



# ANNUAL COORDINATION MEETING

## WP 31 DISSEMINATION

Rocio Robles  
Rosa Hurtado

# OBJECTIVES



- ✓ **Disseminate the knowledge** acquired to scientific community and aquaculture sector
- ✓ Promote implementation of **new husbandry methods, protocols & products** developed by DIVERSIFY to the aquaculture industry & the seafood processors
- ✓ Enhance awareness of the diversification efforts of the project to the **general public**. Special attention to **Food industry & Consumer's organizations**
- ✓ Promote investment opportunities **making available the species feasibility studies to the industry**
- ✓ **Documented information to fish producers, fish processors & consumers** on the new farmed aqua products from DIVERSIFY

# PROGRESS:



- ✓ **Task 31.1** Website ([D31.1](#)), brochure & logo ([D31.2](#)), AV material ([D31.4 & D 31.7](#))
- ✓ **Task 31.2** Annual Coordination Meetings: [D 31.1](#)
- ✓ **Task 31.3** DIVERSIFY at EAS 2014 ([D 31.6](#))
- ✓ **Task 31.4** Scientific presentations & submission of manuscripts:  
[D31.11](#)
- ✓ **Task 31.7** Dissemination to the food industry & consumers:  
[D31.3 & D31.5](#)

# D31.1



## WEBSITE

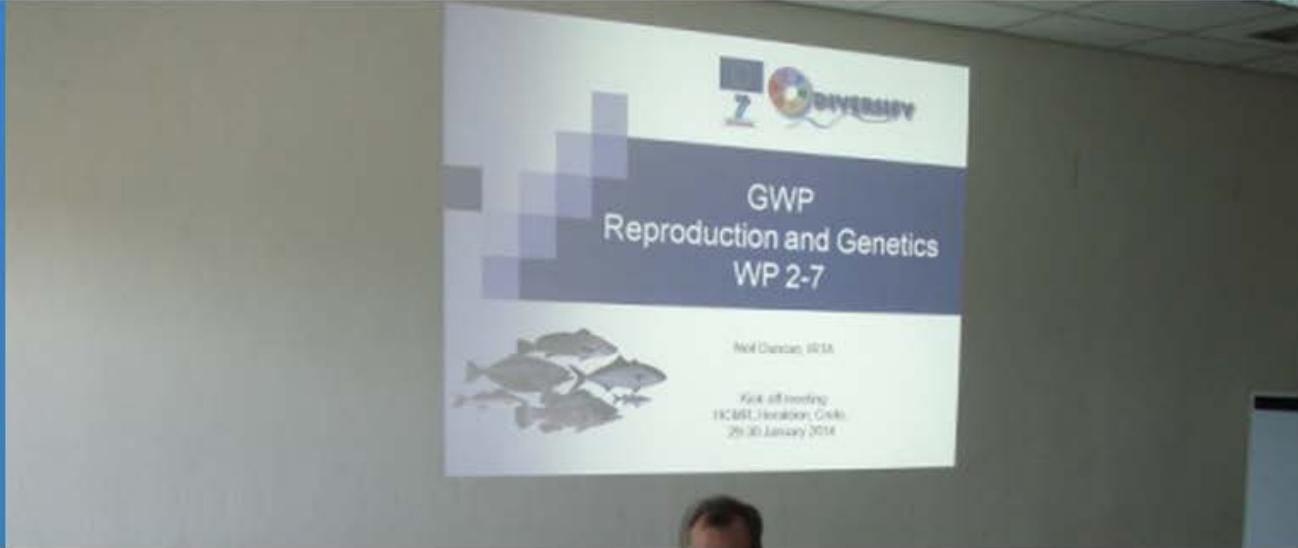
<http://www.diversifyfish.eu/>

- ~~- How to browse in a web~~
- Do browse in the Diversify web

[NEWS](#)[SUMMARY](#)[PARTNERS](#)[SPECIES](#)[RESEARCH AREA](#)[INTRA](#)[DISSEMINATION](#)

## INATION

In this section, visitors can find scientific publications, magazine releases, conference proceedings and a photo gallery of research activities related to the project.



D31.1

# WEBSITE



## ✓ News: Recent activities

NEWS

The most up-to-date general-audience information on the project

Contact Dissemination Coordinator

RECENT ACTIVITIES

RECENT ACTIVITIES

RECENT ACTIVITIES

RECENT ACTIVITIES

**PRESENTATIONS AT THE EUROPEAN AQUACULTURE SOCIETY'S MEETING IN SAN SEBASTIAN, SPAIN.**

**Adding Value**

Donostia-San Sebastián, Spain  
October 14-17, 2014  
[www.easonline.org](http://www.easonline.org)

HOW TO TRAIN GREATER AMBERJACK TO FEED ON COMMERCIAL EXTRUDED FEEDS (PROTOCOL)

D31.1

# WEBSITE



- ✓ **Summary:** Title, brief description, contact details, Pert diagramm & organization

The screenshot shows the DIVERSIFY project website. At the top, there is a navigation bar with links: NEWS, SUMMARY (which is highlighted in blue), PARTNERS, SPECIES, RESEARCH AREA, INTRA, and DISSEMINATION. Below the navigation bar is a large image of a fish, likely a yellowtail amberjack, with navigation arrows on either side and a series of small circular icons at the bottom right. In the bottom left corner, there is a European Union flag icon and text stating "Co-funded by the Seventh Framework Programme of the European Union". In the bottom right corner, there is text stating "7FP-KBBE-2013-GA 602131, DIVERSIFY". Further down the page, there is a section titled "PROJECT TITLE: Exploring the biological and socio-economic potential of new/emerging candidate fish species for expansion of the European aquaculture industry (DIVERSIFY)". Below this, there is a "BRIEF DESCRIPTION – AIM" section containing detailed text about the project's goals and the fish species being studied.

**PROJECT TITLE:** Exploring the biological and socio-economic potential of new/emerging candidate fish species for expansion of the European aquaculture industry (DIVERSIFY).

**BRIEF DESCRIPTION – AIM:**

The project DIVERSIFY has identified a number of new/emerging finfish species, with a great potential for the expansion of the EU aquaculture industry. Although the emphasis is on Mediterranean cage-culture, fish species suitable for cold-water, pond/extensive and fresh water aquaculture have been included as well. These new/emerging species are fast growing and/or large finfishes marketed at a large size and can be processed into a range of products to provide the consumer with both a greater diversity of fish species and new value-added products. The fish species to be studied include **meagre** (*Argyrosomus regius*) and **greater amberjack** (*Seriola dumerilii*) for warm-water marine cage culture, **wreckfish** (*Polyprion americanus*) for warm- and cool-water marine cage culture, **Atlantic halibut** (*Hippoglossus hippoglossus*) for marine cold-water culture, **grey mullet** (*Mugil cephalus*) a euryhaline herbivore for pond/extensive culture, and **pikeperch** (*Sander lucioperca*) for freshwater intensive culture using recirculating systems.

# D31.1

# WEBSITE



✓ **Partners:** Contact information,  
logos & Pictures of the PI

Home Google Home - Research Pa... Login experts - Research Pa... Weebly - Create a tr... Webivierien - Entrada ESHorizonte2020 - Y...

Parque Científico Tecnológico Universidad de Las Palmas de Gran Canaria

Forkys IRIDA AARHUS UNIVERSITY MAPP Centre for research on customer relations in the food sector Ifremer LEI WAGENINGEN URN

DTU DTU Aqua UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO ctaqua APROMAR NIFES

SML & MEDIUM ENTERPRISES (SMEs) PARTICIPATING IN DIVERSIFY

 Argosaronikos FishFarms S.A. (P23. ARGO)  
Mr. Tasos Raftopoulos  
Deligianni & Telamonos, Aiantio,  
Salamina 18903, Greece  
argofisa@yahoo.gr  
tel. +30 210 466 5600  


 Azienda Agricola Ittica Caldoli (P24. ITTICAL)  
Dr. Fulvio Cepollaro  
Via Principe di Piemonte 5, Lesina 71010, Italy  
fulvio.cepollaro@hotmail.it  
tel. +39 348 2509240  


 Dor Dgey Yam LTD (P25. DOR)  
Mr. Gilad Shafran  
Dor 1 DN Hof HaCarmel DOR 30820 Israel  


D31.1

# WEBSITE



✓ **Species:** Full description, biological information, reasons for the selection of the species & photos

1. *Argyrosomus regius*
2. *Seriola dumerili*
3. *Sander lucioperca*
4. *Hippoglossus hippoglossus*
5. *Polyprion americanus*
6. *Mugil cephalus*

The screenshot shows a webpage from the DIVERSIFY project. At the top, there's a navigation bar with links for NEWS, SUMMARY, PARTNERS, SPECIES, RESEARCH AREA, INTRA, and DISSEMINATION. The main content area has a blue header with the EU flag and the DIVERSIFY logo. Below this, there's a large image of a Greater Amberjack fish. To the left of the fish, there's a blue box containing the species name "GREATER AMBERJACK" and a brief description: "A fast growing marine fish with world-wide distribution". A button labeled "Contact Species Leader" is also present. At the bottom of the page, there's a section titled "JUSTIFICATION FOR THE SELECTION OF GREATER AMBERJACK" with a detailed paragraph about the species' characteristics and suitability for aquaculture.

