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1887

[B. H. Warner and others]

Reports of the Microscopical Society of West  
Chester, Penna., on the Act awarding a  
premium for the destruction of Hawks, Owls,  
Hawks, Weasels, etc., etc.



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# REPORTS

—OF THE—

## Microscopical Society

OF

WEST CHESTER, PENNA.,

On the Act of Assembly of said State Awarding a Premium for the destruction of HAWKS, OWLS, MINKS, WEASELS, etc., etc.,

ENACTED JUNE 23, 1885.



WEST CHESTER, PA. :  
"REPUBLICAN" BOOK AND JOB DEPARTMENT,  
1887.



# **Reports of the West Chester Microscopical Society,**

ON THE ACT OF ASSEMBLY OF SAID STATE, AWARDING  
A PREMIUM FOR THE DESTRUCTION OF HAWKS,  
OWLS, MINKS, WEASELS, ETC., ETC.

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At a meeting of the West Chester Microscopical Society, held March 4th, 1886, the subject of the killing of hawks and owls and the premiums paid therefor, being under discussion, Dr. B. H. Warren, Chairman of the Committee on Protection of Birds of Prey, appointed at the last meeting of the Society, read the following report :

## **Report of Committee.**

The committee appointed at the last meeting of the Microscopical Society to take into consideration the Act of Assembly passed the 23d day of June, A. D., 1885, entitled "An act for the destruction of wolves, wild cats foxes, minks, hawks, weasels and owls in this Commonwealth," and which reads as follows: "That for the benefit of agriculture and for the protection of game within this Commonwealth, there is hereby established the following premiums for the destruction of certain noxious animals and birds, to be paid by the respective counties in which the same are slain, namely: For every wild cat two dollars, for every red or gray fox one dollar, for every mink fifty cents, for every weasel 50 cents, for every hawk fifty cents and for every owl (except the Acadian screech or barn owl, which is hereby exempted from the provisions of this act) fifty cents," beg leave to report that the Chairman of the Committee, Dr. B. H. Warren, Ornithologist of the Pennsylvania State Board of Agriculture, has devoted several years of his life to the collection, dissection and examination of birds, and that all of the committee from observation and experience have believed that all of the birds denounced in the law above quoted, with rare exceptions, have been found to be the best friends of the farmer. Lest, however, any of the committee might be mistaken they have corresponded with the best ornithologists in the country, men who have made ornithology a study and are connected with that department in the Smithsonian Institution, ask-

ing their opinion as to the benefits or injury likely to arise from the execution of the law against the birds therein named.

They have received answers from Dr. C. Hart Merriam, Ornithologist of the United States Department of Agriculture; Robert Ridgway, Curator of Department of Birds United States National Museum; Dr. Leonard Stejneger, Assistant Curator of the same department; H. W. Henshaw, of the Bureau of Ethnology, also a collector of birds for the Smithsonian Institution and connected with the late Wheeler Survey of the Territories, and Lucien M. Turner, a collector of birds, etc., for the Smithsonian Institution, for the last twelve years. These answers, which are annexed to this report, all bear testimony that the hawks and owls are of great benefit to the farmer, and render him far greater service than injury, and that it is unwise to select any of them for destruction.

The committee regrets to say that there have been ninety odd hawks and a dozen or more owls killed since the law was passed June 23d, 1885, at a cost to this county of about \$75, and that the slaughter is still going on.

Believing, therefore, that the killing of these birds is detrimental to the interests of the agriculturists they believe that instead of being destroyed they should be protected, and they, therefore, recommend the passage of the following resolution :

*Resolved* by the Microscopical Society of West Chester, that in the opinion of the Society the act of June 23d, 1885, offering a premium for the destruction of hawks and owls, is unwise and prejudicial to the interest of agriculture, and so far as those birds are concerned ought to be repealed.

*Resolved*, That the President and Secretary of the society be instructed to forward a copy of the above resolution to our members of the legislature at its next session and request their aid towards the repeal of the act so far as is above stated.

All of which is respectfully submitted.

B. H. WARREN,  
W. TOWNSEND,  
THOS. D. DUNN,  
JAMES C. SELLERS, } Committee.

March 4th, 1886.

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U. S. DEPARTMENT OF AGRICULTURE, }  
Washington, D. C., March 2, 1886, }

Dr. B. H. Warren, Ornithologist of the Pennsylvania State Board of Agriculture—Dear Sir: Your letter of the 18th inst. has just come to hand. I have read with surprise and indignation the copy sent of Section I, page 141 of the laws of Pennsylvania for 1885, in which a bounty is offered for the destruction of weasels, hawks and owls.

