

THE HEATH HEN'S  
JOURNEY TO  
EXTINCTION



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EXTINCTION

Compiled by Henry B. Hough  
Historian, Dukes County Historical Society.  
Photographs by Dr. Alfred O. Gross

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95.51.1  
The Dukes County Historical Society  
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sketches regarding  
Martha's Vineyard's Early History  
if there is sufficient interest  
in this publication  
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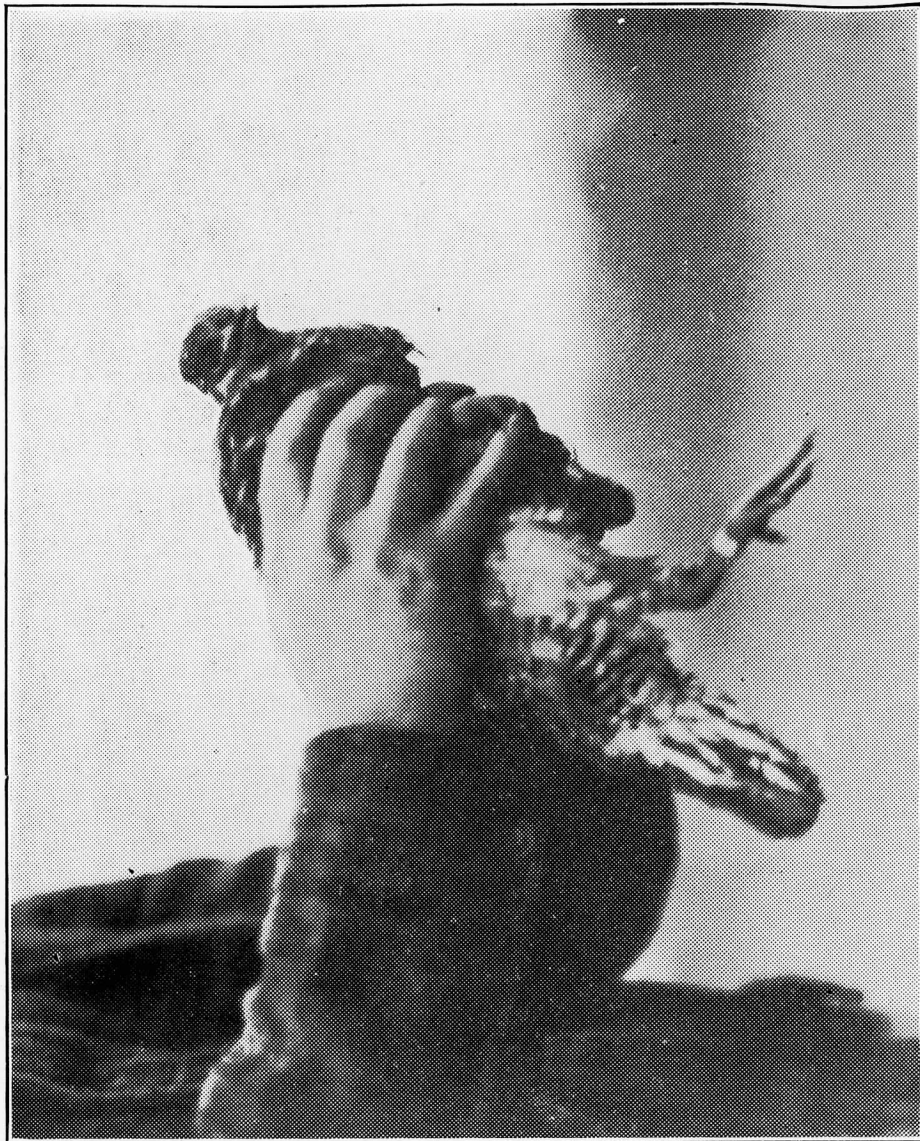
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# THE HEATH HEN'S JOURNEY TO EXTINCTION

1792 - 1933

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The last heath hen in the hands of Thornton W. Burgess, April, 1931, showing the bird's relative size.

## DECLINE OF THE HEATH HEN TOLD IN LIST OF DATES

- 1792—Heath hen reported rare in New Hampshire.
- 1800-1840—Heath hen generally exterminated in Massachusetts.
- 1812—Disappears from Connecticut valley.
- 1813—Disappears from district around Springfield.
- 1824—No longer common around Boston.
- 1831—Massachusetts legislature passes special act to protect heath hen from March 1 to Sept. 1, the first recorded protective legislation.
- 1836—Last recorded specimen in New York killed on Long Island.
- 1837—Massachusetts establishes close season for four years.
- 1839—Heath hen extinct except on Martha's Vineyard.
- 1841—Close season extended for five years.
- 1842—Town of Tisbury, under state authority, suspends law and allows hunting of heath hen from Dec. 1 to Dec. 10, without dogs.
- 1844—Close season extended five years more.
- 1850—Town of Tisbury permits hunting heath hen Nov. 12 and 13.
- 1855—All protection of heath hen is removed.
- 1859—Dr. Daniel Fisher liberates ruffed grouse and quail on the Vineyard, but no prairie chickens as sometimes believed.
- 1860—Heath hen protected by law at all times.
- 1869—Heath hen reported found in New Jersey.
- 1870—Protection of heath hen in Massachusetts limited to five years.
- 1876—Extinction of heath hen reported.
- 1877—Foxes and raccoons introduced on Martha's Vineyard for sport.
- 1890—Estimated that 120 to 200 heath hen survive on Martha's Vineyard.
- 1892—Seventy-five per cent decline in numbers from previous year is reported.
- 1894—Disastrous fire destroys many heath hen.
- 1897—Hunter with dog fails to start single heath hen on great plain of the Vineyard.
- 1902—Three western prairie chickens liberated on the Vineyard, these being survivors of sportsman's show at Boston. No subsequent evidence of these birds is found.
- 1905—Movement to protect the heath hen is begun by John E. Howland of Vineyard Haven, Dr. George W. Field and others.
- 1906—Close season declared until 1911, with \$100 penalty. Fire again sweeps Vineyard plain.
- 1907—Twenty-one heath hen are counted on May 2. Ten broods known to be successfully reared. Mr. Howland and Dr. Field collect \$2,420 to acquire reservation. Rep. U. E. Mayhew introduces bill in state legislature to establish reservation and appropriate \$2,000.
- 1907-1916—Numbers of heath hen flock show gradual increase.
- 1908—Estimated that 45 to 60 birds exist.
- 1909—About 200 heath hen accounted for.
- 1916—Heath hen estimated to number from 800 to 2,000. Great fire kills females in nesting season. Fire tower is built on reservation.
- 1917—Fewer than 100 birds found.
- 1918—As many as 155 heath hen accounted for.
- 1920—Flock believed to number 314.
- 1921—Flock estimated to number 414.
- 1922—Only 117 birds counted.
- 1923—Not more than 50 birds accounted for; 28 are seen.
- 1924—Census indicates 54 birds still alive.
- 1925—Emergency measures for protection of the surviving heath hen are taken, in cooperation with the State, by the New England Federation of Bird Clubs. Three birds are seen and flock is estimated at 25.
- 1926—Census estimates 26 survivors.
- 1927—Census accounts for 13 birds and estimates that fewer than 30 exist. Federation of Bird Clubs withdraws support and Martha's Vineyard Heath Hen Committee is formed.
- 1928—Only 3 birds seen by Dr. Alfred O. Gross in annual census, all males. After Dec. 8, one bird alone is ever observed.
- 1929—Sole surviving heath hen booms from tree top. Martha's Vineyard Heath Hen Committee lapses, and accuracy of official reports is conceded.
- 1930—Sole survivor reappears.
- 1931—Dr. Gross and Thornton W. Burgess trap the last heath hen and mark both legs with metal bands.
- 1932—World's only heath hen reappears on booming field on Feb. 9 and is seen regularly until March 11.
- 1933—No heath hen appears on booming field.



