



August 26, 2019

To: Alaina Gerrits, WDNR Assistant Upland Wildlife Ecologist

Subject: Wisconsin's Green Fire Review of Draft Ruffed Grouse Management Plan, 2020 -2030

Thank you for the opportunity to offer our comments on the draft ruffed grouse management plan. Our wildlife work group membership has extensive experience in the conservation of this species and are very interested in helping WDNR develop a plan to guide future efforts. We want to express our thanks to all involved in producing this draft of the plan. We understand that a lot of effort went into the draft plan and it is a great step forward in the conservation of this species.

### General Comments

Our understanding is that the Department intends to review all the public comments received from the three public hearings and online comments and prepare a final version of the plan for Natural Resources Board (NRB) adoption at its September 25th meeting. We are very concerned that there will be inadequate time for the public to review and discuss the final version of the plan before having to provide their support or concerns to the Natural Resources Board. We strongly recommend that the Department delay NRB consideration of the final plan to allow for a 30-45 day public review. This is a 10-year plan and the public needs adequate time to consider the merits of this proposed plan prior to its adoption.

We also strongly recommend that ruffed grouse hunter survey results conducted to gather public feedback on ruffed grouse management be made available during the public review of the final plan. It's clear from the minutes of the plan committee that this survey provided important information to the decision-making process. Unfortunately, these survey results are not available yet for public review. This is another reason for delaying NRB action on the final plan to allow full public review.

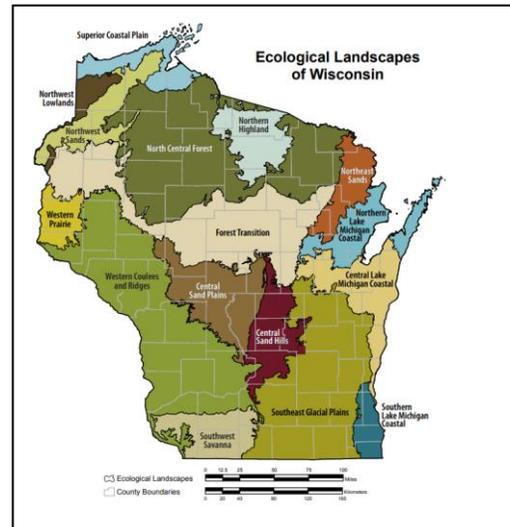
[2017 Wisconsin Act 369](#), enacted on December 15, 2018, modified state law relating to state agency guidance documents. The plan provides guidance to department staff on the mission of the ruffed grouse program, 8 goals, 18 objectives and 35 strategies. Using the department's program guidance web page as our guide, this document would appear to be a "substantial revision of existing guidance". We request the department provide an explanation of how this draft plan and other similar plans will be impacted by this law change, (e.g. recently approved black bear management plan).

WGF wants to underscore that the key to success with ruffed grouse management will be successful habitat management. Further, we want to stress that the scale of habitat management required is going to require large-scale collaboration with private and public landowners, as well as, with other conservation efforts for other species that are dependent upon early successional habitats. Although the title on this plan says Draft Ruffed Grouse Management Plan, the department needs to leave readers with a clear understanding that conservation of this species will be more successful when efforts include

the conservation of a larger assemblage of species. For example, ruffed grouse have greatly benefited from the efforts of the Young Forest Partnership in northern Wisconsin, where the focal species was the golden-winged warbler. In addition, ruffed grouse would greatly benefit with the passage of the Recovering America's Wildlife Act which would bring an estimated \$22 million annually to Wisconsin for conservation of species of greatest conservation concern. Many of these species thrive in areas that ruffed grouse like as well.

Wisconsin has a rich history of ruffed grouse research. We have attached a list of locations within the plan where we offer citation references for this Wisconsin based research. We believe it is appropriate to honor the hard work of early ruffed grouse conservation leaders. We also attached an update to the Stone Lake research on habitat development that wasn't included in the original Research Technical Bulletin. The update will be helpful as best management practices are developed for habitat improvement.

The plan does not make any mention of the great deal of work that has been done to define Wisconsin's ecological landscape and use those landscapes as the building blocks within which habitat work will be done. At a minimum, the plan should include a map of those landscapes. In Section 3 of the plan, the strategies should indicate that the characteristics of each landscape will impact the identification of habitat focal areas and the best management practices for habitat management.



