

BEFORE THE OKLAHOMA WILDLIFE CONSERVATION COMMISSION,
GOVERNOR OF OKLAHOMA, AND THE OKLAHOMA DEPARTMENT OF
ENVIRONMENTAL QUALITY



False map turtle (*Graptemys pseudogeographica*) – USGS photo

EMERGENCY RULEMAKING REQUEST TO REPEAL OKLAHOMA'S TURTLE COLLECTION LAW



BASED ON THE DEPLETION OF OKLAHOMA'S WILD TURTLE POPULATIONS
AND AN IMMINENT PUBLIC HEALTH RISK THROUGH THE CONSUMPTION
OF CONTAMINATED TURTLES DERIVING FROM OKLAHOMA

MARCH 27, 2008

The Center for Biological Diversity, Oklahoma Chapter of the Sierra Club and the Center for Food Safety, nonprofit organizations, come forth to the Governor of the State of Oklahoma, the Honorable Director and Commission of the Oklahoma Department of Wildlife and Conservation, and the Oklahoma Department of Environmental Quality by and through their attorney Christopher Hunter Jones, and submit this administratively complete petition (as defined by Oklahoma Statute 75 § 305 (2007)) requesting the Commission to immediately repeal harvest of all freshwater turtles (chelonians). Petitioners request that all chelonians be removed from the Oklahoma Statute 29 § 4-103A (2007) and Oklahoma Administrative Code § 800 15-9-1-5(2007) and hereinafter the state of Oklahoma afford all wild freshwater turtles in Oklahoma protection from commercial harvest, sales and export. Oklahoma law currently allows an unlimited number of freshwater turtles to be harvested from the wild and sold as food. Under this regime, every non-protected freshwater turtle that exists in Oklahoma can be legally collected and sold. Unregulated harvest and commercial collection are rapidly depleting Oklahoma's wild turtle populations. Consumption of turtles known to be contaminated with toxins and pollutants poses a significant public health risk.

The Center for Biological Diversity is a nonprofit, science-based environmental advocacy organization that works to protect endangered species and wild places throughout the world through science, policy, education, citizen activism and environmental law.

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I INTRODUCTION

Commercial collection of wild turtles in Oklahoma is a wildlife management challenge like nothing faced in the history of the Oklahoma Department of Wildlife Conservation (ODWC) and the Oklahoma Department of Environmental Quality (ODEQ). These agencies currently allow unlimited commercial harvest of turtles for human consumption with little to no regulatory oversight, despite the fact that many of these turtles are harvested from streams that are presently subject to fish advisories and bans that precaution against and prohibit human consumption.

The ODWC and ODEQ have a duty to protect the public from unsafe turtle meat products originating in Oklahoma under the Federal Food Drug and Cosmetic Act (21 U.S.C § 301 (2007)). A substantial and imminent public health risk exists in Oklahoma since commercial turtle collectors and buyers are harvesting and purchasing turtles from Oklahoma waters and streams where fish advisories are in place by the ODEQ, and these turtles are potentially contaminated with PCBs, pesticides and heavy metals. *See* Oklahoma Department of Environmental Quality *Fish Consumption Guidance Mercury Advisory*, available at <http://www.deq.state.ok.us/factsheets/land/fishmerc.pdf>; *see* also the EPA's website *National Fish Advisories: Advisory Output for Oklahoma*, January 2008, available at <http://oaspub.epa.gov/nlfgwa/nlfgwa.advrpt>.

While there are multiple stressors on southern freshwater turtle populations, such as habitat loss, water quality degradation, nest predation, and loss of food supply, unregulated commercial harvest threatens to drive some U.S. freshwater turtle populations to extinction. Over the last decade conservation biologists have cautioned state wildlife agencies that freshwater turtles in North America are being increasingly targeted to supply food markets in Asia, particularly China, due to depletion of wild populations of Asian turtle species (Behler 1997). Growing Asian communities in the United States are also driving demand of native species for turtle meat and their body parts.

The international trade in turtles for food, pets, or use in medicinal remedies is extensive and unregulated (Sharma 1999). A recent report indicated that most turtle species in Vietnam and southern China are endangered and that turtles can no longer be found in the wild in Vietnam (Kiester and Juvik 1997). China is the biggest consumer of turtles in the food trade. With more than 1.3 billion people, China is the largest and fastest growing population in the world (USDOS 2007). China has long commercially pursued their endemic turtles as food and Traditional Chinese Medicine, driving most populations to depleted levels and even extinction in the wild. Turtle meat, shell and body parts are sold at wildlife markets and restaurants throughout Asia and turtles are an ancient, prized and expensive delicacy served at Asian restaurants and at home (S. Haitao, pers. comm. 2007). Because the trade in turtles is not regulated, few records have been kept, but existing records indicate that the trade in live turtles from the U.S. to China is thousands of tons per year (Mockenhaupt 1999). The commercial trade in freshwater turtles exceeds any possible sustainable levels, and extinction of some Asian turtle species in the wild

can be expected within the next decade (Gibbons et al. 2000). This will only increase the demand for export of U.S. freshwater turtles.

