STRESSOR ANALYSIS

EU JURISDICTION: PORTUGAL

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ARNET AQUATIC RESEARCH NETwork

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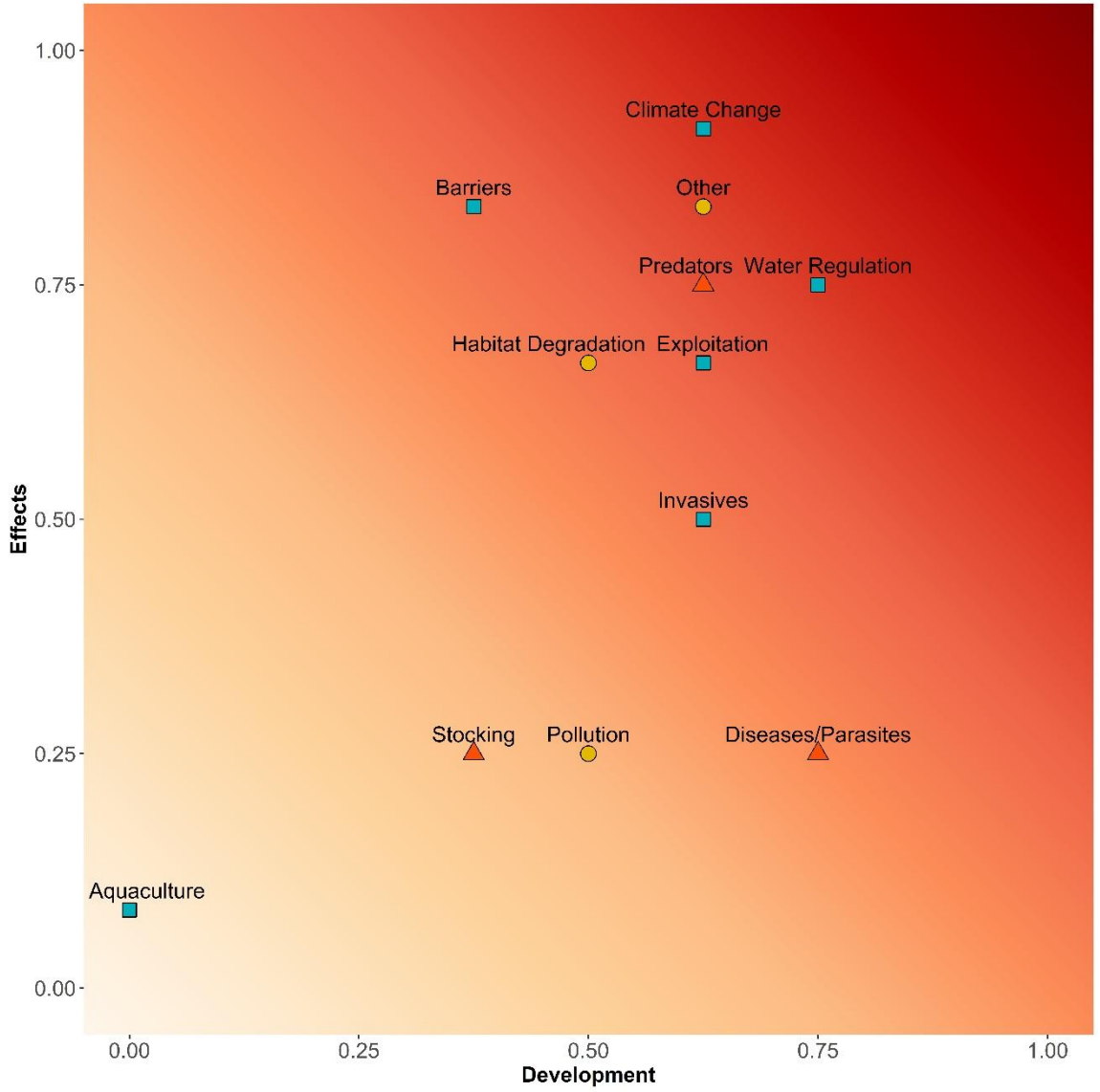
Atlantic Salmon in Portugal: distribution and abundance

