ECsafeSEAFOOD

Priority environmental contaminants in seafood: safety assessment, impact and public perception

Grant agreement no: 311820

Deliverable D7.6

Progress report on dissemination and Knowledge Transfer for year 2

Due date of deliverable: M24

Actual submission date: M24

Start date of the project: 02/2013 **Duration:** 48 months

Organisation name of lead contractor: AquaTT

Revision: V1

Project co-funded by the European Commission within the Seventh Framework Programme (2007-2013)	
Dissemination Level	
PU Public	x
PP Restricted to other programme participants (including the Commission Services)	
RE Restricted to a group specified by the consortium (including the Commission Services)	
CO Confidential, only for members of the consortium (including the Commission Services)	

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Glossary

ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception.

Foreground: 'Foreground' means the results, including information, whether or not they can be protected, which are generated by the indirect action concerned. Such results include rights related to copyright, design rights, patent rights, plant variety rights or similar forms of protection [Rules for Participation, Art 2.4].

Dissemination: A one-way communication and promotion activity for raising awareness of a research project and its aims and objectives. *(Definition developed by AquaTT in the context of a glossary project (October 2013))*

Knowledge: Includes intellectual property rights and related know-how, information, data and other intellectual assets. Technical information including discoveries, concepts, methodologies, models, research, development and testing procedures, results of experiments, tests and trials, manufacturing processes, materials, formulae, formulations, processes, research or experimental results, techniques and specifications, quality control data, and analyses. Knowledge is not limited to scientists and is not limited to technology information. Knowledge differs from data or information in that new knowledge may be created from existing knowledge by extension of logic. *(Definition developed by AquaTT in the context of the MarineTT project (April 2012))*

Knowledge Output: A "Knowledge Output" for the purposes of this project is the term used to describe a unit of knowledge that has been generated out of a scientific project. It is not limited to de-novo or pioneering discoveries but may also include new methodologies/processes, adaptations, insights, alternative applications of prior know-how/knowledge. *(Definition developed by AquaTT in the context of the MarineTT project (April 2012))*

Knowledge Transfer: Knowledge Transfer is the process of creating, organising and capturing/sharing/distributing knowledge to ensure its availability for future users. Knowledge Transfer encompasses both commercial and non-commercial activities such as research collaborations, consultancy, licensing,

spin-off/spin-out creation, researcher mobility, publications, etc. Knowledge Transfer aims to support mutually beneficial collaborations between universities, businesses and the public sector. *(Definition developed by AquaTT in the context of the MarineTT project (April 2012))*

Summary

Objectives

To report on the dissemination and transfer activities carried out within the framework of the ECsafeSEAFOOD project in the period M13-M24.

Rationale

The overall objective of ECsafeSEAFOOD is to assess safety issues related mostly to priority contaminants present in seafood as a result of environmental contamination (including those originating from harmful algal blooms and those associated with marine litter) and evaluate their impact on public health. The project will support the provision of safe seafood to consumers and reduce human health risks.

Knowledge resulting from ECsafeSEAFOOD will play a pivotal role, not only in the way in which seafood is consumed, but also in how it is processed and regulated. In the long term, the project will deliver several societal benefits, such as improving consumer education, increasing employment, improving nutrition and increasing the sustainability of an important food sector. However, capturing knowledge and making sure it can and will be used by relevant end-users is historically a major challenge. Knowledge Transfer can be complicated by many factors such as the inability to recognise and articulate "compiled" or highly intuitive competencies - tacit knowledge ideas, language and cultural barriers, lack of incentives and many more.

ECsafeSEAFOOD has established a Knowledge Management protocol to ensure all relevant knowledge coming out of the project will not ‘sit on a shelf’ but will be transferred and taken up by relevant users. This protocol incorporates three phases: Collect & Understand; Analyse & Validate; and Transfer & Exploit. These protocols will be outlined below.

Teams involved in deliverable writing: AquaTT

1. Introduction

Deliverable 7.6 deals with general dissemination and Knowledge Transfer in the ECsafeSEAFOOD project. Dissemination is considered a one-way communication and promotion activity for raising awareness of a research project and its aims and objectives. However, in order to ensure the uptake of the knowledge generated by the ECsafeSEAFOOD project, and because the audience for seafood quality and health promotion research is heterogeneous, WP7 aims to put in place a variety of activities that aim to capture and pass on the knowledge, skills and competence arising from the project to those who can use them, in a process that ECsafeSEAFOOD understands as Knowledge Transfer.

Knowledge Transfer consists of a range of activities which aim to capture and transmit knowledge, skills and competence from those who generate them to those who will utilise them or transform them into economic or otherwise useful outcomes. Knowledge Transfer encompasses both commercial and non-commercial activities such as research collaborations, consultancy, licensing, spin-off/spin-out creation, researcher mobility, publications, etc. Knowledge Transfer aims to support mutually beneficial collaborations between universities, businesses and the public sector.

The importance of improving Knowledge Transfer between public research institutions and third parties, including industry and civil society organisations, is amongst others identified by the 2014 European Commission publication “Boosting Open Innovation and Knowledge Transfer in the European Union”[1]. This document lists “Putting Open Innovation and Knowledge Transfer in the Spotlight” as the first of four necessary building blocks for an ecosystem for co-creation.

The Knowledge Management methodology applied in the ECsafeSEAFOOD project is based on the methodology originally developed by AquaTT in the FP7 MarineTT project, and consequently further applied and developed in other FP7 projects such as AquaInnova, MG4U, COEXIST, SOCIOEC, MYFISH and AQUAEXCEL. The methodology focuses on Knowledge Outputs. A "Knowledge Output" for the purposes of this project is the term used to describe a unit of knowledge that has been generated out of a scientific project. It is not limited to de-novo or pioneering discoveries but may also include new methodologies/processes, adaptations, insights, and alternative applications of prior know-how/knowledge. The methodology consists of the following phases (Figure 1):

1. Collect & Understand

2. Analyse & Validate

3. Transfer & Exploitation

[1] http://ec.europa.eu/research/innovation-union/pdf/b1_studies-b5_web-publication_mainreport-kt_oi.pdf

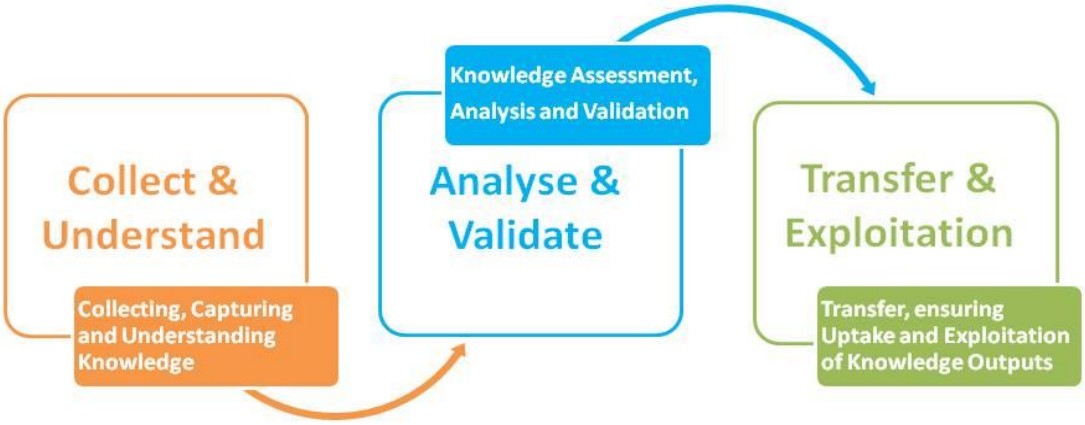

Figure 1 - Knowledge Transfer Infographic

The general objective of ECsafeSEAFOOD Work Package 7 is to make stakeholders aware of the main findings of the project and transfer the knowledge generated by the project to the target users of this knowledge. The present report is a summary of the different dissemination and Knowledge Transfer actions carried out by the ECsafeSEAFOOD project during its second year.

2. Dissemination Year Two

ECsafeSEAFOOD deploys many different activities to ensure widespread dissemination, Knowledge Transfer and IPR management. During the second year of the ECsafeSEAFOOD project, activities have been performed in the following four WP7 tasks:

Task 7.1 Development of the detailed "Communication and Dissemination Plan"

Task 7.1 consisted of Deliverable 7.1 (Dissemination Plan), which was developed by task leader AquaTT at the start of the project. The plan is comprehensive and identifies the project's target groups and key stakeholders, defines the dissemination channels, describes the dissemination methods and gives details on the targeted events and conferences of the project. The document also includes a summary of the EC Rules and Regulations, an overview of the ECsafeSEAFOOD dissemination activities and a description of the knowledge management process that will be implemented throughout the project. It is a live document which is periodically reviewed and amended if needed. The latest version was updated in M17 (June 2014).

In the past year, IPMA collaborated with AQUATT to update the ECAS portal, on which 82 dissemination activities and seven peer review publications have now been logged since the beginning of the project. The most recently logged dissemination activities are the distribution of

flyers at the Final Stages Event in Brussels on 19 June 2014 and an oral presentation entitled "Climate change effects on seafood safety and physiology in contaminated environments" given by IPMA at Final SCARCE International Conference in Tarragona, Spain, on 20 October 2014. The most recently logged scientific publication is "Alternative Methods for the Detection of Emerging Marine Toxins: Biosensors, Biochemical Assays and Cell-Based Assays" by Laia Reverté, Lucía Soliño, Olga Carnicer, Jorge Diogène and Mònica Campàs.

AquaTT and IPMA also worked together to develop a system to track evidence for each dissemination activity and publication that has been reported on SESAM. This system involved developing a Dissemination Activities Table in which evidence of each activity is tracked and uploading it to Basecamp, the project intranet. Files providing evidence that the dissemination activities have taken place are also uploaded regularly to Basecamp. The Dissemination Activities Table is a working document, allowing further activities to be added as they are reported.

Task 7.2 General dissemination

ECsafeSEAFOOD deploys many different activities to ensure widespread dissemination. All project partners are involved in dissemination in order to foster awareness and transfer results for impact, especially in their own countries and in their own communities. Overall, 82 dissemination activities were undertaken in the framework of ECsafeSEAFOOD during the first two years of the project. Of these, 29 were carried out in the project's second year. General dissemination work progress and achievements between M13 and M24 have been:

a) Development of promotional material for the project

A number of promotional materials have been developed earlier in the project, e.g. the project logo, factsheet, a video, a poster and a branded PowerPoint template (D7.2).

During the current reporting period (M13-M24), IRTA produced three promotional videos on ECsafeSEAFOOD – one in English, one in Spanish and one in Catalan. AquaTT developed a generic poster that all ECsafeSEAFOOD partners can use to publicise the project at external events and designed a Portuguese version of the ECsafeSEAFOOD factsheet with translation provided by IPMA. All of these promotional materials are available for download from the project website (see http://ecsafeseafood.eu/ecsafeseafood-media-centre). Partners are encouraged to use these promotional materials in order to increase transparency of the project and facilitate ECsafeSEAFOOD dissemination activities.

AquaTT also developed additional non-contractual dissemination activities and outputs such as a project newsletter of which the 1st issue was published in July 2014 (see project website). The

newsletter comprises a project summary, interviews with António Marques (IPMA; project coordinator) and Johan Robbens (ILVO; WP1 leader), highlights, project publications, relevant news and partner profiles. The project newsletters will be published annually and each issue will be available for download on the project website. It will also be distributed widely via AquaTT's mailing lists (100+ targeted media and marine contacts), AquaTT's e-newsletters, social media (Twitter and LinkedIn) and through CORDIS Wire[2] and AlphaGalileo[3]. Promotional material produced in year two of the project can be found in annex I.

ECsafeSEAFOOD has also established active links with related projects in order to utilise each others' channels for project promotion. This will include mutual promotion on websites, publishing project events in one another's calendars, publishing any outputs they have in our news section, newsletter, etc. These projects include INPROFOOD, SONIC, DEVOTES, Kill-Spill, SIAD, STAGES, Trafoon.

b) Creation of a dedicated project website

A dedicated project website (see details in D7.3) has been set up as a communication resource to promote the project, its objectives and partnership. Although it was launched in M5, it is continually updated to keep interested parties informed on progress, results and outcomes, as well as project related news and events. To access the ECsafeSEAFOOD website go to: http://www.ecsafeseafood.eu/.

The website's Google analytics script has been utilised to keep track of website statistics. Between 1 February 2014 (M13) and 16 January 2015 (M24), there have been 2,936 visits, with 2,023 of these (68.9%) being new visitors (Figure 2). The average visit duration was 00:02:22. The number of page views was 7,905 (Pages/Visit = 2.69). During this period, the website received visitors from 101 different countries with Spain, Portugal and the Italy being the top three countries in terms of number of visits (Figure 3).

