# IUU fishing impacts: a systematic review of evidence and proposed future agenda

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#### What is IUU?

- Illegal
  - Fishing without permission from that State or in contravention of the State's regulations
- Unreported
  - Fishing that has not been reported, or has been reported incorrectly, to the State
- Unregulated
- Operationalising "unregulated" can be a bit tricky in an EEZ context



#### **Problem statement**

- Global phenomenon
  - Illegal: **US\$10-24 billion**, **11-26 million tonnes** (2009)
  - Unreported: **US\$41 billion**, **28 million tonnes** (2015)
- Environmental, economic, social and taxpayer costs
  - Undermines management
  - Lost income, jobs, taxes
  - Labour abuses
  - Hurts communities
- UK post-Brexit
  - 1st January 2021: UK no longer subject EU's CFP
  - Opportunity for reform



Agnew et al. Estimating the worldwide extent of illegal fishing, PLOS One, 2009
Pauly, D., Zeller, D., Catch Reconstruction: concepts, methods and data sources. Online
Publication. Sea Around Us (www.seaaroundus.org). University of British Columbia, 2015.



### **Aim**

#### Long term aim

UK a global leader in the control of IUU fishing

#### **Vision**

- Opportunity for reforms
- Benefit the fishing industry and the marine environment

#### **Premise**

Understanding IUU in the UK key to effective management

#### **Questions**

- What do/don't we know of IUU activity in the UK waters?
- What should are the future priorities for UK?



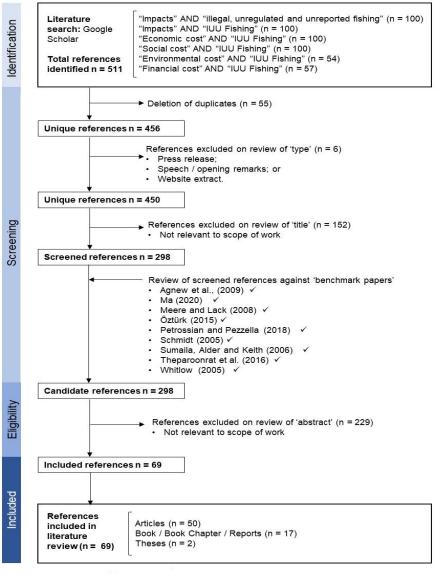


### Method

- Systematic review
  - International
  - Europe/North East Atlantic
  - UK



- Data from Sea Around Us database
- Discussions with FAO
  - Data needs and methods for IUU estimation
- Discussions with MMO & Defra
  - Enforcement and taxpayer costs



Pauly, D., Zeller, D., Catch Reconstruction: concepts, methods and data sources. Online Publication. Sea Around Us (www.seaaroundus.org). University of British Columbia, 2015. MMO, Annual Report and Accounts: 1 April 2019 to 31 March 2020 (No. HC 1056), 2020.



### Results

- Illegal estimates Northeast Atlantic (2009)
  - ~ 364–842 thousand tonnes
  - ~ US\$328-758 million
- National estimates on unreported (2015)
  - ~ 27 thousand tonnes by UK fleet
  - ~ US\$72 million (approx. £55 million)
- At least 10 other States believed to conduct unreported fishing in UK waters
  - ~ 75 thousand tonnes
  - ~ US\$197 million
- Social impacts poorly understood
  - Possible job losses of 3-4 thousand





### Discussion – UK vessels

- Estimates exist for IUU from UK vessels
  - Likely inaccurate
  - Out of date
- Information at fishery, species, geographic levels unavailable
  - Key for targeted measures
- Limits ability to target and apply appropriate enforcement measures

**27,000** tonnes

US\$72,000,000



# Discussion – Foreign Vessels

- Not just UK vessels committing IUU offences in UK waters
- Foreign fleets large contributors
  - Netherlands = 39 thousand tonnes, US\$92 million
  - France = 11.4 thousand tonnes, US\$33 million
  - Germany = 10.1 thousand tonnes, US\$30 million
- Changes in fisheries dynamics post-Brexit a key focus
- Potential for imported IUU goods poorly understood