1907

## SPRING ANTICS OF HEATH HEN

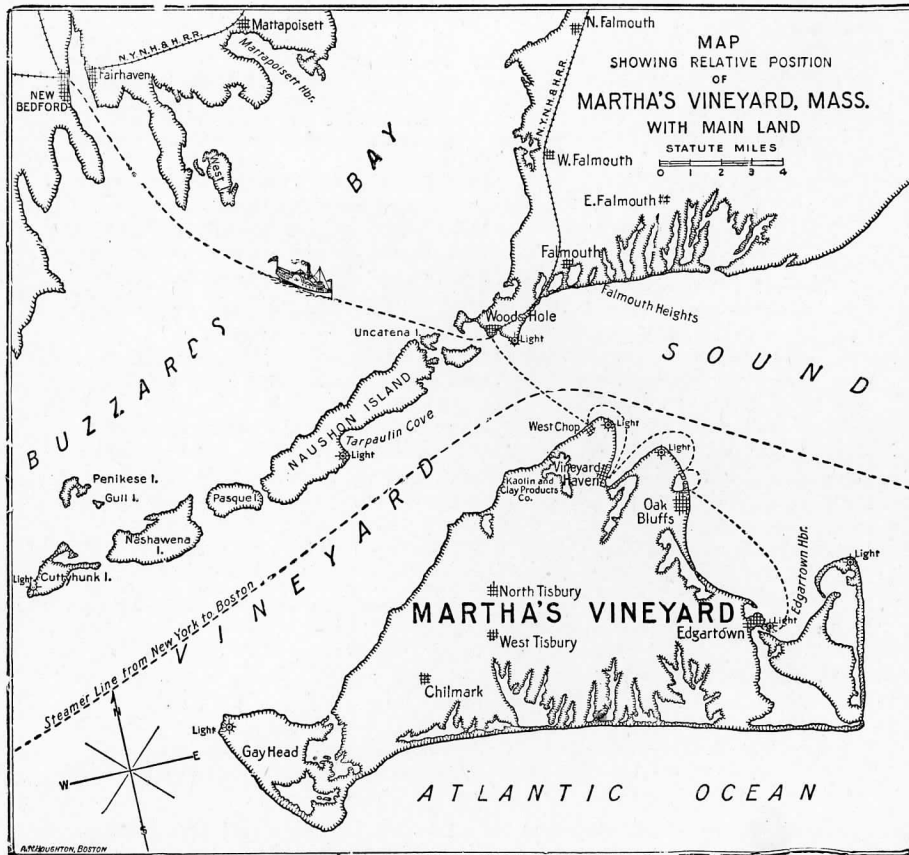
Dr. George W. Field in A Report upon the Eastern Pinnated Grouse or Heath Hen (*tympanuchus cupido*), abstract from the Forty-Second Annual Report of the Massachusetts Commissioners on Fisheries and Game for the year ending Dec. 31, 1907.

Martha's Vineyard, May 1, 1906. At 6 p. m. we arrived at the point where we hoped to find traces of the heath hen. In a cleared field about thirty rods from the road we distinctly saw two large birds. On our nearer approach they squatted close, and their protective coloration was so effective that, although we knew almost exactly the precise location of the birds, we could not distinguish them. We crawled behind the nearest cover, and remained motionless for perhaps ten minutes. At length the long shadows from the descending sun enabled us to distinguish the birds, as they crouched with head close to the ground, among the very scanty vegetation. After another interval of motionless inactivity on our part, one bird quickly rose and began feeding, apparently without suspicion; soon two more birds arose as if by magic from the ground. Then began a most interesting series of antics. These birds were joined by five others, coming in singly and on foot from the scrub in various directions. The birds came frequently within forty paces of our hiding place, and in one instance alighted on a small oak tree twenty-three paces from our camera. While not near enough for successful photographing, we were well situated for using our field glasses.

The birds were all actively feeding in the open field, apparently on grasshoppers and other insects, but nipping red clover leaves very freely. They moved leisurely about. Frequently two birds, sometimes as much as 100 to 150 yards apart, ran directly toward each other, dancing and blowing on the way, with so-called "neck wings" pointed upward in a V form. On facing each other both squatted, and remained motionless from one to five minutes. We could see none of the nodding and pecking motions of the head so commonly indulged in by domestic fowls when fighting; rarely was there sparring with the bill or striking with the feet or wings.

In twelve or fifteen encounters, only three or four times did they strike thus, and only once did we see "feathers fly."

Most of the energy seems to be spent in posturing and blowing. Generally, one of the combatants backed slowly away, suddenly stopping if the opponent advanced too rapidly. In all these fighting tactics the similarity of habits with those of the domestic fowl were very marked. From all directions came the peculiar "toot", like distant tug-boats in a fog, all having whistles of the same pitch. This call may be well imitated by blowing gently into the neck of a two-drachm homeopathic vial. Each call extends over a period of two seconds, and is repeated at frequent intervals. It is prefaced by a run of about one yard, with very rapid, mincing steps. The strides, however,



### THE LAST HOME OF THE HEATH HEN

The great plain lies in the triangle formed by West Tisbury, Edgartown and Vineyard Haven.

are so short that the bird does not advance rapidly. The tail is spread, and the wings dropping after the manner of the strutting turkey cock.

When the tail is spread, the white under-tail coverts are conspicuous, and remind one forcibly of the "white flag" of the deer and antelope or of our gray rabbit. The head is then depressed and the neck outstretched forward, until it is about parallel with the surface of the ground; the neck tufts are elevated to a V shape. The bright, orange-colored air-sacs on each side of the neck, directly behind the tufts of feathers, are slowly inflated, until they reach apparently the size of a tennis ball, when they appear like two small, ripe oranges, one protruding from either side of the neck. The duration of the call appears to closely coincide with the period of inflation, and seems to be emitted as the air enters the sac rather than when the air is expelled. The collapse of the sac is sudden. The sound is ventriloquial, and it is very difficult to locate the direction or distance whence it comes, unless the bird can be seen. A second sort of call is much less frequent, and closely resembles a single syllable of the hoot of the barred owl.

Another characteristic antic was a peculiar combination of a short run, a sudden jump of three to five feet into the air, and a rapid uncoordinated flop and scramble in the air, the bird usually alighting within ten or twenty feet of the starting point, but turning so as to face at right angles, or even in the opposite direction, from which it started. When in the air it emits a peculiar cacophonous call or cackle, which, when heard at a distance, gives the impression of a hearty burst of laughter. The purpose of these semi-somersault-like maneuvers appeared to be to attract the attention of other birds, possibly even as a challenge, for frequently they seemed to precede the somewhat pacific duels described above. The effect of these sounds, together with the "tooting" calls, in the mists which so often obtain in their habitat before sunrise is weird in the extreme. At 4:15 a. m. on May 2 these sounds were practically continuous, without appreciable interval, apparently from all directions. At 4:45 a. m. six birds could be counted, all in sight at once. They appeared to resort to a particular clear space, of about two acres in extent, where the antics just described were carried on. All the birds, except one, were observed to have the orange-colored air-sacs. These were probably cocks. We saw only one bird which we suspected might be the hen. The other hens were probably nesting, or at least had secured mates, and no longer resorted to the promenading place. As the sun rose high, the "tooting" became less frequent; the birds became more restless, often flying to the neighboring low oaks, nesting there until disturbed.