### Ruffed Grouse Management Plan Team

Retired DNR research scientist John Kubisiak served as the Wisconsin's Green Fire representative on the team.

Wisconsin's Green Fire should be listed as a participating organization. We further note that the minutes from the May 21 plan team meeting incorrectly list John as a DNR employee.

### Ruffed Grouse Management Plan Mission, Goals & Objectives

As noted above under our general comments, the department needs to stress the need for a partner-based, multi-species approach to maximize its chance for success for ruffed grouse conservation. The mission, goals and objectives are generally constructed as a single-species approach and should be restructured to incorporate these concepts.

We note that during 2018, and again in 2019, the Natural Resources Board used, and is proposing to use, emergency rule making authority to modify the closing date for the ruffed grouse hunting season. They appear to have very explicit concerns over our ruffed grouse population status. Given these strong concerns, we are surprised to see the proposed goals and objectives in the draft plan are solely qualitative in nature. Terms such as "improved" and "optimized" are used instead of providing measurable metrics. They provide no quantifiable targets that can be used by the NRB, DNR, its partners and the public to gauge the success of plan implementation.

For example, re Habitat on Page 40, the plan direction is to “Provide adequate, consistent levels of early-successional forest habitat to sustain a healthy and broadly-distributed ruffed grouse population.” How does the department define and thereby measure “adequate”, “healthy” and “broadly-distributed”?

The plan does state that “Priority Regions” and “Focal Areas” will be identified and that “Targets will be established for each Ruffed Grouse Focal Area to measure success...” (Page 41). Assuming these “targets” are quantifiable, this is excellent approach and will direct the expenditure of limited resources where they ecologically appropriate and will have the greatest impact. But these data will be of limited utility if they are neither guided by nor tiered to state-level objectives. Likewise, the Population Goal identified on Page 42 states, “Where suitable habitat exists or can feasibly be restored, sustain a healthy and broadly-distributed ruffed grouse population in Wisconsin that provides hunting and other recreational opportunities.” This has the same limitation as above.

WGF supports the use of the best available scientific information in decision-making processes. The proposed plan objectives and strategies identify several science-based data gathering efforts such as drumming and brood surveys, hunter participation and harvest rates, as well as, Forest Inventory and Assessment data. This information can and should be used to establish numerical goals and objectives and used to measure progress.

## **Section 1: Ruffed Grouse Biology**

Taxonomy – Page 2. Taxonomic classification uses a binomial nomenclature for a species name. For ruffed grouse, the term “Bonasa” is both the Genus and the 1<sup>st</sup> half of the species name. In addition, ruffed grouse are the only species in the genus Bonasa. In the second paragraph, the following, “The species name “umbellus” should be corrected to read “The second half of the species name “umbellus”

Distribution and population status - Page 4. The department provides lists several areas where ruffed grouse have been “...established where they were not native...” but does not include the Mat-Su valley region north of Anchorage, AK. The plan also lists several areas where ruffed grouse have been “...restored where they were native in Arkansas, Illinois, Kansas and Missouri...”. Restoration efforts were indeed made in each of these states. However, the term “restored” is overly generous as there may currently be zero birds in AR, KS and IL, and the MO population is, at best, extremely low density. In addition, ruffed grouse restoration attempts were conducted in IN and the birds originally fared very well. Unfortunately, this population has crashed due to dramatic declines in young forest habitats and, I believe, was recently proposed for state listing. It is always hard to provide complete and up-to-date assessment on species distribution. However, if you keep this section in the plan, we recommend addressing the omissions mentioned above.

Population Dynamics - Page 6. The plan discusses possible causes of ruffed grouse population cycles. We recommend this section should reference the hypothesis put forth by Gordon Gullion and Dr. John Bryant from Alaska that a phenol compound on aspen bud scales may negatively affect the ability of birds to fully digest aspen buds in some years. This hypothesis suggests that aspen trees defend themselves during years with high “herbivory” from grouse by increasing the amount of this compound, placing grouse on a lower nutritional plane, which increases grouse susceptibility to mortality factors. The fact that grouse are cyclic almost exclusively where aspen is abundant on the landscape,

and the fact that plants can indeed defend themselves, suggests that the hypothesis should at least be mentioned.