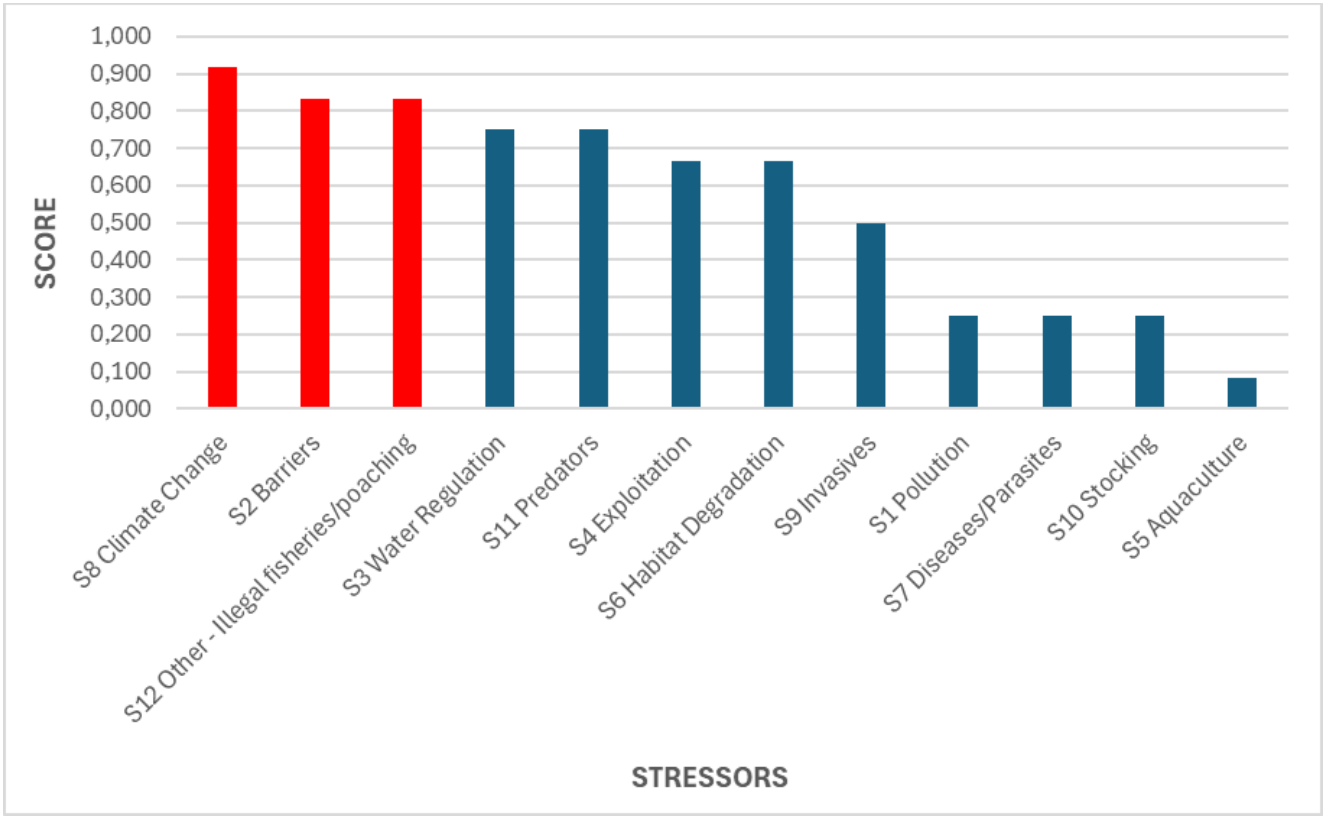
- Minho River has the “largest” population of Atlantic salmon in Portugal;
- High commercial value but low abundance. Catches were never very high (*e.g.,* 1886 only 300 salmons were officially caught);
- Lima River is the southern limit of confirmed salmon spawning;
- Occasional catches in Cávado and Douro rivers;
- An estimated reduction of 90% on adult fish in the last 25 years.

