



KANSAS CHAPTER OF THE SIERRA CLUB RECOMMENDATIONS FOR PROTECTION OF THE ORNATE BOX TURTLE

The Kansas Chapter of the Sierra Club supports increased regulatory protection for the Ornate Box Turtle (OBT) *Terrapene ornata* in Kansas. However, considering the factors outlined in the following testimony and the uncertainty of statewide OBT populations, the Kansas Sierra Club recommends that the Kansas Department of Wildlife and Parks (KDWP) adopt the strongest protection measures, like several other states, which prohibit *all* possession of OBT except for permitted educational and research institutions.

The Sierra Club supports the precautionary principle: When an activity potentially threatens human health or the environment, the proponent of the activity, rather than the public, should bear the burden of proof as to the harmlessness of the activity. Where there are threats of serious or irreversible damage, *lack of full scientific certainty shall not be used as a reason for postponing measures to prevent environmental degradation. (emphasis added)*

Recent surveys document absence or near absence of OBT in habitats where they historically were observed. Driven by concerns for declining OBT populations, KDWP proposes to increase protection of native reptiles and amphibians by reducing the personal possession limit for individual species from five to two.

Until further scientific investigation proves otherwise, KDWP should stop all commercial and non-commercial collecting of OBT. The Kansas Sierra Club recommendations below, based on the “precautionary principle,” could prevent a declining species from slipping to a population level from which future recovery might be impossible. Research suggests that OBT is at or near that point.

1. Immediately prohibit all commercial and non-commercial collecting, possession, and racing of OBT, including “captive-bred” specimens. Fake sales certificates can be used to obscure the fact a turtle was taken from the wild.
2. Provide exceptions for possession by permit issued by KDWP only for educational and research institutions with trained staff and facilities which can provide appropriate care.
3. Prohibit all importation and export of OBT, both wild and captive-bred, to and from Kansas to prevent spread of disease into wild populations and to facilitate enforcing regulations.
4. Deter violations with penalties strong enough to deter violation, including fines, incarceration, and forfeiture of property involved, including vehicles and structures.
5. Consider similar protection for other reptiles and amphibians, including the three-toed box turtle (TBT) *Terrapene triunguis*, whose range overlaps the OBT in the southeastern part of Kansas. Protecting both box turtles would eliminate confusion of the species and make enforcement simpler. (In Daren Riedle’s briefing to KDWP Commissioners, he noted that the TBT is becoming a target of commercial collecting, fetching thousands of dollars in Asia.)

Ornate Box Turtle Biology: Natural History, Status, Threats

NATURAL HISTORY:

OBTs begin reproducing at about 10 years old but, with luck, may survive to reproduce for almost two decades. Females lay only three to four (occasionally up to eight) eggs *a year*, of which about only two or three fragile quarter-sized hatchlings will emerge (documented 69% average hatch rate). Eggs, hatchlings and young OBT are easy prey for opossums, racoons, coyotes and other predators. Few live long enough to acquire a home range about the size of a football field. They survive only by adapting to their local surroundings, its water sources, loose soils suitable for hibernation and nesting, sheltering vegetation, nooks and crannies for protection from summer heat, food sources of insects, berries and such. Most researchers think that few survive long enough to gain such intimate knowledge of their microhabitat. OBT provide important environmental services of seed dispersal, eating carrion and as insect predators.

STATUS:

The official status of OBT varies by organization and government. The International Union for Conservation of Nature rates the ornate box turtle as "near threatened." Table 1 summarizes the status and level of protection provided by selected states, including Kansas.

THREATS:

OBTs are very susceptible to changes in their home range. Changes from habitat fragmentation by roads and other development are especially challenging, making it difficult to find replacement food sources, water, and shelter. OBT's inability to adapt to environmental changes usually results in death even when briefly removed from their home range and later returned to another location in seemingly suitable habitat.

Rapid climate change, with its associated weather extremes, poses new risks to OBTs. For example, higher temperatures lead to near 100% female hatchlings. Reis et al. (2013) states, "Turtles are at risk of detrimental climate-change impacts due to projected extreme variations in temperature. Models of a related species (the three-toed box turtle; *Terrapene triunguis*) show reduced fecundity and growth rates based on simulated climates in 2100... the initial environment experienced by ornate box turtles plays an important role in determining thermal preference for the life of that animal. Extreme weather variations may cause problems in ideal habitat selection by ornate box turtle populations. Changes in temperature may also result in single-sex cohorts that can threaten population viability. Warmer temperatures could result in higher metabolic rates in overwintering turtles which, in turn, could deplete lipid reserves to unrecoverable levels and increase mortality rates in adults. More frequent and extreme droughts may also affect nesting."