D31.1

# WEBSITE



## ✓ Research area: Tasks per 6 disciplines

RESEARCH AREA    INTRA    DISSEMINATION

- Reproduction & Genetics >
- Nutrition >
- Larval husbandry > Meagre
- Grow out husbandry > Greater amberjack
- Fish Health > Pikeperch
- Socioeconomics >

Wreckfish  
Grey mullet

### PERT DIAGRAM SHOWING THE STRUCTURE OF THE RESEARCH UNDER EACH WORK PACKAGE AND THEIR INTERACTIONS

To facilitate the work in DIVERSIFY, the research tasks designed to address the identified bottlenecks in each selected species have been separated by scientific discipline, so separate WPs address work in a specific discipline and species. The WPs were then

html  
WP) according to Research Area first, and then according to species. This was done in order

D31.1

# WEBSITE

✓ Intranet:

**Password protected !!!**



NEWS

SUMMARY

PARTNERS

SPECIES

RESEARCH AREA

INTRA

DISSEMINATION

Meetings & Activities

DOW, GA and CA

EU support documents

Management

Forms & protocols

Deliverables

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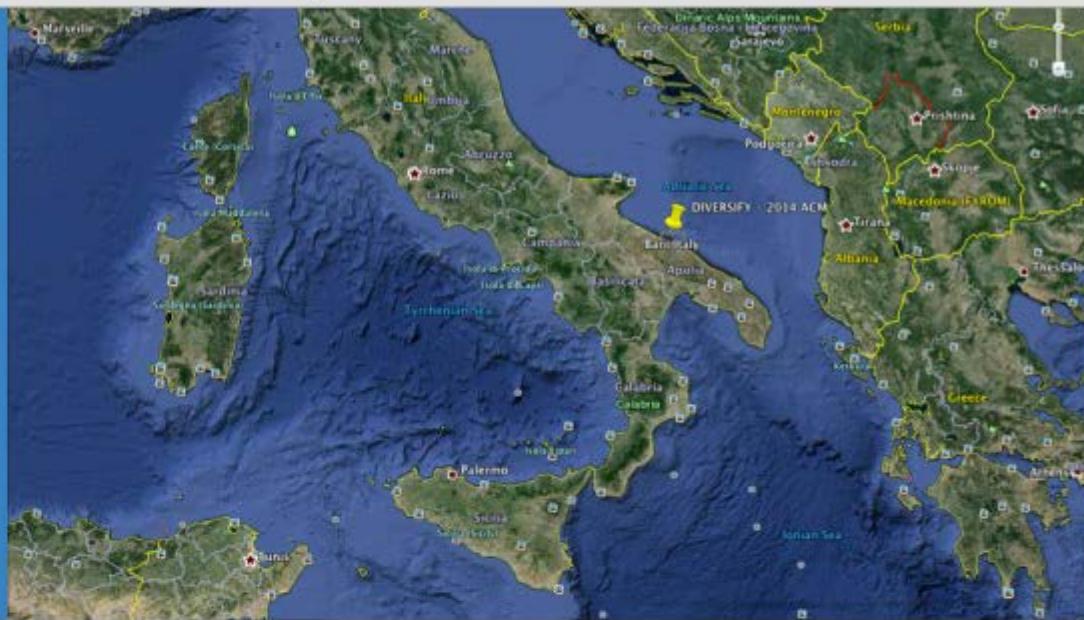
# WEBSITE: INTRANET



## 2014 ANNUAL COORDINATION MEETING

The meeting will be hosted by P13. UNIBA in **Bari, Italy** on 4-6 November 2014 (3 full day meeting)

[Contact Coordinator](#)



The Annual Coordination Meeting for 2014 will be held on 4-6 November 2014 (3 full day meeting). The venue of the meeting will be the Palazzo Ateneo - Sala deli Affreschi, located in the center of Bari, Italy. The meeting will be attended by 62 scientists from the consortium and 5 invited participants.

## Agenda



DIVERSIFY

7FP-KBBE-2013-603121

Meeting Agenda

2014 Annual Coordination Meeting

Bari 4-6 November 2014

Palazzo Ateneo

DAY 1	4-Nov	Tuesday	Salone degli Affreschi	
Start	End	Title	Presenter	Details
9.00	9.30	Welcome	Constantinos Mylonas (HCMR),	Meeting logistics, agenda, welcoming

D31.1

# WEBSITE

✓ Intranet:

**Password protected !!!**



NEWS

SUMMARY

PARTNERS

SPECIES

RESEARCH AREA

INTRA

DISSEMINATION

Meetings & Activities >

DOW, GA and CA

EU support documents

Management

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Forms & protocols

Deliverables

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The following statement should be included in all Dissemination material  
(press releases, interviews, web material, etc.)



Co-funded by the Seventh  
Framework Programme  
of the European Union



Available at [www.diversifyfish.com](http://www.diversifyfish.com),  
INTRA, Forms and Protocols

This 5-year-long project (2013-2018) has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration (KBBE-2013-07 single stage, GA 603121, DIVERSIFY). The consortium includes 38 partners from 12 European countries –including 9 SMEs, 3 Large Enterprises, 5 professional associations and 1 Consumer NGO- and is coordinated by the Hellenic Center for Marine Research, Greece. Further information may be obtained from the project site at "www.diversifyfish.eu".

The following statement should be included in all Scientific presentations  
(Posters, Oral presentations and scientific articles)



Co-funded by the Seventh  
Framework Programme  
of the European Union



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration (KBBE-2013-07 single stage, GA 603121, DIVERSIFY).

D31.1

# WEBSITE



## ✓ Dissemination: Broadcasting activities

- Newsletters: First one already available at the website

[www.diversifyfish.eu/newsletter.html](http://www.diversifyfish.eu/newsletter.html)

On 29-30 January 2014, the European Commission project DIVERSIFY (FP7-KBBE-2013, GA 603121) had its kickoff meeting at the Hellenic Center for Marine Research (HCMR) in Iraklion, Crete, Greece. The project is coordinated by Dr. Constantinos C Mylonas of the Institute of Marine Biology, Biotechnology and Aquaculture (IMBBC). DIVERSIFY has a total budget of 11.8 million € for its 5 year duration and it is one of the largest research project in the area of aquaculture funded by the European Commission. DIVERSIFY's consortium includes twelve research and academic institutions, three Large Enterprises, nine Small and Medium Enterprises (SME), five Professional Associations and one consumer NGO.

The project DIVERSIFY ([www.diversifyfish.eu](http://www.diversifyfish.eu)) has identified a number of new/emerging finfish species, with a great potential for the expansion of the EU aquaculture industry. These new/emerging species are fast growing and/or large finfishes marketed at a large size and can be processed into a range of products to provide the consumer with both a greater diversity of fish species and new value-added products. The fish species to be studied include **meagre** (*Argyrosomus regius*) and **greater amberjack** (*Seriola dumerilii*) for warm-water marine cage culture, **wreckfish** (*Polyprion americanus*) for warm- and cool-water marine cage culture, **Atlantic halibut** (*Hippoglossus hippoglossus*) for marine cold-water culture, **grey mullet** (*Mugil cephalus*) a euryhaline herbivore for pond/extensive culture, and **pikeperch** (*Sander lucioperca*) for freshwater intensive culture using recirculating systems.

**Reproduction and Genetics of Atlantic halibut**

The first experiments on the induction of ovulation in hatchery-produced Atlantic halibut were initiated on 25 & 26 February 2014, at the Austevoll (Norway) facilities of the Institute of Marine Research. In the collaboration of the Hellenic Center for Marine Research (HCMR, Greece). A group of 12 females of an average weight of 15 kg were biopsied and selected to be at the same stage of oogenesis. Fish had completed vitellogenesis and some were in early oocyte maturation, with oocytes with a diameter of >2 mm. All males were in full spermating condition. The females were allocated randomly to three groups and were treated with one of two doses of GnRH<sub>a</sub> in a controlled-release delivery system (EVAc) or were sham-implanted and used as controls. Four females were implanted with 50 µg GnRH kg<sup>-1</sup>, and four females were implanted with 100µg GnRH kg<sup>-1</sup>. Control fish were sham-injected. All fish were checked regularly for ovulation, and three more biopsies were taken at one-week intervals.



