



The artisanal octopus trap fishery in western Asturias. Impacts and challenges of MSC certification

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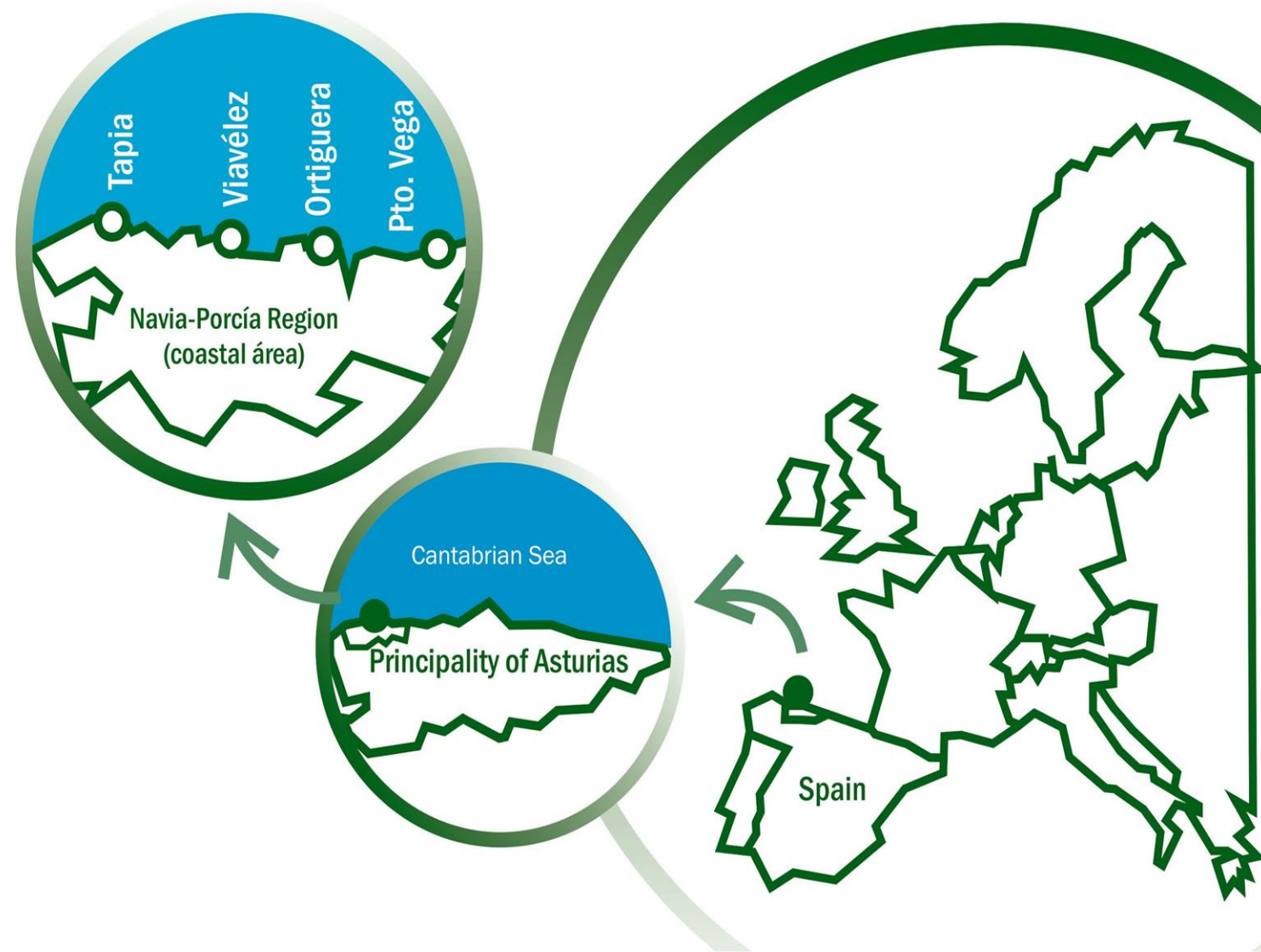
Characterization of the fishery



Fishery located in the **region of Navia-Porcía**, northwest of Asturias region.
Coastal region in the **Cantabrian Sea**.

Certification led by **4 small fishing ports**:

- Puerto de Vega,
- Ortiguera,
- Viavelez
- Tapia de Casariego.



