

7th Report of the implementation of the FIP
Spanish crayfish (*Procambarus clarkii*) with fyke
nets & traps in Andalusia and Extremadura



August, 2025

Consultants: Catalina Angel and Cláudia Correia

Clients: Alfocan S.A. and SouthOcean

Contents

1. Executive Summary	3
2. Introduction.....	3
3. Work Plan (November 2024 – April 2025)	3
4. Crayfish Fishery - Extremadura.....	4
4.1. Fishing Areas and Special Regime Zones in Extremadura	5
4.2. Development of the Risk-Based Framework (RBF) for PI 1.1.1	7
5. Integration of Portugal into the FIP	8
6. Discussion.....	9
7. Final Remarks	10

1. Executive Summary

The FIP activities during the second half of 2024 and early 2025 were marked by the absence of new sampling campaigns. In Extremadura, field sampling at Orellana Lake was discontinued since the data collected in the past three years (2022–2024) are considered sufficient to characterise the fishery at this stage of the FIP. In Andalusia, no sampling took place since the fishery has not yet opened, but fieldwork is planned for September 2025.

Relevant updates were obtained from the Junta de Extremadura, including the official catch statistics between 2021 and 2024, instructions for fishers and use of official seals, as well as updated figures on active fishers and authorised nets. In July 2025, a formal collaboration agreement was also established between the fishers and the FIP lead (authorised center), strengthening cooperation for data provision and engagement.

Furthermore, a Risk-Based Framework (RBF) is currently being developed for Performance Indicator 1.1.1 (stock status). Information is still being collected from stakeholders to complete the analysis.

2. Introduction

This is the seventh report of the Spanish crayfish (*Procambarus clarkii*) FIP. It follows the previous six reports and continues to track the progress of the fishery towards the Marine Stewardship Council (MSC) Fisheries Standard.

The 6th report (October 2024) detailed the results of fieldwork conducted in Orellana Lake and proposed the application of the RBF to address the challenges of limited quantitative data and the invasive nature of the target species. Building upon those findings, the present report does not include new field sampling results but instead compiles official data and updates provided by the Junta de Extremadura, alongside developments in stakeholder collaboration and planning for Andalusia and the inclusion of Portugal in the FIP.

The report is organised as follows: (i) an updated work plan (Chapter 3); (ii) information regarding the fishery and the developments (Chapter 4); (iii) production characterization (Chapter 5), including catch volumes; (iv) Inclusion of Portugal (Chapter 6) (v) discussion of recent developments and progress and (vi) final remarks (Chapter 7);

3. Work Plan (November 2024 – April 2025)

The general framework of the FIP continues to follow the 2024–2025 Action Plan. However, given the circumstances, the following adjustments apply:

- Orellana (Extremadura): No further sampling campaigns are required at this stage. Focus is on consolidating historical catch information, monitoring fishing effort, and completing the RBF for PI 1.1.1.
- Other Extremadura sites: No sampling carried out due to the uncertainty regarding the fishing location and the impossibility to track and sample those fishing pods.
- Andalusia: The fishery remained closed until now. A sampling campaign is planned for September 2025, provided that the fishery opens in the rice fields.
- Stakeholder engagement: Ongoing, with special attention to data provision from fishers and authorised centres.
- Collaboration: A formal cooperation agreement between fishers and the FIP lead (authorised center) was signed in July 2025 to strengthen data flow and commitment to the FIP objectives.
- Workplan to include Portugal in the current FIP.

4. Crayfish Fishery - Extremadura

The fishery continues to be regulated within the Control Plan framework (Resolution of 25th of October 2016). The instructions for fishers include: mandatory use of official seals, restrictions on fishing times, prohibition of using freshwater fish as bait, periodic checking of traps within 48 hours, and mandatory release of any native species caught accidentally. Exotic invasive species other than *Procambarus clarkii* must be removed and eliminated.

In Orellana, fishers under a centre, that supplies the FIP lead (industry), reported using approximately 6,000 kg of sardines as bait, with a total of 25 fishers delivering their catches. Annual updates are made by the Junta de Extremadura regarding authorised centres.

The following tables (Table 1 and Table 2) present the most recent official information provided by the Junta de Extremadura regarding the crayfish (*Procambarus clarkii*) fishery in the region. These data summarise the volumes of catches declared between 2021 and 2024, the number of active fishers, and the total number of authorised nets. This information is framed within the Control Plan for this species and signal crayfish approved in 2016, which continues to regulate fishing activity in Extremadura.