[2] http://cordis.europa.eu/wire/index.cfm?fuseaction=article.Detail&rcn=35367&rev=0
[3] http://www.alphagalileo.org/ViewItem.aspx?ItemId=129607&CultureCode=en

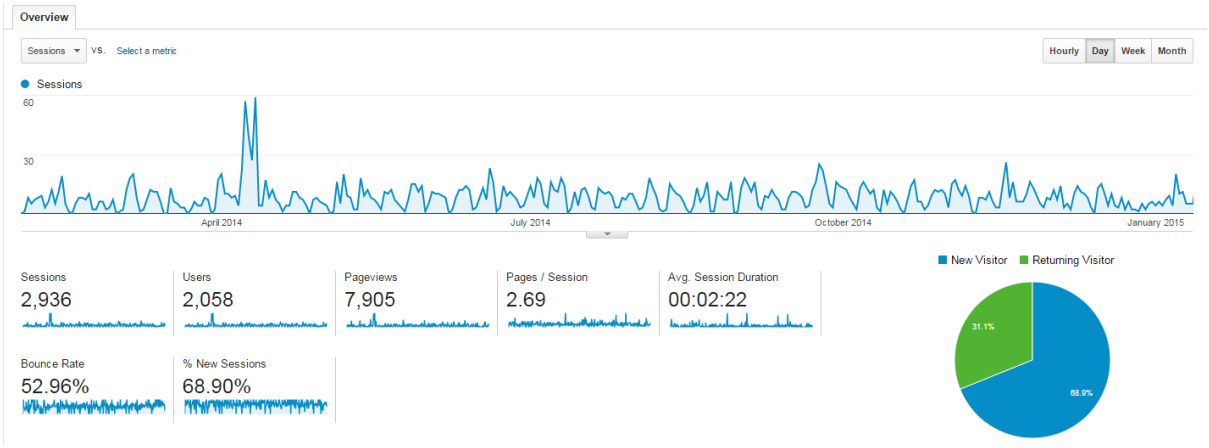

Figure 2 - Google analytics overview of ECsafeSEAFOOD website statistic between M13 and M24

	Country	Sessions	% Sessions
1.	Spain	451	15.36%
2.	Portugal	383	13.04%
3.	Italy	271	9.23%
4.	United Kingdom	236	8.04%
5.	Belgium	207	7.05%
6.	Ireland	201	6.85%
7.	United States	112	3.81%
8.	Denmark	99	3.37%
9.	France	99	3.37%
10.	Germany	85	2.90%

Figure 3 - Google analytics country demographics of the ECsafeSEAFOOD website between M13 and M24

c) Publication of press releases and promotional articles on ECsafeSEAFOOD

AquaTT has issued four ECsafeSEAFOOD press releases in the current reporting period, entitled: “Safe Seafood Project Enters Second Year”, “ECsafeSEAFOOD Project Video Now Available”, “Safe Seafood Project Develops Tools for Detection of Pharmaceutical Residues” and “First Issue of ECsafeSEAFOOD Project Newsletter Now Available”. The press releases give an overview of the project, highlighting the achievements of the project to date. They are uploaded at the project website and distributed widely via AquaTT's extensive dissemination channels described above. CORDIS is the European Commission’s primary public repository and portal to disseminate information on all EU-funded research projects and their results in the broadest sense. AlphaGalileo is a well-known and well-respected independent source of research news and distributed news releases. As well as the mentioned sources, ECsafeSEAFOOD project partners are encouraged to distribute the press releases using their own dissemination channels. Dissemination metrics of the four press releases published this year can be seen in Table 1.

Project partners have taken an active role in dissemination of the project. Most partners have

disseminated the ECsafeSEAFOOD project through their institutional websites[4]. Project partners have been involved in several promotional articles on ECsafeSEAFOOD in different media and project websites. These include the ILVO newsletter "ILVO at sea" in April 2014, the CommNet newsletter, The Fish Site, Youis.com and the FP7 Collab4Safety newsletter in June 2014, and the Irish Marine Institute's "New Connections II 2014: A Review of Irish participation in EU Marine Research Projects 2011-2013" in August 2014 (for details of promotional articles from the current reporting period, see annex II).

Table 1 - Dissemination Metrics for ECsafeSEAFOOD Press Releases published between M13 and M24

Title	Date	Alerts	Hits	Asset Hits	Asset
Safe Seafood Project Enters Second Year	04/03/2014	4072	453	79	photo
ECsafeSEAFOOD Project Video Now Available	11/03/2014	2053	274	0	none
Safe Seafood Project Develops Tools for Detection of Pharmaceutical Residues	03/07/2014	4206	145	22	photo
First Issue of ECsafeSEAFOOD Project Newsletter Now Available	06/08/2014	2069	141	12	newsletter

[4] https://www.ipma.pt/en/investigacao/pescas/projetos.detail.html?f=/en/investigacao/pescas/ECSeafood.html (IPMA - P1)
http://www.mf.uni-mb.si/index.php/en/researchact (UM - P3)
http://www.publichealth.ugent.be/index.cfm?objectid=B2BE7CD7-2219-5E51-1C4E6992A05F9CC8 (UGent – P4)
http://www.toxinology.no/Researchareas/Algaltoxins/Projects/ECsafeSEAFOOD/tabid/11022/Default.aspx (NVI - P5)
http://www.icra.cat/projecte_detall.php?&id=51&lang=3 (ICRA – P6)
http://orbit.dtu.dk/en/projects/ecsafeseafood-priority-environmental-contaminants-in-seafood-safety-assessment-impact-and-public-perception(08bcfabc-f2a0-4b78-9080-1ed42e74fc60).html (DTU – P7)
http://www.ilvo.vlaanderen.be/EN/Press-and-Media/Newsletter/Survey/articleType/ArticleView/articleId/1646/Is-it-still-safe-to-eat-seafood (ILVO- P8)
http://www.irta.cat/es-es/RIT/Noticies/paginas/Reunio_ECsafeSEAFOOD.aspx (IRTA - P10)
http://www.wageningenur.nl/Home/show/ecsafeseafood-1.htm (IMARES - P11)
http://www.aquatt.ie/aquatt-7th-framework-programme/639-ecsafeseafood (AquaTT - P14)
http://www.arvam.com/spip.php?article42 (ARVAM – P15)
http://www.polyintell.com/about-us/partners/ (Polyintell – P16)
http://hortimare.com/homepage/projects/ecsafeseafood.html (Hortimare - P17)

d) Peer-reviewed articles in scientific journals

Between M13 and M24, five peer-reviewed articles have been published, one more has been accepted for publication, a further four articles have been submitted to journals for peer review and more are currently being revised. Briefly:

- A paper entitled “Confirmation of Pinnatoxins and Spirolides in Shellfish and Passive Samplers from Catalonia (Spain) by Liquid Chromatography Coupled with Triple Quadrupole and High-Resolution Hybrid Tandem Mass Spectrometry” by María García-Altares , Alexis Casanova , Vaishali Bane , Jorge Diogène , Ambrose Furey , Pablo de la Iglesia was published in the journal Marine Drugs in June 2014 (M17).
- A paper entitled “Risk benefit perception and consumption of seafood in European consumers” by Silke Jacobs , Isabelle Sioen , Stefaan De Henauw , Núria Tous , Ana Maulvault, Gabriella Fait , Federico Pons , Wim Verbeke was published in the journal Archives of Public Health in June 2014 (M17).
- A paper entitled “In vitro labelling of muscle type nicotinic receptors using a fluorophore-conjugated pinnatoxin F derivative” by Shane D. Hellyer , Andrew I. Selwood , Roel van Ginkel , Rex Munday , Phil Sheard , Christopher O. Miles , Lesley Rhodes , D. Steven Kerr was published in the journal Toxicon in September 2014 (M20).
- A paper entitled “Assessment of acylation routes and structural characterisation by liquid chromatography/tandem mass spectrometry of semi-synthetic acyl ester analogues of lipophilic marine toxins” by Pablo de la Iglesia, Elena Fonollosa, Jorge Diogène was published in the journal Rapid Communications in Mass Spectrometry in December 2014 (M23).
- A paper entitled “Alternative methods for the detection of emerging marine toxins: Biosensors, biochemical assays and cell-based assays”, by Laia Reverté, Lucía Soliño, Olga Carnicer, Jorge Diogène and Mònica Campàs was published in the journal Marine Drugs in December 2014 (M23).
- A paper entitled “Multi-residue method for the analysis of pharmaceuticals and some of their metabolites in bivalves” by D. Alvarez-Muñoz (ICRA), B. Huerta, M. Fernandez-Tejedor, S. Rodríguez-Mozaz (ICRA), D. Barceló (ICRA) was accepted for publication in the journal Talanta in December 2014 (M23).
- An IRTA paper entitled “Ostreopsis cf. ovata from western Mediterranean Sea: Physiological responses under different temperature and salinity conditions” by Olga Carnicer, María Garcia-Altares, Karl. B. Andree, Luciana Tartaglione, Carmela Dell’Aversano, Patrizia

Ciminiello, Pablo de la Iglesia, Jorge Diogène (IRTA), Margarita Fernández-Tejedor has been submitted to journals for peer review.

- An IRTA and ARVAM paper was submitted, entitled "Contribution to the genus Ostreopsis in Reunion Island (Indian Ocean): molecular, morphologic and toxicity characterization" by Olga Carnicer, Alina Tunin-Ley, Karl B. Andree, Jean Turquet, Jorge Diogène, Margarita Fernández-Tejedor was submitted to journals for peer review.
- A paper entitled "Brominated Flame Retardants and Seafood Safety: A review" by Rebeca Cruz, Sara C. Cunha and Susana Casal (ICETA) was submitted to the journal Environment International.
- A paper entitled "Putative Palytoxin and the Novel Ovatoxin-g from Ostreopsis cf. ovata (NW Mediterranean Sea): Structural Insights by LC-High Resolution MS" by María García-Altares, Luciana Tartaglione, Carmela Dell'Aversano, Olga Carnicer, Pablo de la Iglesia, Martino Forino, Jorge Diogène, Patrizia Ciminiello was submitted to Analytical and Bioanalytical Chemistry (ABC) journal.
- A book chapter entitled "Microbiological and toxin outbreaks in seafood" by Chris Rodgers and Jorge Diogène is intended for in the book "Foodborne Diseases: Case studies of outbreaks in the agri-food industries" at Royal Agricultural College (RAC) in Cirencester.

Lastly, the consortium has prepared a proposal for the publication of a special ECsafeSEAFOOD related issue to the peer-reviewed journal "Environmental Research", which has been accepted by the journal's Editor-in-chief. The Special issue is expected to include 22 ECsafeSEAFOOD potential papers and its publication is foreseen in 2015. The different partners are involved in the revision of the 22 manuscripts foreseen to be submitted to the first project special issue that will be published at Environmental Research. A list of the intended manuscripts can be found in annex III.

e) Attendance and dissemination in relevant events

Table 2 below summarises the 18 main ECsafeSEAFOOD dissemination activities in relation to event attendance by the partners.

Table 2 - ECsafeSEAFOOD dissemination at related events

Event	Location	Dissemination activity	Partner involved	Date
GRD Phycotox	Nantes (France)	Oral presentation featuring ECsafeSEAFOOD	IRTA (P10)	4-5 February 2014

Event	Location	Dissemination activity	Partner involved	Date
Department of Pharmacy of the Universita degli Estudi di Napoli meeting	Naples (Italy)	Oral presentation featuring ECsafeSEAFOOD	IRTA (P10)	11 March 2014
EATIP General Assembly 2014	Brussels (Belgium)	Promotion by ECsafeSEAFOOD factsheet distribution	AquaTT (P14)	3-4 April 2014
Belgian Nutrition Society Fourth Annual Congress	Brussels (Belgium)	Oral presentation featuring ECsafeSEAFOOD	UGENT (P4)	25 April 2014
5th International IUPAC Symposium for Trace Elements in Food (TEF-5)	Copenhagen (Denmark)	Poster presentation featuring ECsafeSEAFOOD	AZTI (P2)	6-9 May 2014
Seminar remembering Margalef	Barcelona (Spain)	Oral presentation acknowledging ECsafeSEAFOOD	IRTA (P10)	23 May 2014
ExTech 2014, 16th International symposium on advances in extraction technologies	Crete (Greece)	Oral presentation acknowledging ECsafeSEAFOOD	ICRA (P6)	24-26 May 2014
WEFTA 2014	Bilbao (Spain)	Oral presentation acknowledging ECsafeSEAFOOD	UGENT (P4)	9-11 June 2014
STAGES final event	Brussels (Belgium)	Promotion by ECsafeSEAFOOD factsheet distribution	AquaTT (Partner 14)	19 June 2014
Collab4Safety workshop	Porto (Portugal)	Participation in workshop and promotion of ECsafeSEAFOOD.	IPMA (P1)	1 October 2014
14th Instrumental Analysis Conference	Barcelona (Spain)	Oral presentation featuring ECsafeSEAFOOD	IRTA (P10)	1 October 2014
Final SCARCE International Conference	Tarragona, Spain	Oral presentation featuring ECsafeSEAFOOD	IPMA (P1)	20-21 October 2014
16th International Conference on Harmful Algae	Wellington (New Zealand)	Poster presentation featuring ECsafeSEAFOOD	IRTA (P10)	27 October 2014
16th International Conference on Harmful Algae	Wellington (New Zealand)	Oral presentation featuring ECsafeSEAFOOD	IRTA (P10)	27 October 2014

Event	Location	Dissemination activity	Partner involved	Date
16th International Conference on Harmful Algae	Wellington (New Zealand)	Poster presentation featuring ECsafeSEAFOOD	IRTA (P10)	27 October 2014
Aquaculture Europe 2014	San Sebastian (Spain)	Oral presentation featuring ECsafeSEAFOOD	UGent (P4)	14 October 2014
Aquaculture Europe 2014	San Sebastian (Spain)	Oral presentation featuring ECsafeSEAFOOD	IPMA (P1)	October 2014
Aquaculture Europe 2014	San Sebastian (Spain)	General project promotion, factsheet distribution	AquaTT (P14)	October 2014

GRD Phycotox

The Research Network Phycotox brings together researchers from different disciplines who are interested in the direct impacts toxic or harmful algae may have on ecosystems (e.g. marine faunal mortality) or how they may indirectly impact man (via accumulation of toxins in seafood). Although this research group was established to regroup and structure French research groups, European and international links help to maximise the effect of the network.

