RING-NECKED PHEASANT
STATUS IN MICHIGAN, 2018

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
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ABSTRACT

Several surveys are conducted each year to monitor ring-necked pheasant (*Phasianus colchicus*), including hunter cooperator survey (2016-2017), mail-carrier brood survey (2017-2018) and harvest survey (2010-2011). Hunters' records were available from 34 cooperators, who hunted 48.5 combined hours in 2017. The average number of rooster pheasants flushed per hour by cooperators (0.49) decreased 40% compared to flush rates from 2016 (0.82). Pheasant mail carrier brood surveys were conducted statewide along 343 surveys in July 2018. Mail carriers observed an average of 0.13 broods per 10 carrier-days. Pheasant broods contained an average of 3.4 chicks. There was a statistically significant change in the number of chicks observed per brood (t=0.08, P=0.05) between years. In 2018 mail carriers observed 3.43 chicks per brood; in 2017 they observed 2.37 chicks per brood.

INTRODUCTION

Pheasants (*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 spent 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).

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METHODS

2010-2011 COMPARISONS

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.

2017-2018 COMPARISONS

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*).

2016-2017 COMPARISONS

Pheasant Hunter Cooperator Survey
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

2010-2011 COMPARISONS

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.

2017-2018 COMPARISONS

Pheasant Mail Carrier Brood Survey
In 2018, mail carriers returned 343 usable survey forms. Comparison between 2017 and 2018 surveys revealed a significant difference in the brood index ($t=0.01$, $P=0.05$). In 2018, mail carriers observed 0.13 broods per ten carrier-days: in 2017 they observed 0.33 (Figure 2 and Appendix A). There was a statistically significant change in the number of chicks observed per brood ($t=0.08$, $P=0.05$) between years. In 2018 mail carriers observed 3.43 chicks per brood; in 2017 they observed 2.37 chicks per brood.

2016-2017 COMPARISONS

Pheasant Hunter Cooperator Surveys

Records were available from 34 cooperators, who hunted over 48.5 combined hours in 2017. Cooperators flushed an average of 0.49 roosters per hour and 0.49 hens per hour while hunting afield. These flush rates were significantly lower than flush rates of 1.09 rosters per hour in 2016 and hens per hour in 2016 (1.42). The highest average pheasant flush rates were reported in Lenawee and Gratiot Counties in 2017 (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). In 2018, DNR staff worked with a variety of partners to develop the Southern Michigan Pheasant and Monarch Recovery State Acres For wildlife Enhancement (SAFE) program to positively impact pheasant and other wildlife populations. As an enhanced version of USDA's Conservation Reserve Program (CRP), SAFE was developed with an emphasis on installing conservation practices to provide 40,000 acres of nesting, brood-rearing and winter habitat for pheasants. Under this program, private landowners agree to convert eligible cropland into wildlife habitat, including grasslands, filter strips, riparian buffer, wetland restorations and early successional habitat. Eligible landowners may enroll for 10 to 15 years and are provided an annual rental payment and enhanced cost-share to establish selected conservation practices. SAFE enrollment was open at USDA Service Centers from June 4 to August 15, 2018, in which time 17,389 acres were offered for enrollment. 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 landscape scale of SAFE may influence local pheasant abundance to increase due to the habitat changes made through this program. For more information about this program, please see www.michigan.gov/dnr.

Winter weather conditions showed similar to intermittent conditions from the previous year. Although the winter weather during 2016 was not as severe as the 2015 season, conditions for pheasants in the spring months were considered to be harsh. Temperatures were average for much of the winter with some fluffy snow present throughout the majority of Michigan. Weather during the nesting and brood rearing period showed average conditions with precipitation variability. Pheasant numbers increase with mild winters (less than 19 inches snowfall) and warm, dry springs (less than 6 inches rainfall) and decline with snowy winters (30+ inches snowfall) and cold wet springs (8+ inches rainfall) (Bogenschutz 2014). Michigan mail-carrier brood survey results showed chicks per brood were below normal in the