The flight reminds one of that characteristic of the carrion crow or black vulture of the south,—a succession of four to ten strong, rapid wing-beats, followed by a sail of 100 to 200 yards on set wings; this is repeated until the bird again alights or passes beyond the range of vision. The line of flight is usually a straight line, twenty to twenty-five feet above the ground. Of our native birds, the manner of flight most resembles the meadow lark.

1908

**AN ANNOUNCEMENT BY THE STATE**

News item in the Vineyard Gazette, Dec. 10, 1908:

Boston, Dec. 8—Dr. George W. Field, chairman of the Massachusetts fish and game commission, announced today that six hundred acres of land have been purchased on the Island of Martha's Vineyard, which it is proposed to devote to the propagation of the pinnated grouse, or heath hen.

**DARWIN HAD WORDS FOR IT**

Charles Darwin, in *The Origin of Species*:

It is immaterial for us whether a multitude of doubtful forms be called species, or subspecies, or varieties . . .

We see these co-adaptations most plainly in the woodpecker and the mistletoe; and only a little less plainly in the humblest parasite which clings to the hairs of a quadruped or the feathers of a bird; in the structure of the beetle which dives through the water; in the plumed seed which is wafted by the gentlest breeze; in short, we see beautiful adaptations everywhere and in every part of the organic world. . . .

Grouse, if not destroyed at some period of their lives, would increase in countless numbers; they are known to suffer largely from birds of prey; and hawks are guided by eyesight to their prey—so much so that on parts of the Continent persons are warned not to keep white pigeons, as being the most liable to destruction. Hence natural selection might be effective in giving the proper color to each kind of grouse, and in keeping that color, when once acquired, true and constant. . . .

No fixed law seems to determine the length of time during which any single species or any single genus endures. . . . We need not marvel at extinction; if we must marvel, let it be at our own presumption in imagining for a moment that we understand the many complex contingencies on which the existence of each species depends.

1912

**SONGS AND DANCES OF GOBLINS**

Winthrop Packard, in the Boston Transcript, May, 1912:

Long time I watched out, lying by myself in a dense, breast-high mass of scrub oaks near the field where I had seen the first flock, hoping they would come back there for their pow-wow. There were birds a-plenty all about me. A flight of prairie warblers was on and the air was full of the warbling notes of their song . . . All about were chewinks, alternately che-



winking and singing their cang-ting-a-ling, tambourine song. Brown trashers caroled joyously from the twigtops, and yet, with all this bird music in the ears, with the air full of land scents, one had but to close his eyes on this spar deck of the Island to know he was at sea. The steady under-roar of the distant surf crept along a whispering gallery, the song of the wind in the rough twigs overhead was the same song it whistles loneliness in the topmast shrouds at sea, and hearing it one thought to feel the craft lift her forefoot a bit and move forward gently in the breeze.

Then through this threnody of the wind I heard goblins laughing, a strange sort of cackling like that of a fowl, yet not like it, a sound having an undertone like that of a lonesome cat. I suspected this to be done by heath'en, for no woodland sound like it had ever come to my ears before. Then one of these uncanny birds took from his pocket an eight-ounce bottle and blew across the mouth of it. Or if he didn't do that he got quite that sort of a sound, the whistle lasting three or four seconds. This laughter and whistling were answered from another direction, then from another, and the sounds drew together in the open field just beyond my screen of scrub oaks. One bird fluttered up from the scrub behind me and sailed overhead to join the group, and still I lay flat and waited. More birds came, no doubt, though I did not see them, and the noise of the extraordinary concert quite drowned all other sounds.

The undertone was composed of this whining, cackling, goblin laughter, a cacophony of curious cackinations. Over this swelled and throbbed the eerie whistling. There were long who-oo-os, short toots, hoo-hoos, and a sort of double-tongue effect, as the cornetist says. It sounded as if a lot of lonesome little night winds had taken to crying whoo-oo-oo in ragtime, mingled with whistles of syncopated measure.

#### **Black Magic and the Minuet**

Rising very slowly to my feet I looked over my screen of bushes. The sight was even more eerie than the sound. Birds these were not, but feathered goblins of curious shape dancing witch-wise on the green. Their short tails were cocked way forward over their backs. Their black neck feathers moved stiffly out at various angles until they pointed like black horns directly over the crested heads of the creatures. It was hard to believe these the dopey birds of mid-day. They cackled and coughed, then whining laughter, they puffed up their feathers and strutted, they danced off the ground with feet and wings, going a yard or two in the air. They ran swiftly this way and that, and they pranced to one another, minuet fashion.

But strangest thing of all was the puffing out of neck membranes just beneath the neck feathers, till one stood out on either side of the neck, round air-balloons as big as one's fist, and flesh colored. Through these I suppose they blew their whistles, though, watching closely with a strong glass, I could see nothing to prove it. Indeed, it was impossible to definitely locate their "booming" sounds. They seemed born of witchery in the air and had I lived in Salem long ago I should surely have said that here was a

dance done by midnight hags to devil's music, and have besought the authorities to hang somebody for it.

For more than an hour I thus watched fifteen birds, seemingly all males, go through the goblin-like song and dance. They did not fight. They chased but never caught one another, and birds danced and bowed and whistled to the sky as well as to one another. And that was all they did.

When I came away the level sun was cutting the shadows just at the scrub oak tops and the air of the plains was a monotone of the bottle neck sounds. A mile off I heard them from many directions . . .

1913

#### **HEATH HEN AND THE TEMPEST**

Winthrop Packard, in the Boston Transcript, April 26, 1913:

The great sandy plateau which makes up the centre of Martha's Vineyard has been wind-swept since the world was made, and fire-swept pretty frequently since white men have dwelt on the Island. Nothing but scrub oak has been able to stand against these fires, . . . a singularly monotonous landscape of gnarled shrubbery on whose black twigs few signs of spring show in late April. But standing in the midst of the desolation, late in the stormy afternoon when the wind paused for an hour to get its breath and the sun fought through for a while, I got the rich perfume of the trailing arbutus . . . With this perfume in the air and the sun warm on the scrub I got glimpses of shadbush about to bloom and of bird cherry bark growing purple with the thought of young buds, and I heard the fairy chorus of the pinkletinks ringing from reedy pools in the hollows.

Singularly fairy-like is this chorus wherever heard, yet most of all so it seemed coming, invisible, from the wind-swept down . . . It is born from the air at your ear just as were the songs of Ariel which the shipwrecked Antonio and Ferdinand heard when their ship was wrecked on that lone isle in Shakespeare's *Tempest*. Indeed, it is possible that the whole story grew in the great bard's mind out of the tales which Bartholomew Gosnold brought home to England from this very Island and its neighborhood.

. . . Listening to Ariel's song in the voices of the hylas out on Tisbury plain I heard other strangely eerie and elflike noises. Goblins cackled in weird laughter, whining and whimpering among the scrub oaks. Strange, hollow, whistling noises grew in the air about me, noises such as may be imitated by blowing into the neck of a four ounce bottle. Gosnold and his crew, hearing such things, might well declare that devils were abroad. Indeed, they might well have seen them, or witches riding broomsticks before his satanic majesty himself. They came running and fluttering out of the scrub oaks, clad in brown, wearing black horns that stuck stiffly above their heads and with bags of bad dreams fastened about their necks. Two of these bags, orange colored and round as oranges, hung

about the neck of each creature, and now they danced in unholy glee before one another, now they sailed into the air on their broomsticks, and always mingled their strange actions with strange cries.