Dr. Jorge Diogène (IRTA, partner 10) attended The First General Assembly of the Research Network PHYCOTOX, which was held in Nantes from 4-6 February 2014. At this event, about 60 scientists, socio-economic stakeholders and students met to inform and work on the theme of toxic microalgae. Dr. Diogène gave an oral presentation on "Research on HAB microalgae and toxins at IRTA, 2014: scientific challenges and interaction with the monitoring programme" making reference to ECsafeSEAFOOD.

Department of Pharmacy of the Universita degli Estudi di Napoli meeting

Dr. Jorge Diogène (IRTA, partner 10) attended the meeting of the Department of Pharmacy of the Università degli Estudi di Napoli to address the issue of chromatographic methods for palytoxins and presented the oral communication "Ostreopsis cf Ovata from the NW Mediterranean (Ebre Delta area). Isolation, Culture, Toxicity Evaluation and Toxin Profiles" making reference to ECsafeSEAFOOD. The event was held in Napoli on 11 March 2014.

EATIP General Assembly 2014

The European Aquaculture Technology and Innovation Platform (EATIP) was established by the European aquaculture sector to reinforce the research and innovation processes that are needed

within a modern and developing Europe. AquaTT (partner 14) promoted ECsafeSEAFOOD and distributed 25 project factsheets at the EATIP General Assembly in Brussels, on 3-4 April 2014.

Belgian Nutrition Society Fourth Annual Congress

The Belgian Nutrition Society (BNS) is an interdisciplinary network of scientists in the field of human nutrition. Its main objectives are to stimulate scientific research in the field of human nutrition, to foster collaboration between Belgian scientists working in this area, to disseminate scientific knowledge with regard to human nutrition for the enhancement of public health, to be a reference point for information concerning human nutrition, and to advocate for research in human nutrition and for the implementation of policies and practices related to public health nutrition.

UNIVERSITEIT GENT (partner 4) made an oral presentation on risk-benefit perception and consumption of seafood in European consumers at the Belgian Nutrition Society Fourth Annual Congress in Brussels, Belgium on 25 April 2014.

5th International IUPAC Symposium for Trace Elements in Food (TEF-5)

AZTI (partner 2) attended the 5th International IUPAC Symposium for Trace Elements in Food (TEF-5) in Copenhagen on 6-9 May 2014, presenting a poster of ECsafeSEAFOOD funded research entitled: Evaluation of the adverse effects of mixtures of trace metals in zebrafish embryos by A. Barranco, J. Sanz-Landaluze, R. Muñoz-Olivas, N. Conlledo, M. Martinez-Santos and S. Rainieri.

Seminar remembering Margalef

Jorge Diogène (IRTA, partner 10) was invited to speak at the conference: Seminar remembering Margalef, a temporal series on science and society held in Barcelona on 23 May 2014. Dr. Diogène acknowledged the ECsafeSEAFOOD project by including information on the project to illustrate the impact of temporal series on the evaluation of the safety of seafood products.

ExTech 2014

The ExTech symposium series is the flagship event for sample preparation, analytical extraction and sample clean-up techniques. The series, started in 1999 by University of Waterloo analytical chemistry professor Janusz Pawliszyn, has been held annually around the world and has become a unique and vital medium for the exchange of information and ideas in the expanding field of sample preparation.

ICRA (partner 6) gave an oral presentation acknowledging ECsafeSEAFOOD, at ExTech 2014, 16th International symposium on advances in extraction technologies in Crete, Greece, from 24-28 May 2014. The presentation was entitled 'Multi-residue Method for the Analysis of Pharmaceuticals and

Some of Their Metabolites in Bivalves'.

WEFTA 2014

UGENT (Partner 4) gave an oral presentation entitled "European consumers' benefit-risk perception and the association with their consumption of seafood" at the 44th WEFTA Meeting in Bilbao, Spain, on 9 June 2014. WEFTA conferences bring together scientists from the various fish technology institutes to discuss research activities of common interest

STAGES Final Event

STAGES was an EU FP7 project that connected science to policy to help achieve GES (Good Environmental Status) in marine waters. AquaTT distributed 45 ECsafeSEAFOOD factsheets at the Final STAGES workshop in Brussels on 19 June 2014 and carried out face-to-face promotion of the project.

Collab4Safety workshop

IPMA (partner 1) participated in the Collab4Safety workshop which was held in Porto, Portugal, on 1 October 2014. The aim of this event was to provide interested stakeholders with information on the project's developments as well as an opportunity to discuss food safety issues. Speakers included representatives from RIKILT - Institute of Food Safety (Netherlands), CIRAD – Agricultural Research for Development (France), Chinese Academy of Agricultural Sciences (China) and National Laboratory Agricultural of Minas Gerais, Ministry of Agriculture of Brazil – (Brazil). António Marques attended the workshop as ECsafeSEAFOOD coordinator.

Final SCARCE International Conference

Final SCARCE International Conference, which was held in Tarragona, Spain from 20-21 October 2014. SCARCE is a multipurpose project that aims to describe and predict the relevance of global change impacts on water availability, water quality and ecosystem services in Mediterranean river basins of the Iberian Peninsula, as well as their impacts on the human society and economy. The project has assembled a multidisciplinary team of leading scientists in the fields of hydrology, geomorphology, chemistry, ecology, ecotoxicology, economy, engineering and modelling, in an unknown effort in the CONSOLIDER framework. António Marques (IPMA – partner 1) attended the event and presented the ECsafeSEAFOOD project to the audience in a plenary talk dedicated to climate change issues.

16th International Conference on Harmful Algae

International Conference on Harmful Algae took place from 27-31 October 2014 in Wellington, New Zealand. The conference provided a unique opportunity to scientists and regulators working in this field to interact with one another. The theme of the conference was "Advancement Through Shared Science" in recognition of the multidisciplinary nature of the field and the important role that international collaboration has played in the understanding of HAB phenomena and the mitigation of their effects.

IRTA carried out a number of dissemination activities at this conference. Namely, an oral presentation entitled "Partial synthesis of acyl ester analogs of lipophilic marine toxins with analytical and toxicological applications", a poster presentation entitled "The sugar kelp Saccharina latissima is a potential source of the emerging toxin, Pinnatoxin-G, in cold waters", and a poster presentation entitled "Novel Ovatoxin-g and putative palytoxin from Ostreopsis cf. ovata (NW Mediterranean Sea): gaining structural information through High Resolution Mass Spectrometry".

14th Instrumental Analysis Conference

The Instrumental Analysis Conference (JAI) provides information about the impact that innovation and the development of knowledge in both Analytical Chemistry and Instrumental Analysis have on solving current social problems to professionals working in the area.

IRTA gave an oral presentation entitled "Tetrodotoxins in alien puffer fishes from the Mediterranean by hydrophilic interaction liquid chromatography-mass spectrometry", at the 14th Instrumental Analysis Conference which took place in Barcelona, Spain in October 2014.

Aquaculture Europe 2014

Aquaculture Europe is an annual conference that brings together individuals and companies associated with the sustainable development of European Aquaculture - to develop, share, and disseminate information and promote multi-disciplinary research.

ECsafeSEAFOOD dissemination activities at the Aquaculture Europe 2014 conference held in San Sebastian, Spain from 14-17 October 2014 included:

- António Marques (IPMA – Partner 1) attended the event and promoted the ECsafeSEAFOOD project to the audience in a plenary session dedicated to climate change issues.
- Silke Jacobs (UGent – Partner 4) gave a presentation entitled "European Seafood Consumers' Perceived Causes of Pollution in the Marine Environment and Related Concerns".

- Marieke Reuver (AquaTT – Partner 14) also attended AE2014 and carried out general dissemination activities for the ECsafeSEAFOOD project by distributing 30 copies of the English version of the project factsheet and 30 copies of the Portuguese version of the factsheet and through face to face communication with visitors to the AquaTT stand.

Where applicable, evidence of the dissemination activities at the above events can be found by accessing the ECsafeSEAFOOD Basecamp account and referring to the Dissemination Activities Table (annex IV).

f) Dissemination through social networks and other media

AquaTT (partner 14) has used twitter and LinkedIn to disseminate ECsafeSEAFOOD press releases. AquaTT (partner 14) tweeted about ECsafeSEAFOOD on 19 November 2014 including the hashtag "#CORDISfp7video" in order to include the ECsafeSEAFOOD video to the Cordis Youtube playlist of FP7 projects and research in EU. AquaTT's Twitter account has 738 followers. The DEVOTES project also tweeted about ECsafeSEAFOOD on 20 November after AquaTT established a promotional link with them. The DEVOTES twitter account has 167 followers. This tweet was retweeted by @FrontMarineSci who have 1,281 followers.

A recent press release "Safe Seafood Project Develops Tools for Detection of Pharmaceutical Residues" was tweeted by at least 20 different Twitter users who linked to the press release through various sources. It was also publicised by Medical News Today[5] and News Medical[6]. Medical News Today is a web-based outlet for medical news, targeted to both physicians and the general public which reports monthly readership of over 10 million unique visitors. News Medical is an online forum which aims to distribute medical news to the widest possible audience of potential beneficiaries worldwide. IRTA also disseminates project information via Twitter.

Federico Cardona (AquaTT – partner 14) gave an interview about ECsafeSEAFOOD on the Argentinian radio programme ECOS, which focuses on ecology and environmental topics (www.programa-ecos.com.ar). The interview was broadcasted on radio and online via the website www.mdp.edu.ar (Universidad Nacional Mar de Plata), targeting both the general public and the university community. Antonio Marques (IPMA) also presented the ECsafeSEAFOOD project in an interview for a Portuguese radio programme Radio Antena 1, which focused on Portuguese research in Europe.

[5] http://www.medicalnewstoday.com/releases/279182.php
[6] http://www.news-medical.net/news/20140704/ECsafeSEAFOOD-project-assesses-priority-contaminants-present-in-seafood.aspx

AquaTT uploaded the official ECsafeSEAFOOD video onto the online video-sharing platform Vimeo in M14. IRTA uploaded three videos describing the ECsafeSEAFOOD project to YouTube[7] in M18. The videos were presented in three different languages - English, Spanish and Catalan.

[7] http://youtu.be/R332TaYDMio (English)
http://youtu.be/40Rq8FZDOPw (Spanish)
http://youtu.be/qC_hJoy9X84 (Catalan)

3. Stakeholder Identification and Consultation

Task 7.4 Identify and consult key stakeholders for exposure assessment and related ECsafeSEAFOOD activities such as data mining and targeted interviews

A 'stakeholder and end-user database', a baseline tool that enables effective interaction between the consortium and different relevant stakeholders, was prepared by AEIFORIA, AquaTT and IPMA, and has been finalised. The stakeholder database includes more than 600 different EU and non-EU stakeholders at local, regional and national levels, including EU and international bodies generating regulatory frameworks for exposure assessment. All partners played a major role in adding regional, national and EU stakeholders, and contributed to the database, updating it with missing information, when possible. The database was subsequently used by AEIFORIA to send a survey to the relevant stakeholders with the intention of identifying their needs in the field of food safety and to make contacts for the stakeholder workshops.

A stakeholder questionnaire was created by AEIFORIA and translated into the most represented languages (French, Spanish, Portuguese, and Italian) with the help of partners. The survey questions considered seafood safety assessment and mitigation strategies, availability of information relating to contaminants, communication among different stakeholders' groups, and the perceived health risk and consumers' information needs. The survey was created, sent, and managed through SurveyMonkey, an online survey development cloud. An email invitation was prepared in different languages by the project partners. The survey was based on a two-round Delphi. The first round of the stakeholders' survey was prepared and distributed to 531 possible respondents, selected from the stakeholder database, belonging to different categories and coming from both EU and non-EU countries. 91 responses were collected, and the first analysis of results has been carried out. AEIFORIA are currently working on the second-round survey. In particular, they have prepared an e-mail invitation to complete the questionnaire and a draft of the 2nd-round questions, including the 1st-round feedback.

Data collected from the stakeholder survey is being used to design the first stakeholder engagement workshop that is due to be held in month 27 of the project, i.e. April 2015. This workshop was initially planned for M9 in the DoW, but has been postponed due to insufficient number of registered participants and the need to present interesting results from the project that were unavailable at M9. IPMA, AquaTT, IRTA, and UGENT have been working with AEIFORIA to establish a contingency plan and advise them on event design so that they are more successful in attracting participants. An agenda is due to be finalised for the first stakeholder workshop by the end of M24. The second stakeholder workshop has also been postponed and will be held by month 39 of the

project (April 2016) to account for the delay of the first workshop. Organising this workshop at a later stage will also allow sufficient time for results to emerge from the project so the workshop can be used to disseminate project results and inform the Knowledge Transfer & Exploitation strategy for specific results.

