



Ministry of Economic Affairs

Pulse fishing: a 10 year anniversary

21 June 2017



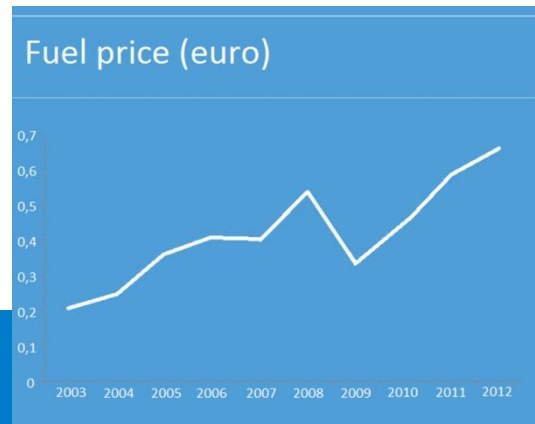
Why pulse fisheries?

Seabed disturbance...



Large number of discards...

... and high fuel consumption





1990-2007

- First experiments with prototypes in '90s
- First trial in North Sea by UK153
- ICES advice with recommendations for further research



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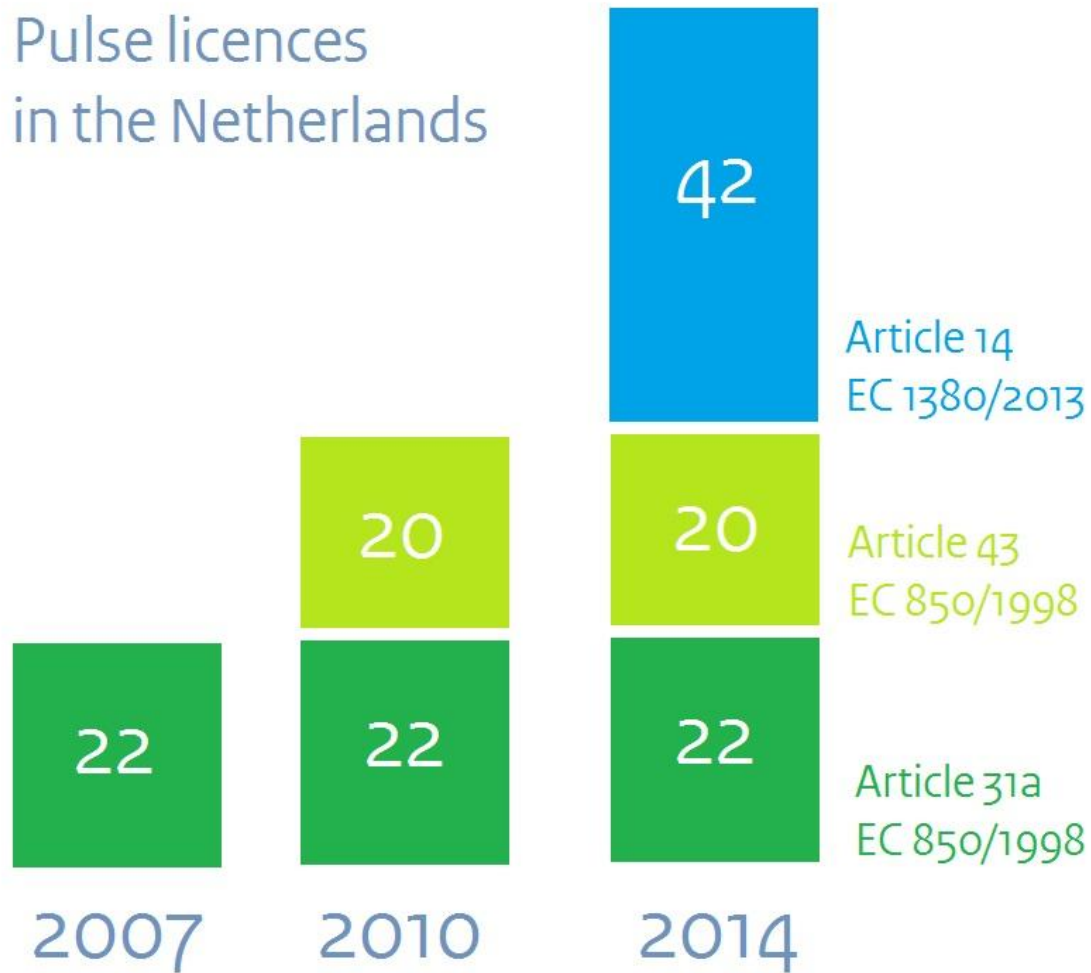
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2007-2014

