WILDLIFE MANAGEMENT AND RESEARCH NOTES

INDIANA DIVISION OF FISH&WILDLIFE

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	Title: 2010 SPRING RING-NECKED PHEASANT CROWING COUNT	

ABSTRACT: *The spring pheasant crowing count survey, conducted annually in the major range (Figure 2) and quinquennial across the rest of the pheasant range from 1976 to 2008, is used to assess changes in pheasant abundance. In 2009, the survey was revised and expanded to 20 routes to monitor the entire pheasant range annually, providing a more accurate depiction of year to year changes in abundance. In 2010, 335 pheasant crows were counted at 400 stops along 20 routes, while 246 pheasant crows were heard at 380 stops along 19 routes in 2009. Data were only included in the analysis if routes were surveyed in both 2009 and 2010, and at least 1 pheasant crow was recorded in those years. Considering only these routes (n = 17), the statewide mean number of pheasant crows heard per survey stop in 2010 ($\bar{x}$ = 0.89 ± 0.25) was not significantly different (P = 0.40) from the number heard in 2009 ($\bar{x}$ = 0.72 ± 0.20).*

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The colorful ring-necked pheasant is a well-known game bird of Indiana and the Midwest. This naturalized, yet embraced species was introduced from Asia to California in 1857, and Indiana became involved in stocking ring-necked pheasants around 1900. After finding a niche in the agricultural land of Northern and Central Indiana, the ring-necked pheasant has remained a sought after upland game species by Hoosier hunters. As with many other Indiana species, annual research is conducted on the ring-necked pheasant. The information that is gathered from this research is used to set forth management priorities and harvest regulations in coming years.

METHODS

Since 1976, The Indiana Division of Fish and Wildlife has conducted annual ring-necked pheasant crowing count (Kimball 1949, Gates 1966) to determine a spring male population index. Prior to 2009, the annual survey consisted on four road routes in Benton and Newton counties, with a 15 route range-wide survey run quinquennially. In 2009, the annual survey was revised and expanded to 20 routes to monitor the entire pheasant range with an emphasis on pheasant priority areas, providing a more accurate depiction of year to year changes in abundance.

Observers record the number of rooster (male pheasant) calls (crows) during a 2-minute period at 20 stops spaced at 1-mile intervals along each route. Counts are started 30 minutes before sunrise and are not conducted during inclement weather (precipitation or wind >8 mph). In 2010, Data were only included in the analysis if routes were surveyed in both 2009 and 2010, and at least 1 pheasant crow was recorded in those years. A paired t-test was used to compare indices of male abundance between 2009 and 2010, with significance at the 90% confidence level. Indices were standardized to the number of pheasant crows heard per survey stop.

RESULTS

In 2010, all 20 established routes were surveyed between 28 April and 6 May, with 335 pheasant crow calls being heard at 400 stops.

During 2009 and 2010, only 17 routes were conducted in both years and recorded at least 1 pheasant crow, and data from only these routes were used to draw statistical comparisons ($\bar{x} \pm$ SD) between indices of abundance.

Statewide, the number of pheasant crows heard per stop in 2010 ($\bar{x} = 0.89 \pm 0.25$) did not differ significantly ($P = 0.40$) from the number heard per stop in 2009 ($\bar{x} = 0.72 \pm 0.20$; Table 1). Regionally, the number of pheasant crows heard per stop in 2010 was significantly different than the number heard in 2009 within Priority Area 1 (n=6), with an increase of 69.2% (Table 1). There was no significant change in the other combined priority areas (Table 1).

Discussion

Some of the significance to the change in numbers heard within priority area 1 may be from a change in methodology for some observers who, in the past, were counting birds rather than calls, but a more mild winter across the major range could have helped as well. Additionally, we do not have enough data to look at long term trends in priority areas surveys; however, the long-term trend data collected between 1976 and 2008 has shown that the pheasant population remains well below numbers observed in past decades in Indiana (Figure 1).

The substantial long-term decline in Indiana's ring-necked pheasant population is primarily due to the loss of suitable habitat for nesting and raising young. Currently, less than 150,000 acres of farmland are idle across the state's pheasant range through the Conservation Reserve Program (CRP). This equates to more than a 90% loss of potential pheasant habitat when compared to the 1960s and 1970s. Because much of this habitat has been swallowed up by urban and suburban development, Indiana's pheasant population will likely never again resemble the number of birds that existed during the "glory days" of 40 years ago. This huge loss of habitat has also has significant effects on Indiana's quail and rabbit populations.

