

Hot Tracks, Fast Turtles — The Unforeseen Consequences of Well-intended Turtle Derbies

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... *the race is not to the swift* ... Ecclesiastes 9:11

Maryland Traditions

Despite the previous day's breaking news on a key general defecting from the ranks of the Syrian army, news that thousands of families in the mid-Atlantic states were still without power from a storm that came through the previous week, and the seemingly endless political commentary about the Supreme Court's ruling on the Democrat's controversial health plan, the headline for the Saturday morning edition of the *Baltimore Sun* simply read "104°F." The local radio stations were saying the heat index was expected to reach 111°F. The Chesapeake Turtle Derby was to take place that morning and I arrived early, hoping to talk to some of the folks as they waited in line to register their turtles for the race.

At 9:30 I drove up to the corner of Patterson Park where the race was to be held. There were joggers with headsets, the tennis courts were all in use and on a distant field I could see there was a soccer match in progress. Everywhere there were people walking dogs and pushing baby carriages. Registration for the annual turtle derby was to start at 10:00, but in years past people arrived early to secure a parking place as this had become a popular, well attended, 4th of July weekend event. It was free and open to the general public. I would wait, but it was already beginning to get hot.

The storm of the previous week had taken its toll on a few of the park's trees. Many had lost major branches and three or four linden trees and one chestnut oak had been uprooted. The trunks had been cut up for removal but were still lying about. I entertained myself by trying to count the growth rings on the trees' cross-sections. The chainsaw work for the most part obscured the rings and it was difficult to get a good count. One of the secondary branches of a linden had a clean cut and I counted 72 rings; a recount, yep 72. The trees themselves clearly passed the century mark, and were probably considerably older than that. About 10 A.M. someone drove up, parked their car, and found a shaded place to set up a folding chair near the site where the races would take place. I walked over to inquire about the event. Because of the heat forecast, late the previous day it was decided to postpone the races until later in the summer. Everyone who

inquired about the event and all of those people who registered turtles the previous year were notified by email that the race had been called off. I hung around for another half an hour anticipating disappointed people with their turtles being informed of the cancellation. No one came, and I returned to my car. With the AC running, I circled the park several times expecting to see someone bringing turtles. Although people were still jogging in the 100°F heat, a good way to burn off extra pounds, no turtles; that was it. I headed back to North Carolina, about a six-hour drive on a holiday weekend.

Patterson Park itself has a long and interesting history (Almaguer, 2006). It was an important stronghold in the defense of Baltimore in the War of 1812, and was used as a Union troop encampment and the site of a surgical hospital in the Civil War. Five acres of land were donated to the city by William Patterson for a public park in 1827, and the city added to it with the purchase of additional land. Today the 137-acre park has public recreational facilities, including an ice-skating ring, a small lake and various hiking paths. The initial development of the park was paid for with funds from Baltimore's former streetcar system. Twenty percent of the fares went to the city's park system, and this probably accounted for many of the trees that were planted throughout the park.

I picked this particular turtle race, the 72nd annual Chesapeake Turtle Derby, in part because of its history, arguably the longest continuously run turtle race in the country, and the fact that during my pre-school years my family lived only a few blocks from the park. Based on family photographs the linden trees had grown in the intervening years, but still they had been

of considerable size even back in the 1940s. I recall my sister taking me to one of the turtle races when I was perhaps four. The race is conducted each year in the shadow of the Pulaski Monument near the southeast corner of the park. Casimir Pulaski, a Polish officer who later became a brigadier general of the American cavalry during the Revolutionary War, is one of the most honored people in American history. In a resolution passed by Congress and signed by President Obama in November 2009, Pulaski was given



The 2007 Chesapeake Turtle Derby in Patterson Park. Photograph by Sandra Barnett.

honorary U.S. citizenship (Mann, 2009; Public Law No:111-94). The Pulaski monument depicts a relief sculpture of the general leading a cavalry charge, a fitting monument in that the cavalry unit was headquartered in Baltimore and Pulaski did most of his recruiting there. The monument was commissioned in 1929 but not completed until 1951—even turtles can move more quickly, and fortunately the park’s trees grew faster as well.

Baltimore City Parks and Recreation runs the turtle derby, and it is one of their best-attended public events. Reliving my childhood, I attended the races several times in recent years. Typically about 100 turtles and several hundred spectators show up for the Independence Day weekend’s public event. By late morning there is usually a long line of families waiting to register their sundry turtles. Most have names like Pokey, Myrtle, Speedy, Junior, Booger, and of course Shelly, and many have painted or otherwise decorated shells. The most popular “other-wise” is nail polish. The majority of contestants are box turtles that were captured by parents so their children could enter them. I interviewed the participants in 2008; of the 69 box turtles raced, 89% of them had been captured just for the event, and some families had two or three turtles entered. There are four races, one for box turtles, one for tortoises and one for all other types of turtles, plus a final race where the winners of the three prior races compete for the grand prize. The races are run in heats with the winners advancing to the finals. The racetrack consists of an inner circle into which the “contestants” are placed, and an



A contestant takes a pre-race practice run during registration at the 2008 Bel Air Turtle Derby. Photograph by David S. Lee

