

# Jamaican Slider (*Trachemys terrapen*)

## Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2022

Revised, January 2022

Web Version, 8/22/2022

Organism Type: Reptile

Overall Risk Assessment Category: Uncertain



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## 1 Native Range and Status in the United States

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### Native Range

From Learn about nature (2022):

“[...] found in Jamaica and the Bahamas. Presently we do not see them in any of the islands around this region; as such, we presume that the Jamaican slider transferred itself between one of these nations to the other. Sixty percent of the Bahamas’s population lives on Cat Islands (the reason why it has the name, Bahamas Cat Island Slider). A minor population lives on the islands of Andros and Eleuthera, New Providence and Exumas.”

From Seidel (1988a):

“*Trachemys terrapen* is widely distributed on Jamaica. Populations in the northern Bahamas on Cat Island, Eleuthera, and possibly Andros Island are apparently the result of human introduction (Seidel, 1988[b]).

From Lee and Ross (2001):

“Bahamian populations of *Trachemys terrapen* are currently considered to be derived from released individuals of Jamaican stocks. Based on the distribution of extant populations, zoogeographic affinities, and Pleistocene fossils, we suggest that this turtle may be a Bahamas endemic, which--was--introduced to Jamaica by pre-Columbian man.”

“Based on the modern fragmented distribution of *T. terrapen* in the Bahamas, zoogeographic affinities of other species, and the tenuous nature of their continued existence on these low islands, the scenario of a Bahaman origin is a likely one. However, the available information can be interpreted either way and a Jamaican origin should not be ruled out.”

“In the Bahamas probably 60% of all individuals of this genus occur on Cat Island, perhaps as many as 20% occur on Inagua, and 19 % are a hybrid swarm found on New Providence with less than clear origins.”

## **Status in the United States**

No records of *Trachemys terrapen* in trade or in the wild in the United States were found.

From Hawaii Department of Agriculture (2019):

“RESTRICTED ANIMAL LIST (Part B) [...] *Trachemys* (all species in genus).”

From New Mexico Department of Game and Fish (2010):

“Species importation list group IV may be for live non-domesticated animals that are considered dangerous, invasive, undesirable, state or federal listed threatened, endangered, a furbearer or any other species of concern as identified by the director. The importation of these species are prohibited for the general public but may be allowed for, scientific study, department approved restoration and recovery plans, zoological display, temporary events/entertainment, use as service animal or by a qualified expert. [...] *Trachemys terrapen* [...] Federally Endangered”

From Oregon Secretary of State (2022):

“Except as otherwise provided in these rules of the commission, live wildlife listed below may not be imported, possessed, sold, purchased, exchanged or transported in the state:  
[...]

(ix) Pond slider – Emydidae – *Pseudemys* and *Trachemys* All species and hybrids.”

## Means of Introductions in the United States

No records of *Trachemys terrapen* in the wild in the United States were found.

## Remarks

There is a significant amount of confusion in the scientific literature when it comes to where *Trachemys terrapen* is native and introduced to. There is a split in the literature with some sources saying the species is native to Jamaica and introduced to the Bahamas and others saying the opposite. Since there is no consensus in the literature this risk assessment will include geographic range information for both Jamaica and the Bahamas in the native range and introduced range sections.

From Lee and Ross (2001):

“Bahamian populations of *Trachemys terrapen* are currently considered to be derived from released individuals of Jamaican stocks. Based on the distribution of extant populations, zoogeographic affinities, and Pleistocene fossils, we suggest that this turtle may be a Bahamas endemic, which--was--introduced to Jamaica by pre-Columbian man.”

“Based on the modern fragmented distribution of *T. terrapen* in the Bahamas, zoogeographic affinities of other species, and the tenuous nature of their continued existence on these low islands, the scenario of a Bahaman origin is a likely one. However, the available information can be interpreted either way and a Jamaican origin should not be ruled out.”

