

Transfer of Attwater's Prairie Chicken *Tympanuchus cupido attwateri* from Appendix I to Appendix II

Proponent: Switzerland, as the Depositary Government, at the request of the Animals Committee (prepared by the United States of America)

Summary: Attwater's Prairie Chicken *Tympanuchus cupido attwateri* is a subspecies of prairie-chicken endemic to the USA where it is now present in three locations in Texas. It is one of two extant subspecies of *T. cupido*, the other being *Tympanuchus cupido pinnatus*. The nominate subspecies *T. cupido cupido* is extinct. The subspecies has not been assessed for the IUCN Red List, but is listed as Endangered under the U.S. Endangered Species Act. The population occupies a very small geographic range which is fragmented thus isolating each sub-population. Prior to the 1890s, the population numbered nearly one million individuals, but had declined to 46 individuals by 2012. This extreme decline has largely been due to loss of habitat (in 1991 it was estimated that less than 1% of coastal prairie grasslands were in a habitable condition for this subspecies), as well as hunting pressure in the early part of the 20th century. The subspecies is intensively managed, relying on the reintroduction of captive-bred birds to maintain a wild population. The species as a whole remains relatively widespread and abundant in northern-central parts of the USA, although its range has contracted markedly and numbers declined in the past century. It is currently classified as Vulnerable by IUCN. A population estimate of around 700 000 birds was made in 2004. *Tympanuchus cupido* is one of three species in the genus *Tympanuchus*. All are native to North America (Canada and USA).

Under the US Endangered Species Act a permit is required for import and export. The subspecies is managed by Texas Parks and Wildlife Department under corresponding State legislation and is not subject to harvest.

Tympanuchus cupido attwateri was listed in CITES Appendix I in 1975, since then there has been no reported trade in wild specimens, although given its Appendix-I listing, no commercial trade would be expected. There is limited trade in live birds and specimens of other *Tympanuchus*, including *T. cupido*.

Attwater's Prairie Chicken was included in the Animal's Committee's Periodic Review process. The range State supports the Animal Committee's decision that prior to the taxon being removed from the Appendices, the precautionary measures described in Annex 4 para A 1 of *Resolution Conf. 9.24 (Rev. CoP15)* should be complied with and the taxon be transferred to Appendix II for two intervals between meetings of the Conference of the Parties to allow for monitoring of any impact of trade.

Analysis: It would appear that *Tympanuchus cupido attwateri* still meets the biological criteria for inclusion in Appendix I, having an extremely small and fragmented population and a restricted area of distribution. However, the taxon is intensively managed and covered by domestic legislation and there is no evidence of any international demand for specimens. Thus it would appear that the precautionary measures in Annex 4 A2a are met.

The current listing of *Tympanuchus cupido attwateri* is inconsistent with recommendations for split-listing set out in Annex 3 of *Resolution Conf. 9.24. (Rev. CoP15)*, which advise that when split-listings occur they should be on the basis of national or regional populations rather than subspecies, and that split-listings that place some populations of a species in the Appendices, and the rest outside the Appendices, should normally not be permitted.

Supporting Statement (SS)	Additional information
<p><i>Tympanuchus cupido attwateri</i> is one of three recognised subspecies of <i>Tympanuchus cupido</i>, along with <i>T. c. pinnatus</i> and <i>T.c. cupido</i> (extinct).</p> <p>United States of America.</p> <p>The species <i>Tympanuchus cupido</i> is listed as Vulnerable (2008).</p>	<p style="text-align: center;"><u>Taxonomy</u></p> <p style="text-align: center;"> </p> <p style="text-align: center;"><u>Range</u></p> <p style="text-align: center;"> </p> <p style="text-align: center;"><u>IUCN Global Category</u></p> <p><i>Tympanuchus cupido attwateri</i> is not currently listed. The species <i>Tympanuchus cupido</i> is listed as Vulnerable (assessed 2012) (A2bcde+3bcde+4bcde version 3.1).</p>

Biological criteria for inclusion in Appendix I

A) Small wild population

(i) Population or habitat decline; (ii) small sub-populations; (iii) concentrated geographically during one or more life-history phases; (iv) large population fluctuations; (v) high vulnerability

Between 1967 and 1977, the wild population increased from approximately 1000 individuals to 2000, but this number had decreased again to 1000 by the late 1980s and continued declining until 1995, where it remained at a constant level of around 50 individuals. After 2007 numbers increased, and had reached 110 individuals in 2011. The population then declined to 46 individuals in 2012.