Baseline scientific evidence developed over twenty years of field work demonstrates that freshwater turtles can not sustain any significant level of harvest from the wild without leading to population crashes (Congdon et al. 1994). *See Exhibit A*. Turtle population stabilities are dependent on adult survivorship - the presence of long lived breeding adults is needed to offset the naturally high mortality in turtle nests, hatchlings and juveniles. The evolutionary life history traits of turtles are characterized by delayed onset of maturity, high adult survivorship, and low survivorship of eggs, hatchlings and juveniles (Congdon et al. 1993).

In recognition of this evidence and due to intensive commercial harvest regimes in the southern United States, state wildlife agencies, including North Carolina, Alabama, Mississippi and Tennessee, have banned commercial harvest of all endemic freshwater turtles in the last decade. In 2007 the Texas Parks and Wildlife Commission voted to ban commercial collection of native Texas turtles on public lands and waters, with an allowance for commercial capture from private property for a few more common species. Despite scientific evidence that most turtle species cannot be harvested under the historic wildlife management theory of sustainable harvest without leading to population crashes, Oklahoma law continues to allow unlimited commercial take of all sizes of turtles (juveniles, subadults and breeding adults) using an unlimited quantity of hoopnets and box traps in public and private waters.

II. REQUEST FOR REPEAL OF THE COMMERCIAL TURTLE HARVEST RULE AND STANDARD TO ENACT AN EMERGENCY RULE

The Oklahoma Administrative Procedures Act grants the ODWC and the ODEQ the power to adopt emergency rules when imminent peril exists to the preservation of the public health, safety, or welfare, or that a compelling public interest requires an emergency rule *Emergency Rulemaking* – Oklahoma Statute 75 § 253(A) (2007):

If an agency finds that an imminent peril exists to the preservation of the public health, safety, or welfare, or that a compelling public interest requires an emergency rule, amendment, revision, or revocation of an existing rule, an agency may promulgate, at any time, any such rule, provided the Governor first approves such rule pursuant to the provisions of this section.

Citing Oklahoma Administrative Procedures Act - Oklahoma Statute 75 § 253 (2007).
Emergency Rules. Any person may petition a rulemaking:

An interested person may petition an agency requesting the promulgation, amendment, or repeal of a rule. Each agency shall prescribe by rule the form for petitions and the procedure for their submission, consideration, and disposition. The agency shall act upon said petition within a

reasonable time. If, within thirty (30) calendar days after submission of a petition, the agency has not initiated rulemaking proceedings in accordance with the Administrative Procedures Act, the petition shall be deemed to have been denied.

Oklahoma Statute 75 § 305 (2007). *Petition Requesting Promulgation, Amendment or Repeal of a Rule –Form and Procedure.*

The Center for Biological Diversity, Oklahoma Chapter of the Sierra Club and the Center for Food Safety hereby submit this document to serve as an administratively complete petition and respectfully request that the ODWC and ODEQ immediately issue an emergency rule in accordance with Oklahoma Statute 75 § 305 (2007). This petition provides evidence of imminent peril to the public health safety and welfare of citizens of Oklahoma, the United States and other countries by allowing commercial collectors and buyers to sell for human consumption potentially contaminated turtles taken from waters in Oklahoma that are contaminated with carcinogenic aquatic contaminants and from streams that are imposed with fish consumption advisories by the ODEQ. As a requirement of state law the ODWC has a duty to protect, restore perpetuate, conserve and enhance turtle populations in Oklahoma. Under requirements of federal laws the ODWC and ODEQ have a duty to protect threatened and endangered species under the Endangered Species Act (16 U.S.C. § 1531 (2007)), protect the public from unsafe turtle meat products originating in Oklahoma under the Federal Food Drug and Cosmetic Act (21 U.S.C. § 301 (2007)), and enact effective state wildlife laws that discourage interstate commerce of illegally collected wildlife under the Lacey Act (16 U.S.C. § 701 (2007)).

III. NECESSITY FOR AN EMERGENCY RULE

1. *Turtle bioaccumulation studies demonstrate that eating turtles contaminated with PCBs and heavy metals is more dangerous to human health than consuming contaminated fish*

Meyers-Schöne and Walton (1994) examined dozens of scientific studies of pesticide, PCB and metal concentrations in freshwater turtles from the 1960s through the 1980s, including numerous studies of turtles from Florida, Georgia and Texas. Over a dozen studies found significant concentrations of numerous pesticides in freshwater turtles in states throughout the south, including aldrin, chlordane, DDT, dieldrin, endrin, mirex, nonachlor, and toxaphene (Meyers-Schöne and Walton 1994). Studies found bioconcentration of mercury and other metals such as aluminum, barium, cadmium, chromium, cobalt, copper, iron, lead, molybdenum, nickel, strontium, and zinc in turtles in Florida, Georgia and other southern states (Meyers-Schöne and Walton 1994).

