

Raptors as Vermin: A History of Human Attitudes towards Pennsylvania's Birds of Prey

Keith L. Bildstein

Hawk Mountain Sanctuary, 1700 Hawk Mountain Road, Kempton, Pennsylvania 19529; (610) 756-6000 x235

Abstract

Many species of raptors (hawks, eagles, and falcons) were considered vermin in Pennsylvania well into mid-twentieth century. Indeed, as recently as the 1930s and 1940s, even eminent conservationists were calling for the elimination of so-called harmful birds of prey. Raptors were unprotected in Pennsylvania throughout the eighteenth and nineteenth centuries, and in 1885 a 50-cent bounty was placed on all species of raptors. Although this particular bounty was repealed several years later, other bounties on diurnal raptors occurred sporadically until 1951. Bounties on several species of owls remained in force until 1969. Raptor protection, focusing on so-called beneficial species, first occurred in 1937. Bird-eating hawks, however, received only partial protection until 1969, and not all owls were protected until 1972, when the Migratory Bird Treaty Act of 1918 was amended to include birds of prey. At least part of the change in attitudes towards raptors can be attributed to activities at Hawk Mountain Sanctuary, the world's first refuge for birds of prey, which was founded in Kempton, Pennsylvania, in 1934. Over the past two decades, populations of Pennsylvania's raptors have rebounded from shooting and pesticide-era lows of the early and mid-twentieth century. Recently, many hunters and bird watchers in the state have suggested that populations of raptors may once again be too high. As a result, Pennsylvania's raptor conservationists again face some of the same human attitudes their predecessors faced more than a century ago.

Introduction

Raptors and other vermin (i.e. harmful or objectionable animals) were unprotected in Pennsylvania throughout the eighteenth and nineteenth centuries. Persecution of raptors in the commonwealth increased substantially in the latter half of the 1800s, when an overwhelming majority of rural residents considered raptors highly injurious. By 1885, animosity toward predatory birds had intensified to the point that the state legislature placed a 50-cent bounty on the heads of all diurnal birds of prey, as well as on all owls. During the next two years, 180,000 scalps were sent to the state capital in Harrisburg, by which time increased populations of destructive rodents and insects, together with fraudulent claims and a drain on the state treasury, induced the Pennsylvania legislature to repeal what by then many

were calling the "fool hawk law" (Hornaday 1914). Raptors remained unprotected in the state until 1937, when all species of diurnal birds of prey, except for three accipiters (sharp-shinned hawk, *Accipiter striatus*; Cooper's hawk, *A. cooperii*; northern goshawk, *A. gentilis*) first received protection (Kosak 1995). Unfortunately, the new law was not particularly popular among Pennsylvania's hunters and farmers, and scant enforcement within the state continued to plague so-called "protected" species well into the 1960s. A bounty established on northern goshawks in 1929 was lifted in 1951, but it was not until 1969 that Pennsylvania granted this species, along with sharp-shinned and Cooper's hawks, full protection. Great horned owls (*Bubo virginianus*) remained unprotected statewide until March 1972, when the

United States and several foreign signatories ratified an amended Migratory Bird Treaty Act of 1918. Since then, all species of diurnal birds of prey and owls have been protected in Pennsylvania. Here I detail how shifts in attitudes, both within and outside of the conservation community, contributed to this history.

Raptors as vermin

Raptors have had close associations with humans throughout history. Many longstanding human-raptor associations are positive, including the use of raptors in falconry, as national emblems and symbols of strength and courage, and as flagship species for broader conservation concerns. Unfortunately, raptors also have been scorned and feared, usually out of ignorance. Because of this they have been and continue to be heavily persecuted (e.g., Burnham 1990; Zalles

and Bildstein 2000). Indeed, to paraphrase Paul Errington (1946), "whatever else may be said of raptors and their predatory habits, they certainly do draw attention."

Systematic efforts to exterminate birds of prey can be traced to seventeenth century England (Gensbol 1984). Attempts at eradication, however, escalated substantially in the 1800s, when the advent of breech-loading guns increased the popularity of small-game hunting and placed hunters in direct competition with raptors (Newton 1990). Polls taken at the time of passage of the Pennsylvania Scalp Act of June 1885, a law that established a 50-cent bounty on birds of prey, suggested that the Act was supported by more than 90% of the public in most areas of the state. Not surprisingly, contemporary conservationists, including the president of the New York Zoological Society, William T. Hornaday, who referred to the Act as the "fool hawk law" (Hornaday 1914), and even Pennsylvania state veterinarian and author of *Diseases and enemies of poultry*, Leonard Pearson, considered the Scalp Act unjust, uneconomic, and simply wrong-headed (Pearson 1897). Although the law was rescinded in 1887, the commonwealth reinstated bounties on raptors in 1913, and maintained them on some species until well into the 1960s (Kosak 1995).

