



Vivaldi Project

Stakeholder identification
mapping for participating
EU and third countries

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EXECUTIVE SUMMARY

The objectives of WP6 task 1 were (1) to identify the stakeholders affected by mollusc diseases and related management measures and (2) to determine these stakeholders' influence and interest in disease management practices, from their own perspective.

Two distinct online cross-sectional surveys were conducted to achieve these goals. The first survey was aimed at identifying all potential stakeholders and their perceptions regarding shellfish diseases and disease management measures. The second survey evaluated the nature and intensity of the relationships between stakeholders and « distance » between them. The surveys were edited in 5 languages: English, French, Spanish, Catalan and Italian.

Seven categories of stakeholders were identified: politicians; public institutions; education/training organisations; research organisations; knowledge transfer and technological development organisations or individual experts; shellfish industry and related sectors; and, finally, society including NGO and media.

Shellfish diseases are considered as an issue and have an important impact, generally negative, especially for the industry. Interestingly, whatever the stakeholders' category is, they feel confident that it is possible to do something. Moreover, most of the stakeholder implement or take part in actions aimed at preventing or mitigating shellfish diseases

In the analysis of relationships between stakeholders, producers are cited as important partners by all stakeholders including researchers. Conversely, politicians, associations for environmental protection, media and the wider society are poorly cited by other stakeholders. Most stakeholders are interacting on an intermediate intensity pattern.

Obtained results reveal that the producers, research and health-related Institutions are the most connected stakeholders. The heterogeneous response number per stakeholder category between the countries leads to different contact maps, with Ireland showing a network concentrated around producers and the three other countries (Italy, Spain and France) showing a more balanced contact network.

Results from this analysis can inform an improved risk communication process and the development of a better targeted communication approach about shellfish disease management either at the EU and national levels.

PROJECT INFORMATION

Project Name: VIVALDI

Grant N°: 678589

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EU Programme: Horizon 2020

Description: The European project VIVALDI (PreVenting and mItigating farmed biVALve Diseases) aims at increasing the sustainability and competitiveness of the shellfish industry in Europe, developing tools and approaches with a view to better preventing and controlling marine bivalve diseases. VIVALDI is a 4-years European Horizon 2020 project coordinated by Ifremer (2016-2020): 21 mostly European, public and private partners are involved in it, representing the diversity of the European shellfish industry landscape. VIVALDI will not only bring new knowledge on the complex interactions between shellfishes, environment and pathogens, but it will also develop practical tools and approaches aiming at better preventing and controlling marine bivalve diseases. Hence, instruments allowing for an early detection of pathogens, good health indicators and prediction tools assessing the environmental influence on the emergence and development of the diseases will be developed in this project. A better understanding of how the shellfish stakeholders are organised will also improve the dissemination of results and of the tools developed in the project. It will also allow to better identify the best communication strategies when it comes to disease management.



VIVALDI CONSORTIUM

IFREMER		MI		IMR	
CNRS		NUIG		DLO	
SYSAF		ATLANTIUM		CEFAS	
LABOGENA		UNIGE		QUB	
CSIC		UNIPD		AWI	
IRTA		UNITS		DTU	
UCC		NOFIMA		ULiv	

Contributors to the Deliverable

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Stakeholder identification mapping for participating EU and third countries

1. Objectives

The objectives of WP6 task 1 were (1) to identify the stakeholders affected by mollusc diseases and related management measures and (2) to determine these stakeholders' influence and interest in disease management practices, from their own perspective.

We undertook a stakeholder analysis and applied a stakeholder mapping framework to investigate the influence and interest of key stakeholders in each participating country in disease management issues. A description of the stakeholders' network and interactions enabled identification of those stakeholders with high levels of interest in disease management and high capacity to influence the adoption of disease management strategies. We built maps, taking into account different components such as decision-makers and institutions, industry sector, research bodies, NGO's, etc. at different geographic levels (national and EU participating countries).

Results from this analysis can inform an improved risk communication process. In particular, stakeholder maps were compared between partner countries to develop a communication approach about shellfish disease management either at the EU level, or at the national level.

2. General methodology

Stakeholder analysis relies on several steps. The first step consists in identifying all potential stakeholders. Stakeholders are generally defined as all those people who are affected by or can affect a particular decision or action (Freeman 1984, Donaldson and Preston, 1995, Mitchell *et al.*, 1997). In the context, interest could be direct, for example, by observing mortalities or indirect, by preventing or mitigating the effect of the diseases (regulations, empirical know-how, etc.). The second step investigates relationships between stakeholders and aims at calculating « distance » between them.

Two distinct online cross-sectional surveys were conducted to achieve these goals. Five versions of the survey were edited in 5 languages: English, French, Spanish, Catalan and Italian.

2.1 Stakeholder categorisation

The study population consisted of different stakeholder categories concerned by shellfish diseases. The establishment of categories is useful to classify stakeholders. Based on a previous study carried out in the context of the European project EUROSHELL¹, we have chosen to classify stakeholders according to their activities.

In the current study we have used the following categories:

¹ EUROSHELL - Bridging the gap between science and producers to support the European marine mollusc production sector (312025 – FP7 KBBE 2012.1.2-11). Final contractual management report June 2014

- Politicians : any person who holds a public elected mandate at European, national, regional or local level;
- Public institutions, except research, education, training;
- Education/training organisations;
- Research organisations: all staff elaborating/creating new knowledge;
- Knowledge Transfer and technological development organisations or individual experts: staff from public or private organisations who use knowledge with a view to having it transferred into innovation/technology;
- Shellfish industry and related sectors;
- Society, NGO, media

2.2 Data collection

Stakeholder responses were collected using online questionnaires, created, hosted and shared using GoogleDrive™. The surveys were anonymous. It included neither personal nor sensitive data, and according to European legislation, did not require approval by an Ethical Committee.

Further information is provided under following specific sections of the two surveys.

2.3 Survey sending/dissemination

VIVALDI partners involved in this task were asked to use their own mailing list of potential stakeholders. In order to control the response rate, contacted people were not asked to forward the link to access the survey.

Participating countries included UK, Italy, Ireland, Spain and France.

The UK partner compiled a list but was unable to contact individual businesses. Of those correspondents that were contacted, only a few responded. Returns were insufficient to contribute significantly to the survey.

In Spain, in order to target as many stakeholders as possible, surveys were sent in both Spanish and Catalan. However, data analysis was carried out at the national level.

3. 1st Survey: identification of stakeholders

3.1 Methodology

The first step consisted in identifying the stakeholders and their perceptions regarding shellfish diseases.

Contacted people were asked to tell if (1) they are positively or negatively affected by shellfish diseases and (2) they do something in favour of shellfish diseases or against shellfish diseases by implementing (preventing or mitigating) regulations.

The objective of the 1st survey is summarised in the following table:

		Shellfish diseases	Preventing/mitigating
Stakeholder's activity	Influences	?	?
	Is influenced by	?	?

Table 1: Main questions addressed in survey 1

The 1st survey questionnaire is available in Annex 1. It was open for responses between February 2017 and mid-April 2017.

Data were analysed by the partners involved in this task, following guidelines established by Ifremer (see in Annex 3).

3.2 Participation rate by country and by stakeholders' category

Concerning the 1st survey, 250 responses were recorded out of the 1,241 people contacted. This participation rate of 20% is usual for online surveys.

The participation rate was of similar magnitude among the different participating countries (Table 2). Number of responses by country ranged from 48 (Ireland) to 80 (Spain).

Countries	Stakeholders contacted	Stakeholders responses	Response rate (%)
Ireland	342	48	14
Spain	398	80	20
Italy	262	60	23
France	239	62	26
<i>UK (not taken into account in the survey)</i>	<i>13</i>	<i>4</i>	<i>30</i>
Total	1,241	250	20

Table 2: Distribution of contacted stakeholders and response rate by country.

The answers by stakeholder category are distributed as follows: 101 from industry, 67 from research, 35 from public institutions, 19 from education and training, 18 from the society sphere and 14 from the domain of transfer of technology and development. Politicians are poorly represented with only 1 response in Ireland (Table 3).

Country	Education	Industry	Institution	Politician	Research	Society	Transfer	Total
Spain	11 (14%)	32 (40%)	17 (21%)	0	12 (15%)	7 (9%)	1 (1%)	80 (100%)
France	4 (6%)	17 (27%)	9 (15%)	0	13 (21%)	8 (13%)	11 (18%)	62 (100%)
Ireland	2 (4%)	33 (69%)	4 (8%)	1 (2%)	7 (15%)	0	1 (2%)	48 (100%)
Italy	1 (2%)	16 (27%)	4 (7%)	0	35 (58%)	3 (5%)	1 (2%)	60 (100%)
Total	18 (7%)	98 (39%)	34 (14%)	1 (<1%)	67 (27%)	18 (7%)	14 (6%)	250 (100%)

Table 3: Number of stakeholder responses by country and category. The percentages are calculated on a row basis (by country).

The respondent profiles are heterogeneous (Table 3):

- Between 2 and 6% of responses came from the education and training category except in Spain (14%).
- Around 27% of responses came from the industry in France and Italy, 40% in Spain and 69% Ireland.
- In Italy and Ireland, 7 to 8% of responses came from public institutions, whereas this percentage was higher in France (15%) and Spain (21%).
- In the research sector, the highest response rate was from Italy (27%) whereas only 15-20% of responses came from this stakeholder category in other participating countries.
- “Society” and “transfer” stakeholder categories were poorly represented except in France (13% and 18%, respectively).

3.3 Stakeholders’ interest in mollusc diseases

Response analysis was done by each participating partner. Reports by country are appended at the end of this report in Annex 4. The analysis of the whole data is presented below. Respondents from both France and Ireland showed a strong interest in shellfish diseases (Figure 1).

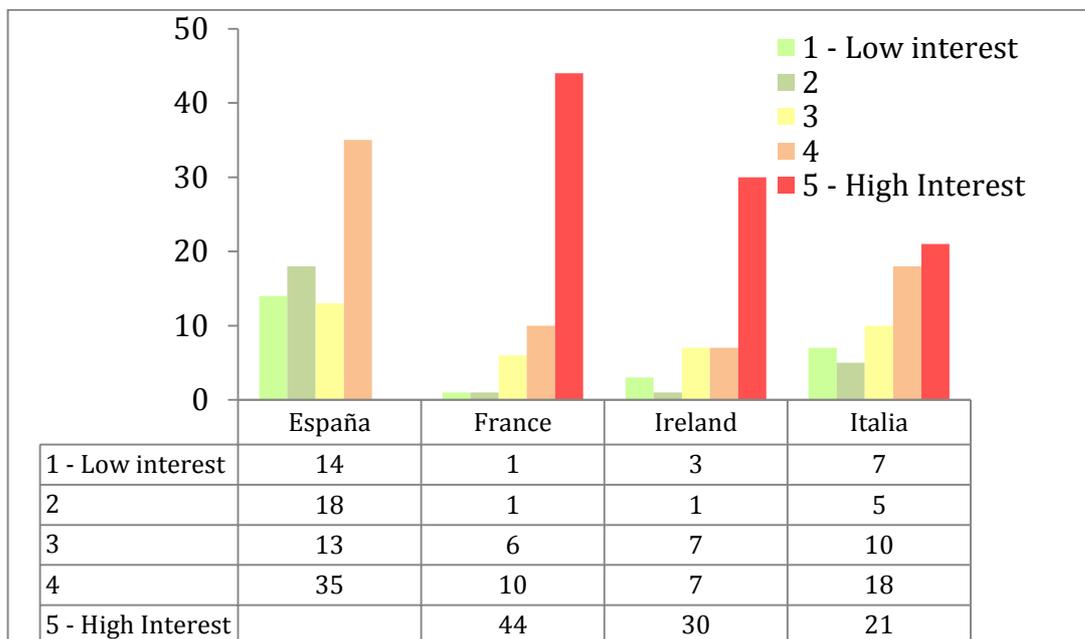


Figure 1: Number of responses per country (Do you have an interest in shellfish diseases?)

Industry, research and institution stakeholders appeared as the most concerned by shellfish diseases (Figure 2). Institution, research and industry showed a high interest in shellfish diseases. In contrast, education did not seem very interested in this issue.

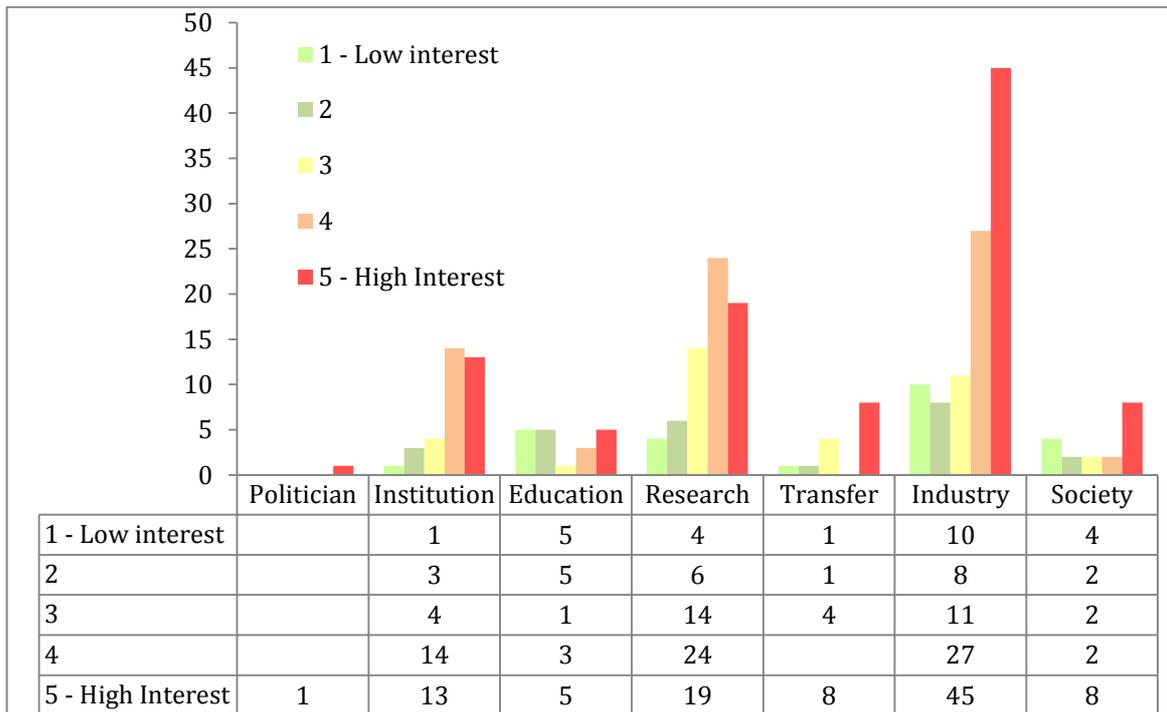


Figure 2: Number of responses per stakeholder category (Do you have an interest in shellfish diseases?)

3.4 Stakeholders activities and mollusc diseases

- Consequences of mollusc diseases on stakeholder activity

Stakeholders from participating countries appeared fully aware of the consequences of diseases on their own activity (Figure 3). However, in Italy and Spain, between 11% and 16% of respondents did not know or did not see consequences of disease occurrence.

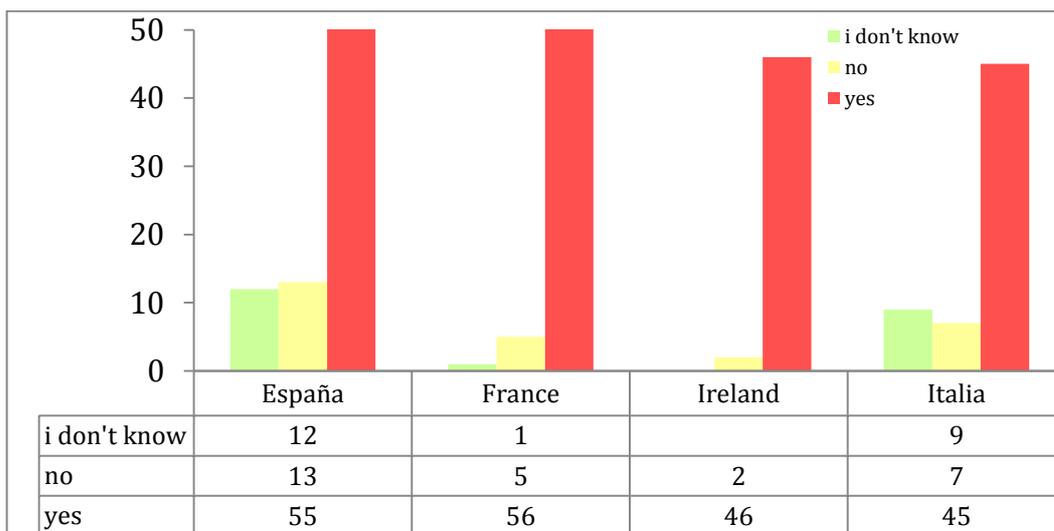


Figure 3: Number of responses by country (Do you think that shellfish diseases have consequences on your activity?)

