

NAME OF SPECIES: <i>Trachemys scripta elegans</i>	
Synonyms: <i>Emys elegans</i> , <i>Emys holbrooki</i> , <i>Emys sangainolenta</i> , <i>Trachemys lineate</i> , <i>Chrysemys scripta elegans</i> , <i>Pseudemys scripta elegans</i> (3)	
Common Name: Red-eared slider, red-eared terrapin, elegant terrapin	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	2. <u>Abundance:</u>
	3. <u>Geographic Range:</u> This is an introduced pet not yet established in the wild of Wisconsin (1).
	4. <u>Habitat Invaded:</u> Disturbed Areas <input type="checkbox"/> Undisturbed Areas <input type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin:</u>
	6. <u>Proportion of potential range occupied:</u>
	7. <u>Survival and Reproduction:</u> The red-eared slider has a 70% first year mortality rate (3).
II. Invasive in Similar Climate Zones	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> <u>Where (include trends):</u> These animals are native to the southeastern and south-central United States (1). These animals are spreading outside of their range while declining within their range (5). Isolated populations occur in Michigan, suffer heavy winter losses, and survive mainly in artificial ponds (5).
III. Invasive in Similar Habitat Types	1. Upland <input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Dune <input type="checkbox"/> Prairie <input type="checkbox"/> Aquatic <input type="checkbox"/> Forest <input type="checkbox"/> Grassland <input type="checkbox"/> Bog <input type="checkbox"/> Fen <input type="checkbox"/> Swamp <input type="checkbox"/> Marsh <input type="checkbox"/> Lake <input checked="" type="checkbox"/> Stream <input checked="" type="checkbox"/> Other: This species likes slow moving, permanent water sources with muddy bottoms (2, 4, 5).
IV. Habitat Affected	1. <u>Where does this invasive resided:</u> Edge species <input checked="" type="checkbox"/> Interior species <input type="checkbox"/>
	2. <u>Conservation significance of threatened habitats:</u> This species is found in wetland and lakes. This species can affect aquatic vegetation as they graze (4).
V. Native Habitat	1. <u>List countries and native habitat types:</u> This species is found in the south-central and southeastern US in quiet water wetlands and streams with muddy bottoms and abundant vegetation (2, 4). Rarely found in moving water. Natural range extended to northern IL and IN but did not include WI.
VI. Legal Classification	1. <u>Listed by government entities?</u> Listed as one of the world's worst 100 invaders by the World Conservation Union (6, 7).
	2. <u>Illegal to sell?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Notes: They cannot be sold if the diameter of the carapace is less than 4 inches (2, 3, 4).
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
I. Life History	1. <u>Type of Animal:</u> Mammal <input type="checkbox"/> Bird <input type="checkbox"/> Reptile <input checked="" type="checkbox"/> Amphibian <input type="checkbox"/> Fish <input type="checkbox"/>
	2. <u>Age of Maturity or time to self-sufficiency:</u> The age of maturity ranges from 5 to 7 years (2). Males become mature at 3-5 years and females mature between 5 to 7 years (3). The young are born and fend for themselves.