Small Populations, Big Threats

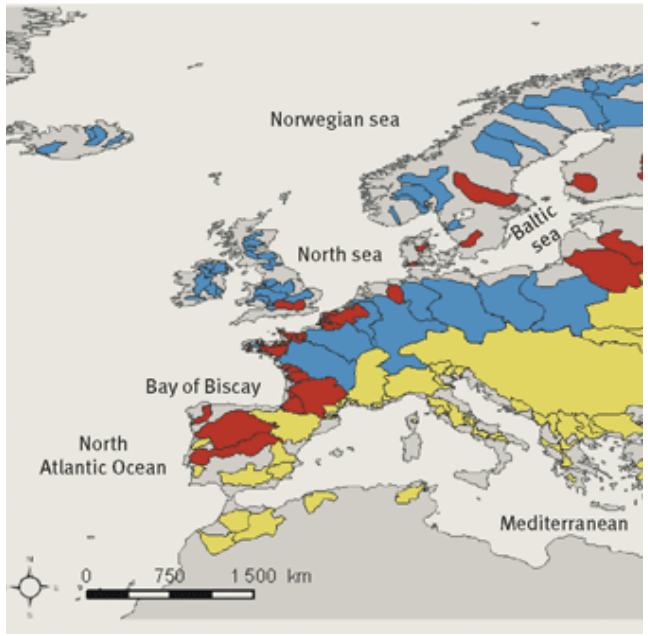
STRESSOR ANALYSIS – MAIN THREATS



- **Main threats:**
  1. **Climate change;**
  2. **Barriers;**
  3. **Illegal fisheries/poaching.**



CLIMATE CHANGE



Atlantic salmon (Lassalle et al., 2008)

Portugal represents the Southern-limit of the whole species distribution range;

Southern european area highly affected by climate change, with increased and prolongued droughts and frequent occurrences of extreme weather conditions;

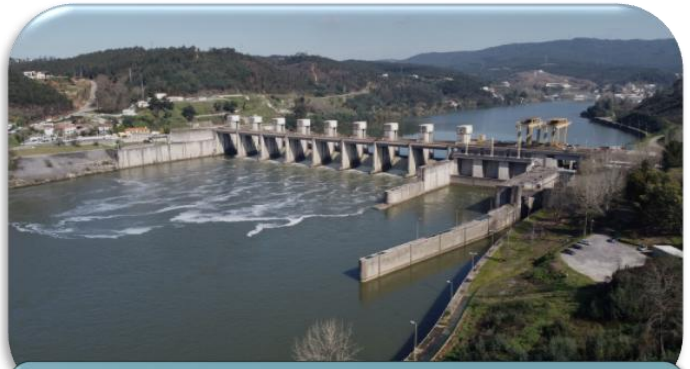
Several modelling exercises foresee the disappearance of salmon from most of this area in a matter of 50-100 years due to climate change.

Challenges:

- **Moderate potential for applying measures to mitigate local impacts of climate change;**
- **Habitat restoration and/or reinforcement of population effectives can help the resilience of the species;**
- **Local environmental specificities foresee little success on effectively mitigate this impact;**
- **Even most optimistic scenarios describe an increase in climate change effects on aquatic ecosystems.**