The different stakeholder categories considered that shellfish diseases have consequences on their activities (Figure 4). However, about 50% and 30% of respondents from the education and research sectors respectively did not know or do not see obvious consequences.

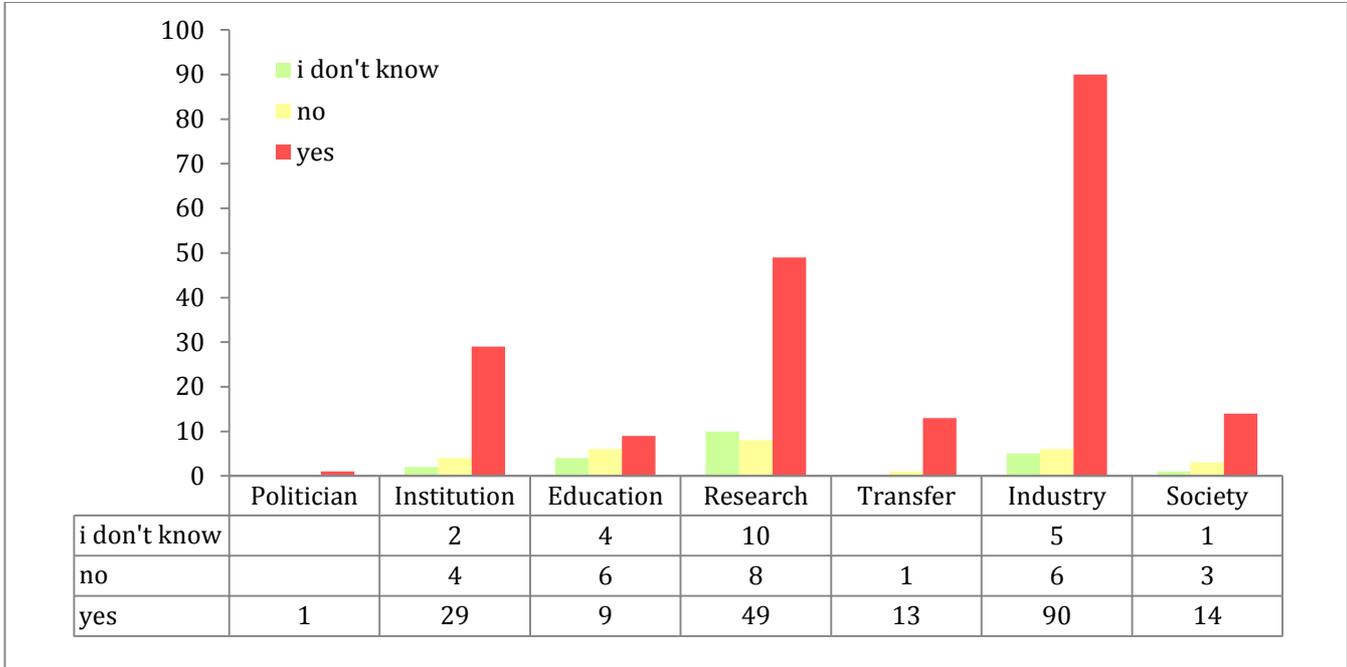


Figure 4: Number of responses by stakeholder category (Do you think that shellfish diseases have consequences on your activity?)

Most of respondents from Ireland and France considered that diseases have a high or very high negative influence on their activities (Figure 5). Respondents from Spain and Italy were more mixed.

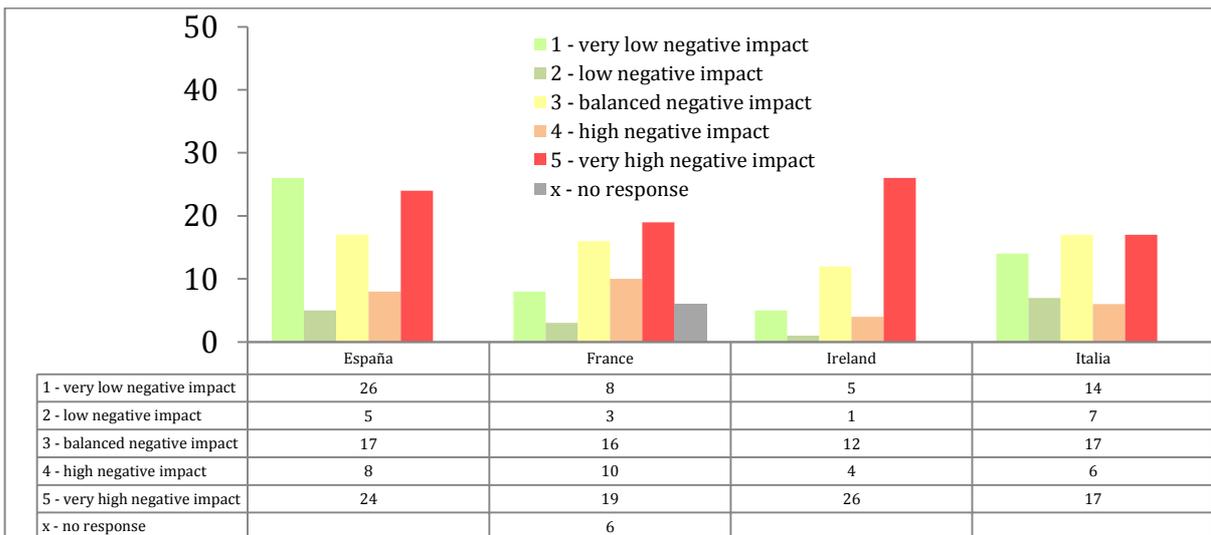


Figure 5: Number of responses by country (Do you think that shellfish diseases have a negative impact on your activity?)

Industry is the most negatively affected stakeholder category. Conversely, a part of other categories, such as the research community, considered that shellfish diseases have a balanced or very low negative impact on their activities (Figure 6).

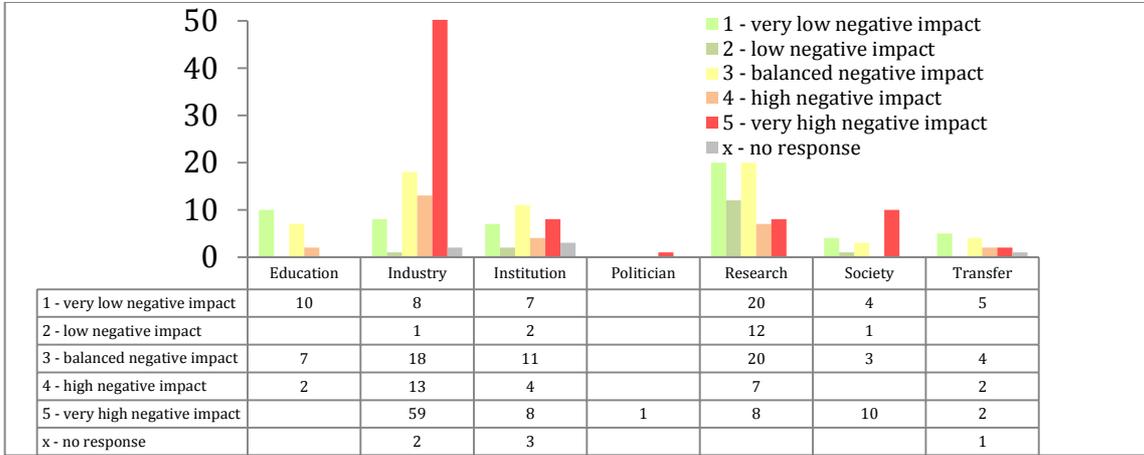


Figure 6: Number of responses by stakeholder category (Do you think that shellfish diseases have a negative impact on your activity?)

By country, benefits are generally perceived as very low (Figure 7).

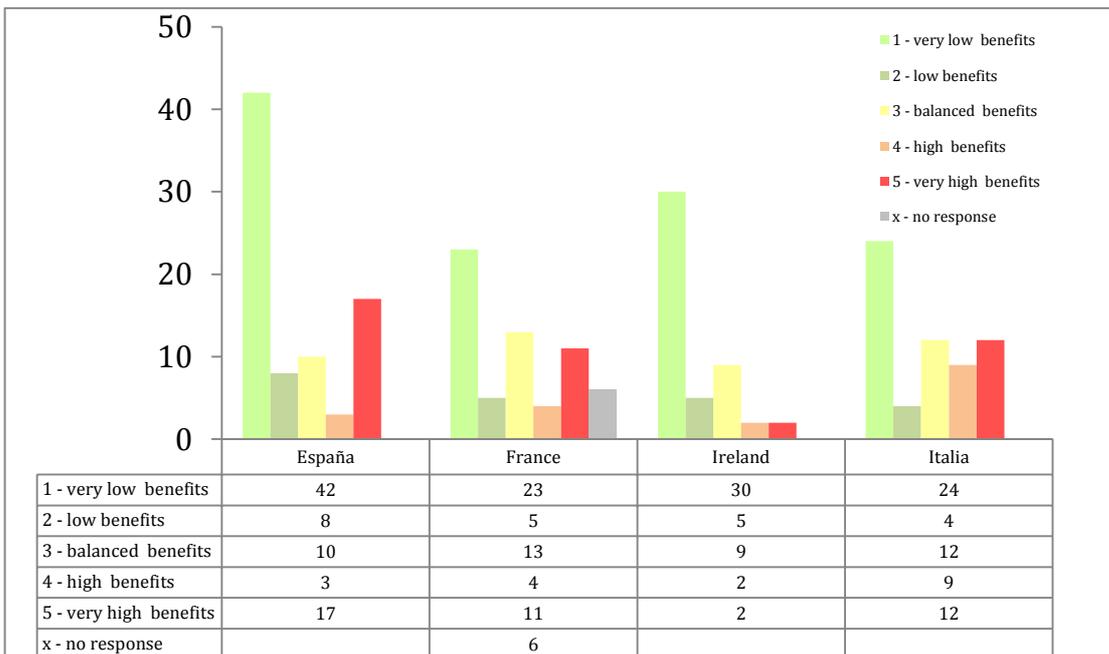


Figure 7: Number of responses by country (Do you think that your activity benefits from shellfish diseases?)

Considering responses by stakeholder category, the industry does not perceive a benefit (Figure 8). About half of respondents from the research sector consider that shellfish diseases have between balanced and very high benefits on their activities.

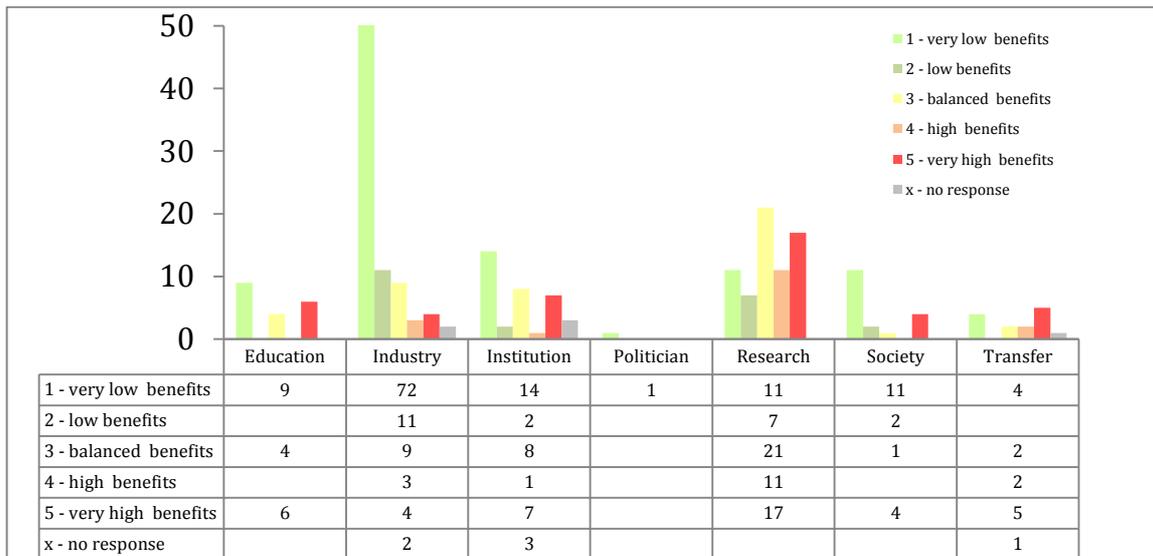


Figure 8: Number of responses by category (Do you think that your activity benefits from shellfish diseases?)

- Stakeholders and disease mitigation or prevention measures

Interestingly, respondents from the four participating countries seem confident regarding prevention or mitigation possibilities (Figure 9).

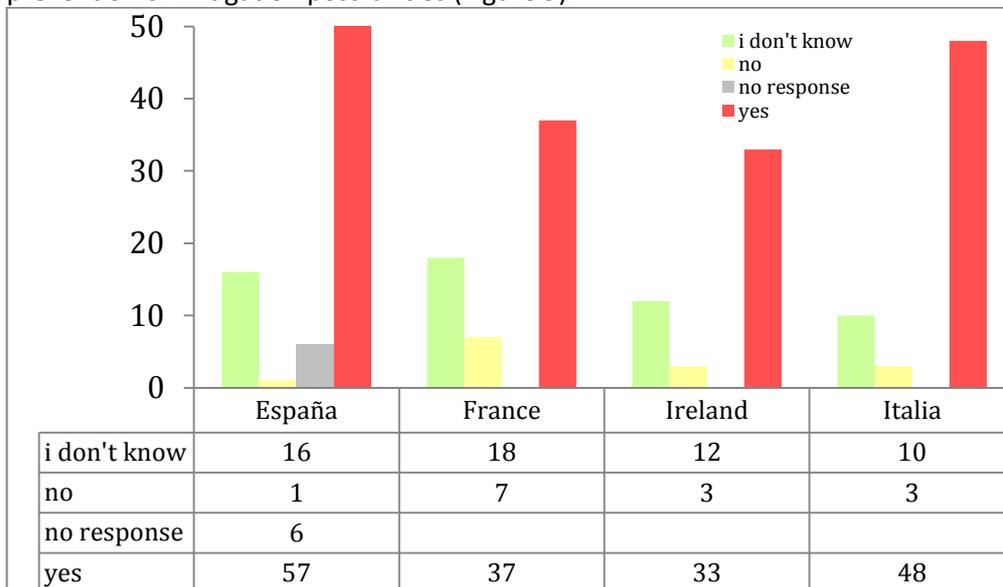


Figure 9: Number of responses by country (Do you think it is possible to prevent or mitigate shellfish diseases?)

Whatever the stakeholder category, a majority of respondents considers that it is possible to prevent or mitigate shellfish diseases (Figure 10). However, about 30% of the industry responded “I don’t know”.

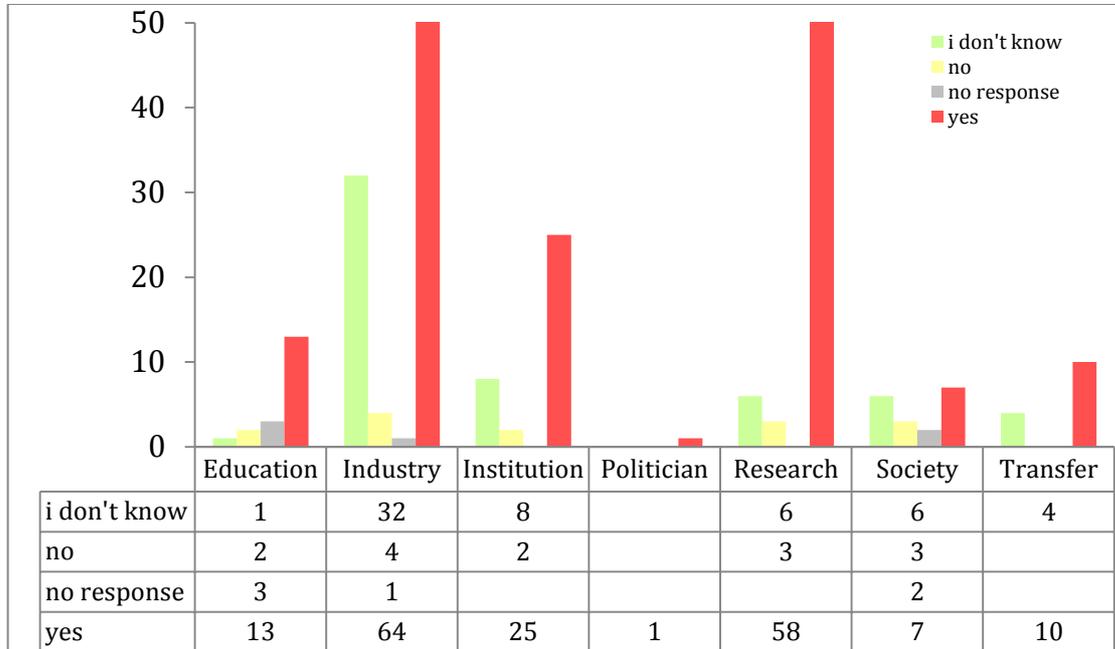


Figure 10: Number of responses by category (Do you think it is possible to prevent or mitigate shellfish diseases?)