# Agrocapital

# Kathimeri

## Flash news

# lette Creta live

# Agrotypos



D31.1

# PRESS RELEASE: Spanish



The collage includes the following website snippets:

- www.ctqua.es/140206-reunion-lanzamiento-diversify-ctqua.aspx#VEeoQvI\_te9
- www.mispecies.com/nav/actualidad/europa/detalle-noticia/Expertos-europeos-dan-inicio-al-proyecto-europeo-Diversify/#VEeoQvI\_te9
- www.lavocdeldigital.es/cadiz/v/20131102/ciudadanos/ctaqua-incluida-proyecto-europeo-20131102.html
- www.anfaco.es/es/categorias.php?var1=Apoyo%20a%20la%20innovaci%20n%20empresarial&var2=Apoyo%20a%20la%20innovaci%20n%20empresarial&var3=8nar1=775&nar2=775
- www.ipacultura.com/noticias/en\_portada/33016/da\_comienzo\_diversify\_el\_objetivo\_convertirse\_en\_un\_pilar\_de\_apoyo\_para\_la\_diversificacion\_acuicola\_en\_europa.html
- www.efico.com/jEn guardia con su economía acuícola!
- www.finanzas.com/noticias/empresas/20131029/andalucía-participa-proyecto-europeo-2533715.html
- www.twitter.com/T3\_2014/Resultados\_trimestrales
- www.1111ONCE.com
- www.besana.es/web/201310/proyecto-12-paises-investigara-como-ampliar-oferta-acuicola-europea
- www.farodivigo.es/mar/2013/10/29/proyecto-12-paises-investigara-ampliar/904476.html
- www.lamarsalao.com/2013\_10\_01\_archive.html
- www.lamarsalao.com/2013\_10\_01\_archive.html

Ctaqua

Mis peces

La voz digital

ANFACO

ipac

Finanzas

Besana

Faro de Vigo

La mar salao

D31.1

# PRESS RELEASE: DIVERSIFY

## German



**"Forschungsprojekt zur Förderung des europäischen Aquakultursektors durch Nutzung ausgesuchter Fischarten zur Gewinnung innovativer Aquakulturerzeugnisse und zur Beseitigung von Produktionseinschränkungen"**

[www.fischverband.de](http://www.fischverband.de)



### DIVERSIFY

Forschungsprojekt zur Förderung des europäischen Aquakultursektors durch Nutzung ausgesuchter Fischarten zur Gewinnung innovativer Aquakulturerzeugnisse und zur Beseitigung von Produktionseinschränkungen

Am 29. und 30. Januar 2014 fand im Hellenic Center for Marine Research (HCMR) in Heraklion, Griechenland, die Eröffnungsveranstaltung für das Projekt DIVERSIFY (FP7-KBBE-2013, GA 603121) statt, das im Rahmen des 7. Forschungsprogramms der Europäischen Kommission durchgeführt und finanziert wird. Das Forschungsprojekt wird von Dr. Constantinos C. Mylonas vom Institut für Marine Biologie, Biotechnologie und Aquakultur (IMBBC), einem von drei Forschungsinstituten des HCMR, koordiniert. Das DIVERSIFY-Projekt mit einer Laufzeit von fünf Jahren verfügt über ein Gesamtbudget von 11,8 Millionen Euro und zählt damit zu einem der umfangreichsten Forschungsprojekte im Bereich Aquakultur, das von der Europäischen Kommission finanziert wird. Die Teilnehmer am Projekt DIVERSIFY (siehe Tabelle 1) setzen sich aus zwanzig Forschungs- und Hochschul-einrichtungen, drei großen Unternehmen, neun kleineren und mittleren Unternehmen (KMU), fünf Fachverbänden und einer Verbraucher-NGO zusammen.

Als deutscher Projektteilnehmer begleitet der Bundesverband der deutschen Fischindustrie und des Fischgroßhandels e.V. dieses Projekt und hat die Aufgabe übernommen, wichtige Erkenntnisse der Projektarbeit in Deutschland bekannt zu machen.

Mit dem Projekt DIVERSIFY (<http://www.diversifyfish.eu>) soll das Potenzial bestimmter Fischarten zur Förderung des europäischen Aquakultursektors ermittelt werden. Neben Arten für Zuchtanlagen speziell im Mittelmeerraum werden auch Fischarten in das Projekt mit einbezogen, die für Kaltwasser-, Teich- und Süßwasseraufzucht geeignet sind. Bei diesen Arten handelt es sich um rasch wachsende Fische, die ganz oder als verarbeitete Produkte vermarktet werden können. Zu den Fischarten, die erforscht werden sollen, gehören der **Adlerfisch** (*Argyrosomus regius*) und die **Gelbschwanzmakrele** (*Seriola dumerili*), die beide für marine Aquakultur mit Schwimmkäfigen in wärmerem Wasser geeignet sind. Der **Steinbarsch** (*Polypryion americanus*) eignet sich für die marine Aquakultur mit Schwimmkäfigen in wärmeren oder kälteren Gewässern und der **Weißer Heilbutt** (*Hippoglossus hippoglossus*) ist für die marine Aquakultur in kalten Gewässern geeignet. Die **graue Meeräsche**

[www.aquakulturinfo.de](http://www.aquakulturinfo.de)

D31.1

# PRESS RELEASE: Italian



Food and Technology:  
Acquacoltura europea:  
è arrivato Diversify

**food&tec\_**

Alimenti, tecnologie, processi di  
filiera: il portale aggiornato sui fatti

**in\_formare**

notizie e approfondimenti  
contributi scientifici  
pubblicazioni  
normativa  
golosità culturali e ricette



## Acquacoltura europea: è arrivato Diversify

Diversify è il progetto dell'Unione europea per migliorare la produttività dell'acquacoltura, per l'elaborazione di nuovi prodotti e l'accesso a nuovi mercati

12.05.2014

Con lo scopo di superare i fattori limitanti la produzione di specie emergenti, elaborare nuovi prodotti e penetrare nuovi mercati, la



recenti

pubblicato in:

produzione di origine  
animale latte e derivati

mercati

indietro



D31.1

# PRESS RELEASE: International



## World fishing

## Aquafeed

## EUFIC

## FIS

The collage consists of four screenshots from different websites:

- Top Left:** worldfishing.net showing a news article about diversifying aquaculture.
- Top Right:** aquafeed.com featuring a banner for ZCME and a news article about the EUFIC diversity project.
- Middle Left:** eufic.org showing a news article titled "Diversification of fish species and products in European".
- Middle Right:** FIS Spain website showing a news article about aquaculture research and a sidebar for featured events like squashing your fish?

D31.1

# ARTICLES



✓ International:

Full page article in  
“The Parliament  
Magazine” Dec 16th



Enhancing the European aquaculture production by removing production bottlenecks of emerging species, producing new products and accessing new markets.

**BRIEF DESCRIPTION – AIM:**  
An efficient, sustainable and market-oriented expansion of the EU aquaculture sector based on new fish species and products will reduce the dependence of the EU on imports, reduce the pressure on over-exploited fisheries in the EU and explore new segments and tailor-made products for the EU market. This is the objective of a newly approved Collaborative project named DIVERSIFY, funded by the European Commission (FP7-KBBE-2013, GA 603121).

The project DIVERSIFY has identified a number of new/emerging finfish species, with a great potential for the expansion of the EU aquaculture industry. Although the emphasis is on Mediterranean cage-culture, fish species suitable for cold-water, pond/extensive and fresh water aquaculture have been included as well. These new/emerging species are fast growing and/or large finfishes marketed at a large size and can be processed into a range of products to provide the consumer with both a greater diversity of fish species and new value-added products. The fish species to be studied include **meagre** (*Argyrosomus regius*) and **greater amberjack** (*Seriola dumerilii*) for warm-water marine cage culture, **wreckfish** (*Polyprion americanus*) for warm- and cool-water marine cage culture, **Atlantic halibut** (*Hippoglossus hippoglossus*) for marine cold-water culture, **grey mullet** (*Mugil cephalus*) a euryhaline herbivore for pond/extensive culture, and **pikeperch** (*Sander lucioperca*) for freshwater intensive culture using recirculating systems.

These species were selected based both on their biological and economical potential, and to cover the entire European geographic area and to stimulate different aquaculture types. In collaboration with 12 SMEs and large enterprises, DIVERSIFY will



and socioeconomic research planned in DIVERSIFY are expected to support the diversification of the aquaculture industry and help in expanding production, increasing aquaculture products and development of new markets. To ensure the dissemination and implementation of the new knowledge that will be developed by the project, a wide range of dissemination activities have been planned, targeted both to the aquaculture production and its associated sectors (i.e., food processing and retailing), as well as the European consumers.

Besides the technical improvement of the selected species, the socio-economic

The project DIVERSIFY will be implemented by 38 Partners from 12 European countries, with a total budget of 11.8 million € and will last for 5 years (December 2013 – November 2018). The project is coordinated by the Hellenic Center for Marine Research (HCMR), which will carry out research in all six fish species included in the project, as well as all the scientific disciplines. The HCMR is the national research and advisory body for marine aquaculture, fisheries and the environment and is recognized as one of the prime aquaculture research organizations in Europe.