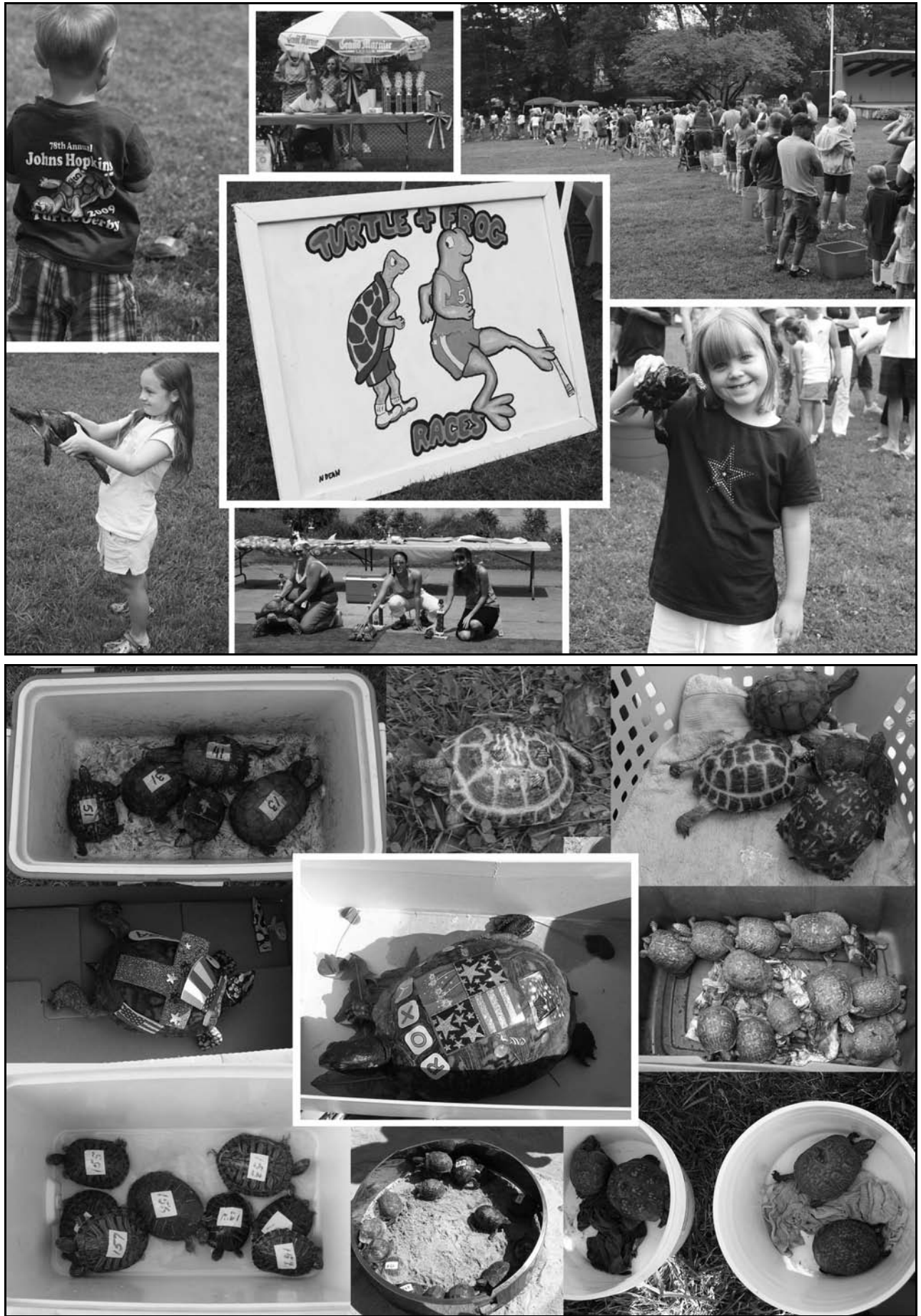
outer circle which the turtles must cross to win the race. After being released into the inner circle, the first turtle to cross the line of the larger outer circle is pronounced the winner. On hot sunny July days the turtles are more than ready to head out, moving like the ones you see crossing highways after a heavy summer rain. Although many don’t move in a straight line, the race is usually over in a minute or so. Trophies are presented to the winners and their proud “owners.” The race is only a few yards (16 feet if the turtles stick to a straight path), but turtles being turtles, there is plenty of time for cheering and shouts of encouragement for the contestants. The “racing” turtles are quite a contrast to the bronze sculpture of Pulaski’s cavalry, or the traffic zipping from stop light to stop light on Rte. 40, also known as Pulaski Highway, just several blocks to the north. Patriotic music is broadcast through speakers as trophies for each category are presented to the winners and their proud “owners.” Perhaps 200 or more people attend the race, with the majority of those being the families that are entering contestants in the race. Happy children and a good summer family event!