In Ireland and France, a similar pattern was observed when asking stakeholders if they implement or take part in actions at preventing or mitigating shellfish diseases. In Spain and Italy, the difference between positive and negative responses was less significant (Figure 11).

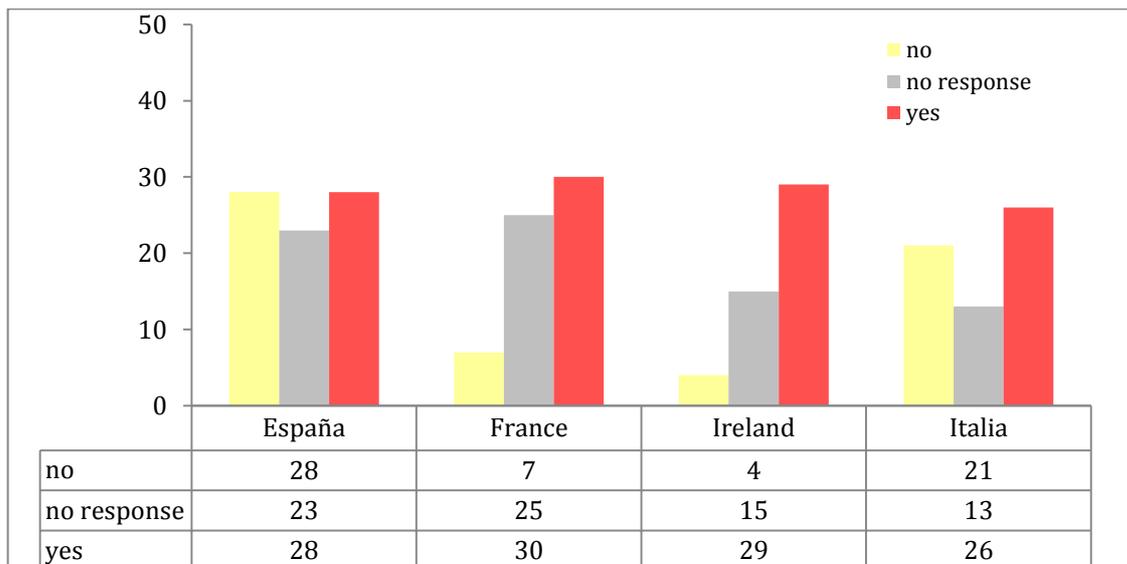


Figure 11: Number of responses by country. (Do you implement or take part in actions aiming at preventing or mitigating shellfish diseases?)

About half of the respondents from the industry, research, transfer and institution consider that they take part in disease management measures (Figure 12). Moreover 37% of researchers do not participate in these measures.

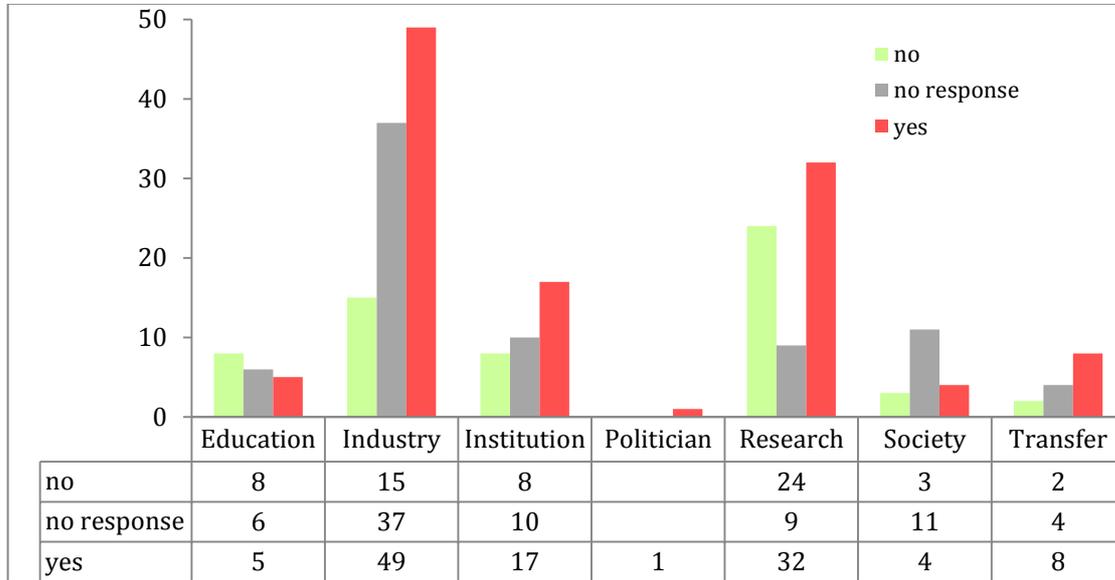


Figure 12: Number of responses by category. (Do you implement or take part in actions aiming at preventing or mitigating shellfish diseases?)

Respondents were finally asked to describe in which types of actions they are involved in: defining, setting-up, implementing or transferring disease management measures. The rates of stakeholders involved in these 4 actions are low (between 15 and 27 %). By categories, a maximum of 30% of the stakeholders is involved in a given action. Education, transfer and Society categories show the lowest rates.

Table 4 summarises responses by stakeholders' category: although rates of positive responses are low, definition of measures mostly concerns researchers, measure setting up mostly involves institution, and implementation concerns the industry. Interestingly, these three stakeholder's categories also feel involved in the transfer of shellfish disease measures.

Category	Total Number of respondents	Defining	Setting-up	Implementing	Transferring
Politics	1	0	0	1	1
Institutional	34	6	11 32,3%	7	10 29,4%
Education	18	4	0	0	4
Research	67	11 16,4%	8	9	23 34,3%
Transfer	14	4	3	4	5
Industry	98	16	14	35 35,7%	23 23,5%
Society	18	3	2	2	3
Total	250	44 17,6%	38 15,2%	58 25,0%	69 27,6%

Table 4: Involvement of stakeholders in the different types of activity related to disease management measures (percentages are calculated per row, i.e. out of the total number of respondents)

4. Second survey: description of the interactions between stakeholders

4.1 Methodology

The second survey aimed at investigating relationships among stakeholders. The survey questionnaire is available in Annex 2.

It was open for responses between the end of June 2017 to the end of September 2017.

In the 2nd survey, some stakeholder categories have been modified:



- Stakeholders whose activities concern public issues (as administration or institutions) had the choice between activity related to shellfish diseases (animal health issues) or not (marine affairs or environmental protection for example).
- The category “society” was divided into 3 sub-categories: environmental protection organisations, media and wider public.

Contacted people were asked to identify other stakeholders with whom they share information regarding shellfish diseases and to describe the strength and the frequency of these relationships. Strength of the relationship was coded from 1 to 5 and frequency was defined as follows:

- At least once a day
- At least once a week
- At least once a month
- At least once a trimester
- At least once a year

Given the small sample size per partner and stakeholder category, all responses received by the partners were collated in a single database.

Each variable was described in terms of frequency distribution. Contingency tables were built to represent the contact matrices between stakeholder categories.

These contact matrices were further used to map contact networks, with stakeholder categories as nodes and contact as lines between a pair of stakeholder categories. The width of the undirected or directed lines represents the frequency of the contact. Network visualisation was performed using igraph package version 1.1.2. (Csardi et Nepusz, 2006)² for R software version 3.4.0 (R Core Team, 2017).

4.2 Participation rate by stakeholders’ category

No response from politicians and media was recorded for that survey. Producers, researchers and institutions represent more than 80% of the responses (Table 5).

	Education	Env Ass	Institution except health	Institution Health	Producers	Research	Society	Transfer	Total
France	5	3	3	6	12	14		5	48
Ireland	1			2	36	2		1	42
Italy	3			4	6	11	1		25
Spain	2		6	3	12	6	2	2	33
Total	11	3	9	15	66	33	3	8	148

Table 5: 2nd survey - Number of respondents by country and categories.

² Csardi G, Nepusz T: The igraph software package for complex network research, InterJournal, Complex Systems 1695. 2006. <http://igraph.org>

4.3 Relationships between stakeholders

Table 6 presents links between stakeholder’s categories. No response from politicians or media was recorded although stakeholders from other categories could have contacts with them.

The analysis of responses reveals that:

- 70% of the researchers consider that producers are their main partners and to a lesser extent education, transfer and institutions
- 86% of the producers have strong relationships with institution in charge of shellfish health
- Institutions in charge of shellfish health have strong relationships with producers and researchers (93%) other institutions (67%), education (73%) and transfer (87%).

Interestingly, producers are cited as important partners by all stakeholders (from 67% to 100%) including researchers (from 33 to 93%).

Politicians, associations for environmental protection, media and wide society are poorly cited by other stakeholders.

	Politicians	Institutions except health	Health Institutions	Education	Research	Transfer	Producers	Environmental Associations	Medias	Society
Politicians										
Institutions except health	78%	67%	78%	33%	67%	89%	89%	56%	44%	22%
Health Institutions	27%	67%	100%	73%	93%	87%	93%	13%	40%	47%
Education	45%	73%	55%	100%	82%	73%	82%	36%	45%	36%
Research	21%	52%	39%	52%	88%	61%	70%	21%	27%	12%
Transfer	50%	75%	75%	75%	75%	75%	88%	38%	63%	25%
Producers	35%	59%	86%	36%	62%	50%	91%	44%	38%	24%
Environmental Associations	67%	67%	0%	33%	67%	0%	67%	67%	67%	67%
Medias										
Society	33%	33%	67%	67%	33%	33%	100%	67%	33%	33%

Table 6: Percentages of stakeholders belonging to a category having relationships with other stakeholders

NB: the diagonal doesn't show 100% because some stakeholder could have no relationship with stakeholders of the same category. Colours in the box help to identify the highest and lowest percentages.

The intensity of relationships between stakeholder categories is summarised in Table 7. Globally, most stakeholders are interacting on an intermediate pattern. Stakeholders show a weak relationship with producers (around 2) whereas producers develop an intermediate strength (3) in their relationships with other stakeholders.

	Politicians	Institutions except health	Health Institutions	Education	Research	Transfer	Producers	Environmental Associations	Medias	Society
Politicians										
Institutions except health	3	3	3	4	3	3	3	4	4	4
Health Institutions	4	3	3	3	3	3	3	3	4	4
Education	2	3	3	4	3	2	2	3	3	3
Research	3	3	2	3	3	3	2	3	3	3
Transfer	3	3	3	3	4	3	2	4	3	2
Producers	3	3	3	3	3	3	3	3	4	3
Environmental Associations	3	4		3	3		2	4	3	3
Medias										
Society	5	4	3	3	4	3	3	3		3

Table 7: Mean value (from 1-to 5) of the intensity of the relationships by stakeholders' category (1 represents a weak relationship and 5 a strong relationship).

Globally, stakeholders show that contacts are between a monthly and a trimestral basis (Table 8).

	Politicians	Institutions except health	Health Institutions	Education	Research	Transfer	Producers	Environmental Associations	Medias	Society
Politicians										
Institutions except health	4	3	4	5	5	4	2	4	5	5
Health Institutions	4	3	3	3	3	3	3	4	4	4
Education	4	4	4	3	4	4	4	5	4	4
Research	4	4	4	4	3	4	4	4	4	3
Transfer	2	4	3	5	4	4	2	4	4	4
Producers	3	3	4	4	4	4	2	4	4	3
Environmental Associations	3	3		4	4		4	2	3	2
Medias										
Society	1	2	4	4	4	5	3			

Table 8: Mean value of the frequency of relationships between stakeholders' categories (1: every day - 2: every week - 3: every month - 4: every trimester - 5: every year)

Figure 13 maps the contacts between stakeholder categories for the four participating partners. The size of the nodes (representing each stakeholder category) is proportional to the number of

contacts. Different contacts are represented: undirected contacts (incoming and outgoing), and directed contacts. The directed contacts are incoming contacts i.e. received by the respondents or outgoing contacts i.e. initiated by the respondents. The width of the arrow is proportional to the frequency of contacts: the wider the arrow, the more frequent the contacts.

Figure 13 shows that the producers, research and health-related Institutions are the main connected stakeholders. This is partly driven by the sample of our study, in which these 3 categories are over-represented by comparison with the other categories. Weighting the results by the category number of responses could help comparison between stakeholder categories. However, this does not seem appropriate to our small sample.

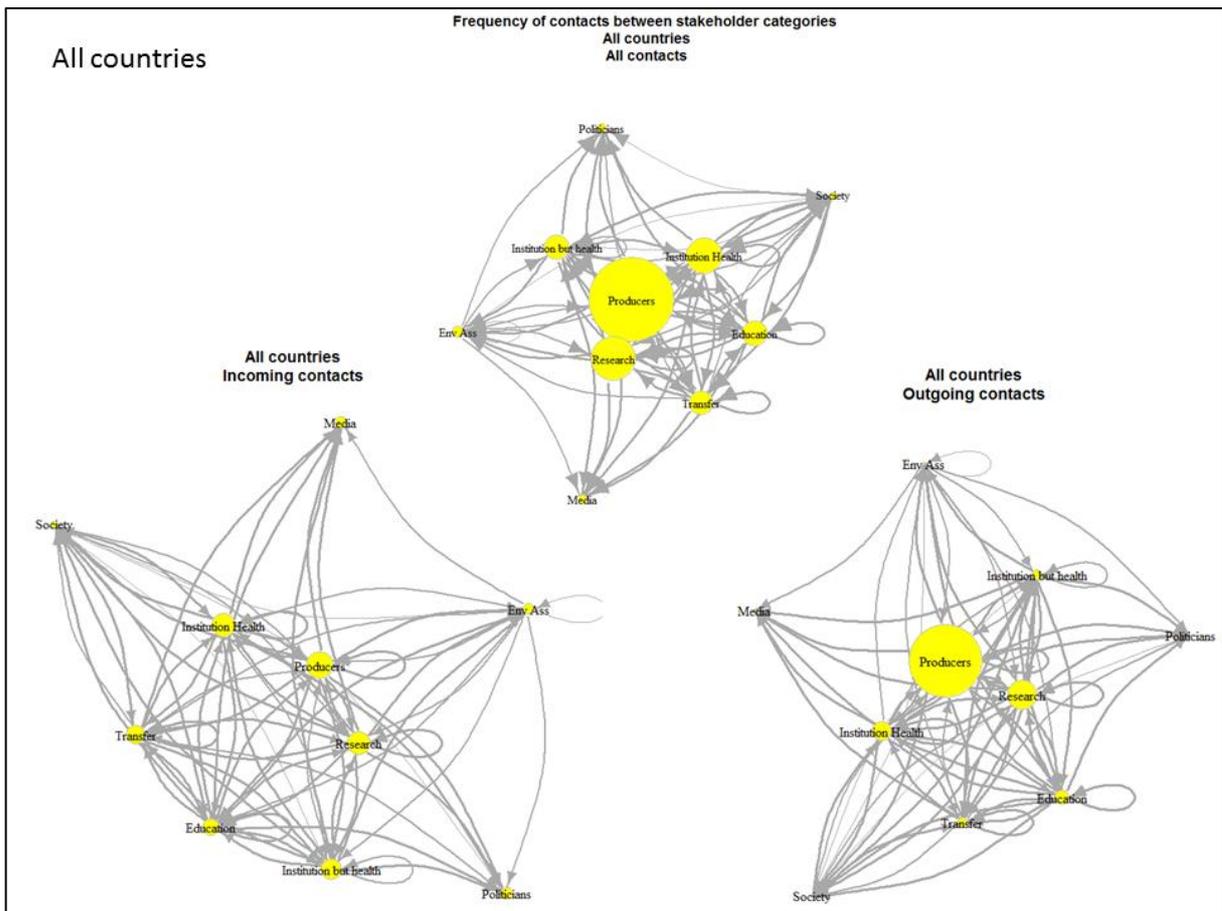


Figure 13: Frequency of contacts between the stakeholder categories, for all the participating countries (N= 148 respondents).

Figure 14 shows the repartition of all undirected contacts (both outgoing and incoming) by participating country. The width of the arrow is proportional to the frequency of contacts: the wider the arrow, the more frequent the contacts. The heterogeneous response rate per stakeholder category between the countries leads to different contact maps, with Ireland showing a network concentrated around producers and the three other countries showing a contact network more balanced between the stakeholder categories.