The presentation of these figures is essential to characterise the scale and development of the fishery in recent years. Together with the qualitative information gathered during site visits and stakeholder engagement, these quantitative indicators provide an important baseline to

evaluate trends, assess the effectiveness of management measures, and inform the next steps in the FIP process.

Table 1 – Declared catch volumes in Extremadura (2021–2024). provided by the Junta de Extremadura

Year	Catch volume (kg)
2021	561,853
2022	556,324
2023	559,073
2024	434,683
Total	2,111,933

Table 2 – Active fishers and authorised nets in Extremadura. provided by the Junta de Extremadura

Year	Active Fishers	Authorised Nets
2024	270	75,176
2025	306	70,760

The data show that declared catches in Extremadura remained relatively stable between 2021 and 2023, with volumes slightly above 550,000 kg each year, before falling to 434,683 kg in 2024. This decline, equivalent to approximately 22% compared to the average of the three previous years, can be attributed to environmental variability, including fluctuations in water levels and temperatures, as well as the distribution of fishing effort across the region. Nonetheless, cumulative catches of more than two million kilograms over four years illustrate the continued importance of this fishery at regional level.

Regarding fishing effort, the number of active fishers increased from 270 in 2024 to 306 in 2025, while the total number of authorised nets decreased from 75,176 to 70,760. This adjustment suggests a management approach that seeks to balance participation and control over fishing capacity, ensuring that the fishery remains both economically viable and environmentally regulated. Combined with the strict provisions of the Control Plan and the recent cooperation agreement between fishers and the processing sector, these figures highlight a structured and adaptive framework for managing this invasive species fishery.

4.1. Fishing Areas and Special Regime Zones in Extremadura

The Junta de Extremadura has informed that it is not able to provide a detailed mapping of the fishing areas currently in use by the crayfish fishers, as fishing is technically allowed in all Extremadura. Instead, the Administration has made available a cartographic document identifying *cotos de pesca* (fishing sites) as well as *áreas de regimen especial protección ambiental* (special environmental protection areas) subject to a special regime (Figure 1).