Other vernacular names for *Trachemys terrapen* include Cat Island turtle and Cat Island Freshwater Turtle (GBIF Secretariat 2022).

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

According to ITIS (2022), *Trachemys terrapen* (Bonnaterre, 1789) is the current valid name for this species.

From ITIS (2022):

Kingdom Animalia  
Subkingdom Bilateria  
Infrakingdom Deuterostomia  
Phylum Chordata  
Subphylum Vertebrata  
Infraphylum Gnathostomata  
Superclass Tetrapoda  
Class Reptilia  
Order Testudines  
Suborder Cryptodira  
Superfamily Testudinoidea

Family Emydidae  
Subfamily Deirochelyinae  
Genus *Trachemys*  
Species *Trachemys terrapen* (Bonnaterre, 1789)

## Size, Weight, and Age Range

From Learn about nature (2022):

“Jamaican slider, of reasonable size is a fresh water turtle. The average size of a male is 200mm (7.9 in) including carapace length (CL) and the females are bigger in size and measure 270mm (11in) CL.”

From Seidel (1988a):

“A moderate-sized species of *Trachemys*, males are 100-200 mm in carapace length and females 110-270 mm.”

From Tuberville et al. (2005):

“*Trachemys terrapen* is one of the largest of the Antillean slider species with a maximum carapace length greater than 300 mm in females and 200 mm in males (Seidel, 1988[b]; Schwartz and Henderson, 1991).”

## Environment

From Learn about nature (2022):

“These turtles in the fresh water are natives to salty to fresh wetlands all through their range. This consists of streams, ponds, swamps, and impermanent or transient ponds.”

From Tuberville et al. (2005):

“Jamaican sliders have been described as occurring in duckweed-covered ponds (Barbour and Carr, 1940). Seidel (1988[b]) reported *T. terrapen* to inhabit permanent bodies of freshwater, including rivers, streams, ponds, and swamps at low elevations. Jamaican sliders have been observed basking (Barbour and Carr, 1940) and have been suggested to burrow on land under substrate during dry seasons (Seidel, 1996).”

“*Trachemys terrapen* occupied a wide variety of habitats in Jamaica, including man-made ponds, seasonal ponds, springs, and streams. Although the species appears to be a habitat generalist, the common feature of all occupied habitats is access to permanent water during dry seasons or drought.”

## Climate

From Tuberville et al. (2005):

“The landscape [Jamaica] is limestone-dominated and the climate has been described as a seasonal tropical maritime climate (Crombie, 1999).”

## Distribution Outside the United States

### Native

From Learn about nature (2022):

“[...] found in Jamaica and the Bahamas. Presently we do not see them in any of the islands around this region; as such, we presume that the Jamaican slider transferred itself between one of these nations to the other. Sixty percent of the Bahamas’s population lives on Cat Islands (the reason why it has the name, Bahamas Cat Island Slider). A minor population lives on the islands of Andros and Eleuthera, New Providence and Exumas.”

From Seidel (1988a):

“*Trachemys terrapen* is widely distributed on Jamaica. Populations in the northern Bahamas on Cat Island, Eleuthera, and possibly Andros Island are apparently the result of human introduction (Seidel, 1988[b]).

From Lee and Ross (2001):

“Bahamian populations of *Trachemys terrapen* are currently considered to be derived from released individuals of Jamaican stocks. Based on the distribution of extant populations, zoogeographic affinities, and Pleistocene fossils, we suggest that this turtle may be a Bahamas endemic, which--was--introduced to Jamaica by pre-Columbian man.”

“Based on the modern fragmented distribution of *T. terrapen* in the Bahamas, zoogeographic affinities of other species, and the tenuous nature of their continued existence on these low islands, the scenario of a Bahaman origin is a likely one. However, the available information can be interpreted either way and a Jamaican origin should not be ruled out.”

“In the Bahamas probably 60% of all individuals of this genus occur on Cat Island, perhaps as many as 20% occur on Inagua, and 19 % are a hybrid swarm found on New Providence with less than clear origins.”