A traditional spring prelude to the Baltimore Preakness since 1931, is the annual Johns Hopkins Hospital Turtle Derby. The race, held in May, on the Friday before the Preakness, is run only a few miles from Patterson Park. Over five hundred people attend, many of them young hospital patients hooked up to I.V. machines. Children, some in casts, stand side by side with the hospital’s faculty and staff. In 2000 the derby raised \$3,500 for a “Child Life Program” and a local daycare center that helped children being treated with cancer. Similar amounts were raised in other years in order to help the hospitalized children. This event would probably be the oldest continuously run turtle race in the country were it not for a several year period when the race fizzled due to a lack of staff interest. By 1980 it was back on track, but by my calculations this leaves the Patterson Park race as our longest continually running annual turtle race.

Just up the road, another 4th of July race is organized by the patrons of the Bel Air Independence Day Committee. It attracts a similar audience, including people from nearby states. The rules are similar. Typically over 100, and in some years up to 200, turtles are entered. In the recent past nearly all were native wild-caught box turtles. By 2008 when I first attended this race, only 56% of the turtles were eastern box turtles, and still in 2012 only 57% of the 130 or so entries were box turtles. Box turtles are becoming increasingly hard to come by. In addition to eastern box turtles, locally captured diamondback terrapins, eastern mud turtles, red-bellied turtles and feral red-eared sliders were entered in the race. A few animals were purchased in local pet shops the week before just so children could enter a turtle. In 2008 they included one ornate box turtle and two Russian tortoises. Interestingly, one of the Russian tortoises had an American flag painted on its carapace; a most patriotic chelonian, I suppose. Clearly the Cold War is now over. Two pet African spur-thighed tortoises were also entered. The event was preceded by hamster races and immediately followed by The Great Bel Air Frog Jumping Contest and Watermelon Eating Contest.

So how common and widespread are turtle races?

These are the three major turtle racing events in just the



(photographs by David S. Lee and Sandra Barnett)

Baltimore area. Each year there are hundreds of turtle races taking place throughout the country. Almost every state has various towns and organizations sponsoring turtle races. Typically they occur around the 4th of July, but they also are held concurrently with other outdoor summer activities such as county fairs. Just reading through all the turtle racing events that come up on a web search or watching all the ones that pop up on Youtube would probably take days. The races do not seem to be clustered in any particular region of the country. A number of the events date back 40 years or more and appear to be continuing annual events. Even the Indianapolis Zoo has them; this year they held their 31st Annual Zoopolis 500.

The actual number of turtle races conducted annually in this country is difficult to estimate. Heeb (2007) reported annual races occurring in 35 states, totaling 520 events. This number is conservative as it does not include the smaller, informal, less advertised races, so the actual number could easily be twice that. One problem in trying to estimate the number of individual races is that some towns run races on a weekly basis throughout the summer. I know of no races in North Carolina, but this does not rule out small-scale backyard events. In a number of states there are multiple races sponsored by various towns and organizations. Some states, Kansas and Missouri for example, have 40 or more different races taking place every year. Oklahoma has 28. Informal races in bars and other establishments are impossible to track. But if we assume there are 520 major races per year with an average of 50–100 turtles per event, that's a lot of turtles, perhaps rivaling the nation's pet trade in the number of box turtles taken from the wild each year. Based on the number of entries at over 50 races, Heeb (2007) estimates 26,000 box turtles are taken from the wild each year for use in these races. If one adds to that road mortality, habitat fragmentation and loss, effects of pesticides and other contaminants, mortality from mowing, people taking turtles home as pets, predation by pet and feral dogs, increases in populations of human subsidized predators such as raccoons, and the continued commercial trade, the number of box turtles lost per year to human-related activity is phenomenal. The combined toll is now threatening what not too many decades back were common species.

It was not until I started digging into all this that I became aware of an important aspect of turtle racing. Bars and taverns often use these events to entertain customers. Throughout the country, bars hold turtle races; some are nightly, others weekly. There are many variants of this activity, but typically patrons get a ticket with each drink they purchase. They can then use these to place bets on particular turtles to come in first or last place. The winners are rewarded with tee shirts or more drinks. In most cases it is not clear if the customers need to bring in their own turtles to race in these events. A few bars state you can rent turtles if you forgot to bring one. Online videos of some of the races indicated that the turtles used were mostly box turtles and red-eared sliders. Based on the behavior of the crowds the events generally take place late in the evening, apparently in an attempt to keep the patrons in the respective establishments. I was surprised to learn that the Turtle Kraals Restaurant and Bar in Key West, a site I reported on earlier (Lee, 2012), now holds turtle races. This appears to be a new and growing trend; bars throughout the country have started running turtle races. This

bar game fad can now be found from Florida to Chicago, and Houston west to L.A.

The history of prize money and betting on turtle races goes back to at least 1924, when races started in Kay County, Oklahoma. Within a few years, thousands of "terrapins" (box turtles were often called "highland terrapins" at the time) were being entered in the race and by 1930 first prize winnings exceeded \$7,000. The races ended in 1931 when the "terrapin derby" was ruled to be a lottery (Anonymous, 1960). About the same time Boston police raided a street carnival where five men were caught and later fined for racing 13 turtles. The prizes were boxes of candy. Police confiscated the candy but not the turtles (Anonymous, 1930).

The issues

I thought about all the sundry issues on the drive home from the postponed Patterson Park race; basically they fall into four major categories. Their relative importance depends on one's perspective.