4. Knowledge Transfer Year Two

Task 7.3 Knowledge Transfer

The knowledge management and transfer methodology applied in ECsafeSEAFOOD focuses on Knowledge Outputs (KOs), which are units of knowledge that have been generated out of a scientific project. ECsafeSEAFOOD Knowledge Outputs are being captured in an internal Knowledge Management Template. The Knowledge Management Template captures all three phases of the Knowledge Management Methodology, namely: Collect & Understand; Analyse & Validate; and Transfer & Exploitation.

The Knowledge Management Template involves identifying Knowledge Outputs, detailing more specific information on the deliverables and finding any other additional knowledge outcomes which have not been captured in an official deliverable. The objective is to transfer the Knowledge Outputs identified to the various identified primary end-users who have the capacity to uptake the Knowledge Outputs and utilise it. The approach is to identify and profile the potential end-users of the different Knowledge Outputs and based on the profile of these end-user groups, the partnership will identify suitable channels for transferring the outputs (e.g. face-to-face through events and meetings, remotely via electronic, post, and peer-reviewed publications, etc.).

During the current reporting period, AquaTT (Partner 14) finalised the ECsafeSEAFOOD Knowledge Management Template and has completed Phase 1 (Collect & Understand) and Phase 2 (Analyse and Validate) of the first round of ECsafeSEAFOOD Knowledge Outputs. Phase 1 (Collect & Understand) of the second round of Knowledge Output collection has also been initiated.

Collect & Understand

WP leaders are requested to complete the Knowledge Management Template every three months, starting in Month 18, i.e. July 2014. Work Package leaders were asked to identify Knowledge Outputs and detail more specific information on deliverables (e.g. in relation to exploitable foreground if applicable), but also to survey any other additional knowledge outcomes that have not been captured in an official deliverable (‘grey’ knowledge).

Phase 1 (Collect & Understand) involves collecting any outputs that have emerged from the project from the responsible partners using the Knowledge Management Template, and reviewing the completed Knowledge Management Templates in order to:

1. Identify any typographical/editing errors;
2. Determine if the short titles of the Knowledge Outputs are adequately informative;
3. Establish if the knowledge description of the Knowledge Outputs are comprehensive enough to adequately understand the nature of the Knowledge Output and to determine its possible application;
4. Identify the potential next end-users of the Knowledge Outputs, to list these users and to identify potential application(s) of the Knowledge Outputs for these users;
5. Identify whether there is any information missing or unclear so that it can be clarified with the knowledge authors/creators in phase 2 (analysis and validation).

Analyse & Validate

In the Analyse & Validate stage (Phase 2), the collected Knowledge Outputs are carefully assessed by AquaTT (Partner 14) and additional information requested from the authors/creators of the knowledge where needed. The Analysis & Validation phase focuses on the following Knowledge Management Template fields:

- Owners and other beneficiaries of the knowledge;
- If the knowledge is ready for uptake or whether further research would be necessary;
- What sectors would benefit from this knowledge;
- Who are the end-users and what would be their application of the knowledge.

Within the field “End-User & Application”, it should be indicated who could use the Knowledge Output(s), and how they could use and apply them. Identification and analysis of the “end-user” of specific units or clusters of knowledge and applications is crucial as it is customer focused and allows you to partition the audience for the new knowledge and applications that will arise from ECsafeSEAFOOD.

Transfer & Exploitation/ Results

Knowledge Transfer is the process of creating, organising, capturing/sharing/distributing knowledge to ensure its availability for future users. The Knowledge Transfer process involves the transfer of

tangible and intellectual property, expertise, learning and skills between academia and the non-academic community.

By carrying out the described knowledge management approach as an integrated part of the project design, it will also be possible to capture "Knowledge Outputs" related to methodologies, protocols and experimental approaches as used in the project. Typically such knowledge might be referenced as a small part of a published paper, potentially 3-5 years after the approach is pioneered in a research project. By monitoring, collecting and managing such outputs within the project it will be possible to fast track such knowledge which, in turn, can be adopted by other scientists working in the field and therefore fast-track scientific development in the research community.

Knowledge Outputs which are identified as high potential innovative knowledge and methodologies, and therefore possibly suitable for exploitation, will go through a Due Diligence process. Due Diligence refers to the process whereby a more thorough examination and evaluation of the KO and its applicability and readiness for transfer will be investigated. Due Diligence will be undertaken so that any factors that could affect the transfer potential of the KO and ultimately the uptake and impact can be identified.

NVI (partner 5) has already established contact with end-users to transfer ECsafeSEAFOOD KOs to relevant users. Results from analysis of control crabs from an experiment at Frøya (WP6) revealed high levels of azaspiracids in brown meat from crabs in autumn 2013, and the Norwegian Food Safety Authority was immediately informed of the results. Contact with the local Food Safety Authority representatives in the Frøya District has also been established.

Knowledge Transfer activity will be greater later in the project as outputs become available and are deemed suitable for Knowledge Transfer.

5. Conclusion

The dissemination and Knowledge Transfer activities carried out within the project are designed to facilitate and improve the relationship and communication among all ECsafeSEAFOOD stakeholders. Through the promotional material, press releases, promotional articles, social media, project website and dissemination at relevant events, the project is reaching the wider public and raises awareness among the relevant stakeholders about the project's objectives and expected results.

This exposure has already contributed to the ECsafeSEAFOOD being chosen for a forthcoming article on EU project success stories which will be published on the DG Research website in the coming months.

Effective external communication, dissemination and optimal outreach of ECsafeSEAFOOD's results and applications as described above, will lead to optimal exploitation of its research, as well as increased consumer confidence through clear and practical information spread in close collaboration with food safety authorities.

In year two of the project, the emphasis has shifted from general dissemination of the project objectives, to a more focused Knowledge Transfer approach as project outputs are emerging. Not only will effective Knowledge Transfer ensure that the ECsafeSEAFOOD research results are effectively managed and transferred to relevant stakeholders and end-users, it will also ensure that they eventually exert an effective impact on EU competitiveness.

Annex I - ECsafeSEAFOOD promotional material produced in year two of the project

ECsafeSEAFOOD Poster

ECsafeSEAFOOD Factsheet (Portuguese)

ECsafe SEAFOOD

FICHA TÉCNICA



RESUMO

TÍTULO: ECsafeSEAFOOD – Contaminantes ambientais prioritários em pescado: avaliação da segurança, impacto e percepção pública.

PROGRAMA: FP7, Cooperação, Alimentação, Agricultura e Pescas, e Biotecnologia (KBBE)

ORÇAMENTO TOTAL: : 5 089 558 €

CONTRIBUIÇÃO EU: 3 999 874 €

DURAÇÃO: Fevereiro 2013 – Janeiro 2017

COORDENADOR: IPMA, I.P. – Instituto Português do Mar e da Atmosfera, Portugal

CONSÓRCIO: 118 instituições de 10 países

WEB: www.ecsafeseafood.eu

O DESAFIO

O pescado é reconhecido como sendo um alimento saudável e de elevada qualidade, sendo um dos produtos alimentares mais consumidos a nível mundial. No entanto, tal como outros produtos alimentares, pode ser igualmente uma fonte de contaminantes ambientais perigosos com potencial impacto na saúde pública. Existe uma preocupação crescente dos consumidores relativamente à disponibilidade de alimentos seguros e com elevada qualidade, onde a investigação científica desempenha um papel fundamental para assegurar a confiança dos consumidores neste sector alimentar. O grande desafio do projecto **ECsafeSEAFOOD** é avaliar a segurança alimentar dos produtos da pesca e aquacultura em relação aos contaminantes químicos emergentes não regulamentados e avaliar o seu impacto na saúde pública de modo a aumentar a segurança destes produtos e reduzir os riscos para a saúde pública.

OBJETIVOS DO PROJETO

O principal objectivo do projecto ECsafeSEAFOOD consiste na avaliação da segurança alimentar dos produtos da pesca e aquacultura relacionada principalmente com os contaminantes emergentes como resultado da contaminação ambiental (nomeadamente através de toxinas de microalgas tóxicas e lixo marinho), e avaliar o seu impacto na saúde pública. Este projecto irá abordar directamente vários aspectos da Directiva Quadro de Estratégia Marinha (MSFD), e servirá de suporte ao fornecimento de produtos de pesca e aquacultura seguros para os consumidores e com riscos reduzidos para a saúde pública. A longo prazo, este projecto irá dinamizar diversos benefícios sociais, tais como a promoção da educação do consumidor, dinamizar o emprego, melhorar a nutrição e a sustentabilidade deste importante sector alimentar.

ECsafeSEAFOOD Newsletter, Issue 1

ECsafe SEAFOOD project news

www.ecsafeseafood.eu Issue 1 | August 2014

Welcome to the first newsletter of the ECsafeSEAFOOD project. In this issue:

Introduction to ECsafeSEAFOOD

The overall objective of **ECsafeSEAFOOD** is to assess safety issues mainly relating to non-regulated priority contaminants present in seafood as a result of environmental contamination (including those associated with marine litter). The project will evaluate the impact of these contaminants on public health, in order to increase seafood safety and reduce human health risks.

The fourth coordination meeting took place in Hirtshals, Denmark (19-20 June 2014). Project partners presented the progress that has been made so far in monitoring selected priority contaminants in seafood species, and in developing reliable and cost-effective detection tools for those contaminants. Recent work carried out as part of **ECsafeSEAFOOD** includes a consumer survey, designed to help the partnership to understand consumer preferences and concerns with regard to seafood safety, which collected nearly 3,000 survey responses from Ireland, Belgium, Italy, Portugal and Spain.

Interview with Dr António Marques (IPMA), ECsafeSEAFOOD coordinator

Dr António Marques (IPMA)

Can you explain to a wider audience, whose knowledge of environmental contamination may be limited, why a project like ECsafeSEAFOOD is important?

Although seafood is recognised as a high quality, healthy and safe food, some can accumulate environmental contaminants with potential impact on human health. Seafood is currently controlled by efficient monitoring programmes for certain environmental contaminants (e.g. Pb, Hg, Cd, toxins) that provide crucial information for management and risk assessment purposes. However, little information is available for contaminants without maximum limits set by authorities, such as toxins from harmful algal blooms, marine litter, endocrine disruptors, pharmaceutical and personal care products, inorganic As, organic Hg, and brominated flame retardants.

Therefore, in order to increase safety of seafood for consumers and reduce human health risks, **ECsafeSEAFOOD** aims to assess safety issues mainly related to non-regulated priority contaminants present in seafood as a result of environmental contamination and evaluate their impact on public health. The project aims to implement monitoring, detection, mitigation, toxicological and risk assessment tools to accurately quantify and minimise human health risks, increase consumer confidence in seafood and promote seafood consumption in Europe in a conscientious way.

What types of seafood species consumed in Europe will you focus on?

In the initial phase, case study species were collected in European areas subjected to strong anthropogenic pressure and expected to have higher levels of contamination. These species include clams, mussels, mullet, flounder and macroalgae. Concerning toxins, other species will be sampled, such as microalgae (*Gambierdiscus* spp and *Ostreopsis* spp), fish (*Seriola*, *Lutjanus*, *Grouper*, *Caranx*), echinoderms (sea urchins) and several bivalve species

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The team from IPMA involved in ECsafeSEAFOOD

(mussels, oysters and clams). The following criteria was used to select the target species: a) potential to accumulate high concentrations of chemicals; b) wide geographic distribution; c) easily identifiable; d) abundancy; e) easily capturable; and f) large enough to provide adequate tissue for analysis. This initial approach enabled the identification of non-regulated priority contaminants that should be selected for further screening.

In the second phase, commercially available seafood species were sampled in different seasons and geographic locations. These include mussels, plaice, sole, tuna (fresh and canned), hake (Atlantic and Pacific), monkfish, Nile perch, pangasius (farmed), cod (Atlantic and Pacific), mackerel (fresh and canned), brown crab, shrimp (*Penaeus vannamei;* farmed), octopus, salmon (Scottish and Norwegian; farmed), seabream (farmed), macroalgae (*S. latissima* and *Ulva lactuca*). These seafood species were collected in order to cover the European coast from Mediterranean to North Atlantic (including Macaronesia), according to the consumption relevance in Europe, origin (wild, farmed and imported), trophic level, habitats and ability to biomagnify/bio-accumulate contaminants. To assure that specimens are from at least two different batches, the commercial sampling activities were performed in different seasons.

In terms of the project itself, can you outline how the collaborative element between the partners will work?

The **ECsafeSEAFOOD** project is constituted of 18 well-known institutions with different areas of expertise. To make optimal use of the skills of all partners, the project was divided into eight work packages (WPs). For each WP a leader was appointed to coordinate and supervise the WP tasks, ensuring strong links and constant contact with the task leaders. The task leaders manage all details of the different tasks daily and send the information to the WP leader.

Three decision-making committees were also created: Governing Board, Project Coordinator and Management Team with the responsibility of formulating, choosing, prioritising and evaluating cross functional decisions/ strategies, and correcting any deviation from planned actions. To interact and help the Governing Board in the decision-making process, seven advisory committees were created, covering the different areas: scientific, industrial, sampling, intellectual property, communication, ethical advisory and marine toxins. These advisory committees are composed of experts who assist, advise and establish close links in specific issues of their area within the project.

The collaborative research amongst the consortium partners is strongly promoted in order to accelerate accomplishment of objectives. The ultimate decision-making responsibility within the project lies with the Governing Board, which represents the interest of all partners. The Governing Board meets every six months, to monitor the results obtained and decide upon activities for the following period.

