NAME OF SPECIES: Myocastor coypus	
Synonyms:	
Common Name: Nutria, coypu	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES ☐ NO ☒
	2. Abundance:
	3. Geographic Range:
	4. Habitat Invaded: Disturbed Areas ☐ Undisturbed Areas ☐
	5. Historical Status and Rate of Spread in Wisconsin:
	6. Proportion of potential range occupied:
II. Invasive in Similar Climate Zones	1. YES ☐ NO ☒ Where (include trends): That could change with warming climate
III. Invasive in Which Habitat Types	1. Upland ☐ Wetland ☒ Dune ☐ Prairie ☐ Aquatic ☒ Forest ☐ Grassland ☐ Bog ☐ Fen ☐ Swamp ☒ Marsh ☒ Lake ☒ Stream ☒ Other: Pond
IV. Habitat Affected	1. Soil types favored or tolerated: Wetland soils
	2. Conservation significance of threatened habitats: Wetland habitats
V. Native Range and Habitat	1. List countries and native habitat types: Aquatic habitats of Argentina, Brazil, Chile, Paraguay and Uruguay
VI. Legal Classification	1. Listed by government entities? It appears that in most, if not all states it is considered invasive. The state of Washington lists it as a Prohibited Aquatic Animal Species and the state of Oregon lists it as a Prohibited Species. 15 states are known to have stable or increasing nutria populations (Bounds 2000). Louisiana and Maryland have implemented large-scale nutria control programs.
	2. Illegal to sell? YES ☐ NO ☐ Notes: Unsure, but would imagine so at this point.
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
I. Life History	1. Type of Animal: Mammal ☒ Bird ☐ Reptile ☐ Amphibian ☐ Fish ☐
	2. Age of Maturity or Time of self sufficiency: Females are reproductively active by the age of 4-6 months and have the ability to produce nearly 3 litters every year (LeBlanc 1994).
	3. Gestation Period: 130 days with a litter size of 4-5., however in optimal habitat female nutria can produce a litter size of up to 13 young (LeBlanc 1994).
	4. Mating System: Polygynous ☒ Polyandrous ☐ Monogamous ☐ Notes:
	5. Breeding Period: Nutria breed throughout the year in the areas they have successfully established, with reproductive peaks occurring in early summer, mid-autumn and later winter. Based on conservative estimates of fecundity and mortality rates, one breeding pair in a system can result in a nutria population of more than 16,000 individuals after only three years, assuming the resources are not limited. (Sheffels and Sytsma 2007).

	6. Hybridization potential: None
II. Climate	1. Climate restrictions: The main limiting factor for nutria distribution appears to be the severity of the winter season. Mortality rates during unusually cold winter can climb to 90 percent after several consecutive days of subfreezing temperatures (Gosling et al. 1983).
	2. Effects of potential climate change: Severe winters have limited range expansion to Arkansas and Tennessee (those states closest to Wisconsin). However, projected climate warming and research showing that the behavioral flexibility of nutria has allowed them to persist in regions previously thought to be too harsh for survival (Doncaster and Micol 1990) suggest that conditions may someday change to a point where nutria may be able to overwinter in Wisconsin.
III. Dispersal Potential	1. Pathways - Please check all that apply: Unintentional: Bird ☐ Animal ☐ Vehicles/Human ☐ Wind ☐ Water ☐ Other: Range expansion Intentional: Ornamental ☐ Forage/Erosion control ☐ Medicine/Food: Recreational: Other: Historically through purposeful introduction as furbearers in fur farm industry
	2. Distinguishing characteristics that aid in its survival and/or inhibit its control: Nutria generally survive less than three years in natural conditions and estimated mortality rates range from 53% (Chapman et al. 1978) to 74% (Newson 1969). Sustained freezing temperatures are the main cause of death at nutria range edges. They are opportunistic herbivores and have an organized social structure generally containing 10 individuals or more. Control can be difficult because very few individuals are necessary to establish a population in suitable habitat and once established their populations can grow quickly.
IV. Ability to go Undetected	1. HIGH ☐ MEDIUM ☒ LOW ☐ They are typically nocturnal, living in dense vegetation during the warmer months and move into burrows when temperatures are colder. Their extensive tunnel systems are built at multiple levels and can be as long as 150 feet with underground chambers measured at 3 feet across.
C. DAMAGE POTENTIAL	
I. Competitive Ability	1. Presence of Natural Enemies: The few natural predators are carnivorous mammals such as fox, bobcat, and coyotes, as well as large birds of prey. Domestic dogs may also be potential predators.
	2. Competition with native species: Habitat overlap with muskrats could create competition. Otherwise, severe degradation of wetland habitat could have negative impacts on a wide-range of wetland dependent species.
	3. Rate of Spread: -changes in relative dominance over time: -change in acreage over time:

	HIGH(1-3 yrs) ☐ MEDIUM (4-6 yrs) ☒ LOW (7-10 yrs) ☐ Notes: Individual nutria in Louisiana have been documented to travel up to 2 miles in a 24-hour period (Linscombe et al. 1981), and populations in eastern Europe extended 75 miles over a two-year period (Aliev 1968).
II. Environmental Effects	1. Alteration of ecosystem/community composition? YES ☒ NO ☐ Notes: As an opportunistic herbivore, nutria consume a large variety of aquatic, semi-aquatic and terrestiral plans and are capable of dramatically altering wetland communities.
	2. Alteration of ecosystem/community structure? YES ☒ NO ☐ Notes: Same note as above
	3. Alteration of ecosystem/community functions and processes? YES ☒ NO ☐ Notes: Nutria have profound impact in localized areas of coastal marshes in the Chesapeake Bay in Maryland and along the Gulf Coast. (USDA-APHIS-WS 2010)
	4. Exhibit Parasitism? YES ☐ NO ☒ Notes:
D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes: The positive economic impacts of nutria fur is dependent upon the fur market and appears to be dramatically outweighed by the economic damage caused by nutria.
II. Potential Socio-Economic Effects of Requiring Controls:	Positive: Many if nutria were to be found in Wisconsin Negative: Hard to think of any in light of the damage that would be caused by their presence. Louisiana reports current fur value of around $4-$5/pelt.
III. Direct and indirect Socio-Economic Effects of the Animal :	Notes: Most of the extensive damage caused by nutria is a direct result of feeding and burrowing. "Eat outs" of marsh and riparian vegetation can lead to permanent conversion to open water. Nutria cause crop damage in areas where agriculture fields are located near aquatic habitat. And they burrow under and through water control structures such as levees, dikes, and dams potentially causing major structural damage.
IV. Increased Costs to Sectors Caused by the Animal::	Notes: Natural resource, agriculture, and road/dike/infrastructure sectors can be negatively impacted by the introduction of nutria.
V. Effects on human health:	Notes: Nutria populations are capable of carrying a large number of diseases, pathogens and infections including rabies, equine encephalomyelitis, paratyphoid, salmonellosis, pappilomatosis, leptospirosis, toxoplasmosis, richettsia, coccidiosis, and sarcoporidiosis (Sheffels and Sytsma 2007). Nutria carry the nematode *Strongyloides myopotami* (Babero and Lee 1961) that causes "nutria itch". Other endoparasites documented by Babero and Lee (1961) include eleven species of trematodes, 21 cestode species, one acanthocephalan, and 31 nematode species. Extenal parasites of nutria include the chewing louse, fleas, and several tick species (Newsome and Holmes 1968; Willner 1982).
VI. Potential socio-economic effects of restricting use:	Positive: We have everything to gain. Negative: Hard to imagine negative consequences of preventing the introduction of, or eradicating nutria.

E. CONTROL AND PREVENTION	
I. Costs of Prevention (please be as specific as possible):	Notes: Prevention of introduction into Wisconsin would entail close communication and working relationships with the fur industry (should there be some interest – which I doubt – in introducing nutria). Otherwise working closely with neighboring states to monitor the advance and control of nutria before it reaches Wisconsin will be key.
II. Responsiveness to prevention efforts:	Notes: Normal Wisconsin winters will be our best preventive measure against successful range expansion.
III. Effective Control tactics: (provide only basic info)	Mechanical ☒ Biological ☐ Chemical ☐ Times and uses: The three conditions necessary for an effective eradication effort are: the population should be isolated from sources of new immigration, inclement weather or harsh winter conditions are needed to reduce large populations, and trapping/shooting must be continued until no nutria remain (Carter and Leonard 2002)
IV. Costs of Control:	Notes: The ongoing management programs in Louisiana and Maryland have spent millions of dollars in an effort to effectively manage their respective nutria populations. Most of the money has been federal dollars funded through agency partnerships and private sources. The Nutria Eradication and Control Act of 2003 allowed the Secretary of the Interior to appropriate up to $6 million to Maryland and Louisiana through 2008.
V. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes: There appears to be little doubt in the literature that the cost of prevention and control of nutria far outweighs the cost of allowing invasion to occur. In recent years Italy has reported spending 2.85 million euros/year ($3.7 million) to control damage caused by nutria (Susan Milius 2009).
VI. Non-Target Effects of Control:	Notes: The trapping and shooting programs reported in other states appear to be fairly selective, but I suppose it would be possible to capture non-targets such as beaver or muskrat.
VII. Efficacy of monitoring:	Notes: Crepuscular and nocturnal activity would seem to make monitoring individuals difficult, but evidence of damage, burrows, and floating feeding platforms should be easy to document.
VIII. Legal and landowner issues:	Notes: None if Wisconsin is successful in listing nutria as a prohibited species under NR40.

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