Native box turtle populations: Box turtles, by far, are the turtles most often used in turtle racing. Multiple studies throughout their range show that box turtle populations have been in decline since the 1950s (see summary in Ernst and Lovich, 2009). Like most other turtles, box turtles exhibit strong site fidelity and typically have relatively small home ranges, ones they seem compelled to return to if they are released anywhere except at their site of capture. In a several year attempt to repatriate box turtles in Pennsylvania, radio-tracked turtles wandered away from the release area, and over 60% of the individuals failed to establish new home ranges (Belzer, 2002). Cook (2004) introduced 337 box turtles to a 579-hectare site in Brooklyn, New York. The area was a former salt marsh that had been filled in during the 1920s. Over a seven-year period only half of them established home ranges; the others were unable to establish territories, or simply wandered off the site. Research by others has shown similar problems and emphasizes that displaced box turtles are unlikely to survive (Hester et al., 2008). How strong is this homing instinct? I have seen pet box turtles that had been maintained in outdoor pens for years, later released miles away into appropriate habitats, and within weeks found by their owners pacing the outside of their former pens trying to get back in.

Dodd (2001) and Ernst and Lovich (2009) provide excellent overviews of population studies of box turtles. It is not uncommon for box turtles to reach ages of 60 years or more, and individuals have been known to live well past the century mark. All studies of wild turtle populations show that there is no support for a sustainable use. Perhaps the most compelling statistical model showed that a 95% annual adult survival rate is needed for a stable population of ornate box turtles (Doroff and Keith, 1990), thus if only one adult box turtle was removed from a sizeable and healthy population per year, over time the population would crash. Nazdrowicz et al. (2008) discuss the nature of box turtle populations in fragmented landscapes, the types of habitats that typically serve as a source for turtles used in races.

Another consideration is the timing of these races. After a threat to close down one 4th of July race in Pennsylvania

(Moore, 2012), concerned parents of children who planned to participate in the event wrote in to say that the children who had started collecting turtles around Memorial Day would be disappointed. Thus, it seems that many of the turtles used in these races are held captive through a major portion of their prime egg laying period. In fact, gravid wild-caught box turtles have shown up at the Patterson Park derby more than once, and a gravid diamond-backed terrapin laid an egg on the race course in 2003. Heat is another issue for midsummer turtle races, many of which are run on asphalt, and even on natural substrates midday ground temperatures can easily reach 102–125 °F.

Many of the turtle races run today were started back in the mid-1900s when box turtle populations were much healthier and the landscape was less fragmented. While individual turtles can persist for decades if their core home range remains intact, these relict individuals do not represent sustainable populations. Most of the turtles that are being entered into races are not just older than the participants entering them, but some likely date back to a period prior to the founding of the particular annual event into which they are being entered. Just as in the Bel Air race, as box turtles have become harder and harder to find, other species of turtles have started showing up as contestants. Some of these are locally captured, while others are purchased in pet stores just for the event, or represent turtles and tortoises that are family pets. The Johns Hopkins race is now run with turtles rented from turtle farms and biological supply companies. In doing this, they do not need to have the turtles examined or the race approved by an animal use committee. That the Hopkins race has shifted to renting turtles from turtle farms for their annual race has nothing to do with conservation concerns for local turtle populations; they were forced to do that as native box turtle populations in the greater Baltimore area became almost non-existent.

Human health risk: In that considerable numbers of young people attend these events, and the children entering turtles in the races by the very nature of the event are handling the turtles, *Salmonella* infections are always a concern. *Salmonella* bacteria and other pathogens are not just on small turtles as might be implied by the federal law prohibiting the sale of turtles under four inches. In that the turtles are confined to the same small areas prior to the races, the potential for transmission of disease from one turtle to another is substantial. In addition, the turtles often then go back home with the participants' families, where children have further contact with the turtles. I have not seen any indication that the organizers of these races have even considered this issue, as there are not printed alerts to the potential problem handed out at the events. Furthermore, hand sanitizer is not typically made available to the participants, nor do families normally bring any. C.D.C. news releases, which for the most part focus on illegal sales of "baby" turtles, to date have overlooked turtle races that, in reality, provide the setting for mass contaminations and regional outbreaks of *Salmonella*.

While the issues caused by transmission of *Salmonella* from turtles to people are well known, *Campylobacter* is another serious bacterial infection that be transmitted by handling turtles. It can result in serious gastroenteritis, diarrhea, abdominal cramps, nausea, and fever. There are cases of adults, children and infants becoming infected with *Campylobacter* after expo-

sure to wild-caught box turtles that became family pets. As with *Salmonella*-infected turtles, these likewise fail to exhibit symptoms of the infection, but they can serve as a reservoir and periodically shed the bacteria (Harvey and Greenwood, 1985; Johnson-Delaney, 2006). It is interesting to note that the 4th of July Bel Air turtle races are followed by frog-jumping and watermelon eating contests. I have seen no effort to have the children participating in the events sanitize their hands between any of the contests.