D31.1

✓ International:  
10 pages article in  
Aquaculture Europe  
vol 39 (1) March 2014

A  
AP



D31.1

The co-ordinator of the DIVERSIFY project, Dr Constantinos Mylonas, outlines several fish species that could stimulate new economic growth in the European aquaculture sector

✓ International:

2 pages article in

Pan European Network  
Portal “Horizon 2020”.

April 2014

## Emerging fish

Each of the species selected for the DIVERSIFY project has the potential to grow in the market and to be perceived as an added value produce. Additionally, their biological and economical potential is expected to stimulate the growth of the European aquaculture sector. The economic potential of each of the species in relation to the socioeconomic bottlenecks, and the actions planned in DIVERSIFY to overcome them, are as follows:

Meagre is a large fish with excellent taste. As it is rather rare in fishery captures, it is not well known by consumers and the European market is still a niche one. Market development is imperative and should mainly focus on consumer and retail awareness and a better positioning with regards to other cultured fish. New product development could support market development.

The greater amberjack is a large fish with high flesh quality and market value. In addition to its economic potential in the EU market, this fish has a significant potential for export, as it is distributed worldwide and congener species are produced commercially elsewhere. In Europe, there has recently been an intense interest from the aquaculture sector for this species, but production levels are minuscule. Consequently, a consumer-oriented market introduction of cultured amberjack is necessary.

Pikeperch is a medium-sized freshwater fish, with a good taste and a high market value. There is already a market in Europe and North America, both showing strong demand. The production capacity of this fish is expected to grow fast in the coming years. To maintain the high market value, product development and market development is necessary for co-ordinated growth.

Atlantic halibut is a large fish with a very good reputation in northern Europe and a high market value. Demand exceeds the current



production capacity. Market and product development is not necessary for the short run, but a market development strategy must be planned for the long run.

Wreckfish is a large fish with excellent flesh, but not available as a cultured fish. It is distributed throughout the world and products from the capture fishery are highly regarded. For this species, technical bottlenecks have to be solved first, before it can be provided to the European consumer as a stable aquaculture product.

Grey mullet is a medium size herbivorous fish, cultured extensively throughout the world, but often not well regarded by consumers. It has a niche market in the Mediterranean for its flesh and high priced roe (bottarga). Due to its good taste and low cost of rearing, grey mullet could have large potential markets all over Europe. Market and new product development are necessary for growth in the middle to long term in the native European market and the immigrant market.

The combination of biological, technological and socioeconomic research activities planned in DIVERSIFY are expected to support the diversification of the aquaculture industry and help to expand production, increasing aquaculture products and development of new markets.



Dr Constantinos C Mylonas  
Hellenic Center for Marine Research

BROWSE [www.diversifyfish.eu](http://www.diversifyfish.eu)

D31.1

# ARTICLES



- ✓ International:
  - Full page article in “Hatchery International” October 2014

**HATCHERY INTERNATIONAL**  
*The Magazine for Fish hatchery Managers*

HOME NEWS PROFILES RESEARCH RECIRC HUSBANDRY RESTOCKING SHOWCASE DIRECTORY

Spanish researchers aim to close life cycle on European hake      Florida study examines effect of crude oil on larval fish

### Focus on early rearing in European DIVERSIFY project

by Erich Luening  
October 13, 2014  
12:00 AM  
RSS Print



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The “voice” of the North American aquaculture industry since 1985:

**AQUACULTURE NORTH AMERICA**

Latest news



**cryogenetics**  
Preserving Aquatic Genes

D31.1

# ARTICLES



- ✓ **Greek:** 7 pages article  
in “Fishing News”  
(magazine). Feb 2014  
issue 385, pages 38-45



πρόγραμμα DIVERSIFY



## Πρόγραμμα DIVERSIFY στο ΙΘΑΒΒΥΚ / ΕΛΚΕΘΕ

«Βελτίωση της Ευρωπαϊκής παραγωγής ιχθυοκαλλιέργειας με την άρση των περιοριστικών παραγόντων για την παραγωγή νέων/αναδυόμενων ειδών, την παραγωγή νέων προϊόντων και την πρόσβαση σε νέες αγορές».

Πραγματοποιήθηκε την Τετάρτη και Πέμπτη 29-30 Ιανουαρίου 2014, στις εγκαταστάσεις του Ελληνικού Κέντρου Θαλασσίων Ερευνών (ΕΛΚΕΘΕ) στην Κρήτη, η ενιακήτερη συνάντηση του Ευρωπαϊκού προγράμματος DIVERSIFY (7FP-KBBE-603121). Το ανταγωνιστικό αυτό πρόγραμμα συντονίζεται από τον Δρ. Κωνσταντίνο Μυλωνά, Διευθυντή Ερευνών του Ινστιτούτου Θαλάσσιας Βιολογίας, Βιοτεχνολογίας και Υδατοκαλλιέργειών (ΙΘΑΒΒΥΚ), έχει συνολικό προϋπολογισμό 11,8 εκατομμύρια \_ και θα διαρκέσει 5 χρόνια.

To DIVERSIFY είναι ίσως το μεγαλύτερο ερευνητικό πρόγραμμα στον τομέα της ιχθυοκαλλιέργειας που χρηματοδοτήθηκε ποτέ από την Ευρωπαϊκή Ένωση. Συμμετέχουν 38 εταίροι από 12 Ευρωπαϊκές χώρες, περιλαμβανομένων της Ισπανίας, Γαλλίας, Ιταλίας, Ισραήλ, Νορβηγίας, Ηνωμένου Βασιλείου,

Γερμανίας, Δανίας και Ουγγαρίας. Οι εταίροι είναι κυρίως ακαδημαϊκά και ερευνητικά ιδρύματα, αλλά και οχτώ παραγωγικές εταιρείες του κλάδου των υδατοκαλλιέργειών, δύο εταιρείες ιχθυοτροφών, πέντε επαγγελματικές οργανώσεις παραγωγών και εταιρείων επεξεργασίας ιχθυωτρών, και μία μή κερδοσκοπική οργάνωση καταναλωτών.

Από ελληνικής πλευράς συμμετέχουν, εκτός από το ΙΘΑΒΒΥΚ / ΕΛΚΕΘΕ που συντονίζει το πρόγραμμα, τρεις εταιρείες παραγωγής υδατοκαλλιέργειας (ΦΟΡΚΥΣ Α.Ε., ΑΡΓΟΣΑΡΩΝΙΚΟΣ Α.Ε. και Ε. ΓΕΙΤΟΝΑΣ Α.Ε.), μία εταιρεία παραγωγής ιχθυοτροφών (ΙΠΙΔΑ Α.Ε.) και μία εταιρεία μελετών αγοράς (Hellenic Research House).

Το πρόγραμμα DIVERSIFY έχει εντοπίσει μερικά νέα/αναδυόμενα είδη φωριών με πολύ καλές προπτικές για την ανάπτυξη της ευρωπαϊκής ιχθυοκαλλιέργειας. Αυτά τα είδη έχουν γρήγορο ρυθμό αύξησης ή έχουν μεγάλο μέγεθος και δύνουν επίσης τη δυνατότητα παραγωγής διαφόρων προϊόντων υψηλής προστιθέμενης αξίας, προμηθεύοντας έτσι τον Ευρωπαϊκό καταναλωτή με μια μεγάλη καρέμα



D31.1

## ✓ Spanish:

- Full page article about wreckfish husbandry with special mention to DIVERSIFY (La voz de Galicia, Feb 2014)
- Oct 2014 (OESA)  
(5 pages)

**ARTICLES**

 **DIVERSIFY**

[degalicia.es/noticia/economia/2014/02/16/cherne-nueva-estrella-acuicola/0003\\_201402G16P45992.htm](http://degalicia.es/noticia/economia/2014/02/16/cherne-nueva-estrella-acuicola/0003_201402G16P45992.htm)

**ECONOMÍA**

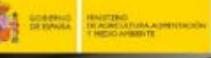
## La cherna, nueva estrella acuícola

Un consorcio gallego avanza en la cría en cautividad del mero por su alto valor comercial

ESPE ABUÍN

Publicado el lunes 10 de febrero de 2014 - 05:00

5 estrellas

 GOBIERNO DE ESPAÑA  
 MINISTERIO DE AGRICULTURA Y MEDIO AMBIENTE

 FUNDACIÓN  
**OEZA**  
OBSERVATORIO ESPAÑOL DE ACUICULTURA

LA FUNDACIÓN SOCIEDAD CIENCIA - SECTOR EDITORIAL - FORMACIÓN SOSTENIBILIDAD INTERNACIONAL PRENSA - COMUNICACIÓN

Inicio > Ciencia - Sector > Actividades > Proyectos de I+D destacados

### Proyectos de I+D destacados

Me gusta A 2313 personas les gusta esto. Regístrate para ver qué les gusta a tus amigos.