Life Cycle, Breeding Season - Page 7. We suggest a restructuring the first sentence to read: “Ruffed Grouse courtship may only be 5-10 minutes long as the hen approaches the drumming log, during which the male increases his display intensity. After the brief copulation occurs, females move away from the drumming log to search for suitable nesting sites.”

Fall and Winter – Page 8. We recommend removing the reference to alder as a food source for ruffed grouse. There is significant research that indicates that ruffed grouse avoid consuming alder even if it is readily available.

## **Section 2: Ruffed Grouse in Wisconsin**

Distribution and Habitat Availability in Wisconsin - Page 9: We recommend replacing the 2<sup>nd</sup> sentence in the first paragraph with the following: “Wisconsin’s early forests supported substantially more old forest than today, natural disturbance (fires, wind storms, etc.) and human-initiated disturbance by Native Americans sustained a mosaic of vegetation types, forest types and forest age classes.”

P 12. The first mention of the Forest Inventory and Analysis and its acronym “FIA” occurs in the second paragraph without providing the reader any information about this important survey. It’s clear that Forest Inventory and Analysis data plays a key role in interpreting why grouse are where they are in Wisconsin and why abundance levels vary. We recommend adding a short explanation of the survey before you reference data from it and we recommend adding an appendix to the plan that gives more detail on the FIA survey and the information it provides.

Figure 4 should specify that these “functional regions” are USFS FIA delineated regions and not DNR’s.

Oak and Oak Hardwoods - Page 14: The wording in this section suggests that there may be confusion in some of the FIA oak statistics. FIA refers to the “oak-hickory” group as increasing in acreage. This is primarily due to including Central Hardwood species. WGF recommends that this section be changed to identify that a major concern is that oak-dominated forests are declining (high-graded for the oak and converting to central and northern hardwoods). Some oak forests are dominated by a few large-diameter oak trees per acre and are technically “oak forests” based on those few very large trees. If these large trees are selectively harvested, then the stand becomes central or northern hardwoods. So, our oak-dominated forests are not secure and there are many challenges regenerating and maintaining oak forests. There is great wildlife habitat and forest biodiversity value in maintaining 3 to 5 very large full crowned oak trees per acre as stands are regenerated. Advance oak regeneration in many forests currently classified as oak is quite limited suggesting that securing the future for this important forest type is a significant challenge (not just in WI).

WGF also recommends that the habitat section also identify the significant role that deer herbivory is having on oak and other important habitat regeneration, as well as the brushy understory. Wisconsin’s deer populations are at the highest levels documented since modern-era population estimates began. The impact of high deer populations and herbivory to ruffed grouse and other bird species in Connecticut and Pennsylvania is causing concerns. In Fairfield County, Connecticut, both the Nature

Conservancy and Audubon Society initiated deer herbivory reduction programs in response to declines in bird species (including ruffed grouse) that rely on the understory for foraging and nesting. As discussed in the section on West Nile Virus (WNV), areas of low quality habitat are likely less resilient to this outbreaks of this disease. In Pennsylvania, high rates of deer herbivory are viewed as a contributing factor to habitat declines. Wisconsin's ruffed grouse habitats are also experiencing high herbivory rates in many areas of the state. Severe declines in ruffed grouse numbers in southern Wisconsin coincide with the same areas that many of Wisconsin's County Deer Advisory Councils are struggling to meet established population goals to either maintain or reduce local deer populations.

Ruffed Grouse Surveys, Abundance Surveys - P. 33: "Figure 18. Ruffed grouse hunters, days afield, and harvest from the small game survey, 1983–2018." should read "Figure 18. Ruffed grouse hunters, days afield, and harvest estimates from the small game survey, 1983–2018." It is always helpful to remind the reader that data shown are estimates derived from surveys. Further, all these graphs would benefit from the addition showing the statistical confidence information associated with them.