Humanitarian and health concerns for the turtles: From the turtles' perspective inhumane treatment is also a consideration. Turtles are often captured weeks prior to these races and retained in makeshift containers. Five-gallon plastic buckets seem to be the housing of choice, as families have no clue as to the needs of their captives. The people holding the turtles often have no more idea of how to care for them than they would an orphaned songbird or a potted orchid. One year at the Patterson Park race I had the opportunity to examine 10 eastern box turtles that had been captives for six months or more. About half of these showed external health issues such as overgrown beaks, eye problems and ear infections. When these turtles are offered food in captivity, the food items presented are usually ones the turtles fail to recognize as edible. It is apparent that many of the confinement containers, used to both house and bring the turtles to the events, are seldom cleaned. Some turtles are left to overheat in locked cars or the backs of pick-ups, and the creatures are often stacked together before and after the races. Turtles are frequently left in full exposure to the summer sun for hours on race days. It's hard to think of turtles, with their deliberate movements and protective shells, as stressed, but when moved about turtles do become stressed, and at such times internal parasites and diseases begin to take their toll. It is interesting, that of all the issues raised about turtle races on internet sites, the humanitarian ones are the most often discussed, but solutions are seldom proposed.

While the exact avenues of disease and parasite transfer in turtles are not well understood, contact by both people and turtles with unhealthy individuals is obviously something to be avoided. Many illnesses are due to transmissible infections, and turtles can infect each other even when only briefly brought into close contact. Bacteria-caused abscesses, eye and respiratory infections, and shell rot are commonly encountered in captive box turtles. Both bacterial and viral ear abscesses (Holladay et al., 2001) as well as respiratory diseases resulting from microplasma (Feldman et al., 2006) are well documented in wild and captive box turtles. In 2008 several cases of ranavirus were detected in wild box turtles in Maryland (Shaver, 2012). While the mode of transmission of the virus is not definitively established it is suspected to result from contact with infected animals. This is a serious disease; it develops quickly and is untreatable. It has killed both wild and captive turtles and tortoises in a number of states (De Voe et al., 2004; Johnson et al., 2004, 2007; Allender et al., 2011; Allender, 2012). Turtles that are exposed to ranavirus at racing events and later released would not only have the have the potential to spread the virus into wild turtle populations but they could also contaminate native amphibians. The virus has been documented in both larval and adult salamanders and frogs.

Parasite transfer varies with the type of parasite, but box turtles, even healthy ones, typically are hosts to numerous types of external and internal parasites. Stuart and Miller (1993) examined 117 box turtles from North Carolina and found nine species of helminth parasites. For some species of parasites there were 76–83% infection rates in their sample. A good summary of the diseases and parasites of box turtles is presented by Dodd (2001).

Staff overseeing turtle derbies would be wise to check animals at registration for swollen eyes, nasal discharge and obvious infections. Having a veterinarian with experience in reptile diseases on-site is something the sponsors of turtle races should consider. The issues are exacerbated by the fact that often many species of turtles and tortoises are brought to these events: long term family pets, wild-caught, captive-bred, and recent pet shop purchased animals, many with unknown histories, all come in contact during these events. Fecal material on the plastrons of the turtles, and exposure during pre- and post-race contact could result in establishment of new parasitic faunas in the turtles. How will this affect native populations of any number of turtle species if the contestants are released back into the wild?

Release of turtles after the race: Unlike many states, Maryland regulates against turtles held in captivity, or ones coming in contact with other captive turtles, being released back into the wild. This regulation is the result of the recent discovery of ranavirus in wild box turtle populations in that state. The regulation is nearly impossible to enforce and most people are totally unaware of it. In an ideal world, a quick release at the site of capture immediately after a race would be the logical solution. But people often release the turtles at sites of convenience, and most are totally unaware of their actual habitat needs. This is all compounded by the fact that the turtles may have been exposed to various diseases and parasites from other turtles participating in the event. Eighty-four percent of the box turtles and 50% of the other turtle species entered in the 2012 Bel Air Race were wild-caught, and many families said they would release the turtles after the race. Most participants failed to follow the advice of the Department of Natural Resources not to use wild-caught turtles, and not to release turtles back into the wild. This may be a total coincidence, but several years back, a day after the Patterson Park races, I saw a number of box turtles wandering about on a two-lane country road just east of Baltimore. It was the closest extensive rural setting outside of the city. It was early July, and there had not been rain for some period. Were the turtles simply dumped there by the race participants as they drove home the previous afternoon? It seems likely that the painted turtles and red-eared sliders living in the Patterson Park lake are ones released from former turtle races. In the 1960s there were only a few documented records of feral sliders in Maryland (Harris, 1969); today they are widely distributed in the state. While releases of unwanted pets from a disposable pet market certainly are responsible for most of the state's feral slider populations, turtles released after races likely account for redistribution and establishment of additional populations.