What do you perceive will be the most challenging aspects both of this project as a whole and to your role within this project?

The most challenging aspects of **ECsafeSEAFOOD** are its very ambitious objectives, the diversity of partners' backgrounds and the large number of participants in the consortium. Overcoming this will require a highly structured and excellence-oriented management system to guarantee that the risks will be continually monitored and minimised. The most challenging aspect of my role will be to guarantee full participation and involvement of all partners in order to ensure that the objectives are met in a timely and efficient way. Another challenge will be maintaining high levels of motivation in partners and efficient/effective communication and collaborations between the partners.

What will your priorities be for the upcoming months of the project?

My priorities for the upcoming months of the project will be: a) ensuring that the deliverables, milestones and periodic reports are prepared within the deadlines set in the Description of Work (DoW) with the contribution of all partners; b) motivating partners to ensure that the resources are adequately managed in a cost-effective way;

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and c) ensuring close and effective collaboration between the partners.

What are the potential implications of this project, both in terms of societal implications and future research potential?

ECsafeSEAFOOD will have several tangible societal and economical impacts. It will present scientific breakthroughs through monitoring of non-regulated chemical contaminants, risk assessment, toxicity, links between contaminants in the environment and that in seafood and effects of climate change.

Probabilistic exposure assessment and risk characterisation for priority contaminants in seafood will not only help to identify the contaminants which accumulate in seafood at dangerous levels, but will also allow regulatory authorities to implement more realistic risk characterisation of the toxicology of contaminant exposure and effects to human health.

The development of fast screening detection systems for target contaminants in seafood will bring technological innovation not only to the scientific community, but also to food safety authorities, food producers and processors, since it will improve the analytical performance and reduce costs. The development of these detection tools will help to ensure safe, high quality seafood for consumers and will enhance European competitiveness and innovation of food-producing and processor SMEs.

The project will have a positive economic effects as a result of its promotion of seafood consumption throughout Europe in a conscientious way. **ECsafeSEAFOOD** aims to increase consumer awareness and confidence about the safety of seafood and its importance for human health as well as improving education, increasing employment, improving nutrition and increasing the sustainability of an important food sector. This awareness will be promoted through the project's online information tool. The project's EU funding ensures that capabilities are pooled and results are validated and disseminated throughout Europe and beyond.

Work Package 8 (Project Management) Highlights

Management is a crucial and challenging task in a large project such as **ECsafeSEAFOOD**, which comprises 18 partners from 10 European countries. The partners have been deeply involved and cooperative in all requested activities within WP8, as illustrated by the attendance of more than 90% partners in the four coordinating meetings taken place so far, as well as by the successful accomplishment of objectives in all WPs (all deliverables scheduled to date have been successfully accomplished).

The project is based on seven proactive advisory committees targeting crucial components of the project: scientific, industrial, ethical, communication, intellectual property right, sampling and marine toxins. These committees form the basis the Governing Board's wise decision-making. The implementation of two-monthly scientific report and a six-monthly financial report have been extremely useful in enabling the partners to track advances in all WPs and the status of expenditures. The IPR and dissemination issues have been carefully addressed by a group of enthusiastic professionals with strong expertise in these fields.

The six-month periodicity of the coordination meetings have ensured closer links between partners and encouraged faster advances in the projects as well as immediate implementation of corrective measures whenever necessary. Such meetings were combined with several Skype meetings between the partners to speed up the decision making process in the project. The project's positive working environment has lead to the accomplishment of several collaborations and visits between the partners, as well as common publications of research activities undertaken. The project will face new challenges in the coming months that will no doubt be overcome by the partners in an efficient way.

***ECsafeSEAFOOD** partners meeting in Hirtshals, Denmark*

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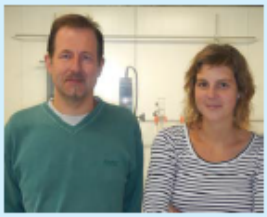
Interview with Dr Johan Robbens (ILVO), Work Package 1 (Database and Selection of Priority Contaminants) leader



Johan Robbens and Griet Vandermeersch (ILVO)

Can you briefly outline, to a wider audience, what your work package aims to achieve and why it is important in terms of the overall aims of the ECsafeSEAFOOD project?

I am responsible for Work Package 1 which involves establishing a database containing information about chemical contaminants that affect seafood safety. A risk ranking of the contaminants is also carried out in this work package, with the ultimate aim of selecting the most important and relevant contaminants found in seafood. We then look into how toxic these chemicals are and from which level these toxic effects are evident. Based on this information, we select the most important chemicals to be analysed as these signify a potential risk for the European (seafood) consumer. It is only relevant, from a food safety point of view, to analyse chemicals that are present at levels close to the effect level.

Although I am the coordinator of this work package, most of the work is done by Griet Vandermeersch, who is doing a PhD on chemical seafood contaminants

Outline the criteria used to select the list of contaminants to be targeted in ECsafeSEAFOOD.

We use different criteria to select the contaminants. In the risk assessment process we look at two aspects, the first of which is the concentration of the contaminants. This information is based on literature search, analysis, reports, etc. We also look at the effect or toxicity of the contaminants, i.e. the level at which you can expect an effect. Data on effects on humans are very scarce, so we use all kinds of toxicity data to try to extrapolate the potential risk for humans. It is the balance of these two aspects in the risk assessment process that is central to finally selecting the contaminants. The ultimate selection is finally approved via 'expert judgment' at a partner meeting.

Has the process of selecting priority contaminants presented scope for future research?

Indeed the selected priority contaminants open new routes for future research. The selected contaminants will be the scope of the future research in the different work packages as the **ECsafeSEAFOOD** project progresses. They are also the model compounds for biosensor development (WP4) and for toxicity studies (WP5). Sensitive analytical methods will also be developed for these contaminants.

Also, the approach of the project is unique. We use a complementary approach (selection, analytical methods, biosensor development, toxic studies - all on the same contaminants). For most partners, this will be a novel technique which will be used again for further research.

Contaminants originating from harmful algal blooms (HABs) and those associated with marine litter have been specifically mentioned as priorities for this project. Explain why these are especially relevant.

HABs are a significant threat for European consumers. Due to climate change, and subsequent HABs, algae that were not present in some of our European seas in the past could potentially be present now. Therefore it is very important to closely monitor the "emerging marine toxins" that might endanger food safety of European consumers. Marine toxins are therefore also an important issue in our developed database.

Regarding marine litter (and microplastics), it is a very recent concern, and for the moment a lot of questions are still open about the potential dangers. For some species (like mussels) microplastics have already been observed. The potential threat is that microplastics might transfer in the food chain. The picture of marine litter and microplastics is very complex.

Effects of microplastics might be caused by the (plastic) polymer (e.g. PE, PVC, Nylon). It may also be a result of its size. This is mainly an issue with micro- and nanoplastics where the size of the particle, irrespective of the polymer itself, might have another effect. Effects may also result from its chemical load. Plastics are hydrophobic particles that can accumulate all kinds of persistent molecules. Effects might also be due to the microbial load of the plastics (i.e. some bacteria might adhere to the plastics). A combination of all these effects may also contribute, so you see it is a complicated issue, and important enough to monitor this for the European consumer.

How have you been collaborating with other project partners on this work package?

I am very happy about the collaboration with the other partners. We have a project meeting every six months. This might seem frequent, but it is the perfect way to get to know

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each other better. We are also in regular contact via mail, Skype, teleconference, etc. Plans have also been made to exchange (young) scientists between different partners to intensify the collaboration.

As for our specific work package, we relied on the different partners to input their data in the database. Despite their often busy schedules, all partners have managed to input their data, and we are very grateful to them.

What is the most significant task in your work package?

The most significant task in our work package is the ranking and prioritisation of the contaminants in a database. This was the first milestone. Now, it is important that we keep our database up to date. The ultimate aim is that at the end of the project, we will have an up to date database, and that people are trained so that once they have important data about food safety of seafood, they put it into the database. At the end of the project, we hope our database will be an important asset for food safety issues.

Work Package 1 (Database and Selection of Priority Contaminants) Highlights

In WP1, we have developed a database that includes all relevant data (e.g. concentration, effects, PBT-criteria etc.) for seafood from a risk-assessment point of view. Partners received a username/password and are able to login and insert data. At this point, 2.909 contaminant reports have been added to the database. According to the available information, contaminants were classified based on: 1) concentration levels in seafood/biota and 2) toxicity effects. Subsequently, the contaminants were ranked and prioritised.

Based on these ranking lists, the hotspot results of WP2 and on expert judgment, a final selection of approximately 40 contaminants was extracted from the database.

These selected contaminants are the basis for the further progress of **ECsafeSEAFOOD**. The occurrence of the selected contaminants in seafood will be determined (WP2) and the toxicological impact of relevant contaminants will be assessed (WP5). Additionally, innovative devices will be developed for the rapid detection of emerging contaminants in seafood (WP4). Once all the required information is gathered, risk assessment will be performed (WP3) with the aim to mitigate the risk for human consumers.

ECsafeSEAFOOD TEAM PROFILES

DAMIÀ BARCELÒ (DIRECTOR, ICRA)

Damià is Director of the the Catalan Institute of Water Research (ICRA) and a research professor and deputy director of the Institute of Environmental Diagnosis and Water Studies (IDAEA) run by the Spanish National Research Council (CSIC). He is also coordinator of the Unit of Water Quality and Soil Consolidated Research Group of the Regional Government of Catalonia.

His research career has been focused on the area of water quality, particularly in the development of methods for controlling organic pollution by the so-called "emerging pollutants" (polar pesticides, surfactants (detergents), endocrine disruptors and pharmaceutical products) in waste and natural water.

TANJA CALIS (PROJECT ASSISTANT, AQUATT)

Tanja holds a BA degree in Zoology from Trinity College, Dublin and a MSc in Science Communications from Dublin City University. She joined AquaTT in 2013.

As a project assistant, she provides support to AquaTT's project officers by helping with project management, dissemination and knowledge transfer tasks as part of a number of EC-funded projects.

As part of the **ECsafeSEAFOOD** project, Tanja is involved in WP3 (Publishing Guidelines of Mitigation Measures) and WP7 (Dissemination, Knowledge Transfer and IPR Management), carrying out the dissemination and knowledge transfer of the outputs of the project.

Continued on page 6

ECsafe SEAFOOD

project news

Issue 1

Continued from page 5

SILKE JACOBS (PHD STUDENT, UGENT)

Silke is a PhD student working at Ghent University under the supervision of Prof. Wim Verbeke and Dr. Isabelle Sioen. She has been involved in the **ECsafeSEAFOOD** project since September 2013.

She is involved in ascertaining consumers' perception of the marine environment and knowledge of contaminants within European countries. She is also involved in performing a risk-assessment to evaluate the risks linked to the presence of environmental contaminants in seafood. The results of these activities will serve to develop an information strategy which considers the kind of information that is needed and should be disseminated to the general public in order to reduce the impact of public health risks on seafood consumption.

Based on the work she has done so far, she will give an oral presentation of the abstract entitled "European seafood consumers' perceived causes of pollution in the marine environment and related concerns" at Aquaculture Europe (14-17 October 2014, Spain). This has been made possible due to collaboration within the **ECsafeSEAFOOD** project.

SARA RODRÍGUEZ-MOZAZ (RESEARCH SCIENTIST, ICRA)

Sara focuses her research on the study of the origin, fate and ecological impact of different emerging contaminants (pharmaceuticals and Endocrine Disruptors) in fresh-waters as well as in other environmental matrices such as biota.

She also studies the removal of these emerging compounds during alternative water treatments principally for water reuse. She has been involved in national and international projects such as AWACCS (EVK1-CT-2000-00045) and SEDNET (EVK1-CT-2001-200).

As well as participating in **ECsafeSEAFOOD**, she participates in other European funded projects like ENDETEC or SEA ON A CHIP. She is also member of the European Network NORMAN, related to the topic "Emerging Contaminants in The Environment".

DIANA ALVAREZ-MUÑOZ (POSTDOC RESEARCHER, ICRA)

Diana focuses her career on the study of the interaction between organic emergent contaminants and marine organisms.

In the course of her PhD she worked with synthetic surfactants researching their bioaccumulation, biotransformation and toxic effects. Her postdoctoral experience at Sussex University (UK) gave her the opportunity to work with endocrine disrupting compounds and their toxicity identification and evaluation.

She also has experience in metabolomic studies for the identification of transformation products of contaminants as well as endogenous biochemical biomarkers of exposure using mass spectrometry.

She has participated in the DIESE project financed by the European Union IV Interreg progamme, as well as other national projects. Currently, she is working on two European funded projects: **ECsafeSEAFOOD** and SEA ON A CHIP.

***ECsafeSEAFOOD** partners in Sant Carles de la Ràpita*

ECsafe SEAFOOD

project news

Issue 1

SEAFOOD SAFETY IN THE NEWS

Discovery of Efficient Test for Paralysing Toxin Found in Mussels

A new discovery made at the University of Oslo, Norway, reveals a faster and cheaper way to check whether mussels contain the extremely dangerous and paralyzing neurotoxin saxitoxin.

Short URL: http://goo.gl/jB9025

FDA Reviewing Advice on Mercury in Seafood

The Food and Drug Administration (FDA) have drafted an update of its guidance for pregnant and nursing women on the appropriate levels of mercury in seafood.