**DIVERSIFY**

Objetivos

Actividades

- Priorización de acciones I+D
- Indicadores seguimiento sector acuícola español
- Acuired
- Seminarios sobre temas específicos y de interés para el sector
- Acuifoto
- El Rincón del Científico
- El Rincón del Sector
- Hojas divulgativas
- Proyectos de I+D destacados

Legislación

Bases de datos

- El sector empresarial
- ¿Quién es quién?
- Proyectos de I+D+
- Centros de I+D+
- Universidades
- Trabajos científicos
- Infraestructuras I+D en Europa

Convocatorias

BUSCADOR

buscar palabras clave

PLANTEAMIENTO DEL PROYECTO

Actualmente la mayor parte de la demanda de pescado en Europa se cubre mediante la importación de productos de la pesca y acuicultura provenientes de otros países, (que con frecuencia son de dudosa calidad) y como mediante la sobre explotación de caladeros europeos.

La acuicultura europea constituye una fuente segura, saludable y sostenible de productos acuáticos que superando ciertas barreras a las que se enfrenta hoy día para su crecimiento, podría cubrir la demanda de pescado en Europa, a la que aporta actualmente solo el 10% del consumo total.

DIVERSIFY es un proyecto financiado por la Comisión Europea en el que intervienen 38 participantes de 12 países de Europa. El objetivo de dicho proyecto es la expansión de la industria de la acuicultura europea. Para ello se desarrollarán métodos científicos que permitan optimizar el cultivo y producción de algunas especies de pescados de interés emergente y se establecerán las técnicas de márketing específicas para atraer a los consumidores.

Aunque el énfasis del proyecto se hace sobre el cultivo en jaulas en el mediterráneo, también se han incluido especies propias de aguas frías, de cultivo extensivo en estero y de acuicultura de agua dulce. DIVERSIFY ha seleccionado seis especies de peces por su interés biológico y su potencial económico a lo largo de la geografía europea con el fin de estimular diversos tipos de acuicultura. Se trata de peces que por su rápido crecimiento y gran tamaño comercial pueden ser procesados de diversas formas, lo que permite ofrecer al consumidor una mayor variedad de especies y productos con valor añadido. Las especies elegidas son: Perca (*Argyrosomus regius*) y sierra (*Seriola dumerilii*) para el caso del cultivo en jaulas en aguas cálidas; lucioperca (*Sander lucioperca*) para el cultivo intensivo en agua dulce usando sistemas de recirculación, fletán (*Hippoglossus hippoglossus*) para cultivo en aguas frías, mero (*Polyprion americanus*) para cultivo en jaulas en aguas cálidas y frías, y la lisa o mugil (*Mugil cephalus*) para el caso del cultivo extensivo en estero.

La investigación se llevará a cabo en diferentes disciplinas científicas: Genética y reproducción, nutrición, cultivo larvario, pre engorde y engorde y salud animal. De igual forma se estudiarán los aspectos socio económicos que influyen en el mercado, tales como la percepción del consumidor sobre los productos de acuicultura, la demanda, las preferencias de los compradores o el desarrollo de nuevos productos con valor añadido. Todo ello con el fin de proveer de conocimiento a la industria y lograr un posicionamiento competitivo en el mercado internacional.

D31.1

# WORKSHOP



✓ COMMNET: Jun 12<sup>th</sup> 2014

J. Ojeda, APROMAR

“NEW FISH  
TO FEED THE  
WORLD:  
DIVERSIFY”



# WEBSITE: DISSEMINATION



## VIDEO

The screenshot shows the 'DISSEMINATION' section of the website. It features a blue header with the title 'DISSEMINATION' in white. Below it is a text block: 'In these pages, visitors can find scientific articles, magazine releases, conference presentations and a photo gallery of research activities relevant to the project.' A blue button at the bottom of the text block says 'Contact Dissemination leader'. To the right of the text block is a photograph of a presentation. A man in a light blue sweater is seated at a desk with a laptop, facing a whiteboard. The whiteboard displays a slide titled 'GWP Reproduction and Genetics WP 2-7' with images of fish and text about Neil Duncan, PhD, and the date 26-28 January 2016.

Diversify project in 3 min.

A video thumbnail titled 'Diversify project in 3 min.' shows a wide-angle view of a large circular aquaculture net pen in the ocean. The net pen is made of blue plastic mesh and extends from the foreground into the distance. The water is a deep blue, and the sky is overcast with white clouds. A red play button icon is centered in the lower half of the video frame.

D31.1

# WEBSITE



350 visitors/day

D31.2



LOGO



Karl Andree, IRTA

D31.2

LOGO



Included in:

- ✓ Website → [www.diversifyfish.eu](http://www.diversifyfish.eu)
  - ✓ Facebook → [www.facebook.com/diversifyfish](http://www.facebook.com/diversifyfish)
  - ✓ Twitter → <https://twitter.com/diversifyfish>
  - ✓ Signature of the partners ↴
  - ✓ Dissemination material ↴
- [www.diversifyfish.eu/forms--protocols](http://www.diversifyfish.eu/forms--protocols)

# LOGO: [www.facebook.com/diversifyfish](https://www.facebook.com/diversifyfish)



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Diversify Comunidad

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PERSONAS > 22 Me gusta

INFORMACIÓN >

Enhancing the European aquaculture production by removing production bottlenecks of emerging species producing new products and accessing new markets.

https://twitter.com/diversifyfish

FOTOS >

Diversify ha compartido un enlace. 9 de Julio

Diversify-eu www.diversifyfish.eu Aquaculture research

Me gusta · Comentar · Compartir

Diversify ha compartido un enlace. 19 de junio

Diversify-eu www.diversifyfish.eu

# LOGO: <https://twitter.com/diversifyfish>



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**TWEETS** 110 **FOLLOWING** 87 **FOLLOWERS** 29

**Edit profile**

**Diversify** @diversifyfish

Enhancing the European aquaculture production by removing production bottlenecks of emerging species producing new products and accessing new markets.

 <https://www.facebook.com/diver>  
 [diversifyfish.eu](http://diversifyfish.eu)

 9 Photos and videos

**Tweets** **Tweets & replies** **Photos & videos**

 Diversify @diversifyfish - Oct 30 Effects of Changes in #FoodSupply at the Time of #SexDifferentiation on the Gonadal Transcriptome of Juvenile #Fish [plosone.org/article/info%3...](http://plosone.org/article/info%3...) View summary

 Diversify @diversifyfish - Oct 30 New applications of #bioultrasonics #aquaculture [ieeexplore.ieee.org/xpl/articleDet...](http://ieeexplore.ieee.org/xpl/articleDet...) (via @IEEEExplore) View summary

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 [Bycatch Consortium](#) @byc... Follow

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# D31.2

# FOLDER



## PARTNERS

The DIVERSIFY consortium integrates a multidisciplinary group of partners from 12 European countries. It is made up mainly of research and academic institutions, and also includes nine small or medium-sized enterprises (SMEs), three large enterprises, five professional associations and one consumer non-governmental organisation (NGO).

Aarhus Universitet (AU), Denmark

Aquaculture Farms AG (POLEVOY), Greece

Argonautika Fish Farms S.A. (ARGO), Greece

Astelar SARL (ACEALOR), France

Asociación Empresarial de Productores de Cultivos Marinos (APROPHAR), Spain

Asociación Nacional de Fabricantes de Conservas de Pescado y Marisco (ANFACO), Spain

Centro Técnico Nacional de Conservación de Productos de la Pesca (CTENCP), Spain

Ayuntamiento de A Coruña (MCZ), Spain

Azienda Agricola Iberia Calzolari (TTICAL), Italy

Bundesverband Der Deutschen Fischindustrie und des Fischgroßhandels eV (BDF), Germany

Canarias Exploitaciones Marinas SL (CANEXMAR), Spain

Consejería do Mar - Xunta de Galicia (CIPRM), Spain

CTAQUA, Aquaculture Technological Center of Andalucía (CTAQUA), Spain

Galimex Group (CULMAREX), Spain

Danmarks Tekniske Universitet (DTU), Denmark

Dot Ogen Yam LTD (DOR), Israel

European Food Information Council (EUFIC), Belgium

Federation of Greek Maricultures (PGM), Greece

Fundación Canaria Parque Científico-Tecnológico de la Universidad de Las Palmas de Gran Canaria (FCPT), Spain

Hellenic Center for Marine Research (HCMR), Greece

Hellenic Research House (HRH), Greece

Hungarian Aquaculture Association (HAZ), Hungary

Institut de Recerca i Tecnologia Agroalimentària (IRTA), Spain

Instituto Español de Oceanografía (IEO), Spain

Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER), France

Institute of Marine Research (IMR), Norway

IDOR-National Center for Mariculture (IDOR), Israel



## PARTNERS

Indro S.p.A. – Feed production (INDRO), Greece

IUW Wageningen (IUW), the Netherlands

National Institute for Oceanology & Limnology (INM), Norway

Norwegian Aquaculture Research Center (NARC), Norway

Norwegian Waters Institute (SWI), Norway

Technische Universität Darmstadt (TUD), the Netherlands

The University of Aberdeen (UNIABER), United Kingdom

Universidad de La Laguna (ULL), Spain

Università degli Studi di San Aldo Moro (UMSA), Italy

Universitat de Lleida (ULL), Spain

Universidad de Navarra (UNI), Spain

Von Carlsberg Laboratory (VCL), Denmark

Yerkes Laboratories of Primate Research (YPL), United States



### PROJECT COORDINATOR

Dr Constantinos C. Mylonas, Research Director

Institute of Marine Biology, Biotechnology and Aquaculture

Hellenic Center for Marine Research

P.O. Box 2234, Smaktova, Driza 70001, Greece

Tel: +30 28 10 33 78 78

E-mail: cmylonas@hcmr.gr



## DIVERSIFY

Exploring the biological and socioeconomic potential of new/emerging candidate fish species for the expansion of the European aquaculture industry.