A string of recent published scientific evidence demonstrates that consumption of turtle meat, their shell, organs and body parts can be harmful to humans. *See Exhibit B.* Toxicologists caution that human consumption of turtle meat may be far more dangerous to human health than fish, since turtles are longer lived organisms and higher trophic animals that bioaccumulate considerably greater amounts of aquatic contaminants (T.

Rainwater, pers. comm. 2007; W. Roosenburg, pers. comm. 2007). Researchers have found enough PCBs in a common snapping turtle to kill a large mammal (W. Roosenburg, pers. comm. 2007). Studies of snapping turtles in the Trinity River in Liberty county Texas revealed “harmful levels of environmental toxicants” to humans, primarily methyl mercury (Mitchell In Press). Toxicologists advise that eating turtles contaminated with PCBs, pesticides and heavy metals poses a greater risk to human health than consuming contaminated finfish (Mitchell In Press).

Turtles are long lived organisms; some species, including the alligator snapping turtle (*Macrochelys temminckii*) are known to live more than 80 years. (Pritchard 1989). Turtles, as apex trophic animals, will bioaccumulate toxins from contaminated prey (Kennish and Ruppel 1998). Because of their longevity, exposure time to environments with aquatic contaminants is longer, which causes turtles to retain greater amounts of bioaccumulation compared to shorter lived lower trophic animals like finfish (Kennish and Ruppel 1998). Snapping turtles and softshell turtles are likely to have greater levels of aquatic contaminants through burrowing and submerging themselves in the contaminated sediment, therefore their pathway of exposure is greater (T. Rainwater, pers. comm. 2007; W. Roosenburg, pers. comm. 2007).

PCBs are highly stable, lipophilic chemicals and because of these properties tend to bioaccumulate in higher trophic level consumers including aquatic turtles (Safe 1994). A large body of literature has focused on the occurrence of PCBs in mammals and birds, but comparatively few studies have analyzed tissue contaminant levels in wild-caught reptiles (Portelli and Bishop 2000). Diet of freshwater turtles in Florida consists of mussels, invertebrates, crayfish and fish (Ernst et. al. 1994). Mussels are filter feeders or opportunistic omnivores with little ability to breakdown PCBs. Large, older, reproductive female turtles show a high contaminant burden that can transfer to their eggs. Because of a longer life span, turtles are a more relevant indicator of sublethal stressors than certain fish. (Portelli and Bishop 2000).

2. *Human toxicological effects of methyl mercury*

Methyl mercury is the most important form of mercury in terms of toxicity and health effects from environmental exposure (Trasande et al. 2005). Sources of environmental contamination in the past have been coal burning, municipal incinerators, loss in water effluent from chlor-alkali plants, refining of petroleum products, mining, and smelting (Trasande et al. 2005). Clinical manifestations of mercury poisoning include paresthesia (tingling of skin), ataxia (incoordination), dysanthria (difficulty with words), and visual and hearing impairment, in that order. Methyl mercury easily crosses cell membranes and preferentially binds in the nervous system and brain (Trasande et al. 2005). Since there is no placental barrier to mercury, the fetus nervous system can be harmed by prenatal exposure. Methyl mercury inhibits the growth of the fetal brain, possibly by destroying microtubules necessary for cell division occurring primarily during normal development (Trasande et al. 2005). Effects range from personality changes (shyness, irritability) to a severe neurological syndrome similar to cerebral palsy. In previous outbreaks of severe

mercury contamination, children exposed prenatally had permanent cerebral involvement whereas their mothers had mild manifestations or none.

3. *Commercial collectors are harvesting potentially contaminated turtles from Oklahoma streams where fish advisories are imposed by the Oklahoma Department of Environmental Quality. These turtles are sold for human consumption to seafood markets in Oklahoma, the United States and other countries including Asia.*

Demand for turtle meat and their body parts deriving from wild caught turtles has been on the rise in growing Asian communities in Houston, Dallas Fort Worth, Oklahoma City, Atlanta, San Francisco and New York City (S. Haitao, pers. comm. 2007). Chinese turtle dealers frequent online commercial reptile websites and post solicitations to recruit American sources to export “huge number” of freshwater turtles from the United States including common snapping turtles, softshell turtles and even the alligator snapping turtle, which is protected throughout its range except by licensed dealers in Louisiana. *See Exhibit E. International demand of “huge numbers” of freshwater turtles from the United States.*

The Oklahoma Department of Wildlife Conservation requires commercial turtle collectors to obtain an “aquatic turtle license” to harvest and sell an unlimited quantity of turtles from the wild (Oklahoma Statute 29 § 4-103A (2007) and Oklahoma Administrative Code § 800 15-9-1-5(2007). The collector is not required to report the quantity, species, harvest locale and destination of captured turtles; however from 1994 to 1999 the Department required commercial “turtle buyers” to report how many turtles they purchased according to species, an unscientific practice known as mandatory reporting (Oklahoma Statute 29 § 4-103B.D (2007)). During this period an estimated 740,932 wild caught turtles were reported being purchased by licensed buyers in Oklahoma based on mandatory reporting (Riedle 2001).