The clause purports to have been enacted "for the benefit of agriculture," etc.

The possibility of the passage of such an act by any legislative body is a melancholy comment on the widespread ignorance that prevails even among intelligent persons, concerning the food of our common birds and mammals, and is an evidence of the urgent need of just such systematic and comprehensive investigations as this department is now making on the subject of the relation of food habits to agriculture.

There are two kinds of weasels in the Eastern States. The smaller kind feeds chiefly on mice and insects and is not known to kill poultry. The larger also preys mainly upon mice and rats, but in addition sometimes kills rabbits and poultry. Both species are friends of the farmer, for the occasional loss of a few chickens is of trifling consequence compared with the good that these animals are constantly doing in checking the increase of mice.

You ask my opinion in regard to the beneficial and injurious qualities of the hawks and owls which inhabit Pennsylvania. This question seems almost superfluous in view of the fact that your own investigations, more than those of any other one person, have led to a better knowledge of the food-habits of these birds, and what you have done in the East Prof. Aughey, of Nebraska, has done in the West. Many others have added their "mites," till at the present time a sufficient array of facts has been accumulated to enable us to state, without fear of contradiction, that our hawks and owls must be ranked among the best friends of the farmer. With very few exceptions their food consists of mice and insects, meadow-mice and grasshoppers predominating. The exceptions are the fierce Goshawk from the North, and two smaller resident hawks, Cooper's and the Sharp-shinned, which really destroy many wild birds and some poultry. These three hawks have long tails and short wings, which serve, among other characters, to distinguish them from the beneficial kinds.

Strange as it may appear to the average farmer, the largest hawks are the ones that do the most good. Foremost among these are the rough-legged and Marsh hawks, which do not meddle with poultry and rarely prey upon wild birds.

Of hawks and owls collectively, it may safely be said that, except in rare instances, the loss they occasion by the destruction of poultry is insignificant in comparison with the benefits derived by the farmer and fruit grower from their constant vigilance; for when unmolested the one guards his crop by day and the other by night.

It is earnestly to be hoped that you will succeed not only in causing the repeal of the ill-advised act which provides a bounty for the killing of hawks and owls, but that you will go farther, and secure the enactment of a law which will impose a fine for the slaughter of these useful birds.

Very truly yours,

C. HART MERRIAM,  
Ornithologist of the Department of Agriculture.

UNITED STATES NATIONAL MUSEUM, }  
 Under Direction of the Smithsonian Institution, }  
 Washington, March 3, 1886. }

Dr. B. H. Warren, West Chester, Pa.

Dear Dr. Warren:—I am just in receipt of your letter of the 1st instant, and therefore fear that my reply cannot reach you in time for use at the meeting to-morrow evening. It affords me much pleasure, however, to comply with your request for my views concerning the food-habits of hawks and owls and their relation to man.

Of all the species which you name there are only two which, according to my best judgment, are at all seriously destructive to game or poultry, these being Cooper's Hawk and the Great-horned Owl. The rest, with the possible exception of the Sharp-shinned Hawk, which certainly is destructive to the smaller birds, my experience leads me to regard as *very decidedly* beneficial to man, their food consisting very largely, if not chiefly, of the smaller rodents, field mice especially. The Red shouldered and Red tailed Hawks occasionally pick up a young chicken or rabbit, but I feel quite sure that their service to man far outweighs the injury which they thus do. The little Sparrow Hawk and other smaller species destroy large numbers of grasshoppers, locusts and other large insects.

Very truly yours, ROBERT RIDGWAY,  
 Curator, Dept. Birds.

SMITHSONIAN INSTITUTION, }  
 Washington, D. C., March 3, 1886. }

Dr. B. H. Warren, West Chester, Pa.:—Dear Doctor:—In reply to your letter of the 3d inst., asking for my opinion in regard to the food, etc., of certain hawks and owls specified, I would state that I have read Mr. Robert Ridgway's answer to a similar request from you and that I agree with him in every particular. The idea of persecuting the majority of hawks and owls systematically is simply preposterous, and any law which has for its object their indiscriminate destruction should be immediately repealed, since most of the birds alluded to are among the very best friends of the farmer. In regard to a few species it is well worth while to suspend judgment until a thorough investigation as to their habits and food in your State can be carried out, for, as you are well aware, a species which in some parts of the country and at some seasons may be injurious, in other regions and under altered circumstances may be chiefly beneficial. I remain, yours sincerely,

LEONARD STEJNEGER,  
 Assistant Curator, Dept. of Birds, U. S. Nat. Mus.

