

NAME OF SPECIES: <i>Perdix perdix</i>	
Synonyms:	
Common Name: Gray partridge, Hungarian partridge, Hun	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	2. <u>Abundance</u> : They reside in WI. They are shy birds and a population estimate is hard to derive. One estimate was given at 80,000 birds (5).
	3. <u>Geographic Range</u> : They are found in most of WI's southern counties. In northeast WI gray partridge are found in Oconto and Door County. The highest densities can be found in Brown, Calumet and Manitowoc Counties. In northwest WI scattered populations are found in St. Croix, Pierce, Barron and Dunn Counties (5). These birds are also found scattered elsewhere throughout WI.
	4. <u>Habitat Invaded</u> : They live in old, brushy, and abandoned farmlands, brushy canyons and coulees, and semi-rocky slopes (1). Gray partridge like open farm fields and grassy fields (2). They adapt well to intensive agricultural areas (3, 5). Disturbed Areas <input checked="" type="checkbox"/> Undisturbed Areas <input type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin</u> : Originated in Europe, Czechoslovakia. 5000 were released in Waukesha County between the years of 1908-1928 (5). According to the small game harvest 2005-2006 the kill for gray partridge was around 1000. The kill in 1983 was just under 40,000. This is a significant drop in kill which potentially could correspond to a drop in population.
	6. <u>Proportion of potential range occupied</u> : They occupy most of the suitable range in WI; south of a line from Green Bay to Prairie du Chien, and far western WI (12). They occur in low densities throughout their WI range. Gray partridge covey up (10-15 birds) in the winter, but they do not migrate or move. They stay around grasslands and intensively managed agricultural fields (1,2,3, 4, 5).
	7. <u>Survival and Reproduction</u> : May experience high chick mortality, especially with cold and/or rainy weather during hatching period. Both parents attend broods. The WI DNR does 10 week brood observation surveys. The 2006 results showed a decrease in the number of broods and the number of chicks per brood.
II. Invasive in Similar Climate Zones	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> <u>Where (include trends)</u> : Populations established in prairie grasslands and agricultural fields in upper Midwest and southern Canada. The gray partridge is prevalent in these areas, though the ring-neck pheasant is hurting numbers of the gray partridge.
III. Invasive in Similar Habitat Types	1. Upland <input type="checkbox"/> Wetland <input type="checkbox"/> Dune <input type="checkbox"/> Prairie <input checked="" type="checkbox"/> Aquatic <input type="checkbox"/> Forest <input type="checkbox"/> Grassland <input checked="" type="checkbox"/> Bog <input type="checkbox"/> Fen <input type="checkbox"/> Swamp <input type="checkbox"/> Marsh <input type="checkbox"/> Lake <input type="checkbox"/> Stream <input type="checkbox"/> Other: Intensively managed agricultural fields.
IV. Habitat Affected	1. <u>Where does this invasive resided</u> : Edge species <input checked="" type="checkbox"/> Interior species <input type="checkbox"/>

	2. <u>Conservation significance of threatened habitats</u> : This bird is found in grasslands. It does well, near intensively managed areas, these habitats are not threatened (1,2,3,4, 5).
V. Native Habitat	1. <u>List countries and native habitat types</u> : They are in found grasslands in Eurasia
VI. Legal Classification	1. <u>Listed by government entities?</u> The WI DNR has a hunting season for them. The season opens the 3 <sup>rd</sup> Saturday in October and closes December 31. The season is closed in Clark, Marathon, and Taylor Counties
	2. <u>Illegal to sell?</u> YES <input type="checkbox"/> NO X Notes: This bird can be sold if seller has an appropriate license.
<b>B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS</b>	
I. Life History	1. <u>Type of Animal</u> : Mammal <input type="checkbox"/> Bird X Reptile <input type="checkbox"/> Amphibian <input type="checkbox"/> Fish <input type="checkbox"/>
	2. <u>Age of Maturity or time to self sufficiency</u> : They resemble adults after 16 weeks and remain in a covey with the parents through the fall and winter (4). In the first few weeks 50-60% of the chicks will suffer mortality (4). Only a few birds will reach age 3 (4).
	3. <u>Gestation Period</u> : 23 days for incubation (4)
	4. <u>Mating System</u> : Polygamous <input type="checkbox"/> Polyandrous <input type="checkbox"/> Monogamous X <u>Notes</u> : The males will help raise the young (4).
	5. <u>Breeding/ Breeding period</u> : Nesting occurs between mid-April to late May. In Iowa May 20 shows the most nesting action (5). The female will lay 10-20 eggs per clutch with one clutch per year (3, 4, 5). Incubates the largest clutch of any game bird in North America.
	6. <u>Hybridization potential</u> : No information found
II. Climate	1. <u>Climate restrictions</u> : These animals are winter hardy. They can withstand cold and snowy winter months (4).
	2. <u>Effects of potential climate change</u> : Warm climates may allow for more pheasants to survive where gray partridge are found. Pheasants kill and harass gray partridge (11). This may push the range of gray partridge into central Canada.
III. Dispersal Potential	1. <u>Pathways - Please check all that apply</u> :  <u>Unintentional</u> : Bird <input type="checkbox"/> Animal <input type="checkbox"/> Vehicles/Human <input type="checkbox"/> Wind <input type="checkbox"/> Water <input type="checkbox"/> Other:  <u>Intentional</u> : Ornamental <input type="checkbox"/> Forage/Erosion control <input type="checkbox"/> Medicine/Food: Recreational X Other: These bird were introduced for hunting purposes.
	2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control</u> : This bird has a high reproductive rate and the ability to live in cold weather.
IV. Ability to go Undetected	1. HIGH <input type="checkbox"/> MEDIUM X LOW <input type="checkbox"/> These birds are very skittish, but they live around people.

