

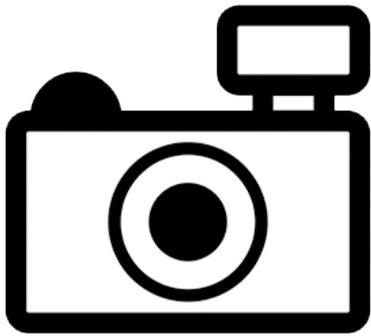
## ***Cherax wasselli* (a crayfish, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, November 2011

Revised, September 2012 and May 2018

Web Version, 5/29/2018



No Photo Available

## **1 Native Range and Status in the United States**

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### **Native Range**

From Eprilurahman (2014):

“[...] thought to be endemic to Cape York, northern Queensland [Australia].”

“*Cherax wasselli* has the type locality as Bridge Spring, between Rocky River and Scrubby Creek, Cape York, Queensland.”

### **Status in the United States**

This species has not been reported as introduced or established in the United States. There is no indication that the species is in trade in the United States.

From FFWCC (2018):

“Prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities. Very limited exceptions may be made by permit from the Executive Director [...] [The list of prohibited nonnative species includes] *Cherax wasselli*”

From Washington Department of Fish and Wildlife (2018):

“Prohibited aquatic animal species. RCW 77.12.020

These species are considered by the commission to have a high risk of becoming an invasive species and may not be possessed, imported, purchased, sold, propagated, transported, or released into state waters except as provided in RCW 77.15.253. [...] The following species are classified as prohibited animal species: [...] Family Parastacidae: Crayfish: All genera except *Engaeus*, and except the species *Cherax quadricarinatus* [*sic*], *Cherax papuanus*, and *Cherax tenuimanus*.”

## Means of Introduction into the United States

This species has not been reported as introduced or established in the United States.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From WoRMS (2018):

“Biota > Animalia (Kingdom) > Arthropoda (Phylum) > Crustacea (Subphylum) > Multicrustacea (Superclass) > Malacostraca (Class) > Eumalacostraca (Subclass) > Eucarida (Superorder) > Decapoda (Order) > Pleocyemata (Suborder) > Astacidea (Infraorder) > Parastacoidea (Superfamily) > Parastacidae (Family) > *Cherax* (Genus) > *Cherax wasselli* (Species)”

“Status accepted”

### Size, Weight, and Age Range

No information available.

### Environment

From WoRMS (2018):

“fresh[water]”

### Climate/Range

From World Wildlife Fund (2018):

“The climate [on the Cape York peninsula, Queensland, Australia] is strongly monsoonal, with most rain falling in the summer. The northern and eastern areas receive more rain than the south and southwest (Cape York Regional Advisory Group 1996). Dry season rainfall is normally associated with the influx of moist trade winds over the coast. Summers are hot and humid, and maximum temperatures reach 33[°C] to 36[°C] in January. Rainfall varies greatly with proximity to the coast, with the north receiving an average of 2,400 mm of rain per annum, and falling to an average of 800 mm per year in the south. Winter, or dry season, temperatures in July fall to an

average minimum of 21[°C] in the north and 15[°C] in the south (Tropical Savannas CRC undated).”

## **Distribution Outside the United States**

Native

From Eprilurahman (2014):

“[...] thought to be endemic to Cape York, northern Queensland [Australia].”

“*Cherax wasselli* has the type locality as Bridge Spring, between Rocky River and Scrubby Creek, Cape York, Queensland.”

Introduced

No introductions of this species have been reported.

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

No introductions of this species have been reported.

## **Short Description**

No information available.

## **Biology**

No information available.

## **Human Uses**

No information available.

## **Diseases**

No information available. No OIE-reportable diseases have been documented for this species.

## **Threat to Humans**

No information available.

## **3 Impacts of Introductions**

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No information available. No introductions of this species have been reported. The Florida Fish and Wildlife Conservation Commission (FFWCC 2018) and the Washington Department of Fish and Wildlife (2018) have both listed *C. wasselli* and other species of *Cherax* as prohibited species.

## 4 Global Distribution

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**Figure 1.** Known global distribution of *Cherax wasselli*, reported from northern Queensland, Australia. Map from GBIF Secretariat (2017).

