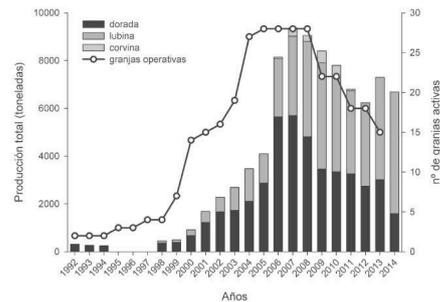
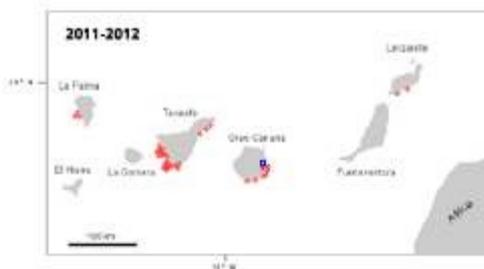


## Opinion 115\* on the management of sea bass in the Canary Islands. Request for the removal of minimum size from the EU regulation

### 1.- Introduction: aquaculture in the Canary Islands.

Fish have been farmed in floating cages in the Canaries for more than twenty years. The species farmed are: sea bream (*Sparus aurata*) and sea bass (*Dicentrarchus labrax*). The croaker (*Argyrosomus regius*) was also farmed experimentally between 2007 and 2011. As you can see from the chart below, total fish production ranged between 8,000 and 9,000 tonnes between 2005 and 2010, with a slight decrease in recent years. The Autonomous Community of the Canary Islands is one of the communities with the highest levels of aquaculture production of sea bass in Spain. In 2014, it was the second largest producer of sea bass at national level, with production reaching 29.3% of total production (5079 tonnes).

### Producción acuícola en Canarias



Breeding cage facilities shown in red.

Aquaculture production in the Canary Islands: 1992-2014

From the aquaculture (1) point of view, it should be noted that the three species are not indigenous and are considered to be absent locally. As a result, concession applicants are required to develop contingency plans that provide for potential escapes and their adverse effects on indigenous populations or the environment. See Annex 1 (Regulation)

The bibliography mentions the existence of wild populations in specific areas of Fuerteventura (point on the NW coast) and Lanzarote (point on the N coast), but these have not been studied and need to be properly classified. In the professional fishery, there is little catch data for sea bass and sea bream and we believe that this is due to the proximity of the Saharan outcrop.

It is also important to highlight the existence of populations or groups that have returned to the wild in the islands where aquaculture production is carried out: Tenerife, Gran Canaria, La Palma and Lanzarote.

## 2.- Escape: potential impacts

One of the inevitable consequences of farming in floating cages is the escape of farmed fish into the natural environment. These escapes can be:

- a trickle: few fish but frequently.
- massive: many fish and occasionally.
- eggs: fertilised.

To get an idea of the extent of these escapes, here is the data for the period 1998-2009:

- An underestimated average of 200,000 sea bass, 200,000 sea bream and 3,750 escaped croaker per year is noted.

- There have been 16 massive escapes. The one that took place between December 2009 and January 2010 in La Palma, near the Fishing Interest Marine Reserve, should be highlighted. 1.5 million fish escaped, both sea bream and sea bass (90%).

The potential impacts of escape are:

- Destruction and competition.
- Spread of diseases and parasites.
- Genetic impacts on local populations.
- Impacts on fisheries.



Impacts of a storm on floating farming cages during the escape that took place in La Palma (2010) Photo taken by: Raúl Campillo

### 3.- Impacts of escapes on fisheries in the Canary Islands fishing zone.

The Canary Islands fishing zone is characterised by a weak stock base (lowest in the western islands), and oligotrophic waters (not very productive). This explains the low productivity of demersal stocks and the need to protect these species from any disturbance, including escape.

The escape of the three species mentioned (sea bream, sea bass and croaker) can potentially trigger environmental alterations affecting coastal marine ecosystems. However, the species with the highest trophic levels (voracious predators), the sea bass and the croaker, can have a direct impact on the protection of important species for the fisheries on the islands. The situation with sea bass is of particular concern given the rate of massive occasional escapes and the existence of populations that have returned to the wild. On our coasts, there are protected bays where fry of several species of importance for the fishery (mainly sea bream) can be found and sea bass can be observed regularly hunting them in less than half a metre of water.