Short URL: http://goo.gl/qpiQxo

Malaspina Expedition Finds World's Oceans Littered With Microplastics

The results of a 2010 ocean voyage around the world, indicates that there are five large accumulations of microplastic in the open ocean accumulations that match the five large open-ocean currents.

Short URL: http://goo.gl/y8KQkg

Microplastic Dwelling Fouling Organisms May Be Helping to Clean Up the Oceans

New research shows that some microplastics are home to marine life, some of which may play an important role in plastic degradation.

Short URL: http://goo.gl/bgV5mc

New Maximum Cadmium Levels Permitted in Seafood in the EU

The European Commission has published legislation (Regulation 488/2014) that changes the maximum permitted levels of cadmium in several fish species from 1 June 2014.

Short URL: http://goo.gl/OQDQGf

Mussel Farming Banned in Cornwall Due to High Concentrations of *E. Coli*

High concentrations of E.coli have led to a ban on mussel farming in parts of Cornwall (UK) this May, after the Food Standards Agency downgraded the water quality across the country. Industry experts believe the entire shellfish industry could be under threat.

Short URL: http://goo.gl/NvpLDO

Harmful Algal Blooms and Human Epilepsy

Scientists from Stanford University have found that sea lion epilepsy caused by domoic acid found in harmful algal blooms may hold clues to human epilepsy.

Short URL: http://goo.gl/F4XgRs

185 Projects Planned to Reduce Marine Litter

The plastics industry's annual progress report 2014 has revealed that as of December 2013 there were more than 185 projects planned, underway, or completed aimed at reducing marine litter – this represents a more than 90 percent increase in the number of projects since March 2011.

Short URL: http://goo.gl/FfyVMv

PUBLICATIONS

This section includes details of some of the growing number of scientific publications acknowledging ECsafeSEAFOOD

Development of a liquid chromatography – tandem mass spectrometry procedure for determination of endocrine disrupting compounds in fish from Mediterranean rivers.

Jakimska, A., Huerta, B., Bargańska, Ż., Kot-Wasik, A., Rodríguez-Mozaz, S., and Barceló, D. (2013). Journal of Chromatography A. 1306, 44-58. Available from: doi: 10.1016/j.chroma.2013.07.050.

Short URL: http://goo.gl/U7gGom

Confirmation of pinnatoxins and spirolides in shellfish and passive samplers from Catalonia (Spain) by liquid chromatography coupled with triple quadrupole and high-resolution hybrid tandem mass spectrometry.

Garcia-Altares, M., Casanova, A., Bane, V., Diogène, J., Furey, A., and de la Iglesia, P. (2014). Marine Drugs. 12(6), 3706-32. Available from: doi: 10.3390/md12063706.

Short URL: http://goo.gl/hukcgB

Assessment of acylation routes for the semi-synthesis of ester analogs of lipophilic marine toxins, by Pablo de la Iglesia, Elena Fonollosa and Jorge Diogène, has been submitted for peer-review to the Journal of Agricultural and Food Chemistry.

Brominated Flame Retardants and Seafood Safety: A review, by Rebeca Cruz, Sara C. Cunha and Susana Casal (ICETA) was presented to IPRC with the intention of being submitted to the journal Environment International.

Designed and developed by AquaTT

The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement no 311820. This publication reflects the views only of the author, and the European Union cannot be held responsible for any use which may be made of the information contained therein.

Annex II - Promotional articles on ECsafeSEAFOOD published in year two of the project

ECsafeSEAFOOD article featured in CommNet newsletter

CommNet

COMMUNICATING THE BIOECONOMY Newsletter N° 17 - Summer 2014

Editorial

Back from ESOF 2014 - a great experience

The EuroScience Open Forum 2014, Europe's largest science event took place in June and **CommNet was there**: a great opportunity to increase our outreach!

Many drop-in sessions took place at the CommNet stand across the five-day event and gave attendees easy "take aways", useful nuggets of information about how to better communicate project results to stakeholders.

The **CommNet Impact Awards** were also officially launched at ESOF 2014; this is an exciting opportunity to **showcase your communication work to a European audience!** To enter your project, take a look at our information page and web application form. The closing date for entries is 19th September 2014.

In October CommNet will be at SIAL - Salon International de l'Agroalimentaire - and will organise a workshop: **visit our website for more information!**

Join our community

You can now follow CommNet on social networks! Stay tuned with the latest news from the Bioeconomy on Twitter and join the conversation in our LinkedIn Group.

Join our group in. Follow @CommNet_eu YouTube

Projects' life

Antonio Marquez – Improving seafood safety

New research is underway that aims to improve detection of seafood contaminants that could be used in prevention and to assess their impact on public health.

Airbags for ships save lives, environment and cargo

Innovative rapidly inflating balloon technology could keep damaged ships afloat. But more fine-tuning needs to be done and there are some concerns about reliability.

ECsafeSEAFOOD article featured on The Fish Site

News

Researchers Improving Seafood Safety

12 June 2014

EU - New research is underway that aims to improve detection of seafood contaminants that could be used in prevention and to assess their impact on public health.

Seafood sometimes poses health risks to consumers. Unfortunately, these are not very well defined. What is more, the risks associated with non-regulated contaminants, responsible for such health hazards, are not all well understood.

Now, the EU-funded project, ECsafeSEAFOOD, due to be completed in 2017, has evaluated the impact of such contaminants on public health. Project coordinator Antonio Marques, senior researcher at the division of aquaculture and seafood improvement at IPMA, the Portuguese Sea and Atmosphere Institute, in Lisbon, Portugal, talks to CommNet about the project's aims to assess the threat from various seafood contaminants and develop improved detection tools to help protect people against such contaminants.

Do you believe that consumers are aware of all the contaminants in their seafood?

No, the majority of consumers are not aware of such contaminants. Especially, they do not know about new emerging and non-regulated contaminants that are now being monitored at the European level within the project. For example, these are micro plastics and associated chemicals, emerging toxins from harmful algal blooms and endocrine disruptors. These could also be pharmaceutical and personal care products as well as toxic metals. We want to assess their potential threat to consumers.

How will consumers benefit from the outcome of such studies?

ECsafeSEAFOOD article featured on Youris.com

06 June 2014

by Monica Ferrado

Antonio Marques – Improving seafood safety

New research is underway that aims to improve detection of seafood contaminants that could be used in prevention and to assess their impact on public health.

Related Articles

October 2014
Early warning system for fish farmers

February 2013
Slow headway for food safety

February 2014
Good risk communication, safer food

January 2013
Aquaculture: helping blue turn green

July 2014
The road to sustainable tuna aquaculture

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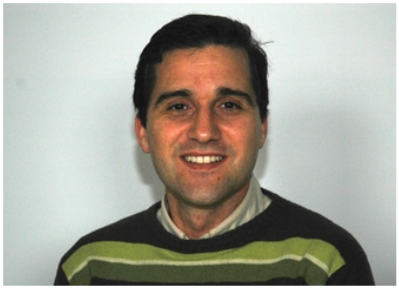
How will consumers benefit from the outcome of such studies?

Country: Portugal
Category: Health, Bioeconomy



In Section Fishery

Early warning system for fish farmers


Einar Eg Nielsen – Genetically tracking farmed fish escaping into the wild


Microbes – The New Bioplastic Factories


The road to sustainable tuna aquaculture


Antonio Marques – Improving seafood safety


ECsafeSEAFOOD featured in the second Collab4Safety Newsletter

OTHER RELEVANT INITIATIVES

AFTER project aims to improve African traditional products and the know-how associated by sharing the European and African knowledge and technical for the benefit of consumers and producers in Africa and Europe. Financed by the European Commission (FP7) the project is coordinated by Cirad. It will be implemented by partners of 7 African countries: Benin, Cameroon, Ghana, Egypt, Madagascar, Senegal and South Africa and 4 European countries: France, Italy, Portugal and United Kingdom. The project started in September 2010 for a duration of 4 years. [+]

ASFORCE is an EU FP7 focused on African Swine Fever (ASF), a devastating disease affecting swine that has recently crossed EU borders. Among other goals, the project will provide information for the design of more cost-effective control strategies, advance work leading to vaccine development and improve preparedness for ASF at different levels. [+]

DECATHLON - Development of Cost Efficient Advanced DNA-based methods for specific traceability issues and high-level on-site applications is an FP7 project that was initiated in December 2013 and will last for 3 years. Decathlon brings together a broad range of experts and expertise to jointly work on the development of new or improved methods that are needed in the field of 1) food pathogens, 2) traceability of GMOs and 3) customs issues. The project will develop advanced methods for all three application areas with method characteristics that meet the requirements of the individual areas. Field-related technical expertise will provide insight into the current, most relevant bottlenecks in the fields of application. Among many of the activities Decathlon will carry out, a series of training sessions will be developed for interested stakeholders. [+]

ECsafeSEAFOOD project assesses food safety issues related to priority environmental contaminants present in seafood and to evaluate their impact on public health. The third coordination meeting took place in Sant Carles de la Rapita (Spain) from 12-13 February 2014 where the project's progress was reviewed. Recent work carried out as part of ECsafeSEAFOOD included a consumer survey, designed to help the partnership to understand consumer preferences and concerns with regard to seafood safety, which collected nearly 3,000 survey responses from Ireland, Belgium, Italy, Portugal and Spain. The next coordination meeting will take place in Hirtshals, in Denmark (19 and 20 of June 2014), where the project partners will present the activities carried out to monitor the selected priority contaminants in seafood species, and the status of the development of reliable and cost-effective detection tools for those contaminants. [+]

ECsafeSEAFOOD article featured in the "ILVO at Sea" newsletter

ILVO

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Survey

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Thematic Newsletter 'ILVO at Sea' - April 2014

Is it still safe to eat seafood?

Seafood is one of the most important food commodities consumed worldwide. It has been recognized as a high-quality, healthy and safe food. However, seafood, like other types of food, can also be a source of harmful environmental contaminants like PCBs, dioxins, residues of pesticides, new emerging contaminants, etc.

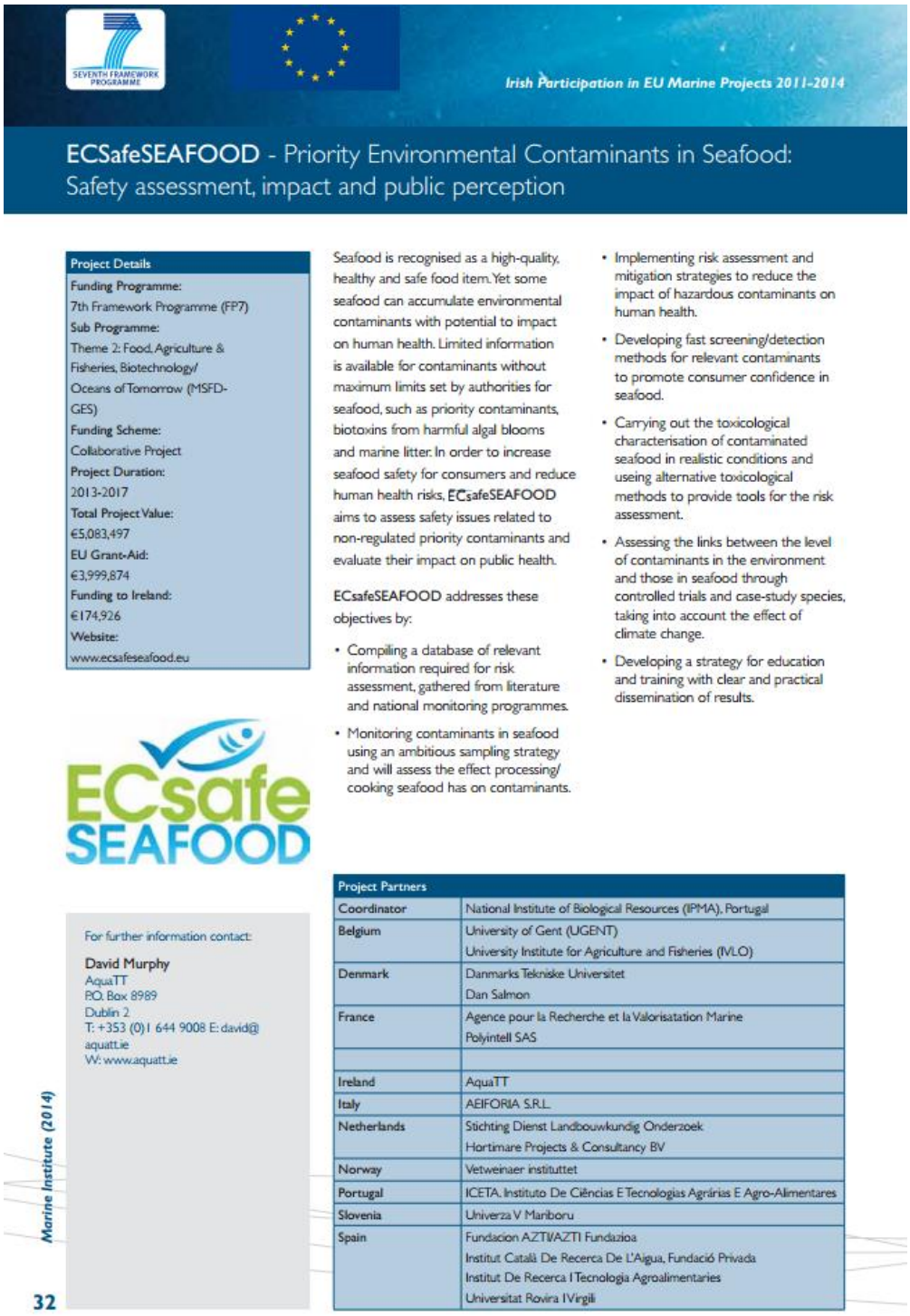
The presence of contaminants in seafood for human consumption at levels above the regulatory levels may have negative impacts on public health. For priority contaminants like brominated flame retardants, pharmaceuticals and personal care products, endocrine disruptors, heavy metals, microplastics, and so on, information on their presence in seafood is still lacking and their maximum levels are not determined.

