

What fish is on your plate? Commission scientists publish report on how new technologies can tackle fishing fraud

Low-cost catfish fillets sold as expensive sole fillets or cod caught in the North Sea but declared as originating from the Baltic Sea are both examples of types of fraud in the fisheries sector. A European Commission report published today shows how molecular technologies - based on genetics, genomics, chemistry and forensics - can provide clear answers to questions such as "what species does this fish product come from....where was this fish caught....is it wild or farmed?". The report by the Commission's Joint Research Centre (JRC), is called "[Deterring illegal activities in the fisheries sector](#)" and shows how these technologies can help in the fight against illegal practices and support traceability- including of processed products such as canned fish - "from ocean to fork".

Presenting the report at the "Slow Fish" event in Genoa, European Commissioner for Maritime Affairs and Fisheries Maria Damanaki said: *"Illegal fishing is said to be worth €10 billion euro per year worldwide. It is a criminal activity which negatively affects the global economy, disrupts marine ecosystems, and damages fisheries communities and consumers. Without respect for the rules in EU waters and beyond, there can be no sustainable fisheries. Today marks a first step into a new era, the challenge now will be transferring this new science into day-to-day practice across Europe."*

Máire Geoghegan-Quinn, European Commissioner for Research, Innovation and Science and the Commissioner with lead responsibility for the JRC said: *"This crucial report by the Commission's in-house scientists at the JRC shows how the wider and more coordinated use of innovative molecular technologies can help foil fisheries fraud and make sure consumers get what they pay for and know what they are eating."*

Labelling fish and fish products with a false species name or declaring false geographic origins are two common fraudulent techniques in the fisheries sector. The report describes how molecular methods, such as those based on DNA-technology, make it possible to identify species even in processed products, without the need for expert knowledge. Molecular technologies are therefore a powerful tool for independent control and can assist verification procedures, especially during the so-called "physical examination" of a consignment, product, container, storage place, etc.

The JRC report advocates a coherent and practical EU-wide approach towards making new molecular technologies available to European control and enforcement authorities.

It aims to promote an informed dialogue among the various stakeholders and proposes the following concrete measures:

- stepping up dissemination of relevant information and advice to all stakeholders;
- giving analytical laboratories in the Member States access to common repositories of reference data and other relevant knowledge for the analysis of fish and fish products. These repositories could be similar to the "fishtrace" database (www.fishtrace.org), hosted by the JRC;
- a network of certified test laboratories to carry out analysis for control and enforcement purposes and to share harmonised and validated analytical protocols;
- ensuring full training of inspectors and laboratory staff for proper sample handling and analysis.

The JRC is currently assessing costs and benefits based on data from more than 100 reported cases to facilitate the practical implementation of the technologies concerned. The costs of many of these technologies, in particular for DNA analysis, have been falling sharply.

Background

To improve the traceability of fish products and combat illegal fishing, the Commission is currently investing in the implementation of the IUU regulation (see [MEMO/09/2002](#)), under which all marine fishery products must be accompanied by validated catch certificates. It is up to competent authorities in the Member States to validate certificates. State-of-the-art control technologies, like the ones described in the new JRC report, can contribute to this process.

Slow Fish 2011, in Genoa (Italy) from May 27 to 30, is the fifth biannual international event dedicated to the world of fish and marine ecosystems. Debates, meetings, workshops and tastings will focus on sustainable fishing and responsible seafood consumption.

Glossary

Genetics: The study of heredity and heritable variation in organisms. In this case, the study of genetic markers to reveal differences between species or differences between groups (populations) of the same species.

Genomics: The study of a large number of genes or genetic markers in the genome. Today 'high throughput sequencing' allows sequencing of huge stretches of DNA (whole genomes) in a short time.

Forensics: Scientific discipline dedicated to the methodical gathering and analysis of evidence to establish facts that can be presented in a legal proceeding. (In short: the application of scientific analysis to inform criminal investigations)