1. Potential for effective measures	2 (Moderate)
2. Likelihood of further negative impacts	3 (Large)

BARRIERS

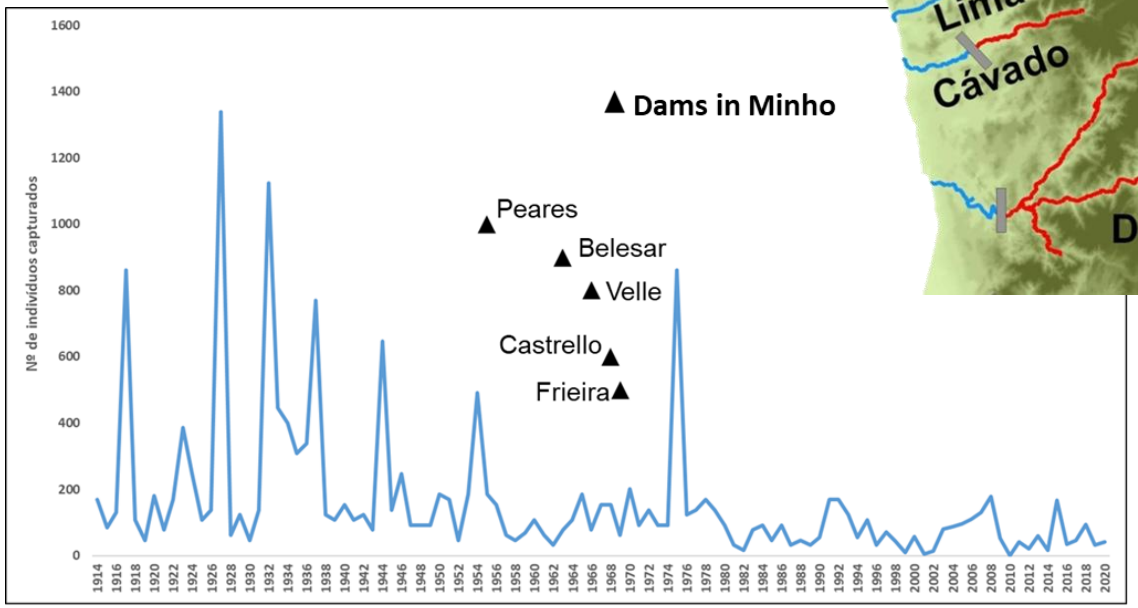


Barriers/Habitat Fragmentation

Severe habitat fragmentation in tributaries;

But high potential for mitigation, due to past and ongoing restoration programs;

National Program for the Removal of Obsolete Barriers.



Fonte: Capitania Caminha (Rio Minho)

Available habitat

Inaccessible

Challenges:

- **Lack of restoration standards, objectives and priorities;**
- **Bureaucracy and reduced funding threatens timely restoration.**

1. Potential for effective measures	1 (High)
2. Likelihood of further negative impacts	2 (Moderate)

ILLEGAL FISHERIES/POACHING

Illegal fisheries/Poaching

Commercial fishing is only permitted in the international section of the Minho River;

Illegal catches continue to be recorded in prohibited areas;

Also, accidental catches are a significant threat;

Affects spawning migration but also jeopardises the viability of future generations of the species.

Challenges:

- **Lack of effective fishing regulations and surveillance;**
- **Economical value: 30-40€/kg in Minho;**
- **Social and cultural value: most fishers do not return, neither sell, the first salmons caught.**

1. Potential for effective measures	2 (Moderate)
2. Likelihood of further negative impacts	3 (Large)

TAKE HOME MESSAGE FROM PORTUGAL

1. Habitat fragmentation and illegal fisheries/poaching are some of the main threats for Portuguese salmon populations;

2. Their impacts are significantly exacerbated by the high vulnerability of Southern european regions to climate change;

3. Streamflow regulation by hydroelectric dams, fisheries exploitation in Minho and habitat degradation are also severely and negatively impacting salmon in Portugal;

4. There is potential for mitigation and impact prevention – varying between stressor – but implementation is often impaired by lack of knowledge, reduced funding and logistics and/or high level of bureaucracy

5. Future of national Atlantic salmon populations is impaired and there are significant doubts about long-term survival.

IBERIA

URGENT TO IMPLEMENT CONSERVATION AND MANAGEMENT PLANS AT A TRANSBOUNDARY LEVEL

ATLANTIC ARC

Thank you!

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