In southern Oklahoma the ODWC has intercepted an unlicensed collector of wild caught turtles who supplies seafood markets in Dallas and Oklahoma City (ODWC anonymous, pers. comm., 2008). A telephone survey with three Asian seafood markets in Oklahoma City indicate the seasonal sale of wild caught turtles, primarily softshell and snapping turtles, that were harvested in Oklahoma and/or Texas (C.H. Jones, pers. comm. 2008). Many of these turtles are believed to be sold by a turtle dealer and exporter who resides in Texas 90 miles from the Oklahoma border.

In the summer of 2005, commercial harvest of several hundred red ear, snapping and softshell turtles was observed on the Cimarron River and in Lake Keystone, an impoundment of the Arkansas River west of Tulsa. The turtle collector stated he was from southeast Oklahoma and had been to these locales previously to capture turtles for resale to a dealer who sells them as food (J. Pennington, pers. comm. 2008). In 2005 tons of turtles taken in box traps were also observed by a private landowner who gave permission to a Texas collector to traverse his land in Noble County to access and harvest turtles from the Salt Fork Arkansas River, a tributary of the Arkansas River in north

Oklahoma near the Kansas border (L. Andrews, pers. comm. 2008). Twenty miles away in Pawnee County, the Otoe-Missouria tribe in 2006 refused access to a commercial trapper who asked permission to harvest turtles from Red Rock Creek, a tributary of the Arkansas River (L. Andrews, pers. comm. 2008).

From November 2002 to November 2005 the number of wild caught freshwater turtles declared as exports from U. S. ports was 732,949 turtles according to the U. S. Law Enforcement Management Information System (LEMIS), including 173,243 common snapping turtles (*Chelydra serpentina*), 21,797 unidentified musk turtles (*Sternotherus* sp.), 11,081 painted turtles (*Chrysemys picta*), 4,694 unidentified mud turtles (*Kinosternon* sp.), 1,450 diamondback terrapins (*Malaclemys terrapin*), and 223 spotted turtles (*Clemmys gutatta*) (WCT 2006). The declared exports averaged almost a quarter million turtles annually, reflecting the declared trade in live turtles, not the illegal trade or deceased turtles possibly exported as meat or fish. The majority of the wild caught freshwater turtles exported from the United States go through just a dozen international ports, the major ones being Atlanta, GA; Chicago, IL; Dallas/Fort Worth, TX; Los Angeles, CA; Miami, FL; New Orleans, LA; and San Francisco, CA. The primary destinations for turtles exported from the United States are the food markets of China and Southeast Asia, Asian turtle farms to be grown out and then sent to market or used as breeding stock, and pet markets around the world.

Data compiled from the U. S. Fish and Wildlife Service in Texas show that from 2002-2005 more than 256,638 wild caught adult turtles were exported from Dallas Fort Worth Airport to Asia for human consumption. *See Exhibit C 2005-2002 USFWS Law Enforcement Management Information System data DFW airport.* 170,000 of these were exported by a single interstate turtle dealer who resides in Texas and who has boasted of exporting between 2,000 and 6,000 pounds of live wild caught turtles to China per week; and supplying Asian markets throughout the United States including Texas, California and New York. In 2007 the Texas dealer held numerous pyramid scheme seminars titled “Turning turtles into cash,” and passed a card titled “U.S.T.A.R.T. United States Turtles & Aquatic Resources Technologies – A Rural Economic Development Ag CO-OP Income Generating Program.” The Texas dealer publicly stated he already employed an interstate network of 450 collectors from states where unlimited harvest was legal - including Texas, Oklahoma, Louisiana, and Florida - to harvest turtles exclusively for his “private coop” interstate and export business. *See Exhibit D Notes from seminar “Turning turtles into cash March 2007 Cleburne Texas.”* The dealer remarked needing to recruit additional collectors to join his “army” of trappers in the southern United States to capture an additional 300,000 wild caught turtles for the year 2007 to “feed Asia.” These figures were verified by the Texas Parks and Wildlife Department which shortly afterwards prohibited commercial harvest from public waters in Texas.