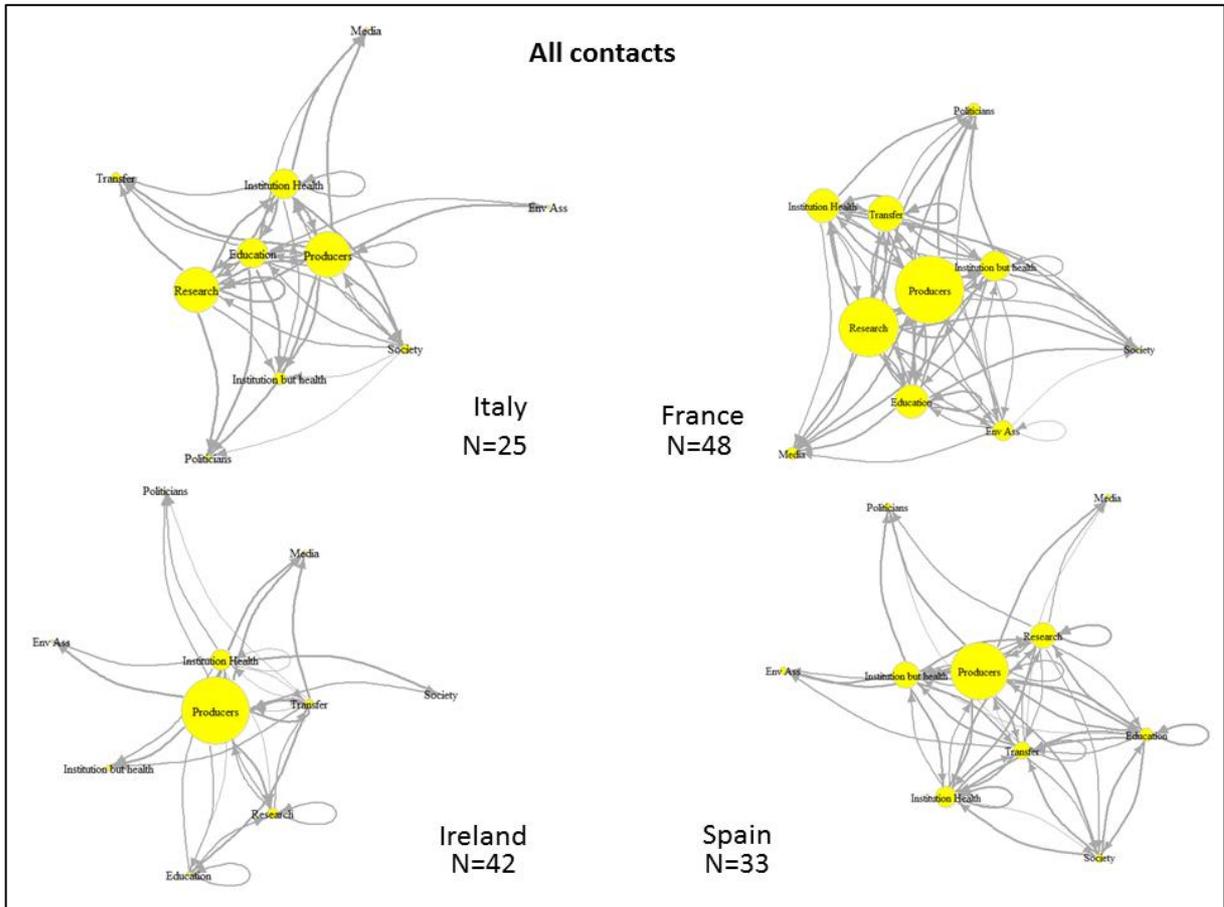


Figure 14: Frequency of all the (undirected) contacts between the stakeholder categories, by participating country.

Conclusion- Discussion

These two surveys have defined stakeholder categories concerned by shellfish diseases and collection of their perceptions regarding the disease issue as well as providing an improved understanding of the strength of relationships between these categories.

Five countries were initially involved in this study. However, CEFAS could not send surveys to all the requested UK stakeholders as they - the Fish Health Inspectorate that holds the data - were concerned that it may be a breach of their responsibility under the data protection act to release contact information. Questionnaires were translated in five different languages: English, Italian, French, Spanish and Catalan in order to get responses from stakeholders' from the different participating countries.

Mailing lists of stakeholders were established by participating partners, mostly researchers and one public institution, and were thus highly dependent on people involved in the task. Mailing lists reflect the network of participants or companies they belong to. Although official listings might exist, researchers do not generally have access to such data.

Most of respondents were producers, researchers and from institutions. One might question whether other stakeholders such as education, technology transfer, politicians and society in general were represented well enough in the mailing lists and/or if questionnaires were well-suited to these different categories.

Respondents were usually not asked to forward the survey in order to control the number of contacted people³. Although this might have limited the number of responses, the first survey had a participating rate of 20% which is usual for such online surveys.

Considering that some of the contacted people could belong to more than one stakeholders' category, they were asked to fill-in the survey as many times as categories they were concerned with. It seems that this rule was not always observed.

Data obtained from France, Italy, Spain and Ireland could be analysed by involved partners on the basis of guidelines established by the task 6.1 leaders. Conversely, because of the low response rate for the second survey, the data for all the countries were aggregated for a global analysis.

The same pattern of responses was obtained in the different participating countries. Shellfish diseases are considered as an issue and have an important impact, generally negative, especially for the industry. Interestingly, whatever the stakeholders' category, they feel confident that it is possible to do something. Moreover they implement or take part in actions aimed at preventing or mitigating shellfish diseases

Although response patterns were roughly similar, two groups emerged: France and Ireland appeared to follow similar pattern, while Spain and Italy provided quite analogous responses. This suggests that stakeholder organisation is more alike within these two groups.

Perspectives and recommendations

Both surveys were simple, not too long to fill in and could easily be organised in other countries. The geographical scope of shellfish diseases is not limited to the four participating countries and the approach presented herein could be applied in other European countries producing shellfish including Belgium, Netherlands, Portugal, Croatia or Greece and even in countries outside Europe who are highly concerned by shellfish diseases.

³ Only one partner (IRTA) asked network managers to forward the survey. The return rate was not significantly different.

Considering that the survey organisers have a strong influence on the mailing lists used to send questionnaires, a preliminary study consisting in investigating their role and relationships with other stakeholders would allow for a better understanding of the participating rates.

The number of responses could have been higher if the people contacted had been asked to transfer the questionnaire to other people. In order to improve the response number of each stakeholder's category, mailing lists could be established according to the number of expected responses. On the basis of a 20% participating rate and considering 10 categories, a list of 500 mail addresses could provide 10 responses per stakeholder category if all categories are equally weighted and the response rate is the same.



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ANNEX 1:

1st online questionnaire



VIVALDI : Identifying the key stakeholders in the field of shellfish diseases and related management measures

You are being contacted as we would like to know if your activity is impacted by shellfish diseases or their related management measures. This questionnaire should not take more than 10 minutes of your time.

Description (optional)

Image title



1. Your situation

Description (optional)

In which country do you work? *

Short-answer text

In which organisation (public administration, association, institution, enterprise) do you work? *

Long-answer text

What is your position within this organisation? *

Long-answer text

To which stakeholders' category do you belong ? (Only one answer is permitted. If you belong to several categories, please complete several forms.) *

1. Politician (any person who holds a public elected mandate at European, national, regional or local level)
2. Public institution (except research, education, training)
3. Education/training
4. Research (all staff elaborating/creating new knowledge)
5. Transfer and technological development or individual expertise (staff from public or private organisations who use know
6. Shellfish industry (and related sectors)
7. Society, NGO, media
8. Other

If you picked "other", please specify

Short-answer text

2. Do you have an interest in shellfish diseases ?

In general, do you have something to do with shellfish diseases?

To what extent? *

	1	2	3	4	5	
Low interest	<input type="radio"/>	High interest				

Could you please tell us a bit more?

Long-answer text

3. Shellfish diseases vs. your activity

Description (optional)

Do you think that shellfish diseases have consequences on your activity? *

- No, shellfish diseases do not have any consequence on my activity
- Yes, shellfish diseases have (positive or negative) consequences on my activity
- I do not know

Do you think that shellfish diseases have a negative impact on your activity? *

	1	2	3	4	5	
Not negative at all	<input type="radio"/>	Highly negative				

Could you please tell us a bit more?

Long-answer text

Do you think that your activity benefits from shellfish diseases?

Shellfish diseases can also be an opportunity for my activity.

Question *

1

2

3

4

5

Not positive at all

Highly positive

Could you please tell us a bit more?

Long-answer text

4. Actions related to preventing or mitigating shellfish diseases (1/3)

Description (optional)

Do you think it is possible to prevent or mitigate shellfish diseases? *

- Yes
- No
- I do not know

5. Actions related to preventing or mitigating shellfish diseases (2/3)

Description (optional)

Do you implement or take part in actions aiming at preventing or mitigating shellfish diseases? *

Yes

No

6. Actions related to preventing or mitigating shellfish diseases (3/3)

Description (optional)

Where do you intervene ? *

- Defining the content of the action
- Setting-up the action's legal and operational framework
- Implementing the action on the ground
- Knowledge and information transfer (e.g. communication, teaching...)
- Other...

Could you please tell us a bit more and provide practical examples of actions?

Long-answer text

7. Comments

Do you have general comments or suggestions on the survey itself or on other topics in relation to shellfish diseases and related management measures?

Do you have comments?

Long-answer text

We warmly thank you for spending some of your time completing this questionnaire, still...

Description (optional)

we consider the possibility to investigate further your interest in this topic. If you agree, please leave us your email:

Short-answer text

Your contact details are collected only for the purpose of this survey and the possible following ones, in the context of the VIVALDI project.

The answers will remain anonymous and the personal data collected will not be kept after the end of the VIVALDI project (28/02/2020)

For more information on the VIVALDI project: <http://www.vivaldi-project.eu>

ANNEX 2:

2nd online questionnaire



Which stakeholders are you in contact/relation with? With whom do you share information about shellfish diseases?

After contacting you last month to assess your perception of shellfish diseases, we get back to you today in order to understand better your interactions with other shellfish stakeholders.

This work will allow us to identify the best communication channels between the stakeholders, so as to better understand your expectations, share the results of the VIVALDI project and improve exchanges on disease management, in a way that could benefit to all.

For each proposed category of stakeholder, we kindly invite you to indicate the contacts or relations you have, on a 1 to 5 scale:

1 : you make contact and/or send information

3 : exchanges and/or relations are balanced

5 : you are contacted and/or you receive information

A second question will ask you to precise the frequency of your contacts with the proposed stakeholders.

Image title



1. Your situation

If you belong to several categories, please complete several forms.

In which country do you work? *

Short-answer text

In which organisation (public administration, association, institution, enterprise) do you work? *

Long-answer text

What is your position within this organisation? *

Long-answer text

To which stakeholders' category do you belong ? (Only one answer is permitted. If you belong to several categories, please complete several forms.)

1. Politician (any person who holds a public elected mandate at European, national, regional or local level)
2. Public institution (except animal health)
3. Public institution in charge animal health issues
4. Education/training
5. Research (all staff elaborating/creating new knowledge)
6. Transfer and technological development or individual expertise (staff from public or private organisations who use know
7. Shellfish industry (and related sectors)
8. Environmental Associations
9. Media
10. Wider public

Do you have contacts with politicians?

This concerns relations you may have with political representatives holding a local, regional or national mandate.

Question ^{*}

Yes

No

If so, please provide an example

Long-answer text

Description of these contacts/exchanges

Description (optional)

Could you please describe in a simple way your contacts/exchanges with this stakeholder: *

	1	2	3	4	5	
You are the one initiating the contacts	<input type="radio"/>	The stakeholder is initiating the contacts				

How often are you in contact with this stakeholder:

- at least once a day
- at least once a week
- at least once a month
- at least once a trimester
- at least once a year

Could you tell us a bit more?

ANNEX 3:

Methodological guidelines for the analysis of the 1st questionnaire





Vivaldi Project

Guidelines for stakeholder analysis

WPN°6 – Task N°1
20/04/2017

Guidelines for stakeholder analysis – WP6.1: Questionnaire No1

The objectives of WP.6 task 1 are (1) to identify the stakeholders impacted by mollusc diseases and the associated management measures and (2) to determine these stakeholders' influence and interest on disease management practices.

Stakeholders are generally defined as all those people who are affected by or can affect a particular decision or action (Freeman 1984, Donaldson and Preston, 1995, Mitchell *et al.*, 1997). If we apply this definition to the issue of mollusc diseases, are considered as stakeholders those professionals who are involved in the activities of the shellfish industry and whose involvement may affect or be affected by the disease risk. This involvement may be for example that of a regulator, a supplier, a mollusc producer, a scientist, a trainer...

This study aims to assess the interest and influence of stakeholders from their own perspective.

This document is providing general guidelines to assist the VIVALDI partners involved in WP.6 task 1 in conducting an analysis of the stakeholders' answers for their own country.

This analysis should only be conducted in stakeholders' categories that have received at least 10 responses.

For better clarity, the names of the ROWS of the Excel© spread sheet and the numbers of the questions are provided (c.f. Annex 1).

1. Preliminaries

1.1. Encoding each respondent

Before starting any analysis of the questionnaire responses, you need to give a **unique code for each respondent**, in order to be able to identify him/her with certainty. You can keep the Timestamp (ROW A), which is automatically given by Google Form©, or attribute to each line (*i.e.* each respondent) a number from 1 to the maximum number of respondents.

1.2. Number of respondents

Describe the number of respondents in light of the number of emails sent to obtain the study participation rate.

Example 1: The French online survey response rate was 27.4%, with 62 respondents out of 226 contacted stakeholders.

2. Stakeholder categories

2.1. Reclassifying the respondents

You may need to reclassify the respondents into the correct stakeholder categories (ROW E/Question n°4), according to their answer to the question in ROW C/Question n°2 [In which organisation (public administration, association, institution, enterprise) do you work?].

Example 2: In France, representatives of the shellfish farmers are elected. Some of the respondents wrote “Shellfish organisation” in ROW C but ticked the “Politician” in the stakeholder category. They must be reclassified as “Professionals”.

Example 3: Some activities may be ambiguous, as some laboratories can provide laboratory analyses and also conduct research. If the respondent did not complete two different responses to the questionnaire, one for each activity, you may reclassify the only response within the stakeholder category with which you think the responses fit the better.

2.2. Describing the respondents’ profile:

Please describe the number of respondents per stakeholder category (ROW E/Question n°4), positions of the respondents (ROW D/Question n°3) and their level of activity (ROW B/Question n°1)

Example 4: In France, the profile of the respondents pertained to research organisations (13) followed by public institutions (8), producers (17), knowledge transfer and development organisations (12), wider society (8), education and training organisations (4). No politician participated in the study.

All the respondents had activities at the national level, and one respondent worked also at the European level.

3. Data analysis

The responses of each stakeholder category are analysed separately.

For each stakeholder category, the analysis is divided in topics. Each topic corresponds to one or a set of rows:

Rows F & G: Stakeholders’ interest in mollusc diseases

Row H: Consequences of mollusc diseases on a stakeholder’s activity

Rows I & J: Negative impact of mollusc diseases

Rows K & L: Positive impact of mollusc diseases

Row M: Perception of the possibility to prevent and/or mitigate shellfish diseases

Rows N, O & P: Stakeholders’ influence on prevention and mitigation measures

For each topic, the answers can be either:

- categorical (ROWS H, M and N). Please describe the number of responses for each category.
- ordinal qualitative (ROWS F, I, K). Answers are ranked from 1 to 5, ordered by increasing intensity. Please describe the number of responses for each rank.
- free text (ROWS G, J, L, P and Q). Their qualitative analysis **needs to be conducted independently by two different persons**. Please provide a synthesis of the responses for each topic in a few sentences.

Details are provided in the thematic sections below, using the French stakeholder category “**Knowledge transfer and development organisations**” as an example.

3.1. Stakeholders' interest in mollusc diseases

3.1.1. ROW F/Question n°5: Interest was ranked from 1 to 5

- 1: no interest;
- 2: some interest;
- 3: neutral;
- 4: significant level of interest;
- 5: high level of interest.

Please specify the number of responses for each ranking level.

Example 5:

Interest for mollusc diseases	Number of respondents
1	0
2	0
3	1
4	2
5	7

3.1.2. ROW G/Question n°6: Explain the reason why they are interested in mollusc diseases.

The words to be highlighted are related to the respondent activity and the ones describing the links with other stakeholders involved in this activity.

Example 6: The first reader highlighted the sentences or the words of interest in yellow and the second reader highlighted them in blue (in two different spread sheets). Common words of interest have to be highlighted in green.

ID of the respondent	ROW F	ROW G
57	5	demande d'analyses et recherche sur cette thématique
59	4	Structure impliquée dans la surveillance sanitaire des productions conchylicoles
60	3	activité saisonnière du laboratoire
15	5	mobilisation forte pour proposer études et projets pour améliorer la compréhension de ces phénomènes sur les différents coquillages concernés
44	4	Les maladies de coquillage impactent l'existence même des entreprises conchylicoles. Celles-ci se retournent vers nous, en tant que Centre Technique au service du développement aquacole, pour participer à la recherche de solutions.
48	5	Les professionnels de la conchyliculture sont mes interlocuteurs et mes partenaires.
51	5	Enjeu majeur pour la filière, enjeu transversal (biologie écologie économie zootechnie...)
54	5	Notre laboratoire réalise des analyses de recherches de parasites à déclaration obligatoire dans les mollusques bivalves marins

55	5	XXXXX est un prestataire d'analyses
56	5	Par la réalisation des analyses officielles de laboratoire dans le cadre d'un agrément Ministériel.