Tympanuchus cupido attwateri occurs in three isolated populations in Texas. In 2012 the three sub-populations held 30 individuals, 14 individuals and two individuals. All three sub-populations are supplemented with captive-bred birds.

Populations are now small, fragmented, and susceptible to genetic isolation and disease. There is no direct evidence that *Tympanuchus cupido attwateri* populations are currently suffering from inbreeding depression, but this may become more of an issue if the genetic diversity of the captive-bred birds, used to supplement populations, does not improve. As well as a reduction in genetic fitness, current small populations are now more vulnerable to extirpation than before due to high mortality caused by parasites.

Tympanuchus cupido attwateri is an *r*-selected species, experiencing rapid growth and reproduction, but also experiencing sudden population declines. Population trends at some sites suggest strongly that, if a population drops below 250 cocks for more than three years in succession without intensive management, then there is a high probability that the population will become extinct.

Supporting Statement (SS)	Additional information
<p><u>B) Restricted area of distribution</u> (i) Fragmented or localised population; (ii) large fluctuations in distribution or sub-populations; (iii) high vulnerability; (iv) decrease in distribution, population, area or quality of habitat, or recruitment</p> <p>In 1991, it was estimated that less than 1% of coastal prairie grasslands were in a habitable condition for <i>Tympanuchus cupido attwateri</i> and that this habitat was largely fragmented.</p> <p><i>Tympanuchus cupido attwateri</i> were present in 48 counties in the 1940s, but loss and degradation of the Texan prairie grassland habitat has resulted in a decline to two counties in 1999, then increasing to three countries in 2007 following a reintroduction.</p>	<p><i>Historically, Tympanuchus cupido attwateri inhabited an estimated 2.4 million ha (U.S. Fish and Wildlife Service, 2010). Approximately 93% of the 2.4 million ha had been lost by 1937 (Lehmann, 1941).</i></p>
<p><u>C) Decline in number of wild individuals</u> (i) Ongoing or historic decline; (ii) inferred or projected decline due to decreasing area or quality of habitat, levels of exploitation, high vulnerability, or decreasing recruitment.</p> <p>Prior to the 1890s, the <i>Tympanuchus cupido attwateri</i> population had been near one million individuals. There has been a dramatic decline since 1937, with numbers falling from just under 9000 individuals to 46 in 2012.</p> <p>The Texas legislature closed the hunting season in 1937 due to the continued decline of <i>Tympanuchus cupido attwateri</i>, prior to this hunting was a significant threat.</p>	<p><i>Population and habitat viability analyses conducted for Tympanuchus cupido attwateri suggest there is a high probability of extinction within 20 years due to the small isolated nature of the populations (Brooks et al., 2002).</i></p>

Trade criteria for inclusion in Appendix I

The species is or may be affected by trade

There have only been two reported instances of international trade in the UNEP-WCMC CITES trade database since 1975. The first was in 1996 when one captive-bred scientific specimen was exported from the United States to Sweden. The second was in 1998 when two scientific specimens from captive-bred, U.S.-origin birds were re-exported from Sweden to the United States for medical purposes and were confiscated or seized.

There is no evidence of international trade for zoological display within the International Species Information System (ISIS), though the database relies on voluntary submission of records.

There is no current information about trade impacts on *Tympanuchus cupido attwateri*. The subspecies, however, is not in demand for international trade.

The UNEP-WCMC CITES trade database also reports two captive-bred live Tympanuchus cupido (sub-species not specified) being exported from Great Britain to the Netherlands in 1985.

