

National Park Service  
U.S. Department of the Interior

Manassas National Battlefield  
Natural Resources Division



# HENSLOW'S SPARROW CALLBACK SURVEYS

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## 2014 FINAL REPORT SUMMARY



Henslow's sparrow, male/Ed Schneider

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### **SURVEY BACKGROUND**

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Park staff and citizen scientists scoured the grasslands within Manassas National Battlefield Park boundaries for an elusive sparrow this year. This famously inconspicuous Henslow's sparrow is currently facing large scale habitat loss and population declines. Having found a breeding pair of these sparrows in the park back in 2004 and 2005, park staff had been unable to continue monitoring efforts. Park biologists believed a new effort to determine whether this threatened sparrow still occurs in the park was overdue. With the help of local citizen scientists and youth interns the park set out to determine the presence or absence of the Henslow's sparrow in the park's grasslands.

The optimum time to survey for Henslow's sparrows is between May and June when peak nesting activity occurs. The most effective method for surveying a site is to traverse the area systematically, using a high quality callback recording of Henslow's sparrow territorial vocalizations and transect lines. The recording should include clear examples of all typical territorial calls. The intent of this survey protocol is not to determine the total number of sparrows in an area or on a particular site, but rather to determine the presence or absence of Henslow's sparrows in Manassas National Battlefield Park. Park staff consulted experts from the Virginia Department of Game and Inland Fisheries, as well as the Center for Conservation Biology when developing this callback survey protocol.

Biologists separated the park's grassland habitat into 10 polygons by looking at current park boundaries, major road intersections and requirements for supporting breeding pairs of Henslow's sparrows. Henslow's sparrows require large tracts of grasslands, at least 70 acres (Zimmerman 1988). A survey grid throughout potential habitat with points approximately 200 meters apart were established. This distance between transects and points is generally adequate when using a good-quality, portable mp3 player and speaker broadcasting at full volume. The volume of the cassette player was sufficient to hear the callback from a maximum distance of 100 meters. A reference map was created and made available for field use to navigate to each polygon. In each polygon there were numerous transects. Each transect was surveyed at least three times within the breeding season on separate days, with no more than two weeks separating survey times.

There were several points on a transect where the surveyor stopped, observed and recorded data while playing the callback audio. Each point required a 5 minute playback consisting of periods of the male's primary advertising song alternating with silent periods. All Henslow's sparrows detected by sight and/or sound were recorded during this time. Any Henslow's sparrow individuals heard or observed while travelling between points and transects was recorded as well. The only equipment required was: binoculars, data sheet with clipboard, field maps, smartphone or mp3 player, and a portable speaker. Optional equipment was a Sibley field guide (or similar field guide), tick waders, Kestrel and GPS.

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## **SURVEY GUIDELINES**

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The recommended survey protocol for determining presence was a three-event survey during the nesting season (May 1 through June 30). The minimum time between repeat surveys at each point is two weeks. Surveys outside of the nesting season may be non-conclusive and not acceptable. The survey protocol followed these guidelines.

- Surveys should be conducted by personnel familiar with the Henslow's sparrow habitat needs and requirements and are capable of identifying and locating sparrows based on either song or sight.
- Three surveys should be conducted at each station in the spring (approx. dates May 1 - June 30).
- Spring surveys should be conducted starting no earlier than 30 minutes before sunrise and ending no later than 3 hours after sunrise. Only morning surveys are acceptable.
- Once a survey has begun the observer should change the direction in which they are facing several times in order to detect a maximum number of individuals.
- Surveys should be conducted when wind speeds are less than 7 mph and not during sustained rain or heavy fog.
- Record dates and times of all surveys by polygon, transect and point; and all survey results (include negative reports).
- If no Henslow's sparrows are found repeat the survey. Three negative surveys, at least 2-weeks apart, are required to presume that the sparrow is absent.

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## THE CALLBACK SURVEY

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There were 10 polygons surveyed. Each polygon had at least one transect that was walked with several survey points. When the surveyor arrived at the polygon they pulled out the clipboard and recorded survey conditions:

- 1) Recorded position at point with GPS.
- 2) Recorded observer's name, polygon, transect and point number and date of survey.
- 3) Recorded the best estimate of temperature, background noise, cloud cover, and wind speed (optional equipment: Kestrel)
- 4) The official sunrise time.
- 5) Recorded start time and began to play the callback recording.