Any native son of the Vineyard knows that the creatures who do these uncanny things are the heath'en, the grouse peculiar to the Island, doing their spring love dances, but it might be hard to make a stranger believe it. Men of Gosnold's day might well be forgiven for believing the whole thing a matter of unholy rites, performed by warlocks and witches in slight disguise. The whole suggestion is fascinating, with the possible romance of literature. Gosnold's men hear the piping of the pinkletinks. They see the grotesque dancing of the heath'en and hear their peculiar music. Then they go back to England and the writer of *The Tempest*, who was their contemporary, hears their tales and builds his upon them. More than one man of literary wisdom has suggested that Gosnold's summer on Cuttyhunk was the foundation on which *The Tempest* was built. I suggest that anyone may hear Ariel in the pinkletinks and find the grosser spirits of the play in the heath'en. . . .

## 1916

### ORDEAL BY FIRE

From the Vineyard Gazette, May 18, 1916:

Friday, May 12th, was a day of excitement over the eastern half of Martha's Vineyard when men from the towns of Edgartown, Oak Bluffs, Tisbury, and West Tisbury and the country roundabout, in all to the number of several hundred persons, labored from 7 a. m. until nightfall, handicapped by a heavy wind, at times approaching a gale, in their efforts to control one of the most extensive woods and brush fires which has occurred on the Island in years, if ever before.

The area burned over has been conservatively estimated at some eighteen to twenty square miles, or from 11,000 to 13,000 acres, which included grass land, brush and woodland. . . . The buildings on the state heath hen reservation were saved by desperate work of the fire-fighters. Some of the heath hens were burned—perhaps a tenth of the number of old birds, and all the eggs for this year's crop of young were destroyed, and the rabbits on the reservation are practically all gone. . . .

The extent of the fire and the rapidity with which it travelled may perhaps be more fully realized by noting that, starting near the village of West Tisbury about 7 o'clock in the morning, soon after 11 o'clock it was threatening the house and premises of Shubael H. Adlington just outside of Edgartown, having come some eight miles, and was only stopped within 100 yards of Mr. Adlington's barn.

## 1916 - 1927

### THE WAIL OF THE WIND SPIRIT

Edward Howe Forbush, in *Birds of Massachusetts and Other New England States*, Massachusetts Board of Agriculture, 1927 (This passage was written in 1918 from notes made by Mr. Forbush in 1916):

A wide plain covered with diminutive, leafless, shrubby oaks and low bushes, with stunted pines showing here and there; to the west low rolling hills, to the south on the far horizon the wide Atlantic; such is the prospect on an April morning from the fire tower on the plains of Martha's Vineyard where the few remaining heath hens make their last stand. Here in the gray dawn a strange, weird sound fills the air. It swells and dies upon the ear, but never rises or falls, and becomes intermittent or ceases only when the sun rides up the sky. Apparently it is not a vocal effort. It is neither whistle nor call; there is no other sound quite like it in nature. One might imagine it the wail of the wind spirit, but no man understands just what it is or how it is made. We know only that it emanates from strutting, dancing heath cocks, and is one of their customary mating sounds. Heard from a distance, borne on the sea wind, it swells to the fullness of a grand undertone, mingling with the ordinary nearer sounds of the rolling plain. Like the trilling of the toads in a million pools, like the morning chorus of birds on a thousand hills, it is a vital, virile expression of the fecundity of old Mother Earth. It is a rune of reproduction, foretelling the renewal and multiplication in the coming spring. It is a paean of hope and joy, a forerunner of the pulsating, vigorous life of summer.

(Since this was published, Dr. Gross has explained the mechanism of the heath hen's tooting.)

## 1928

### MAY MORNING — AN IDYLL OF THE GREAT PLAIN

From *The Heath Hen*, by Alfred O. Gross, Boston Society of Natural History, 1928:

In May the scrub oaks have changed from the brown tones seen in April to a decided tinge of red. A close inspection reveals that this color is due to the hundreds of Van Dyke-red catkins. The meadows have changed from gray to green and the leaves are appearing on many of the shrubs and trees. . . . The following notes, taken on May 15, 1923, are typical for that time of the year.

May 15, 1923: 2:45 a. m. Temperature 39 degrees F. Very foggy and dark.



3:00 a. m. The first whip-poor-will call of the morning and the first I have heard this season.

3:20 a. m. A robin starts chirping and a few minutes later is joined by several other individuals.

3:30 a. m. The robin chorus has reached a great volume, the songs seeming to come from every section of the reservation.

3:35 a. m. I can see the outlines of the trees as I walk along but not clearly because of the fog. The starlings are active about the nesting boxes attached to the telephone poles along the roadway leading to the blind.

3:38 a. m. The reservation geese are making a great commotion with their honks and calls.

3:40 a. m. I am entering the blind to await the coming of the heath hen.

3:46 a. m. After several weak attempts, a brown thrasher bursts into full song.

3:50 a. m. First song of the song sparrow.

3:56 a. m. First chewink call note. The light of dawn is sufficient so that I can see a little detail of the trees.

3:57 a. m. About four or five blue jays are making a great disturbance over the scrub oaks north of my blind.

4:04 a. m. The guinea hens, the noisest creatures on the reservation, have started and are now adding their din to the morning chorus which is rapidly reaching its maximum volume.

4:06 a. m. First heath hen heard tooting.

4:07 a. m. Second tooting heard but I cannot see the birds because of the fog and dim light.

4:10 a. m. I can now see the forms of two heath hens approaching the blind.

4:11 a. m. What seemed to be a short eared owl has flown by noiselessly between the heath hen and the blind. The birds stopped momentarily but soon continued, seemingly little concerned about the owl's sudden appearance.

5:15 a. m. A heath hen alighted in a scrub oak tree at the edge of the field and cackled several minutes before settling down.

4:20 a. m. The two birds which had been near me have now retreated to the western end of the field when several tame geese appeared around the blind to feed upon the corn.

4:45 a. m. The bird perched in the tree has maintained its same position during the past half hour. It does not utter any notes but is constantly turning its head from one point of the compass to the other as if in constant fear of being attacked. It may have had an experience with the owl which flew by the blind earlier in the morning.

4:50 a. m. The quail, red winged blackbirds, chewinks, vesper and field sparrows are singing at the present time.

5:00 a. m. There are now two heath hens perched in the tops of the scrub oaks.

5:12 a. m. A crow has alighted in a tree near the first heath hen but neither his presence nor his lusty cawing seems to excite them.

5:15 a. m. The first heath hen has now been in the tree for an hour and though it has frequently raised and lowered its body and sometimes elevated its head, it has remained on the same perch.

5:20 a. m. Four heath hens on the field have been actively feeding.

5:30 a. m. They have started tooting, but not with a great deal of enthusiasm.

5:50 a. m. The tooting and cackling have stopped.

6:00 a. m. The mist has been dispelling and the sun is now shining brightly. The bird chorus has greatly diminished in volume.

6:15 a. m. All of the heath hens are leaving the field and as they fly over, the two birds in the tree join them. I left the blind at 7 o'clock.

## 1926

### A PERFORMANCE IN 1926

Joseph C. Allen in the Vineyard Gazette, May, 1926:

Picture us, if you can, in the cold, gray dawn about 4:30. Two men of more than the average size crouched in a box about four feet square and of the same height—the box full of cracks and holes and perched on a bleak elevation overlooking the field. "Smoke if you like," said the warden, as we crouched in the cold darkness, "but don't make any noise."

Scarcely ten minutes had elapsed and the eastern sky had grown quite light when we could hear the flutter of wings. It was still too dark to see the bird, or perhaps he was too far away, but we knew that the heath hens were going to keep their regular date. Just at the "crack of day" there came faintly the sound as of blowing across the neck of a bottle or the mellow notes of a conchshell. "That's one of them booming," said the warden.