Ruffed Grouse Health - P. 35: We believe the first sentence of the 2<sup>nd</sup> paragraph needs additional context. It currently reads, "No disease agent has been documented to cause significant declines in Wisconsin's ruffed grouse population." Clearly the ruffed grouse population monitoring data from 2018 suggest some factor played a major role in disrupting normal grouse population trends. We do not know if West Nile Virus could have been that "additive stressor" that caused the lower than expected populations. However, we were concerned enough that we joined Minnesota and Michigan to greatly improve our disease surveillance and knowledge of this disease in all three states. We suggest that the first sentence could be improved by restructuring it to read, "While disease agents could cause significant declines in Wisconsin's ruffed grouse populations, there isn't good historical disease monitoring data to document that such a disease impact has occurred."

West Nile Virus – P. 36 We understand that the 3-state collaborative surveillance effort has collected only one year of data and that not all the laboratory analysis of year one samples is complete. However, we believe there should be some presentation of the year one effort to give the reader some sense of the volume of data collected and its potential address key questions about this disease. We also recommend informing the reader of how the plan will be amended to include results and conclusions when the 3-year study is complete.

WGF is concerned that this section, in general, downplays the scientific evidence that WNV can have a significant mortality impact on juvenile ruffed grouse and the uncertainty of whether it is also a potential mortality factor for adult birds. Current scientific evidence shows that WNV can cause high mortality rates (40%) and additional morbidity (50%) (a potential total of 90%) in young grouse (Nemeth et al 2017, Veterinary Pathology), but the effects on adult grouse are unknown. In addition, ruffed grouse numbers in Pennsylvania declined dramatically since 2002, corresponding to WNV introduction and presence in the eastern US. Stauffer et al. (2018) investigated alternative hypotheses related to the ruffed grouse decline. They found support for the importance of forest and early successional forest habitat associated with ruffed grouse declines, but also concluded that populations may have been impacted by WNV. They concluded that in the eastern US grouse populations in high quality habitat are more readily able to compensate for WNV impacts than those in poor habitats. In lesser quality ruffed grouse habitats managing habitat may be insufficient to maintain ruffed grouse populations in the face

of WNV. These findings should be a cause for concern for Ruffed Grouse, especially in many areas in the central and southern parts of the state.

Because WNV is episodic the potential impact on grouse populations also is likely to vary annually. Under ideal circumstances, our annual disease surveillance and ruffed grouse abundance survey would be robust and timely enough, that if WNV was having a major population impact, regulatory actions to lessen hunting-caused mortality to be implemented in the same year. However, these circumstances don't exist. We believe a better understanding of the actual impacts of WNV on Wisconsin grouse populations is needed. This may require the 3-state surveillance effort to continue through a full population cycle or longer to gain additional understanding of the disease impacts on grouse, annual variations the disease severity and geographic distribution, the natural ability of grouse to recover from WNV outbreaks, and whether late season harvest is an important source of mortality.

Climate Change and Ruffed Grouse - P. 36: We recommend the addition of some graphics or maps showing snow cover levels and trends to better help the reader understand the geographic areas of the state that may be impacted by loss of snow roost habitat.

Some of these points identify/illustrate some potential research initiatives..

### **Section 3: Future Management of Ruffed Grouse: Goals, Objectives & Strategies**

**Ruffed Grouse Management Program Mission** - WGF recommends restructuring this section to convey that this work will be done within a partner-driven, multi-species framework.

**General Ruffed Grouse Management** – As mentioned under general comments, this section should include reference to the Ecological Landscapes of Wisconsin as the framework within focal habitat areas will be identified. The priority habitat regions identified within the plan appear to touch at least 10 different ecological landscapes. Using this Ecological Landscapes as the planning framework is consistent with recent change the department has undertaken with master planning processes where all properties within an ecological landscape are planned as a group.

**Habitat** – The key component of this section is the identification of focal habitat areas within two years. WGF strongly agrees with this strategy, but we question the department's ability to achieve this with existing funding, staffing, workloads and the current regulatory framework. In addition, once focal areas are identified, these will become new guidance to department staff that work in those areas. As such, any focal areas will need to go through public review and are subject to challenge.

As the department develops best management practices for ruffed grouse, WGF recommends eliminating the common recommendation to eliminate *Carpinus* and *Ostrya* from forest stands in most MFL plans as a means of minimizing competition for eventual crop trees. *Carpinus* and *Ostrya* are both readily consumed by ruffed grouse.

