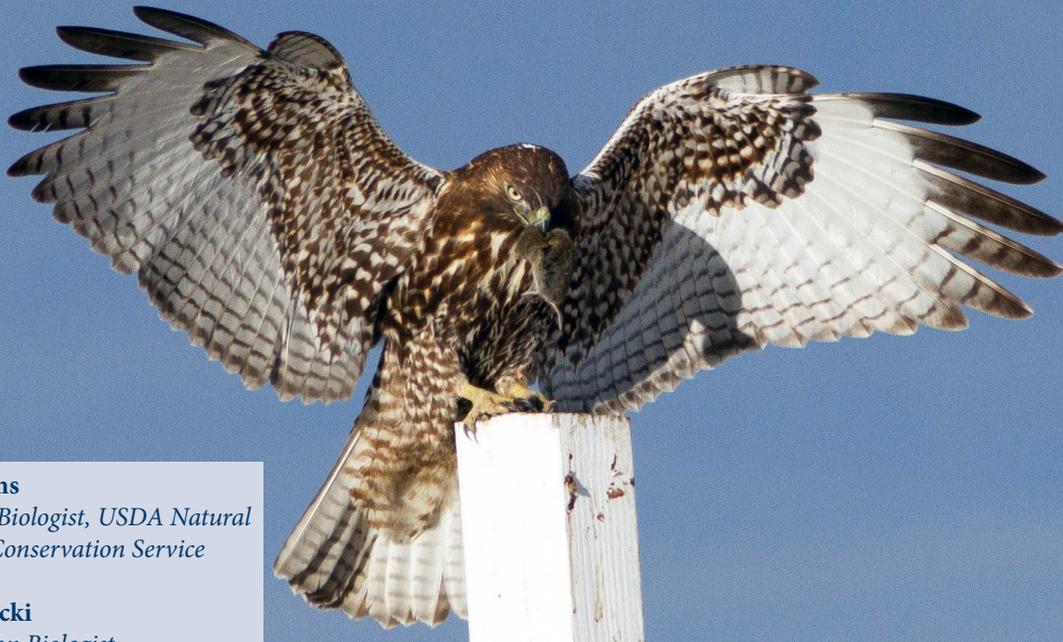


Wintering Raptors for Pest Control on Farmland



Casey Burns

Utah State Biologist, USDA Natural Resources Conservation Service

Neil Paprocki

Conservation Biologist, HawkWatch International

Steve Slater

Conservation Science Director, HawkWatch International

A red-tailed hawk feeding on a vole (*top*) and a Cooper's hawk feeding on a magpie (*bottom*) are two examples of raptors at work regulating pest wildlife populations on farmland. HawkWatch International monitors raptor populations and USDA Natural Resources Conservation Service (NRCS) provides assistance to agricultural producers to plan and implement conservation actions.

Neil Paprocki

Many species of wintering raptors provide pest control benefits for farmers and other rural landowners. Vertebrate crop pests compose a large percentage of the winter diet of raptors. Farmers can provide the appropriate conditions to support wintering raptors, which will increase the pest control benefits on nearby cropland. Raptors congregate in winter when there is no competition for territories around nesting sites. Species of raptors wintering in Utah on cropland include red-tailed hawk, rough-legged hawk, ferruginous hawk, American kestrel, bald eagle, northern harrier, and golden eagle. Rough-legged hawks and kestrels show a preference for cropland habitat over other habitat types in winter. Numerous other species are present in smaller numbers. Owls, which are active at night, are also present on farmland, but are more difficult to survey. Some of these raptor species are present year around, while others are just wintering in Utah.

HawkWatch International and citizen scientists have monitored wintering raptors by conducting roadside surveys in Utah since 2011. The data shows a number of hotspots in Utah where wintering raptors occur in high numbers (see map on next page). During the 2014-15 winter, HawkWatch monitored 10 different areas (nine in Utah and

one in southern Idaho). Over 40 volunteers participated in the project, counting over 4,000 individual raptors of 17 species, while surveying over 2,600 miles. This ongoing study provides some of the missing information necessary to understand

the resource needs, habitat use, and distributions of various species during the often harrowing winter months. The data collected helps guide management decisions, improves our understanding of wintering raptor ecology and land use, and can be used to calculate long-term population trends of various species. NRCS synthesizes this data into management