	<p>3. <u>Gestation Period</u>: Gestation is between 68-70 days (4), but can be as high as 83 days (3).</p> <p>4. <u>Mating System</u>: Polygamous <input type="checkbox"/> Polyandrous <input type="checkbox"/> Monogamous <input type="checkbox"/></p> <p><u>Notes</u>:</p> <p>5. <u>Breeding/ Breeding period</u>: Females can have between 1-3 clutches/season with 4-23 eggs/clutch (3). This species can live up to 40 years and can lay up to 70 eggs a year for five years, a total of 350 eggs in just 5 years (5). Life expectancy is 30-40 years (3). Eggs are deposited in a nest hole left unattended (1, 3). Eggs that incubate at a temperatures range from 22-27 degrees Celsius will be males, while eggs that incubate at 27 degrees Celsius or higher will be females</p> <p>6. <u>Hybridization potential</u>: These turtles are known to hybridize with other turtles, including painted turtles (4, 9).</p>
II. Climate	<p>1. <u>Climate restrictions</u>: When the water is 10 degrees Celsius or lower this turtle becomes inactive (3). There is an isolated population in Michigan and these turtles suffer high winter mortality (4). It is suggested this species may be limited towards the north of its range by the depth of frozen soil in winter (4).</p> <p>2. <u>Effects of potential climate change</u>: As the climate warms red-eared slider range should expand northward.</p>
III. Dispersal Potential	<p>1. <u>Pathways - Please check all that apply</u>:</p> <p><u>Unintentional</u>: Bird <input type="checkbox"/> Animal <input type="checkbox"/> Vehicles/Human <input type="checkbox"/> Wind <input type="checkbox"/> Water <input type="checkbox"/> Other:</p> <p><u>Intentional</u>: Ornamental <input type="checkbox"/> Forage/Erosion control <input type="checkbox"/> Medicine/Food: Recreational <input type="checkbox"/> Other: Pets released into local water bodies (1,2,3).</p> <p>2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control</u>: They have an aggressive disposition and are highly adaptable (9). This turtle is bigger than many native turtles, (3) and females can lay more eggs than smaller native female turtles. Large female sliders also draw male turtle's attention away from native females (9). Red-eared sliders are capable of over-winter hibernation. Adult turtles have thick shells, so adults have few predators (9). Omnivorous diet.</p>
IV. Ability to go Undetected	<p>1. HIGH <input type="checkbox"/> MEDIUM X LOW <input type="checkbox"/></p> <p>Red-eared sliders may be misidentified as a native turtle.</p>
C. DAMAGE POTENTIAL	
I. Competitive Ability	<p>1. <u>Presence of Natural Enemies</u>: The red-eared slider's enemies are raccoons, skunks, opossums, wading birds, and red fox.</p> <p>2. <u>Competition with native species</u>: This turtle is known to compete with other turtles. A study in California states that these turtles are affecting western pond turtles (10). Red-eared sliders are affecting red-belly turtles in North Carolina (11). This turtle may hybridize and hurt the yellow-eared sliders (4). They also compete with native turtles for food, space, and nesting areas (4). The red-eared slider is more aggressive turtle which displaces native turtles.</p>

	<p>Also the females are bigger than most native female turtles, making them more desirable to male native turtles and native females remain unbred (8). Sliders, which are related to painted turtles, may interbreed with painted turtles, diluting the native gene pool (9).</p> <p>2. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) <input type="checkbox"/> MEDIUM (4-6 yrs) X LOW (7-10 yrs) <input type="checkbox"/> Notes: Once in an area this turtle can spread fast because of their high reproductive capability. In five years one female can have 350 eggs (4). However this one female has to get to age 5 before she is capable of breeding.</p>
II. Environmental Effects	<p>1. <u>Alteration of ecosystem/community composition?</u> YES X NO <input type="checkbox"/> Notes: Aquatic vegetation can be affected by these turtles. They can also displace native turtles and/or interbreed.</p>
	<p>2. <u>Alteration of ecosystem/community structure?</u> YES <input type="checkbox"/> NO <input type="checkbox"/> Notes:</p>
	<p>3. <u>Alteration of ecosystem/community functions and processes?</u> YES X NO <input type="checkbox"/> Notes: These animals are predators. If areas get too many of these turtles, they can consume most of the prey, altering important ecosystem and community functions/structure.</p>
	<p>4. <u>Exhibit Parasitism?</u> YES <input type="checkbox"/> NO X Notes:</p>
D. SOCIO-ECONOMIC EFFECTS	
I. Positive Aspects of the Species to the Economy/Society:	Notes: In its native range, it serves as both predator and prey (9). Red-eared sliders remain popular in the pet trade.
II. Potential Socio-Economic Effects of Requiring Controls: Positive: Negative:	Notes: Money will be lost in the pet trade, but trade is already restricted. These turtles were banned by the EU in 2004, and turtles with a less than 4" shell length are illegal to sell in the US (7, 9).
III. Direct and Indirect Socio-Economic Effects of the Animal :	Note: Main turtle sold in the pet trade. They are destructive in areas and invasive.
IV. Increased Costs to Sectors Caused by the Animal:	Notes: Loss of native turtles and their benefits is a potential cost.
V. Effects on Human Health:	Notes: Turtles may carry <i>Salmonella</i> bacteria, which can be transmitted to humans.
VI. Potential Socio-Economic Effects of Restricting Use:	Positive: Pet trade can substitute other turtles, such as the yellow-eared slider, for the red-eared slider. Negative: Loss of money from lower turtle sales.
E. CONTROL AND PREVENTION	
I. Costs of Prevention (please be as specific as possible):	Notes: These turtles are declining in their native area due to over exploration from hunting, trapping, and collecting eggs and hatchlings.
II. Responsiveness to Prevention Efforts:	Notes: Overexploitation is the reason for their decline in their native range. They are susceptible to overexploitation, and this can