## 5 Distribution within the United States

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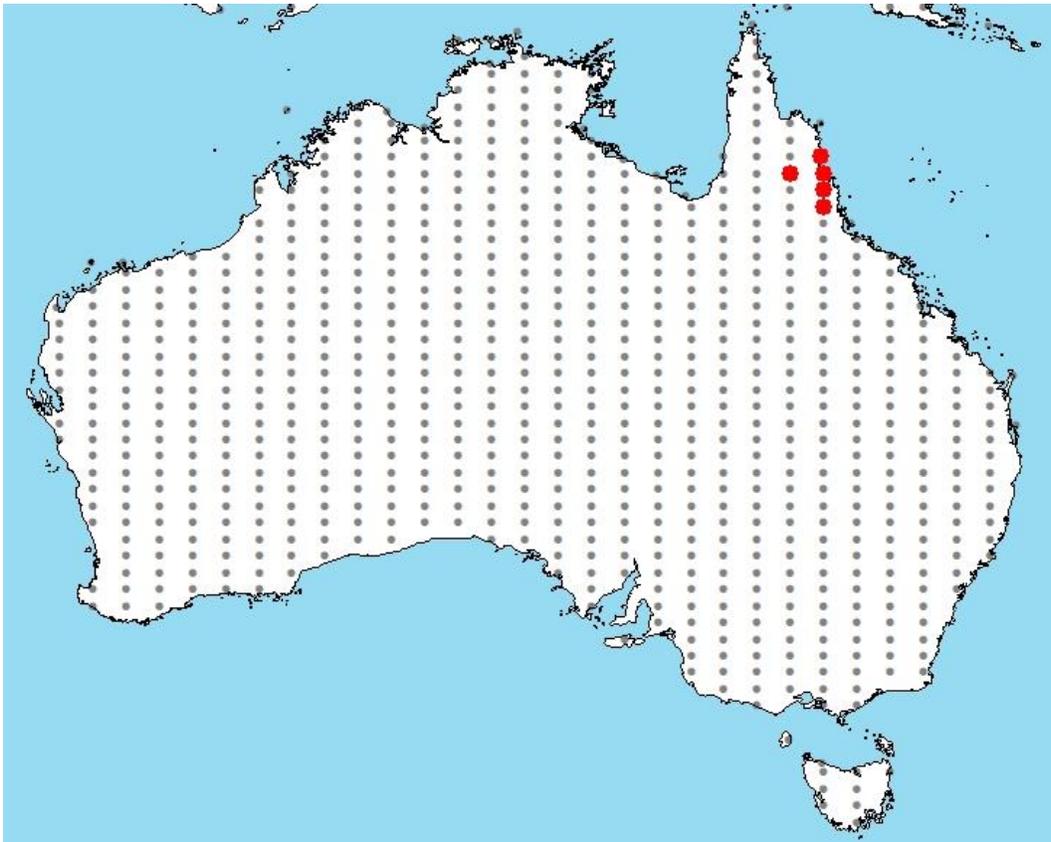
This species has not been recorded in the U.S.

