Ring-necked Pheasant Status in Michigan, 2014

Michigan Department of Natural Resources
Wildlife Report No.3589, September, 2014
Ryan Vander Wagen, C. Alan Stewart & Lori Sargent

ABSTRACT

Several Surveys are conducted each year to monitor ring-necked pheasant (*Phasianus colchicus*), including hunter cooperator survey, spring breeding surveys and mail harvest survey. Hunters' records were available from 21 cooperators, who hunted 314 combined hours in 2013. The average number of rooster pheasants flushed per hour by cooperators (0.70) increased 6% compared to flush rates from 2012 (0.66). Pheasant mail carrier brood surveys were conducted statewide along 643 surveys in July and August 2014. Mail carriers observed an average of 0.11 broods per 10 carrier-days. Pheasant broods contained an average of 4.5 chicks. Comparison between 2013 and 2014 surveys indicated that the decrease in the brood index from 0.19 broods per ten carrier-days in 2013 to 0.11 in 2014 was significantly different (t=2.75, P=0.006).

INTRODUCTION

Pheasant's (*Phasianus colchicus*) are a popular game bird associated with grasslands and agricultural areas primarily in southern Michigan. About 23,351 Michigan hunters pursued pheasants statewide in 2011 (Frawley 2014). Hunters spend an average of 4 to 5 days hunting pheasants in 2011 and harvested over 22,620 pheasant in Michigan in 2011 (Frawley 2014).

The Michigan Department of Natural Resources (DNR) annually monitors pheasant distribution and abundance using summer brood surveys and harvest surveys. Harvest is monitored using mail surveys of randomly selected small game license buyers and a separate survey of volunteer cooperators. From 1949 through 2002, pheasant crowing surveys were also conducted each spring. However, in 2003 crowing surveys were discontinued because trend information could be obtained through summer brood surveys. Also, the introduction of Sichuan pheasants (*P.c. strauchii*) to Michigan during the mid-1980's complicated interpretation of crowing survey results because Sichuan pheasants crowed less frequently than pheasant subspecies previously established in Michigan (Luukkonen et al. 1997).

A contribution of Federal Aid in Wildlife Restoration, Michigan Project W-147-R. IC 2578 (09/17/2014)

METHODS

Harvest Survey
Each year, questionnaires are sent to a randomly selected set of people who had purchased a small game hunting license during the previous hunting seasons. Detailed methods and results from the 2011 small game harvest survey are compiled in a separate report (Frawley 2014). Findings pertaining to ring-necked pheasants have been summarized in the results section of this report.

Pheasant Mail Carrier Brood Survey
Cooperating rural mail carriers conduct the pheasant brood survey during a 2 week period from late July through early August. Mail carriers stationed at post offices in southern Michigan record the number of pheasant broods, chicks, and lone hens observed each day along their mail delivery routes during the survey period. An index of pheasant brood abundance is calculated as the number of broods observed per 10 carrier-days (1 mail carrier observing 1 day = 1 carrier-day). In Michigan, the brood index has been a good indicator of fall pheasant abundance and harvest (Luukkonen 1998*a*).

Pheasant/Quail Hunter Cooperator and Mail Surveys
Cooperator surveys rely on a group of volunteer hunters who record numbers of hours hunted and pheasant and quail flushed each day. Data obtained from cooperating hunters are summarized as the number of pheasant and quail flushed per hour of hunting. Although final estimates of hunting effort and harvest come from a mail survey of randomly selected hunters, flush rate surveys from pheasant cooperators provide an early indication of harvest. Hunters may participate in the cooperator survey by contacting the Lansing Wildlife Division office or by printing and completing the cooperator form which is available at DNR - Pheasant/Quail Cooperators.

RESULTS

Harvest Surveys
An estimated 22,620 pheasant were harvested in Michigan during 2011 which was slightly lower than 2010 with 27,224 harvested, respectively (Figure 1). Approximately 23,351 hunters spent 100,622 days afield hunting pheasants in Michigan during 2011 hunting season. Estimated number of days of hunting efforts on private and public lands in 2011 for pheasants, showed 46% of hunters hunt on private lands, public land hunters (27%) and Both (21%), respectively.