WASHINGTON, March 3, 1886.

B. H. Warren, M. D., West Chester, Pa.—Dear Sir:—In reply to your favor of the 1st inst. asking for my opinion with regard to the

economic utility of the birds of prey I take pleasure in responding as follows: To the ornithologist, whose business it is to study the habits of birds, the widespread ignorance of the habits of the hawk and owl tribe, and the mistaken idea as to the amount of injury they do are almost inconceivable.

So common, however, are these erroneous ideas respecting the birds of prey and their relations to the farmer and agriculturist that it is not at all surprising that laws similar to the one now in force in Pennsylvania should be enacted.

Your own investigations into the nature of the food of the birds of prey of your county might be cited in support of the statement that such enactments are based upon erroneous conceptions. I may add that wherever such investigations have been systematically conducted they have resulted in a verdict favorable to the birds of prey. In almost every portion of the country I have found the opinions of all field-ornithologists to be in favor of the preservation of the hawk and owl tribe on account of the good they do. I believe the time will come when the farmers as a class will carefully protect the hawks and owls on the ground of their beneficent services.

Following is the list of species most numerous in your state :

1. Marsh Hawk *Circus cyaneus hudsonius*.
2. Sparrow Hawk. *Falco sparverius*.
3. Red-Shouldered Hawk. *Buteo lineatus*.
4. Red-Tailed Hawk. *Buteo borealis*.
5. Cooper's Hawk. *Accipiter cooperi*.
6. Sharp-Shinned Hawk. *Accipiter fuscus*.
7. Broad-Winged Hawk. *Buteo pennsylvanicus*.
8. Rough-Legged Hawk. *Archibuteo lagopus sancti-johannis*.
9. Short-Eared Owl. *Asio accipitrinus*.
10. Screech Owl. *Scops asio*
11. Long-Eared Owl. *Asio wilsonianus*.
12. Barred Owl. *Strix nebulosa*
13. Horned Owl. *Bubo virginianus*.

Of this list the Marsh Hawk, Red shouldered Hawk, Red-tailed Hawk, Broad winged Hawk, Rough legged Hawk, Short and Long-eared Owls, Screech Owl, Barred Owl and Horned Owl are of very great value to the agriculturist because of the immense numbers of meadow mice and other small rodents they annually destroy. The mice when unchecked increase with amazing rapidity, and the hawks and owls above named are among the chief natural means for their destruction, mice and other rodents forming a large percentage of their food. The harm the hawks do in the destruction of small birds is inconsiderable compared to the benefits derived by the farmers from the destruction of the four footed pests. The owls particularly work by night and hence the benefits they confer are easily overlooked.

The Sparrow Hawk is one of the most harmless of birds and one

of the most beneficial to man. He lives almost exclusively upon grasshoppers and crickets, and the number of the former destroyed by these birds is incalculable.

I mention the Cooper's and Sharp-shinned Hawks last because they unquestionably kill many small birds and they also commit depredations upon the poultry yard. I believe, however, they can safely be left to be dealt with by the class they injure, chiefly poultrymen. To place all the hawks and owls under ban, and to attempt their extermination simply because one or two species are injurious is certainly not good policy.

After more than twenty years study of birds I am decidedly of the opinion that the hawks and owls as a class are of great economic value, and that no State in which agriculture is pursued to any extent can afford to dispense with their services. They not only ought not to be exterminated, but they should be placed upon the list of birds protected by law. I am, very truly yours,

H. W. HENSHAW.

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WASHINGTON, D. C., March 3, 1886.

B. H. Warren, M. D., Ornithologist Pennsylvania State Board of Agriculture, West Chester, Penna.—Dear Sir:—Your letter of recent date requesting my opinion of the act [No. 109] of the Commonwealth of Pennsylvania relative to the premiums paid for the destruction of certain species of birds and mammals, alleged to be injurious and classed as noxious within the meaning of that act, is at hand.

I must confess a surprise at the truly lamentable ignorance of the framer of that act in regard to the supposed noxious character of the hawks and owls, upon whose lives a premium has been set for their destruction.

It is well known that no more beneficial bird exists than the owl, whose nocturnal habits render it specially fitted to pursue the smaller rodents, such as mice, whose ravages upon the field, grain, root and orchard are so well known that all farmers have from time immemorial exclaimed against the destructiveness of those quadrupeds whose annual devastation causes the money value of the losses sustained through their ravages to swell into countless thousands of dollars.