Reader n°2 (blue highlights) comments for ROW G:

-9/10 respondents quote their enterprise activity:

analysis (4 respondents), surveillance (1 respondent), research/studies/projects (2 respondents), wish from the producers / partnership with the producers (2 respondents), not precised (1 respondent)

-1/10 respondent quotes the major issue for the whole shellfish industry

3.1.3. Synthesis

Example 7: Most of the respondents showed a high level of concern about mollusc diseases, because mollusc diseases are their core activity (e.g. laboratory analysis, research) or are the main concern of their partners.

3.2. Stakeholders' activities and mollusc diseases

3.2.1. ROW H/Question n°7. Consequences of mollusc diseases on a stakeholder's activity.

Specify the number of responses for each possible answer.

Example 8:

Diseases have consequences on your activity	Number of respondents
Yes	7
No	2
I don't know	1

3.2.2. ROW I /Question n°8. Negative impact of mollusc diseases

For stakeholders for whom mollusc diseases have consequences on their activities, the negative impacts can be ranked from 1 to 5:

1 equals to no real impact;

2: some impact;

3: neutral;

4: significant level of impact;

5: high level of impact.

Specify the number of responses for each ranking level and add a specific line for the stakeholders who responded that mollusc diseases have no impact on their activity.

Example 9:

Diseases have negative impacts on your activity	Number of respondents
No impact	2
1	3
2	0
3	2

4	1
5	1

3.2.3. ROW J/Question n°9. Explain the reasons why the consequences of mollusc diseases are negative on the stakeholder's activity.

The ideas to be highlighted are related to the way their activity has changed and the extent of this change.

Example 10:

ID of the respondent	ROW I	ROW J
57	1	
59	3	
60		
15	5	la priorité des actions à mener sont sur cette thématique des mortalités
44	4	Nous avons mis en place des programmes dans le cadre de la recherche de solutions (solutions zootechniques, participation à des programmes de sélection....). Ces programmes occupent une part importante de notre activité.
48	1	Je ne suis pas impactée directement
51		
54		
55	3	
56	1	Pas d'impact négatif, au contraire il s'agit d'une compétence mise à disposition des professionnels.

3.2.3. Synthesis

The questions might have been misunderstood. For several respondents, as their activity is directly related to mollusc diseases, mollusc diseases are beneficial for their activity.

Example 11: In this stakeholder category, half of (5/10) the respondents answered that their activity was not impacted by mollusc diseases. One respondent explains that the impact of mollusc disease is not direct. Two respondents, moderately affected did not explain the reason why. Three respondents explained that their activity focuses on mollusc diseases. In fact, the consequences for their activity are not negative, they are rather positive.

3.2.4. ROW K/Question n°10. Positive impact of mollusc diseases

Regarding stakeholders for whom mollusc diseases have consequences on their activities, the positive impacts can be ranked from 1 to 5:

- 1 equals to no real benefit;
- 2: some benefit;
- 3: neutral;
- 4: significant level of benefit;
- 5: high level of benefit.

Specify the number of responses for each ranking level and add a specific line for the stakeholders who responded that mollusc diseases have no benefit on their activity.

Example 12:

Diseases have benefits on the activity	Number of respondents
No benefit	2
1	0
2	0
3	2
4	1
5	4

3.2.5. ROW L/Question n°11. Reason why the consequences of mollusc diseases can benefit for the stakeholder’s activity.

The ideas to be highlighted are related to the way their activity is impacted and the extent of the change.

Example 13:

ID of the respondent	ROW K	ROW L
57	5	Nombreuses analyses et subventions de recherche
59	4	Activité de diagnostic ou intervention dans des programmes de recherche
60		
15	5	indirectement, la structure bénéficie de financement pour proposer et mobiliser des compétences pour répondre à ces problématiques
44	3	Des moyens de recherche développement importants ont été mis en place dans le cadre de recherche de solutions aux mortalités et nous en avons bénéficié (financement professionnel, région et europe).
48	3	Indirectement oui. Des études, suivis et projets émergent an cas de maladies/mortalité des coquillages.
51		

54		
55	5	
56	5	Nous sommes reconnus et agréés pour cette compétence analytique.

Readers' comments for ROW L:

3/7 respondents quote an increase of activity: laboratory diagnostic analyses (2 respondents), research/studies/projects (1 respondent)

3/7 respondents quote the funding related to the activities

1/7 respondent quotes the access to an official certification

1/7 respondent did not detail

3.2.6. Synthesis

Example 14: In this stakeholders' category, most of (7/10) the respondents' activities benefited from mollusc diseases. Benefit can be an increase of the stakeholder's core activity, the funding of the activity or the access to an official certification.

3.3. Stakeholders and disease mitigation or prevention measures

3.3.1. ROW M/Question n°12. Perception of a possible mitigation or prevention of mollusc diseases.

Specify the number of responses for each possible answer.

Example 15:

Diseases can be mitigated or prevented	Number of respondents
Yes	6
No	1
I don't know	3

3.3.2. ROW N/Question n°13. Stakeholders' influence on prevention or mitigation of mollusc diseases.

Specify the number of responses for each possible answer.

Example 16:

My activity has an influence on mitigation/prevention of diseases	Number of respondents
Yes	5
No	1
No answer	3

3.3.3. ROW O/Question n°14. Stakeholders' area of intervention on mitigation or prevention of mollusc diseases.

Specify the number of responses for each possible category of answer. The sum of the responses might be superior to the number of respondents, as many responses were possible for a single respondent.

Example 17:

Description of the influence of the stakeholder activity on mitigation/prevention of diseases	Number of respondents
No answer	5
measures definition	2
measures implementation	2
measures application	2
measures information or communication	3

3.3.4. ROW P/Question n°15. Describing the stakeholder's activity on mitigation or prevention of mollusc diseases?

The ideas to be highlighted are related to the description of the mitigation and prevention measures and the other stakeholders who that might have been identified to play a role in interaction for these actions.

Example 18:

ID of the respondent	ROW O	ROW P
57	information	
59	mise en oeuvre, information	
60		
15	définition mise en oeuvre application information	centre technique territorial, nous sommes en capacité de définir avec les professionnels, les actions à mener dans un cadre expérimental, de les réaliser et d'analyser les résultats pour ensuite communiquer les résultats à l'ensemble de la profession.

44	définition information	Nous sommes associés en tant que Centre Technique aux travaux de définition du cadre d'une stratégie zoosanitaire au niveau national . Notre proximité avec la profession et la formation peut permettre de faire passer certains messages...
48		
51		
54		
55		
56	application	Vérification par les analyses des bonnes pratiques de culture des coquillages.

Measures' definition: experimentations (1 respondent), national animal health strategy (1 respondent)

Measures' implementation: laboratory diagnostic analysis (1 respondent)

Other stakeholders involved in these measures: producers (2 respondents); training institutions (1 respondent)

3.3.5. Synthesis

Example 19: Half of the respondents believe they have an influence on mitigating or preventing mollusc diseases. This influence is many folded: measure definition, implementation, application and information/communication. The producers are the main targeted stakeholder category for these prevention and mitigation measures. One confusion is worth noting: laboratory analyses are quoted as mitigation or preventing measures whereas, they are tools to help the implementation of measures such as "shellfish testing for diseases before entering a new farming area".

3.4. Global synthesis

This last section aims to summarize the data about (1) the stakeholder categories impacted by mollusc diseases and associated management measures and (2) their interest/concern and perceived influence on mollusc diseases and associated management measures.

Example 20: For (2): The respondents pertaining to the "knowledge transfer and development organisations" stakeholder category were highly concerned by mollusc diseases. Most of the respondent activity benefited from mollusc diseases. Half of them believed mitigation or prevention of mollusc diseases is possible and that their own activity has an influence of these. One respondent believes that it is impossible to mitigate or to prevent mollusc diseases, although he/she feels highly concerned by mollusc diseases

	1			
	2			
Concern	3			
	4	2		
	5	5	1	1
		Yes	No	Impossible to mitigate/prevent
		Influence		

Annex 1: Reminder of the rows' names

Row B : In which country do you work?

Row C : In which organisation (public administration, association, institution, enterprise) do you work?

Row D : What is your position within this organisation?

Row E : To which stakeholders' category do you belong ? (Only one answer is permitted. If you belong to several categories, please complete several forms.)

Row F : To what extent do you have an interest in shellfish diseases ?

Row G : Could you please tell us a bit more?

Row H : Do you think that shellfish diseases have consequences on your activity?

Row I : Do you think that shellfish diseases have a negative impact on your activity?

Row J : Could you please tell us a bit more?

Row K : Do you think that your activity benefits from shellfish diseases?

Row L : Could you please tell us a bit more?

Row M : Do you think it is possible to prevent or mitigate shellfish diseases?

Row N : Do you implement or take part in actions aiming at preventing or mitigating shellfish diseases?

Row O : Where do you intervene ?

Row P : Could you please tell us a bit more?

Row Q : Do you have comments?

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ANNEX 4:

Synthesis of the questionnaire per country



Stakeholder analysis – WP6.1: Questionnaire Nº 1

Catalunya – Spain (sent from IRTA)

1. Preliminaries

1.1. Encoding each respondent

Timestamp	nº
31/03/2017 11:53	1
31/03/2017 12:33	2
28/02/2017 10:20	3
06/03/2017 14:05	4
31/03/2017 11:05	5
31/03/2017 10:01	6
10/04/2017 16:17	7
08/03/2017 15:46	8
10/04/2017 22:14	9
10/04/2017 16:47	10
27/02/2017 16:37	11
28/02/2017 9:28	12
28/02/2017 9:40	13
27/03/2017 22:24	14
04/04/2017 12:08	15
31/03/2017 11:17	16
08/03/2017 10:08	17
28/02/2017 8:50	18
10/03/2017 10:43	19
01/03/2017 11:45	20
02/03/2017 18:26	21
07/04/2017 15:15	22
01/03/2017 7:16	23
27/02/2017 22:54	24
01/03/2017 17:49	25
03/03/2017 11:50	26
30/03/2017 11:50	27
27/02/2017 11:52	28
27/02/2017 20:52	29
28/02/2017 12:45	30
27/02/2017 16:28	31
01/03/2017 13:02	32
28/02/2017 10:17	33
13/03/2017 15:58	34
27/02/2017 20:09	35
16/03/2017 8:08	36
24/02/2017 14:28	37
31/03/2017 6:49	38
24/02/2017 15:42	39
24/02/2017 15:08	40
08/03/2017 19:00	41
24/02/2017 17:28	42
12/04/2017 15:29	43
28/02/2017 20:56	44
24/02/2017 13:38	45
11/04/2017 16:55	46
10/04/2017 22:27	47
28/02/2017 9:36	48
27/02/2017 16:28	49
31/03/2017 13:24	50
24/02/2017 13:37	51
28/02/2017 16:43	52
31/03/2017 11:37	53
27/02/2017 11:33	54
27/02/2017 11:20	55
28/02/2017 10:06	56
30/03/2017 13:57	57
13/03/2017 11:42	58
13/04/2017 14:29	59
01/03/2017 9:13	60
01/03/2017 13:53	61
02/03/2017 8:28	62
01/03/2017 18:26	63
31/03/2017 14:30	64
09/03/2017 9:01	65
02/03/2017 12:28	66
01/03/2017 9:37	67
27/02/2017 19:14	68
28/02/2017 17:27	69
31/03/2017 10:23	70
24/02/2017 15:31	71
14/03/2017 12:17	72
28/02/2017 10:33	73
07/04/2017 15:13	74

06/04/2017 15:10	75
23/02/2017 11:19	76
23/02/2017 11:21	77
28/02/2017 8:55	78
30/03/2017 12:34	79
03/03/2017 12:23	80

10/03/2017 16:19	81
20/03/2017 13:29	82
27/02/2017 17:30	83
30/03/2017 11:53	84
03/04/2017 10:50	85

1.2. Number of respondents

The Spanish (IRTA+CSIC combined results) online survey response rate was 21.36%, with 85 respondents out of 398 contacted stakeholders.

2. Stakeholders categories

2.1. Reclassifying the respondents & 2.2. Describing the respondent's profile

Stakeholders categories	Number	%
producers	32	37.65%
public institutions	19	22.35%
education and training organizations	12	14.12%
research organisations	12	14.12%
wider society	7	8.24%
politicians	2	2.35%
knowledge transfer and development organizations	1	1.18%

In Spain, the profile of the respondents pertained to producers (32) followed by public institutions (19), education and training organizations (12), research institutions (12), wider society (7), politicians (2) and knowledge transfer and development organizations (1).

All the respondents except 1 had activities at the national level, 2 respondents worked also at the European level and 2 responded from Latin America.

3. Data analysis

3.1. Stakeholder's interest in mollusc diseases

3.1.1. Row G/Question nº 6: Interest was ranked from 1 to 4

Interest for mollusk diseases (Low interest to high interest)	Number of respondents
1	12
2	16
3	13
4	34

3.1.2. Row H/Question nº 7: Explain the reason why they are interested in mollusc diseases.

ID of the

Row H

respondent	
24/02/2017 17:28	Advice, parks projects, depuration plants and shellfish production areas
24/02/2017 13:38	Basically, the company manages fishing ports.
01/03/2017 17:49	Disease control in molluscs with commercial value
30/03/2017 13:57	Food safety control
31/03/2017 11:17	At the moment, we have no pathology in our installation.
14/03/2017 12:17	Specific research about molluscs' microbiology for more than 30 years
31/03/2017 11:05	Parasite detection in molluscs
28/02/2017 10:33	Study of molluscs' pathology
24/02/2017 15:31	Study of bivalves
27/02/2017 11:20	Management of shellfish natural beds.
28/02/2017 8:50	Management of shellfish natural beds
28/02/2017 10:06	Management of shellfish natural beads in Ría de Vigo
28/02/2017 17:27	Histology
24/02/2017 15:08	We are interested in investment to produce our own bivalve molluscs
28/02/2017 9:28	Incidence in reproduction and tissue alterations
28/02/2017 10:17	Bivalves production depends on the general population health
16/03/2017 8:08	Bivalves' diseases have great impact in the hatchery production and the culture until they reach market size
31/03/2017 11:53	Mollusc diseases can have repercussions on the consumer.
08/03/2017 15:46	I would like to work in this area
28/02/2017 9:36	Environmental quality of bays and its social and economic use.
02/03/2017 18:26	No
10/04/2017 22:27	I do not work with molluscs
31/03/2017 10:23	I do not work in this area but it seems interesting
27/02/2017 16:28	It does not affect us until zoonosis
27/02/2017 20:52	We culture mussels, so diseases could affect our production
13/03/2017 11:42	Animal health in aquaculture facilities (rafts, molluscs' breeding centers ...) to control diseases following the instructions in ANEXO IV DEL REAL DECRETO 1614/2008. We also perform sporadic inspections in natural beds.
06/03/2017 14:05	Fish nutrition
01/03/2017 9:13	It is important for the development of social and economical activities
27/02/2017 11:33	Management plans, mechanized dredges and dredges for boats
02/03/2017 8:28	Disease control program in molluscs in Galicia. Study of mortality events and collaboration with research projects
01/03/2017 18:26	Bivalve molluscs pathology control
28/02/2017 16:43	Local economic development
28/02/2017 20:56	Should control more imports
27/02/2017 16:28	Collaboration with research projects in different universities
01/03/2017 11:45	It affects production. This forces us to be in permanent contact with research/control facilities to analyze samples every time we observe abnormalities. We actively collaborate with research projects in mollusc, the last in Bonamia.
13/04/2017 14:29	Researcher of molluscs' diseases.
27/02/2017 20:09	Oyster production
13/03/2017 15:58	Supervision of production and health in a shellfish breeding facility
28/02/2017 12:45	Problems with marteilia in edule cockle, it affected the population in 2014 and

	they are not yet recovered. The carpet shell clam is affected by Perkinsus.
01/03/2017 7:16	We work only with crustaceans
10/04/2017 16:47	I used to work in the sector
08/03/2017 19:00	I work in mollusc production
31/03/2017 10:01	I work in fish nutrition
10/03/2017 10:43	I work in everything related to bivalve molluscs' culture, specifically mussel. Bivalve diseases which could affect molluscs are important in my job, including management and control of diseases.
31/03/2017 12:33	I work mainly in fish aquaculture
31/03/2017 14:30	I work in toxic phytoplankton
27/02/2017 11:52	tuvimos problemas con un tipo de virus en la producción de ostras

3.1.3. Synthesis

63% Of the respondents justified their answer (3.1.2 section) and 37% did not.

45,33% are very highly interested in mollusc diseases, mainly from the production sector with 18 responses, followed by the public institutions with 10 responses.

38,66% have medium interest. Proportionally education & training and research are the stakeholders with more responses in this level.

16% have a low interest and 4 of them are from education & training institutions, the most represented sector for the low concern.