**75,000 tonnes** 

US\$197,000,000



### **Discussion**

- **Social** costs difficult to quantify
  - "Unrealised opportunities" e.g. jobs
  - Labour abuses
  - Likely much lower than in low-governance regions
- **Environmental** costs difficult to quantify
  - Impacts ecosystem structure and function
  - Undermines fisheries stock assessment
  - Undermines management



### Conclusion

- UK data low resolution
- Need to maximise effectiveness of funds in combating IUU
  - Higher resolution understanding key
- Triage approach, prioritising high risk fisheries
  - Identify
  - Prioritise
  - Estimate
  - Action



There are three main areas of research regarding the impact of IUU to the UK that are required to understand it's impacts on and implications for the UK: a) IUU catches which enter the UK; b) IUU catches which leave the UK EEZ without ever entering the UK; and c) IUU catches which leave the UK EEZ but are discarded at sea a. Understanding IUU activities b. Understanding IUU activities c. Understanding IUU activities and resultant products which and resultant products which originate from the UK enter the UK seafood supply which originate from the UK EEZ but do not enter the EEZ and enter non-UK seafood seafood supply chain supply chains. This research primarily encompasses the 'processing & This research primarily This research encompasses only provisioning' and 'landings' encompasses the 'at sea 'at sea activities' element of IUU elements of IUU i.e., IUU activities' and 'landings' elements i.e., IUU catches originating from products originating from the UK of IUU i.e., IUU products the UK EEZ that are discarded at EEZ that are being landed in the originating from the UK EEZ UK, or IUU products caught being landed overseas. elsewhere and imported to the UK, including the associated illicit trade of both routes. a.i. Undertake risk assessment b.i. Undertake risk assessment c.i. Undertake risk assessment to identify high risk units of to identify high risk units of to identify high risk units of assessment (e.g., fisheries / assessment (e.g., fisheries / assessment (e.g., fisheries / fleets / species) in terms of likely fleets / species) in terms of likely fleets / species) in terms of likely value (£) and volume (Tt) value (£) and volume (Tt) volume (Tt) or environmental risk Example risk frameworks include: Example risk frameworks include: Example risk frameworks include: 1. MRAG Rapid IUU Risk 1. MRAG Rapid IUU Risk 1. MRAG Rapid IUU Risk Assessment Assessment Assessment 2. CRAAVED 2. CRAAVED 2. CRAAVED 3. WWF's Traceability Principles Risk assessment for: Risk assessments for: i. Landings of undeclared catch Discards from catches within Separate risk assessments overseas caught in UK EEZ UK EEZ needed for: i. UK Landings ii. Imports from outside UK Assessment criteria may include: Assessment criteria may include: species value, species demand stock status, CITES species, low Assessment criteria may include: overseas relative to UK market, value species, non-quota value and volume, origin fisheries destination fisheries governance species, choke species, strength, vessel flag state, access abundance of undersized fish, governance strength, WB corruption index. EU carding. to ports of convenience etc. species life-history etc. access to ports of convenience, stock status, catch quotas etc. ii. Define data requirements to understand what data is already collected and what data is needed and then collect data Data could include: · FAO indicators from published guidelines · Seafish social and economic indicators · Genetic tools for identification of source stocks and species misidentification iii. Estimate IUU volume (tonnes per species) iv. Estimate costs of IUU Economic, environmental, social, taxpayer Review and remove incidences of double counting.

v. Economic appraisal on policy options to combat IUU fishing in the UK.



## **Next Steps**

- Working with Defra on higher-resolution estimates the costs of IUU in UK waters
  - Economic, Environmental, Social and Taxpayer
  - Within UK EEZ
  - Imported IUU
  - Breakdown by species, fleets
- Iterative estimation with stakeholder engagement and inputs
  - Stakeholders can see and help adjust estimates
  - Interested parties please be in touch
  - <u>s.mangi.chai@mrag.co.uk</u> or <u>a.temple@mrag.co.uk</u>
- Thank you