It was not light enough to see clearly, but peering through the peepholes in the blind we could see two of the birds, a male and possibly a female. The male was creating all the commotion, and this is how he looked:

A bird the size of a pullet and of similar shape, without a comb; of old grass color, barred with white in a similar pattern to the coloring of a Plymouth Rock chicken. The legs were feathered clear to the feet, and through the binoculars a bright yellow band could be seen over the eye.

About every two minutes the bird would raise and open its tail, which was white underneath; drop its wings and raise the long feathers called pinnaes on either side of its neck. This gave its head the appearance of a rabbit's head, the pinnaes of the male being just about the size of a rabbit's ears and held in a similar position. At this point the bird would "dance", stamping its feet for an instant with the rapidity of fast drum beats and with such force that the sound could be heard for a least a hundred yards.

Then, stretching out his neck in the posture of a fighting turkey, he would boom, as the mating cry is called.

Between its boomings the bird would half leap, half flutter into the air with a corkscrew movement, rising between two and three feet and alighting on the spot it started from. As it fluttered in the air it cried out in much the same manner as a captured fowl. It would then stand quietly and chirp in short, quick notes or "sing" exactly as the domestic hen does when extremely happy.

As it grew lighter more birds appeared, until the flock numbered seven, three of which were unmistakably males. With the feathers lying smoothly there is little difference in the appearance of the male and female, unless viewed closely. It is then seen that the pinnates of the female are shorter and are higher on the neck, also a trifle lighter in color.

These three males held high carnival for much more than an hour, booming and strutting with all their might and main. The nearest male, in a supreme effort to attract the ladies of the flock, flew to the flat top of the blind no less than three different times, where he danced and boomed to his heart's content, while the two shivering humans inside didn't dare to breathe, fearing to frighten the bird.

The force with which these birds strike the ground with their feet is unbelievable. It is elsewhere mentioned that the sound can be heard for a hundred yards when the bird dances. Imagine what it sounded like on three-quarter-inch boxboards within six inches of the listeners' heads! It seemed as if the whole blind might collapse.

Walking, waddling, running, booming, flying, and cackling, the birds kept up their performance for about two hours and a half from the time the first one appeared, when, becoming startled by some strange sound no doubt, they rose and flew for the high cover. They did not "bunch", but flew openly and "straight away", as a sportsman would say, sailing for a distance after each three or four wing-beats.

As for the reporter and warden, they crawled out of the blind, half-frozen and cramped until they could scarcely move, but satisfied with the entertainment that many an ornithologist would give his eye tooth to behold.

1927

### THE END FORESEEN

Dr. Alfred O. Gross, report of Heath Hen Census, 1927:

We were able to account for 13 birds and there are today probably fewer than 30 birds on the entire Island, just how many it is impossible to state . . . I am inclined to believe there has been a steady decrease since the count of 54 birds in 1924. . . . The problem of saving the heath hen is not the simple one of providing protection against hawks and cats and supplying food when needed, but is very complex. A study of the heath hen problem has

other important factors, such as the inadaptability of the species, excessive interbreeding, excess male ratio, and diseases probably the most potent factors in the decline of the species.

### AN INTERLUDE OF PHANTASY

Charles H. Brown, in the Vineyard Gazette, May 6, 1927:

Give a dog a bad name and he gets killed. Give a bird a bad name— The name of this bird has been pronounced on the Vineyard for more than two hundred years as if it were spelled heth hen, the "ea" in heath like the "e" in hen. This is not the Scotch pronunciation. It is the old, 17th century English—vide Walker, 3rd edition, p. 9, foot note. Webster says that the Scotch word is haddyr. Pronounce it if you can. Webster also says "Heat for Heated, used by Shakespeare and Ben Jonson, and pronounced het." Will and Ben, to say nothing of Noah, are pretty good authorities on old English.

Some years ago the state of Massachusetts started a dude ranch on the plains. Some dude told the heath hen that her name was Cupido Tympanuchus. That killed a lot of them. Then another dude found that a few had survived, probably because they did not understand bad Latin, so he tried bad English on them and told them that their name was "heeth hen". Still a few survived. . . .

. . . I was arrested by the sound of a heath hen tooting the love call. The scientists call it booming. Their ears must be off. A ruffed grouse booms by "drumming" on a log. The pinnated grouse toots like a distant steamboat. Probably the scientists changed the word so that they could go back to Boston and report that things were booming on the reservation. The bird was an old cock and he came strutting from an unburned bush as proud as a peacock, his neck sacs inflated like two Satsuma oranges, his tail up and his wings down.

I said, "Hullo, old man, what do you mean by going a-courting after this fire?"

"I am not," he said. "There isn't a live chicken on the reservation . . . I wasn't going a-courting. I was looking for a scrap. I am the last cock heath hen on earth and I want to die with my boots on. Where's your old red setter?"

"Dead these thirty years," I answered.

"Then where's your gun?"

"I haven't packed it for ten years." I said.

"Hard luck, hard luck!" he exclaimed. "I thought you could hit me now if I stood still. I suppose I have got to live another year in solitude and silence.

"Last of my race on Willie's Plain,

My boom shall ne'er be heard again."



**THREE BIRDS LEFT ALIVE**

Dr. Gross, report of census, 1928:

In comparing the census of 1927 with that taken this year, it is at once apparent that there is a decrease in the number of birds. . . . We all hope there are more than three birds left in the area of scrub oak plains but certainly all will agree that the heath hen is now at a lower level than at any time during its history. . . . It is apparent that, with minor fluctuations, there has been a steady decrease since 1920 when 600 birds were the numbers estimated to be on the Island. This decrease has continued in spite of the combined efforts of the state, the Federation of Bird Clubs, and a local Heath Hen Committee to save them from extinction.

**NOW A SOLE SURVIVOR**

Dr. Gross, census of 1929:

. . . It is reasonable to infer that the lone bird at West Tisbury is the very last of his race. During the census the observers saw the bird each day in the open field near the buildings of the farm. It came out of the scrub oaks bordering the field soon after daylight in the morning, and again late in the afternoon of each day. The bird was wary and seemed constantly alert for any impending danger. It was quick to squat in the grass when a hawk chanced to fly over the field, and at one time the swoop of a marsh hawk caused the heath hen to fly into its retreat in the scrub oaks.

The bird though wary came very near to our blind at times to feed on the grain and seeds scattered there to attract it. Fortunately this gave the observers very excellent opportunity to make photographs and moving pictures at close range of the last heath hen living a normal life under natural conditions. This last bird is a plump male, and its plumage is in perfect condition; it has every outward appearance of being a perfectly healthy individual.

[We did not see the bird boom while it was on the field, nor has it been seen or heard to boom by those who have been keeping it under daily observation throughout the spring. One morning, however, we saw it fly to the top of an oak tree, and there it went through a series of characteristic performances. It erected its tail, threw its pinnate feathers forward, spread its primaries firmly against the sides of its body, and inflated the orange-colored sacs in the true nuptial dance style. Even from that vantage point there were no fellow heath hens to admire or to challenge him. It is unusual to see a heath hen perched in a tree, and the booming in such a situation is a real departure from the customary performance. But a bird bereft of all its companions might well be expected to do that which is unusual.

How long this bird will continue to live, whether a day or a year or longer, only time can answer. The death of this bird will also mean the death of its race . . . Never in the the history of ornithology has a species been watched in its normal environment down to the very last individual.