The tender growths of the orchard are decorticated by the mice and rabbits, which are in turn devoured by the owls sought to be destroyed simply because some one desires to become notorious as a law maker, and through utter ignorance of the subject endeavors to deprive the farmer of his best nocturnal friends, which guard the growing crop with zealous care while the owner sleeps to regain a strength to enable him to continue the daily toil of protecting his crops from the devastation of his sleek-furred enemies, most insidious at night. There is not a species of owl but that amply repays for

the few incursions made at irregular periods upon isolated hen roosts. Where a single towl is thus lost, a thousand mice pay the penalty of their lives to the same owl.

The nocturnal habits of the owls render their services far more beneficial than may be accurately ascertained.

In regard to the hawks their reputation is much exaggerated so far as their injurious propensity is concerned, yet when truthful evidence is placed in the scales the beneficial services of the hawks will preponderate in a most satisfactory manner.

Certain species of the diurnal birds of prey are well known to feed almost exclusively upon small rodents, and in fact differing but little from the owls in regard to their food. Two or three species of hawks [those belonging to the genus *Archibuteo*] are notoriously the best diurnal mouse-catchers of all birds. Their habits to soar over the level tracts devoted to grasses and and search for their food are so well known that further consideration of them is but repetition of established facts. The bolder species of hawks so rarely commit depredations upon the farm-yard fowls that these instances are, without doubt, the result of an individual predeliction for which the entire family should not be branded. The number of rabbits and mice which the hawks annually destroy is simply incredible, as any really observant person will admit.

In my own opinion the destruction of the hawks and owls within the State of Pennsylvania will, ere many years, result in an incalculable injury to the farmer, who will be overrun with hordes of mice, which he will be powerless to limit, as their reproductiveness, when undisturbed, progresses with astonishing rapidity.

It would, in my opinion, be a wise measure to have the act relating to the alleged noxious birds totally repealed. Very truly yours,

LUCIEN M. TURNER,

Smithsonian Institution, Washington, D. C. March 3, 1886.

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#### HAWK'S FOOD.

From a report entitled "Diurnal Rapacious Birds" [with special reference to Chester county, Pa.] prepared by B. H. Warren and published in the annual report for 1883 of the Pennsylvania State Board of Agriculture, is taken the following reference to the stomach examinations of the species of hawks most commonly found in Pennsylvania:

The Red-Tailed Hawk. *Buteo borealis*. My examination of one hundred and two birds of this species, revealed in eighty-one chiefly mice and small quadrupeds, also some few small birds; nine, chickens; three, quail; two, rabbits; one, ham skin; one, part of a skunk. one, a red squirrel; one, a gray squirrel; three, snakes.

The Red-Shouldered Hawk. *Buteo lineatus*. Of thirty-six examinations which I have made of this species, twenty-three showed mice

and small quadrupeds, grasshoppers and coleopterous insects; nine revealed frogs and some few insects; in two, snakes and portions of frogs were present, and from the remaining two, small birds, particles of hair and a few orthopterous insects were taken.

Broad-Winged Hawk. *Buteo latissimus*. In twelve specimens examined by myself, four revealed mice; three, small birds; four, frogs; one, killed the 22d of May this present year, 1882, was gorged with cray-fish, with which were traces of insects. [Beetles]

The Sparrow Hawk. *Falco sparverius*. The stomach contents of twenty-nine of this species, which I have dissected, showed, in fifteen, principally mice, with frequent traces of various insects; six, grasshoppers; two, coleoptera and grasshoppers; two, meadow larks; four, small birds—sparrows.

Cooper's Hawk. *Accipiter Cooperi*. Of twenty-seven birds which I have examined, fourteen showed the food taken to have been chickens; five revealed small birds—sparrows and warblers; two quail; one bull-frog; three, mice and insects; two, hair and other remains of small quadrupeds.

Sharp-Shinned Hawk. *Accipiter velox*. I have dissected fifteen of these falcons. Six of this number showed small birds; three, quail; one, mice; four, remains of young chickens; one, grasshoppers and beetles.

The Rough-Legged Falcon. *Archibuteo lagopus sancti-johannis*. Nine birds all showed their food to be exclusively field-mice.

Marsh Hawk *Circus cyaneus hudsonius*. Of eleven birds examined, five revealed mice; two, small birds—*Dendroica*; three, frogs; one, a large number of grasshoppers with a small quantity of hair, evidently that of a young rabbit.

All the hawks recorded in the following table were taken in Chester county, Penna.

**\*\*Red-tailed Hawk. "Henhawk." "Big-chicken Hawk."**

*Buteo borealis*. Gmel.