Surveyors began the 5 minute survey for Henslow's sparrow and slowly scanned 360 degrees around the survey point as the recording played. They recorded any Henslow's sparrows seen or heard using the habitat. Surveyors kept track of each individual seen, so as not to record the same bird twice. To enhance the distance the recording was heard; observers held the speaker above their head and rotated it as they scanned for Henslow's sparrows. The sound file was made to alert surveyors to when the five minute recording was finished. At that time, they STOPPED recording data and moved to the next point along the transect.

If a Henslow's sparrow was observed while they travelled in between points, surveyors marked it with the point numbers it was observed between. For example, if the Henslow's sparrow was seen while traveling from point 10 to point 11, it was marked in the Observations column (pt. 10-pt. 11). The Observations column of the data sheet was also used to record any nesting behavior seen during the callback survey (ex. flying with food, any nests seen, any aggressive/defensive displays, any pairs of birds interacting, foraging, breeding displays, etc.).

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## SURVEY RESULTS

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From May 11<sup>th</sup> to June 26<sup>th</sup>, park staff, citizen scientists and youth interns surveyed 90 points in the ten polygons at three separate times for a total of 270 callback surveys. These surveys covered approximately 1,158 acres of warm and cold season grassland habitat in the park. Henslow's sparrows were observed in two of the ten polygons. Biologists believe three individuals were observed separately, at points: 32, 34, and 72. These points are located in polygons 4 and 10.

Polygon 4 was surveyed by a pair of local expert birders. On May 14<sup>th</sup> at 7:22 am, the surveyors heard one individual responding to the callback recording, just west of their location at point 72. The bird was not observed. No other responses to the callback recording were heard at other points in this polygon for the first round of surveys. In the second and third round of surveys, no Henslow's sparrows were observed or heard responding to the callback. It should be noted that at point 72, when the surveyors came back for round two, on May 30<sup>th</sup>; the grassland habitat surrounding the point had recently been cut.

Polygon 10 had more activity, with two individuals heard and one observed by local citizen scientists and members of the Audubon Society of Northern Virginia. On May 11<sup>th</sup> at 7:59 am, one individual was observed by surveyors, approximately 26-50 feet away. Their description is as follows, "Observed sparrow with warm golden above its cheek. Head striping with lighter eyebrow stripe. Breast had clear separation between buffy upper and white lower breast and belly." No other Henslow's sparrows were observed or heard at other points in the polygon during round one of surveys. In the second round of surveys, on June 7<sup>th</sup>, two individuals were heard responding to the callback at two separate points in the polygon. At 7:48 am, one individual was heard responding (responded twice) to the callback recording at point 32. No bird was observed this time. Further along the transect at point 34, one individual was heard responding (responded once) to the callback recording at approximately 8:16 am. No other Henslow's sparrows were heard or observed in round two or three in polygon 10.

A total of three individuals are believed to have been observed and heard responding to callback recordings during the three rounds of surveys in the park's grassland habitat. There were two Henslow's sparrows; one observed and heard in two separate survey events and one heard in just one survey event in polygon 10. There was one Henslow's sparrow heard in one survey event in polygon 4. For an aerial map of these polygons please refer to the Tables and Figures section of this report. All other points and polygons not listed have been determined to be absent of Henslow's sparrows during the breeding season.

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## DISCUSSION

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A total of three individual Henslow's sparrows were observed and heard in the park this year. These observations support the presence of Henslow's sparrows in the park. Park biologists and citizen scientists were unable to observe any breeding behavior. It is unlikely that these individuals breed in the park. Their current breeding population range map via the Cornell Lab of Ornithology, indicates a population north of the park, in Maryland and up through New York and over into the Mid-west area. The only known sustaining populations of Henslow's sparrows in Virginia occur near Radford, over 300 miles south of the park. Transient individuals have been observed within 50 miles of the park, according to eBird, a national bird observation mapping database. This further supports the presence of these sparrows in the park.

The polygons (4 & 10) where the individuals were heard are located in warm and cold season grasses. Henslow's sparrows are known to nest in both types of these grasslands (Gibson 2011). The habitats at these points have a low percentage of woody vegetation, with tall, dense grass and scattered forbs (Heckert 1994), important factors for habitat selection. Polygon 10 has a well-developed litter layer and standing dead vegetation due to the park's limited mowing practices, which Henslow's sparrows prefer for nesting and cover (Zimmerman 1988). Continued monitoring in this polygon is suggested to assist park staff with future land management.