past ten years and broods per ten carrier-days were below average in the past ten years. Normal spring conditions should provide insect abundance sufficient to feed pheasant chicks. Based on current survey data, hunters' should expect similar pheasant numbers 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, southcentral and thumb regions of the State (Appendix B). Funding from the Wildlife Habitat Grant Program (WHGP) with a portion of hunter dollars, have provided resources to conservation organizations such has Pheasants Forever and Michigan Association of Conservation Districts in 2014-2016 to assist the DNR-Wildlife Division with development and improvements of quality habitat and food plots for upland game birds in prominent pheasant territory. Operation Freedom Outdoors, National Wild Turkey Federation and Michigan United Conservation Club partners, also assist DNR in cooperation, creation and enhancement of quality upland game bird habitat.

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 2017 Michigan Hunting and Trapping Guide. Hunters and outdoor enthusiasts that want a total outdoor experience for the whole family can attend "The Great Outdoors Youth Jamboree" at Lake Hudson Recreation Area in Lenawee County, Michigan. This free event in mid-September provided by amazing organization partners and the DNR offers outdoor activity stations to learn the skills needed to hunt, fish and a lot more hands-on activities. For information on other events, visit www.michigan.gov/dnr.

The Michigan Department of Natural Resources along with many conservation partners continues to expand the Michigan Pheasant Restoration Initiative (MPRI). During the last five years, the activities associated with this initiative have expanded small game hunting opportunities on both public and private lands, increase wildlife populations, improve hunter satisfaction and help Michigan's economy. A MPRI Coalition Midpoint Accomplishment report was completed in 2016 and highlights the achievements of the initiative. Landowners are encouraged to get involved with the MPRI. Through this initiative, property-owners can get technical and financial assistance, plus help in forming local cooperatives to create and enhance pheasant habitat. In 2015, a cooperative coordinator position was created by partners to help expand co-ops. In 2014 alone, the MPRI planted or treated 3,703 acres in several state game areas and had private lands technical assistance to 4,486 acres. The Hunting Access Program (HAP) enrollment currently has 175 properties, totaling 21,956 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.

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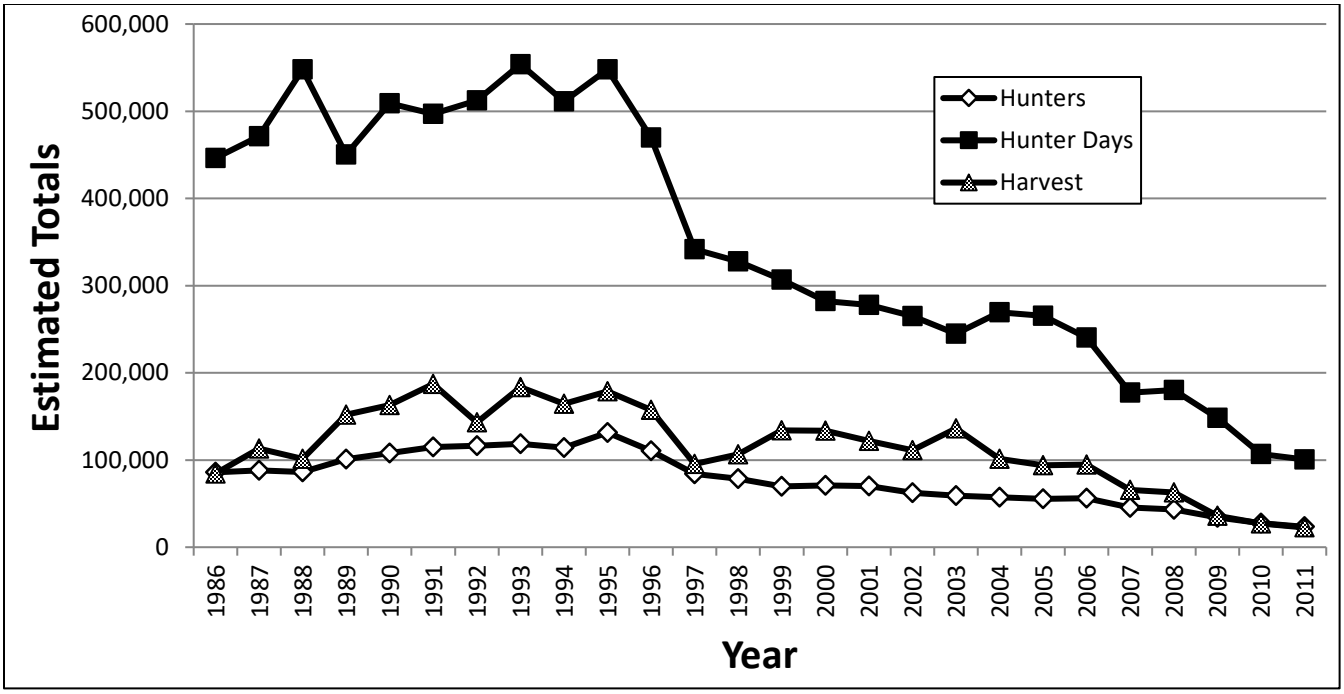