An online review found no evidence of a demand for this species, nor any individuals offered for sale. However, this is to be expected from an Appendix I listed species.

Supporting Statement (SS)	Additional information
<p>Precautionary Measures</p> <p>There is no current information about trade impacts on <i>Tympanuchus cupido attwateri</i>. The subspecies, however, is not in demand for international trade nor would any trade be anticipated if it were transferred from Appendix I to Appendix II or delisted from the CITES Appendices.</p> <p>The genus <i>Tympanuchus</i> includes three species <i>Tympanuchus cupido</i> (of which there are two extant subspecies: <i>T. c. pinnatus</i> (Greater Prairie Chicken) and <i>T. c. attwateri</i>), <i>T. pallidicinctus</i> (Lesser Prairie Chicken) and <i>T. phasianellus</i> (Sharp-tailed Grouse) (of which there are six subspecies). Only <i>Tympanuchus cupido attwateri</i> is listed in the CITES Appendices.</p>	<p><i>Commercial trade has not been permitted since Tympanuchus cupido attwateri</i> was first listed in Appendix I in 1975.</p>
<p>Other information</p> <p>The main cause of the decline of <i>Tympanuchus cupido attwateri</i> populations is the loss and fragmentation of prairie grassland habitat due to increases in agricultural practices such as livestock grazing, as well as habitat conversion, urban and industrial expansion, and the invasion of woody plant species.</p> <p>Anthropogenic structures such as roads, buildings, and electric transmission lines can have a negative impact on the use of habitat by <i>Tympanuchus cupido attwateri</i> as reports suggest that booming grounds have been abandoned following the construction of these features.</p> <p>Mortality of <i>Tympanuchus cupido attwateri</i> broods is often caused by avian and mammalian predation, high levels of precipitation during the brooding season and the poor quality of the brood rearing habitat.</p> <p>Preliminary findings indicate that perhaps Red Imported Fire Ants decimated insect densities to the point that it had affected the number of insects available to newly hatched chicks during this very critical period of their life. Red Imported Fire Ants, in addition to severe drought, probably contributed to the population size decline between 2011 and 2012. Additional research to investigate this hypothesis is currently ongoing.</p>	<p style="text-align: center;"><u>Threats</u></p> <p><i>Tympanuchus cupido</i> may suffer from competition with introduced Ring-necked Pheasant <i>Phasianus colchicus</i> (del Hoyo et al., 1994).</p> <p><i>Illegal take by dove, quail, and waterfowl hunters is a possible threat (U.S. Fish and Wildlife Service, 2010).</i></p> <p><i>Peterson (2004) provides an extensive overview of information available on parasites and infectious diseases of prairie grouse, including Tympanuchus cupido attwateri. Peterson concluded that parasites and infectious viruses have the potential to regulate prairie grouse populations or even extirpate small, isolated populations. Hudson et al. (2006) speculated that increased temperatures and climatic disruption brought about by global warming will result in increased frequency and intensity of outbreaks of some parasite populations.</i></p> <p style="text-align: center;"><u>Conservation, management and legislation</u></p> <p><i>Tympanuchus cupido attwateri</i> has been listed in Appendix I of CITES since 1975.</p> <p>At the Federal level, the subspecies is listed as Endangered under the U.S. Endangered Species Act of 1973, as amended, and is also subject to the Lacey Act of 1900, as amended 22 May 2008.</p> <p><i>Tympanuchus cupido attwateri</i> is listed on EC Regulations Appendix A.</p>