For several years, the sector has been concerned about the negative impact of these escapes on stocks and has been asking itself: How is sea bass hunting of fry affecting stocks and future demersal fisheries? What species are most affected? Can sea bass adapt and reproduce in much warmer waters? Etc.

In the Canary Islands fishing zone, a group of researchers from the University of La Laguna and the University of Alicante has studied the phenomenon of escapes, culminating in a doctoral thesis and several scientific articles. One of these dealt with the massive escape that took place in La Palma. These can be found in Appendix 2 of the bibliography.

After reviewing this information, our feeling is that the problem is much more significant than we had thought and that we must get involved in minimising the negative impacts of these escapes. The main conclusions are:

- The escapes are more significant than we had originally thought, as seen in the previous section.
- Populations returned to the wild could spread throughout the archipelago. In the case of the western islands, where stocks are lower, the effects could be greater.
- It has been confirmed that the sea bass is a very powerful predator and is able to adapt to the environment, feeding on crustaceans and fish, including fry.
- The escape-fishery relationship needs to be studied to quantify the impact of escapes.
- **Escaped sea bass have reproductive capacity.** Gonadal maturation of males and females was observed in the natural environment between January and February. The mature gonads are functional, therefore spawning takes place. However, it has not been possible to demonstrate the existence of stocks in the environment, a sign of successful reproduction. This needs to be confirmed.



Escaped Sea Bass in Tufia (Gran Canaria 2012)  
 Photo taken by: Fernando Ros

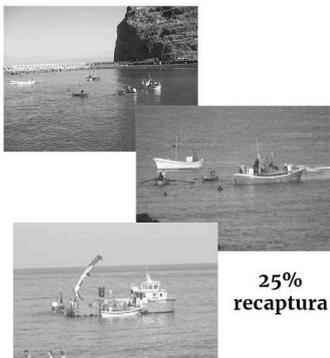
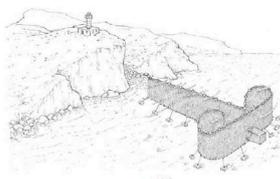
#### 4.- Involvement of fishermen in the recovery of fish that have escaped from floating cages.

The involvement of professional fishermen in escape recovery tasks is fundamental for any contingency plan. *During the massive La Palma escape, small-scale fishermen recovered 22% of the biomass that had escaped.* Alliances need to be established between small-scale fisheries and aquaculture so that in the event of an escape, intervention by fishermen is immediate and escape impacts are minimised.

A priori, small-scale fishermen can recover escaped fish using net techniques known as 'traíña', 'chinchorro' and 'salemera'. Which of these nets does least harm to fish needs to be established.

In this respect, it should be noted that last week the research group submitted a call for aid funded by the European Maritime and Fisheries Fund 2014-2020 to the Ministry of Agriculture, Food and Environment to research JACUMAR National Aquaculture Plans. It is entitled: 'Development and implementation of contingency plans and recovery of escaped fish from coastal aquaculture facilities'. It has letters of support from members of the Canarian small-scale sector, including some SWW-AC members, committing us to participating in the project where we can take our place.

#### Posibles métodos de recaptura

<p>Salemera (usada en La Palma)</p>  <p>25% recaptura</p>	<p>Moruna (Mediterráneo)</p>  <p>54% recaptura</p>
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¡Ojo! Supervisada para evitar capturas de otras especies.

## 5.- MANAGEMENT OF SEA BASS.

### 5.1- Removal of minimum size restriction.

We have seen that the sea bass is a locally absent species as well as the serious damage that it can inflict on small scale fisheries because of hunting of the fry of other species. Therefore, we consider it appropriate to eliminate the minimum size in the fishing zone. Nevertheless, scientists consider that the wild populations in Lanzarote and Fuerteventura, which have not yet been studied, should be protected. In the light of national and EU regulations, we consider that the best option would be:

1) To eliminate the minimum size in most of the fishing zone at EU regulation level: EU regulations establish a minimum catch size of 36 cm (2) in regions 1 to 5, except in Skagerrak/Kattegat. Therefore, we must ask that the following exception be introduced in this Annex of Regulation (EC) No 850/98: 'Except for sea bass caught in OCAFC area 34.1.2 of the Canarian fishing zone where no minimum size shall be applied.

2) *To introduce the minimum size of the sea bass for the local wild populations of Lanzarote and Fuerteventura at national regulation level:* The minimum size of the sea bass should be changed twice because otherwise it is likely to remain at 22 cm, which is the value set out in this regulation.