### Introduced

From Lee and Ross (2001):

“Bahamian populations of *Trachemys terrapen* are currently considered to be derived from released individuals of Jamaican stocks. Based on the distribution of extant populations, zoogeographic affinities, and Pleistocene fossils, we suggest that this turtle may be a Bahamas endemic, which--was--introduced to Jamaica by pre-Columbian man.”

“It appears that the transplant of this turtle took place in the pre-European contact or early colonial period, but actually there is no evidence of the direction or timing of movement and, for reasons outlined below, we consider it likely that the species was introduced to Jamaica from Bahamian stocks. Fossils from archeological sites show the genus, at least, to have been present in the Bahamas prior to European contact. While recent authors have addressed the systematics of Bahamian and Antillean freshwater turtles, to date there have been no detailed studies of any of the established or naturally occurring populations.”

From Tuberville et al. (2005):

“Jamaican sliders are also reported from several small islands in the central Bahamas (Cat, Eleuthra, Andros, and Paradise islands) (Iverson, 1992) and presumably represent human introductions (Seidel, 1988[b], 1996).”

According to GBIF Secretariat (2022) *Trachemys terrapen* was also present in Cuba in 1931.

## **Means of Introduction Outside the United States**

From Lee and Ross (2001):

“While morphometric, biochemical and zoogeographic evidence indicate that *Trachemys terrapen*'s current distribution is from introduction by man, it is hard to determine when this occurred. Interviews with Cat Island residents (several of whom were in their mid 90s in 1998) indicate that the turtles were present on the island at least prior to their grandparents' time (early to mid- 1800s) and that there are no known family connections of Cat Island residents with Jamaica. Furthermore, the island had very little European or slave contact prior to the time of the American Revolutionary War. Combined with the history of the genus elsewhere in the region, it is therefore reasonable to assume that transport of the turtles was done by pre-Columbian humans.”

## **Short Description**

From Learn about nature (2022):

“The color of the adults varies from dark brown to olive with mild markings. The markings of the little turtles are more prominent and these gradually fade away during the initial three years.”

From Lee and Ross (2001):

“*Trachemys terrapen* can be separated from other *Trachemys* in the Bahamas and West Indies region by the combination of its blunt and rounded snout, a distinct terminal notch in the upper jaw, the near lack of any pattern (or only a faint one) on the plastron, and carapacial scutes with deep longitudinal rugosities. The carapace is oval to elliptical, being wider posteriorly than anteriorly, and only slightly domed.”

“The young are similar in shape to adults but have a more strongly keeled shell. The horny laminae of the shell has less pigment, which allows the markings beneath to be seen more

clearly. These markings are most intense in small specimens and fade as the turtles grow. Shell: Dorsally the centrals and laterals are uniform olive green with black outlines between the laminae. The outer margin of the marginal is a pale yellow. Ventrally the young are off yellow. The marginals have "eye spots". These are paler and more ring-like than those of *T. scripta scripta* or *elegans*. The bridge is pigmented with undulating lines formed by a pattern similar to those of the "eye spots". The ventral laminae are 60 to 80% covered with a left to right symmetrical "ink-blot" pattern centered down the mid line of the shell. Minor variations in this "ink-blot" occur from individual to individual. Skin: The skin is a dark olive green. Dorsally the head and neck are uniform and laterally and ventrally striped with pale yellow. The forelimbs have two yellowish stripes extending across the anterior surface, the lower one being nearly twice as wide as the one above it. The leading edges of the hind legs have a single wide stripe, the trailing edges have a very narrow and faint stripe. Some yellow pattern is present on the ventral surface. The tail has incomplete striping on the ventral surface."