Supporting Statement (SS)	Additional information
<p>At the State level, the subspecies is managed as Endangered by Texas Parks and Wildlife Department under corresponding State legislation and is not subject to harvest. Domestic regulation of the subspecies prohibits (among other things) import, export, and shipment in foreign commerce of the subspecies by persons subject to U.S. jurisdiction without a permit.</p> <p>The Attwater Prairie Chicken National Wildlife Refuge (APCNR) was set up in 1972 with the aim of protecting and enhancing 4265 ha of prairie habitat as well as conserving populations of <i>Tympanuchus cupido attwateri</i>. The population of <i>Tympanuchus cupido attwateri</i> in the refuge increased from approximately 25 individuals in 1972 to 222 in 1987, but unfortunately since then has declined.</p> <p>Another area that supports a very small population (6 individuals) of the subspecies is the 970 ha Texas City Prairie Preserve (TCPP). Both the APCNR and the TCPP populations are supplemented with individuals that have been bred in captivity. A third population of <i>Tympanuchus cupido attwateri</i> was reintroduced onto private lands in Goliad County in 2007.</p>	
Similar species	
<p>The genus <i>Tympanuchus</i> includes three species: <i>Tympanuchus cupido</i>, <i>T. pallidicinctus</i> and <i>T. phasianellus</i>. Only <i>Tympanuchus cupido attwateri</i> is listed in the CITES Appendices.</p> <p>Two other grouse taxa are candidates for listing under the U.S. Endangered Species Act of 1973, as amended (<i>Centrocercus minimus</i> and <i>Centrocercus urophasianus</i>) while <i>Tympanuchus phasianellus columbianus</i> was evaluated but will not be listed.</p>	<p><i>There are minor physical differences between Tympanuchus cupido attwateri and T. cupido pinnatus; smaller measurements of wing, tail, bill, and total length and differences in general ruddiness and buffiness of the underparts are characteristic and can be used to separate Tympanuchus cupido attwateri as a subspecies (Lehmann, 1941).</i></p> <p><i>The US Fish and Wildlife Service's trade database (LEMIS) indicates some trade in live birds and products of Tympanuchus cupido.</i></p> <p><i>Between 2000-2012, the US Fish and Wildlife Service's trade database (LEMIS) lists 6076 T. phasianellus being exported as trophies (>99% wild), 683 bodies (99% wild), 1758 as meat (99% wild) and 531 feathers (99% wild). Advertisements of live T. phasianellus and their derivatives (wings/stuffed specimens) for sale online suggest there is commercial interest in this species. However, several adverts indicated they would not export outside of the USA.</i></p> <p><i>The US Fish and Wildlife Service's trade database (LEMIS) lists 14 trophies and nine bodies of T. pallidicinctus exported between 2000-2012, all of which came from wild sources. No evidence of the sale of T. pallidicinctus online could be found.</i></p>

Supporting Statement (SS)	Additional information
<u>Artificial Propagation/Captive breeding</u>	
<p>The International Species Information System (ISIS) database records five institutions, all in the United States, that have captive <i>Tympanuchus cupido attwateri</i>. The World Pheasant Association database of Galliformes in captivity does not contain any records of <i>Tympanuchus cupido attwateri</i> in Austria, Germany, Belgium, Netherlands, Luxemburg, Portugal, France or the United Kingdom. Both databases rely on voluntary submissions.</p> <p>At present there are breeding programs underway at Fossil Rim Wildlife Center, Houston Zoo, San Antonio Zoo, Sea World of Texas, Abilene Zoo and Caldwell Zoo. In January 2011, these institutions (excluding the Sea World of Texas) had a total of 284 individuals in captivity, 90 of which were bred during 2010. Additional breeding facilities are now currently being established.</p> <p>Currently the three populations of <i>Tympanuchus cupido attwateri</i> are dependent on captive breeding for survival. Although captive breeding has been instrumental in preventing the extinction of <i>Tympanuchus cupido attwateri</i>, brood survival from captive bred hens introduced into the wild has been very poor and is stated to be the single factor limiting the recovery of the subspecies. The main reason for this low survival rate has been attributed to nutritional deficiency in the chicks. Recovery could occur if the problems with poor brood survival are resolved, but until this time, populations of <i>Tympanuchus cupido attwateri</i> are increasingly vulnerable to stochastic events.</p>	<p><i>From 1995–2009, a total of 1703 captive-reared birds were released at the three locations where Tympanuchus cupido attwateri are currently present (US Fish and Wildlife Service, 2010).</i></p>

Reviewers: R. Thomas.

References:

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