Characterization of the fishery

- Coastal fishing fleet
- **1 to 4 crew**
- **10-12 meters** of length.
- Number of vessels: **32**
- Season: From **December to June**
- Annual Catch: **65t approx.**
- Species: **Octopus Vulgaris**
- Minimum size: **1 Kg**
- Fishing Area: Asturian coastline between 7° 01 'W and 6° 04' W, **always within internal Spanish waters (<12nm)** and within a depth range of **0-100m.**
- Gear: **traps**



Characterization of the fishery





Initial Situation of the Asturias Octopus Fishery

Strengths of the fishery:

- The octopus fishery has a **high impact on the local economy.**
 - It's an **artisanal low impact fishery** (passive gear, small boats)
 - There are some regulations in place (management plan) to control fishing effort
 - High involvement of the regional administration
 - Small group of leaders convinced of the sustainability path
 - Strong financial and technical support from the local FLAG
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Initial Situation of the Asturias Octopus Fishery



Weaknesses of the fishery

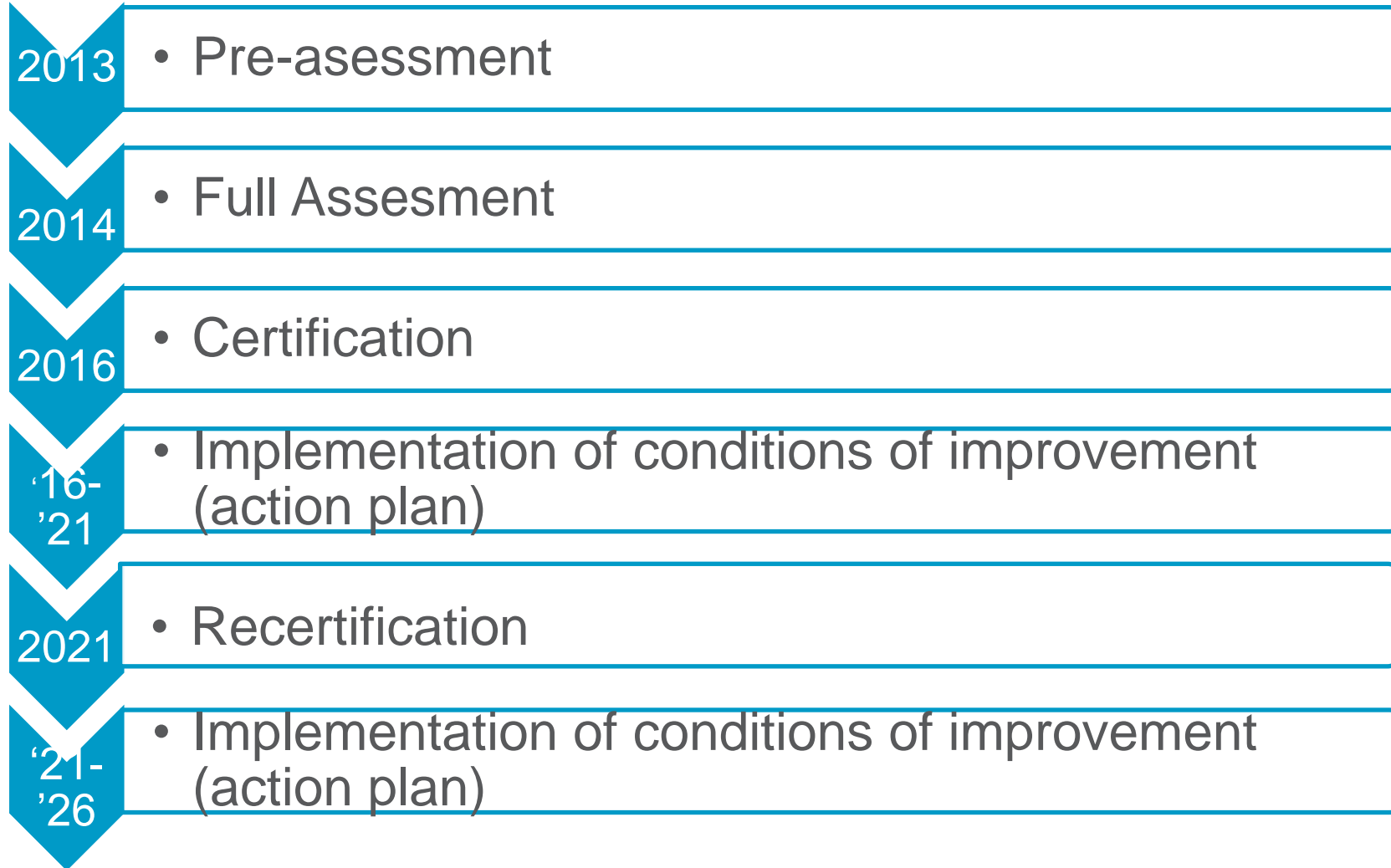
- Lack of reliable **scientific information** (interactions with other species, bait used, etc.)
 - Weak respect on **enforcement**: usually the maximum number of traps was not respected. Weak control from the administration
 - Lack of **stock assessment**
 - Lack of a proper **harvest strategy and harvest control rules**
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Weaknesses of the fishery