From Seidel (1988a):

"The adult carapace is uniform brown or olive, weakly keeled with longitudinal ridges or rugosities at the base of each pleural, and has serrated posterior marginals. In juveniles and some young adults, the pleurals scutes have a dark spot encircled by a yellow or orange ring and a similar ocellate figure overlapping the seam between each pair of marginals. The adult plastron is usually plain yellow or light tan, but in juveniles there may be evidence of an interrupted figure, especially on the gular scutes. The undersides of marginals at the bridge area have a faded ocellate figure overlapping the seams. The skin is gray or grayish-brown with relatively few markings in adults, other than four pale yellow stripes along the underside of the neck and chin, and two weakly defined light bands on the forelegs. In juveniles, additional yellow stripes along the lateral portions of the head and hindlimbs may be present, including a supratemporal stripe which is occasionally orange. All markings fade or disappear with age, sometimes within the 2nd or 3rd year (except for populations in western Jamaica). The tomium is smooth or slightly serrate and the median ridge of the alveolar surface is weakly developed. The snout of mature males is relatively short, and melanism is not pronounced in older individuals. *T. terrapen* is distinguished from all other species of *Trachemys* by the following characteristics: carapace flared posteriorly, width at maginal VII-VIII seam usually greater than 76% of carapace length; dorsal length of cervical scute usually more than 7% of carapace length; ventral underlap of cervical scute typically broad, greater than 4% of carapace length, anterior width of the plastron (at gular-humoral seam) more than 23% of carapace length; plastral scutes with concentrations of black pigment along the borders of seams."

From Tuberville et al. (2005):

"Adults have a uniformly brown or olive carapace and an unmarked yellow to tan plastron. Posterior carapacial flaring is evident and, among the West Indian slider species, appears unique to *T. terrapen*. Juveniles may have some plastral pattern that usually fades with age. The skin tends towards gray or brown and the red supratemporal stripe found in other *Trachemys* is typically absent. The foreclaws of males can be relatively short, as in some Meso-American *Trachemys*, yet the snout is short, as in North American *Trachemys* (Barbour and Carr, 1940)."

## Biology

From Learn about nature (2022):

“Jamaican slider turtles are omnivorous, even though they consume lesser quantities of meat in their later days.”

“Jamaican sliders breed from February to September. Each clutch amount to 3 to 8 eggs, turtles lay 3 to 4 clutches a year. When compared to the first clutch the last clutch is much smaller.”

## Human Uses

From Learn about nature (2022):

“The natives keep the Jamaican pet turtles classically in wells with affection; they call them ‘Peter’ on the island.”

From Lee and Ross (2001):

“[...] we have documented a long term history of the residents bringing turtles from Cat Island [Bahamas] to Nassau [Bahamas] for sale in fund raising events. It is unclear if New Providence [Bahamas] had a native population of freshwater turtles prior to these introductions.”

From Tuberville et al. (2005):

“Jamaican slider turtles are harvested incidentally by local residents wherever they are found, and concentrated populations, such as those in cave refugia, are heavily exploited [...] *T. terrapen* is a highly threatened species needing conservation action in order to ensure its persistence.”

“Although Jamaican sliders are harvested for human consumption, the level of harvest is unregulated and unknown (RKB, peTs. obs.). Barbour and Carr (1940) cited Browne (1756) as stating "...it [*T. terrapen*] is often served up at gentlemen's tables in that island [Jamaica] and looked upon as delicate wholesome food by many people."

“Local residents reported that they rarely captured turtles during their fish trapping in the Punches River [Jamaica]. Captured turtles are usually sold for meat, which at the time of the study was priced at \$60J (or \$1.75 US) per pound of meat and equivalent to the price of chicken [...] The resident also reported using basking traps to capture the species. One resident reported making decorative carvings on turtle shells and selling them for \$10 US.”

## Diseases

**No records of OIE-reportable diseases (OIE 2022) were found for *Trachemys terrapen*.**

According to Poelen et al. (2014) *Trachemys terrapin* is a host for a genus of parasitic flatworms, *Paramphistomum*.