Pheasant Mail Carrier Brood Survey
In 2014, mail carriers returned 643 usable survey forms. Comparison between 2013 and 2014 surveys revealed a statistically significant difference in the brood index ($t=2.75$, $P=0.006$). In 2014, mail carriers observed 0.11 broods per ten carrier-days: in 2013 they observed 0.19 (Figure 2 and Appendix A). Mail carriers observed an average of 0.15 broods per ten carrier-days on all routes in 2014. There was no statistically significant changes in the number of chicks observed per brood ($t=-1.64$, $P=0.11$) between years. In 2014 mail carriers observed 4.5 chicks per brood; in 2013 they observed 3.7 chicks per brood.

Pheasant/Quail Hunter Cooperator and Mail Surveys
Records were available from 21 cooperators, who hunted over 314 combined hours in 2013. Cooperators flushed an average of 0.70 roosters per hour and 1.02 hens per hour while hunting afield. These flush rates were slightly higher than flush rates of 0.66 rosters per hour in 2012 and slightly lower for hens per hour in 2012 (1.11). The highest average pheasant flush rates were reported in the thumb region and central Lower Michigan region in 2013 (Appendix B).

DISCUSSION

The decline of pheasant populations in Michigan has been well documented (Figure 2). Ring-necked pheasants, bobwhite quail, and other grassland species have declined on Michigan Breeding Bird Survey routes during the period 1966-2011 (Sauer et al. 2011) as well as on DNR survey routes. Data from DNR breeding indices over the past 10 years indicate pheasant abundance has been relatively stable, however, much reduced from historic highs of abundance during the 1950's.

Factors such as changes in agricultural practices, land use and the regional climate may have contributed to the pheasant decline. Areas such as southeastern Michigan, which once contained some of the best pheasant habitat in the state, have experienced extensive human development and loss of grasslands. Additionally, pheasant abundance appears to decline as the amount of tree cover exceeds about 10% of the landscape (Luukkonen 1988*b*). The amount of forest cover in southern Michigan increased by about 40,000 acres per year from 1980 to 1993, which may have been a major contributing factor in the decline of pheasants (Luukkonen 1988*b*).

Belyea (1991) noted that state and federal land management programs have not reversed the downward trend of pheasant numbers. However, private land initiatives implemented by the DNR, Natural Resources Conservation Service, and private conservation organizations may prove beneficial to landowners wishing to improve habitat conditions for pheasants (Sargent and Carter 1999). The implementation of Michigan's Conservation Reserve Enhancement Program (CREP) may positively impact pheasant populations as well as other species. Under this program, private landowners in 3 priority watersheds agree to enroll eligible lands in the program for 10 to15 years and establish prescribed conservation practices such as filter strips, wetland restoration, wetland creations, windbreaks, and riparian buffers. Approximately 91,937 acres are currently enrolled in this program, and more acres are being enrolled (USDA, FSA 2014). Because pheasant populations seem to respond to habitats on a broad, landscape scale, habitat improvements made on a few isolated sites are often ineffective in increasing pheasant abundance (Luukkonen 1998*b*). The watershed scale of CREP may influence pheasant abundance to increase due to the habitat changes made through this program. For more information about this program, please see MDARD - CREP.

The 2013-14 winter was the most severe in decades. Temperatures were below normal for much of the winter, and snow piled significantly without the usual thaws. Reported by the NOAA, in 2014, the spring weather showed above average precipitation and below average temperature. Pheasant population typically shows increase following mild winters (Dec.-March) with springs (April-May) that are dryer and warmer than normal (Bogenschutz 2014). Bogenschutz also stated pheasant populations never increased following winters with 31 or more inches of snowfall (bogenschutz 2014). A few pheasant forever chapters reported pockets of heavy losses where snow-filled habitats made pheasants more vulnerable to predation. But, many reported that they were pleasantly surprised by how many pheasants made it through the winter, noting many crowing roosters in local grassland habitat.