However, Indiana landowners can take advantage of some federal programs including the Continuous Conservation Reserve Program (CCRP) administered by the USDA Farm Service Agency. There are 3 CCRP practices in particular that are available to Indiana landowners and can create a noticeable benefit for Indiana's upland game: 1) CP-21 – filter strips, 2) CP-33 – upland wildlife buffers, and 3) CP38 – State Acres for Wildlife Enhancement (SAFE). These conservation practices provide essential cover for pheasants and other game birds while lessening erosion and wildlife damage and improving water quality. For more information about these and other federal programs, contact your local USDA service center.

The Indiana Division of Fish and Wildlife also has programs that can provide landowners with support and funds to establish and/or maintain game bird habitat. These programs include the Wildlife Habitat Cost-Share Program, the Game Bird Habitat Development Program, and in designated pheasant priority areas, the Pheasant Habitat Incentive Program. For additional information about these IDFW programs, contact your local district biologist or visit: http://www.wildlife.in.gov

One simple tip landowners can use to substantially improve conditions for upland game on their land is to simply wait as long as possible to mow waterways and ditch banks (preferably after mid-August). This will provide safe cover for hen pheasants to nest and raise their young.

Table 1. Number of ring-necked pheasant crows heard per stop ($\bar{x} \pm$ SD) along paired survey routes at both the state and priority area level within Indiana, 2009-2010.

Mgmt Unit	n [a]	2009	2010	Change	P [b]	
Statewide	17	0.72 ± 0.25	0.89 ± 0.20	23.6%	0.40	
Priority Area 1	6	0.87 ± 0.40	1.47 ± 0.65	69.2%	0.07	*
Other Priority Areas	11	0.64 ± 0.22	0.58 ± 0.12	-9.9%	0.80	

[a] Includes only non-zero routes surveyed in both 2009 and 2010.

[b] *=P<0.10, **=P<0.05, ***=P<0.01. Significance was defined as P<0.10 in the 2-year comparison due to the low power of the test.

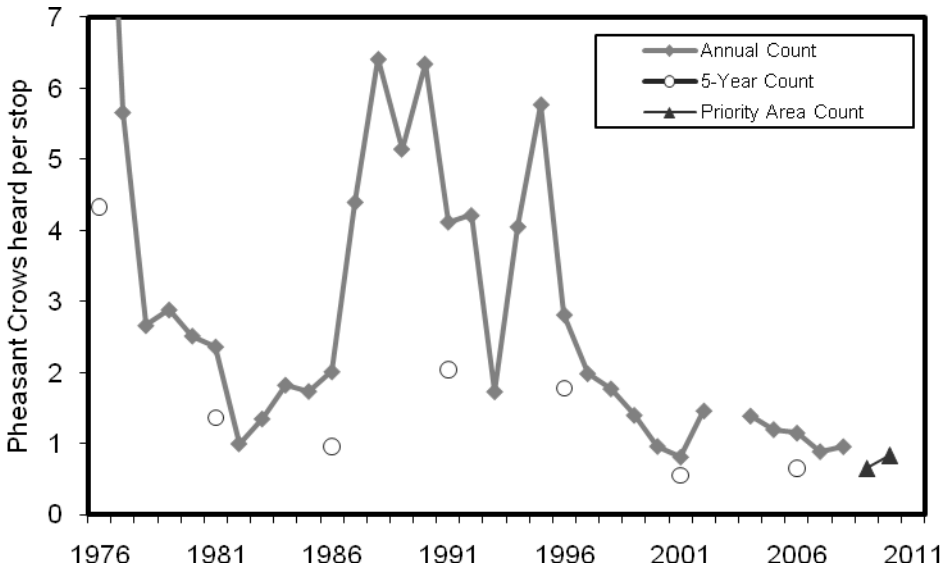

Figure 1. Number of ring-necked pheasant crows heard per stop along 4 annual routes in Benton and Newton Counties, and 15 quinquennial routes across northern Indiana from 1976-2008. Additionally, data shown for the number of ring-necked pheasant crows heard per stop along 20 annual priority area routes from 2009-2010.