When the populations of Lanzarote and Fuerteventura have been well studied and demarcated geographically, we will ask for a second modification to introduce the size established by EU regulations. Currently, it is 36 cm. In the case of small geographical areas, we consider it more appropriate to act at national rather than EU level.

### 5.2- Modification of the regulation for the Canarian fishing zone.

In the Canaries, sea bass could be recovered using encircling techniques, distinguishing between three types of 'traíña' or sardine boat net, 'chinchorro de aire' or 'hamaca' and 'salemeras'. Order AAA/2536/2015 (4) defines these techniques, establishes their technical applications and the lists of authorised principal and by-catch species for each of them.

The sea-bass is not included in any of these lists, therefore fishing it by encircling is currently prohibited. Thus Article 9 (1) and (3) need be amended so that sea bass is added to the list of authorised principle species for 'traíña' and 'hamaca' (9.1) and 'salemera' (9.3).

We propose that this be debated by the fishermen's federations and that a request then be made to the Ministry.

## 6.- Need to reorientate aquaculture and stimulate research.

- **Precautionary Approach in Aquaculture:** In view of the experience gained in the Canary Islands, it is clear that a precautionary approach must be rapidly adopted and that no locally absent species should be farmed in the future. Farming the croaker, *Argyrosomus regius*, a more powerful predator than the sea bass, should not be,

permitted under any pretext. The effects could be even worse than in the case of the sea bass.

The impact of escapes on small-scale fishery fleet productivity should also be studied.



Croaker escaped from aquaculture facilities in Gran Canaria, weighing less than 0.5 kg, recently caught. Photo taken by: José Antonio González

- **Research:** We considered it necessary to promote research on escapes by going into further depth on aspects such as: minimising the impact of escapes, quantifying escape impacts on fisheries, studying the distribution of the species (proper classification of the populations of Fuerteventura and Lanzarote), going into more depth on certain biological aspects of the species (adaptation when escapes occur, quantify hunting impact, genetic studies to see if wild populations mix with populations returned to the wild), etc.

The development of these lines of research would help us better manage the escapes of these species, particularly escapes of sea bass.

### 7.- Another mentality for the small-scale fishing sector.

Most of associations in the fisheries sector have seen this habitual activity as competition. However, the first party wanting to reduce the impact of escapes on fishery resources and to prevent the reintroduction of locally absent species etc. is the sector itself. This is not only of concern to fisheries, but also for environmental, socio-economic and health reasons (escapes of fish under treatment or suffering from disease).

To this end, we have given our support to the project cited previously as part of the Contingency and Recovery Plan submitted by the University of Alicante.

## 8- Various considerations raised outside the Insular Working Group.

Following the last Executive Committee meeting in Madrid in November 2016, several members of the Committee made several observations and asked for certain points to be specified within the draft opinion:

- 1) Unfair competition on the market for wild sea bass from other regions: it is thought that the sale of sea bass caught from wild populations will not lead to any competition, let alone unfair competition. There are no quantitative estimates for these populations but it is thought that there will not be any competition.

Currently, the Government of the Canary Islands is in the process of developing an Intervention Plan to minimise the harm caused by escaped stocks. This plan envisages, among other actions, prohibiting the sale of catch of escaped fish through first sale outlets. Consequently, there will be no opportunity for these catches to compete with catches from continental waters.

The question of the wild sea bass of Lanzarote and Fuerteventura must also be clarified. The populations of this fish still haven't been studied, but we do not have first sale data for this species because there is little or no professional activity with respect to this species in these islands. On the other hand, we do have information on recreational fishing catches. Obviously, these are not likely to have an impact on sales either.

It is nevertheless considered that any prejudice to sales should not constitute an argument that may hinder the establishment of a report claiming to minimise the impact of a locally absent species that should not have been introduced, and which causes damage to extractive fisheries, by the predation of fry of species of commercial interest.

