

## Ring-necked Pheasant production/movements in response to wind energy development

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Collaborators: Iowa DNR

Duration: January 2015 to May 2018

Objectives:

1. Quantify Ring-necked Pheasant nesting success as a function of proximity to wind turbines.
2. Measure Ring-necked Pheasant behavioral responses to wind turbines prior to and during the nesting season to assess possible avoidance behavior.
3. Provide guidance on how Ring-necked Pheasant populations can continue to thrive in areas slated for future wind energy development.

**PROGRESS:** In spring 2015 we worked with Iowa DNR staff to design and implement a crowing survey for Ring-necked Pheasants. This included piloting the use of a taped playback call to elicit a greater response rate from roosters. We completed a pilot field season in April and May 2015 that included extensive point counts in and near a central Iowa wind farm, piloted the use of a taped playback rooster call for crowing surveys, completed GIS work on the study area, and tried (unsuccessfully) to catch a few pheasants to test the telemetry gear. James completed some initial analyses looking at pheasant detection probabilities when there was no taped playback ( $p = 0.32$ ) compared to when one was used ( $p = 0.32$ ). The estimated rooster density in the study area was 0.03 roosters per ha and we used the counts at each survey point to interpolate a density surface for the entire study area (see Figure).

**IMPACTS:** James presented a poster at the NREM Graduate Student Organization poster session. We have also completed preliminary analyses of rooster density (see Figure) and the influence of the taped playback on improving rooster response rates.

**FUTURE PLANS:** In January 2016 we will begin trapping efforts at the wind farm and a control site (not wind turbines) in central Iowa, targeting hen pheasants. We have 50 radio transmitters (25 for each site) and hope to have them deployed no later than March. Hens will be tracked through the nesting season to monitor nest success and behavior around wind turbines. We'll also repeat the point count surveys for male pheasants.