As urban growth expanded into the counties surrounding Baltimore, box turtles have all but disappeared from the landscape, and race participants often are forced to acquire their

animals through pet stores. Lee and Smith (2010) reported on a Russian tortoise that showed up at the 4th of July turtle races in Bel Air, Maryland. Among the 100 or so box turtles that had been gathered up for the event there was one very unhealthy Russian tortoise. A parent had purchased it earlier in the week for her son to race. They had not considered what they would do with it after the race, and thought it would be best if they simply released it somewhere. So not only was the stage set to introduce all sorts of Old World bacterial and viral infections to the turtles participating in the race, but into the wild as well. I have since learned that Russian tortoises are regularly entered in turtle derbies. I, and others, have seen them on a number of occasions in the various Maryland races. This species is commonly sold in the large chain pet stores and parents looking for a turtle for their child to race simply purchase one. These small tortoises are often raced in "heats" with box turtles. This is unfortunate. Wild-caught Russian tortoises commonly carry herpesvirus and lung and gastrointestinal parasites that can be transmitted to other turtles and tortoises. Infected tortoises can appear asymptomatic.

And: Then there are the totally unexpected issues, ones that could not even be predicted with a crystal ball. About a decade ago one family showed up with their turtle and registered it just prior to the Patterson Park race. It was a bog turtle, a species protected in Maryland, at least on paper. The people running the race simply entered it in the "all other types of turtles" category, but the parents became rather nervous when a few of us told them about the legal status of the species. They and the turtle disappeared sometime before the start of the race. I have always wondered what became of the animal.

Barnett (2010) presents a similar set of concerns regarding issues with turtle derbies and concludes that these turtle races serve no useful purpose and are very detrimental to the turtles on a number of important levels.

Are there solutions?

It would be difficult to collectively manage turtle races as they are individually run by a wide array of independent organizations, town chambers of commerce, and county governments. Often they are sponsored by civic clubs, churches, local dog rescue organizations, and hospitals, and some have become important for raising both funds and awareness for various admirable causes. Many are coupled with state fairs, holiday celebrations, parades, carnivals, and beauty pageants. In most cases they are family oriented local events that span several generations. Many are considered an important component of small town tradition.

Before some nincompoop suggests that perhaps children entering turtles in these races and participating in these events in later years will become instilled with an interest in reptile conservation, let me state that that same thought has already been proposed as a justification of commercial sales of wild-caught reptiles at reptile shows (Smith, 2006). I think this argument to justify reptile expos has been adequately addressed (Lee, 2007). Do children attending horse races develop an interest in becoming stable keepers and ranchers, or stewards of open spaces where wild horses can run free, or do they simply become ad-

dicted to horse racing as a social event or perhaps to the betting?

Regulations: Most states have no regulations that prevent turtle racing. State regulations as they relate to box turtles are summarized by Dodd (2001) and Franklin and Killpack (2009). While many states protect box turtles, and some prohibit the capture of turtles from the wild, and others do not permit commercial use (Nanjappa and Conrad, 2011), public and well-advertised turtles races continue to occur in many of these same states. There are a few examples of actions taken by regulatory agencies. In London, Ontario, 100+ native turtles were confiscated and released back into the wild days prior to a turtle race that had been run for the previous 36 years. The event continues, but now only pet store turtles are used in the race (O'Brien, 2010). Regulations by the Ontario Ministry of Natural Resources state that it is illegal to hunt any wild turtle in the province. Moore (2012) reports on a turtle derby that had been held for nearly 50 years in New Berlin, Pennsylvania, that was threatened to be closed down by the Pennsylvania Fish and Boat Commission. The Boy Scout troop that runs the race was notified that eastern box and wood turtles, along with four other species, had been on their no take list since 2007. Race participants arriving with any of these turtles could be fined \$250. Based on the online comments and letters to the paper's editor, people were quite upset with the possibility that this traditional hometown race would be closed down. The Commission responded to the Boy Scouts' concerns with mixed messages and statements like "there were no plans to have officers issue citations." The race was run as scheduled but participation was far less than in previous years.

The Maryland Department of Natural Resources (2012) released an advisory about the use of wild turtles in turtle derbies a day before the 4th of July races in Bel Air, Maryland. They cautioned that the races pose "a potential health risk to the turtles involved, to wild populations into which they may be released, and to human participants." This press release states that ranavirus was found to be affecting wild turtle populations in Maryland, and cites the Centers for Disease Control and Prevention's concerns with *Salmonella* outbreaks. No actual state regulations were cited that preclude turtle races, but the news release did remind people that there are laws against releasing any reptiles or amphibians that have been held in captivity back into the wild. The message was about turtle and human health issues, and nothing was mentioned about the drain on native turtle stocks, an especially important point in that Maryland law prohibits their release back into the wild after the race.

Ideally, state and federal wildlife regulatory agencies could, like courts and law enforcement agencies, be free from political pressures and just do what is right. The Migratory Bird Treaty Act ratified in 1918 is very effective in protecting native non-game birds, and prohibits their misuse. For nearly a century this act has had the complete support of the American public. Could not a similar act be created for native reptiles and amphibians? In that the state of North Carolina protects all of its native species of rattlesnakes, surely bills worded to simply prohibit the foolishness that continues to be allowed with less formidable native reptiles could gain popular support. Road mortality and habitat loss resulting from development will continue to be a

major threat to native turtles in general, and box turtles in particular. While it is unlikely that much will change on that front, turtle races and the commercial pet trade are nevertheless major negative drains on populations, and they could be quickly brought under control by our regulatory agencies.