Neil Paprocki

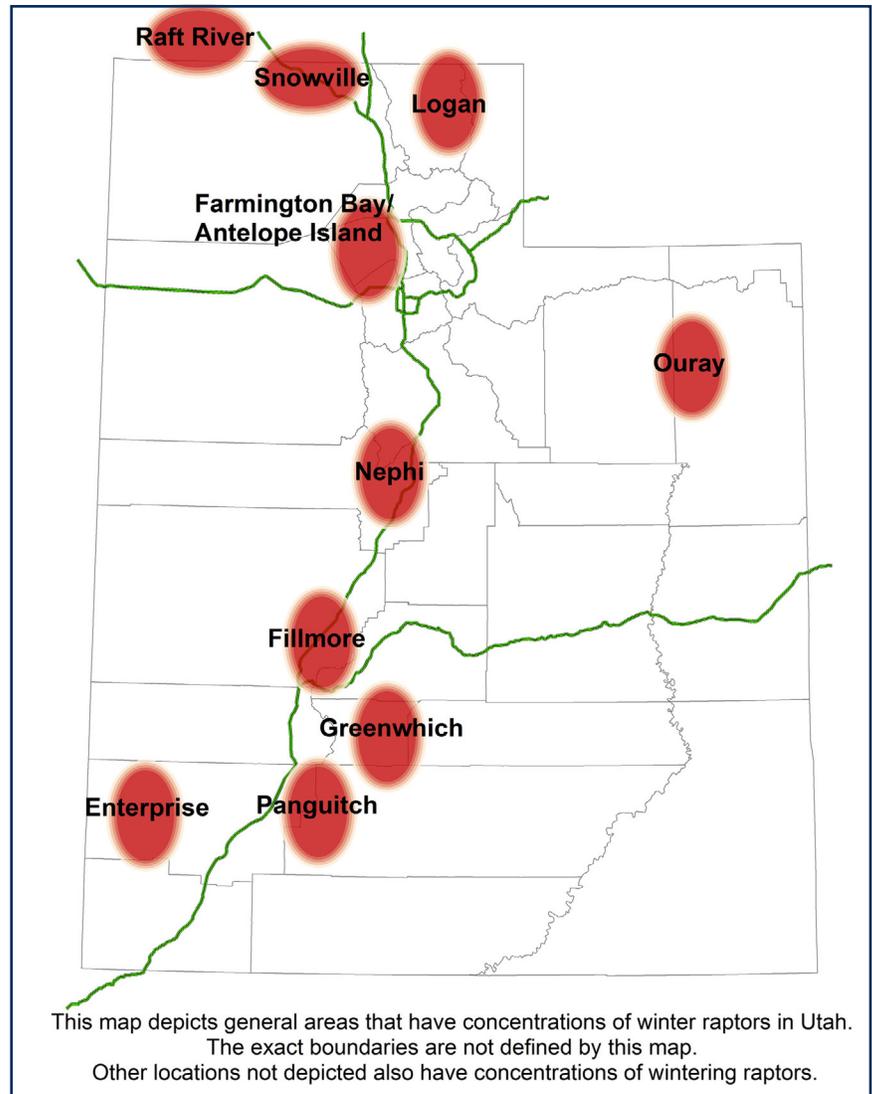
recommendations to help farmers plan pest control using integrated pest management (IPM) methods, including using wildlife to control pests.

In general, prey and pest species are denser and/or more accessible on cropland than in surrounding habitat types. Natural and artificial perching sites for raptors are often available within or on surrounding cropland. The combination of abundant prey (pests), and perching sites help concentrate raptors on cropland in winter. The variety of winter raptor species results in a variety of prey species taken. Primary prey types are small mammals and birds, especially voles, mice, starlings, pigeons, doves, rabbits, and carrion. Perching sites include irrigation systems, power poles, fence lines, live and dead trees, wires, and installed artificial perches. Preferences for perch type and height vary by species with some raptors preferring higher perches (red-tailed hawks, bald eagles) while others prefer low perches (ferruginous hawks and kestrels). However, most raptors perch at moderate heights (10-30 feet high). HawkWatch data shows that the majority of perch sites in wintering raptor hotspots are on artificial structures, such as power poles or irrigation equipment.

To increase raptor pest control on farmland, provide numerous easily accessible perches of various heights and structures. Artificial perches can be designed and installed easily. Trees can be planted in hedgerows or windbreaks around cropland that will provide perches in the future, as well as a host of other conservation benefits. The aforementioned raptor species have some tolerance for human activity, including routine agricultural activities, but do not do well in highly populated areas or in areas of high disturbance. It is important to minimize disturbance to raptors to the extent practicable. Providing habitat for wintering raptors will help stabilize the downward population trend of many raptor species, and may boost some populations, which could provide year round pest control benefits.

There are numerous other ways to attract raptors and other wildlife species to cropland for pest control during other times of the year. The primary techniques, nest boxes and raptor perches, are described in the publication, [Attracting Wildlife for Pest Control on Farmland](#). NRCS has

Winter Raptor Hotspots in Utah



specifications available for raptor perches, nest boxes, and other wildlife structures.

It is important to note that the recommendations in this document are for cropland and are not applicable to rangeland. While raptors do provide valuable pest control in rangeland, increasing numbers of raptors (and ravens) by adding artificial perches on rangeland is not recommended due to the potential to affect sensitive wildlife species, such as sage grouse.

NRCS is available for conservation planning technical assistance and potential funding assistance. Contact your [local NRCS office](#) or NRCS State Biologist for more information.