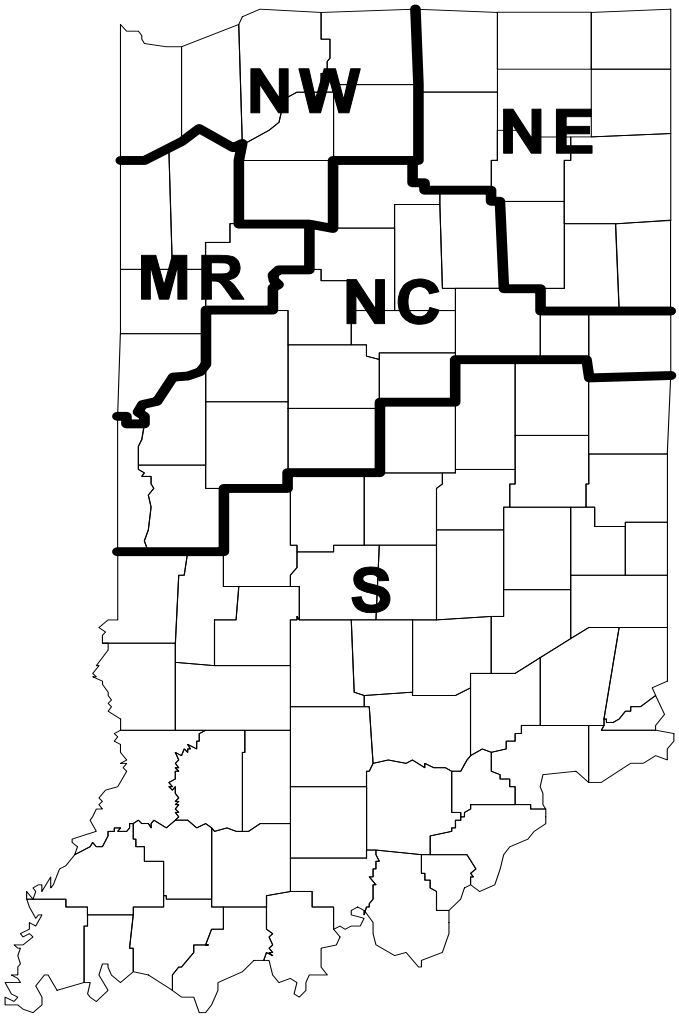

Figure 2. Map illustrating the pheasant harvest regions established for the small game harvest survey. MR stands for Major Range which holds the highest wild pheasant populations. Currently, there are little if any wild pheasant populations in the South (S) pheasant harvest region.

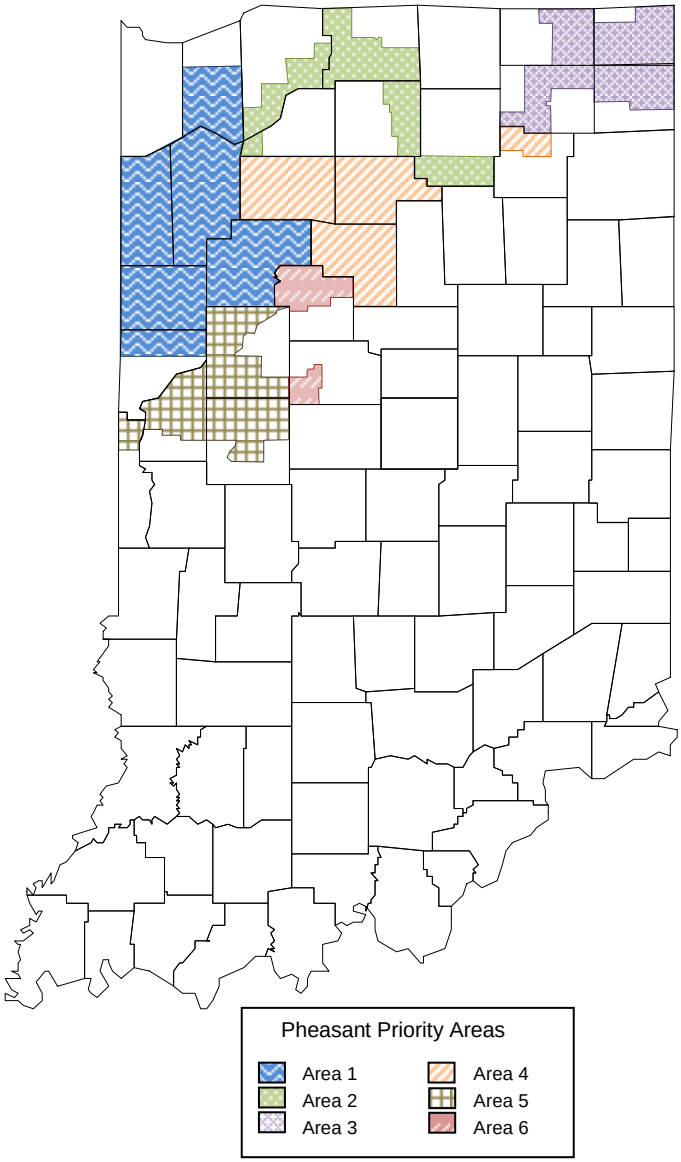

Figure 3. Map illustrating Indiana's established pheasant habitat priority areas, as of April 2010. 17 of 20 pheasant crowing count routes are established within these priority areas.