## Threat to Humans

No information on threats to humans was found for *Trachemys terrapen*.

## 3 Impacts of Introductions

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There are no documented impacts of introductions for *Trachemys terrapen*.

*T. terrapen* is regulated in Hawaii, New Mexico, and Oregon.

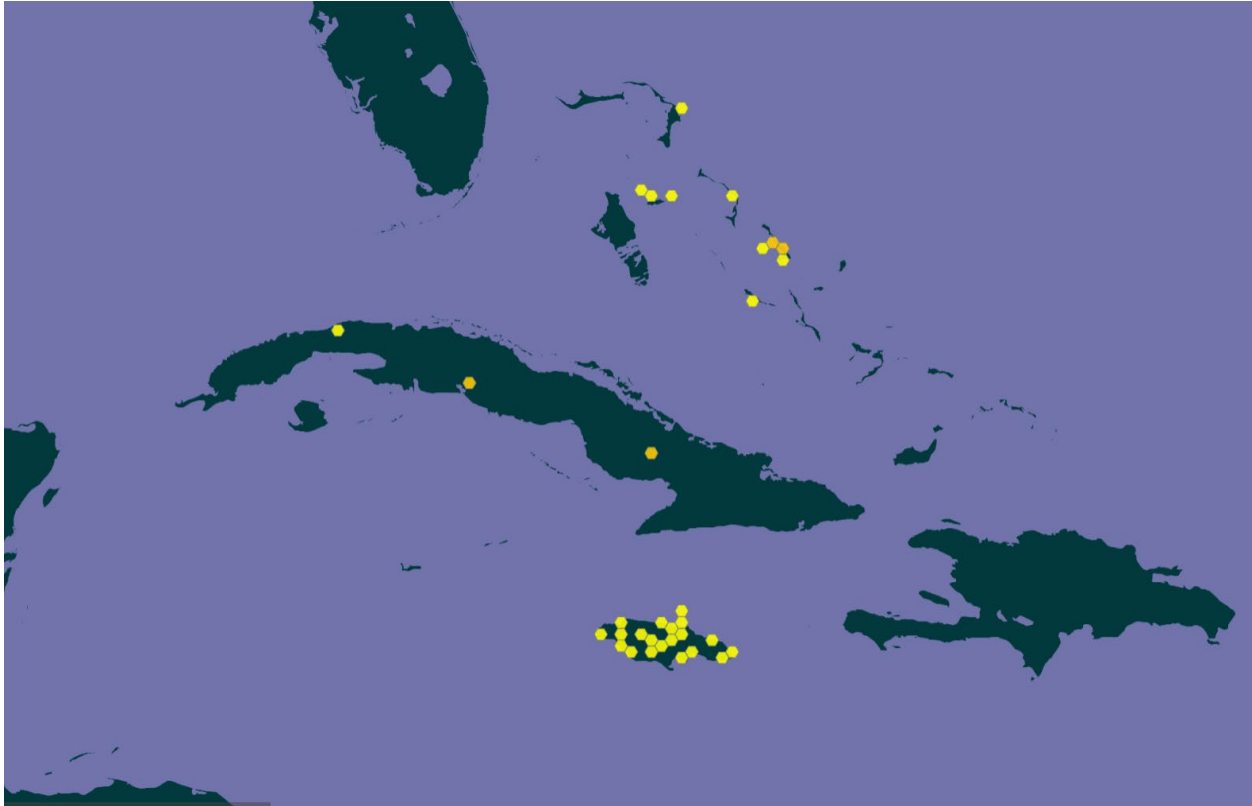
## 4 History of Invasiveness

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The history of invasiveness for *Trachemys terrapen* is classified as Data Deficient. There are records of nonnative introductions of this species to Jamaica or the Bahamas but there is uncertainty surrounding what country it is native and introduced to. Whatever location had the introduction it did result in an established population. This species also has historical source points in Cuba, which suggests that it was introduced even though the species no longer has an extant population in this location. However, there is no information on the impacts of introductions at any location. There is evidence that this species is in trade, but the exact volume could not be determined.