At his seminars, the Texas turtle dealer urged the audience to join his coop for \$250, sign a license agreement to trap turtles exclusively to his business and provided each new member three hoopnets and a DVD how to trap turtles. The dealer attended each seminar with a refrigerated horse trailer that he described is capable of holding 14,000 lbs of turtles that he uses to transport and purchase turtles that are stockpiled by his collectors at

locations throughout the south. This was also verified by the Texas Parks and Wildlife Department and one of the authors of this emergency rule request. The dealer stated that he primarily targets large common snapping turtle and softshell turtle (10-30 lbs) from the wild for their greater meat potential and pay collectors a higher price per pound, compared to prices yielded from turtles classified as red eared slider and river cooter. (\$1.00 per lb. vs. .10 cents per lb.) *See Exhibit D.* He divulged that his collectors incidentally capture alligator snapping turtle in their traps and that only Louisiana turtle farmers are allowed to sell alligator snappers. Ironically, these older larger turtles also bioaccumulate greater amounts of aquatic heavy metal contamination. *See Exhibit D.*

In 2007 the Oklahoma Department of Environmental Quality issued a statewide fish consumption advisory for methyl mercury in both public and private waters (ODEQ 2007). In 2004 the EPA issued a national fish consumption advisory for mercury in both private and public waters in Oklahoma (ODEQ 2007). The ODEQ has conducted bioaccumulation studies of fish tissue taken from public lakes in Oklahoma which show elevated levels of methyl mercury above the 0.5 mg/kg consumption advisory level. These lakes include McMurty, Zoo, Draper, Coalgate, McGee Creek, Hugo, Broken Bow Wister, Greenleaf and Heyburn. An advisory also exists in the Bitter Creek watershed near Altus in Jackson County due to elevated levels of the pesticides DDT and toxaphene (USEPA 2008).

According to the U. S. Fish and Wildlife Service, both private and public surface waters produce contaminated turtles. The Service identified elevated levels of mercury in fish tissues from public and private reservoirs in the Wichita Mountains in south Oklahoma, and concluded that the source of contamination derived from atmospheric mercury emissions of anthropogenic sources which do not distinguish public from private waters when depositing onto the earth (Giggleman and Lewis 2003). Turtles present in Oklahoma's private waters including stocktanks and lakes likely carry comparable toxicity levels of methyl mercury in public streams where fish advisories are in place.

4. *Due to public health risk, the Oklahoma Department of Wildlife Conservation and Oklahoma Department of Environmental Quality should immediately prohibit commercial harvest of turtles in Oklahoma and lead a state and federal interagency investigation of commercial sales of potentially contaminated wild caught turtles for human consumption in seafood markets in Oklahoma, the United States, and other countries*

In light of the evidence associating commercial harvest of wild Oklahoma turtles for intrastate, interstate and international human consumption with PCB, pesticide and heavy metal contaminated Oklahoma streams, and due to scientific evidence that suggests turtles bioaccumulate greater levels of aquatic contaminants, especially adult turtles, beyond permissible values for human consumption, the ODEQ and ODWC should immediately prohibit commercial collection and sale of all wild caught turtles, until a multiagency investigation is executed to determine: 1) the number of intrastate and interstate seafood markets selling wild caught turtles originating from Oklahoma; 2) the toxicity levels of turtles sold to these markets; and 3) the streams producing wild caught

turtles for human consumption for buyers intrastate, interstate and internationally. An emergency moratorium is necessary immediately since commercial collectors and dealers are actively harvesting turtles for their meat potential this spring for sale to markets for human consumption.

IV. AN EMERGENCY RULE IS NECESSARY TO PROTECT TURTLE POPULATIONS FROM EXPERIENCING DEPLETIONS IN THE WILD BELOW THEIR IMMEDIATE RECUPERATIVE POTENTIAL

1. *Oklahoma law requires the Oklahoma Department of Wildlife Conservation to protect freshwater turtles from population depletions in the wild*

The Oklahoma Wildlife Conservation Code mandates that the Oklahoma Department of Wildlife and Conservation must *protect conserve* and *enhance* wildlife in Oklahoma. (Oklahoma Statute 29 § 4-101 (2007) - *Creation of Department and Commission - Rules, regulations and policies (Emphasis added)*). The Oklahoma Administrative Code imputes a duty on the ODWC "...to facilitate the perpetuation of self-sustaining population levels of native wildlife species and thereby maintain the diversity of wildlife in Oklahoma." Oklahoma Administrative Code § 800:25-19-1(2007). The ODWC clearly has an obligation to maintain the perpetuation of self sustaining population levels of wildlife, including aquatic turtles, in Oklahoma.

2. *The best available scientific evidence shows turtles cannot sustain any level of harvest without causing population crashes in the wild*

Scientific evidence demonstrates the principles of sustainable yield are no longer applicable to freshwater turtles without leading to population crashes. Any level of harvest of wild turtles prevents their protection, conservation and enhancement and perpetuation of self-sustaining population levels in the wild and directly causes population crashes. Unlike traditional game animals managed by wildlife agencies (mammals, birds and fish), reptilian turtles have distinct life history characteristics that do not allow most populations to be subject to take without leading to population crashes (Congdon et al. 1994). *See Exhibit A*. Significantly, this evidence demonstrates turtles and tortoises are the most sensitive of all animals managed by wildlife agencies that quickly result in population crashes when subject to commercial harvest (Congdon et al. 1994). Long term demographic studies over two decades demonstrate that turtles have very unique biological characteristics and life history traits that make turtle populations exceptionally vulnerable to depletions in the wild.

