

FOLLOWING RAPTORS' UPS AND DOWNS

Biologists and volunteers track the population fluctuations of Montana's birds of prey

BY RYAN RAUSCHER

“There’s one,” said my wife, Elodie, pointing to a speck in the distance. The distinctive silhouette of a soaring hawk was barely visible as it rode a midmorning thermal and circled above a nearby hill. She quickly mounted our spotting scope on the pickup window. “What’s the one that makes a ‘V’ with its legs?” she asked while squinting into the eyepiece. “That’s a ferruginous hawk,” I said, glad she had learned the distinctive characteristics of the species, even if she didn’t yet know the exact name. As she removed the scope, I tallied one more ferruginous hawk on the survey form. Six so far, a record for this route.

My portion of the annual Montana Raptor Survey Route, known as the RSR, has evolved into an enjoyable outing. It’s a chance to welcome spring’s return, see wildlife, and experience nature with my family. I took over the route several years ago when we moved to eastern Montana. Elodie is a quick study and has become a skilled spotter. The kids, when they accompany us, think it’s great fun to spot a raptor before their parents do. Together, we join volunteers across Montana who also take part in the raptor count each spring.

The survey began in 1977 in response to alarming declines in raptor populations across Montana. At the time, it was widely known that bald eagle, peregrine falcon, and prairie falcon numbers had dropped drastically. But there was scant information on Montana’s other birds of prey, such as the red-tailed hawk. Some populations seemed to be declining, possibly from DDT, PCBs, and other chemical compounds, as well as habitat loss and illegal shooting. But biologists did not know for sure and needed a reliable way to track populations and long-term trends. Over the past 32 years, information from the annual survey has been essential for tracking both the declines and increases in raptor populations and for better understanding the factors contributing to fluctuations. The data also acts as a scientific red flag that warns biologists of new threats or stresses to raptor populations.

ONE, TWO, THREE... Since 1977, FWP biologists and volunteers have been counting bald eagles and other birds of prey across Montana to gain a better understanding of how raptors are faring.

TOM MURPHY

CREATING THE SURVEY

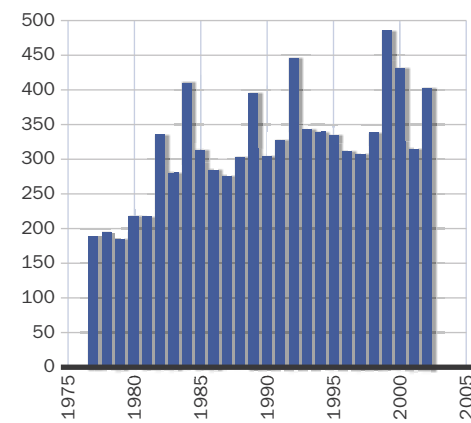
Dennis Flath, at the time the nongame wildlife biologist for Montana Fish, Wildlife & Parks, established the RSR. Now retired and living in Belgrade, he says he modeled it after a California raptor survey. Flath originally hoped to use the survey to determine raptor population sizes, but he found it was not possible. Instead the information works best as an index of long-term population trends. For example, though FWP cannot determine how many northern harriers live in Montana, the department can see from the RSR that harrier populations, on average, have slightly increased over the past three decades.

The RSR covers Montana along a network of road-based transects, each roughly 50 miles long, scattered evenly across the state. Each survey route crosses most of the habitat types—such as rangeland, forest, and wetland—within each area. An average of 65 observers complete 41 routes each spring between May 15 and June 5, identifying and recording all the raptors they see. In an average year, observers identify a total of 800 individual birds of prey belonging to 17 different species.

The survey is conducted in spring to count the number of birds returning to breed each year. “Counting breeding adults gives the most accurate picture of what raptor populations are doing,” says Flath, who still drives a survey route in the Madison Valley each spring. “Survey too early and we’d miss birds that hadn’t returned yet. Survey too late and

Ryan Rauscher, FWP northeast region native species biologist in Glasgow, coordinates the yearly Montana Raptor Survey Route.

Statewide raptor count 1977–2002



POPULATION INDEX This graph shows the number of raptors observed per 1,000 miles along 41 raptor routes across Montana. The annual counts don’t tally statewide populations but rather trends of increasing, stable, or decreasing raptor numbers. Based on the survey results, raptor populations have risen steadily since historic lows in the late 1970s.

“Survey too early and we’d miss birds that haven’t returned yet. Survey too late and many hens would already be on their nests incubating and not visible.”

many hens would already be on their nests incubating and not visible.”

Half the routes are surveyed by citizen volunteers, most of them experienced birders and members of the Audubon Society. The rest are done by FWP, U.S. Fish & Wildlife Service, and Bureau of Land Management staff. “Given the expertise of the people completing the survey, I never worried too much

about misidentified birds,” Flath says. “But I always checked the data and questioned anything that seemed a little suspicious.” Some survey routes, like mine, have become family outings. Others have turned into annual social events where birders gather each spring to share their passion for raptors.