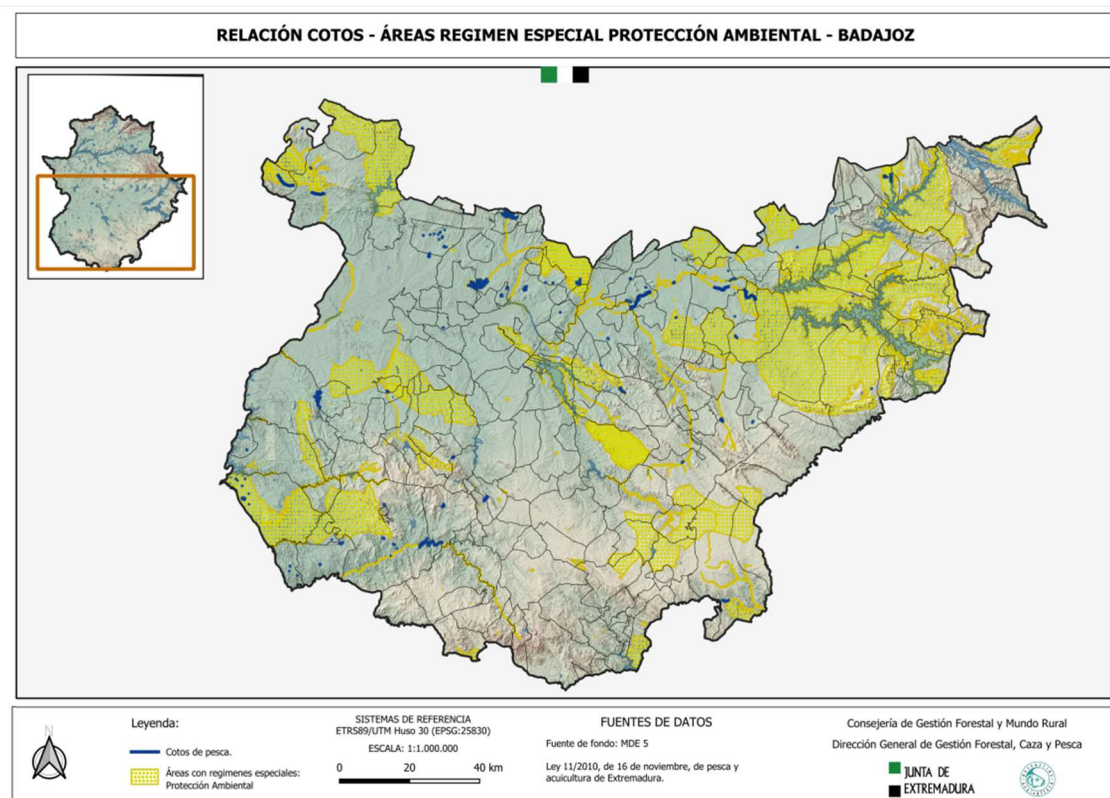


Figure 1 – Mapping of special fishing reserves (cotos de pesca in blue) where fishing can occur, and special environmental protection areas where it is restricted in Extremadura, provided by the Junta de Extremadura.

According to the information provided, the special environmental protection areas are generally excluded from the scope of the Control Plan for *Procambarus clarkii* and *Pacifastacus leniusculus*, unless expressly authorised by the competent authority. This distinction is relevant for the implementation of the FIP, as it establishes a clear differentiation between the fishing grounds effectively authorised under the Control Plan and the areas where fishing is restricted or prohibited.

From a management perspective, this information highlights the complexity of spatial governance within the region. While crayfish fishing is promoted as a control measure for invasive species, the restrictions imposed in special regime areas underscore the precautionary approach applied by the Administration, ensuring that fishing activity does not conflict with conservation priorities. For the FIP, this implies that stakeholder engagement and verification of fishing locations remain critical, particularly in smaller ponds where access and authorisation regimes may vary.

Finally, the absence of an official mapping of the precise fishing grounds makes it more difficult to quantify the spatial distribution of effort and its ecological implications. Nevertheless, the

provision of the special regime mapping offers a valuable starting point for delimiting the boundaries of the fishery and reinforces the need to maintain close coordination with the regional authority to ensure that fishing activities remain fully compliant with the legal framework.

4.2. Development of the Risk-Based Framework (RBF) for PI 1.1.1

As identified in the previous report, the absence of biological reference points makes it necessary to apply the Risk-Based Framework (RBF) for Performance Indicator (PI) 1.1.1. A conventional stock assessment is not available for the Louisiana crayfish, nor are biological limit points. Since it is an invasive species with high fecundity and resilience the management goal under the Control Plan is population reduction rather than long-term sustainability. In this context, Annex SD of the MSC Fisheries Standard provides the appropriate framework to adapt the criteria for this fishery.

The plan for implementing the RBF is structured in three phases.

First, the application of the RBF must be formally justified, consolidating the data already collected on catches and fishing effort, and producing a technical framework document for stakeholders.

Second, the methodology will be defined by applying a Productivity Susceptibility Analysis (PSA) and a Consequence Analysis (CA), for which NGOs and scientists need to be engaged.

Finally, the PSA and CA will be executed with validated data, generating scores for Principle 1 indicators, with full consolidation of results and reporting by the end of 2025.

Progress has been achieved in stakeholder engagement, with the active involvement of the Junta de Extremadura, local fishers, and a scientific specialist in *P. clarkii* in Portugal, although not enough to reach the desirable scientific rigor. Therefore, additional stakeholders need to be integrated into the process to ensure credibility and transparency. These include environmental NGOs and other research centres and/or universities in Spain that work with the species.

It is expected that this wider engagement and active participation of stakeholders will be achieved by the end of 2025, allowing the process to be reflected in the next annual update of the FIP. This timeline ensures that the RBF analysis will be supported by a broader range of actors, thereby strengthening its scientific and institutional legitimacy.

5. Integration of Portugal into the FIP

During the last reporting period, the client expressed the intention to expand the scope of the current FIP to include Portugal. This proposal was discussed in a dedicated meeting with Fishery Progress, where it was confirmed that the Portuguese component could be formally added to the existing FIP. It was further agreed that a single global FIP could be created, treating the different fishing areas as separate units of assessment, similar to the structure already in place in Spain with Orellana and the other water bodies in Extremadura, and Andalusia.

The rationale for this expansion is twofold. First, crayfish fishing in Portugal faces similar challenges to those in Spain, namely the invasive nature of *Procambarus clarkii*, the absence of conventional biological reference points (same RBF for PI 1.1.1), and the need for improved monitoring and stakeholder engagement. Second, integrating both countries into a single framework ensures consistency in methodology, strengthens the credibility of the process, and enhances opportunities for coordinated management across the Iberian Peninsula.