Terms like disease/pathology/safety/health were named more than 15 times, meanwhile production/economy/job/society is the second term of importance with more than 10 times named directly (combined, almost 40%). Producers usually name their cultivated species (oyster, mussel, clam and cockle) and their recent problems (virus, perkinsus, bonamia, martellia) revealing specific concerns for each stakeholder. Producers and public institutions have in common their concern regarding to natural bivalve beads (named directly 5 times, 6%) but few of them named directly research (just once). Some interesting points covered by the VIVALDI project were also named like: microbiota, reproduction, tissular injuries or nutrition.

3.2. Stakeholder's activities and mollusc diseases

3.2.1. Row I/Question nº 8: Consequences of mollusc diseases on a stakeholder's activity.

Diseases have consequences on your activity	Number of respondents
Yes	53
No	11
I don't know	11

3.2.2. Row J/Question nº 9: Negative impact of mollusc diseases.

Diseases have negative impact on your activity	Number of respondents
1 no impact	23
2	6
3	16

4	8
5 high impact	22

3.2.3. Row K/Question nº 10: Explain the reasons why the consequences of mollusc diseases are negative on the stakeholder's activity.

ID of the respondent	Row K
27/02/2017 11:52	Affects to oyster production
27/02/2017 16:28	It affects to the economic profitability of shellfish production facilities
28/02/2017 10:33	I study shellfish diseases, si mi work in intimately related to their existence
02/03/2017 8:28	It is difficult to answer this question as shellfish diseases are my daily work
28/02/2017 12:45	When there are massive clam or cockle mortalities due to diseases shellfish catchers are really concerned. My job is to report the situation.
28/02/2017 9:40	I have no knowledge about shellfish diseases
27/02/2017 16:28	Diseases make difficult the inspection and classification of shellfish as suitable for human consumption
13/03/2017 11:42	In our animal health inspections in aquaculture facilities disease outbreaks have great repercussions, report of the event and forward it to the proper institution
13/03/2017 15:58	Diseases like herpesvirus have seriously affected our and our clients' production
07/04/2017 15:13	We do research in diseases of bivalve therefore its existence generates activity
27/02/2017 20:52	We have suffered sea anemones invasión in mussel rafts. As a consequence mussels lose strength in the byssus attachment and they are lost
27/02/2017 20:09	Important production decay
24/02/2017 17:28	Directly affects the economic viability of the projects
14/03/2017 12:17	I work in molluscs' diseases
08/03/2017 19:00	The high mortality due to bacteria, enhanced by the pollution and the climate change make the marine environment to suffer consequences never experienced before. It seems to be of no interest for the government.
27/02/2017 11:20	The decrease in the density of populations of bivalves is very worrying, especially for misinformation
28/02/2017 9:36	My relation with the topic is indirect and circumstantial
28/02/2017 10:06	Shellfish production depends on the health status of populations
28/02/2017 16:43	Adversely affect the aquaculture sector (important sector for the local economy)
24/02/2017 13:38	Economic impact because we charge a fee for shellfish landed
30/03/2017 13:57	I am in charge of the health control in shellfish for human consumption.
27/02/2017 19:14	More diseases more work
01/03/2017 9:13	Not in my daily work but it affects our relations with the producers
27/02/2017 11:33	We do not know if there is a real impact diseases of mollusc, but we want to know its potential impact to operate and manage the resource
08/03/2017 15:46	The impact of shellfish diseases has important health, social and economic consequences
31/03/2017 11:17	We do not have pathologic incidents because of the high quality of the water in our facility
10/04/2017 22:14	Economic loss
28/02/2017 9:28	It allows to increase our knowledge in protozoology, especially in trematodes
01/03/2017 11:45	It can cause the loss of important parts or the whole production

28/02/2017 8:50	Possible mortalities associated to pathologies
28/02/2017 10:17	Diseases cause mortalities, some times 100% and production decay
01/03/2017 18:26	If diseases cause the decay of resources it could mean the end of the exploitation
13/04/2017 14:29	It has a high impact in the production of molluscs
24/02/2017 13:37	It could be related to water and/or sediments pollution
10/03/2017 10:43	Everything which negatively affects quality and survival of molluscs has direct impact in my work. Mollusc diseases (I work with mussel) is a risk factor and can cause quality loss or, in the most severe circumstances, production loss

47.30% of stakeholders justified their answer and 52.70% did not

All the producers that responded to this question (except 2) almost use the same words to express their concern about mortalities and economics losses or quality decrease

The public institutions apart from the decrease in production are concerned about the possible causes of these mortalities and the analyses they would need to do.

In the education and research organizations some (2) also name the economical and social aspects but in general they claim that the diseases direct towards more research activities and gain of knowledge.

3.2.4. Row L/Question nº 11: Positive impact of mollusc diseases.

Diseases have benefits on the activity	Number of respondents
1 no impact	37
2	9
3	9
4	4
5 high impact	16

3.2.5. Row M/Question nº 12: Reason why the consequences of mollusc diseases can benefit for the stakeholder's activity.

ID of the respondent	Row M
01/03/2017 11:45	The fishermen association activity is the shellfish sale, everything which causes production decay affects its viability
10/03/2017 10:43	In the short term it could be a benefit if it affects our competitors, but in the long term provably it would affect ourselves as well
28/02/2017 10:33	I study mollusc diseases so my work is intimately related with their existence
28/02/2017 9:28	It increases the samples of the studied animals
28/02/2017 9:40	I don't know.
31/03/2017 11:05	Parasite detection
10/04/2017 22:14	Adequate management of cultures
14/03/2017 12:17	Research on mollusc diseases
13/04/2017 14:29	Research on these diseases
31/03/2017 12:33	Molluscs' immune response have interest in my research
02/03/2017 8:28	My work is the study of molluscs' diseases ¿is it considered an opportunity?
30/03/2017 13:57	Health risk means that someone has to manage and control it. At least now that the machines cannot do that work
24/02/2017 15:31	It does not positively affect my work

27/02/2017 16:28	We do not work on research but in production
28/02/2017 10:20	I do not work with molluscs
08/03/2017 19:00	Not at all, nor for my work nor for the fauna. Less mollusc quantity and more and more predators (i.e. starfish) attack the few bivalves left
27/02/2017 11:52	We are interested in disease eradication
13/03/2017 11:42	As veterinaries it means an opportunity to stablish inspection procedures. It also generates opportunities to inform about the pathologic outbreaks and their solutions
01/03/2017 17:49	Disease management for bivalves' seed and adults of commercial value
01/03/2017 9:13	Set up pf challenge tests and integral risk management
27/02/2017 20:09	Diseases reduce the excess of product in the market and the prices increase
08/03/2017 15:46	It is very important to find the disease causes and prevent them
13/03/2017 15:58	Only because of the challenge to overcome them and further improve our protocols
01/03/2017 18:26	Because of diseases, control and eradication plans exist

In this case 32% of stakeholders justified their answers

The great majority of the producers show their interest in erradicating the mollusc diseases and the loss of the production. The few cases that think diseases could be beneficial is because they can cover a market niche temporarily or because the loss of the excess of production raises the prizes. But one of them clearly stated that the diseases can easily spread and this is a serious concern to all the sector.

People who responded from public institutions think that diseases are an opportunity to work in finding their cause and possible treatments/solutions, more or less the same responses in the education and training institutions and the researchers, which were the least active groups regarding this question.

3.2.6. Synthesis

40% of stakeholders declare that diseases have negative or positive consequences for their activity. 40% declare high negative impact (8+22 respondents) and 27% declare high positive impact (4+16 respondents).

Producers (over 50%) and public institutions (about 25%) are the most concerned sectors about the negative consequences of the diseases, in agreement with the results obtained in the positive impact questions: almost 70% and 50% of producers and public administrations declare that disease have no positive impact in their activity. On the contrary education, training and research sectors think that diseases have not negative impact on their activities (more than 50% in both cases) and they benefit from diseases (50% of education and 100% of researchers, 50% indicating the maximum score)

3.3. Stakeholders and disease mitigation or prevention measures.

3.3.1. Row N/Question nº 13: Perception of a possible mitigation or preventing of mollusc diseases.

Diseases can be mitigated or prevented	Number of respondents
Yes	56
No	1
I don't know	18

3.3.2. Row O/Question nº 14: Stakeholders' influence on preventing or mitigation of mollusc diseases.

My activity has an influence on mitigation/prevention of diseases	Number of respondents
Yes	27
No	29
No answer	19

3.3.3. Row P/Question nº 15: Stakeholders' area of intervention on mitigation or prevention of mollusc diseases.

Description of the influence of the stakeholder activity on mitigation/prevention of diseases	Number of respondents
Defending the action will take places	5
Tuning the operational and legal context of the action	7
Implementing the action directly	12
Transferring knowledge and information generated	15
Others	0
No answer	48

3.3.4. Row Q/Question nº 16: Describing the stakeholder's activity on mitigation or prevention of mollusc diseases.

ID of the respondent	Row P	Row Q
01/03/2017 9:37	Lab analysis of samples	---
01/03/2017 13:02	Defending the action will take places	---
27/02/2017 22:54	Defending the action will take places Tuning the operational and legal context of the action Implementing the action directly	---
07/04/2017 15:13	Defending the action will take places Transferring knowledge and information generated	---
28/02/2017 8:50	Envíos de muestras para análisis en centros de investigación	---
16/03/2017 8:08	Implementing the action directly	---
24/02/2017 14:28	Implementing the action directly	---
31/03/2017 6:49	Implementing the action directly	---
24/02/2017 15:42	Tuning the operational and legal context of the action Implementing the action directly	---
09/03/2017 9:01	Transferring knowledge and information generated	---
27/02/2017 19:14	Transferring knowledge and information generated	---
03/03/2017 11:50	Tuning the operational and legal context of the action Implementing the action directly Transferring knowledge and information generated	Through an "ADS"
30/03/2017 13:57	Defending the action will take places Tuning the operational and legal context of the action Implementing the action directly Transferring knowledge and information generated	Rules application, official control, rules flexibilization depending on context, training for inspectors and producers

27/02/2017 20:09	Implementing the action directly	Good practices in culture
01/03/2017 9:13	Transferring knowledge and information generated	Helping the producers to understand the advances, improvements and innovations which could help to minimize the impact
01/03/2017 17:49	Implementing the action directly	Diagnosis and profilaxis: Bonamia, Marteilia, Perkinsus, Vibrio, etc
13/03/2017 15:58	Transferring knowledge and information generated	Health certificate for juveniles before distribution, implementing biosafety measures in hatcheries and production facilities
27/02/2017 16:28	Implementing the action directly	Collaboration with administration, universities, biological studies, withdrawal of spreading agents, Advertising in media and report to health institutions
28/02/2017 10:17	All levels	Strict control protocols in purchased juveniles
13/04/2017 14:29	Implementing the action directly	Management protocols
01/03/2017 11:45	Transferring knowledge and information generated	Avoiding the purchase of juveniles of uncertain origin. Promoting the capture of juveniles from natural beads
13/03/2017 11:42	Tuning the operational and legal context of the action	Inspection of oyster rafts (disease symptoms and mortality)
14/03/2017 12:17	Transferring knowledge and information generated	Research, technical advice to institutions, enterprises and producers. Transferring knowledge
28/02/2017 10:33	Research	Our group has described and detected new molluscs' pathogens and suggested actions for treatment and prevention
10/03/2017 10:43	Transferring knowledge and information generated	Molluscs should be cultured in natural systems with good environmental conditions to ensure animals welfare (in our newsletter we keep our associated informed about diseases which could affect mussels). Through the European association of mollusc producers we have been collaboration in research projects about this issues.
06/04/2017 15:10	Tuning the operational and legal context of the action	Transferring to the producers
31/03/2017 11:05	Transferring knowledge and information generated	Transferring our research results

3.3.5. Synthesis

Half of the producers and researchers that participated in the survey think that their activity has influence on the mitigation or prevention of diseases. Education/training organizations and public institutions state that they do not have influence or they don't know.

In the producers group their influence is mainly related to application of certain measures like: strict protocols and health certifications when purchasing juveniles or analysis to detect pathogens. They also show interest in collaboration with research institutions.

Public institutions apply the national regulations, perform regular inspections and are in communication with producers to help to solve doubts about legislation and advances in research.

The only response from an education institution is related to the transfer of knowledge without any further details

The research community is involved both in knowledge transfer and in the application of certain measures like: detection of known pathogens and description of new ones.

3.4. Global synthesis.

The respondents pertaining to the "producers" category are highly concerned by mollusc diseases with the great majority of the responses in the maximum category (18 responses) and most of them believed mitigation or prevention of mollusc diseases is possible and that their own activity has an influence of these. On the other hand 6 responses don't know if there is any measure to mitigate or prevent diseases, although 4 of them are highly concerned by mollusc diseases.

The respondents of "public institutions" are divided almost 50%: 10 of them feel really concerned about molluscs' diseases and 9 of them have less preoccupation (3 showed no concern at all). Despite this results of less concern almost 2/3 think that molluscs' diseases can be mitigated or prevented and not a single respondent thinks there is no way to stop the consequences of these diseases.

The "education" category of stakeholders is the least concerned about diseases, but, curiously, one respondent very concerned about it thinks that it is not possible to prevent or mitigate them, and the other thinks the opposite.

In the "research" group of stakeholders more than 90% (11 out of 12) of respondent think that prevention and mitigation is possible and 1/3 of them are highly concerned about mollusc diseases. Only one respondent, not concerned about this diseases, do not know if there is any measure to fight mollusc diseases.

4	5	I am an oyster farmer, disease effects my profitability
5	4	
6	3	I have not experienced mortalities in my rope grown mussels due to diseases in the 24 years involved in this buisness.
7	5	We're a oyster farm so to control the risk of mortality is very important for us
8	5	Aquaculture Farmer
9	4	disease in Oysters and Toxins in Mussels
10	5	we are oyster producer and feel very concern about mortality
11	3	
12	5	I am the author of "Report on the impact of recent Crassostrea gigas mortality in France and its consequences to oyster farming in Northern Ireland". http://www.aquacultureinitiative.eu/FINALprinted.pdf
13	5	We have to deal with oyster mortality every year
14	5	We have to deal with high rate oyster mortalities every summer
15	5	
20	4	
23	5	Very interested as it impacts on our livelihood.
24	5	We produce oysters, shellfish diseases are bad for business
25	4	Representing and organising the Irish shellfish industry and supporting R&D through promotion and dialogue to industry.
26	5	My livelihood depends on control of diseases
30	5	As an oyster producer we are very concerned by the recent disease events such as the herpes seed mortalities and the Aesturianus mature mortalities. Either of these has the potential to be a major threat to our industry.
31	5	River Bank Mussels cultivates bottom grown mussels
32	3	Abalone a gastropod was lumped in with oysters when first allowed into Ireland.
34	2	We operate in a controlled bay for gigas production so product can only enter the bay if it is disease free via a movement order
35	5	As a grower of Oysters and subject to annual diseases and thus mortality
36	5	Concerned how diseases may effect production and sales
37	3	Profit depends on saleable shellfish
38	5	Oyster farmer
41	1	
43	5	We produce oysters for human consumption
45	5	As a farmer I want to educate myself as much as possible on this subject
46	5	
47	5	norovirus
48	5	

Reader n°2 (blue highlights) comments for ROW G:

-15/33 respondents quote their enterprise activity:

farmer (13 respondents), processing (1 respondent), consultant to industry (1 respondent)

3.1.3. Synthesis

Thirteen respondents cite diseases and mortality as issues they face.

3.2. Stakeholders' activities and mollusc diseases

3.2.1. ROW H/Question n°7. Consequences of mollusc diseases on a stakeholder's activity.

Diseases have consequences on your activity	Number of respondents
Yes	32
No	2
I don't know	0

3.2.2. ROW I /Question n°8. Negative impact of mollusc diseases

For stakeholders for whom mollusc diseases have consequences on their activities, the negative impacts can be ranked from 1 to 5:

1 equals to no real impact;

2: some impact;

3: neutral;

4: significant level of impact;

5: high level of impact.

Impact level	Number of respondents
1	2
3	7
4	2
5	23

3.2.3. ROW J/Question n°9. Explain the reasons why the consequences of mollusc diseases are negative on the stakeholder's activity.

The ideas to be highlighted are related to the way their activity has changed and the extent of this change.

ID	Row I response	Could you please tell us a bit more?
1	5	
2	3	Restrictive impact
3	3	Mussels do not tend to get diseases
4	5	Diseases impact on my profitability
5	5	YES, THAT SHELLFISH DISEASES HAVE A BIG IMPACT IN MY DIRECT PRODUCTION AND ALSO OF MY ECONOMIC ACTIVITY IN PRESENT AND IN A FUTUR
6	1	Only biotoxins affect my business.
7	5	
8	5	affects transplanting and at end market sales
9	5	Bay Closure's and market closures for Crab & Oysters
10	4	not being able to control your stock and make some plan for the future
11	3	
12	1	Controlling shellfish disease is not only about shellfish movement, but a lot more about cultural practices (farming density, carrying capacity). The surveillance program put in place by the marine institute has indeed a negative impact on my business. But not allowing me to transfer seed from French hatchery into my set I became less competitive because I have to supplies with low quality and more expensive British and Irish seed. French seed are homogeneous size, selected for their resistance to the herpes virus variant, very affordable (€8/1000, 6mm seed).