Figure 1. Mail harvest survey estimates of the number of pheasant hunters, hunter days, and harvest in Michigan, 1986-2011.

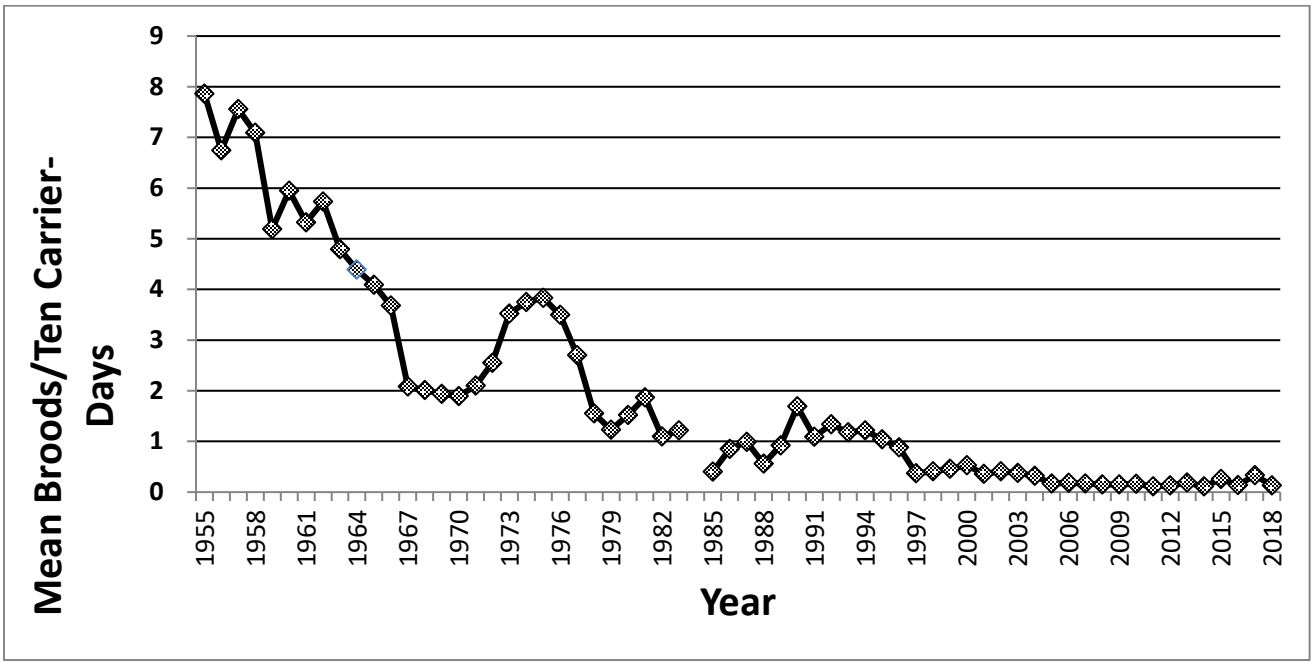