	be used to control the species where it occurs outside its native range.
III. Effective Control Tactics:	Mechanical X Biological X Chemical <input type="checkbox"/> Times and uses: Prevent red-eared sliders from spreading beyond their native range by eliminating them from trade, then work to control them where they have become established in the wild. Control revolves around overexploitation. Collect eggs and hatchlings and hunt/trap adults (9). Another approach is capture-sterilization-release (9).
IV. Minimum Effort:	Notes: Collect eggs, hatchlings, adults.
V. Costs of Control:	Notes: Minimal cost involved with expanded harvest seasons. Sterilization program is labor intensive and costly.
VI. Cost of Prevention or Control vs. Cost of Allowing Invasion to Occur:	Notes: Feasible if population control is exercised before turtles become well established. If population is prevalent, control can be too costly to implement.
VII. Non-Target Effects of Control:	Notes: Potential to overexploit the wrong turtles, causing declines of native turtles.
VIII. Efficacy of Monitoring:	Notes: A study that was activated involved setting traps in ponds, then marking the turtles with a visual mark. Once marking is completed the visual marks will be used to assess turtle population throughout the survey area (12).
IX. Legal and Landowner Issues:	Notes: Landowners may enjoy seeing these turtles and hamper any efforts to get rid of them.

F. REFERENCES:

Number	Reference
1	http://herpcenter.ipfw.edu/index.htm?http://herpcenter.ipfw.edu/outreach/accounts/reptiles/turtle_eared_Slider/index.htm&2
2	http://www.tpwd.state.tx.us/huntwild/wild/species/slider/
3	http://animal.discovery.com/guides/reptiles/turtles/slider.html
4	Dewey, T. and T. Kuhrt. 2002. "Trachemys scripta" (On-line), Animal Diversity Web. Accessed July 09 at http://animaldiversity.ummz.umich.edu/site/accounts/information/Trachemys_scripta.html
5	http://nis.gsmfc.org/nis_factsheet.php?toc_id=208
6	http://www.nrw.qld.gov.au/pests/pest_animals/declared/red_eared_slider.html
7	http://www.iucn.org/places/medoffice/invasive_species/docs/invasive_species_booklet.pdf Lowe S., Browne M., Boudjelas S., De Poorter M. (2000) 100 of the World's Worst Invasive Alien Species A selection from the Global Invasive Species Database. Published by The Invasive Species Specialist Group (ISSG) a specialist group of the Species Survival Commission (SSC) of the World Conservation Union (IUCN), 12pp. First published as special lift-out in Aliens 12, December 2000.

	Updated and reprinted version
8	Bringsøe, H. (2006): NOBANIS – Invasive Alien Species Fact Sheet – Trachemys scripta. – From: Onl Database of the North European and Baltic Network on Invasive Alien Species – NOBANIS www.nobanis.org
9	http://www.columbia.edu/itc/cerc/danoff-burg/invasion_bio/inv_spp_summ/Red-eared%20Slider%20Turtle.html
10	Spink et al. 2002. Survival of the Western Pond Turtle (<i>Emy marmorata</i>) in Urban California Environ USGS, Western Ecological Research Center, Department of Biology, University of California, Riverside California. USA.
11	http://www.fish.state.pa.us/newsreleases/2006/swg_announce.htm
12	http://www.uoregon.edu/~ecostudy/elp/Delta%20ponds/index.html

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