Polygon 4 is an area with high visitor traffic, being located around the park's Visitor Center with an historic house and multiple monuments. Because this area is a popular place for visitors, land management techniques differ. To protect the historic viewshed surrounding the Visitor Center and provide for the safety, enjoyment and recreation of visitors, parts of this grassland habitat are mowed more than just once a year. This is notable because the point where the Henslow's sparrow was heard (point 72), is the area that is mowed frequently. Continued monitoring in this polygon during the Henslow's breeding season could assist park staff with integrated land management techniques.

The other polygons were determined to be absent of Henslow's sparrows during the breeding season. Park staff should continue annual callback surveys for Henslow's sparrows' presence and/or absence. These continued callback surveys will be targeted to Polygons 4 and 10 only. Any future observations should be reported to the park's Natural Resources Program Manager, who will implement any necessary integrated land management techniques.

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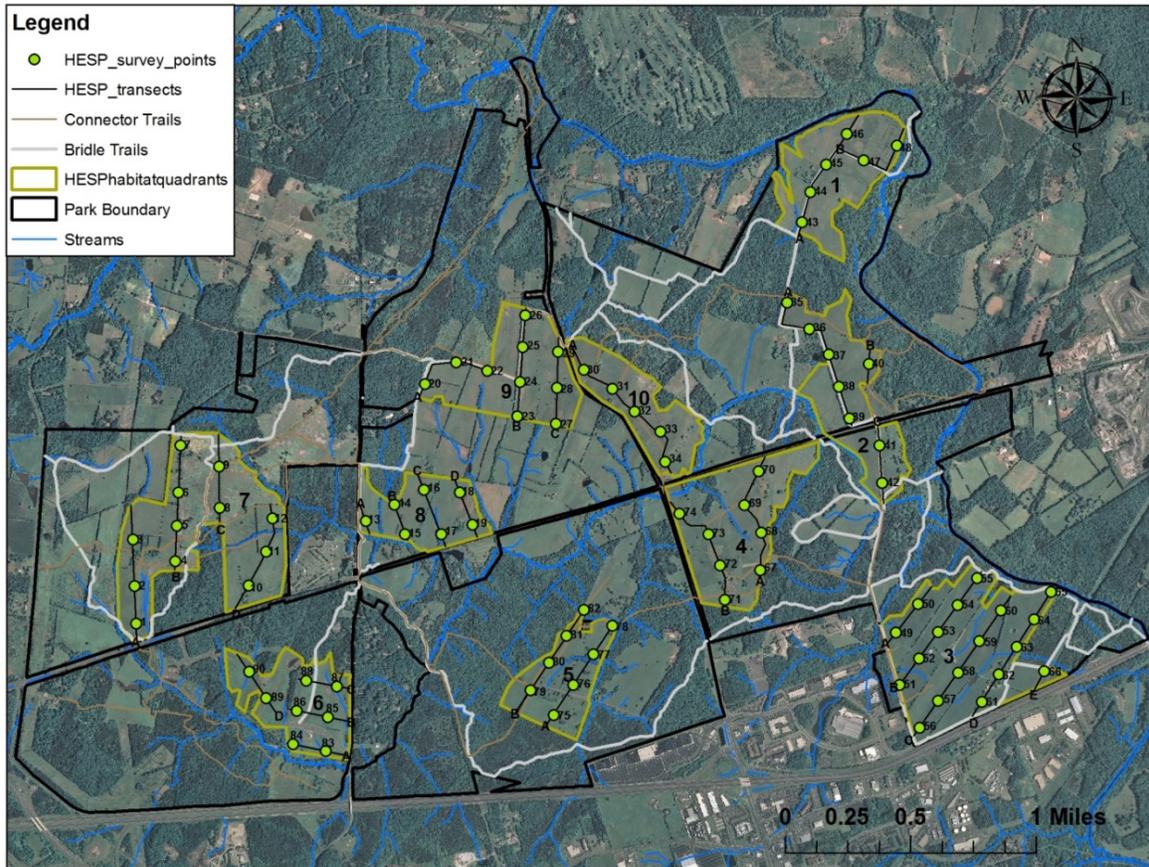
## **TABLES AND FIGURES**

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- Table 1 – A table of the ten polygons with acreage amounts, transect(s) and points.
- Figure A – Field map of polygons and transects in the park’s grassland habitat
- Figure B – Aerial map of Polygon 4
- Figure C – Aerial map of Polygon 10