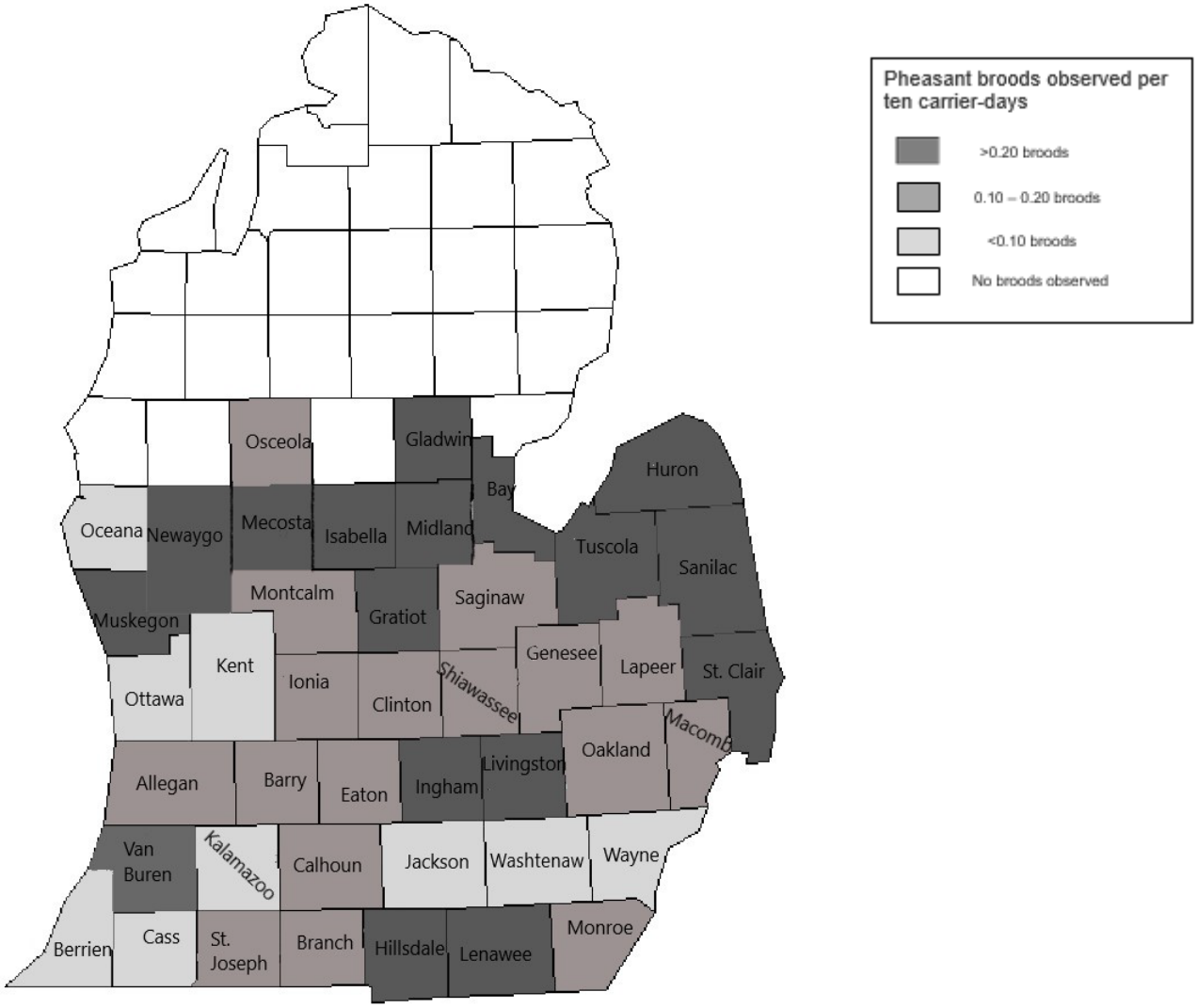
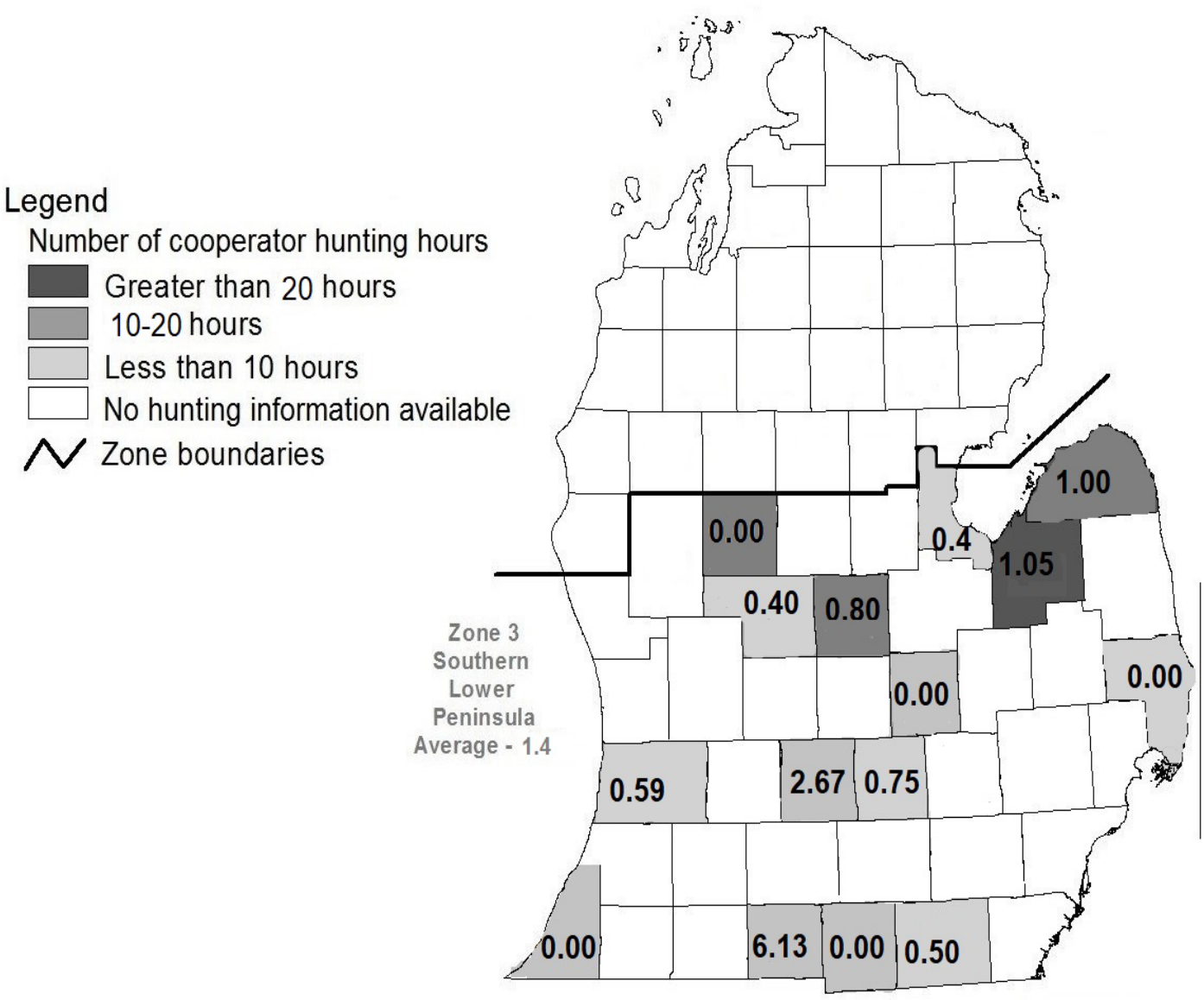


Figure 2. Pheasant brood indices in Michigan, 1955-2018.



Appendix A. Mail carrier pheasant brood indices for Michigan counties, 2018.



Appendix B. Average number of rooster pheasants flushed per hour by cooperators (numbers) and number of hunter hours (shading), 2017.