The 2014 results showed chicks per brood were average in the past ten years, but broods per ten carrier-days were similar to 2011 with the lowest broods per ten carrier-days since 2004. These 2014 results, suggest a lower number of hens have broods with normal than average number of chicks per brood. Weather during the nesting and brood rearing period was good, without any excessive rainy, cold periods that can be hard on chick survival. The moderate spring weather conditions should provide insect abundance sufficient to feed pheasants chicks. From this year's surveys results and hearing a number of reports of good sized broods this summer, pheasant numbers should be at least as good this fall as last fall.

While pheasant numbers are far below the historical high levels of the 1950s and 1960s, pheasants still are widely distributed in southern Lower Michigan and in some areas of the Upper Peninsula (Belyea 1991). Some of the best pheasant habitat is located on private lands. Hunters are encouraged to contact private landowners prior to the fall hunting season to gain access to these areas. Idle fields and warm season grasses adjacent to agriculture lands are prime areas to look for pheasants. Late season hunters should concentrate their efforts in dense grasslands adjacent to cattail and shrub wetlands near picked corn and bean fields. Best areas for pheasant hunting will include landscapes with less than 15% woodland, where grassland fields provide nesting cover. Some of the highest pheasant numbers are reported in the central and thumb regions of the State (Appendix B). Currently, funding from the Wildlife Habitat Grant Program (WHGP) with a portion of hunter dollars, has provided resources to conservation organizations such has Pheasants Forever, Ruffed Grouse Society, Michigan Association of Conservation Districts and Michigan United Conservation Clubs to assist the DNR-Wildlife Division with development and improvements of grassland habitats and food plots for upland game birds in prominent pheasant territory.

Pheasant season is open from October 10-31 in the Upper Peninsula; October 20-November 14 in the Lower Peninsula. The bag limit is two male pheasants per day, four in possession. The late pheasant season in part of Zone 3 will be open from December 1-January 1 with a bag limit of two male pheasants, four in possession. Information on zone boundaries may be found at DNR - Pheasant Seasons or in the 2013 Michigan Hunting and Trapping Guide. Current and future hunters that want a total outdoor experience for the whole family before hunting season should attend The Great Outdoors Youth Jamboree at Lake Hudson Recreation Area in Lenawee County, Michigan. This free event provided by amazing organization partners and the DNR offers outdoor activity stations to learn the skills needed to hunt, fish and a whole lot more hands-on activities. For information on other events, visit www.michigan.gov/dnr.

In 2011, Michigan Department of Natural Resources along with our conservation partners kicked off the Michigan Pheasant Restoration Initiative (MPRI) that aims to create small game hunting opportunities on both public and private lands, increase wildlife populations, improve hunter satisfaction and help Michigan's economy. Landowners can get involved – and can get technical and financial assistance – by forming cooperatives to create and enhance pheasant habitat. In 2013 alone, the MPRI planted or treated 1,189 acres in several state game areas and had private lands technical assistance to 1,832 acres. The Hunting Access Program (HAP) increases from 47 farms and 7,400 to 153 farms and 17,191 acres. Bringing back quality pheasant hunting to Michigan is one way the DNR plans to create world-class recreational opportunities with funding from hunting and trapping license sales. This year we presented the ground breaking success the MPRI as had in Michigan at the first National Wild Pheasant Technical Committee to twenty two other states. The National Wild Pheasant Technical Committee is a sub-committee of the Association of Fish and Wildlife Agencies (AFWA) that bring together states to present current and historical population trends as well as their management practices and programs that focus on creating quality pheasant habitat.

ACKNOWLEDGEMENTS

We thank the DNR personnel and volunteers who conducted the rural mail carriers who participated on the brood survey. We thank the pheasant cooperators for submitting their hunting records. Ryan Vander Wagen and Lori Sargent helped with the pheasant mail carrier survey mailing. Ryan Vander Wagen conducted the data entry and analysis. Al Stewart, Lori Sargent and Dave Luukonen reviewed earlier version of this report.

LITERATURE CITED

Belyea, G. 1991. Ring-necked pheasant. Pages 180-181 *in* R. Brewer, G.A. McPeek, R.J. Adams, Jr., eds. The Atlas of Breeding Birds in Michigan. Michigan State University Press, East Lansing, Michigan, USA.