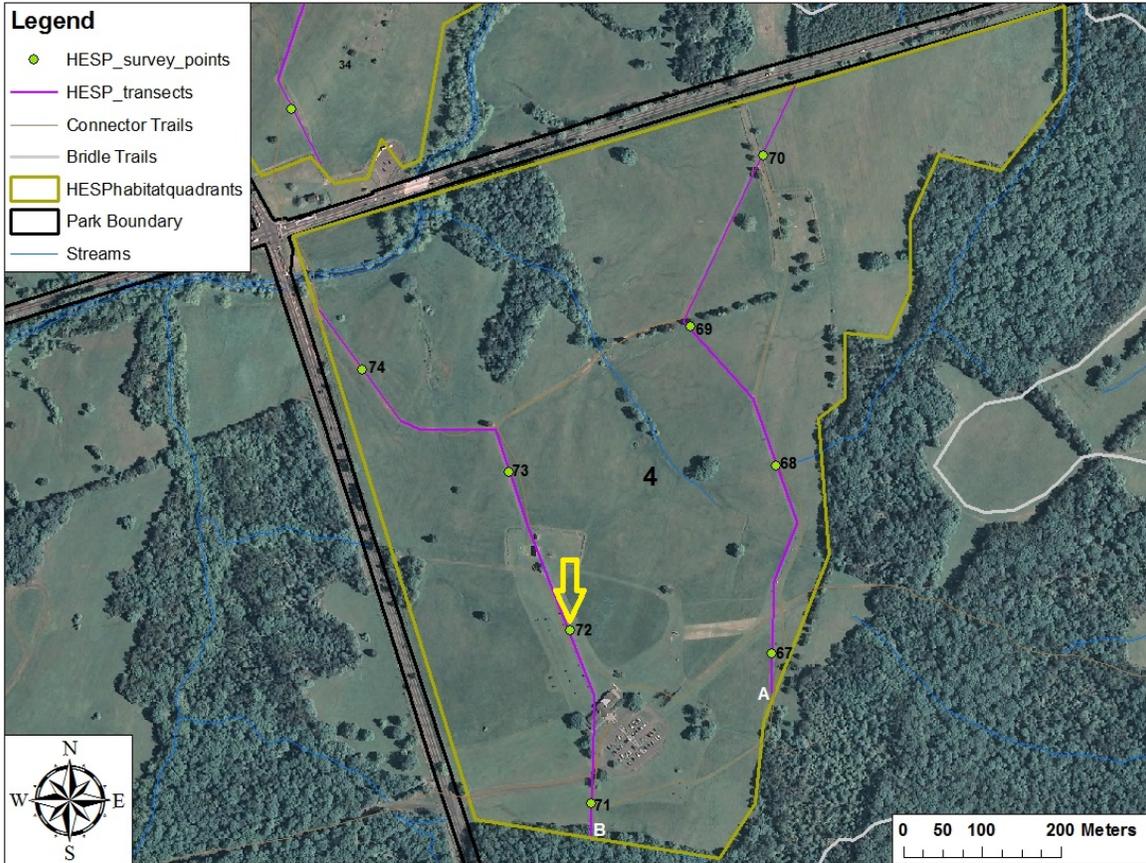
Polygon	Acreage	Transect	Points
1	108	A	43,44,45,46
		B	47,48
2	106	A	35,36,37,38,39
		B	40
		C	41,42
3	189	A	49,50
		B	51,52,53,54,55
		C	56,57,58,59,60
		D	61,62,63,64,65
		E	66
4	134	A	67,68,69,70
		B	71,72,73,74
5	73	A	75,76,77,78
		B	79,80,81,82
6	89	A	83,84
		B	85,86
		C	87,88
		D	89,90
7	198	A	1,2,3
		B	4,5,6,7
		C	8,9
		D	10,11,12
8	72	A	13
		B	14,15
		C	16,17
		D	18,19
9	112	A	20,21,22
		B	23,24,25,26
		C	27,28,29
10	77	A	30,31,32,33,34