SEX.	DATE.	Field-mice.	Insects.	Poultry.	Rabbits.
Male, ad	April 20, 1886		Beetles, etc.		
"	March 10, 1886	X			X
"	"	X			
Female ad	October 11, 1886	X			
Male	" 15, "	X	Beetles, etc.		
"	" 20, "	X			
"	November 13, 1886	X	Grasshop'rs		
Female	" 16, "	X		X	
"	December, 4, 1886	X			

**Cooper's Hawk. "Long-tailed Chicken or Pheasant Hawk." "Big Partridge Hawk."**

*Accipiter Cooperi*. Bonap.

SEX	DATE.	FOOD.	REMARKS.
Male ad	November 13, 1886, .....	Small bird,	Song Sparrow ( <i>Melospiza fasciata</i> .)
Female yg	" 27, " .....	X	Meadow lark, ( <i>Sturnella magna</i> .)

**Sharp-shinned Hawk. "Pigeon Hawk" "Little Hen Hawk." "Bird Hawk." Accipiter velox. Wils.**

SEX.	DATE.	Food Material.	REMARKS.
Male, yg	October 3, 1886, .....	Small bird.	English sparrow.
Female, ad	November 26, 1886, .....	X	Song sparrow. ( <i>M. fasciata</i> )

**Sparrow Hawk. "Mouse Hawk." "Bird Hawk." "Blue-backed Hawk." Falco sparverius. Linn.**

SEX.	DATE.	Field-mice.	Insects.	Small birds.	REMARKS.
Female, ad	Feb. 8, 1886, ....			X	Sparrow. <i>M. fasciata</i> .
Male, ad	" 9, " .....		X		Grasshoppers, other orthoptera.
Female, ad	" 24, " .....		X		Principally grasshoppers; beetles
Male, ad	March 10, " .....		X		Beetles.
Male, ad	April 3, " .....		X		Beetles.
Male, ad	" 4, " .....	X			[to determine.
Female, yg	July 14, " .....		X		Too much dec'imp'd & comminat'd
Female, ad	Nov. 26, " .....	X	X		Beetles and grasshoppers.
Male, ad	Dec. 1, " .....	X	X		Grasshoppers and larvæ.
Female, yg	" 3, " .....	X	X		Beetles.
Male, ad	July 3, " .....		X		Various species.
Male, ad	Dec. 9, " .....			X	<i>Junco hyemalis</i> (?)
Female, ad	" .....	X			

**Red-shouldered Hawk. "Winter Falcon." "Henhawk." "Strip-tailed Hawk." Buteo lineatus. Gmel.**

SEX.	DATE.	Field-mice.	Insects.	REMARKS.
Female, ad	January 3, 1886, .....		X	Principally grasshoppers.
Male, ad	" 20, " .....		X	Black colored beetles.
Female, yg	February 22, 1886, .....		X	
Female, ad	April 3, 1886, .....	X	X	
" yg	November 23, 1886, .....	X	X	Grasshoppers.
" ..	December 2, " .....	X	X	
" ..	" 1, " .....	X	X	*Hair of mammal.
" ad	November 29, " .....	X		

\*NOTE.—The gizzard of this bird contained a few hairs of field mouse and some long black hairs which appeared very much like that of a skunk. The bird on dissection gave a very decided odor of pole-cat.

\*\*The tables giving food materials of different species of hawks refer only to birds on which bounty has been paid under "Scalp Act." B. H. WARREN.

Since the above has been written forty odd hawks and owls on which bounty has been paid have been examined; one bird, a Red-tailed hawk, was found to have fed on chicken only; a second example of the same species had in its gizzard remains of a chicken, and portions of a field mouse. Two Red-tailed hawks had fed on red squirrels, another pair of Red-tailed hawks had taken rabbits. Eight sparrow hawks, included in this series of forty odd birds, revealed chiefly mice and grasshoppers.

The remainder of these forty odd birds, ten of which were Screech and Long-eared owls, had in their viscera chiefly field or meadow mice. The owls, with the exception of one Screech owl that had in its stomach an English Sparrow, had all subsisted on mice and insects, principally grasshoppers. B. H. WARREN,

Dr. A. K. Fisher, Assistant Ornithologist U. S. Department of Agriculture, Washington, D. C., in a letter dated Jan. 15, 1887, addressed to Dr. B. H. Warren, says: "Wednesday I received eight adult Red tail's and two Red-shouldered Hawks from a man in Maryland. \* \* \* I find nothing but *mice* and *shrews* in their crops and stomachs [from two to five in each]. I found two specimens of *Sorex* and the following specimens of mice: *Mus musculus*, *Hesperomys leucopus*, *Arvicola riparius* and *Arvicola pinetorum*. The hawks had been killed because they had 'killed' chickens and 'quails.'"