Poorly regulated collecting (commercial and non-commercial) reduces wild populations. The colorful shell of OBT is the main reason for its desirability to collectors. Redder (2006), referencing several reports, says, "The ornate box turtle, guarded only by its shell, is an easy target for pet suppliers and casual collectors, both of which have taken their toll on populations. Adult survivor rates are vital to the success of a population, and the loss of *one adult turtle* (emphasis added) in a population may lead to that population's disappearance over time... Collection of adult individuals, *whether by commercial collectors or by individuals* (emphasis added), is a

seriously damaging human activity generally affecting box turtle population... The loss of even one or two reproductive females per year from small populations can result in the extinction of those populations...” Then there is the risk of disease spread by collecting, again documented by Redder (2006), “It is now known that a variety of respiratory tract, infectious, metabolic, and shell diseases affect ... tortoises and terrestrial turtles, some of which are present in both captive and wild turtle populations. The extent of infection and mortality in wild populations of turtles is less well known, but ... (there is) reported high incidence of mortality in wild desert tortoise populations due to *Mycoplasma agassizii*, a bacterium known to be one of the causes of symptoms of upper respiratory tract disease (URTD). URTD is spread by direct contact, and outbreaks in wild populations are strongly suspected of having originated in captive populations and spread by the escape or release of infected captives...”

DISCUSSION:

Allowing people to own any number, much less five, OBTs provides poachers with opportunities to capture and accumulate turtles for the illegal market. They can literally play a “shell game” of catching a few and selling a few, with little risk of getting caught as long as they don’t have more than five in possession as Kansas law now permits. The “shell game” can work with a one or *two turtle limit* as well as five.

Laws are ineffective when fines are no worse than a “speeding ticket” (Maron 2019). The financial incentives for commercial exploitation encourage illegal trade. An online search shows that the OBT fetches a good price. “Turtle Hub” values them at \$200 to \$350 and “Tortoise Town” at \$200 to \$400. Dennis Dinwiddie, Director of Conservation and Education for the Topeka Zoo, reports that OBT sells for as much as \$3,000 in parts of Asia, a huge incentive in its illegal trafficking. A National Geographic report, (Bydina 2019) documents individual repeat offenders poaching thousands of turtles, many of which are OBT, for sale into the illegal wildlife trade as far as Asia. When treated inhumanely, as most are in the illegal wildlife trade, many of these animals die from dehydration, starvation, and temperature extremes before they are sold to distant collectors.

This statement by the Tortoise Trust, an international educational and research organization dedicated to welfare and care of turtles, underscores the difficulties of keeping OBT alive and healthy in captivity: “Ornate box turtles are among the most sensitive and difficult of North American species to maintain successfully... The truth is that a more unsuitable turtle to be kept as a pet can hardly be imagined. This species has extremely specialized needs, both in terms of environment and diet.”

It is likely that few recreational collectors keeping OBT have the knowledge or resources for meeting the exacting requirements for humidity, temperature, food, hydration, and other environmental conditions to keep an OBT healthy. When kept indoors, OBT need at least 5% UVA/UVB lighting adjusted to match seasonal daylength. Light bulbs should be changed every 6-9 months, as UV output decreases long before bulbs burn out. Inadequate lighting leads to serious health problems such as metabolic bone disease, abnormal shell growth and other diseases. Captive OBTs are likely to be malnourished and suffer undiagnosed disease because their caretakers are unable to provide appropriate living conditions.

The Association of Zoos and Aquariums co-produced a short, animated video ([Learn why certain turtles are #NotAPet - YouTube](#)) with other conservation organizations discouraging people from buying box turtles or taking them from the wild for many of the reasons previously stated. Seven Kansas zoos are currently accredited by the AZA.

Even brief human interactions with the OBT can be damaging. Dinwiddie reports that there are 172 turtle races held in Kansas. OBT is almost exclusively the species raced. The seemingly innocent removal of turtles from the wild for turtle races, even with speedy return to the natural environment, can be dangerous to turtle populations. Risks include transmission of several types of diseases among turtles with consequent infection of wild populations when released. It's not a matter of "if", but "when." Much the same could be said for brief captivity as temporary pets and casual non-academic study. There is little that wildlife officers can do to assure that a turtle is returned to the spot from which it was taken and was not exposed to infected turtles. These practices should be stopped.

In a telephone conversation with Dinwiddie on March 23, 2023, he reported that collecting/poaching from the wild is thought by many experts to be one of the greatest causes, if not the greatest cause, of decline for OBT in Kansas. He also reported that preliminary results from a recently completed OBT field survey conducted by seven zoos in Kansas confirm "there has been a significant dramatic decline" of OBT populations in Kansas.

The facts above support more protection from collecting for the OBT. Its low reproductive rate, habitat destruction/fragmentation, inability to survive if relocated outside its home microhabitat, and the gathering impacts of a warming climate make collecting even more dangerous to the survival of OBT.