		<p>Other hatcheries: heterogenous size, more expensive (€1.5/1000, 4mm seed), poor growth performance for 2/3rd of a batch. Also, half grown 30g. oysters sold from disease free bay cost €6/kg against €2.5/kg. So I couldn't start my business from half grown unless I had a lot of capital investment.</p> <p>As a result, because of the restrictions on shellfish movement imposed by the Marine Institute, I became much less competitive than other business.</p> <p>I would rather loose 50% of 1 year old oysters and sold my oysters in 2,5 to 3 years rather than having 50% of my seed still in 4 mm bags at the second spring.</p> <p>Finally, It has strongly been suggested that the herpes virus variant is endemic to oysters, its a very old virus and doesn't mutata easily. It is also difficult to detect in oysters when it is not in its virulent stage. Environmental, cultural practices are stress factor that would trigger the mortality. Shellfish movement or not I strongly suggest that there was never disease free area, just areas where the virus has not been detected.</p> <p>Now I wish I was not in disease free area and that I could get good quality oysters for my site. It is not normal that semi state bodies affect my business activities and decisions to protect their own lobbies.</p>
13	5	
14	5	High rates of mortality on oysters are very bad for production/business
15	5	Limits available stock, therefore sales and turnover
20	5	
23	5	If they die or do not grow sufficiently then we have no income.
24	5	we produce oysters, shellfish diseases are very bad for business
25	4	
26	5	
30	5	Recent disease mortalities have the potential to devastate our production. Even if they don't, the associated uncertainty makes renewed investment decisions difficult.
31	3	Diseases in shellfish make national media headlines thus effecting sales from all areas weither disease present or not.
32	5	vibrio and withering foot are the 2 diseases that could affect abalone. We have never encountered this in our abalone.
34	3	Availability and higher cost of disease free stock
35	5	Annual mortality in my oysters
36	5	Would possibly negate all sales or effect growth
37	5	Shellfish disease cause mortality which means no profit
38	5	Bad press
41	3	
43	5	Food safety and public perception
45	5	They can have a very big impact on production
46	5	have lost 1,0000,000eur. in the past 3 years to disease
47	5	
48	3	

3.2.3. Synthesis

In this stakeholder category (shellfish industry, There is a high awareness on the impact of diseases and mortality which relates to of loss of production / cost to them financially. 20/33 respondents indicated their activity was impacted by mollusc diseases. Mussel farmers interest tend towards bay closures and biotoxin status, diseases are not seen as a problem.

3.2.4. ROW K/Question n°10. Positive impact of mollusc diseases

Regarding stakeholders for whom mollusc diseases have consequences on their activities, the positive impacts can be ranked from 1 to 5:

1 equals to no real benefit;

2: some benefit;

3: neutral;

4: significant level of benefit;

5: high level of benefit.

Specify the number of responses for each ranking level and add a specific line for the stakeholders who responded that mollusc diseases have no benefit on their activity.

	Number of respondents
1 / No benefit	27
2	2
3	3
4	1
5	1

3.2.5. ROW L/Question n°11. Reason why the consequences of mollusc diseases can benefit for the stakeholder's activity.

The ideas to be highlighted are related to the way their activity is impacted and the extent of the change.

ID	Row m response	
1	1	
2	4	Supplier of depuration and holding systems
3	2	
4	1	There is no benefit to me from shellfish disease
5	2	NOT POSITIVE AT ALL, BUT THAT HELP TO FIND WHEN, WHERE AND WHY THIS DISEASES CAME FROM AND WHAT SOLUTION WE CAN FIND AGAINST THIS DISEASES
6	1	
7	1	
8	1	
9	1	we are not in the research business
10	3	the offer of oyster is lower than the demand so the price increase
11	3	
12	1	
13	1	
14	1	
15	1	
20	1	
23	1	
24	1	
25	1	
26	1	
30	4	Mortalities have caused supply shortages which have elevated wholesale prices.
31	1	We are dependant on the product being disease free for exporting
32	1	
34	1	Availability and higher cost of disease free stock
35	1	Greatly influences the viability of my enterprise
36	1	

37	1	Good hygiene practise can keep disease to a minimum
38	1	
41	1	
43	3	disease in other countries could provide an advantage
45	1	
46	1	
47	1	
48	5	

Readers' comments for ROW L:

7/11 respondents quote an impact on their business from mortality

2/11 respondents acknowledge practices to improve mortality

3.2.6. Synthesis

In this stakeholders' category, most of (7/10) the respondents' activities are negatively impacted by shellfish disease due to stock losses & increased cost of disease free stock.

3.3. Stakeholders and disease mitigation or prevention measures

3.3.1. ROW M/Question n°12. Perception of a possible mitigation or prevention of mollusc diseases.

Specify the number of responses for each possible answer.

	Number of respondents
Yes	20
No	1
I don't know	13

3.3.2. ROW N/Question n°13. Stakeholders' influence on prevention or mitigation of mollusc diseases.

Specify the number of responses for each possible answer.

	Number of respondents
Yes	19
No	1
No answer	14

ROW O/Question n°14. Stakeholders' area of intervention on mitigation or prevention of mollusc diseases.

Specify the number of responses for each possible category of answer. The sum of the responses might be superior to the number of respondents, as many responses were possible for a single respondent.

	Number of respondents
No answer	15
measures definition	2
measures implementation	13
Knowledge and information transfer (e.g. communication, teaching...)	9
setting-up the action's legal and operational framework	5

3.3.4. ROW P/Question n°15. Describing the stakeholder's activity on mitigation or prevention of mollusc diseases?

The ideas to be highlighted are related to the description of the mitigation and prevention measures and the other stakeholders who that might have been identified to play a role in interaction for these actions.

ID	Row O response	
1		
2	Setting-up the action's legal and operational framework	Monitoring shellfish site and taking steps to prevent introducing diseased stock and mitigate diseases on site
3		
4	Implementing the action on the ground, Knowledge and information transfer (e.g. communication, teaching...)	I am a farmer I monitor my stock, take care not to spread disease through my biosecurity measures
5		
6	Implementing the action on the ground	
7	Knowledge and information transfer (e.g. communication, teaching...)	
8		
9		
10	Setting-up the action's legal and operational framework, Implementing the action on the ground, Knowledge and information transfer (e.g. communication, teaching...)	try to find different ways of growing oyster with different techniques and sharing knowledge
11		
12	Knowledge and information transfer (e.g. communication, teaching...), being responsible	Carrying capacity. The common factor that affect all animal species is farming density. Epizootics have all time appeared at production pics all around the world. Also carrying capacity is not just about how many shellfish can be grown in a bay to keep good growth performances but also to keep a healthy shellfish

		<p>population. Over production is your answer. Restriction of shellfish movement can be effective as a preventive measure and at an initial stage of infection. However since 2009 the situation has changed, French hatcheries are producing more seed, at a less cost and with better resistance and growth performances and with disease free certificates. Also in the last two years mortality rates on seed from non disease free sites are much lower if not null.</p>
13		
14		
15		
20	<p>Defining the content of the action, Setting-up the action's legal and operational framework, Implementing the action on the ground, Knowledge and information transfer (e.g. communication, teaching...)</p>	
23		
24	<p>Knowledge and information transfer (e.g. communication, teaching...)</p>	
25	<p>Knowledge and information transfer (e.g. communication, teaching...)</p>	
26	<p>Implementing the action on the ground</p>	<p>limiting movement of stock into my area and monitoring health</p>
30	<p>Defining the content of the action, Implementing the action on the ground, Knowledge and information transfer (e.g. communication, teaching...)</p>	<p>We are working with the marine institute to determine appropriate possible actions and implementing trials to assess which are most effective.</p>
31	<p>no shellfish transfers to our aquaculture sites which may pose a risk of spreading disease</p>	
32		
34	<p>Implementing the action on the ground</p>	<p>Application for movement orders to move oysters into the bay</p>
35		
36	<p>Implementing the action on</p>	<p>Acquiring seed only from known sources Sterilizing</p>

	the ground	equipment Not allowing contamination on site
37	Implementing the action on the ground	Open communication with Marine Institute; implementing changes when necessary and keeping abreast of improvements that can be made
38	Implementing the action on the ground	
41		Sampling
43	Implementing the action on the ground	We only buy seed from recognized hatcheries. We do not import from other farms. We would never lay down wild seed. We would not buy in partially grown unless it was from a disease free bay.
45		
46		
47	Implementing the action on the ground	
48	Implementing the action on the ground, Knowledge and information transfer (e.g. communication, teaching...)	

3.3.5. Synthesis

Fifteen respondents gave no answer to either question. Of the other 18 over half believed they had an influence on mitigating or preventing mollusc diseases. Most cite many categories in which they have an influence including defining and implementing action on the ground, communication, knowledge transfer etc..

3.4. Global synthesis

We were only able to analyse the producers category of stakeholders. This group recognises the importance generally of shellfish diseases as they impact directly on their profitability either through direct losses or because they are in a disease free area their options to purchase stock are more limited and more expensive. Producers recognise the need for preventing the introduction of diseases by sourcing stock from disease free sources. There is also an awareness of the role of husbandry in this and some of the respondents are actively engaged in activities to better understand husbandry factors in mortality. The perception of mussel farmers are that diseases of shellfish are not on concern to them which may stem from the fact that they have to date not been largely impacted by mollusc diseases in Ireland or it may relate to the fact that mussel cultivation practices often mean that mortality may go undetected. There is a high degree of interest by oyster farmers in particular in shellfish diseases(which is where there has been the most severe impact since 2008 and they are aware of their ability to influence mortality.

Stakeholder Survey Analysis of responses: Italy

1. Number of respondents

Synthesis. The Italian online survey response rate was 23.3 %, with 61 respondents out of 262 contacted stakeholders.

2. Respondents' profiles

Synthesis. In Italy, the profile of the respondents pertained to Education, research and training organizations (**23**, with two similar answers considered only once because from the same respondent whose qualitative answers are in red), Surveillance and research organisations (**9** = 8 IZS+1 CNR), public institutions (**6** = 3 ISPRA+3 ASL), producing chain (**19**), knowledge transfer and development organisations (**2** = 1 Ist Delta+1 Agenzia Veneta), wider society (**1**). Politicians did not answer (**0**).

All the responders declared to work in Italy. At least 23 plus other 3 responders (26/61 i.e. 42.6 %) have international work interactions.

3. _DATA ANALYSIS (analysis of categories with >5 responders)

Stakeholders' interest in mollusc diseases. *Lei ha un qualche interesse per le malattie di molluschi bivalvi?*

F-G. In generale, ha a che fare con tali malattie? In quale grado? Potrebbe dirci qualcosa di più?

Ranking 1-5

1: low interest;

5: high interest.

Education, research and training organizations (23):

Interest for mollusc diseases	Number of respondents
1	3
2	2
3	3
4	9
5	6

coinvolta nel progetto VIVALDI

ora non lavoro più in quel settore di ricerca

E' una linea di ricerca di cui non mi occupo direttamente

è più importante il selvatico

Sono interessato allo studio della risposta immunitaria e del rapporto tra i molluschi bivalvi e i loro potenziali patogeni

Seguo sporadicamente l'argomento attraverso colleghi più direttamente coinvolti

relazione con la salute umana

Mi occupo di malattie dei molluschi bivalvi di interesse commerciale e non (infettive e non) e delle malattie degli invertebrati acquatici in genere

Mi occupo di immunità e immunotossicità nei bivalvi

interesse scientifico

Studio la biologia dei bivalvi da un punto di vista genomico-evolutivo ed, in minor misura, funzionale. Non sono direttamente coinvolto nello studio delle patologie dei bivalvi e la mia conoscenza in merito è estremamente limitata, tuttavia sono interessato alla problematica, soprattutto nell'ottica di cercare una migliore integrazione fra ricerca di base ed acqua cultura in Italia.

mi occupo di genomica della vongola verace, in ambiti scientifici non direttamente correlati alle patologie (eredità e biogenesi dei mitocondri)

Lavoro sul sistema immunitario dei molluschi

La simulazione della dinamica delle malattie, in relazione ai processi di trasporto e ad altre variabili ambientali, potrebbe divenire uno dei temi di ricerca di cui mi occupo

Molto indirettamente attraverso colleghi Veterinari

Le malattie hanno un impatto notevole sulla economia di zona

Sono studioso delle malattie dei molluschi bivalvi

Ne sono consumatore e li studio per aspetti di sostenibilità legati al loro allevamento

Producing chain (19):

Interest for mollusc diseases	Number of respondents
1	3
2	1
3	3
4	4
5	8

E' uno dei fattori determinanti della redditività aziendale (soprattutto per le ostriche).

Quale rappresentante di molluschicoltori sono consapevole dei rischi che questi corrono a causa di eventuali insorgenze di malattie

al momento patologie che hanno comportato morie rilevanti in maniera diretta non sono state riscontrate, anche se tal volta (ma non è provato) alcune malattie possono essere state concausa assieme a fattori stressogioni a parziali perdite di prodotto.

la malattia nei molluschi è vita o morte per il mio lavoro

il mio allevamento di ostrica concava è colpito ricorrentemente da 8 anni da morie fortissime (60/80 %)

Le morie di mitili e vongole non sono mai state collegate a specifiche patologie.

allevatore molluschi (mitili)

Essendo produttore sono interessato ad eventuali malattie sui molluschi che coltivo

Facciamo consulenza haccp a cdm e csm, nonché progettiamo e realizziamo impianti per depurare MBV

vendita

la produzione della ns azienda è basata sull'allevamento dei molluschi bivalvi

Non ho esperienza specifica in materia, nel golfo di Olbia si sono manifestati casi di biotossine algali circa 10 anni fa (2 casi) e null'altro prima e dopo

Synthesis. The interest of the producing chain for mollusc disease is evident in 12 of total 19 numerical answers. Opposite cases are present (almost no disease occurrence or severe disease occurrence).

Surveillance and research organisations (9):

Interest for mollusc diseases	Number of respondents
1	0
2	0
3	1 (CNR)
4	4
5	4

In particolare per le malattie delle ostriche ed soprattutto relativamente a quelle batteriche e virali

la mia attività riguarda la sanità animale e sicurezza alimentare nel settore ittico

Tutela produzione di molluschi è nostro compito istituzionale

Castrazione da parassiti in *Tapes decussatus*; sterilità in *Scrobicularia plana* causata da reflui di fabbriche di detersivi.

Lo studio e la gestione delle malattie virale dei molluschi , impatto sulle produzioni e sull'ecologia di questi organismi.

Public institutions (veterinary surveillance)(6):

Interest for mollusc diseases	Number of respondents
1	0
2	1
3	2
4	0
5	3

Per i provvedimenti che possono comportare la presenza di questi agenti patogeni, a termini di legge.

sono responsabile delle attività di polizia veterinaria relative

Essendo aspetti coperti tipicamente dai veterinari in genere mi affido a loro quando vengo a contatto con questi problemi

Le malattie dei molluschi bivalvi e la sua attività.

H. Pensa che tali malattie abbiano conseguenze sulla sua attività? Ranking: Yes, No, I don't know

Education, research and training organizations (23):

Any consequence on your activity?	Number of respondents
YES	13
NO	4
I don't know	6

Producing chain (19):

Any consequence on your activity?	Number of respondents
YES	18
NO	0
I don't know	1

Synthesis. Producers are aware on the potential impact of bivalve diseases

Surveillance and research organisations (9):

Any consequence on your activity?	Number of respondents
YES	9
NO	0
I don't know	0

Public institutions (veterinary surveillance)(6):

Any consequence on your activity?	Number of respondents
YES	4
NO	1
I don't know	1

I-J. Pensa che le malattie dei molluschi bivalvi abbiano un impatto negativo sulla sua attività? Potrebbe dirci qualcosa di più?

Ranking 1-5:

1: absolutely not negative;

5: highly negative.

Education, research and training organizations (23):

Any negative impact on your activity?	Number of respondents
1	8
2	4
3	6
4	0
5	5

Esistendo le malattie serve studiarle e prevenirle

solo in un lungo periodo

Le malattie dei molluschi bivalvi potrebbero danneggiare il settore della molluschicoltura regionale, con gravi ripercussioni non solo economiche

Ci sono stati fenomeni non spiegati di infestazioni ma non causate da molluschicoltura bensì da piscicoltura, mai sviscerati

Penso che potrebbero averlo in caso di animali infetti. La stabulazione prolungata in camere termostatiche e l'uso di guanti e disinfettanti nella manipolazione rientrano nella buona norma del nostro laboratorio

Al momento, non hanno alcun impatto, in senso stretto

Non ci sono ripercussioni sull'attuale attività

Il lavoro che svolgo riguarda la ricerca sulle malattie dei molluschi bivalvi

Mi occupo di alcuni aspetti ambientali che possono influenzare la produzione di bivalvi. Malattie di molluschi generano interesse e potenziali finanziamenti per il mio lavoro

Producing chain (19):

Any negative impact on your activity?	Number of respondents
1	1
2	1
3	4
4	2
5	11

La risposta riguarda l'ostrica concava con riferimento al herpes virus OsHV-1 microvar. Per i mitili ci sono delle mortalità occasionali per motivi spesso non identificati: il fenomeno è comunque marginale.

come su detto al momento attuale, negli ultimi dieci anni non si possono attribuire a patologie specifiche perdite di prodotto in allevamento ma è bene sempre tenere alta l'attenzione sui patogeni.

la mia azienda riproduce seme di molluschi bivalvi vivi e quindi....

aggravio enorme di lavoro e perdita di reddito di centinaia di migliaia di euro

fermo attività, danni economici ingenti

Qualsiasi malattia o infestazione degli impianti che genera cali di produzione o di qualità del prodotto incide sull'azienda

Bloccano le vendite

se le malattie dei MB portano a estese morie mette a rischio tutta l'attività dall'allevamento alla trasformazione

Perdita di fiducia del consumatore, perdita di mercato, aumento costi di gestione, potenziale blocco attività a mare per rischi sanitari

Synthesis. At least 13 of 19 responders likely experienced a negative impact by bivalve diseases. Only 9 responders have added individual comments: emerging concepts are multiple etiology of diseases and the severe economic consequence in terms of production loss, additional work, stop selling and no product transformation, economic losses, weakening of the demand for lack of consumer trust.