## 5 Global Distribution

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**Figure 1.** Known global distribution of *Trachemys terrapen*. Observations are reported from Jamaica, Cuba, and the Bahamas. Map from GBIF Secretariat (2022). The points located in Cuba do not represent established populations and therefore will not be used in the climate matching analysis.

## 6 Distribution Within the United States

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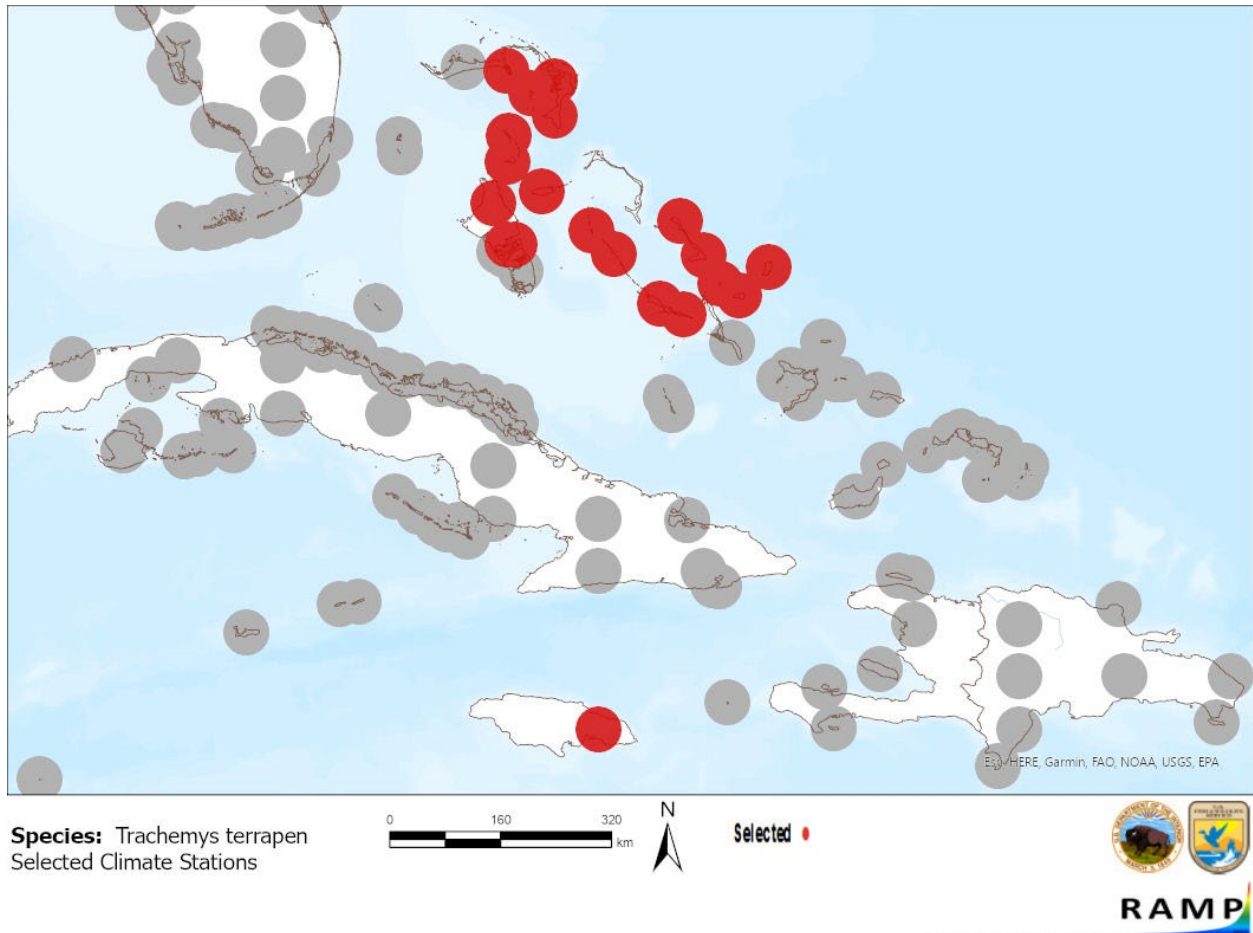
*Trachemys terrapen* has not been reported in the wild within the United States.