- **Commercialization very little diversified** (90% was sold to a single buyer).
 - Prices **unstable** (daily variation).
 - **Lack of engagement** of fishermen in the decision making processes (lack of mechanism in place to engage them)
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Timeline



Governance Improvements



- Actualization of the Octopus Management Plan including:
 - **long term objectives**
 - **Commission for monitoring the management of the octopus fishery** through a legal standard. (Dec. 2016).
 - **New stock assessment**, development of new **HCR** and **new TAC**
 - **Compulsory observers on board** to monitor discards (max. allowed non target mortality 5%)
 - All the **trap** sections **require an identification** provided by the government including number of traps per section. Individual ID per section



BOLETÍN OFICIAL DEL PRINCIPADO DE ASTURIAS

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1/4

I. PRINCIPADO DE ASTURIAS

• OTRAS DISPOSICIONES

CONSEJERÍA DE MEDIO RURAL Y COHESIÓN TERRITORIAL

*RESOLUCIÓN de 23 de noviembre de 2021, de la Consejería de Medio Rural y Cohesión Territorial, por la que se regula la pesca del pulpo común (*Octopus vulgaris*) durante la campaña 2021/2022.*

El artículo 10.1.13 del Estatuto de Autonomía del Principado de Asturias, atribuye al Principado de Asturias competencia exclusiva en materia de pesca en aguas interiores y marisqueo.

En ejercicio de esta competencia se aprobó la Ley del Principado de Asturias 2/1993, de 29 de octubre, de pesca marítima en aguas interiores y aprovechamiento de recursos marinos, cuyo artículo 7 establece la posibilidad de realizar planes anuales en los que se fijará la capacidad extractiva en función de la evolución de los recursos, oídos los profesionales a través de sus representantes. En desarrollo de estas previsiones, la Dirección General de Pesca Marítima ha elaborado un Plan de Gestión del pulpo común (*Octopus vulgaris*) en colaboración con las Cofradías de Pescadores de Cudillero, Oviñana, Lluarca, Puerto de Vega, Ortiguera, Viavélez, Tapia de Casariego y Figueras, con el objeto de preservar el recurso y mejorar su comercialización en el ámbito geográfico de las mismas.

El Plan de Gestión aspira a mantener, ampliar y mejorar, en la medida de lo posible, la recogida de datos de la pesquería y a establecer un sistema de cogestión que implique a todos los actores relacionados con la misma, con el objeto de que la sostenibilidad biológica del recurso vaya asociada con mejoras sociales y económicas del sector pesquero.

En cumplimiento de las previsiones contenidas en tales acuerdos y demás normativa en vigor, es necesario proceder

Governance Improvements



- Development of a **web site to register catches** to monitor the TAC
 - Establishment of **new roles for the admin staff** in the harbours (guardapescas) that included registering catches
 - Creation and establishment of the **commission for monitoring the management of the octopus fishery** through a legal standard. (Dec. 2016). Similar to **co-management approach**
 - Creation of the “**ARPESOS**” **association** . (May. 2017).
 - Creation of **REDEPESCA**, an instrument for the exchange and transfer of information and knowledge between the fishing sector, the scientific community and the Asturian Administration.
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Economic Results - Commercialisation

- Development of a **business plan for MSC certified octopus**. (Feb. 2016 – Apr. 2016).
- Setting up a **new fortnightly/monthly auction system** for MSC certified octopus (Dec. 2016).
- Organization of **visits by traders, retailers and buyers** to the fishery (Jan 2017).