At a meeting of said Society, held Dec. 9, 1886, the same committee made the following report:

The Committee appointed to take into consideration an act entitled "An Act for the destruction of wolves, wild cats, foxes, minks,

hawks, weasels and owls, in this Commonwealth" approved June 23, 1885, and which made a report to this Society at its meeting held on March 4, 1886,

Begs leave to make an additional report. That since the said meeting Dr. B. H. Warren has continued his examination of the habits of hawks, and finds a full confirmation of his observations of their habits as set forth in that report, from which it appears that with rare exceptions the hawks are beneficial rather than prejudicial to the farmer, the small amount of damage done being greatly overpaid by the destruction they cause of animals and insects injurious to the farmer.

His observations of the habits of owls, not given in that report, indicate that they are particularly beneficial as the following list of the examinations made of the contents of their stomachs and herein given will show, viz.:

†† Long-eared Owl. "Horned Owl" "Cedar Owl"  
Asio wilsonianus. Less.

SEX.	DATE.	LOCALITY.	Field-mice.
Male, ad	November 25, 1886,.....	Chester County, Pa.	X
Female, ad	" 28, ".....	"	X
Male, ad	December 5, ".....	"	X
"	" 7, ".....	"	X
"	November 10, 1878,.....	"	X
"	December 30, 1884,.....	"	X
"	February 23, 1879,.....	"	X
"	" " ".....	"	X
Female, ad	" " ".....	"	X
"	" " ".....	"	X
Male, ad	" " ".....	"	X
"	" " ".....	"	X
"	December 15, ".....	"	X
"	November 22, ".....	"	X

Short-eared Owl. "Grass-Owl." "Swamp Owl."  
Asio Accipitrinus. Pall.

SEX.	DATE.	LOCALITY.	Field-mice.	Insects.
Female, ad	November 21, 1886,.....	Chester County, Pa.	X	
"	" 25, ".....	"	X	
"	" 27, ".....	"	X	
Male, ad	" 1, 1885,.....	"	X	Beetles.
Female, ad	" 7, 1883,.....	Delaware County, Pa.	X	
Male, ad	December 15, ".....	Cecil County, Md.	X	
" yg	January 4, 1880,.....	Delaware County, Pa.	X	
" ad	March 17, 1882,.....	Purch'd at Phila. mark't	X	
"	December 8, 1886,.....	Chester County, Pa.	X	

Screech Owl- "Red Owl." "Grey Owl." "Sparrow Owl." "Mouse Owl." Megascops asio. Linn.

SEX.	DATE.	LOCALITY.	Mice.	Insects.	Sparrows.	REMARKS.
Male, ad	November 10, 1886,.....	West Chester, Pa.	X			
"	" 27, ".....	Chester Co., Pa.	X			
Female ad	" 27, ".....	"	X			Field Mouse.
Male ad	April 22, 1886,.....	"	X	X		Beetles.
yg	August 2, 1876,.....	"		X		Grasshopp'rs&others
Female ad	December 5, 1879,.....	"	X			
Male ad	November 26, 1880,.....	"	X			English Sparrow,
ad	June 2, 1882,.....	"			X	
Female ad	June 30, 1883,.....	"		X		Beetles.
Male ad	December 20, 1884,.....	"			X	English Sparrow.
"	November 1, 1883,.....	"			X	Junco hyemalis.
"	May ——— 1880,.....	"		X		Beetles and others.

**Great Horned Owl. "hoot-owl." Big Owl." "Chicken Owl." Bubo Virginianus. Geiml.**

SEX.	DATE.	LOCALITY.	Poultry.	Rabbit.	Sm. b'rds.	Field-mice.	Remarks.
Female ad	Feb. 15, 1886.	Chester Co.		X			Lepus sylvaticus Chick'n feath'rs
	April — "	"	X				
Male ad	March — "	"	X				
Female yg	Sept. — 1878	"	X				Rem. of chicken
Male ad	Oct. 20, 1882.	Delaware Co				X	
Female yg	August 7, '79,	Chester Co.			X		bl. b'dQ purpur- feus.
" ad	Feb. 9, 1879,	"	X				

**White Owl. "Snow Owl." "Arctic Owl."**

*Nyctea nyctea.* Linn.