C. DAMAGE POTENTIAL	
I. Competitive Ability	1. <u>Presence of Natural Enemies</u> : These birds have all the same enemies as native grouse - foxes, coyotes, raccoons, skunks, weasels, cats, and avian predators.
	2. <u>Competition with native species</u> : Some diseases brought in by exotic birds may cause declines in native game bird populations (6). Another study stated that gray partridge have little ecological impacts, and they are considered "naturalized" (7). They are considered an "alien" species instead of invasive species by this study (8). A study in Canada stated that the impacts of the partridge are unknown but it assumes that this partridge is likely to be a competitor of native prairie grouse (10).
	2. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) <input type="checkbox"/> MEDIUM (4-6 yrs) <input type="checkbox"/> LOW (7-10 yrs) X Notes: In Wisconsin this bird population is declining.
II. Environmental Effects	1. <u>Alteration of ecosystem/community composition?</u> YES <input type="checkbox"/> NO X Notes:
	2. <u>Alteration of ecosystem/community structure?</u> YES <input type="checkbox"/> NO X Notes:
	3. <u>Alteration of ecosystem/community functions and processes?</u> YES <input type="checkbox"/> NO X Notes:
	4. <u>Exhibit Parasitism?</u> YES <input type="checkbox"/> NO X Notes:
D. SOCIO-ECONOMIC EFFECTS	
I. Positive Aspects of the Species to the Economy/Society:	Notes: This partridge is a game bird and brings in a limited amount of money for the State.
II. Potential Socio-Economic Effects of Requiring Controls: Positive: Negative:	Notes: Hunting revenues will be lost if partridge is exterminated.
III. Direct and Indirect Socio-Economic Effects of the Animal :	Notes: This partridge brings in revenue. If the species is eliminated, hunters who hunt this bird will take up hunting other game birds.
IV. Increased Costs to Sectors Caused by the Animal:	Notes: n/a
V. Effects on Human Health:	Notes: n/a
VI. Potential Socio-Economic Effects of Restricting Use:	Positive: n/a Negative: Hunting revenue will be lost if partridge is restricted.
E. CONTROL AND PREVENTION	
I. Costs of Prevention (please be as specific as possible):	Notes: This partridge can be trapped in the winter with grain baited walk-in-traps (10). Labor, supplies, travel.
II. Responsiveness to Prevention	Notes:

Efforts:	
III. Effective Control Tactics:	Mechanical X Biological <input type="checkbox"/> Chemical <input type="checkbox"/> Times and uses: Live-trap during winter when the snow depth is high. The shallower the snow depth, the lower the trapping success (10). Increase hunting pressure.
IV. Minimum Effort:	Notes: Live-trapping would be the best way to catch the partridge.
V. Costs of Control:	Notes: Labor, trapping supplies, travel. No cost to increase hunting pressure.
VI. Cost of Prevention or Control vs. Cost of Allowing Invasion to Occur:	Notes: Removal costs would probably exceed damages/harm caused by gray partridge. There are far greater threats to biodiversity than those from gray partridge.
VII. Non-Target Effects of Control:	Notes: One may catch native birds in the live-traps, but they could be released unharmed.
VIII. Efficacy of Monitoring:	Notes: Brood surveys are conducted every year by the Wisconsin DNR. Breeding bird surveys, Christmas bird count.
IX. Legal and Landowner Issues:	Notes: Removing these from landowner's properties may cause a public out cry.

#### F. REFERENCES:

Number	Reference
1	Smith, Christopher. 2000. A Field Guide to Upland Birds and Waterfowl. Wilderness Adventure Press. Belgrade Montana. P 26.
2	National Geographic. 1999. Field Guide to the Birds of North America 3 <sup>rd</sup> edition. National Geographic Society Washington D.C.
3	Bull, John and John Farrand. 1994. National Audubon Society Field Guide to Birds, Eastern Region. Alfred a. Knopf Inc. New York, New York.
4	<a href="http://www.iowadnr.com/wildlife/files/hungarianpartridge.html">http://www.iowadnr.com/wildlife/files/hungarianpartridge.html</a>
5	<a href="http://www.wisconsinhunter.com/Pages/homepage.html">http://www.wisconsinhunter.com/Pages/homepage.html</a>
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7	<a href="http://www.wildeducation.org/programs/nww2003/nww2003booklet_e.pdf">http://www.wildeducation.org/programs/nww2003/nww2003booklet_e.pdf</a>
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9	<a href="http://www.cwf-fcf.org/invasive/chooseSC.asp?species=39&amp;whichAction=display&amp;howMany=one&amp;catSearch=Birds&amp;whichSearch=criteria&amp;holdCat=4&amp;speciesSubmit.x=14&amp;speciesSubmit.y=19">http://www.cwf-fcf.org/invasive/chooseSC.asp?species=39&amp;whichAction=display&amp;howMany=one&amp;catSearch=Birds&amp;whichSearch=criteria&amp;holdCat=4&amp;speciesSubmit.x=14&amp;speciesSubmit.y=19</a>
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11	<a href="http://files.dnr.state.mn.us/outdoor_activities/hunting/pheasant/pheasantplan_final2005.pdf">http://files.dnr.state.mn.us/outdoor_activities/hunting/pheasant/pheasantplan_final2005.pdf</a>
12	Cutright, N.J., B.R. Harriman, and R.W. Howe, eds. 2006. Atlas of the Breeding Birds of Wisconsin. Wisconsin Society for Ornithology, Inc. Waukesha, WI.

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