A prime example of over-harvest was the stepped-up collection of alligator snapper turtles (*Macroclmys temminckii*) from the 1960s through the 1980s by commercial turtle trappers for the restaurant trade (Roman et al. 1999). Consequently the species has been drastically reduced in numbers in some of the southeastern U. S. rivers it once inhabited (Moler 1992, Jensen 1998).

Demographic studies of various turtle species including common snapping turtle (*Chelydra serpentina*), alligator snapping turtle (*Macrochelys temminckii*) and box turtles (*Terrapene*) show turtle populations are characterized by delayed maturation (15-17 yrs to reproduce), high adult survivorship (live more than 70 years), and low survival of nests and juveniles (Congdon et al. 1994; Reed et al. 2002; J. Koukl pers. comm. 2006). Turtles are extremely long lived and maintain population numbers through high adult survival despite very low hatchling and juvenile survival. Low recruitment is offset by the long breeding life of the adults under normal circumstances. Removal of adult turtles from wild populations removes the reproductive potential of that animal over a breeding life that may exceed 50 years. Turtles cannot compensate for a reduced adult population with increased hatchling survival (Brooks et al. 1991). These factors make turtle populations extremely sensitive to harvest of adults. Findings of Reed et al. (2002) show that the removal of as few as 2 female adult alligator snapping turtles will halve a population of 200 turtles in 50 yrs:

In order to maintain a stable population using biologically realistic values for fecundity, age at maturity, and survival of nests and juveniles, annual adult survivorship of females must be 98%. Reducing adult survivorship by as little as one quarter of one percent (to 97.75%) will result in population size being halved in 410 years. Reducing adult survivorship by two percent (to 96%), which would be equivalent to annually removing only two adult females from a total population size of 200 turtles (assuming even sex ratios) will halve the population in only 50 years.

Congdon et al. (1994) found that with continued harvest pressures as low as 10 percent of the adults above 15 years of age, a snapping turtle population could be halved in as few as 15 years. Many of the snapping turtles taken by sport and commercial collectors are gravid females that are on land to nest (Congdon et al. 1994). Congdon et al. (1994) concluded that “large increases in mortality caused by harvesting adults will certainly have a major impact on the population.”

A study of a healthy and protected wood turtle (*Glyptemys insculpta*) population documented the extirpation of the population in only a decade after the area was opened to recreational usage, with the sole difference in conditions being the removal of occasional adults by recreational users (Garber and Burger 1995). Similar results were noted for a wood turtle population in Maine, where reproductive recruitment declined as adults were continually removed. A demographic model estimated that removal of a single adult annually from a stable population of 100 adult wood turtles would cause a 60% decline in over 100 years, and that removal of two animals annually would extirpate the population in less than 80 years (Compton 1999).

Because turtles are slow growing and long-lived, population stability depends on adult survivorship or the constant presence of breeding adults to offset naturally high mortality in nests, hatchlings and juveniles Reed et al. (2002). Significantly, no published or unpublished field data exists, nor does any state wildlife agency or university have information demonstrating that turtles can be subjected to “sustainable” harvest without

causing population crashes. Congdon et al. (1994) concluded that the low fecundity, low nest survival and the high juvenile and adult survival needed to maintain stable freshwater turtle populations “argues strongly against justifying sustained harvest of populations of long-lived organisms with arguments based on the concept of sustained yield.”

3. *Other state wildlife agencies have banned commercial harvest due to scientific evidence showing turtles can not sustain any level of harvest from the wild without leading to population depletions*

State wildlife agencies in Tennessee, Mississippi, North Carolina and Alabama realize pressures from commercial harvest regimes cause population depletions in most turtle species to unviable and unsustainable levels. These agencies have gathered baseline population data to support blanket moratoriums and have respected published scientific authorities presented in this petition to prohibit commercial take of freshwater turtles from the wild. Significantly, wildlife biologists from these states have advised neighboring states to ban harvest, since wildlife traffickers collect turtles in states where they are protected and purport these turtles were collected in Oklahoma where harvest is still legal (K. Irwin, pers. comm.2007).