The ECsafeSEAFOOD project aims to assess food safety issues related to these priority contaminants present in seafood as a result of environmental contamination. Their impact on public health is evaluated contributing to the improvement of seafood risk management and risk communication. The outcome of ECsafeSEAFOOD will help to provide safe seafood and to reduce human risks. This will enable European consumers and authorities to be more confident about the safety of their seafood.

ECsafeSEAFOOD addresses these objectives with eight work packages (WPs) targeting priority environmental contaminants. WP1 elaborates a database with relevant information required for risk assessment. Based on different criteria a selection of chemicals to be screened in WP2 will be done. In WP3, risk assessment (with data from WP1-2) and mitigation strategies will be implemented to reduce the impact of priority contaminants on human health. WP4 will develop innovative devices for the rapid detection of contaminants in seafood and WP5 will assess the toxicological impact of the relevant contaminants with innovative systems. WP6 will study the links between the level of contaminants in the environment and that in seafood taking into account the effect of climate changes. WP7 details a strategy for education with clear and practical dissemination of results and WP8 will ensure efficient project management.

Project title: ECsafeSEAFOOD Seventh framework programme Food, Agriculture and Fisheries, Biotechnology
Duration: 2013 – J2017
Contact: Griet Vandermeersch

ECsafeSEAFOOD outlined in the Irish Marine Institute's "New Connections II 2014): A Review of Irish participation in EU Marine Research Projects 2011-2013"



Irish Participation in EU Marine Projects 2011-2014

ECSafeSEAFOOD - Priority Environmental Contaminants in Seafood: Safety assessment, impact and public perception

Project Details

Funding Programme:
7th Framework Programme (FP7)
Sub Programme:
Theme 2: Food, Agriculture & Fisheries, Biotechnology/ Oceans of Tomorrow (MSFD-GES)
Funding Scheme:
Collaborative Project
Project Duration:
2013-2017
Total Project Value:
€5,083,497
EU Grant-Aid:
€3,999,874
Funding to Ireland:
€174,926
Website:
www.ecsafeseafood.eu

Seafood is recognised as a high-quality, healthy and safe food item. Yet some seafood can accumulate environmental contaminants with potential to impact on human health. Limited information is available for contaminants without maximum limits set by authorities for seafood, such as priority contaminants, biotoxins from harmful algal blooms and marine litter. In order to increase seafood safety for consumers and reduce human health risks, ECsafeSEAFOOD aims to assess safety issues related to non-regulated priority contaminants and evaluate their impact on public health.

ECsafeSEAFOOD addresses these objectives by:

- Compiling a database of relevant information required for risk assessment, gathered from literature and national monitoring programmes.
- Monitoring contaminants in seafood using an ambitious sampling strategy and will assess the effect processing/ cooking seafood has on contaminants.
- Implementing risk assessment and mitigation strategies to reduce the impact of hazardous contaminants on human health.
- Developing fast screening/detection methods for relevant contaminants to promote consumer confidence in seafood.
- Carrying out the toxicological characterisation of contaminated seafood in realistic conditions and useing alternative toxicological methods to provide tools for the risk assessment.
- Assessing the links between the level of contaminants in the environment and those in seafood through controlled trials and case-study species, taking into account the effect of climate change.
- Developing a strategy for education and training with clear and practical dissemination of results.

ECsafe SEAFOOD

Project Partners	
Coordinator	National Institute of Biological Resources (IPMA), Portugal
Belgium	University of Gent (UGENT) University Institute for Agriculture and Fisheries (IVLO)
Denmark	Danmarks Tekniske Universitet Dan Salmon
France	Agence pour la Recherche et la Valorisatation Marine Polyintell SAS
Ireland	AquaTT
Italy	AEIFORIA S.R.L.
Netherlands	Stichting Dienst Landbouwkundig Onderzoek Hortimare Projects & Consultancy BV
Norway	Vetweinaer instituttet
Portugal	ICETA. Instituto De Ciências E Tecnologias Agrárias E Agro-Alimentares
Slovenia	Univerza V Mariboru
Spain	Fundacion AZTI/AZTI Fundazioa Institut Català De Recerca De L'Aigua, Fundació Privada Institut De Recerca I Tecnologia Agroalimentaries Universitat Rovira I Virgili

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Marine Institute (2014)

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Annex III - List of intended Manuscripts for Special ECsafeSEAFOOD edition of Environmental Research

Number	Institution	Title	Corresponding author
1	UM	Evaluation of the toxicity of emerging chemical contaminants in the marine environment.	Sandra Rainieri (srainieri@azti.es)
2	ILVO	Emerging environmental contaminants in seafood: a review	Griet Vandermeersch (Griet.Vandermeersch@ilvo.vlaanderen.be)
3	ILVO	Risk ranking of priority contaminants in seafood	Griet Vandermeersch (Griet.Vandermeersch@ilvo.vlaanderen.be)
4	ILVO	Microplastics in hotspot European coastal areas	Griet Vandermeersch (Griet.Vandermeersch@ilvo.vlaanderen.be)
5	Ugent	European Seafood Consumers' perceived causes of pollution in the marine environment and related concerns	Silke Jacobs (Silke.Jacobs@UGent.be)
6	Ugent	European consumers' benefit - risk perception and the association with their consumption of seafood	Silke Jacobs (Silke.Jacobs@UGent.be)
7	URV	Analysis of musks in seafood consumed by the adult population of Tarragona County, Spain: Human exposure	German Cano-Sancho (german.cano@urv.cat)
8	URV	IRIFOOD: A tool to assess the risks associated to the dietary intake of chemical mixtures through seafood consumption	German Cano-Sancho (german.cano@urv.cat)
9	ICRA	Screening of pharmaceuticals and endocrine disrupting compounds in macroalgae, bivalves and fish from coastal areas in Europe.	Diana Álvarez-Muñoz (dalvarez@icra.cat)
10	ICRA	Determination of classical, emerging and naturally occurring halogenated compounds in marine biota from European hot spots	Ethel Eljarrat (eeeqam@cid.csic.es)
11	ICRA	Short chain PFAs in European fish and shellfish	Marinella Farre (mfuqam@cid.csic.es)
12	IPMA	Toxic elements and element speciation in seafood samples from different contaminated sites in Europe	Ana Luísa Maulvault (aluisa@ipma.pt)
13	IPMA	Seafood benefit-risk assessment using bioavailability methodologies - A Review of available data	Tomaz Langerholc (tomaz.langerholc@um.si)
14	IPMA	Bioaccumulation and elimination of mercury in juvenile seabass (Dicentrarchus labrax) under ocean warming	Ana Luísa Maulvault (aluisa@ipma.pt)
15	IPMA	Evaluation of the risks associated to the consumption of raw, cooked and processed Tuna fish (Thunnus spp.) based on the bioaccessibility of Se and methylmercury	Cláudia Afonso (cafonso@ipma.pt)
16	IPMA	Influence of the bioaccessibility of MeHg and Se on the Risk/Benefit associated to the consumption of Raw and Cooked blue shark (Prionace glauca)	Cláudia Afonso (cafonso@ipma.pt)
17	ICETA	Co-occurrence of musks and UV-filters in fish collected in European hotspots	Sara Cunha (sara.cunha@ff.up.pt)
18	AZTI	Acute and sub-acute toxicity of different species of inorganic arsenic tested in the zebrafish animal model.	Sandra Rainieri (srainieri@azti.es)
19	IRTA	The sugar kelp Saccharina latissima is a potential source of Pinnatoxin-G	Pablo de la Iglesia (Pablo.delaIglesia@irta.cat)
20	IRTA	Ostreopsis cf. ovata dynamics in the NW Mediterranean Sea in relation to biotic and abiotic factors.	Olga Carnicer (Olga.Carnicer@irta.cat)
21	IMARES	Levels of industrial contaminants in marine species from hotspot areas	Christian Kwadijk (christiaan.kwadijk@wur.nl)
22	Aeiforia	Identification of stakeholders' needs related to seafood safety	Alice Tediosi (alice.tediosi@aeiforia.eu)

Annex IV - Dissemination Tables

ECsafeSEAFOOD Dissemination Activities Table

ECsafeSEAFOOD DISSEMINATION ACTIVITIES AND PUBLICATIONS						
Partner	**Date**	**Type of activity**	**Title**	**Place**	**ECAS ref.**	**Basecamp ref.**
AQUATT	Feb-13	website	ECsafeSEAFOOD: Priority Environmental Contaminants in Seafood: safety assessment, impact and public perception	ECsafeSEAFOOD website	1	
AQUATT	Mar-13	Press Release	New Project Will Assess Level of Contaminants in Our Seafood	CORDIS	2	DA01
				AlphaGalileo		
				ECsafeSEAFOOD website		
	Mar-13			Aquat-net newsletter		
UGent	Mar-13	web dissemination	ECsafeSEAFOOD: Priority Environmental Contaminants in Seafood: safety assessment, impact and public perception	Institutional website	3	DA02
NVI	Mar-13	web dissemination	ECsafeSEAFOOD: Priority Environmental Contaminants in Seafood: safety assessment, impact and public perception	Toxinologi website	4	DA03
IRTA	Mar-13	web dissemination	Reunion inicial del proyecto ECsafeSEAFOOD	Institutional website	5	DA04
URV	Mar-13	web dissemination	Tecnatox will participate in a new FP7 project	Institutional website	6	DA05
IMARES	Mar-13	web dissemination	ECsafeSEAFOOD: Priority Environmental Contaminants in Seafood: safety assessment, impact and public perception	Institutional website	7	DA06
Polyintell	Mar-13	web dissemination	European ECsafeSEAFOOD: Priority Environmental Contaminants in Seafood: safety assessment, impact and public perception	Institutional website	8	DA07
IPMA	Mar-13	Press release	ECsafeSEAFOOD vai avaliar contaminação dos alimentos de origen marinho	Magazine Oceano	9	DA08
AQUATT	Mar-13	web dissemination	Tool for marine contamination	PHYS.ORG	10	DA09
AQUATT	Mar-13	Press release	EU-funded research will address seafood safety	Undercurrent news	11	DA10
AQUATT	Mar-13	Press release	New project to assess contaminants in seafood	World Fishing & Aquaculture	12	DA11
AQUATT	Mar-13	web	How safe is your seafood?	Aquafeed.com	13	DA12

ECsafeSEAFOOD DISSEMINATION ACTIVITIES AND PUBLICATIONS						
Partner	**Date**	**Type of activity**	**Title**	**Place**	**ECAS ref.**	**Basecamp ref.**
		dissemination				
UM	Apr-13	Web dissemination	International Research Project ECsafeSEAFOOD KBBE.2012.2.4-01	Institutional website	14	DA13
ICRA	Apr-13	Web dissemination	Priority environmental contaminants in seafood: safety assessment, impact and public perception (ECsafeSEAFOOD)	Institutional website	15	DA14
DTU	Apr-13	Web dissemination	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception.	Institutional website	16	DA15
AZTI	Apr-13	Newsletter	Garantizar la seguridad de los productos pesqueros	Itsasnet	17	DA16
ICRA	Apr-13	Web dissemination	PROYECTO ECsafeSEAFOOD: El ICRA participa en este proyecto cuyo objetivo general es evaluar la inocuidad de los alimentos relacionados con los contaminantes del mar.	Aguas Residuales	18	DA17
ARVAM	Apr-13	Web dissemination	Priority contaminants in seafood: assessment, impact and public perception.	Institutional website	19	DA18
AQUATT	Apr-13	Web dissemination	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception.	FIS	20	DA19
AZTI and ICRA	May-13	Web dissemination	Arranca una evaluacion europea sobre la presencia de contaminantes en el marisco	Aqui Europa	21	DA20
AZTI	May-13	Web dissemination	Evaluacion de contaminantes en pescado y marisco	Eroski Consumer	22	DA21
AQUATT	May-13	Oral presentation	Knowldge and Technology Transfer in the food area	II Iseki anual meeting	23	DA22
AZTI	May-13	Oral presentation	Tools for the Toxic Assessment of Environmental Contaminants in Fish	Eurofoodchem XVII Congress	24	DA23
AQUATT	Jun-13	Factsheet	ECsafeSEAFOOD: Priority Environmental Contaminants in Seafood: safety assessment, impact and public perception	ECsafeSEAFOOD website	25	DA30
AQUATT	Jun-13	Newsletter	Safe Seafood project will	ISEKI Newsletter	26	DA24