**NO SOUND FROM THE LONE BIRD**

Dr. Gross, census of 1930:

During the spring of former years, the heath hen appeared in the open fields in the early morning hours following dawn and again in the late afternoon preceding sunset, to go through their weird and extraordinary courtship performances. The lone bird has appeared regularly this year but the courtship performance has been omitted; in fact it has not been heard to utter a single note. It generally flew out of the scrub oaks and sailed gracefully to a point near the center of the meadow. After alighting, it erected its head and carefully scrutinized its surroundings, seeming to make sure that all was safe before continuing to search for food. The bird presented a pathetic figure as it stood out there all alone without any companions save the crows that had come to share the food intended for the heath hen.

**SCIENCE AFFIXES LEG BANDS**

Dr. Gross, visit of 1931:

On April 1, 1931, the last heath hen was trapped on the James Green farm and marked with two metal bands. An aluminum band number 407,880, was placed on the left leg, and a copper band, number A-634,024, was fastened to the right tarsus. The bird returned to the vicinity of our blind on the following day apparently none the worse for its experience, and continued to visit the traditional booming or courting field at regular intervals until May 9, 1931.

**SPECIES AND SUB-SPECIES**

Charles H. Brown in the Vineyard Gazette. April 29, 1932:

What the distinction is between a sub-species and a local geographic variety I do not know. But I could distinguish between the western birds which were shipped to market in Boston and the Vineyard birds of what might be termed pure blood, as they existed before 1890. John E. Howland of Vineyard Haven and I demonstrated the fact of this distinction by picking, each in the absence of the other, a certain number of the Vineyard birds from a mixed lot of about thirty, western and native. This happened in a market on Park Square, Boston, which carried expensive game for the Back Bay trade. I was guided by the size, color, and texture of plumage. The old time Vineyard birds were larger than such western birds as were shipped to market. I have records of three specimens of large cocks weighing respectively 49, 48 and 47 ounces. Men who have shot western chickens informed me that it is a large bird there which weighs 36 ounces.

As to color, there was less of the dead oak leaf tan on the Vineyard than the Western birds. The former shaded more on a slate color. Their

plumage was more compact and smoother than that of the western birds, the difference being much the same as that between the plumage of a game cock and a barnyard rooster. Most heath hen literature begins with the story that in early times it was a common practice for the indentures of apprenticeship to stipulate that the apprentice should not be fed upon heath hen oftener than twice per week.

This story may be true and may have originated on the Vineyard. Old men have told me that in their boyhood, say before the year 1800, they caught heath hen easily in traps made of slates and set up on the ordinary figure four trigger, and that their fathers and older brothers who shot ducks and geese did not consider the heath hen worth cooking.

After the enactment of the statutes prohibiting the shooting of the birds, say from 1837 to 1870, a few persons shipped bootleg heath hens to Boston, receiving for them \$5 per pair. This was considered a great price. Evidently prohibitory statutes had the same effect then as now. Personally I consider the heath hen much inferior as a table bird to the pheasant, quail and the ruffed grouse. Perhaps he is a neck ahead of the Northern Spruce partridge.

### THE FINAL REPORT

Dr. Gross, visit of 1933:

The last heath hen apparently is dead and the race *Tympanuchus cupido cupido* extinct.

The last authentic date of the appearance of the famous lone bird was March 11, 1932, when it was seen at the James Green farm near West Tisbury. The bird was the sole survivor of his race since December, 1928, and was approximately 10 years old. It was seen at its traditional "booming or courting field" at regular intervals between Feb. 9 and March 11 of last year and then disappeared.

I have no doubt that erroneous reports of the heath hen will continue to be made by well meaning but inexperienced observers. Although many years have elapsed since the passenger pigeon passed into oblivion, scarcely a season goes by but someone who professes to know the bird well confuses it with the smaller but similar mourning dove, and enthusiastically announces that the passenger pigeon is still alive. These reports are no longer taken seriously by ornithologists, but nevertheless are annoying to the scientist who is attempting to record accurately the facts of a vanishing species.

### OBITUARY

From the Vineyard Gazette, April 21, 1933:

Somewhere on the great plain of Martha's Vineyard death and the heath hen have met. One day, just as usual, there was a bird called the heath hen, and the next day there was none. How he

came to his end no human being can know. But the death of wild birds is a violent death. The eye becomes dimmed, the beat of the wings lags ever so little, the star of fortune blinks for a fraction of a second—it is enough. An enemy strikes and death has come. Somewhere on the great plain, under the black twigs of a scrub oak, in the open track of an old road, near some hawk's sentinel post on a blighted pine, swift death and the heath hen have met.

### Absent from Immemorial Tryst

The bird has been reported dead many times before, only to reappear dramatically in spring. But there have never been circumstances like this. Not one of the men who have watched the heath hen in the last years of its existence now believes it to be alive. James Green, whose observations have been the surest reliance, has not seen it for more than a year. Every spring the last of the race has come to the field of Mr. Green's farm at West Tisbury to keep an immemorial tryst; almost to the very day and hour it has appeared and reappeared, during what used to be the mating season. This should have been an annual tryst with life, the occasion of a strange dance and ritual, "a vital, virile expression of the Fecundity of Mother Earth . . . a rune of reproduction," but it had ceased to be that. The lone heath hen had given over all the grotesque pomp and ceremony of spring dawns and dusks. Still, the tryst in the field it had never failed to keep until this year. Only one compulsion could have interfered—the heath hen had already fulfilled an even more urgent engagement.

The official report of Dr. Alfred O. Gross announcing the apparent extinction of the heath hen is first published in this issue of the Vineyard Gazette through the courtesy of Dr. Gross and the State Division of Fisheries and Game.

This eastern prairie chicken, pinnated grouse, heath hen or *tympanuchus cupido cupido* — to give it all its names — was once bountiful throughout the east. It was especially abundant from Massachusetts to New Jersey, and since it flourished in the scrub and cut-over country rather than in the forest, it might have increased and prospered as the nation builders began changing the new country to suit their purposes. Unfortunately, however, although known as a game bird, the heath hen was easy to kill. It had as enemies the fox, and the hawk, but most of all the cat and man.

Such was the slaughter of the heath hen in the early days that it was virtually, and perhaps entirely, extinct on the mainland a hundred years ago. That left the flock on Martha's Vineyard the only reserve against extinction.

To understand the history of the bird on the Island, one must understand the great plain, a broad expanse of terrace drift left by the glacier a great while ago. Although the plain, at first glance, seems a level or slightly rolling tract of impressive distance, it is really grooved and furrowed by the tracks of subglacial streams which had to force their way to the sea. Spring

comes late on the plain, and the first tardy budding takes place on the higher undulations while the shallow grooves are still black with winter. This makes it seem as if the fingers of a giant hand had been laid across the land. The lateness of the spring is one of the indirect causes of the heath hen's extinction.

The great plain comprises some forty square miles and all the grandeur that level places can convey. It has no counterpart in New England. Distant hills in the west are blue, and for the rest the eye sees only apparently limitless reaches of scrub oak, for scrub oak alone — except in a newly launched state forest — can grow on the plain. There are occasional blasted pines, left lifeless by the latest fire, and once in a while some other queerly postured tree standing above the interminable thickets. Sweet fern and huckleberries grow on the plain, and many ancient cart tracks and roads traverse it.

History associates tall pines, spruces and cedars with this region, but for many generations scrub oak has reigned alone as it reigns now. This is because the roots of the scrub oak are peculiarly resistant to fire, and fire has been the scourge of the plain for many generations. No other trees can grow. The devastating fires which have so often swept the plain land have been due sometimes to carelessness, and sometimes to a desire for better blueberries. But for the basic factor one must look to the tardiness with which spring comes to the plain.