[www.diversifyfish.eu](http://www.diversifyfish.eu)



KEEP UP TO DATE WITH THE LATEST NEWS IN THE PROJECT:

[www.facebook.com/diversifyfish](https://www.facebook.com/diversifyfish)

[www.twitter.com/diversifyfish](https://www.twitter.com/diversifyfish)

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration (FP7-2007-2013-CA No 608321).



## ABOUT DIVERSIFY

The majority of the growing demand for aquatic products in Europe is currently supplied by foreign imports and capture fisheries) that are often of poor quality and by aquatic products from over-exploited fisheries. European aquaculture constitutes a sustainable source of aquatic products and, barriers for further growth, could fulfil the demand for products, but is currently supplying only 10% of consumption.



DIVERSIFY is an €11.8 million EC (2013-2016), which aims to expand the European aquaculture industry. It will develop methods required to optimise the production of some new emerging species and establish the marketing techniques to attract consumers.

## WHY HAVE THESE FISH SPECIES BEEN CHOSEN?

The selected species include the meagre (*Atractoscionnus*), greater amberjack (*Seriola dumerilii*), whelk (*Urophycis americanus*), Atlantic halibut (*Hippoglossus hippoglossus*), mullet (*Mugil cephalus*) and pikeperch (*Esox lucius*). Originating from a wide range of climatic regions within Europe, the six species have been chosen on their biological and economic potential, size/fat/growth rate, enabling the production of value-added aquatic products, which are expected to appeal to consumers and be successfully commercialised.

## FISH SPECIES AND BUDGET ALLOCATION

Atlantic halibut  
*Hippoglossus hippoglossus*  
13.2%



Greater amberjack  
*Seriola dumerilii*  
31.1%



Grey mullet  
*Mugil cephalus*  
11.3%



Meagre  
*Atractoscionnus*  
22.9%



Pikeperch  
*Esox lucius*  
14.2%



Whelk  
*Urophycis americanus*  
7.1%



## MAIN OBJECTIVES

To develop the scientific techniques and methodology, which will enable the optimisation of the production of the six selected species.

- Provides an overview of the background, objectives and expected outcomes of the project.
- Printed leaflets: 2,000
- Impact: 437 leaflets have been distributed so far to aquaculture farms, ministries and an international fair.



## RESEARCH AREAS

Studies will be carried out in the six selected species across a number of different scientific disciplines:



D31.2

# BOOKMARK



Printed  
bookmarks: 4,000

**Impact:** 540 leaflets have been distributed so far to aquaculture farms, ministries and an international fair.



D31.4 & 7

# AUDIOVISUAL



## Promotional video

Diversify project in 3 min.



# DIVERSIFY

[www.diversifyfish.eu/dissemination.html](http://www.diversifyfish.eu/dissemination.html)

[www.youtube.com/watch?v=Gk-BhQjvCk](https://www.youtube.com/watch?v=Gk-BhQjvCk)



0:01 / 3:33



YouTube



D31.4 & 7

# AUDIOVISUAL



HOW TO TRAIN GREATER AMBERJACK TO FEED ON COMMERCIAL EXTRUDED FEEDS (PROTOCOL)



Transfer of greater amberjack fingerlings from the AQUALABS to the Agios Kosmas facilities of HCMR for nutrition studies.

After the successful spawning induction and larval rearing of greater amberjack that was performed in collaboration with the Greek national Programme "HOPIT" at the facilities of the Hellenic Center of Marine Research (HCMR) in Crete, a group of fingerlings were transferred on the 16th September 2014, to the HCMR facilities of Agios Kosmas, Athens, in order to begin the experiments on the nutritional

## Reproduction-amberjack

## Reproduction - amberjack



Spawning induction of greater amberjack and collection of eggs from sea cages.

The first spawning induction trials were carried out on 21 June 2014, at the Iosida Bay, sea cage facilities of the Hellenic Center for Marine Research. Eleven mature greater amberjack brood stock were maintained in a 40 m periphery, 10 meters deep cage in the western part of Crete, Greece. Part of

D31.4 & 7

# AUDIOVISUAL



[www.diversifyfish.eu](http://www.diversifyfish.eu)

**Progress with meagre reproduction experiments**

The experiments to induce paired spawning of meagre were initiated in IAPTA, Japan on 7 April 2014. 106 pairs of breeders were selected based on ovary diameter and presence of milt spores. Each pair was induced with a single injection of Oestradiol, 10 µg/kg body weight, by means of the T 3 using both ovaries of the females. The pairs of breeders were then placed into separate tanks to encourage spawning. According to the work planned in WP 8 Reproduction & Genetics - meagre, the selected breeders were induced to spawn every 7-9 days. Before each spawning induction, the maturity of the breeders was determined and the males were transferred to a different tank in order to be cross-bred with a different female.

To date a total of 37 spawns have been collected that represent offspring from 15 different females. Egg quality has been variable, but generally good with fertilisation rates of 85±15% and many spawns of over a million eggs. Many of the pairs of breeders have spawned successfully to demonstrate that paired spawning is an approach that must be considered for the production of females for a genetic selection program.

The larvae produced are being used for experiments at IAP 14 Larval Husbandry - meagre and IAP 20稚魚育成実験 - meagre.

Play →

## Reproduction - meagre

[www.diversifyfish.eu](http://www.diversifyfish.eu)

**Beginning of wreck fish reproduction experiments**

The experiments to induce spawning of wreck fish were initiated in IAPTA, Japan and Greece. All the HCMR facilities in Crete, Greece on 12 May 2014 a pair of wreck fish breeders were evaluated for reproductive conditions and were treated with Oestradiol implants to induce maturation and spawning. At this stage, the female was in full vitellogenesis, while the male was spermating very well. The fish were placed in a 33 ml tank and were allowed to spawn spontaneously, according to the work planned in WP 8 Reproduction & Genetics - wreckfish.

Two spawns of a small number of eggs of very low fertilisation success were obtained so far. On 22 May 2014, the pair of breeders was evaluated again (post-hormones, gonadotropin treatment) and was treated again with Oestradiol and was returned to the spawning tank. At this stage the female contained post-maternal eggs (immature or pre-vitellogenesis) as well as oocytes in vitellogenesis (2100 µm in diameter). Spawning will be monitored in the following days hoping to obtain viable eggs for larval rearing.

Meagrefish in Spain, spontaneous spawning has been obtained from a group of breeders without any hormonal treatment. Eggs have been forwarded to larval rearing sites for the experiments in IAP 14 Larval husbandry.

## Reproduction - wreckfish

# D31.4 & 7

# AUDIOVISUAL



Transport of 30 greater amberjack breeders to HCMR, Crete, Greece

On 10 April 2014, greater amberjack breeders (31 individuals) were transported to the facilities of HCMR in Crete. The fish ranged in body weight between 7.5 and 17.1 kg and most of them are expected to be mature this coming reproductive season. Twenty-one of the fish were placed in tanks at the AQUAFLAMIS facilities, but 8 breeders will be moved to the cage facilities of HCMR in Iouda Bay, Crete. The breeders will be used for the experiments planned in WP 3.

**Reproduction and Disease - Greater Amberjack** for developing a spawning induction protocol and a method for the collection of eggs from spawning breeders in test cages

The fish were originally captured from the wild as juveniles (2–500 g) by ANEKAS A.E. (the late Mr. Efstathios Lytras and his son Stefanos Lytras) in Astakos, Greece and were reared in sea cages for 2 years. They were then transferred to the facilities of Galatiki Marine Farms in September 2013, where they were "headed" until space became available at the facilities of HCMR.

