

**“Control of IHN and VHS in relation to the implementation of Directive 2006/88/EC: the Italian experience.”**

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***37th Annual Conference of Trout Producers in Poland  
Rumia, 11-12 October 2012***



# ITALIAN AQUACULTURE



**ALLEVAMENTI**  
oltre 800 siti produttivi a  
terra, mare, valli,  
laghi salmastri

**ADDETTI  
AL "SISTEMA  
ACQUACOLTURA"**  
compreso  
l'indotto: 15.000

**AREE  
DI PRODUZIONE**  
nord: 60%  
centro: 18%  
sud e isole: 22%

**PRODUZIONE**  
> 72.130 t

**P.L.V.**  
> 350 milioni di euro



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# ITALIAN AQUACULTURE

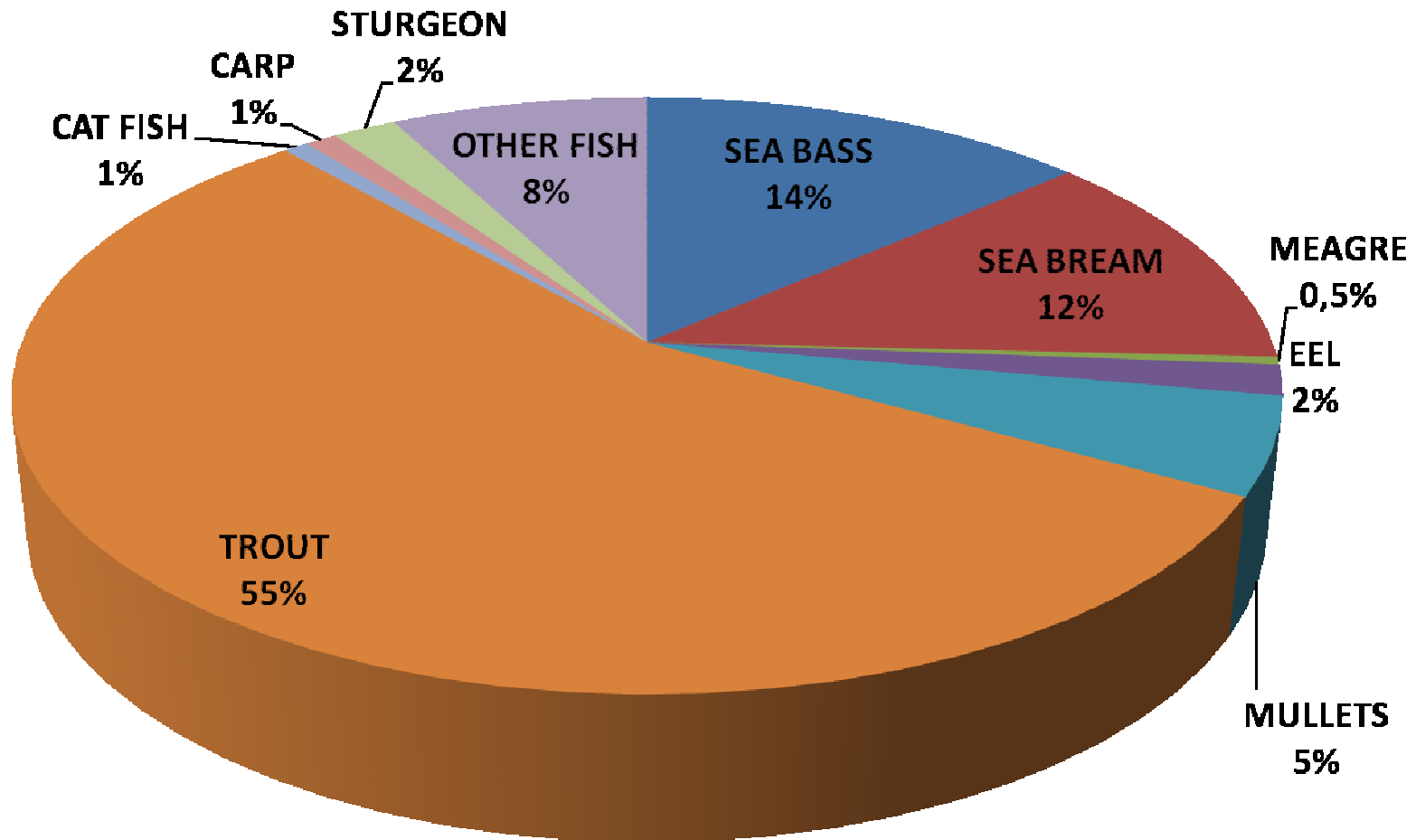


## PRODUCTION IN TONNES AND VALUE IN EURO (2011)

SPECIES	TOTALE (tons)	VALUE (thousands of Euro)
SEA BASS	8.700	64.000
SEA BREAM	9.700	72.000
MEAGRE	300	2.100
EEL	1.100	11.400
MULLETS	3.500	9.800
RAINBOW TROUT	41.000	(*) 149.650
BROOK TROUT	400	1.600
CAT FISH	550	3.300
CARP	750	2.900
STURGEON (**)	1.660	14.800
OTHER FISH(***)	5.150	32.400
<b>TOTAL FISH FARMING</b>	<b>72.810</b>	<b>363.950</b>
MUSSELS	100.000	78.000
CLAMS	33.000	144.000
<b>TOTAL SHELFISH</b>	<b>133.000</b>	<b>222.000</b>
<b>TOTALE AQUACULTURE</b>	<b>205.810</b>	<b>585.950</b>