## 6 Climate Matching

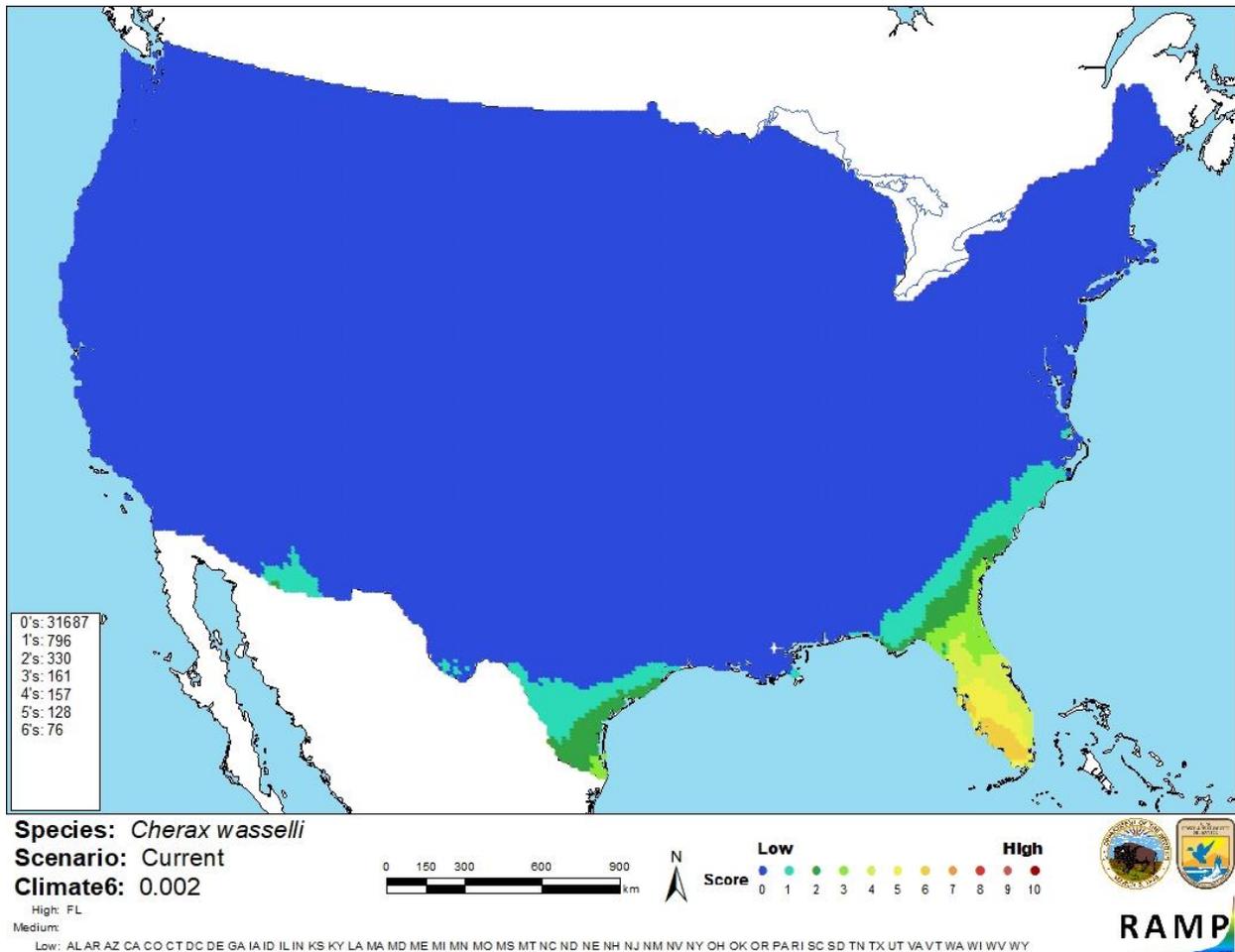
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### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) for *Cherax wasselli* was medium in peninsular Florida and low elsewhere in the contiguous U.S. Climate 6 score indicated that the contiguous U.S. has a low climate match overall. Scores of 0.005 and below are classified as low climate match; Climate 6 score for *C. wasselli* was 0.002.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations in Australia selected as source locations (red) and non-source locations (gray) for *Cherax wasselli* climate matching. Source locations from GBIF Secretariat (2017).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Cherax wasselli* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

Very little information is available on the biology, ecology, and distribution of *Cherax wasselli*. No introductions of this species have been reported, so impacts of introduction are unknown. Certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Cherax wasselli* is a crayfish native to Cape York, Queensland, Australia. Very little is known about this species. The species has an overall low climate match to the contiguous U.S. and no documented history of introduction outside its native range. The Florida Fish and Wildlife Conservation Commission and the Washington Department of Fish and Wildlife have both listed *C. wasselli* and other species of *Cherax* as prohibited species. Further information is needed to adequately assess the risk this species poses, so the certainty of this assessment is low. The overall risk assessment category is Uncertain.

### Assessment Elements

- **History of Invasiveness: Uncertain**
- **Climate Match: Low**
- **Certainty of Assessment: Low**
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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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 10.**

Eprilurahman, R. 2014. Molecular taxonomy and evolution of freshwater crayfish of the genus *Cherax* (Decapoda: Parastacidae) from northern Australia and New Guinea. Masters thesis. Charles Darwin University, Northern Territory, Australia.

Florida Fish and Wildlife Conservation Commission. 2018. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/>. (May 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Cherax wasselli* Riek, 1969. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/4648594>. (May 2018).

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

Washington Department of Fish and Wildlife. 2018. WAC 220-12-090 classification - nonnative aquatic animal species. Washington Department of Fish & Wildlife, Olympia, Washington. Available: <https://wdfw.wa.gov/ais/wac.html>. (May 2018).

World Wildlife Fund. 2018. Cape York Peninsula in northeastern Australia. World Wildlife Fund, Washington, D.C. Available: <https://www.worldwildlife.org/ecoregions/aa0703>. (April 2018).

WoRMS. 2018. *Cherax wasselli* Riek, 1969. In World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=885582>. (May 2018).

## 10 References Quoted But Not Accessed

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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.**

Cape York Regional Advisory Group. 1996. Cape York Peninsula land use strategy draft 2 stage report: a strategy for sustainable land use and economic and social development. Department of Local Government and Planning, Cairns, and Department of the Environment, Sport, and Territories, Canberra, Australia.

Tropical Savannas CRC. No date. Savanna explorer. Northern Territory University, Darwin, Australia. Available: <http://savanna.ntu.edu.au/information/savannaexplorer.html>. (September 2001).