4. *Oklahoma’s unlimited commercial harvest law is causing population depletions of turtles in the wild*

Baseline data from Oklahoma State University’s recent population density survey of freshwater turtles in Oklahoma show depletions and even extirpations of native turtles in most Oklahoma streams, especially the Deep Fork, Kiamichi, Mountain Fork and Little Rivers (Riedle 2001). Oklahoma law requires commercial turtle buyers, not collectors, to report how many wild caught turtles they purchased and to report the species based on personal speculation (Oklahoma Administrative Code § 800 15-9-1-3(6)(2007); Oklahoma Statute 29 § 4-103B.D. (2007)). There is no requirement for the ODWC to police turtle buyers to ensure the quantity and species of turtles purchased. However, these mandatory reports documented that an estimated 740,932 turtles were purchased by buyers from 1994 to 1999, including 3,022 Ouachita map turtles (*Graptemys ouachitensis*), 1,096 false map turtles (*Graptemys pseudogeographica*), 110,648 softshell turtles and 24,076 common snapping turtles (*Chelydra serpentina*) (Riedle 2001). It is important to note that these figures do not derive from a scientific methodology. Moreover, it is unclear why map turtles were allowed to be commercially harvested during this period when Oklahoma law specifically provides protection of map turtles from commercial harvest. Contrary to the Oklahoma Wildlife Conservation Code, the Administrative Code delineates a scientific nomenclature of a map turtle which is protected from harvest, specifically the common map turtle (*Graptemys geographica*). (Oklahoma Administrative Code § 800:15-9-3(2)(B)). This species, *G. geographica*, historically occurred in the Spring River in the extreme northeastern corner of Oklahoma and is now believed to be extirpated from Oklahoma due to water pollution and reservoir construction.

Oklahoma law expressly prohibits possession and harvest of alligator snapping turtles (*Macrochelys temmickii*), and chicken turtles (*Deirochelys reticularia*) (Oklahoma Statute 29 § 6-204A-E (2007)). However, these species overlap in range with non-protected turtles in Oklahoma and incidentally enter baited traps set by commercial collectors. Trappers often can not distinguish alligator snappers from common snappers and coin both species simply as “loggerheads.” To the untrained eye chicken turtles are strikingly similar in appearance to red eared sliders and river cooters, which are legal to harvest in Oklahoma. Collectors who can distinguish these species and who realize their high value for the international pet trade may purposely harvest and portray them as common snappers and red eared sliders and sell these to dealers in states where their commerce is legal. For example, licensed turtle dealers/farmers in Louisiana may legally sell alligator snapping turtles and adults often sell for more than \$2,000 each. In Louisiana, Florida and Georgia it is legal to sell wild caught chicken turtles. The chicken turtle is a declining species that may qualify for federal protection under the Endangered Species Act. Adults are highly sought by the pet trade to produce hatchlings that sell for \$60 each. *See Exhibit E.*

The pet trade appears especially hazardous for some turtle species. The international pet trade prizes all 12 species of map turtles, which are drainage specific and are now protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 27 U.S.T. 1087. Each watershed that drains into the Gulf of Mexico produces a brilliant unique geophysical coloration and topographic pattern on the map turtles’ shell and skin. Some map turtle species fetch more than \$150 per adult on commercial internet websites. *See Exhibit E.* Many map turtles in Texas, Alabama, Mississippi, Florida and Georgia warrant federal protection under the Endangered Species Act (16 U.S.C. § 1531 (2007)). Two species that occur in Mississippi are already listed under the Act due to over collection for the pet trade: the yellow blotched sawback map turtle (*Graptemys flavimaculata*) and ringed sawback map turtle (*Graptemys oculifera*). Commercial demand for map turtles is so high that illegal turtle collectors in Georgia and Florida have traveled to Texas to spend weeks collecting thousands of map turtles for the international pet trade (A. Redmond, pers. comm. 2000). Game wardens are not fully trained to distinguish most aquatic turtle species, and face difficulty enforcing the law when encountering collectors and their turtle bounties in the field. Turtle dealers on the internet often sell wild caught hatchlings and adults and claim they are captive bred in online solicitations.

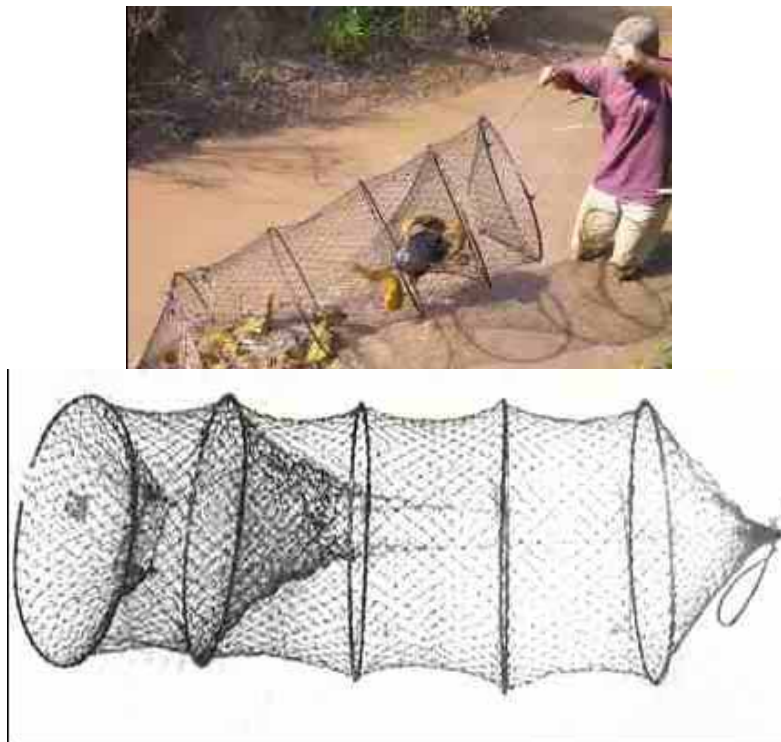
5. *Oklahoma law allows the use of lethal unlimited sized box traps and hoopnets to capture turtles, which results in unknown numbers of drownings of protected aquatic wildlife, including alligator snapping turtle, paddlefish, migratory birds and the federally threatened American alligator*