IMPORTANT DATA

Engaging Montana citizens in scientific research is an important by-product of the RSR. But the project’s primary value is producing valuable scientifically accurate information about raptors.

Take Swainson’s hawks, for example. These midsized raptors migrate each year between their breeding grounds in North America to the deserts and open grasslands of South America. In the 1970s, Swainson’s hawk populations were declining in other parts of the West; numbers eventually dropped so low in California that the hawk was listed as a state-threatened species. Was the same decline occurring in Montana?

Before the RSR, biologists had no way of knowing. But now we can see that the Swainson’s hawk population in Montana has remained stable over the past three decades. That means we do not need to take further action. If the population had been declining, we would have needed to initiate more intensive surveys to find out why. Then, with that information, we could fig-



1



2



5



3



6



8

RAPTOR ROUTES

STATEWIDE COVERAGE The survey routes are spread evenly across Montana. Each is roughly 50 miles long and crosses the major habitat types in that area. Biologists and volunteers drive the routes between May 15 and June 5, identifying and recording each raptor they see.

MONTANA OUTDOORS. SOURCE: MONTANA FWP

MANY DIFFERENT BIRDS OF PREY

Observers taking part in Montana’s annual Raptor Survey Route count 17 different species. Each bird has unique traits, such as the northern harrier’s white rump or the V-shaped legs of the ferruginous hawk, which aid in identification. Some of the species tallied include:

1. rough-legged hawk,
2. red-tailed hawk,
3. golden eagle,
4. Swainson’s hawk,
5. gyrfalcon,
6. merlin,
7. osprey,
8. sharp-shinned hawk,
9. Cooper’s hawk.



4



7



9

1. LARRY DEARS 2. KEVIN R. FREDENBERG 3. MACQUEL LYONS 4. STEVEN AKRE 5. DENVER BRUN 6. NELSON KENTNER 7. GARY KRAMER.NET 8. TOM MURPHY 9. GARY KRAMER.NET

CHICK CHECK A ferruginous hawk approaches its nest in eastern Montana. The annual Raptor Survey Route indicates these grassland raptors continue to fare well throughout their range in Montana.



ure out ways to mitigate the declines.

That has been the case with the ferruginous hawk. The RSR indicated a declining population trend, and in response biologists have begun studies to learn why. Another raptor species that may be faring poorly is the American kestrel. For unknown reasons, it has been showing up less frequently on RSR routes. If that trend continues, we may need to study kestrels more closely.

The annual survey routes also indicate that populations of some species are increasing. Osprey numbers, for example, are up, due in large part to the construction of nest

platforms on power poles, which has greatly reduced electrocutions.

When Flath started the survey back when Jimmy Carter was president, approximately 200 raptors were observed per 1,000 miles of transect surveyed. Thirty-two years later, due to the DDT ban, tighter regulation of other chemical pesticides, and other factors, the number has more than doubled to 420 raptors per 1,000 miles. Raptors in Montana are generally doing well, and thanks to Flath and the more than 2,000 volunteers who have helped out over the years, we have the data to prove it.

No detours: 31 years on Route 41

Volunteer observers are essential to the success of the Raptor Survey Route. These experienced bird watchers take pride in their routes and the accuracy of their observations. Since the survey began, 2,100 observers have documented and identified more than 25,000 raptors across Montana.

Jerry Dalton, an avid birder who drives a bookmobile for the Billings Public Library, has taken part in the RSR since the beginning. Dalton has been an observer on Route 41—which runs from Billings to Pryor to Edgar—for 31 of the survey's 32 years. During that time, he has driven more than 1,500 miles and observed 662 raptors belonging to 12 different species. Because of Dalton's diligence, Route 41 is one of the survey's most complete data sets.

Dalton's route takes him through habitat varying from prairie riparian to sagebrush grassland to hardwood draws. The raptor he has observed most frequently is the American kestrel. The one he has spotted least often is the osprey, which he saw only once. "I learn something new every time I do the survey," says Dalton. "It also gives me a chance to slow down and really enjoy seeing the birds, instead of watching them fly past at 60 miles an hour when I'm in the bookmobile."



RAPTOR SPOTTER Jerry Dalton readies for the 2009 survey, his 32nd.

Dalton's Route 41



What Dalton has observed on his raptor survey route since 1977:

- | | |
|------------------------------|--------------------------------|
| 303 American kestrels | 8 Rough-legged hawks |
| 2 Cooper's hawks | 193 Red-tailed hawks |
| 2 Ferruginous hawks | 5 Sharp-shinned hawks |
| 28 Golden eagles | 7 Swainson's hawks |
| 63 Northern harriers | 7 Turkey vultures |
| 1 Osprey | 40 Unidentified raptors |
| 3 Prairie falcons | |