Surveillance and research organisations (9):

Any negative impact on your activity?	Number of respondents
1	3
2	2
3	2
4	1(CNR)
5	1

Se falliscono gli operatori delle settore, noi non abbiamo senso di esistere

Il monitoraggio delle malattie dei molluschi è nostro compito istituzionale

Le patologie citate incidono sulla risorsa economica

Public institutions (veterinary surveillance)(6):

Any negative impact on your activity?	Number of respondents
1	2
2	0
3	2
4	2
5	0

E' solo una questione di lavoro

Occupandomi di problematiche ecologiche ed ambientali degli ambienti di transizione, le patologie dei bivalvi possono costituire una fonte di impatto su scala ecosistemica

Pensa che la sua attività possa trarre beneficio dalle malattie dei molluschi bivalvi?

K-L. Le malattie dei molluschi bivalvi possono anche essere un'opportunità per la mia attività?

Potrebbe dirci qualcosa di più?

Ranking 1-5:

1-Absolutely not positive

5-Highly positive

Education, research and training organizations (23):

May bivalve diseases be an opportunity for your activity?	Number of respondents
1	2
2	2
3	7
4	4
5	8

vedi commento sopra

non credo che si possa trarre beneficio dalle malattie in generale

se ci sono problemi sanitari è un problema per tutti coloro che gravitano in ambiente acquatico

Stimolano la necessità di aumentare le conoscenze scientifiche sulle patologie dei molluschi

lo studio delle malattie negli invertebrati sono un importante modello di patologia animale

La capacità di sopravvivenza differenziale e di resistenza ai patogeni e agli xenobiotici sono alla base della mia ricerca

Potrebbe essere necessario approfondire l'aspetto scientifico della diffusione di tali malattie

Approccio molecolare allo studio

Potrebbe essere un'opportunità se da ricerche riguardanti la dinamica delle malattie si potesse giungere a quantificare il rischio in relazione alle variabili ambientali: questa conoscenza potrebbe essere utile per assicurare gli allevatori. I risultati di tali ricerche potrebbero essere trasferiti al mercato delle assicurazioni dallo spin-off universitario che ho fondato e di cui sono socio.

Synthesis. University researchers provided various comments. In particular, bivalve diseases are regarded as a problem and as a stimulus to understand better the invertebrates and their pathologies in relation to the environmental context. Research could provide useful data to the farmers and also result in knowledge transfer (for instance by means of university spin off company)

Producing chain (19):

May bivalve diseases be an opportunity for your activity?	Number of respondents
1	15
2	2
3	1
4	0
5	1

Se sono gli altri ad avere problemi e mortalità, l'unico vantaggio può essere un incremento di richieste e prezzo per chi non é colpito.

essendo produttori le patologie possono essere solo causa di effetti negativi alla nostra attività

in nessun caso potrei avere vantaggio

La mancata produzione o un calo della qualità non sono opportunità

non ne vedo l'utilità

le ragioni sono quelle indicate in precedenza ma espresse in termini positivi (aumento di fiducia del consumatore, mantenimento/incremento quote di mercato, attività a mare regolare e assenza/contenimento rischio sanitario)

Synthesis. Most stakeholders involved in production do not consider bivalve diseases as a personal opportunity. Among few individual comments, one comment refers to the advantage of not affected farmers and one comment refers to the advantage related to the absence (or control) of the bivalve diseases.

Surveillance and research organisations (9):

May bivalve diseases be an opportunity for your activity?	Number of respondents
1	1
2	0
3	2
4	3
5	3

Maggior lavoro e maggiori possibilità di ricerca

il nostro laboratorio opera anche in questo settore in attività corrente o di ricerca

E' oggetto del nostro lavoro: diagnosi malattie molluschi

Sono pensionato e non ho più occasione di cimentarmi con i problemi

La conferma di casi di mortalità associati a tali patogeni potrebbero rappresentare motivazioni per l'approfondimento e finanziamento per la ricerca

Public institutions (veterinary surveillance)(6):

May bivalve diseases be an opportunity for your activity?	Number of respondents
1	2
2	0
3	2
4	2
5	0

potrei contribuire con i veterinari ad affrontare il problema, ad es. contribuendo al campionamento

Azioni connesse alla prevenzione o mitigazione delle malattie dei molluschi bivalvi.

M. Pensa che sia possibile prevenire o mitigare le malattie dei molluschi bivalvi?

Education, research and training organizations (23):

Is prevention or mitigation possible?	Number of respondents
YES	21
NO	0
I don't know	2

Producing chain (19):

Is prevention or mitigation possible?	Number of respondents
YES	11
NO	2
I don't know	6

Synthesis. Only 11 of 19 stakeholders of the producing chain perceive the possibility to prevent or mitigate bivalve diseases.

Surveillance and research organisations (9):

Is prevention or mitigation possible?	Number of respondents
YES	7
NO	1
I don't know	1

Public institutions (veterinary surveillance)(6):

Is prevention or mitigation possible?	Number of respondents
YES	6
NO	0
I don't know	0

N. Lei adotta/mette in pratica o prende parte ad azioni intese a prevenire o mitigare le malattie dei molluschi bivalvi?

Education, research and training organizations (23):

Are you adopting measures or taking part of actions?	Number of respondents
YES	9
NO	13
Other	1

Producing chain (19):

Are you adopting measures or taking part of actions?	Number of respondents
YES	8
NO	3
Other	8

Synthesis. Among the stakeholders of the producing chain, only 8 of 19 are acting against diseases (8 did not answer, 3 did not act)

Surveillance and research organisations (9):

Are you adopting measures or taking part of actions?	Number of respondents
YES	6
NO	1
Other	2

Public institutions (veterinary surveillance)(6):

Are you adopting measures or taking part of actions?	Number of respondents
YES	3
NO	3
Other	0

O. Dove interviene?

Education, research and training organizations (23):

Where do you intervene?	Number of respondents
No answer	15
Measures definition	2
Measures implementation	2
Knowledge and information transfer (e.g. communication, teaching...)	6
Setting-up the action's legal and operational framework	2

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...), studiando la patogenesi e gli elementi che vi concorrono

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Stabilendo il contesto legale e operativo dell'azione, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Definendo il contenuto dell'azione, Stabilendo il contesto legale e operativo dell'azione, Mettendo in pratica l'azione sul posto, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Definendo il contenuto dell'azione, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Mettendo in pratica l'azione sul posto, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Producing chain (19):

Where do you intervene?	Number of respondents
No answer	11
Measures definition	4
Measures implementation	6
Knowledge and information transfer (e.g. communication, teaching...)	3
Setting-up the action's legal and operational framework	2

Mettendo in pratica l'azione sul posto

Definendo il contenuto dell'azione, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Mettendo in pratica l'azione sul posto

Mettendo in pratica l'azione sul posto

Definendo il contenuto dell'azione

Definendo il contenuto dell'azione, Stabilendo il contesto legale e operativo dell'azione, Mettendo in pratica l'azione sul posto, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Definendo il contenuto dell'azione, Stabilendo il contesto legale e operativo dell'azione, Mettendo in pratica l'azione sul posto, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Mettendo in pratica l'azione sul posto

Synthesis. Only 15 of 19 answers, anyway the answers reveal active involvement of these stakeholders (producing chain) to solve problems.

Surveillance and research organisations (9):

Where do you intervene?	Number of respondents
No answer	3
Measures definition	2
Measures implementation	3
Knowledge and information transfer (e.g. communication, teaching...)	4
Setting-up the action's legal and operational framework	

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...), prove sperimentali di profilassi su campo

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Definendo il contenuto dell'azione, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

In fase diagnostica

Attività diagnostica

Public institutions (veterinary surveillance)(6):

Where do you intervene?	Number of respondents
No answer	3
Measures definition	1
Measures implementation	1
Knowledge and information transfer (e.g. communication, teaching...)	1
Setting-up the action's legal and operational framework	3

Stabilendo il contesto legale e operativo dell'azione, Mettendo in pratica l'azione sul posto

Definendo il contenuto dell'azione, Stabilendo il contesto legale e operativo dell'azione, Trasferendo conoscenza e informazione (es. comunicazione, insegnamento,...)

Stabilendo il contesto legale e operativo dell'azione

P. Potrebbe dirci un po' di più e fornire esempi pratici di azioni?

Education, research and training organizations (23):

L'individuazione e l'identificazione molecolare di OsHV-1, e la caratterizzazione del contesto ambientale per tali evidenze, sono un contributo di conoscenza trasferibile e sperabilmente utile

Intervenire su fattori ambientali ben definiti, gestione dell'ambiente mediante gestione del microbioma ambientale/digestione delle sostanze organiche presenti

Collaborazione con i mitilicoltori quando si presenta un problema in campo dovuto alle condizioni ambientali che possono favorire lo sviluppo di malattie

Trasferimento di conoscenza agli operatori

Il calcolo di densità sostenibili negli allevamenti, il monitoraggio dei patogeni nelle acque, la misura di inquinanti nei sedimenti

Producing chain (19):

Riduzione densità. Riduzione stress da manipolazioni. Scelta accurata del periodo di semina.

collaborando con strutture tecniche e istituti di ricerca nella definizione di buone pratiche e trasferendo tali informazioni agli operatori

effettuare bassa densità nei siti di allevamento, favorire il benessere animale attraverso le varie azioni che di volta in volta si reputano più opportune

I produttori devono conoscere i risultati dettagliati delle analisi pubbliche sul prodotto, perchè possono intraprendere azioni di salvaguardia e/o mitigazione degli impatti sul prodotto (valori, parametri, profondità acqua, etc.)

Penso che i molluschi debbano essere trasferiti solo in impianti entro 300 km di distanza massima e comunque stesso mare per prevenire infestanti provenienti da altri mari

Synthesis. Producers aim to operate reducing density, reducing handling stress, carefully considering the calendar for seeding, adopting good practices on the basis of a multiple information network, favouring animal wellness and keeping informed on the quality of the production, controlling and limiting animal transfers.

Surveillance and research organisations (9):

1. valutazione igienico-sanitaria del seme all'arrivo in impianto. 2. piani profilattici di trattamento contro ad es. Polydora sp. 3. controllo delle patologie durante il periodo di ingrasso.

Partecipazione a progetti di ricerca di settore: nazionali e internazionali

Public institutions (veterinary surveillance)(6):

adozione di misure ufficiali in caso di focolaio o sospetto focolaio di malattie denunciabili

Q. Vuole commentare?

Education, research and training organizations (23):

credo sia un tema importante ma poco compreso dal settore produttivo; il rapporto costi benefici delle malattie e l'impatto economico sono poco quantificabili al momento

deve essere riconosciuto che il problema esiste, deve essere valutato come lo si calmiere, va valutato l'impatto e.g. di antibiotici (nel caso siano usati), nel sistema, ci deve essere un controllo "ossessivo" degli scarichi, con misure chiche fisiche, microbiologiche. Gli indici usati in ecologia sono invece pura fuffa. Non si sa effettivamente l'impatto di eventuali molluschi "esteri" sulle specie già allevate, non si conosce (magari non ne sono io al corrente) l'impatto (pulse and chronic) sull'ambiente in cui vengono conferiti, o meglio non si vuole prendere in considerazione tale aspetto. Non va scordato però che molti impianti sono in zone probabilmente già compromesse

Esplicitare meglio cosa si intende per malattie dei molluschi bivalvi

Alcune domande sono un po' complesse, richiederebbero un testo più specifico adattandolo alla singola categoria d'interesse.

Non ho particolari commenti in quanto mi accosto all'argomento per la prima volta, ma sono interessato all'approfondimento.

Non vedo questo sondaggio particolarmente utile, almeno così come viene proposto

No

Nessun commento particolare

Producing chain (19):

In regola generale serve più informazioni tra i stakeholders.

Le pratiche di trasferimento molluschi sono probabilmente eccessive e l'attuale regolamentazione in merito complessa e poco efficiente (perde efficienza nella sua complessità).

L'impatto delle pratiche zoo-tecniche e l'inquinamento sono parte importante del problema: questi due aspetti sono spesso trascurati.

riteniamo che sarebbe opportuno che i maggiori produttori siano sempre coinvolti in tutte le attività di ricerca e nei progetti di sviluppo del settore anche tipo quelli relativi alla patologia.

In acquacoltura le misure gestionali e le misure di biosicurezza adottate sono a parer mio la principale modalità di controllo delle patologie.

In questo senso vanno disseminate buone pratiche gestionali e di biosicurezza che se da un lato possono determinare un aggravio nella attività quotidiana dell'allevamento rappresentano uno strumento fondamentale nella tutela della salute e benessere degli animali allevati , della sicurezza alimentare e nel medio e lungo termine assicurano un'adeguata sostenibilità economica all'acquacoltore

trovo che, almeno per il mio caso specifico, questo interesse sia fortemente tardivo. la mia personale esperienza pregressa con le istituzioni preposte al tema in questione è negativa per la inadeguatezza e il disinteresse riscontrati.

bene qualsiasi sondaggio, necessario trasparenza totale e pubblica sui risultati delle analisi del prodotto realizzate dalle AUSL dei territori

No

Abbiamo solo bisogno di referti più celeri, sia per fermare la vendita, sia per riattivarla.

Non avendo mai avuto problemi in termini di malattie su mitili e vongola verace , al momento non saprei come comportarmi

Surveillance and research organisations (9):

Necessari studi su genetica e selezioni dei riproduttori

Iniziativa lodevole: è necessario che gli attori coinvolti nella molluschicoltura italiana agiscano in sinergia, anche per il settore malattie.

Niente può fermare l'incidenza delle malattie, sia per motivi naturali, sia per motivi antropici.

Public institutions (veterinary surveillance)(6):

sarebbe stato necessario avere la definizione di attività per poter rispondere adeguatamente. Comparando la mia attività con quella di un operatore/allevatore le mie risposte sulla rilevanza delle patologie dei molluschi sono necessariamente negative. Cio non corrisponde alla mia opinione, ovvero che le patologie dei molluschi sono rilevanti, indipendentemente da quanto affliggono la mia attività. ciao

le misure gestionali da intraprendere sono di tipo preventivo potrebbero riguardare un maggiore controllo della filiera produttiva e nel caso di prodotto da schiuditoio sulla selezione di varietà preadattate all'ambiente e a maggiore resistenza e tolleranza ai fattori di stress.

Le misure di mitigazione riguardano il mantenimento di uno stato di benessere animale (adeguate condizioni chimico-fisiche e trofiche) in fase di allevamento, l'ottimizzazione delle tecniche di trattamento del prodotto pescato e dei sistemi di detezione dei patogeni

nonostante l'argomento mi sfiori rispetto a quelli che sono i miei ambiti di lavoro sono interessato alla materia e a rimanere aggiornato

3.4 Global synthesis

No politician answered the questionnaire. Among producers, the contacted individual microenterprises often did not answer.

We could analyse the answers given by 23 university professors and researchers (Education, research and training organizations), 9 stakeholders from Surveillance and research organisations (mainly from the Istituto Zooprofilattico network), 6 from public institutions actively engaged in veterinary activity and surveillance and 19 stakeholders from the producing chain (mainly producers or representatives of producers). There are clear differences of response between the mentioned stakeholder categories. In general, there is perception of the bivalve diseases and related consequences as well as the need to increase knowledge, circulate information and cooperate for solving problems which can have a strong negative impact on the production sector. In addition, Italian farmers contacted within the SIRAM network are strongly committed to improve the production of marine bivalves and define a larger offer for the market, including oysters.

In the final comments of the stakeholders (Q) there is a general interest and perception of the complexity of this production sector influenced by environmental variables, criticisms on the formulation of this questionnaire and clear will of the producers to be involved in all the activities that have something to do with bivalve farming: from research projects to activities aimed to speed pathogen diagnosis, to improve the management for healthy and safe production, to increase transparency and interest for this economic sector, and to reduce bureaucracy.