Oklahoma law allows turtle collectors to deploy an unlimited number of box traps and hoopnets to harvest freshwater turtles (Oklahoma Administrative Code § 800 15-9-3(4); Oklahoma Statute 29 § 4-103A (2007)). Oklahoma biologists have observed that turtle traps are effective in capturing most adult turtles in a stream segment, and that a single harvest event can deplete and even extirpate a population for more than a decade (D.

Riedle, pers. comm. 2008). This impedes turtle populations from increasing, once the majority of large reproductively successful adults are absent.

Box traps are square or rectangular shaped traps several feet long with openings on the top of the trap “fall pits” or on the sides to allow entry of wildlife through the water. Hoopnets range in length but most are long collapsible cylinder-shaped wire mesh or webbed netting funnel traps that are more than 8 feet long and supported by 3 to 5 three-foot diameter hoops. The narrowing throat is open on one end to allow turtles and other aquatic animals to enter and not turn around to escape. The trap is baited with fish, stretched and weighted to the stream floor to capture hungry wildlife.

FIGURE 1



However turtles are not the only aquatic animals taken by hoopnets and boxtraps. These devices are extremely susceptible to capturing all aquatic animals in the trap location including fish, aquatic mammals (nutria, beaver, muskrat, otter, mink), snakes and state and federal threatened and endangered species. Even when partially submerged to allow captured animals to breathe, the likelihood of these traps drowning incidentally captured wildlife is significant due to unpredictable stream hydrology (rising waters from rain events), instability of trap design, weight and movement of captured animals (S. G. Platt pers. comm. 2007).

Biologists have noted the propensity of turtle hoopnets to capture and drown alligator snapping turtles due to the weight of this large turtle (some exceed 100 lbs) sinking the trap below the water surface (S. G. Platt pers. comm. 2007). Other researchers note that box traps and hoopnets capture and maim paddlefish (*Polyodon spathula*) and drown aquatic migratory birds that are protected under the Migratory Bird Treaty Act, 16 U.S.C. § 703 (2007) (C. Rudolph pers. comm. 2007; R. Nelson pers. comm. 2007). Hoopnets commonly incidentally capture and drown adult and juvenile American alligators (*Alligator mississippiensis*), a species protected under the federal Endangered Species Act, 16 U.S.C. § 1531 (2007). Even when set above the water surface, captured alligators thrash inside the hoopnet attempting to escape and cause the net to sink (C. Rudolph pers. comm. 2007; R. Nelson pers. comm. 2007; S. Platt pers. comm. 2007).

V. AN EMERGENCY RULE IS NECESSARY UNDER STATE WILDLIFE LAWS THAT DISCOURAGE INTERSTATE COMMERCE OF ILLEGALLY COLLECTED WILDLIFE

The Lacey Act (16 U.S.C. § 701 (2007)) prompts the Oklahoma Department of Wildlife Conservation to enact effective state wildlife laws that discourage interstate commerce of illegally collected wildlife. Oklahoma law's mandatory reporting provision for turtle buyers relies on truthfulness of dealers to report legitimate numbers of turtles taken from the wild; however the ODWC does not police turtle harvests and lacks the administrative and law enforcement manpower to ensure buyers are not misrepresenting harvest numbers or species. As a result, wildlife traffickers are capable of illegally harvesting turtles in parts of other states where they are protected (such as map turtles and chicken turtles from the Ouachita Mountains in western Arkansas) and claim these originated in Oklahoma, where unlimited harvest is legal. Recent legislation in Texas bans harvest of four species of map turtles, some of which meet the parameters for federal listing under the Endangered Species Act (i.e. *Graptemys caglei*, and *G. versa*). However traffickers of these map turtles in Texas can claim they are map turtle species that derived legally from Oklahoma, since the ODWC is not trained to distinguish the species and is not enforcing the Oklahoma Wildlife Code which expressly prohibits commercial harvest of map turtles. Regulating illegal turtle collecting is difficult in Oklahoma since traffickers often access public streams through private land (Anonymous ODWC, pers. comm. 2008).

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