18

Pam Van Dyke & Friends
11:00am-1:00pm
Gayle Williamson & Soundz Good
3:00pm-5:00pm

Sunday, November 19

Safari Oklahoma
12:00 noon-12:30pm
SCORE featuring Sandy Gardner
2:00pm to close

Tent/ Stage 2

Saturday, November 18

David Moore & The Jazz Pups
10:00am-12:00pm
Cindy Cain Band
2:00pm-4:00pm

Sunday, November 19

Jambalaya Jazz Band
12:00 noon-2:00pm
Safari Oklahoma
2:00pm-2:30pm

Tent/ Stage 3

Saturday, November 18

Ivan Pena Trio with Katy Gaylor
12:00 noon
Safari Oklahoma
2:30pm-3:00pm
Mike Leland
3:00pm-5:00pm

Sunday, November 19

Kenny Babb
2:00pm-4:00pm

Tent/ Stage 4

Friday, November 17

Susan Herndon
4:30pm-6:30pm

Saturday, November 18

Sonny Gray Trio
11:00am-1:00pm
Leon Rollerson
2:00pm-4:00pm

Sunday, November 19

Janet Rutland & Randy Wimer
11:00am-1:00pm
Mezclave Latin Jazz
2:00pm-4:00pm



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