

Red swamp crawfish Guadalquivir delta

 Fishery:  Andalusia  Spain  Fyke nets

IDENTIFICATION



SCIENTIFIC NAME

Procambarus clarkii

SPECIES NAME(S)

Red swamp crawfish, Crawfish, crayfish, Cangrejo americano, Cangrejo de las marismas

STOCK IDENTIFICATION

Red swamp crawfish *Procambarus clarkii* is native to north-eastern Mexico and the south-central USA, and it has been introduced worldwide becoming the most widespread crawfish in the world (Gherardi 2008, Tablado et al. 2010). The species was legally introduced by the central government in 1974 in the Bajo Guadalquivir rice fields for commercial reasons and its natural expansion was enhanced by fishers and promoted by the Spanish Government (Alcorlo et al. 2008) being today present throughout almost all the Iberian Peninsula. There is no evidence of scientific studies at that time assessing its possible impacts.

Freshwater species are generally not considered as professional fishing resources in Spain; nevertheless the red swamp crawfish in the Guadalquivir Delta is an exception due to the socio-economic importance of the crawfish processing industry in Seville province grouped since 2011 in a single association (Pebagua). Fishing is only allowed only in the marshes and rice fields of 13 municipalities within the Guadalquivir Delta (Junta de Andalucía, 2014).

Authorized fishers must be in possession of a generalist recreational licence given by the Junta de Andalucía and they have to be registered as providers of one of the processing factories. Fishing is done on foot in the marshes, no boat is needed, instead fishers move by car setting and collecting the traps, and all the catches have to be sold to the processing factories. As most of the fishing in this area happens in rice fields or their irrigation channels, the fishing campaign is closely linked to the rice culture cycle; on an average year rice fields are flooded in May and by the end of September the water level starts descending, so the rice can be finally harvested in October. The red swamp crawfish fishing season lasts approximately for three months, starting in August and finishing in October-November.

In 2013 there were 419 registered fishers in Andalusia, and the four factories grouped under a single processor's association (Pebagua) processed 4,600 tons of crawfish (3,000 tons caught in Andalusia) (Pebagua, personal communication). Spain is the 3rd largest producer of *P. clarkii* in the world after China and the USA, selling 8-10% of the world commerce.



RELATED LINKS:

- [Junta de Andalucía \(Spain\)](#)

ASSESSMENT

Strengths

- For the last decades the red swamp crawfish fishery and its associated food industry has become a thriving socio-economic sector in the Guadalquivir Delta.
- There are enough elements to potentially allow for a well-managed fishery which can ensure a sustainable use of the target species and associated ecosystems: a restricted fishing area and other spatial measures already in place to minimize the impact of the target species on habitats and ecosystems, a surrounding area where ecosystem functions and biodiversity are protected through a representative network of protected areas, and an organized and responsible food industry.
- It is unlikely that there is a significant risk of overfishing as the red crawfish is known to be an abundant resource in the area.

Weaknesses

- So far, most of the policies were focused on deterring the expansion of the red swamp crawfish and the scientific studies were focused on studying the effects of this species on the ecosystems. Meanwhile, little attention has been drawn to improve the fisheries management. There is a legal vacuum regarding the regulation of this fishery (professional inland fishery) in Andalucía, resulting in an insufficient legal framework for managing this relevant activity.
- There are no official catch records, monitoring of the fishing activity or any biological sampling strategy in place.
- Under these conditions no scientific advice or recommendations can be made.
- There are no management objectives for the fishery and almost no management measures in place.
- Catches, discards and bycatch are not officially recorded, and there is no monitoring of bycatch, including possible interactions with PET species.
- The magnitude of IUU fishing cannot be evaluated.
- There is no specific professional license for this type of fishery and fishers are insufficiently organized.

SCORES

Management Quality:

| | Managers Compliance | Fishers Compliance |
|---------------------|---------------------|--------------------|
| Management Strategy | NOT YET SCORED | NOT YET SCORED |
| < 6 | | |

Stock Health:

| Current Health | Future Health |
|----------------|---------------|
| ≥ 6 | ≥ 6 |

FIPS

No related FIPs

MSC

No related MSC fisheries

RECOMMENDATIONS

CATCHERS & REGULATORS

- Start a fishery improvement project to address sustainability issues in this fishery. For advice on starting a FIP, see SFP's [Seafood Industry Guide to FIPs](#).
- Communicate to fishery managers that there are sustainability issues in this fishery that may be affecting the sale of products, and request that they comprehensively evaluate and address such issues.

RETAILERS & SUPPLY CHAIN

- Encourage your supply chain to start a fishery improvement project. For advice on starting a FIP see SFP's [Seafood Industry Guide to FIPs](#).
- Work with other suppliers and buyers on a pre-competitive basis to start a supplier roundtable to review improvement needs in this and other similar fisheries, catalyze fishery improvement projects, and monitor progress in improvement efforts.