**Population** – Its unclear if new monitoring efforts will be developed to track ruffed grouse population changes for each focal area identified. If so, this will require new resources to accomplish. Further, the current 3-state increased disease surveillance is possible only through a new allocation of financial resources. If increased disease surveillance is now a routine part of ruffed grouse conservation, a long-term sustainable funding source for this work is needed.

**Partnerships** – Partnerships depend upon good communication. Good communication requires that department staff have the time to meet with partners to forge close working relationships and commitments to conservation goals. We are concerned that department staff are maxed out with existing responsibilities.

**Research and Monitoring** – While the 2019 ruffed grouse hunter survey hasn't been made public yet, WGF believes that similar surveys of ruffed grouse hunters should be done on a regular basis. Yet again, long-term funding and enough staffing will be needed for this survey, as well as, the other research efforts outlined in the plan. Among the many ruffed grouse research possibilities that may be undertaken, we wish to add the following possibilities: defense mechanisms/compounds in aspen affecting ruffed grouse population levels, relationship between corticosterone concentrations, a common stress hormone in birds and the effect of cold temperatures that may be mediated by suitable roosting snow or other factors mentioned above. The distribution and relative abundance of aspen affected by climate change, theorized differences in survival of red vs. gray phase birds as suggested by a Canadian researcher and some lay observers, and the ongoing role that predation on ruffed grouse.

**Harvest Management** – We agree that a change in the ruffed grouse harvest management zones is warranted based upon available habitat and current population status. Based upon the information available in the draft plan we don't understand the logic behind the suggested northern and southern zone boundaries. The line as drawn will bisect the central forest and driftless priority habitat regions. No information was presented to indicate that ruffed grouse habitat availability or grouse population differences warrant such a division of these zones. Further, the plan does not discuss whether any attempt was made to utilize existing zone boundaries from other species. For example, recent changes were made to the northern boundary of the Northern Forest Deer Management Zone and the Central Farmland and Central Forest zones to better approximate habitat availability in each of these zones. Hunters would appreciate as much consistency in zone boundaries as possible to avoid confusion in the field.

**Ruffed Grouse advisory committee responsibilities**– While specific responsibility for most of the objectives and strategies were not assigned within the plan, it seems likely that a lot of new responsibility will fall to the ruffed grouse advisory committee. *We believe there is a need to increase transparency of management decisions of this committee. Based upon our experience, ruffed grouse advisory committee meetings are not well advertised, nor are the important agenda items and supporting informational documents available to the general public in advance of the committee meeting. Currently, the department's web pages for ruffed grouse obscure the important role this committee plays. Website users should not have to go hunting to find information on committee mtgs and decisions.*

As we mentioned in our comments on the recently approved bear management plan, advisory committees fall well short of the public transparency and involvement with the well-defined Natural Resources Board meetings and documents. While the committee meetings do include time for public comments, the plan does not indicate whether formal public input processes will be used in advance of committee decision-making on issues. A fundamental issue that needs to be addressed is who is making what decisions and how will the public provide information into those decisions.

**The cost of ruffed grouse management** – Unlike 10-year property master plans, the draft contains not estimate of costs required to implement the objectives and strategies outlined in the plan. WGF recommends the final plan provide information on annual costs and identify where shortfalls of funding or staff will prevent implementation of desired actions until new resources are found.

While our comments are extensive, please know that the members of Wisconsin's Green Fire Wildlife Work Group appreciate the work done by the planning committee. We appreciate the opportunity to provide these comments in hopes of building on the progress you have made. We look forward to continued participation in your planning efforts. Please feel free to contact us for any additional information or to discuss these recommendations.

Thanks for all you do to conserve Wisconsin's wildlife resources!

*Tom Hauge*

*Adrian Wydeven*

Co-chairs, Wildlife Working Group  
Wisconsin's Green Fire

Cc: Scott Loomans, Administrator, Fish, Wildlife & Parks Division  
Tami Ryan Nadolny, Acting Director, Wildlife Management  
Kent Van Horn, Section Chief, Bird & Habitat Conservation  
Mark Witecha, Upland Wildlife Ecologist

## Wisconsin Ruffed Grouse Research Citations Worth Including in the Plan

P.5, para 2-3: RUFFED GROUSE use of forest types (Kubisiak et al. 1980, Kubisiak 1985, McCaffery et al. 1996).