ECsafeSEAFOOD DISSEMINATION ACTIVITIES AND PUBLICATIONS						
Partner	**Date**	**Type of activity**	**Title**	**Place**	**ECAS ref.**	**Basecamp ref.**
			assess level of contamination in our seafood			
IPMA	Jul-13	Network / Platform cooperation	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception.	ECOWEB	27	DA25
AQUATT	Jul-13	Press Release	Safe Seafood project is raising expectations	ECsafeSEAFOOD website	28	DA26
IRTA	Jul-13	Poster Presentation	Magnetic particles as immobilisation supports in sensing and transduction strategies for the detection of aquatic toxins	VI workshop sobre nanociencia y nanotecnología analíticas	29	DA27
AQUATT	Jul-13	Newsletter	New project will assess level of contaminants in our seafood	Aquat-net	30	DA28
IPMA	Aug-13	Newsletter	Projecto ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception	Gabinete de Promoção do Programa Quadro de I&DT (GPPQ)	31	DA29
AQUATT	Aug-13	Flyers	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception. (Factsheet)	Aquaculture Europe 2013.	32	DA30
AQUATT	Aug-13	Flyers	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception. (Factsheet)	AquaNor 2013.	33	
IRTA	Aug-13	Poster Presentation	Electrochemical biosensors as screening methods in the framework of the ECsafeSEAFOOD project	XVIII Trobada Transfronterera de Sensors i Biosensors	34	DA31
AQUATT	Sep-13	Article	Safe Seafood Project is Raising expectations	European Aquaculture Society (EAS) Magazine	35	DA32
IRTA	Sep-13	Oral presentation	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception.	AESAN Meeting	36	DA68
IRTA	Sep-13	Poster Presentation	Present Evaluation of marine toxins in aquaculture products: challenges to improve	XV National Congress on Aquaculture	37	DA33

ECsafeSEAFOOD DISSEMINATION ACTIVITIES AND PUBLICATIONS						
Partner	**Date**	**Type of activity**	**Title**	**Place**	**ECAS ref.**	**Basecamp ref.**
			public health associated to regulated and non-regulated toxins			
IRTA	Sep-13	Oral presentation	Evaluación actual de toxinas marinas en productos de la acuicultura: retos para mejorar la seguridad alimentaria asociada a toxinas reguladas y no reguladas.	XV National Congress on Aquaculture	38	DA34
IPMA	Sep-13	Oral presentation	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception. (Factsheet)	IMEKO Symposium	39	DA35
NVI	Sep-13	Oral presentation	Crab and shellfish contamination with algal toxins trials foreseen in ECsafeSEAFOOD	Research Days	40	DA36
AQUATT	Sep-13	Newsletter	Safe Seafood Project is Raising expectations	US EPA's Fish Advisories	41	DA37
UM	Oct-13	Oral presentation	Toxicological Assessment of bioavailability	6th International Symposium Euro-Aliment 2013	42	DA38
DTU	Oct-13	Oral presentation	Arsenic speciation in food – current status on standardization of methods for specific determination of inorganic arsenic	Annual Workshop on Chemical Elements in Food of Animal Origin	43	DA39
UM	Oct-13	Oral presentation	Influence of food processing farming type, vegetable variant and place of cultivation on nitrate levels in vegetables.	IV International Scientific Conference on food, exercise and health.	44	DA40
AQUATT	Oct-13	Flyers	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception. (Factsheet)	Seafare seminar "The potential of wetlands aquaculture to contribute to economic benefit and to benefit environmental conservation".	45	DA30
AQUATT	Oct-13	Project Brochure	ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception	EC – Ocean of Tomorrow Projects (2010-2013): Joining Forces to Meet Challenges in Ocean Management	46	DA41
DTU	Nov-13	Oral presentation	Methylmercury determined by HPLC-ICP-MS	Marine Food Feed, Recent Advances in	47	DA42

ECsafeSEAFOOD DISSEMINATION ACTIVITIES AND PUBLICATIONS						
Partner	**Date**	**Type of activity**	**Title**	**Place**	**ECAS ref.**	**Basecamp ref.**
				Food Analysis (RAFA)		
AQUATT	Nov-13	Flyers	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception. (Factsheet)	4th Annual SmartOcean Forum: Blue Growth: Seize the opportunity. Share the potential.	48	DA30
ICRA	Nov-13	Poster Presentation	Evaluation of a simple method for the analysis of pharmaceuticals in seafood	4th SCARCE International Conference.	49	DA43
DTU	Nov-13	Poster presentation	Perfluorinated compounds in fish and carryover from fishfeed to farmed rainbow trout.	5th International Workshop on Per- and Poly-fluorinated substances (PFAS)	50	DA44
IRTA	Nov-13	Oral presentation	ECsafeSEAFOOD. Priority environmental contaminants in seafood: safety assessment, impact and public perception.	Catalan Agency for Food Safety and Nutrition meeting (ACSA)	51	DA46
AQUATT	Dec-13	Flyers	ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception. (Factsheet)	Seafare Seminar: Supporting sustainable oyster aquaculture for the Atlantic Region of Europe.	52	DA30
IPMA	Dec-13	Oral presentation	ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception.	The Marine Strategy Framework Directive (MSFD). Descriptor 10 – Marine Litter	53	DA47
AQUATT	Feb-14	Press release	Safe Seafood Project Enters Second Year	ECsafeSEAFOOD website	54	DA48
IRTA	Feb-14	Oral presentation	Research on HAB microalgae and toxins at IRTA, 2014: scientific challenges and interaction with the monitoring programme	GRD Phycotox	55	DA49
IPMA	Feb-14	web dissemination	ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception	Institutional website	56	DA50
AQUATT	Feb-14	video	ECsafeSEAFOOD project (oficial video)	ECsafeSEAFOOD website vimeo	57	
IRTA	Mar-14	Oral presentation	Ostreopsis cf ovata from the NW Mediterranean (Ebre Delta area). Isolation, culture, toxicity evaluation and toxin profiles	Department of Pharmacy of the Università degli Estudi di Napoli	58	DA52

ECsafeSEAFOOD DISSEMINATION ACTIVITIES AND PUBLICATIONS						
Partner	**Date**	**Type of activity**	**Title**	**Place**	**ECAS ref.**	**Basecamp ref.**
UGent	Apr-14	Oral presentation	Risk – benefit perception and consumption of seafood in European consumers	Belgian Nutrition Society Fourth Annual Congress - BNS sysmposium	59	DA53
AZTI	May-14	Poster Presentation	Evaluation of the adverse effects of mixtures of trace metals in zebrafish embryos	5th International IUPAC Symposium for Trace Elements in Food (TEF-5)	60	DA54
IRTA	May-14	Oral presentation	Dades del programa de seguiment de les zones de producció de molluscs al litoral català	Seminar remembering Margalef. Temporal series, science and society	61	DA55
AQUATT	May-14	Interview	ECsafeSEAFOOD Project	Argentinian radio program ECOS	62	
ICRA	May-14	Oral presentation	Multi-residue Method for the Analysis of Pharmaceuticals and Some of Their Metabolites in Bivalves	ExTech: 16th International symposium on advances in extraction technologies	63	DA57
IPMA	May-14	Interview	ECsafeSEAFOOD Project	Radio Antena 1	64	
AQUATT	Jun-14	Press release	Safe Seafood Project Develops Tools for Detection of Pharmaceutical Residues	Medical News Today	65	DA58
				News Medical		
				ECsafeSEAFOOD website		
AQUATT	Jun-14	web dissemination		European Aquaculture Technology and Innovation Platform (EATiP)		
UGent	Jun-14	Oral presentation	European consumers' benefit - risk perception and the association with their consumption of seafood	WEFTA conference	66	DA59
Polyintell	Jun-14	Poster Presentation	Analysis of veterinary drug residues in complex food matrices using a solid phase extraction based on Molecularly Imprinted Polymers	7th International Symposium on Hormone and Veterinary Drug Residue Analysis	67	DA60
IPMA	Jun-14	web dissemination	ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception	Collab4Safety Newsletter	68	DA61
IPMA	Jun-14	Interview	Antonio Marques – Improving seafood safety	Youris.com	69	DA62
				The Fishsite		DA63
				CommNet newsletter		DA64
AQUATT	Jun-14	Poster	ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception	ECsafeSEAFOOD website	70	DA65

ECsafeSEAFOOD DISSEMINATION ACTIVITIES AND PUBLICATIONS						
Partner	**Date**	**Type of activity**	**Title**	**Place**	**ECAS ref.**	**Basecamp ref.**
IRTA	Jul-14	videos	ECsafeSEAFOOD: Priority environmental contaminants in seafood: safety assessment, impact and public perception	ECsafeSEAFOOD website Youtube	71	
AQUATT	Jul-14	Newsletter	ECsafeSEAFOOD: Project News (Issue I)	CORDIS Wire AlphaGalileo ECsafeSEAFOOD website	72	DA66
IPMA	Jul-14	Press release	Novo Método para detecção de resíduos de medicamentos na água	Magazine Oceano	73	DA67
UGent	Oct-14	Oral presentation	EUROPEAN SEAFOOD CONSUMERS' PERCEIVED CAUSES OF POLLUTION IN THE MARINE ENVIRONMENT AND RELATED CONCERNS	Aquaculture Europe 2014	74	DA69
IRTA	Oct-14	Oral presentation	Tetrodotoxins in Mediterranean puffer fishes by hydrophilic interaction liquid chromatography-mass spectrometry.	Analytical Chemistry Meeting (JAI) in Barcelona	75	DA68
IRTA	Oct-14	Oral presentation	Partial synthesis of acyl ester analogs of lipophilic marine toxins with analytical and toxicological applications	16th International Conference on Harmful Algae	76	DA70
IRTA	Oct-14	Poster Presentation	The sugar kelp Saccharina latissima is a potential source of the emerging toxin, Pinnatoxin-G, in cold waters	16th International Conference on Harmful Algae	77	DA71
IRTA	Oct-14	Poster Presentation	Novel Ovatoxin-g and putative palytoxin from Ostreopsis cf. ovata (NW Mediterranean Sea): gaining structural information through High Resolution Mass Spectrometry	16th International Conference on Harmful Algae	78	DA72
AQUATT	Aug-14	web dissemination	ECSafeSEAFOOD - Priority Environmental Contaminants in Seafood: Safety assessment, impact and public perception	New Connections II (2014): A Review of Irish participation in EU Marine Research Partnerships	79	DA73
IPMA	Oct-14	Oral presentation	ECSafeSEAFOOD - Priority Environmental Contaminants in Seafood: Safety assessment, impact and public perception	Final SCARCE International Conference	82	DA74

ECsafeSEAFOOD Publications Table

	ECsafeSEAFOOD PUBLICATIONS									
Partner	Type of activity	Title	Journal	IPRC assessment	CC assessment		Date	Status	ECAS ref.	Basecamp ref.
					Recomendations	Stakholders'				
ICRA	Peer reviewed publication	Analysis of multi-class pharmaceutical in fish tissues by ultra-high performance liquid chromatography tandem mass spectrometry	*Journal of Chromatography A*	Publication	Peer review journal, ECsafeSEAFOOD website, Press release summarizing the results	scientific community	May-13	Published	1	P1
ICRA	Peer reviewed publication	Development of a liquid chromatography – tandem mass spectrometry procedure for determination of endocrine disrupting compounds in fish from Mediterranean rivers	*Journal of Chromatography A*	Publication	Peer review journal, ECsafeSEAFOOD website, Press release summarizing the results	scientific community	Sep-13	Published	2	P2
IRTA	Peer reviewed publication	Confirmation of pinnatoxins and spirolides in shellfish and passive samplers from Catalonia (Spain) by liquid chromatography coupled with triple quadrupole and high-resolution hybrid tandem mass spectrometry	*Journal Marine Drugs*	Publication	Peer review journal, Press release summarizing the results, ECsafeSEAFOOD website	Scientific community, EU authorities responsible for seafood safety and consumer health	Jun-14	Published	3	P3
NVI	Peer reviewed publication	In vitro labelling of muscle type nicotinic receptors using a fluorophore-conjugated pinnatoxin F derivative	*Toxicon*	Publication	Publication in a peer review journal; ECsafeSEAFOOD website	scientific community	Sept-14	Published	4	P4
Ugent	Peer reviewed publication	Risk – benefit perception and consumption of seafood in European consumers	*ARCHIVES OF PUBLIC HEALTH*	Publication	Distribution among these stakeholders choosing key persons. Presentation at scientific conferences , and eventually publication in a peer review journal. publication of the abstract and/or the actual poster on the ECsafeSEAFOOD website	policy makers responsible for food, sustainability and environmental issues and scientific community	Sept-14	Published	5	P5

IRTA	Peer reviewed publication	Assessment of acylation routes for the semi-synthesis of ester analogs of lipophilic marine toxins	*Rapid Communications in Mass Spectrometry*	Publication	Publication in a peer review journal; ECsafeSEAFOOD website	scientific community	Dec-14	Published	6	P6
IRTA	Peer reviewed publication	Alternative Methods for the Detection of Emerging Marine Toxins: Biosensors, Biochemical Assays and Cell-Based Assays	Journal Marine Drugs	Publication	Publication in peer review journal, press release summarizing the results, ECsafeSEAFOOD website	scientific community, EU authorities responsible for seafood safety and consumer health	Dec-14	Published	7	P7
ICRA	Peer reviewed publication	Multi-residue method for the analysis of pharmaceuticals and some of their metabolites in bivalves	Talanta	Publication	publication in a peer review journal, as planned, and/or the presentation at conference; ECsafeSEAFOOD website; press release summarizing the results	scientific community, policy makers responsible for seafood safety and consumer health	Dec-14	Accepted		