SEX.	DATE.	LOCALITY.	Rabbit.	Meat.	REMARKS.
Male ad	Winter 1879,.....	Chester county, Pa	X		Lepus sylvaticus.
Female ad	Winter 1879,.....	"		X	Apparently beef.

**American Barn Owl. "Monkey-faced Owl."**

*Strix pratincola.* Boap.

SEX.	DATE.	LOCALITY.	Field-mice.
Female ad	May 21, 1886.....	Chester county, Pa.	X
Female ad	November 14, 1880.....	"	X
Male ad	September — 1882,.....	Philadelphia county, Pa.	X

**Barred Owl. "Hoot-Owl." "Big Gray Owl."**

*Syrnium nebulosum.* Forst.

All the owls in this table were taken in Chester County, Pa.

SEX.	DATE.	Field-mice.	Insects.	Poultry.	Small birds.	REMARKS.
Female ad	Oct 28, 1879	X	X			Beetles.
Male ad	Nov. 17, '79		X		X	Beetles & robin. Merula.
	Jan. 11 1881	X		X		Chicken feathers.
Female ad	Jan 20, 1883	X			X	Lark. Sturnella magna.
Male ad	Jan. 12, 1884		X	X		Beetles & chicken feathers
Female ad	Jan. 1880	X				

†On all the several species of owls recorded in the year 1886 bounty has been paid.

The Committee also made inquiries of the Commissioners of the different counties as to the numbers of birds and mammals that have been killed and for which bounties had been paid, and received answers up to July 1, last, from thirty-four counties. The number of hawks killed and reported up to that date was 9237, at an expense of \$7335.10 and of owls 2499 at an expense of \$1303.90.

In many cases, however, the fees of the magistrates were not included, but merely the bounties paid on the birds. The bounties paid for minks, weasels, foxes and wild cats, raised the sums reported to \$15165 95 †

As the time included in the returns does not come down to date, and as only 34 out of 67 counties made reports, it is believed by the Committee that the counties pay annually not less than \$60,000 under the law of 1885, of which the largest part is paid for the destruction of hawks and owls. That they are the best friends of the farmer, and that their destruction is to him a great disadvantage, the Committee thinks that it has already shown, by the letters of eminent ornithologists in its report of March 4th, last.

In addition, however, to those letters it submits extracts from the following which are also from men well versed in ornithological science, all addressed to B. H. Warren, M. D., Chairman of the Committee, as follows:

PORTLAND, Conn., March 8, '86.

You were very kind to send me a copy of the "Daily Local News" containing your report on the obnoxious laws of your State relative to the killing of hawks and owls. Having had considerable experience with our local rapacious birds during the past twenty years, I consider them decidedly beneficial to the farmer, most of the complaint having reference to *Accipiter Cooperi* and *velox*. Hope you will be successful in your effort to get the law repealed.

Respectfully, JOHN H. SAGE.

AMERICAN ORNITHOLOGIST'S UNION }  
New York, March 8, '86. }

Thanks for the two copies of the "Daily Local News." The matter is first-class and just to the point. I have always advocated the protection of the birds of prey. I can use 50 copies of the paper to advantage. I enclose 50 cents; please have the publisher send me that number. Very truly yours, WM. DUTCHER.

AMERICAN ORNITHOLOGISTS' UNION, }  
Committee on the Protection of North American Birds. }  
New York, March 12, 1886. }

The A. O. U. Committee on the protection of birds, recognizing the great importance of the report of your Committee on the usefulness of hawks and owls to the farmer, has instructed me to purchase, if possible, 100 copies of the paper containing your report, and to ask if we may have the privilege of re-printing it, either in whole or in part, in the interest of the cause, if at any time we should find it convenient to do so. Your report is directly in the line of our work and could not fail to be a telling influence for good if well circulated.

Very truly yours, EUGENE P. BICKNELL, Sec'y.

From Prof. Samuel Aughey, State Geologist of Nebraska. }  
Lincoln, Neb., April 9, 1886. }

Every one, however, who will take the pains to dissect such hawks and owls as the savages kill and leave by the wayside unburied, will find that their food is mainly made up of such animal forms as are most injurious to the agricultural and horticultural interests of the land.

I rejoice greatly that you are engaged in these new gospel labors, which, like the old gospel, require line upon line and precept upon precept. Yours sincerely, SAMUEL AUGHEY.