P.5, para 3: Typo -- McCaffery

P.7, para 1: Drumming stages (McCaffery et al. 1996:26)

P.8, para 1: Brood habitat (Kubisiak 1978)

P.8, para 3: Roosting in aspen canopy? Owl bait! Clarify.

P.8, para 3: RUFFED GROUSE will snuggle into 7" snow too (Gullion 1970).

P.10, para 1: Not only young forest, but woodlands are near absent in SE WI.

Table 3: Should estimated numbers of RUFFED GROUSE hunters be added?

P.28, para 2: Should SLEA and SWA reports be cited here?

P.28, para 3: Could cite long history of WI surveys (Thompson and Moulton 1981) as early as 1951.

P.33: Diseases – Sue Marquenski studied RUFFED GROUSE proventriculi in WI. Report, publ?? Don't know.

P.37, last para: There is a typo – extra "grouse" in last line.

P.38, para 2: Kubisiak, Paisley, and Wright or Walter did something on this question, but we don't have a citation. Scott Walter might know.

Gullion, G.W. 1970. Factors influencing ruffed grouse populations. Trans. N. Amer. Wildl. and Nat. Resour. Conf. 35:95-105.

Kubisiak, J.F. 1978. Brood characteristics and summer habitats of ruffed grouse in central Wisconsin. Tech. Bull. 108. Wis. Dep. Nat. Resour. Madison. 11pp.

Kubisiak, J.F., J.C. Moulton, and K.R. McCaffery. 1980. Ruffed grouse density and habitat relationships in Wisconsin. Tech. Bull. 118. Wis. Dep. Nat. Resour. Madison. 15pp.

Kubisiak, J.F. 1985. Ruffed grouse habitat relationships in aspen and oak forests of central Wisconsin. Tech. Bull. 151. Wis. Dep. Nat. Resour. Madison. 22pp.

McCaffery, K.R., J.E. Ashbrenner, W.A. Creed, and B.E. Kohn. 1996. Integrating forest and ruffed grouse management: a case study at the Stone Lake Area. Tech. Bull. 189. Wis. Dep. Nat. Resour. Madison. 40pp.

Thompson, D.R. and J.C. Moulton. 1981. An evaluation of Wisconsin ruffed grouse surveys. Tech. Bull. 123. Wis. Dep. Nat. Resour. Madison. 13pp.

## **PATCH-CUTTING IMPACT ON GROUSE POPULATIONS: AN UPDATE ON THE STONE LAKE GROUSE STUDIES**

Keith R. McCaffery

**Background:** One of the principal objectives of the Stone Lake studies was to evaluate the effect of deliberate habitat management on ruffed grouse populations. The study area comprised 4200 acres and at the time the study began in 1968, upland stands in two of five forest compartments had been commercially clear-cut for pulpwood. These two compartments were used to serve as comparisons to the remaining three compartments where smaller patches (mean = 22.4 acres) were scheduled for periodic clear-cutting over more than a decade. The expectation was that the patch-cutting would favor grouse by providing sapling (cover) and mature aspen (food) in close proximity while providing continuous availability of sapling habitat in each compartment during the full rotation of aspen (40+ years).

**Results:** At the conclusion of formal data collection in 1994, there was no strong evidence that the trends and densities of spring drumming males (surrogate for population size) were any different in the patch-cut compartments than in the traditionally clear-cut compartments. We suspected that the greater proportion of sapling habitat and the fact that mature aspen was not absent in the “control” compartments compensated for any advantages provided by the patch-cutting. However, we predicted that the interspersed smaller cuts spread over time would result in higher grouse densities in the long term.

Though the study formally ended with the publication of a technical bulletin\* in 1996, monitoring of spring drummers has continued. Responses during the past 10 years suggest a strong response to patch-cutting over time (**Figure**). Drummer densities in the patch-cut compartments have averaged much higher than in the traditionally cut compartments. The main reason for the difference appears to be the more continuous availability of sapling habitat in patch-cut compartments.