- 2) Regulatory difficulties: It may be difficult to introduce an amendment to Regulation 850/98 relating to technical measures and taking account of regionalisation or, failing this, to amend the regulation that repeals it. This regulation is at discussion stage. On the other hand, in Report No. 110, our AC suggested focus be placed on the general direction rather than going into details, which could lead to contradictions.
- 3) For all these reasons, we are open to any solution which the Commission may provide. One possible option would be to introduce this request for the removal of size restrictions through a Delegated Regulation on discards, as happened for anchovy. This may be the most viable solution.
- 4) Possible confusion with the management of sea bass in the northern zone (size, total allowable catch): this argument is not viable because we are not treating the sea bass as a present species. It is a species that normally does not exist locally and should not have been introduced by aquaculture, and what needs to be minimised are its negative effects on fisheries due to predation of fry. The northern zone and the Canary Islands are therefore two very different cases. They are very distinct populations, with their own specific problems and management. The two examples cannot be amalgamated.
- 5) A preventive approach to protecting any wild populations in the specified zones of Lanzarote and Fuerteventura: with this proposal, we are taking into account the preservation of any wild populations that might exist. Populations that have not yet

been studied. We have adopted the maintenance of the minimum size in the zones where these populations are supposed to be located, at the request of the research group that advised us and which is specialised in this area. We are, then, counting on responsible management, based on adequate scientific advice.

At present, the competent fishing authorities are working on the revision of minimum sizes. The draft opinion will therefore be sent to them and they will be put in contact with the University of Alicante research group in order that the minimum EU size for sea bass be introduced in the areas to be determined for Lanzarote and Fuerteventura, should the minimum size be removed in the fishing zone generally.

### **9- Recommendations to the European Commission. Steps to be taken with the competent administrations: MAGRAMA and the Autonomous Government Ministry of Agriculture, Livestock, Fisheries and Water.**

9.1) Throughout this draft opinion, we have justified the advantage of eliminating minimum size for sea bass (*Dicentrarchus labrax*) in most of the Canary Islands fishing zone, OCAFC Area 34.1.2. For all these reasons, the Canary Islands fishing sector makes the following requests to the Commission:

**The SWW-AC calls on the European Commission to amend Annex XII of Council Regulation (EC) No 850/98 of 30 March 1998 for the conservation of fishery resources through technical measures for the protection of juveniles of organisms, as last amended by Regulation (EU) No 2015/812 of the European Parliament and the Council of 20 May 2015. Specifically, it is requested that in the section concerning the minimum size of sea bass that the following exception be introduced: 'Except for sea bass caught in OCAFC area 34.1.2 of the Canarian fishing zone where no minimum size shall be applied.'**

**Should Regulation (EC) No 850/98 be repealed shortly by the European Parliament and Council Regulation on the conservation of fishery resources and the protection of marine ecosystems through technical measures, we request that this size be eliminated through this new Regulation.**

**Once the wild populations of Fuerteventura and Lanzarote have been studied, the sector undertakes to ask the Ministry to introduce size regulations at national level.**

At the level of the competent fisheries administrations, the sector undertakes to discuss, initially within the sector, all the changes needed to achieve the proper management of this species (minimum size, allow catch by encircling in the professional fishery and modification of fishery limits in the recreational fishery). Subsequently, these changes will be submitted to MAGRAMA and the Autonomous Government Ministry for technical discussions. To facilitate this, we will request the participation of technicians from the University of Alicante group.

**We also urge these competent bodies to apply precautionary guidance to locally absent species in the future. Finally, we ask that cage escape research be ramped up to minimise the impact of such escapes on small-scale fishing activities.**

9.2) Considering the elements indicated in paragraph 8 on the difficulty of getting accepted changes in proposed measures, which may not be viable and bearing in mind that these measures may be in contradiction with the generalist approach set out in Draft Opinion 110 on the Regulation relating to technical measures, when concrete and detailed measures are proposed:

**We therefore wish to make it clear that we are open to any other solution that allows for the removal of the size restriction. We consider that removing this restriction under a Delegated Regulation on discards is a good option, as happened with anchovy. We would like this option to be considered, or any other option thought to be more effective.**

9.3) To prevent any distortion of the market, the SWW-AC recommends that, sea bass that have escaped from aquaculture farms and smaller than the minimal size should not be marketed outside the Canary Islands.

**Contributions received from:** Members of the SWW-AC from the Canaries.

**Drafting and synthesis:** José Manuel Ortiz (Technical Coordinator of the Insular Working Group).

**Contributions from:** Dr Killian Toledo Guedes (Researcher in the Department of Marine Science and Applied Biology at the University of Alicante) and María Ninoska Pavón Salas (GMR-Canarias, Head of the Fisheries Sector, GMR-Canarias).