'Good' versus 'bad' hawks

Most conservationists who opposed the Scalp Act took exception to the Act's all-encompassing nature—American kestrels (*Falco sparverius*) were targeted along with northern goshawks—rather than to the notion that some hawks merited destruction (Hornaday 1913, 1914, 1931;

Pearson 1897). The last half of the nineteenth and first half of the twentieth centuries, was an era of 'good' (i.e. rodent-eating) and 'bad' (i.e. bird-eating) hawks (Fisher 1893) (Figure 1). The idea that individual hawks and, in some instances entire species of hawks, were "chicken hawks," and as such merited destruction, extended well into the conservation community.

The writings of conservationists of the era reveal the animosity held for some raptors. Consider, for example, this passage from John Muir's *The story of my boyhood and youth* (1913): "When I went to the stable to feed the horses, I noticed a big white-breasted hawk [most likely a red-tailed hawk, *Buteo jamaicensis*], on a tall oak in front of our chicken house, evidently waiting for a chicken breakfast... I ran to the house for a gun, and when I fired, he fell... then managed to stand erect. I fired again to put him out of pain. He flew off... but then died suddenly in the air, and dropped like a stone."

Although the event that Muir related took place when he was a young boy in 1850s Wisconsin, the founder of the Sierra Club expresses no remorse when recalling it in his autobiography more than half a century later (Muir 1913).

Renowned conservationist William T. Hornaday's world of animal protection also included both "good" and "bad" hawks: "... 'chicken hawk or hen hawk' are usually applied to the red-shouldered [*Buteo lineatus*] or red-tailed species. Neither of these is really very destructive to poultry, but both are very destructive to mice, rats and other pestiferous creatures... Neither of them should be destroyed—not even though they do once in a great while, take a chicken or wild bird," however "[t]here are several species of birds that may at once be put under the sentence of death for their destructiveness of useful birds, without any extenuating circumstances worth mentioning. Four of these are Cooper's hawk, the sharp-shinned hawk, pigeon hawk [or merlin, *Falco columbarius*] and duck hawk [or peregrine falcon, *F. peregrinus*]" (Hornaday 1913).

Hornaday's distinction appears to have been both moralistic and utilitarian: "The ethics of men and animals are thoroughly comparative... Guilty animals, therefore, must be brought to justice" (Hornaday 1922). By 1931, Hornaday had dropped the Merlin from the list of "pest" birds, apparently because of its rarity, but retained the others, along with the great horned owl

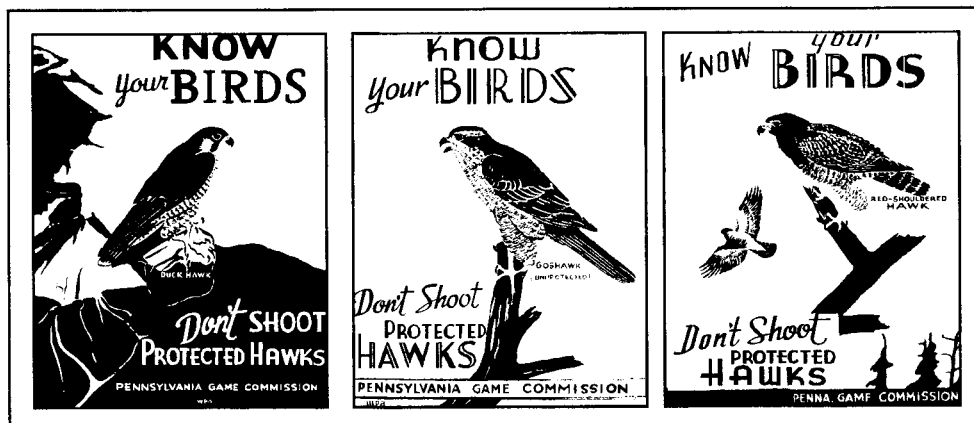


Figure 1. A series of three Works Progress Administration posters from the late 1930s commissioned by the Pennsylvania Game Commission in an attempt to help educate hunters regarding the identification of 'good', and therefore protected species of raptors (e.g., Red-shouldered Hawks and Peregrine Falcons), versus 'bad' hawks (e.g., Northern Goshawks). Note that the 'bad' goshawk is labeled "unprotected."