## 7 Climate Matching

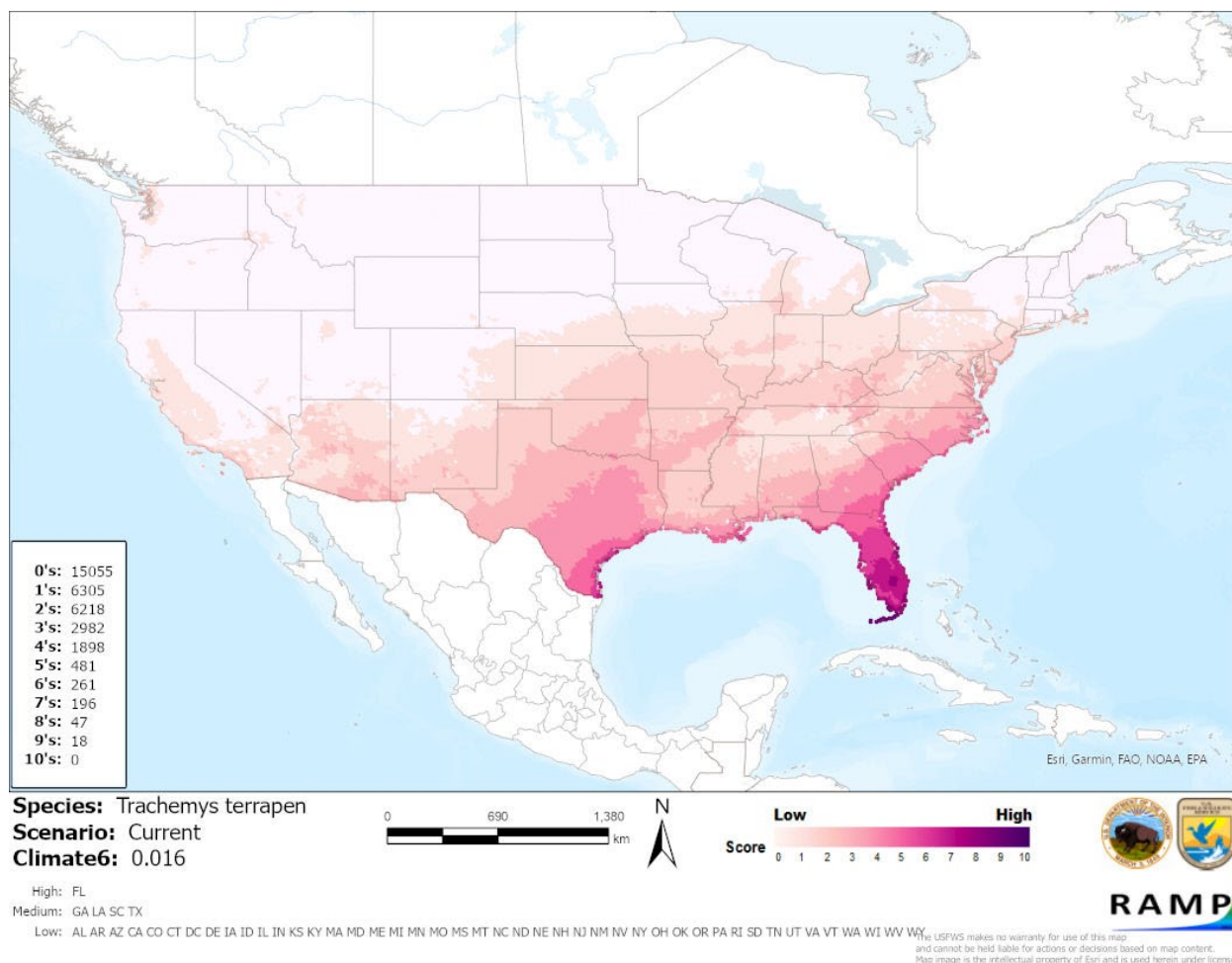
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### Summary of Climate Matching Analysis