A draft work plan for Portugal has already been developed. This plan outlines actions across short-, medium- and long-term phases, covering the diagnosis of Units of Assessment (namely, Mondego, Tejo, Sado, Guadiana) (Figure 2), the establishment of monitoring and traceability systems, the implementation of harvest control rules, and the reinforcement of the legal framework and stakeholder engagement. The inclusion of Portugal within the FIP will therefore follow the same MSC Fisheries Standard (v2.01) principles and structure, while recognising the national specificities of management and enforcement.

The decision to integrate Portugal into the FIP marks an important step towards a comprehensive and regional approach to the management of *Procambarus clarkii*. The combined structure will allow for progress to be reported under a unified framework, while still treating each region as a distinct UoA, thereby facilitating future audits and the achievement of MSC certification objectives.



Figure 2 - Map of Portugal highlighting the main basins of the country

6. Discussion

FIP activities during this reporting period were characterised by a consolidation of information rather than new biological sampling. In Orellana, additional fieldwork was deemed unnecessary given the robustness of the datasets already collected between 2022 and 2024, which sufficiently describe catch composition, sex ratios, size distributions, and bycatch—consistently negligible throughout. In Andalusia, the fishery has remained closed, with the next sampling campaign now expected for September 2025.

Official data provided by the Junta de Extremadura shed further light on the scale and structure of the fishery. Catches remained relatively stable between 2021 and 2023 before declining in 2024, while the number of active fishers increased in 2025 despite a reduction in authorised nets. These trends reflect the adaptive management measures in place under the Control Plan, as well as the socio-economic importance of the fishery in rural areas. The information also highlights the limitations of spatial governance: while the Junta has provided maps of *cotos de pesca* (fishing sites) as well as *áreas de regimen especial protección ambiental* (special environmental protection areas), it cannot provide a detailed mapping of actual fishing grounds.

This reinforces the importance of continued coordination with authorities to ensure fishing activities remain compliant. Nevertheless, SEPRONA, environmental police, is the entity in charge of surveillance in the special protection areas, making sure no one can fish there except with a special permit.

The implementation of the Risk-Based Framework (RBF) for PI 1.1.1 remains a central task. Progress has been achieved through the involvement of the Junta de Extremadura, local fishers, and a scientific expert in *P. clarkii*. However, broader participation is still required, notably from NGOs and additional research centres working on crayfish in Spain. The plan foresees structured engagement activities and it is expected that full stakeholder involvement will be achieved by the end of the year and reflected in the next annual update.

Finally, discussions with Fishery Progress confirmed the feasibility of expanding the scope of the FIP to include Portugal, creating a single Iberian FIP that treats Spain and Portugal as separate Units of Assessment. This represents a significant development, as it allows for a consistent methodological approach across both countries, while respecting their specific contexts. A draft work plan for Portugal has already been prepared and will serve as the basis for this integration.

7. Final Remarks

The current reporting period marks a turning point in the FIP, shifting from intensive fieldwork to consolidation, planning, and expansion. Key advances include the official data provision by the Junta de Extremadura, the signing of a cooperation agreement between fishers and the FIP lead, and the ongoing development of the RBF for PI 1.1.1. These achievements strengthen the technical and institutional foundations of the project, even in the absence of new biological sampling, especially regarding Orellana.

The priorities for the next months are clear. The RBF must be finalised with the active participation of all relevant stakeholders, ensuring a robust and credible outcome. In Andalusia, the planned sampling in September 2025 will provide much-needed data to characterise that region. In Portugal, the launch of the FIP activities will mark the start of a broader, integrated effort to address crayfish management across the Iberian Peninsula.

Overall, the FIP is progressing towards a unified regional framework, with Orellana remaining the most advanced Unit of Assessment. If data gaps are filled, stakeholder engagement strengthened, and the integration of Portugal successfully achieved, the fishery will be well positioned for an MSC audit in the near future.

As an end note, it is crucial to highlight the importance of receiving data in a timely manner, as delays can significantly affect the overall progress of the project. Engagement with stakeholders, while essential for obtaining accurate and comprehensive information, can occasionally take longer than anticipated. Such delays may compromise the ability to meet the scheduled timelines, underscoring the need for careful planning and proactive communication throughout the process.