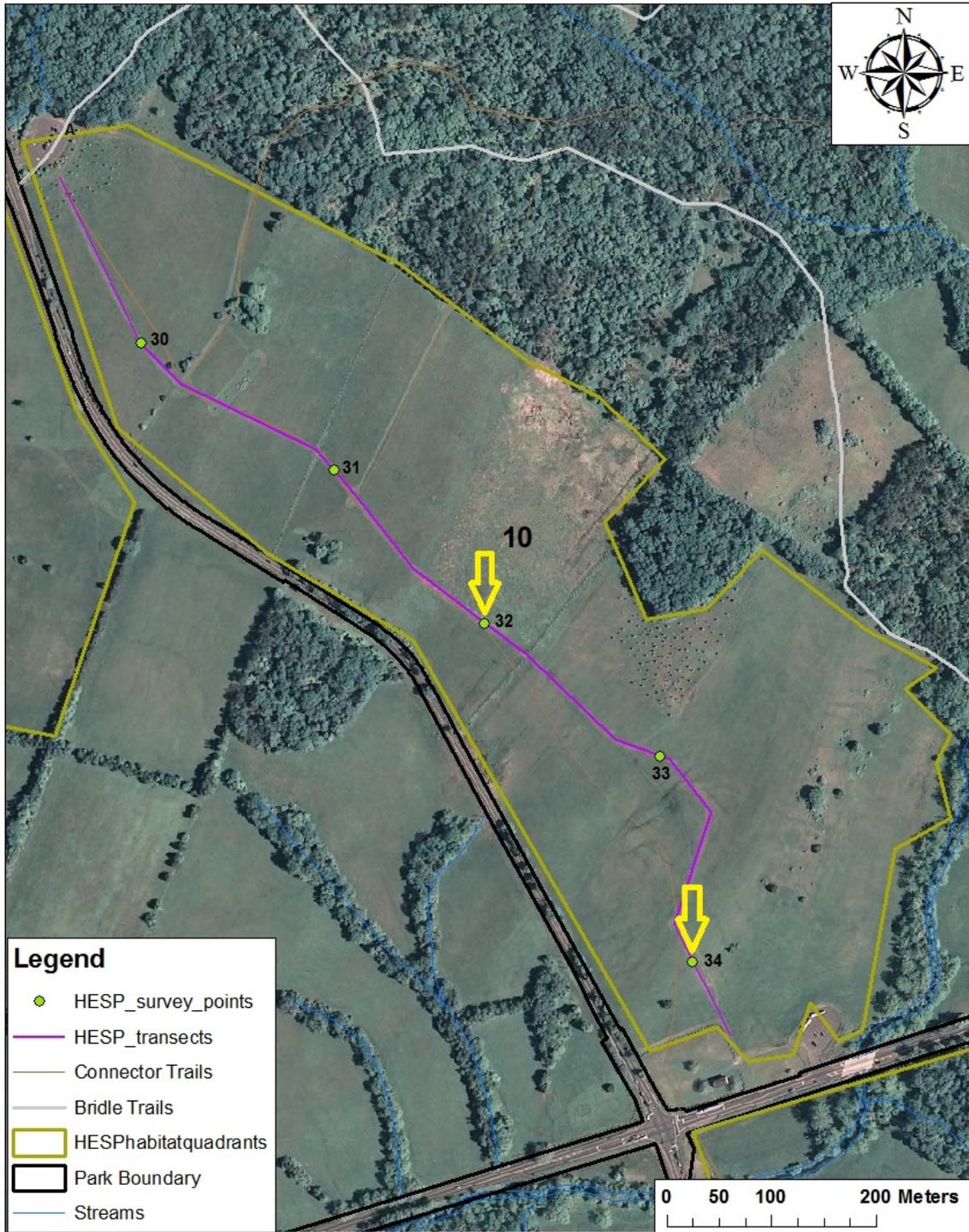
Table 1: The ten polygons with their respective acreage, transect(s) and points.



Produced by ASloop

Figure A: Field map of polygons, transects and points in the park's continuous grassland tracts.





Produced by ASloop  
 Figure C: Aerial map of Polygon 10, the yellow arrows indicate the points where the Henslow’s sparrows were observed and heard.

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## SELECTED REFERENCES

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Gibson, J. 2011. Henslow's sparrow (*Ammodramushenslowii*). In A. T. Chartier, J. J. Baldy, and J. M. Brenneman, editors. The Second Michigan Breeding Bird Atlas. Kalamazoo Nature Center, Kalamazoo, Michigan.

<[http://www.mibirdatlas.org/portals/12/MBA2010/HESPaccount .pdf](http://www.mibirdatlas.org/portals/12/MBA2010/HESPaccount.pdf)> Accessed on April 7, 2014.

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Herkert, J. R. 1994. Status and habitat selection of the Henslow's Sparrow in Illinois. *Wilson Bulletin* 106(1): 35-45.

Zimmerman, J. L. 1988. Breeding season habitat selection by the Henslow's Sparrow in Kansas.

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