(*Bubo virginianus*), barred owl (*Strix varia*), and eastern screech-owl (*Otus asio*) (Hornaday 1931).

The broader ornithological and birdwatching communities, too, took aim at certain raptors during the first three decades of the twentieth century. The prolific and highly regarded bird artist, Louis Agassiz Fuertes, writing in *National Geographic*, for example, commented that "The whole genus *Accipiter*, consisting of the [northern] goshawk, Cooper's hawk, and sharp-shinned hawk, are savage, bloodthirsty, and cold-hearted slaughterers, and are responsible in large measure for the anathema that is then portion of all hawks" (Fuertes 1920). And famed birdwatcher and president of the Connecticut Audubon Society, Mabel Osgood Wright, suggested helping songbirds by "shooting some of their enemies" including several species of hawks (Wright 1936). Similarly, Pennsylvania's official "state ornithologist," and later president of the Wilson Ornithological Society, George Miksch Sutton, wrote in the *Introduction to the birds of Pennsylvania* that: "[t]he sharp-shin is the enemy of all small birds...[and that it] and [the] Cooper's hawk, both bird killers, are fairly common and are rated as our most objectionable birds of prey. They are not protected in Pennsylvania." (Sutton 1928a).

Even Boy Scouts were instructed in the whys and wherefores of "good" and "bad" hawks. George E. Hix, a Brooklyn, New York, scoutmaster and Associate of the American Ornithologists' Union wrote in his *Birds of prey for Boy Scouts* "... [that] the beneficial hawks are the larger, slower species, [and that] the smaller swifter hawks are the ones which are destructive to wildlife... [and that these include] the goshawk, Cooper's, sharp-shinned, duck and pigeon hawks..." (Hix 1933).

Small wonder then that bird-eating birds were heavily persecuted in the

first half of the twentieth century. Unfortunately, because many of the shooters either were unwilling or unable to separate the 'bad' hawks from "good," all species of raptors remained at risk (Broun 1949; Kosak 1995) (Figure 2). The impact of such shooting was little studied, probably because much of the conservation community condoned or even favored it. Even so, banding recoveries for Cooper's Hawks suggest that first year mortality due to shooting ranged from 28 to 47% in 1929 to 1940, and from 12 to 21% as recently as 1946 to 1957 (Henny and Wight 1972).

The goshawk invasion of the late twenties

As hated as resident accipiters were, migrants from the north were despised even more (Gerstell 1937). Northern Goshawks, in particular, were singled out in this regard. As ornithologists Edward H. Forbush remarked in his *Birds of Massachusetts* "A great flight of goshawks into the United States in fall or winter is followed invariably by a scarcity of Ruffed Grouse [*Bonasa umbellus*]" (Forbush 1929). Thus, when rural inhabitants of Dreherstown, at the base of the Kittatinny Ridge in the central Appalachian Mountains of eastern Pennsylvania, reported an "invasion" of northern goshawks during the winters of 1926-1927 and 1927-1928 to the Pennsylvania Game Commission, the commission quickly dispatched state ornithologist George Miksch Sutton to investigate.

Sutton published his initial findings in the *Wilson Bulletin* in 1928 (Sutton 1928b). His report, together with a second paper published three years later (Sutton 1931), initiated a series of events that eventually resulted in the creation of the world's first Sanctuary for birds of prey.