An article in the February 1, 2022, Topeka Capitol Journal quotes biologist Benjamin Reed, Assistant Professor of Biology at Washburn University, and Dinwiddie urging more protection for OBT. The same article quoted KDWP Secretary Brad Loveless as saying "ornate box turtles need more protection over time to sustain their population in Kansas."

KDWP presented its proposed regulatory changes related to reptiles and amphibians to KDWP commissioners on June 22, 2023. The presentation was given by Daren Riedle, KDWP Wildlife Diversity Coordinator. The main points are:

- No more than five reptiles allowed in personal possession or domicile. Regarding domicile (residence), the limit is *five total for the domicile*. It is *not* five total for *each* member of a family. For example, a family of six persons is allowed only five reptiles in the domicile.
- No more than two specimens of the same species of reptiles (including OBT) allowed per person/domicile. This means that no more than two OBTs could be held by a person or in a domicile.
- Up to five amphibians are allowed in addition to five reptiles. All five amphibians could be the same species.
- One person or domicile could legally have five amphibians *and* five reptiles.

SUMMARY:

While we commend KDWP for proposing greater protection for reptiles and amphibians, we are concerned that allowing collection of *any number* of OBT for other than educational or research purposes by qualified institutions does not provide sufficient protection. OBT needs greater protection because of its documented population decline, susceptibility to recreational collecting, documented difficulty of keeping them in captivity, and its high commercial value in the illegal wildlife trade.

From an enforcement perspective, allowing recreational/non-educational collecting of *any number* of OBT makes it more difficult for wildlife officers to prove that a person is violating regulations. Under the proposed

two-reptile species limit, poachers could claim that the one or two OBT in their possession are for their personal enjoyment and not for commercial trade. As with the current five-reptile limit, violators need only hold OBT in multiple locations to evade detection and/or prosecution.

Kansas Sierra Club proposes a ban on collecting and keeping OBT, based on the information above. Comments here do not address KDWP's proposed collection limits for other reptiles and amphibians, but recreational and commercial collection of any species from the wild potentially threatens survival of populations for many of the same reasons stated for OBT.

INFORMATION SOURCES:

Maron, Bydina. October 2019. "Turtles are being snatched from U.S. waters and illegally shipped to Asia". National Geographic.

Redder, Alan, et al. 2006. Ornate Box Turtle (*Terrapene ornata ornata*): A Technical Conservation Assessment. Prepared for the USDA Forest Service, Rocky Mountain Region, Species Conservation Project May 16, 2006 Wyoming Natural Diversity Database, University of Wyoming, P.O. Box 3381, Laramie, WY 82071

Reis, Anne, Schumaker, Matthew and Kenney, Susan, primary authors. 2013. Wisconsin Department of Natural Resources (WDNR). Wisconsin Ornate Box Turtle Species Guidance. Bureau of Natural Heritage Conservation, Wisconsin Department of Natural Resources, Madison, Wisconsin. PUB-ER-711.

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Table 1- Status and Level of Protection for Ornate Box Turtles by State: Level of protection varies widely among states. We won't attempt to explain why some states are so permissive in allowing OBT collecting. But, we can definitively say OBT in Kansas needs much more protection than current and proposed regulations provide.

STATE AND STATUS	POSSESSION ALLOWED? (If yes, number permitted)	SALE ALLOWED?	TRANSPORTATION INTO OR OUT OF STATE ALLOWED?	PENALTIES	NOTES
Arizona (highly protected)	0	No	No	Class 2 Misdmnr \$750/OBT & 6 mos. Class 6 Felony..... generally 2 yrs max	Non- Commercial (per count) Commercial* (per count)
Colorado (regulated wildlife)	4	No (gift okay)	No	Jail up to 1 year &/or fine up to \$1,000 for sale	Possession of up to 12 reptiles and amphibians allowed
Iowa (threatened)	0	No	No	?	
Kansas (protected, state reptile)	5 Hunting license req'd for persons 16 and older	No	No	K.S.A. 32-1002 (taking or dealing): \$250 for second conviction K.S.A. 32-1005 (selling wildlife): class A nonperson misdemeanor. up to 12 months in county jail and a fine of up to \$2500 **	Status and level of protection currently being reviewed by KDWP & legislature.
Missouri (protected)	5	Only w/permit	?	?	Can't buy/sell w/o permit. Permit req'd for more than 5.
Nebraska (protected)	3	No (except w/license)	?	?	Designated as the state reptile.
Texas	No limit	No	?		Hunting license req'd to collect.
Virginia (protected)	0	No	No	\$500/turtle	
Wisconsin (Endangered)	0	No	No	Jail up to 9 months &/or fine up to \$5,000	

* Normal punishment for a Class 6 felony in Arizona ranges from 6 to 18 months with a presumptive sentence of one year.

** Current Kansas law prohibits buying or selling OBT or transporting them out of the state for sale.