The overall climate match throughout most of the contiguous United States was medium to low. There were some areas of high match isolated to southern Florida and areas of medium to high match around the Gulf coast. The overall Climate 6 score (Sanders et al. 2021; 16 variables; Euclidean distance) was 0.016, medium (scores greater than 0.005 and less than 0.103, are classified as medium). All States had a low individual Climate 6 score except for Florida, which had a high individual Climate 6 score, and Georgia, Louisiana, South Carolina, and Texas, which had a medium individual Climate 6 score.



**Figure 2.** RAMP (Sanders et al. 2021) source map showing weather stations in Jamaica and the Bahamas selected as source locations (red) and non-source locations (gray) for *Trachemys terrapen* climate matching. Source locations from GBIF Secretariat (2022). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.



**Figure 3.** Map of RAMP (Sanders et al. 2021) climate matches for *Trachemys terrapen* in the contiguous United States based on source locations reported by GBIF Secretariat (2022). Counts of climate match scores are tabulated on the left. 0/Pale Pink = Lowest match, 10/Dark Purple = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 8 Certainty of Assessment

The certainty of assessment is Low. Records of introductions were found for *Trachemys terrapen*, however there is uncertainty regarding some of these records. Some records indicate that this species originated in Jamaica and others state that it originated in the Bahamas. There is

not enough complete information regarding this species' distribution or history of invasiveness to make the certainty of assessment anything other than low.

## 9 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Trachemys terrapen* is a turtle with a native range that is determined as either Jamaica or the Bahamas. There is conflicting information regarding this species native range and introduced range with the scientific literature unsure if it is native to Jamaica and introduced in the Bahamas or vice versa. *T. terrapen* is regulated in Hawaii, New Mexico, and Oregon. The volume of trade could not be determined. Introductions outside of its native range have been reported in Cuba but there was no further proof if those represented a current established population or not. The history of invasiveness is classified as Data Deficient. Overall climate match with the contiguous United States is Medium. Areas of locally high match were found in peninsular Florida and coastal Texas. The certainty of this assessment is Low due to conflicting information regarding this species' native range. The overall risk assessment category for *Trachemys terrapen* is Uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 4): Data Deficient**
- **Overall Climate Match Category (Sec. 7): Medium**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks, Important additional information:** Scientific literature could not determine if this species is native to Jamaica and introduced to the Bahamas or vice versa.
- **Overall Risk Assessment Category: Uncertain**

## 10 Literature Cited

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**Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.**

GBIF Secretariat. 2022. GBIF backbone taxonomy: *Trachemys terrapen* (Bonnaterre, 1789). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/2442942> (January 2022).

Hawaii Department of Agriculture. 2019. Amendment and Compilation of Chapter 4-71, Hawaii Administrative Rules, Title 4, Restricted Animal List, Part B: For Private and Commercial Use.

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## 11 Literature Cited in Quoted Material

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**Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.**

- Barbour T, Carr AF. 1940. Antillean terrapins. *Memoirs of the Museum of Comparative Zoology* 54(5):381–415.
- Browne P. 1756. The civil and natural history of Jamaica. Part 2.
- Crombie RI. 1999. Caribbean amphibians and reptiles. San Diego: Academic Press 63–92.

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- Seidel ME. 1988b. Revision of the West Indian emydid turtles (Testudines). American Museum Novitates 2918:1–41.
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