First, by 1929, the Pennsylvania Game Commission was offering a new five-dollar bounty on northern goshawks shot between 1 November

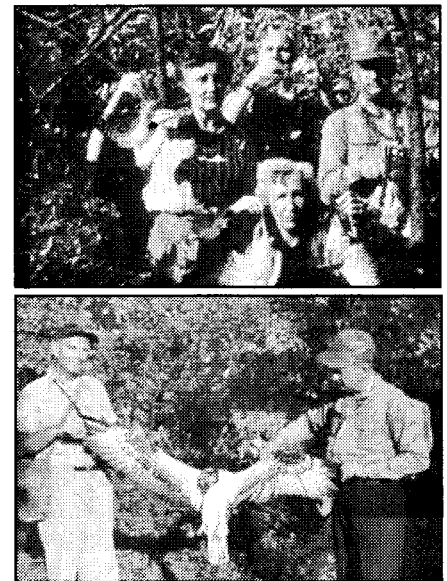


Figure 2. The results of raptor shooting in Pennsylvania in the late 1950s, when Sharp-shinned Hawks (top) remained unprotected, while Ospreys (*Pandion haliaetus*) (bottom), were protected (photographs courtesy Hawk Mountain Sanctuary archives).

and 1 May. Not surprisingly, the bounty substantially increased raptor shooting at the site, as well as throughout Pennsylvania. Second, Sutton's articles alerted the ornithological and conservation communities of both raptor migration and shooting at the site, which the locals called Hawk Mountain.

Earl Poole, then assistant curator at the Reading Public Museum in nearby Reading, Pennsylvania, began visiting Hawk Mountain in 1929. His description of a broad-winged hawk (*B. platypterus*) flight of 2,000 birds on 22 September 1932, represents the first detailed account of raptor migration at the site (Poole 1934). Shortly thereafter, conservationists Henry H. Collins, Jr., and Richard Pough visited the ridge, confirming Sutton and Poole's earlier accounts, and photographing the slaughter that was then underway (Pough 1932; Collins 1933). Pough showed slides of his photographs to a joint meeting of the Hawk and Owl, Linnean, and National Association of Audubon soci-



Figure 3. The view from Hawk Mountain Sanctuary, the world's first refuge for birds of prey, in the 1940s. (Photo: Hawk Mountain Sanctuary archives.)

eties meeting in New York City in autumn 1933. Rosalie Edge, the head of the Emergency Conservation Committee, was in the audience the evening Pough spoke.

The following June, Mrs. Edge, accompanied by Richard Pough and her son Peter, visited Hawk Mountain. Shortly thereafter, Rosalie Edge leased the 565 acres that was to become Hawk Mountain Sanctuary (Bildstein and Compton 2000). Today, the Hawk Mountain Sanctuary Association, the largest and oldest member-based raptor conservation organization in the world, manages the Sanctuary, which has now grown to more than 2,300 acres. Once a shooting gallery where thousands of raptors were killed each autumn, Hawk Mountain's Appalachian lookouts now serve as both learning center and biological field station for more than 80,000 visitors annually (Zalles and Bildstein 2000) (Figure 3).

Unfortunately, the Pennsylvania bounty on goshawks (reduced to two dollars in 1937) remained in place until 1951, when the state legislature approved, and Governor G. H. Earle signed a law protecting all raptors, excepting the three species of "bird-killing" accipiters and two species of owls, the great horned owl and the snowy owl (*Nyctea scandiaca*) (Kosak 1995).

The founding of Hawk Mountain Sanctuary highlighted raptor conservation both within and outside of Pennsylvania as never before.

Thirty-five years of conservation and education efforts at the Sanctuary, in part, resulted in statewide, year-round protection for all diurnal birds of prey, including the three "bird-killing" accipiters, in 1969 (Senner 1984). It was not, however, until the Migratory Bird Treaty Act of 1918 was amended in March of 1972, that all raptors, including great horned and snowy owls, were protected in Pennsylvania (Kosak 1995).

A modern era?

Although all raptor species remain officially protected in Pennsylvania, and have for almost thirty years, their status remains controversial. As recently as 1999, the Pennsylvania Game Commission held hearings on a proposal from the President of the Commission (game commissioners are appointed by the Governor) regarding "experimentally" controlling populations of Red-tailed Hawks and Great Horned Owls on several wildlife management areas in an attempt to increase the survivorship of Ring-necked Pheasants (*Phasianus colchicus*) (Riegner 1999). Although a public hearing revealed widespread opposition to the proposal—that was later withdrawn—letters to the editors of local newspapers also suggested a degree of public support for the idea (e.g., Riegel 1999).