Education: Despite the number of turtle races that are held each year in North America, and the numerous issues they present, the topic remains low on most people's radar. Major reference books on North American turtles (e.g., Ernst and Lovich, 2009) fail to discuss box turtle racing, and even ones specifically addressing just box turtles (Dodd, 2001; Franklin and Killpack, 2009) mention turtle racing only in passing.

Groups sponsoring these events and the general public need to be informed about the various potential and real issues with turtle races. Simply shutting down races infuriates many people, and a major educational opportunity is lost if the situation is not properly presented. This would be a good activity for regional herpetological societies and local turtle clubs to address. Meetings with event organizers and state wildlife officials could at least make everyone aware of the problem. Media releases and educational flyers to hand out at the events would allow people participating in the races to understand the health and conservation problems that these events can create. Sellers and Lee (2012) outlined a program where high school biology clubs could create proactive awareness programs to discourage local illegal sales of hatchling pet turtles to the general public. Perhaps similar programs could be developed regionally for turtle races. Conservation organizations could address the issue by preparing published guidelines for organizers of these races and offer alternatives to the ways in which races are currently run.

The ethics of stewardship need to be ingrained in the public. Providing information about the issues resulting from the use of box turtles in these races, creatures that are as likely to be as old as the children's grandparents, would be a good opportunity for promoting the importance of local land stewardship. Presentations at the race events could be important in educating the public about native turtles and their conservation needs.

Alternatives: If you must have them, there are other ways to run turtle races. At the Johns Hopkins races they "rent" turtles from an out-of-state turtle farm or biological supply house and then return them. In Ottawa, the turtles are borrowed from a local pet store. Both methods at least eliminate the take of turtles from the wild, and the potential contamination of personal pet and wild-caught turtles from exposure to disease. Permanently marked and registered turtles could be maintained by families throughout the year and used in subsequent races. In that box turtles have unique markings, identification photos could be taken and retained by the organization hosting the event. Pet turtles could be pit tagged for identification; the cost of the tags could be part of a registration fee.

While the option of retaining the same turtles and using them for races year after year sounds better than some alternatives, this may not be the case. For inexperienced owners, box turtles in particular are difficult to maintain in captivity. Simple setups as seen in pet shops are little more than live storage containers, and the animals do not fare well under these conditions. Turtle

rescue organizations are constantly given box turtles with all sorts of health issues from families who tried to keep them as pets. Smith (2011) put together a video showing some of the problems created by inexperienced people keeping box turtles as pets. The turtle shown at the 2:16 minute mark is one that has regularly shown up for the last several years at the Patterson Park race. Attempts to educate the family overseeing its care have not been successful. In the early '80s, the museum where I worked had a "lets bring nature to the class room" program. Live box turtles were one of the major components of the program. Not only did they not do well in simple setups in classroom settings, but there was a high mortality in the demonstration turtles kept at the museum. Eventually the museum hired a professional animal care staff just to oversee the education department's animals. The real downside of the program was the fact that school children all over the state, on seeing the box turtles bumping about in their 10-gallon classroom aquariums, would want one too. I wonder how many adult box turtles were removed from the wild as a direct result of this single ill-advised aspect of the program.

The organizations sponsoring the Maryland races have few restrictions other than the actual rules of the race itself. Okay, snapping turtles were banned from one of the races. At the various races I have attended, no informational handouts were provided to participants. The program for the 2012 Independence Day Celebration in Bel Air states "Pursuant to Maryland Department of Natural Resources restrictions on turtles captured in the wild, no turtle may be entered whose carapace is less than 4 inches long. Limit 1 member of each turtle species [box, painted, red-bellied, etc.] per adult. 3 turtle limit per entrant." The regulation itself is actually aimed at *Salmonella* issues and commercial sales of turtles less than four inches; nothing is stated against owning a small turtle, or racing one, but you are not allowed to release it afterwards. There clearly needs to be some communication between organizations sponsoring these races and the state and federal agencies overseeing our native wildlife. Likewise, regional nature centers, turtle clubs and local herpetological societies need to prepare educational handouts about native turtles and wildlife regulations and include some dos and don'ts that would address the major concerns of local turtle races.

Perfect solutions are limited, and perhaps nonexistent. The best bet would be doing away with the events all together. Keep in mind that many of the races are held in the name of important causes, while others are summer events attracting much-needed business to small rural communities. The two obvious courses of action are educating the public about the problems that these races cause for native turtle populations, and then demanding that the organizations sponsoring the events address the issues. Pre-registering turtles of known origin for the races to ensure that they were not taken from the wild just for the event would be a start. Renting turtles from turtle farms, as is being done in the Johns Hopkins races in Baltimore, is another solution. Neither of these solutions, however, address the potential human health risk, the concerns that have been expressed regarding disease and parasite transfer, or the stress placed on the turtles.