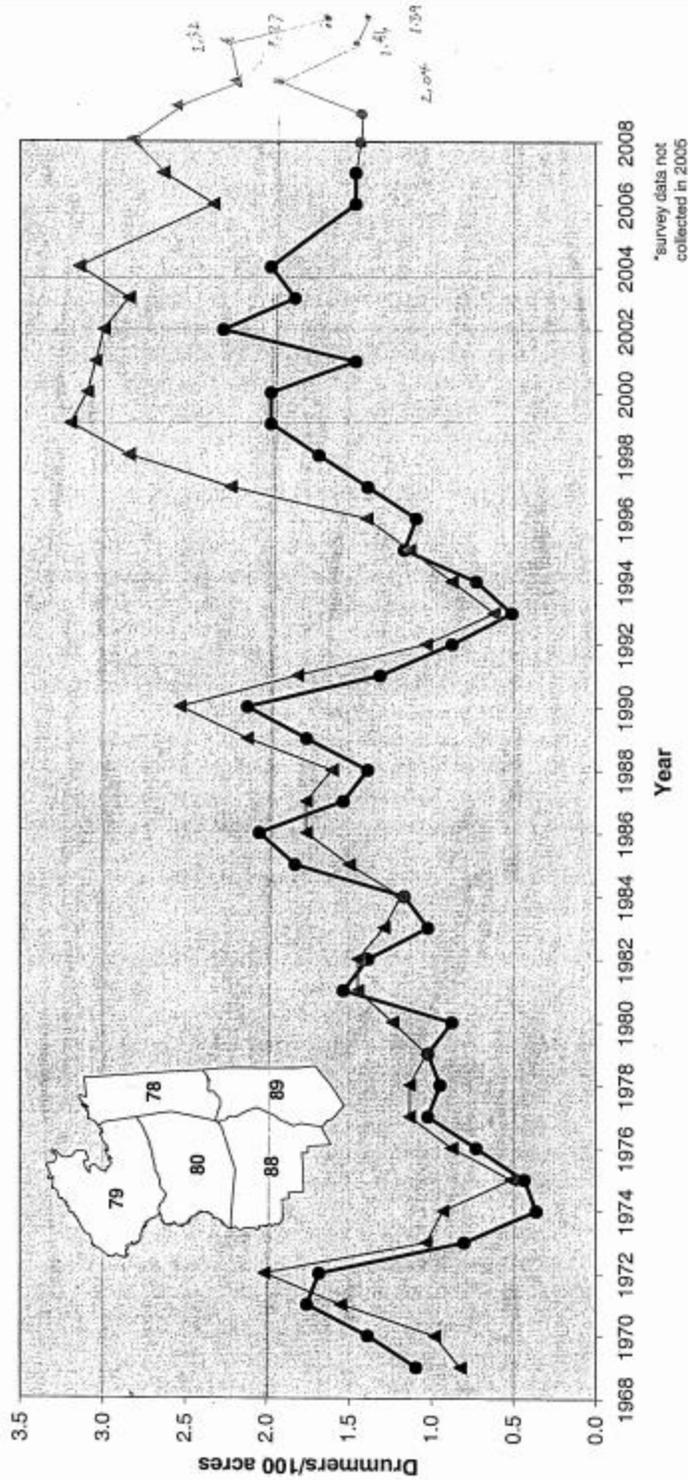
**Future:** Justification for continuing grouse monitoring at Stone Lake since 1994 has included: (1) maintaining one of the longest continuous grouse data-bases in America, (2) preserving a foundation of population data in the event ruffed grouse studies resumed on the area, (3) quantifying the long-term effects of habitat manipulation during the Seventies and Eighties and the patch-cutting that continues, (4) providing a supplemental index to regional ruffed grouse population trends, and (5) honoring the designation as Demonstration Area in the NHAL master plan. Are these justifications still sufficient to continue monitoring ruffed grouse at the Stone Lake Experimental Area? Are there new information needs that should be addressed at SLEA?

\* **McCaffery, K.R., J.E. Ashbrenner, W.A. Creed, and B.E. Kohn. 1996.**

**Integrating forest and ruffed grouse management: a case study at the Stone Lake Area. Wisconsin. Dep. Nat. Resour. Tech. Bull. 189. 40pp.**

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# Stone Lake Ruffed Grouse - Drummer Densities



Drummer densities on "experimental patch cut" Compartments 79, 88, and 89 compared with "traditional" management in Compartments 78 and 80. Densities are based on potential grouse habitat including clearcut areas.

Graph prepared by Michela P. Woodford