Indeed, many birdwatchers, especially those maintaining backyard birdfeeders, continue to call Hawk Mountain Sanctuary to express outrage at the seemingly persistent predatory activities of sharp-shinned and Cooper's hawks at their bird feeders. Both species of accipiters appear to be increasingly willing to enter human-dominated landscapes; most likely in response to reduced human-caused mortality there. Although most callers seem resigned to this situation, particularly once they have been informed that removing a single accipiter from a backyard is

likely to be as ineffective as removing a single Gray Squirrel (*Sciurus carolinensis*), others appear determined to "do something themselves" about the situation, including, a few have suggested, shooting the hawk (Bildstein, personal observation).

Research conducted at Hawk Mountain Sanctuary and elsewhere suggests that recent shifts in the migration behavior of eastern populations of sharp-shinned hawks may be related to an increasing tendency to pause at bird feeders along migration routes in the northeastern United States (Viverette et al. 1996; Duncan 1996). Furthermore, data collected by participants in the Cornell University Laboratory of Ornithology's Project Feederwatch indicate that sharp-shinned hawks take more birds at birdfeeders than do feral cats (Dunn and Tassaglia 1994). Whether or not increased numbers of accipiters at bird feeders are impacting regional populations of songbirds and other species feeding at these sites remains unclear, although evidence from England suggests that this may not be occurring (Newton et al. 1997). On the other hand, studies of American kestrels that overwinter in farmlands surrounding Hawk Mountain suggest that recently increased populations of Cooper's and, possibly, sharp-shinned hawks, both of which prey on kestrels, are affecting regional populations of this small falcon (Ardia and Bildstein 1997; Ardia et al. unpublished data).

Conclusion

Raptor populations have increased substantially in the last two decades of the twentieth century (Bednarz et al. 1990; Bildstein 1998), quite possibly to levels similar to those of the latter nineteenth and early twentieth centuries. In Pennsylvania and, indeed throughout most of North America, birds of prey are no longer the endangered boutique predators

(i.e. predators whose populations are so low that they do not substantially influence the behavior and ecology of their prey species) that they were as recently as the late 1970s (Bildstein 1998). Now that raptors once again are fairly common and fully functional components of natural and human-dominated landscapes, raptor conservationists are facing many of the same management concerns and human attitudes their predecessors faced more than one hundred years ago.

As a result, keeping common raptors common at the beginning of the twenty-first century may prove to be as much of a challenge for today's raptor conservationists (Garrott et al. 1993) as it was for their predecessors at the beginning of the 20th Century. Experience at Hawk Mountain Sanctuary suggests that focused conservation education that extends from primary schools through the general public, longterm population monitoring, and, above all, opportunities for viewing large numbers of these normally secretive birds at migration hawkwatches, are practical and effective ways to build local and regional support for our charismatic birds of prey. With this in mind, the Sanctuary continues to work with local, regional, and national conservationists to foster migration watchsites elsewhere in the world so as to protect long-distance migratory raptors throughout their journeys.

Acknowledgments

I thank Kyle McCarty and Martin Smith for reviewing earlier versions of this manuscript, and Kev Bittner for scanning the figures. This is Hawk Mountain Sanctuary contribution number 68.

Literature cited

Ardia, D.R. and K.L. Bildstein. 1997. Sex-related differences in habitat selection in wintering American Kestrels, *Falco sparverius*. Ani-