In 1998, Florida began protecting gopher tortoises, and towns and cities sponsoring gopher tortoise races switched to

mechanical tortoises. There are now "mock" tortoise races in Panama City and San Antonio, Florida [<http://rattlesnakefestival.com/gophers-races>; and <http://www.youtube.com/watch?v=y+88gawEU0o>]. The annual events continue to draw sizable crowds. Even the practice of rounding up rattlesnakes for the San Antonio Rattlesnake Festival has become a thing of the past. Another alternative is substituting some other event for a similar one that does not involve wildlife. One successful alternative activity has been rubber duck races, where numbered rubber ducks are released, for example, in a stream, and the first toy duck that floats past the finish line is the winner. This has been formally suggested by PETA as a cruelty-free substitution for turtle races (Daubs, 2010).

Once I learned that the Patterson Park race had been postponed to an as yet determined date in September, I headed back home to North Carolina. It was the 4th of July weekend and the traffic between Baltimore and Richmond was stop and go all the way; it was an Interstate, but often I found myself moving at only 10–20 miles per hour. For some reason the AC does not work on my hybrid at low speeds, and even with it cranked up to the highest setting it was still hot. Once clear of the Richmond/Petersburg congestion, everyone was back up to speed and truckers were making up for lost time. And then the car overheated. I managed to make it to a rest stop and opened the hood, only to realize that even though I have had this car for over 6 years, I did not have a clue as to how the cooling system worked on a hybrid. I checked the fluid levels; all seemed fine. Within an hour I had the car running again. I am not sure what I did, maybe my Ford Escape just has a mind of its own. To prevent the engine from overheating again, I drove the last 150 miles in what was clearly the hottest day of the year, perhaps a decade, with the AC turned off. Annoying, and inconvenient, but it seemed like the best solution for making it back home. Maybe it was the heat and my mind was not working right, but what is it about turtle races? I get horse racing, motor speedways, and dog tracks. Maybe it's not the speed per se, but our addiction to sporting events, competition, rooting for persistent underdogs, or betting. Only by adding the key ingredient, really silly, can the growing success of turtle races be explained. Perhaps this is the direction to explore in looking for alternatives to turtle races. Could this grow into virtual turtle races on computer screens, or maybe Aesop's idea of interspecies races like ones between obstinate tortoises and swift hares would finally catch on? Snails, slugs, inchworms, and shopping carts might all make good contestants. How about swift boats? Here is an idea: one could race numbered turtle eggs as they rolled down an inclined plane. With a cushioned finish line infertile eggs could be raced for years. And if that would create too much excitement, for say people in retirement villages, one could hold turtle egg hatching races. Number the eggs and bet on the order that individual eggs would hatch. Or as the turtles hatch out announce the egg's number and fill in bingo cards.

Would I return for the September races? I was not having my best day and perhaps this was not the time for me making such decisions, but probably not. And then I thought of the 50 or so box turtles that would be sitting about in cardboard boxes in hot garages for the next two months. Most people would have no

clue as to how to care for them, and then what? Once raced would the turtles be released? September is just before the onset of hibernation, and is probably one of the worst times for a box turtle to be looking for home. Oh, that's right, they can't be released—Maryland has regulations about such things. Maybe they can just go into training and someday we will be watching these very turtles trying out for the Turtle Olympics. Somehow, the annoyance of the overheated car and my perspiration issues began to seem to be rather minor in the scheme of things.

How can one put this injustice into a perspective that the general public will understand? Almost everyone has admiration for age and time. Here was Patterson Park, a site that played an important role in three wars that set in place the very existence of this country. And then too there were the park's trees, most well past the century mark, and the tens of thousands of inner-city children that throughout this time period came to value green spaces because of Patterson Park. And then we have the turtles—many of the ones being raced are older than the grandparents of the children attending the event. Turtles whose own grandparents roamed the once-forested areas surrounding the city as bombs were bursting over Baltimore Harbor in 1812, creatures that themselves came from parents hatched during the American Revolution. These descendants are used in the races for the one- or two-hour event recognizing Independence Day, and then become disposable objects. There is no regard for their needs in a rapidly changing landscape; seemingly our compassion for life does not extend to turtles. These races need to be converted into educational opportunities, lessons that teach respect for the local creatures that share our lives and our history. Conservation concerns need not be limited to polar bears and whales.

The real race, it seems, is to save local turtle populations from this well-intended nonsense. This is not something that needs further study, or detailed quantified analysis, it's common sense. We are dealing with threats to individual turtles, to exist-

ing turtle populations, and the exposure of both native turtles and amphibians as well as people to a number of highly contagious bacterial and viral diseases. Just recognizing the likelihood of the races becoming agents for spreading transmittable diseases through both wild and captive turtle populations should be a major concern. With luck, natural resource agencies, or event organizers can come up with practical solutions in a more timely fashion than the city of Baltimore took to finally erect its monument to Pulaski. But the first step is the need to recognize that these races are a problem.

And I am sorry, it was not my intent to leave you in total suspense. In 1777 during the Battle of Brandywine, Pulaski both changed the course of the Revolutionary War and saved Washington's life, and Booger didn't even place in the first heat of the 2011 Bel Air turtle derby; he was unceremoniously disqualified. Oh yeah, the winning frog in three consecutive hops jumped 148 inches. I know you are a bit disappointed, but so much for inappropriate booger jokes and derogatory ethnic comments regarding installation of light bulbs.

Plodding wins the race. Aesop ca. 550 BC

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