Bogenschutz, Tood. 2014. 2014 Pheasant Nesting Outlook. Iowa Department of Natural Resources. Boone, IA

Bogenschutz, Tood. Mclnroy, Mark and Kruger, Lile 2013. The 2013 Iowa August Roadside Survey. Iowa Department of Natural Resources. Boone, IA

Curtis, Rachel. 2013. The 2013 Minnesota August Roadside Survey. Minnesota Department of Natural Resources. Farmland Wildlife Populations & Research Group. Madelia, MN.

Frawley, B.J. 2014. 2011 Michigan Small Game Harvest Survey. Michigan Department of Natural Resources, Wildlife Division Report Draft. Lansing, Michigan, USA.

Kohn C., Stan. 2013. Game and Fish Summarizes Pheasant Brood Data. North Dakota Game and Fish Department. Bismark, ND.

Luukkonen, D.R., H.H. Prince, and I.L. Mao. 1997. Evaluation of pheasant crowing rates as a population index. Journal of Wildlife Management 61:1338-1344.

Luukkonen, D.R. 1998*a*. Pheasant population status in Michigan, 1998. Michigan Department of Natural Resources, Wildlife Division Report 3284. Lansing, Michigan, USA.

Luukkonen, D.R. 1998*b*. Abundance, distribution, and winter survival of pheasants in Southern Michigan. Ph.D. Thesis, Michigan State University. East Lansing, Michigan, USA.

Sargent, M.S. and K.S. Carter. 1999. Managing Michigan's Wildlife: a landowner's guide. Michigan United Conservation Clubs, Lansing, Michigan, USA.

Sauer, J. R., J. E. Hines, and J. Fallon, K.L. Pardieck, D.J. Ziolkowski, Jr., and W.A. Link. 2012. The North American Breeding Bird Survey, Results and Analysis 1966 - 2011. Version 07/03/2013. United States Geological Survey Patuxent Wildlife Research Center, Laurel, Maryland, USA.

United States Department of Agriculture, Farm Service Agency. Conservation Reserve Program Monthly Summary. August 2014.

Printed by Authority of: P.A. 451 of 1994
Total Number of Copies Printed: 99 Cost per Copy: 0.60
Total Cost: $59.40