Economic Results



- After MSC certification: Evidence of **Price premium between 15,2% and 24,6%** over uncertified neighbouring harbours
 - Price premium **ranges between 1,05 and 1,11 Eur/Kg**
 - **Access to new markets:** from single buyer before certification to multiple buyers and from national market to international markets
 - **Stability in prices.** The certification has allowed the establishment a "future auction" system. The price is no longer subject to the daily supply-demand
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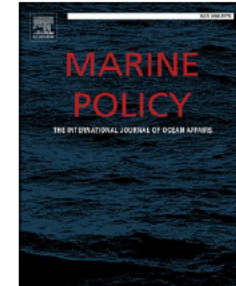
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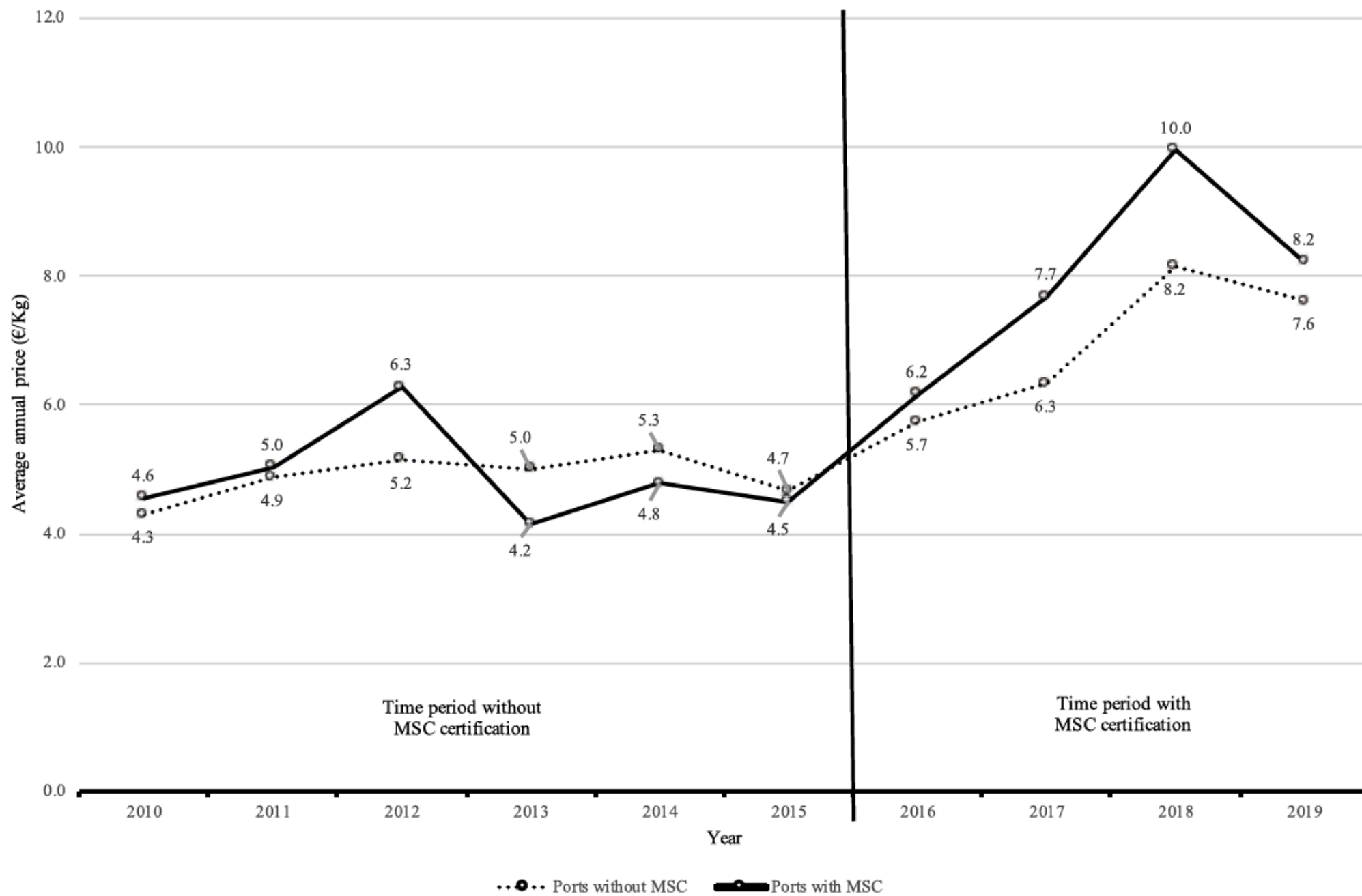
Evidence of price premium for MSC-certified products at fishers' level: The case of the artisanal fleet of common octopus from Asturias (Spain)