- mal Behaviour 53:1305-1311.
- Bednarz, J.C., D. Klem Jr., L.J. Goodrich, and S.E. Senner. 1990. Migration counts of raptors at Hawk Mountain, Pennsylvania, as indicators of population trends, 1934-1986. *Auk* 107:96-109.
- Bildstein, K.L. 1998. Long-term counts of migrating raptors: a role for volunteers in wildlife research. *Journal of Wildlife Management* 62:435-445.
- Bildstein, K.L. and R.A. Compton. 2000. Mountaintop science: the history of conservation ornithology at Hawk Mountain Sanctuary. Pp. 153-181 in W.E. Davis and J.A. Jackson, eds. Contributions to the History of North American Ornithology, Volume II Memoirs of the Nuttall Ornithological Club, No. 13. Nuttall Ornithological Club, Cambridge, MA.
- Broun, M. 1949. Hawks aloft. Cornwall Press, Cornwall, NY.
- Burnham, W.A. 1990. Raptors and people. Pages 170-189 in I. Newton, ed. Birds of Prey, Facts on File, New York, NY.
- Collins, H.H., Jr. 1933. Hawk slaughter at Drehersville. *Hawk and Owl Society Bulletin* 3:10-18.
- Duncan, C.D. 1996. Changes in the winter abundance of sharp-shinned hawks in New England. *Journal of Field Ornithology* 67:254-262.
- Dunn, E.H. and D.L. Tassaglia. 1994. Predation of birds at feeders in winter. *Journal of Field Ornithology* 65:8-16.
- Errington, P.L. 1946. Predation and vertebrate populations. *Quarterly Review of Biology* 21:144-177.
- Fisher, A.K. 1893. Hawks and owls of the United States in relation to agriculture. U.S.D.A. Division of Ornithology and Mammalogy, Bulletin Number 3. U.S.D.A., Washington, D. C.
- Forbush, E.H., ed. 1929. Birds of Massachusetts and other New England states, Vol. II. Massachusetts Department of Agriculture, Boston, MA.
- Fuertes, L.A. 1920. American birds of prey – a review of their value. *National Geographic* 38:460-467.
- Garrott, R.A., P.J. White, C.A.V. White. 1993. Overabundance: an issue for conservation biologists? *Conservation Biology* 7:946-949.
- Gensbol, B. 1984. Birds of prey of Britain, Europe, North Africa and the Middle East. Collins, London, England.
- Gerstell, R. 1937. The Pennsylvania bounty system. Research Bulletin 1. The Pennsylvania Game Commission, Harrisburg, PA.
- Henny, C.J. and H.M. Wight. 1972. Population ecology and environmental pollution: red-tailed and Cooper's hawks. Pp. 229-249 in Population ecology of migratory birds. Wildlife Research Report 2. U. S. Fish and Wildlife Service, Washington, D. C.
- Hix, G.E. 1933. The birds of prey for Boy Scouts. Privately published, Brooklyn, NY.
- Hornaday, W.T. 1913. Our vanishing wild life. New York Zoological Society, New York, NY.
- Hornaday, W.T. 1914. Wild life conservation in theory and practice. Yale University Press, New Haven, CT.
- Hornaday, W.T. 1922. The minds and manners of wild animals. Scribner, New York, NY.
- Hornaday, W.T. 1931. Thirty years war for wild life. C. Scribner's Sons, New York, NY.
- Kosak, J. 1995. The Pennsylvania Game Commission 1895-1995. Pennsylvania Game Commission, Harrisburg, PA.
- Muir, J. 1913. The story of my boyhood and youth. Houghton Mifflin, Boston, MA.
- Newton, I. 1990. Human impacts on raptors. Pages 190-207 in I. Newton, ed. Birds of Prey Facts on File, New York, NY.
- Newton, I., L. Dale, P. Rothery. 1997. Apparent lack of impact of Sparrowhawks on the breeding densities of some woodland songbirds. *Bird Study* 44:129-135.
- Pearson, L. 1897. Diseases and enemies of poultry. Clarence M. Busch, Harrisburg, PA.
- Poole, E.L. 1934. The hawk migration along the Kittatinny Ridge in Pennsylvania. *Auk* 51:17-20.
- Pough, R.H. 1932. Wholesale killing of hawks in Pennsylvania. *Bird-Lore* 34:429-430.
- Riegel, E. 1999. No sympathy for killer hawks. *Reading Eagle* (newspaper). 11 March 1999.
- Riegner, C. 1999. Pheasant problems. *Pennsylvania Game* 70(11): 16-18.
- Senner, S.E. 1984. The model hawk law – 1934 to 1972. *Hawk Mountain News* 62:29-36.
- Sutton, G.M. 1928a. An introduction to the birds of Pennsylvania. McFarland, Harrisburg, PA.
- Sutton, G.M. 1928b. Notes on a collection of hawks from Schuylkill County, Pennsylvania. *Wilson Bulletin* 40:84-95.
- Sutton, G.M. 1931. The status of the Goshawk in Pennsylvania. *Wilson Bulletin* 43:108-113.
- Viverette, C.B., S. Struve, L.J. Goodrich, and K.L. Bildstein. 1996. Decreases in migrating sharp-shinned hawks (*Accipiter striatus*) at traditional raptor-migration watch sites in eastern North America. *Auk* 113:32-40.
- Wright, M.O. 1936. Birdcraft, ninth edition. Macmillan, London, England.
- Zalles, J. and K.L. Bildstein. 2000. Raptor watch: a global directory of raptor migration sites. Hawk Mountain Sanctuary Association, Kempton, PA; and BirdLife International, Cambridge, England.