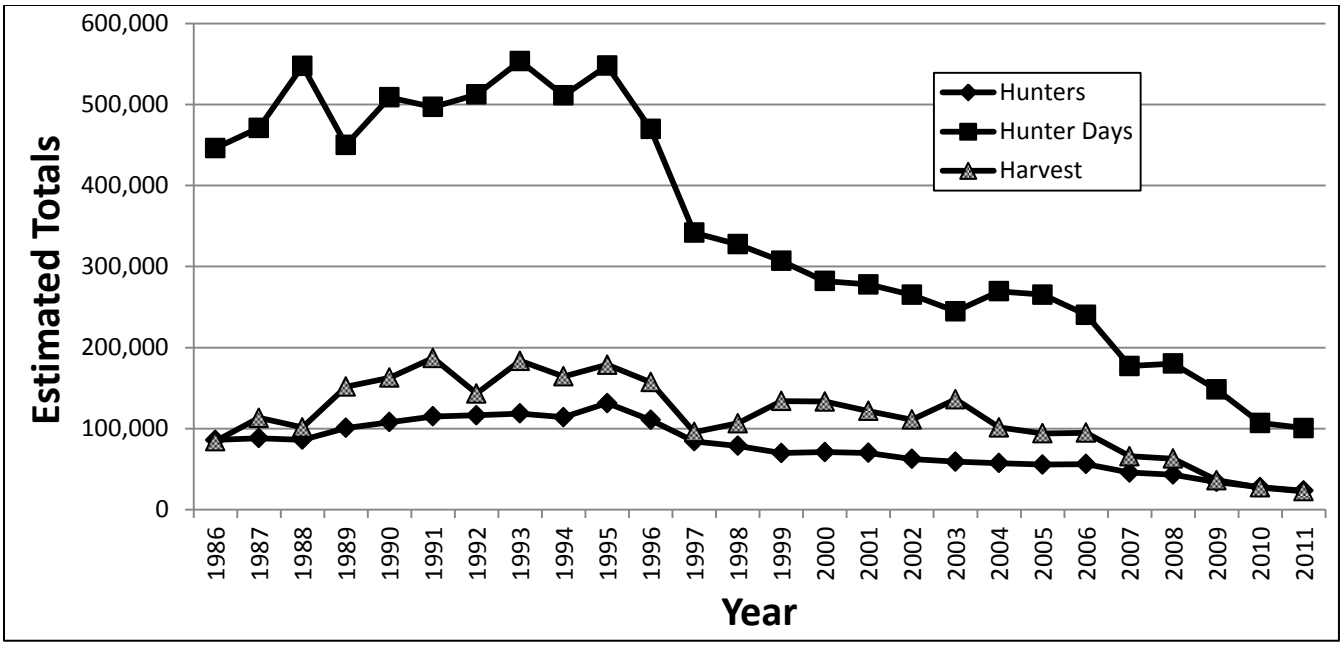


Figure 1. Mail harvest survey estimates of the number of pheasant hunters, hunter days, and harvest in Michigan, 1986-2011.