*\* Opinion validated by the Executive Committee, during the period of suspension of environmental NGOs.*

## **Annex 1: REGULATIONS**

### **EU REGULATIONS**

**(1): Council Regulation (EC) No 708/2007**, of 11 June 2007 concerning use of alien and locally absent species in aquaculture

In this regulation, we are especially interested in Article 3.7, where the concept of 'locally absent species' is defined, and Article 17, which establishes the obligation to draw up a contingency plan in the event of escapes.

**ARTICLE 3.7: (Definition of locally absent species):** 'locally absent species' means a species or subspecies of an aquatic organism which is locally absent from a zone within its natural range of distribution for biogeographical reasons.

**ARTICLE 17: Contingency Plans:** For all non-routine introductions and pilot releases, the applicant shall draw up a contingency plan for the approval of the competent authority, which shall include, inter alia, the removal of the introduced species from the environment, or a reduction in density, for unforeseen events with negative effects on the environment or on native populations. If such an event occurs, the contingency plans shall be implemented immediately and the permit can be withdrawn, temporarily or permanently as per Article 12.

**(2): Council Regulation (EC) No 850/98 of 30 March 1998 concerning the conservation of fishery resources through technical measures for the protection of juveniles of organisms, as last amended by REGULATION (EU) No 2015/812 of the European Parliament and the Council of 20 May 2015.**

### **NATIONAL REGULATIONS**

**(3): Royal Decree 560/1995 of 7 April** establishing the minimum sizes of certain species for fishing in relation to certain minimum permitted sizes for the Canary Islands fishing zone, as amended by Royal Decree 1076/2015 of 27 November.

For the Canary Islands fishing zone, the size of the sea bass is 22 cm.

**(4): Order AAA/2536/2015 of 30 November** regulating the techniques and modalities of sea fishing and establishing a management plan for the census vessels of the Canary Islands fishing zone. Last modified by Order AAA/63/2016 of 26 January.

The definition of these techniques can be found in Article 2.5, technical measures in Article 8 and the list of authorised principal species and by-catch species for each of them in Article 9, Chapters 1 and 3. The sea bass is not listed in any of them.

## **ANNEX 2: BIBLIOGRAPHY**

### **DOCTORAL THESIS:**

- 'Asilvestramiento de los peces introducidos por la acuicultura y sus efectos ecológicos potenciales: el caso de la lubina, *Dicentrarchus labrax* (Linnaeus, 1758), escapada en las Islas Canarias.' Kilian Toledo Guedes. Universidad de La laguna. 2013.

### **PUBLICATIONS:**

- APROMAR (2015). La acuicultura en España 2015. Ed. APROMAR. 89 pp.

- Toledo-Guedes K, Sanchez-Jerez P and Brito A (2014). Influence of a massive aquaculture escape event and its influence on artisanal fisheries. Fish. Manag. Ecol.

- Mora-Vidal J, Toledo-Guedes K. and Alberto Brito (2010). Doradas (*Sparus aurata*) escapadas de las jaulas de cultivo en Tenerife: recursos explotados, abundancia y cambios post escape. In: Bayle Sempere JT (coord.), Valle Perez C, Sanchez Lizaso JL, Forcada A, Sanchez Jerez P, Giménez Casaldueiro F, Fernandez Torquemada Y, Gonzalez Correa JM, Oliviera Pires S and Ramos Esplá AA (eds.). XVI Simposio Ibérico de Estudios de Biología Marina: Bases científicas para la gestión sostenible de la biodiversidad marina. Libro de resúmenes. 231 pp.

- Toledo-Guedes K, Sanchez-Jerez P, Benjumea ME and Brito A (2014 b) Farming-up coastal fish assemblages through a massive aquaculture escape event. Marine Environmental Research.

-Toledo-Guedes K, González-Lorenzo G, Sanchez-Jerez P, and Brito A (2008) Dieta de la doreada (*Sparus aurata*) escapada de las jaulas de cultivo en Canarias. XV Simpósio Ibérico de Estudos de Biologia Marinha, Funchal, 9-13 de septiembre. Libro de resúmenes p.192.

- Toledo-Guedes K, Sanchez-Jerez P, González-Lorenzo G and Brito Hernández A (2009). Detecting the degree of establishment of a non-indigenous species in coastal ecosystems: sea bass *Dicentrarchus labrax* escapes from sea cages in Canary Islands (Northeastern Central Atlantic). Hydrobiologia. 623(1): 203-212.