After winter goes, the plain is still black, and it is dried by the suns of April. The rest of the Island comes to life, but the plain lags behind, and there follows a dangerous interval in which the whole region is like tinder, ready to feed a sweeping tide of fire. If this interval can be safely passed, the creatures of the plains are safe again. But dozens of times—at least once in every decade—broad areas, and sometimes the entire plain, have been burned over.

Therefore, although the scrub oak of the great plain supplied ideal cover and environment for the heath hen, the very reason for the existence of this tremendous scrub oak thicket was one which menaced the bird's security. It was, in fact, fire which made extinction for the heath hen finally certain.

Even after the heath hen were protected, half heartedly, by state law, about a century ago, they were hunted on the Vineyard by virtue of suspensions of the law which individual towns were empowered to make. Then, for many years, all protection was removed. Still the birds survived. So extensive was the scrub oak that no man or dog hunted over all of it, and somehow the broods of young managed through the years to escape the spring fires. Had it not been for three enemies—fire, cat and man—there is no doubt that the heath hen would have increased and flourished. Hawks, too, were enemies, but against the hawk the heath hen had a better defense. Let a hawk appear in the sky and the heath hen would freeze into perfect silence, and so marvelous was its protective coloration that it would disappear from the most searching eye simply by cessation of movement, or by crouching.

Doubtless the heath hen tried this method of protecting itself against fire. As the rim of the blaze came on, crackling, terrifying, shedding clouds of hot yellow and white smoke which made the air suffocating, the mother bird and her chicks would crouch and wait. And when the fire had passed there would be a circle of blackened bodies to be picked by the scavengers of the plain.

If fire came when the heath hens were on the nests, the mother birds would not move. Some commenters think there has been too much sentimentalizing over the heath hen, and of course it cannot be implied that there was any heroism in the instinctive devotion which made the mother birds die rather than leave the eggs which were under their bodies. Heath hens could do nothing else, for nature had not put it within the power of these lower animals to betray.

The numbers of the heath hen living on the great plain varied from year to year, but there was no great increase. The actual variation in the size of the flock is difficult to guess, for the accuracy of estimates must have varied considerably. As long ago as 1876 the bird was reported extinct even on the Island. In 1907, when the modern period of protection began, only twenty-one heath hens could be counted.

At about that time, John E. Howland of Vineyard Haven called the attention of the state commissioners on fisheries and game to the perilous situation of the heath hen race. He found in Dr. George W. Field a willing and able defender of the threatened birds. Dr. Field and Mr. Howland collected the sum of \$2,420 for the purpose of acquiring land for a reservation, and in 1907 the Island representative in the state legislature, Ulysses E. Mayhew, introduced a bill authorizing the state to accept this gift providing for the reservation under the direction of the state, and carrying an appropriation of \$2,000. With the support of public opinion the bill was passed. Thus began a determined program of protection. A warden was stationed at the reservation, situated in the heart of the great plain. One of his duties was to hunt the marauding cats which, left to go wild by departing summer visitors and others in the Island towns, took to preying on the birds and rabbits of the plain.

In 1911 the reservation included 1,600 acres, and the number of birds had increased. By 1916 the battle was certainly won. It was estimated that the Island flock included some 2,000 birds. But in that year came one of the most serious fires the great plain had ever seen, and it ravaged by far the greater part of the heath hen territory at the very time the female birds were on the nests. In the light of developments which followed through later years, it seems clear that the fate of the heath hen was forever sealed by that tragic fire. Every breeder of game realizes the importance of the ratio between the sexes, and here was altered, irrevocably, the relationship between the number of male heath hen and the number of females.

After the disaster of 1916, it was estimated usually that there were a few hundred heath hen still alive. For a time an increase was observed, and hope rose again. After all, the heath hen had held out so long against odds



—why not long enough for one more chance? There seemed to be fewer than 100 birds in 1917, but in 1921 414 were counted. That was the peak. Then followed unmistakable dwindling, and discouragement on the part of the observers. In 1923 William C. Adams, director of fisheries and game, inquired of the sportsmen of the state whether they favored continued protection. It seemed fairly clear that Mr. Adams anticipated a negative voice. After all, the thing had been tried, the commonwealth had spent many thousands of dollars, and the heath hen were again dwindling — why not call it off? But the answer to the inquiry sent out by Mr. Adams was a renewed awakening of public opinion, a new enlistment of interest in preserving the prairie chicken of the east. And protection was continued.

When Dr. Alfred O. Gross of Bowdoin College, ornithologist and one of the foremost authorities upon grouse, first visited Martha's Vineyard in 1923, he found not more than fifty heath hen on the great plain. The numbers could be counted with some degree of accuracy in spring, when the birds came into open fields and clearings for their mating ceremonies. Many a scientist has roamed the Vineyard plain in the frosty dawn, and in the gilded evening of spring, watching for a sight of the strutting males, and listening to the chorus of strange sounds.

Dr. Gross reported what the guardian of the reservation, Allan Keniston, and the state director of fisheries and game, already knew — the prospect was not promising. But like so many others he believed the fight was worth while. As it seemed to become more desperate, Dr. Gross was instrumental in enlisting the aid of the New England Federation of Bird Clubs, and in 1925 the federation raised a fund of \$5,000 and employed a special warden to assist in the last engagement against extinction. Edward F. MacLeod was the special warden so engaged.

Now the heath hen was more before the public than ever before. On Martha's Vineyard particularly, interest which had been aroused did not wane. The eyes of thousands of persons never before much interested in birds seemed to be upon this struggle. Surely man could save the heath hen. Man could do almost anything. So, apparently, believed a great many spectators at a distance from the great plain. It was like watching a baseball game—the heart seems to rise in the throat with suspense, and there is a determination like a positive charge of electricity setting up the half hope, half belief that defeat for the right side is impossible.

After two years, the Federation of Bird Clubs, on the report of Dr. Gross—which, of course, embraced the observations of Mr. Keniston, the superintendent of the reservation—withdrawed its support. As Dr. Gross said at the time, "The chief thing that MacLeod is able to do is to kill hawks and cats in addition to patrol work, and this I am convinced is not the important factor involved. A dozen MacLeods, as good a warden as he has proved himself to be, would not alter the situation."

The surrender by the federation, however, was regarded by some enthusiasts as a betrayal. At once an independent heath hen committee was formed and a purse was raised to keep MacLeod on the job. Dr. Gross found himself near the center of a storm of rancor and accusations. What-

ever else may have been involved, this surprising quarrel over the saving of the heath hen was made possible by the aroused state of public opinion on Martha's Vineyard. The air was rife with rumors. Broods of mother heath hen and chicks were always on the point of being found. Wardens, official and unofficial, were kept scurrying from one end of the Island to the other to view supposed heath hen which usually turned out to be quail, woodcock or some other game birds. Everyone was insistent that the heath hen should not die.

Yet the promised broods of heath hen chicks were never discovered. The numbers of surviving birds reported by Dr. Gross in his annual census takings — which had been assailed as too low — were never augmented. It appeared, on the contrary, that Dr. Gross, in attempting to be scrupulously accurate, had leaned backward. He had made his figures too large rather than too small.

So the Island heath hen committee lapsed. If Dr. Gross received no other amend for the quarrel, he did achieve that which the scientist most values, public demonstration that all his contentions were right.

By this time an odd thing had happened. The heath hens had disappeared completely from the spacious reservation where everything was done for them, leaving the guarded fields, the rations of grain, the steel fire tower on stilts, and the authority of the state of Massachusetts. Gone. All were gone. The only birds known were a few who appeared every spring at a field on James Green's farm on the edge of the plain, where an automobile road passes close by. It was believed that these birds had never been on the reservation, but that they were descendants of a separate tribe which had used the Green field for their mating ceremonies since remote times.