- Derogation for 5% of beam trawl fleet
- Advices by STECF and ICES on long term effects and control issues
- Researching direct effects of pulse on marine life, fuel consumption and seabed
- Catch comparison by Dutch fleet



Pulse licences in the Netherlands





What do we know?

- Higher selectivity for sole
- Lower catch efficiency for undersized fish
- Lower catch efficiency for benthos (-50%)
- Lower penetration depth
- Lower foot print/sea floor swept area (-23%)
- Lower fuel consumption (-46%)
- Change in spatial distribution
- Occurrence of injuries in cod and whiting (bone fractures, haemorrhages)
- No injuries detected in sole, dogfish, dab, shrimp, ragworm
- Shrimp exposed to 200 V/m revealed a higher severity of a virus infection



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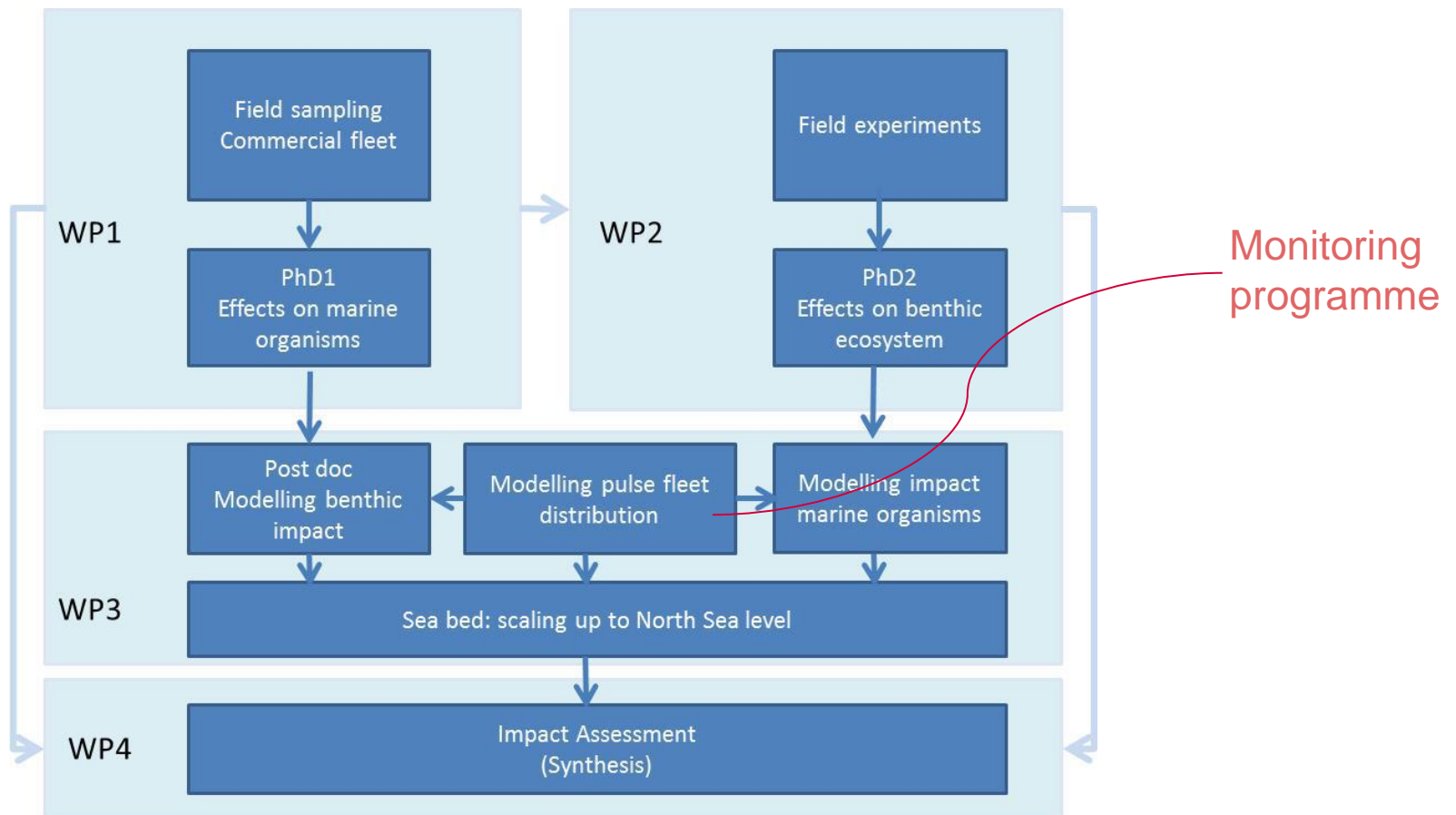
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2014-2020