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ARTICLE INFO

ABSTRACT



Environmental results: New science generated

Scientific documents describing Western Asturias octopus Fishery, monitoring, assessment and management



Available online at www.sciencedirect.com



Fisheries Research 83 (2007) 351–354



www.elsevier.com/locate/fishres

Short communication

***Octopus vulgaris* (Mollusca: Cephalopoda) fishery management assessment in Asturias (north-west Spain)**

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Centro de Experimentación Pesquera, Consejería de Medio Rural y Pesca, Avda. Príncipe de Asturias s/n. 33212 Gijón, Asturias, Spain

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WORKSHOP ON DATA-LIMITED STOCKS OF SHORT-LIVED SPECIES (WKDLSSL2)

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ICES Journal of Marine Science



International Council for the Exploration of the Sea
Conseil International pour l'Exploration de la Mer

ICES Journal of Marine Science (2021), <https://doi.org/10.1093/icesjms/fsab113>

Original Article

Estimation of the spawning stock and recruitment relationship of *Octopus vulgaris* in Asturias (Bay of Biscay) with generalized depletion models: implications for the applicability of MSY

Rubén H. Roa-Ureta^{1,2}, M. del Pino Fernández-Rueda², José Luis Acuña³, Antonella Rivera⁴, Ricardo González-Gil⁵, and Lucía García-Flórez²

Downloaded from <https://academic.oup.com/icesjms/>

- Process of continuous improvement of the sustainability indicators:
 - New **registry of bait**
 - Revision of unwanted mortality strategy
 - The **fishing science**: new mathematical models developed to create **new stock assessment and new harvest control rules (HCR)**.
 - New TAC developed from the new HCR including control measures of exploitation - sensitive to the evolution of the stock (e g quota per vessel and year)
-

Environmental results: New scientific and technical developments

MSC is developing OCTSA - Shiny app to carry out octopus stock assessment.

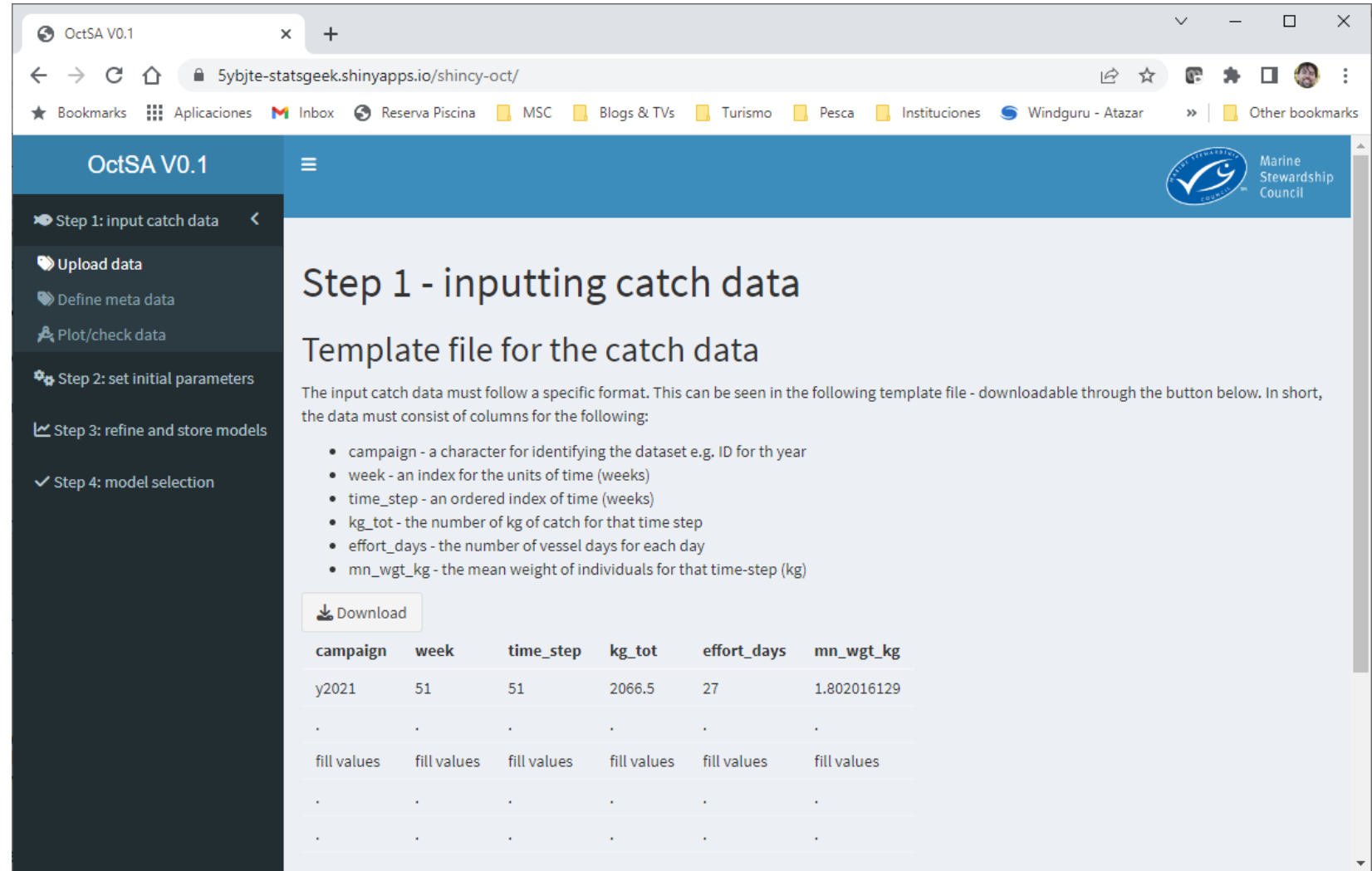
Parametres need:

- Catch
- Fishing effort

As desagregated as posible

Based on depletion models

Calculates latent average productivity (more specific and adapted to short lived species than MSY)



The screenshot shows the OctSA V0.1 Shiny app interface. The browser address bar shows the URL: 5ybjte-statsgeek.shinyapps.io/shincy-oct/. The app title is "OctSA V0.1". The left sidebar contains a navigation menu with the following steps:

- Step 1: input catch data (selected)
- Upload data
- Define meta data
- Plot/check data
- Step 2: set initial parameters
- Step 3: refine and store models
- Step 4: model selection

The main content area displays "Step 1 - inputting catch data" and "Template file for the catch data". Below this, there is a text block explaining the required data format and a list of columns:

- campaign - a character for identifying the dataset e.g. ID for th year
- week - an index for the units of time (weeks)
- time_step - an ordered index of time (weeks)
- kg_tot - the number of kg of catch for that time step
- effort_days - the number of vessel days for each day
- mn_wgt_kg - the mean weight of individuals for that time-step (kg)

A "Download" button is present below the list. Below the button is a table with the following data:

campaign	week	time_step	kg_tot	effort_days	mn_wgt_kg
y2021	51	51	2066.5	27	1.802016129
.
fill values	fill values	fill values	fill values	fill values	fill values
.
.

Environmental Results

- Surveillance systems of fishing effort (marking off the traps) have been introduced.



ANEXO SOLICITUD LICENCIA "NASA PULPO"

Cofradía:.....
Nombre de la embarcación:.....
Número de tripulantes: TRES.....
Desde: 30-12-2021..... Hasta: 15-06-2022.....

CÓDIGO DE IDENTIFICACIÓN DE LA TANDA	Nº DE NASAS
00 463	35
00 465	35
00 486	35
00 675	35
00 676	35
00 677	35
00 678	35
00 679	35
00 690	35
00 691	35

TOTAL TANDAS	TOTAL NASAS
10	350

Fecha: 29-12-2021.....

Firma del Patrón:.....

Teléfono de contacto:.....

Environmental Results



- GPS tracking devices installed for every vessel (provided by the local government, not compulsory yet under EU legislation)



Environmental Results

- Development of maps of fishing intensity that helps the establishment of area management measures



Environmental Results

- Establishment of observers on board guarantee fishery independent scientific information. * <http://pulpodeasturias.es/index.html>





Conclusions

- Better science available to manage the fishery
 - The fishery is better managed and shows less environmental impacts
 - MSC certification has led to a better commercialization including price premium
 - The fishermen are having better labour conditions (less hour at sea and higher benefits)
 - High media coverage. Fishermen get social license and their effort in favor of sustainability is recognized.
 - The sector must lead on this processes
 - The support of the administration is key
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Thanks