The last of the heath hen, therefore, were not in the jurisdiction of the state, but had for their custodian a farmer of the plain who was no less concerned for their welfare. Mr. Green allowed a little cubicle of green boards to be set up in his field, and from this blind photographs and observations of the last bird were taken repeatedly on spring mornings. Often motorists would stop by the road and watch the heath hen advancing out of the brush to find grain left for them in the field. These last heath hen were public characters.

Only three males were left in 1928. After December 8 of that year only a single bird was ever seen.

An amazing thing had happened. The flock of the heath hen which had been dwindling yearly by twos and threes—if not by greater numbers—had reached the irreducible minimum of one, and there it remained. The life of the race had tapered off into the life of an individual. Now even those newspaper readers and casual Americans who were fed up with the eternally vanishing heath hen awoke to the pathetic state of the last survivor. Hearts which had been left cold by the plight of a bird race were touched by the tragedy of this one prairie chicken of the east. It was as if the world, casual before, were now looking on with bated breath.

In 1929 the last heath hen in the world flew to the top of a tree and uttered its mating call, while Dr. Gross and Thornton W. Burgess looked on from the blind. There has not been and can never be any later scientific observation of the phenomenon of the heath hen known as booming. In 1930 the bird appeared again, but remained silent.

From time to time there were reports that the last heath hen was dead, but stubbornly the bird held to life and even appeared vigorous and healthy. In 1931 Dr. Gross and Mr. Burgess trapped the survivor and affixed identification bands to his legs. He was then released, and the following day he returned to the trysting field as if nothing had happened.

In 1932 the spring visits to the field began as usual, but they were broken off before Dr. Gross made his visit to the Island. This year the neglected rendezvous tells its story of extinction.

The heath hen, science now says, although a separate race, belongs to the same species as the prairie chicken of the west. Dr. Gross explains the relationship thus: "In prehistoric times the common ancestors of the heath hen and its near relative the prairie hen of the middle west prairies, probably ranged in an uninterrupted distribution from the Atlantic seaboard to the plains east of the Rocky Mountains. Later the birds of the east became separated from those of the middle west and this isolation resulted in the establishment of two races: *tymanuchus cupido cupido*, the heath hen; and *tymanuchus cupido americanus*, the prairie hen."

The heath hen had—usually—fewer ruff feathers than the prairie hen, these being shorter and more pointed; the under parts were more heavily barred, and the upper surface darker and more tinged with red. The prairie hen frequents grassy plains, and the heath hen dwelt in scrub oak.

In the final years there were many pleas that prairie chickens be imported for the purpose of tempting the last heath hen to mate. The experiment was never tried. Probably it would have failed. Once three prairie chickens were liberated on the Island following a sportsman's show at Boston. Apparently they died quickly.

Closely related as the two races were, every attempt at transplantation of either resulted in failure. Through the years, hundreds of prairie hens have been brought east — only to die. And several efforts to introduce heath hen from the Vineyard even upon nearby mainland, under similar conditions, failed completely.

There is little doubt that heath hen will be reported again. It is easy for untrained observers to mistake other birds for this which they can never see—unless by some incredible chance of nature all the experience and knowledge of those who have lived in touch with the heath hen for many years are to be proved wrong.

1933

**A BIRD THAT MAN COULD KILL**

Editorial in Vineyard Gazette, April 21, 1933.

Now we know there are degrees even in death. All around us nature is full of casualties, but they do not interrupt the stream of life. When most living things die, they seem only to revert to the central theme of existence from which they were temporarily detached. There is a spirit of vitality everywhere which enfolds the dead with a countenance of consolation, and bestows upon the living races more than has been taken away. But to the heath hen something more than death has happened, or, rather, a different kind of death. There is no survivor, there is no future, there is no life to be recreated in this form again. We are looking upon the uttermost finality which can be written, glimpsing the darkness which will not know another ray of light. We are in touch with the reality of extinction.

It is written in scientific works that the heath hen had ceased long ago to be of economic importance, and that it could never have been of economic importance again. It follows, therefore, that preservation of this bird was a matter of sentiment alone, since between economic usefulness and sentiment our world knows no middle ground. The heath hen was a curious creature, an actor out of place, surviving beyond its appointed days, simply because there happened to be a bit of scenery fortuitously at hand for the playing of a last dramatic act and a sentimental epilogue. The bird we are speaking of was the prairie chicken of the east, and the contradiction in terms is clear, for where in the east is there a prairie, or any suitable environment for a bird not of the forest nor of the sea nor of the air, but of the open range? By chance there is a great plain on Martha's Vineyard, and despite the fact that the Island is relatively small, it has never been considered amiss to speak of the vastness of this great plain of scrub oak, sweet fern, alder, blasted pine—and of the heath hen. Here, then, in sound of the roaring surf, amid such great and monotonous distances all encompassed in small space, the prairie chicken of the east lived a century beyond its time and then died, a single specimen making an end of the race, somewhere alone in the brush.

The heath hen failed to adapt to changing conditions and fell a victim to the laws of natural selection. This is a curious thing, for until the white men took over the land, the heath hen had achieved an admirable adaptation, embodying such fine distinctions of nature that scientists appreciate their nicety and would like to understand them better. Even if you knew where a heath hen was, against a background of twigs and brush, you could not see it unless it moved. Failed to adapt! Why, no creature was ever more at home, more nicely adjusted to place and time than the heath hen on the Vineyard plains! The whole trouble lay in the fact that the heath hen was a bird man could kill, and so it had to die. A wild bird in a thicket and a man in a house cannot be neighbors, for cats will be turned loose and forced to forage, fire will burn over the landscape time and time again, and there are even diseases of the domestic poultry yard to menace wild things.

In recent years an impression has gone forth that man has learned to withhold his hand and to let things about him grow and multiply. The gospel of conservation, it is said, has won the day. We know this is not true. May the death of the heath hen serve to bring us nearer a time of realization and fulfillment! Until now, saving only the imperious grace of economic importance and sometimes not even that, a creature that man could kill has had to die.

Is nothing to follow the extinction of this bird except one more lesson in conservation for school books, and a sentimental mourning? On the Vineyard, certainly, there is more. What an awe and fascination have been written into the theses of scientific men who came to observe the heath hen on the great plain! What accents of mystery, beauty and the eternal rites of life the heath hen, in spring, has given to this strange region! At first sight a visitor has thought the seemingly limitless miles of plain both dreary and uninteresting. But not for long. The most prosaic scientist, full of a passion for metric measurements of feathers or Latin labels, has lain among the black scrub oak in the white mists of a chill April morning, and has returned to write poetry. The meticulous observations and Latin terms appear modestly, softened by a cloak of mystery. We read of birds appearing "as if by magic". We are told that the call of the heath hen did not rise or fall, but "ended in the air like a Scotch ballad". And a natur-

alist who is also a writer has heard in the peeping of the pinkletinks the voice of Ariel, and in the witch dances and goblin cries of the heath hen the grosser spirits of the Island.

And so it is that the extinction of the heath hen has taken away part of the magic of the Vineyard. This is the added loss of the Island. There is a void in the April dawn, there is an expectancy unanswered, there is a tryst not kept. Not until the great plain has grown again a forest of tall pines and cedars, such as that which wooded the level acres a few centuries ago, will the loss of the heath hen be forgotten. One turns to Prospero's promise that he will abjure his charms:

"... I'll break my staff,  
Bury it certain fathoms in the earth,  
And, deeper than did ever plummet sound,  
I'll drown my book."

So deeply, so irrevocably is part of the Island's magic buried and drowned; so before our eyes is Prospero's promise perversely carried out.