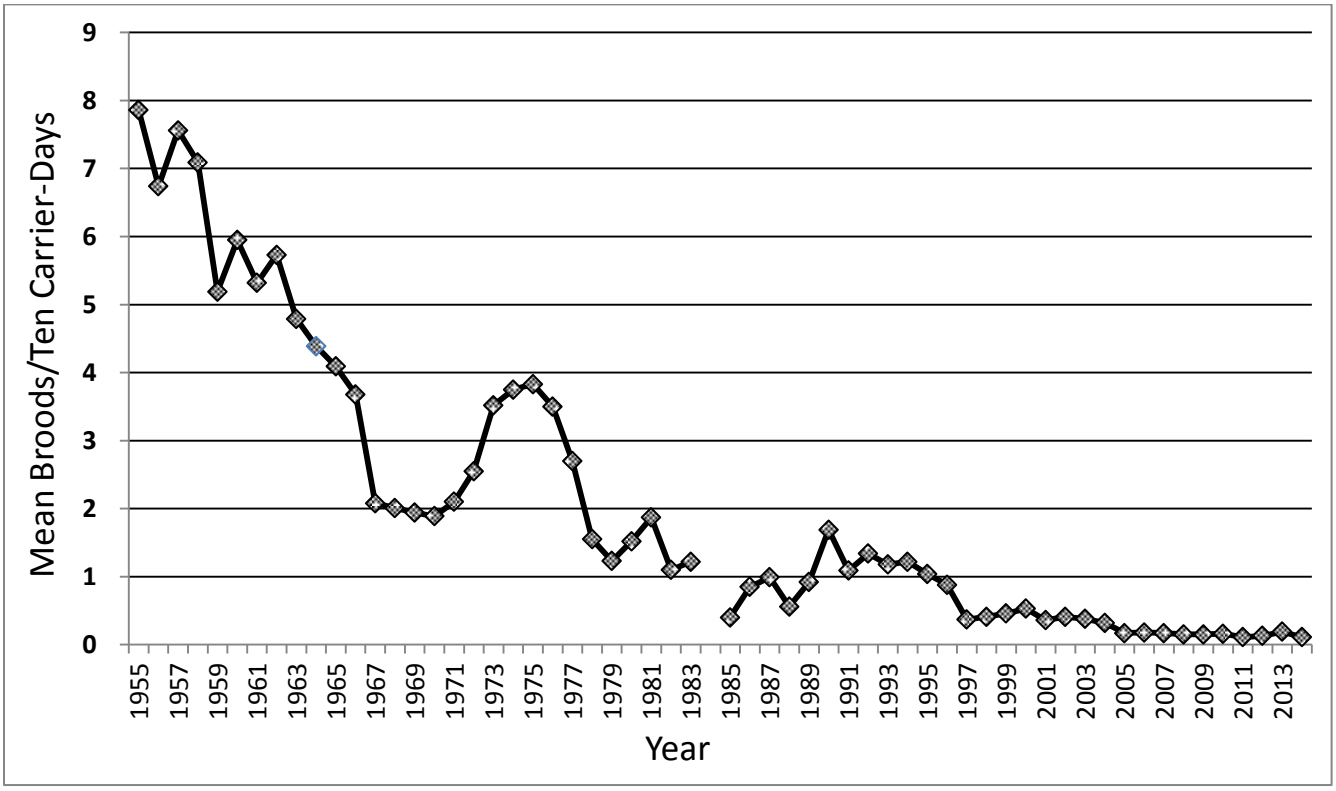
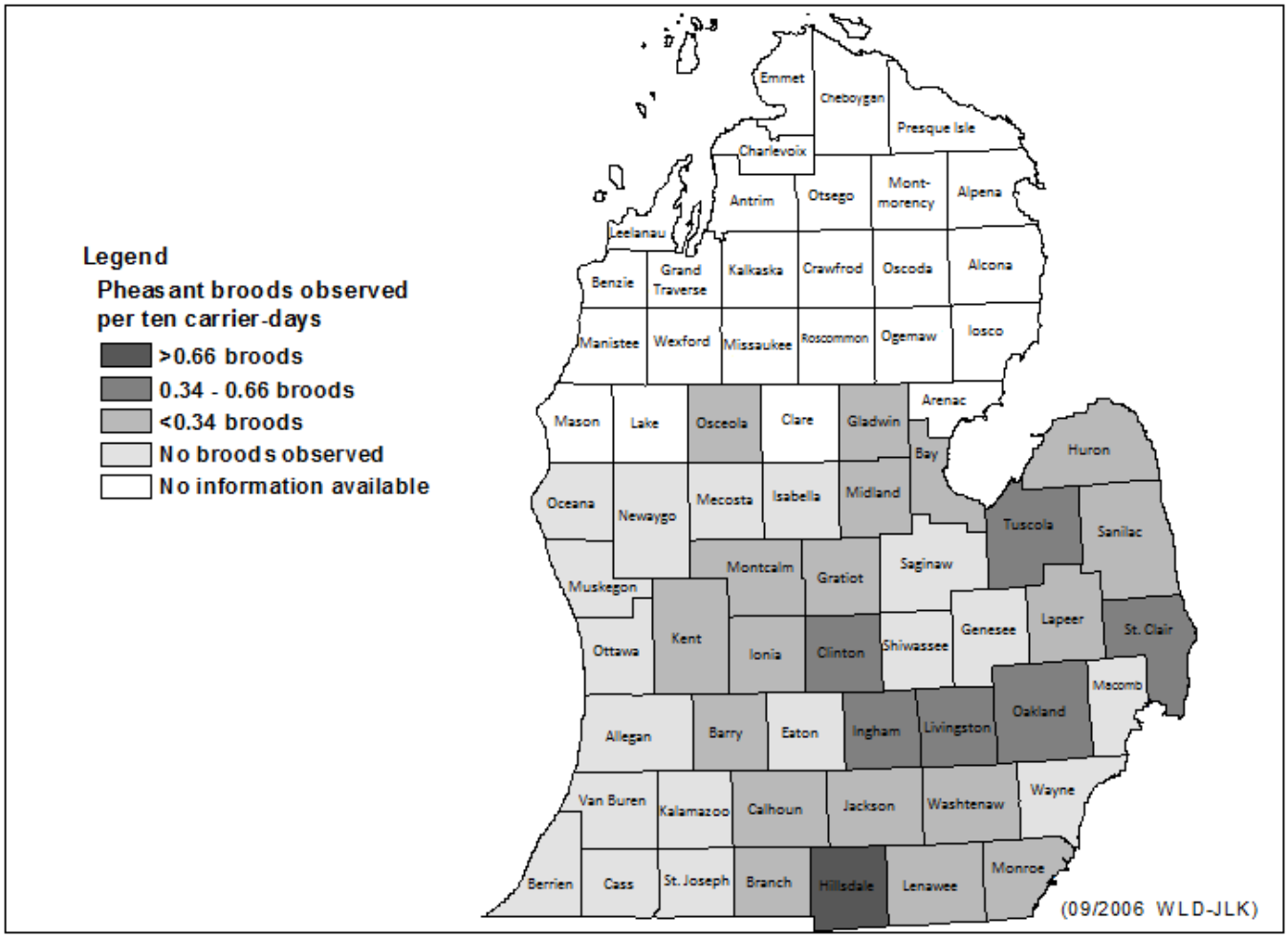
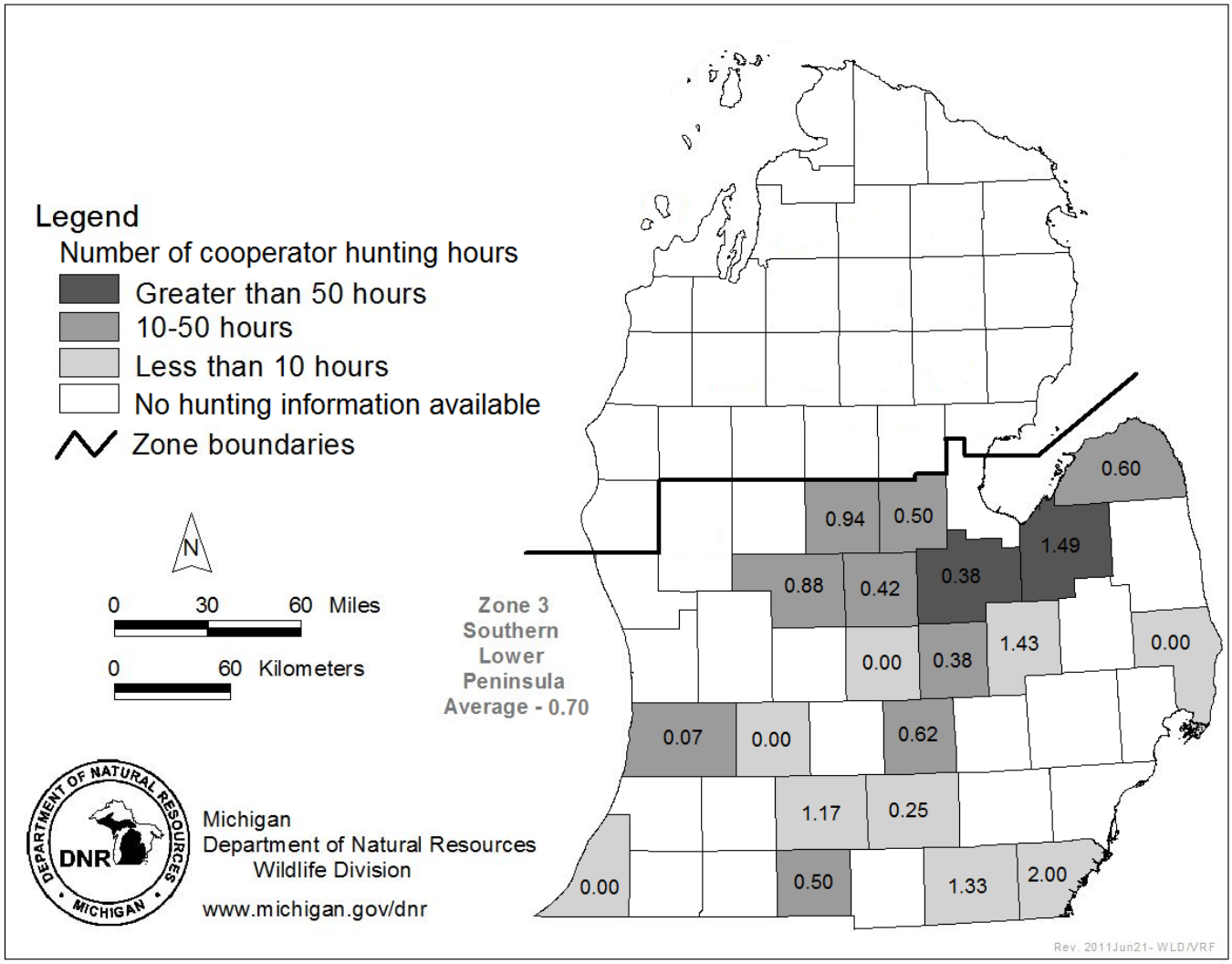


Figure 2. Pheasant brood indices in Michigan, 1955-2014.



Appendix A. Mail carrier pheasant brood indices for Michigan counties, 2014.



Appendix B. Average number of rooster pheasants flushed per hour by cooperators (numbers) and number of hunter hours (shading), 2013.