## Transport - amberjack

Wreckfish sampling at the Finistere Aquarium

The wreckfish housed in the tank Nautilus of the Finistere Aquarium (EO Vigo, Spain) have been sampled last week. The main objective of this sampling was to monitor the maturity state of the specimens (males and females) and to obtain growth data from their weight and size. There are a total of 24 specimens weighing between 30 and 10 kg.

At this time of the year, some of the females are oviparously mature and the males are also mature. The males usually have abundant sperms. The specimens are tagged with an electronic chip and with a Lloyd tag with a color code, allowing easy identification. External marks are often lost because other fish sharing the tank tend to bite the tags very attractive and bite on them causing detachment or damage of the tags. A second mark is thus provided but using electronic tagging.

Individuals are identified and separated (by a net panel) for further evaluation of maturity stage by measuring the diameter of oocytes obtained by examination of the ovaries. Depending on the oocyte diameter the females are placed in the separated tank or returned to the exposition tank if they are immature.

## Sampling - wreckfish



# TASK 31.2

## D31.1

### ANNUAL COORDINATION MEETINGS

✓ Kick off meeting: 29 th & 30 th Jan 2014. Heraklion, Crete. (Greece)

→ Minutes included in the web

<http://www.diversifyfish.eu/2014-kickoff-meeting-feb.html>

✓ Annual coordination meeting 2014. 4 th – 6 th Nov 2014. Bari (Italy)



# TASK 31.3

## D31.6

DIVERSIFY AT EAS 2014  
(C. Mylonas, HCMR)  
Species Diversification  
session

San Sebastian (Spain)  
14 th -17 th October 2014

aquaculture europe 14

Diversification Session

Exploring the biological and socioeconomic potential of new emerging candidate fish species for the expansion of the European aquaculture industry

DIVERSIFY

Cofunded by the  
Seventh Framework  
Programme  
of the European Union

Constantinos C Mylonas  
Hellenic Center for Marine Research  
Crete, Greece

hcmr  
ΕΛΛΗΝΙΚΟΣ ΗΛΛΗΝΙΚΗΣ ΚΕΝΤΡΟΣ ΝΑΥΠΛΙΟΥ

<http://www.diversifyfish.eu/presentationsposters.html>

# TASK 31.4

## D31.11

- Scientific presentations & submission of manuscripts ?

## Growth of the wreckfish (*Polyprion americanus*) in Galicia (Spain)

J. L Rodríguez, J. B. Peleteiro and  
F. Linares





## TASK 31.7

### D31.3 & D31.5

#### DISSEMINATION TO THE FOOD INDUSTRY & CONSUMERS

- Publication of the 1<sup>st</sup> of two articles in Food Today - (D31.3)



# First Food Today article



- Published by EUFIC in April 2014.
- Food Today has **46,000** online subscribers.
- Published in **11** European languages.
- Available on EUFIC's website.
- **Impact of the DIVERSIFY Food Today:** Between being published and 30/09/14 the article has received **949 page views** and the average time spent on the page was **2 minutes** (source *Google Analytics*).

Home - Archive

FOOD TODAY 04/2014

## New EU project aims to expand the production, marketing and consumption of European finfish species



The demand for safe and affordable aquatic products in Europe is increasing. European aquaculture (or European farmed aquatic products) could fulfil this demand; however, the industry faces several barriers to growth. The EU-funded DIVERSIFY project (<http://www.diversifyfish.eu/>) aims to overcome the bottlenecks to the production, marketing and consumption of healthy and sustainable European cultured aquatic products. This will help meet consumer demands, reduce imports of often questionable quality and establish the industry as a world aquaculture technology leader.

Since 2000, the global aquaculture industry has been growing at a rate of 7% each year; however, the rate of production in Europe has remained stagnant.<sup>1</sup> European aquaculture products are healthy, safe and sustainable. According to the European Commission, consumption of these fish and the expansion of this sector will help establish Europe as a global leader in aquaculture production technology and provide a means of satisfying consumer demands for nutritious and convenient aquatic products.

### Production bottlenecks and poor consumer perceptions hamper the industry

Current European fisheries are over-exploited and therefore are an unsustainable option for meeting aquatic products requirements in Europe. There has also been an increasing dependence on foreign imports, which were estimated to account for **65% of aquatic product consumption in 2010**; these are less expensive than European farmed products, but health and safety controls of these imports do not always reach acceptable standards.<sup>2</sup>



## Creation of section on eufic.org

Dedicated page for DIVERSIFY available on EUFIC's EU initiatives section on eufic.org to help drive traffic to [www.diversifyfish.eu](http://www.diversifyfish.eu).

**Impact:** Between being published and 30/09/14 the page has received 203 page views and the average time spent viewing the page has been one minute and 51 seconds (source *Google Analytics*).

Diversification of fish species and products in European aquaculture



DIVERSIFY is a five-year project which aims to expand the European aquaculture industry, by overcoming bottlenecks to the production, marketing and consumption of new/emerging European cultured aquatic food.

[Read more >](#)



Home - EU initiatives

## Diversification of fish species and products in European aquaculture



The European aquaculture industry has the potential to be a competitive player in the European and global seafood market. However, the sector faces several challenges, including strong competition by foreign imports, a variety of

biological bottlenecks that impact the production of fish species and a poor perception of aquaculture-derived products amongst European consumers. The expansion of the European aquaculture sector is strongly advocated as an alternative to the exploitation of capture fisheries, which have reached their maximum sustainable yield in Europe. DIVERSIFY is a five-year project which aims to expand the European aquaculture industry, by overcoming bottlenecks to the production, marketing and consumption of new/emerging European cultured aquatic food.

### Introducing new species:

Six new/emerging finfish species have been identified based on their fast growth rate/large size. These include meagre (*Argyrosomus regius*), greater amberjack (*Seriola dumerili*), wreckfish (*Polyprion americanus*), Atlantic halibut (*Hippoglossus hippoglossus*), grey mullet (*Mugil cephalus*) and pikeperch (*Sander lucioperca*). These species originate from a variety of different climates and environments within the European geographic area and have proven biological and economic potential to be converted into value-added products, which will be attractive to markets and consumers.

### DIVERSIFY's research:

The project will undertake multidisciplinary research across a number of different scientific disciplines, in order to overcome the existing barriers to the sustainable growth of the industry.

### DIVERSIFY has two main objectives:

1. To stimulate the production of new/emerging species for different aquaculture systems by overcoming documented bottlenecks for the production of these species.

To achieve this, biological research will be carried out in the six selected finfish species, in the areas of reproduction and genetics, nutrition, larval rearing for juvenile fish production, on-growing of juveniles to market size, fish health and final product quality. This research will provide the methods needed to stimulate the commercial



## TASK 31.7

### D31.3 & D31.5

#### DISSEMINATION TO THE FOOD INDUSTRY & CONSUMERS

- Publication of the 1<sup>st</sup> of two articles in Food Today - (D31.3)
- A collaboration agreement OCU (Spain), FEAP, EATiP- (D31.5)

D31.5

# Col. Agreement

COLLABORATION AGREEMENT



DIVERSIFY



DIVERSIFY is a European research project that explores the biological and socio-economic potential of new/emerging candidate aquaculture fish species. This initiative is an ambitious 5-year project (2013-2018) that has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration (KBBE-2013-07). The DIVERSIFY consortium includes 38 partners from 12 European countries. Further information can be obtained from the project's website at [www.diversifyfish.com](http://www.diversifyfish.com).

DIVERSIFY includes a strong effort on dissemination of its results. For this reason, and to formalise relationships, it establishes individual collaboration agreements with relevant European food industry and consumer organisations.

The ORGANIZACIÓN DE CONSUMIDORES Y USUARIOS (OCU) is a Spanish, independent, private & non-profit association that defends consumer's rights since 1975 and works to help them to assert their rights. OCU has more than 300.000 members that pay the fees that support the organisation ([www.ocu.org/organizacion](http://www.ocu.org/organizacion)). OCU is member of EUROCONSUMERS ([www.euroconsumers.org](http://www.euroconsumers.org)) and BEUC ([www.beuc.eu](http://www.beuc.eu)).

The DIVERSIFY Consortium and OCU agree on the value of sharing the main results of the DIVERSIFY project.

To achieve this objective, OCU will communicate to its members through its website the main relevant results of DIVERSIFY. OCU will decide which of the news offered by DIVERSIFY are finally communicated and how.

The Consortium of DIVERSIFY will offer OCU permanent information on the development of the project, will answer any question that OCU might have on the subject and will periodically update OCU with the results of the project.

This agreement includes no economic obligations between the two parties.

This agreement has no further obligations for either side.

This agreement will begin at the date of its signature and will terminate with the ending of the DIVERSIFY project in December 2018.