From the Vice President of American Ornithologists' Union. }  
Washington, D. C., March 31, 1886. }

Responding to your request for my opinion respecting the useful-

ness of hawks and owls, regarded from an agricultural or other economic standpoint, I beg to say that I consider these birds highly beneficial and worthy of protective legislation

The number of poultry and of useful insectivorous birds which hawks and owls destroy is insignificant in comparison with the quantity of noxious rodents which they consume. Owls are particularly serviceable in this respect, and next after them come the buzzards. Most birds of prey likewise consume enormous numbers of insects, among which is a large proportion of noxious kinds. Very truly yours,

ELLIOTT COUES, V. P. A. O. U., etc.

CAMBRIDGE, Mass., March 28, 1886.

Copy of "Local News" containing the hawk testimony received. It came just in time to be used at a hearing before our Mass. Legislative Committee. I urged the protection of these valuable and much abused birds [the hawks and owls] very thoroughly, and I hope with some success. Yours very truly,

WILLIAM BREWSTER.

From Montague Chamberlain, eminent Canadian Naturalist.

ST. JOHNS, New Brunswick, March 22, 1886.

I am exceedingly obliged to you for so kindly sending me the "clipping" of report of your meeting. The letters on destruction of Owls and Hawks will be very useful to me in letters I am writing on protection of our birds, and I will also use them in lectures I am preparing. Yours respectfully,

M. CHAMBERLAIN.

BOSTON, Mass., March 10, 1886.

I am indebted to you courtesy for two copies of the "Daily Local News." Please accept my thanks. I have read the proceedings of the Microscopical Society with much interest and sympathy, and will hand one copy of the papers to my friend, Mr. H. A. Purdie, who is just now engaged in defending the birds before a committee of our Massachusetts Legislature. Wishing you all success in your good work, I am cordially yours,

BRADFORD TORREY.

BOSTON, Mass., March 8, 1886.

I have just received five copies of the paper with the interesting matter about hawks and owls. All quite correct. I have just cut out and pasted onto sheets of paper, a copy which I shall put into the hands of our Legislature Committee who gave three hearings last week on a revision of the game laws of this State, and are to be continued this week. Very truly yours,

H. A. PURDIE.

From the Curator of the American Museum of Natural History.

NEW YORK CITY, March 29, 1886.

The report of the West Chester Mic. Society duly to hand, for which, cordial thanks. I am very glad to see you working so intelligently and earnestly in behalf of a very useful and much persecuted

class of birds. Your paper on the food of hawks I took the liberty of citing quite at length in our articles in "Science Supplement," your statistics covering the ground in a very satisfactory manner, and far more fully than any other published statements known to me. Something of similar character on the owls would be of great service.

Very truly yours,  
J. A. ALLEN.

PARIS, France, March 20, 1886.

Your newspaper containing an account of the session of the West Chester Microscopical Society is just received. Thanks. I am glad to know that you are making a good fight in behalf of the birds. There are few States in America where champions of the rapacious species are not needed. It is my experience that prejudice against these birds is almost universal. Very truly yours,

NATHAN C. BROWN.

Allow me to thank you for championing the cause of the owl and hawk. For over twenty years I have had congregated in my lawn from fifty to seventy-five owls. They are peaceable and quiet—only on rare occasions would you know one was about. On dull days and foggy evenings they are flying about in all directions. Never in all that time have I missed any poultry or have they inflicted any injury on anything of value.

The first I noticed of their presence was the discovery of quite a pile of what appeared to be mice hair and bones, and on investigation found the Norway fir was the roosting place of to me at that time a vast number of owls. They had ejected the bolus of hair and bones apparently of an army of tree eating destructive mice, aiding the fruit-grower against one of the worst and most inveterate enemies. \* \* \* Their merits would fill sheets; their demerits nil. Yours truly,

WM. R. STAVELY, M. D.

Lahaska, Bucks county, Pa., Nov. 14, 1886.

With the additional information acquired since the last meeting, the Committee reiterates its opinion that the destruction of hawks and owls is prejudicial to the interests of agriculture and horticulture, and that the bounties and fees paid for their destruction are an unnecessary burden on the several counties of the Commonwealth, and that so much of the act of 1885 as relates to the destruction of hawks and owls ought to be repealed.

They therefore recommend that our members of the Legislature be requested to use their efforts towards obtaining the repeal of that portion of the act of 1885 which concerns hawks and owls, and that a suitable number of copies of the report of the Committee submitted to the Society at its March meeting and of this additional report be printed and furnished to our members to be laid before the members of the Legislature at its coming session.

B. H. WARREN,            JAMES C. SELLERS, }  
W. TOWNSEND,           THOMAS D. DUNN, } Committee.







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