- NL Pilot project in North Sea
- Distinction between flatfish and shrimp pulse
- Researching long term impact, change in fishing behavior;
- Monitoring programma with all Dutch pulsetrawlers participating
- Revising and improving legal framework, control and enforcement



What is still in research?





Control and enforcement

- In the Netherlands: revision of the regulatory framework and the control system:
- Covers requirements in technical measures regulation
- further requirements on maximum voltage of 60V
- technical dossier basis for inspection
 - composition of electrodes
 - size and material
 - net and ground rope
- distinction between flatfish and brown shrimp pulse

Work in progress:

- (inter)national standardisation/normalisation of pulse gear
- linking pulse values to blackbox/VMS/ERS signal



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>2020

- Finalising long term impact assessment
- Assessment by ICES and STECF
- If no significant negative impact; allowance of pulse in the Southern North Sea



Thank you for your attention





ICES advice (1, summary)

1. If properly understood and adequately controlled, electric pulse stimulation may offer a more ecologically benign alternative [to conventional beamtrawl] and could reduce fishing mortality on non-target species. [...] While the systems currently used do not appear to have major negative impacts, ICES considers that the existing **regulatory framework** is not sufficient to prevent the introduction of potentially damaging systems [More detailed NL regulatory framework from Dec 2016].
2. ICES advises to undertake structured experiments that are able to identify the key pulse characteristics and thresholds below which there is no evidence of significant long-term negative impact on marine organisms and benthic communities [started Sep 2016].
3. ICES also recommends that as part of the regulatory framework, information on the pulse parameters used during fishing operations is made available to the scientific community as this information is needed to conduct assessments of the ecological impact of the pulse fisheries [started Jan 2017].
4. ICES recommends that a research programme should be set up to address outstanding issues, including long-term and/or cumulative effects of flatfish [started Jan 2016] and shrimp pulse trawling [starts June 2017].



ICES advice (2, summary)

5. ICES advises not to generalize from the results of the research carried out to date to allow expansion of the use of the pulse trawl outside the current area and fisheries allowed for in the current legislation. Extending the use of similar technology in other fisheries without a comprehensive environmental impact assessment would not be consistent with the precautionary approach. ICES considers that opportunities to trial fishing by electrical means in other fisheries should be made available in a structured, incremental way to allow for such impact assessments [no further extension by NL, proposal for trials in NWW by BEL] .
6. The risk of negative impacts on species and habitats covered by the Natura 2000 directives is considered low in the current area fished and with the current pulse characteristics.