Dated: September 10<sup>th</sup>, 2014

By the DIVERSIFY Consortium  
Mr Dinos Mylonas

By OCU  
Mr. David M. Ortega Peciña



# TO DO'S

# DISSEMINATION



- Partners must be more active with dissemination of information!
- Up to now, website of DIVERSIFY is mostly full of HCMR activities...
- Every time you do something (experiment), write an article and send it to Rocio...
- The website must be a “hot point” for stakeholders!!
- We advertise our work!!!



# Template

FP7-KBBE-2013-07, DIVERSIFY-603121-

  
State of experiments -UPDA TE

WP No:	3	WP Lead beneficiary:	8
WP Title:	Reproduction & Genetics – greater amberjack		
Task No:	3.5	Task Lead beneficiary:	1
Task Title:	Spawning induction of greater amberjack and egg collection in cages (Please use the title as it appears in the DOW)		
Status:	This was the first year of experiments, which will continue for the duration of the project (20% completed) (Percentage of execution)	Expected end date:	2018

**Objective:** The objective of this experiment was to apply the developed spawning induction methods for broodstocks maintained in cages, and examine the efficiency of an egg collector to obtain fertilized eggs.

**Description:** Brief description of the work (max. 1000 characters)

Trials were carried out at HCMR and Galaxidi Marine Farms, Greece. Egg collection devices were mounted in cages of 40-m perimeter covering the top 3.5 m of depth of the cage. The designed egg collector was a passive trapping device, which restricts the movements of floating eggs within the cage, on the water surface. Egg collectors limit the movements of eggs inside the cage because is mounted on the net of the cage, like a "curtain" and does not allow surface water movements.

Fish were monitored for reproductive maturation (Fig. 1) and when female fish were in the appropriate stage of oocyte development, they were administered with a GnRH $\alpha$  implant of 750 and/or 500 mg GnRH $\alpha$ , depending on their size, to obtain an effective dose of ~50 µg GnRH $\alpha$  kg $^{-1}$  body weight (Fig. 2). Similarly, males received implants of 500 or 750 mg GnRH $\alpha$  to obtain an effective dose of ~30 µg GnRH $\alpha$  kg $^{-1}$  body weight. The cages were examined for the presence of eggs on the surface every morning after treatment (Fig. 3).

**Results so far** (max. 1000 characters)

All females were at an advanced vitellogenesis stage with oocyte diameters of 500-700 µm and very little occurrence of atresia. Also, some females were found to be in advanced oocyte maturation and some had already ovulated spontaneously. Males produce sperm of good quality during the spawning period, and although it was not investigated, males treated with GnRH $\alpha$  maintained good spermiation and quality parameters even after repeated spawning and production of fertilized eggs.



-FP7-KBBE-2013-07, DIVERSIFY-603121-

Females maintained in cages during gametogenesis had a better response to the GnRH $\alpha$  treatment, producing eggs of higher fecundity and most importantly of better fertilization success, compared to females reared in tanks. Egg collection was possible from broodstocks maintained in cages, but the fecundity achieved was much less than from stocks spawning in tanks. This is probably due to significant losses of eggs from the cage, and more work needs to be done to optimize the egg collection process.

**Pictures:** please include max. 3 pictures in low resolution (200 kb), inserted as .jpg



Figure 1. Anesthetizing fish in a cage to evaluate reproductive status and induce spawning.



Figure 2. Treatment of fish with reproductive hormones to induce spawning.

Available at [www.diversifyfish.com](http://www.diversifyfish.com),  
INTRA, Forms and Protocols

# DISSEMINATION



DIVERSIFY

Available at [www.diversifyfish.com](http://www.diversifyfish.com),  
INTRA, Forms and Protocols

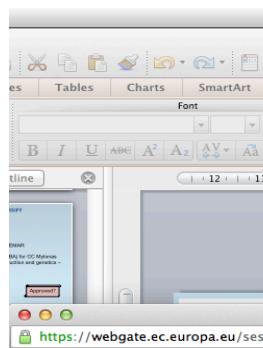
Dissemination List.xlsx										
No	Date	Discipline	WorkPackage	Title	Type	Language	Link	File name		
1	6-Noe-13	All	All	Ctaquac will help diversify EU aquaculture	web	english	fis.com <a href="http://www.mispecies.com/nav/actualidad/noticias/noticia-detalle/La-diversificacion-piscicola-espanola-a-traves-de-la-corvina-el-lenguado-y-la-seriola/#.Up7ok9H-LWR">http://www.mispecies.com/nav/actualidad/noticias/noticia-detalle/La-diversificacion-piscicola-espanola-a-traves-de-la-corvina-el-lenguado-y-la-seriola/#.Up7ok9H-LWR</a>	20131106 fis.com 201312 "La diversificacion piscicola española a traves de la corvina, el lenguado y la seriola"		
2	28-Noe-13	All	All	La diversificacion piscicola espanola a traves de la corvina, el lenguado y la seriola	web	spanish				
3	15-Dek-13	All	All	Enhancing the European aquaculture production by removing production bottlenecks of emerging species, producing new products and accessing new markets	magazine	english	<a href="http://www.theparliament.com/">http://www.theparliament.com/</a>	20131211 Parliament magazine DIVERSIFY		

- Fill up an entry for every dissemination activity (press release, interview, article, magazine, poster presentation, speech, etc.)
- Submit to WP31 leader (Rocio Robles) to upload in website
- Can view possible dissemination types and our activities so far at SESAM

# DISSEMINATION



DIVERSIFY



## Type of activities

### Main Leader

### Title

### Date

### Place

## \*Type of audience

### ✓ Publication

Organisation of Conference

Organisation of Workshops

Web sites/Applications

Press releases

Flyers

Articles published in the popular press

Videos

Media briefings

Presentations

Oral presentation to a wider public

Oral presentation to a scientific event

Exhibitions

Thesis

Interviews

Films

TV clips

Posters

### Medias

## Size of audience

### Project Dissemination Activities

Nº	Type of activities	Main leader	Title	Date	Place	Type of audience	Size of audience	Countries addressed	Status	Actions	Order
1	Web sites/Applications	FUNDACION CENTRO TECNOLOGICO ACUICULTURA DE ANDALUCIA	Ctaquac will help diversify EU aquaculture	06/11/2013	fis.com	Industry	Spain, EU	VALIDATED			
2	Web sites/Applications	FUNDACION CENTRO TECNOLOGICO ACUICULTURA DE ANDALUCIA	La diversificacion piscicola espanola a traves de la corvina, el lenguado y la seriola	28/11/2013	www.mispecies.com	Industry	Spain	VALIDATED			
3	Articles published in the popular press	HELLENIC CENTRE FOR MARINE RESEARCH	Enhancing the European aquaculture production by removing production bottlenecks of emerging species, producing new products and accessing new markets	16/12/2013	The Parliament Magazine	Policy makers	EU	VALIDATED			

# RESEARCH & INNOVATION

## Participant Portal - Grant Management - Scientific Reporting

> Project Management > Publications

You are logged as:

JOAQUÍN ROBLES  
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[Helpdesk](#)

Project Home  
Reports  
Variables  
Calculations  
Final Request  
Examination Activities  
Results  
Available Foregrounds  
New window

### Publications Type

#### Project Information

603121 - Exploring the biological and socio-economic potential of new/emerging candidate fish species for the expansion of industry

#### Publication type

Peer reviewed publication

[Request a new peer reviewed journal](#)

Peer reviewed publication

Paper in Proceedings of a Conference/Workshop  
Article/Section in an edited book or book series  
Thesis/Dissertation  
University Publication/Scientific Monograph

### Publications Form

#### D.O.I.

Fields will be overwritten with DOI information after leave DOI field.



[Open D.O.I. website](#)

#### Title \*

#### Author(s) \*

#### Journal \*

#### Publisher

 (will be auto-inserted after save)

#### Publisher location

#### ISSN

# DISSEMINATION



Available at [www.diversifyfish.com](http://www.diversifyfish.com),  
INTRA, Forms and Protocols



**The following statement should be included in all Dissemination material  
(press releases, interviews, web material, etc.)**



Co-funded by the Seventh  
Framework Programme  
of the European Union



This 5-year-long project (2013-2018) has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration (KBBE-2013-07 single stage, GA 603121, DIVERSIFY). The consortium includes 38 partners from 12 European countries –including 9 SMEs, 3 Large Enterprises, 5 professional associations and 1 Consumer NGO- and is coordinated by the Hellenic Center for Marine Research, Greece. Further information may be obtained from the project site at "www.diversifyfish.eu".

**The following statement should be included in all Scientific presentations  
(Posters, Oral presentations and scientific articles)**



Co-funded by the Seventh  
Framework Programme  
of the European Union



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration (KBBE-2013-07 single stage, GA 603121, DIVERSIFY).



THANK YOU

ευχαριστώ- Gracias- Merci -Grazie –  
Tak- Danke- -תודה לך-Köszönöm -Takk

[r.robles@ctaqua.es](mailto:r.robles@ctaqua.es)