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# ITALIAN AQUACULTURE



<b>Rainbow trout</b>	<b>331</b>
Atlantic Salmon	0
Other salmonids	15
Carp	21
Eel	24
Flatfish	0
Sea bream/sea bass	126
Other freshwater	42
<b>Total</b>	<b>559</b>

# ITALIAN TROUT FARMING

## Total Production

**41.000 ton**

*Rainbow trout (> 95%)*

*Brook trout*

*for human consumption*

Production for restocking

*Brown trout (Salmo trutta)*

*authohtonous trouts (S. trutta macrostigma,*

*S. trutta marmoratus*

*other salmonids (e.g. grayling)*

Production for fishing/put and take fisheries



# ITALIAN TROUT FARMING



*From small*



*...To Medium*

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## TROUT Diseases - Incidence

- High impact/emerging diseases : Italy
  - Gill disease
  - Flavobacterium/Mixobacterium (RTFS)
  - Red Mouth
  - Red Mark Syndrome/ Strawberry Disease
  - *Ichthyophthirius*
  - PKD
  - **VHS/IHN/IPN**

# Status on the implementation of Directive 2006/88/EU



## Background

- The application of 2006/88/EC Directive in Italy is in progress
- Specific guidelines for the application of the UE Directive in Italy have been established by the Ministry of Health and sent to the 20 Italian Regions in late 2011
- A national internet-based database on aquaculture production businesses is under construction
- Italian regions are in the process of adopting the national guidelines for the application of the Directive and two of them have already prepared specific local guidelines

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## **Aquaculture Farms Registration and Authorization:**

- Registration requirements and traceability for all businesses aquaculture**
- Biosecurity/biosafety measures**
- Surveillance plan based on risk analysis**

**Health Status Categorization**

**Animal Health Certification**

# Implementation of Directive 2006/88/EU



Integration between Public Health Authorities and Aquaculture Producers

**Predisposition of the application Guidelines**

**Validation of Correct Practice Manuals of Biosafety /Biosecurity**

**Uniform and simplified forms: e.g. application authorization**

**Risk Analysis**

**Surveillance program**

**On Farm Registers**

**Monitoring plan by laboratory analysis to establish the health status**

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# Control of IHN and VHS and implementation of Directive 2006/88/EC: an example

## **The case of Friuli-VG**

API Follow the procedure for application / implementation of the Decree. 148/08 (and before Dir. 2006/2008) at all levels  
Integration with P.A. authorities at the local level: the case of Friuli-VG: Region and IZS Venezie (National Reference Center for Fish Diseases)

**FOR**

**Uniformity of Application**

**Simplifying bureaucratic procedures and mitigation costs associated with implementing D.lgs.148/08**

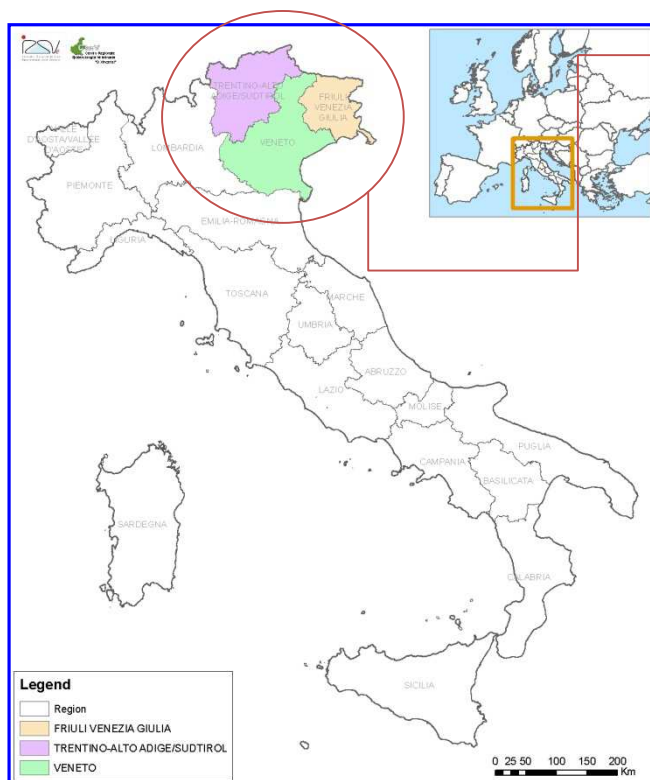
**Agree Applicable Guide lines**

**Training / information for operators**

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# Italian fish farms by species

(source: Italian Fish Association)



VENETO REGION	NUMBER OF FARMS
Rainbow trout	64
Seabass/Gilthead seabream	39
<b>Number of farms</b>	<b>103</b>
FRIULI VENEZIA GIULIA REGION	
Rainbow trout	72
Seabass/Gilthead seabream	10
<b>Number of farms</b>	<b>81</b>
TRENTINO ALTO ADIGE REGION	
Rainbow trout	<b>75</b>
<b>Total number of farms</b>	<b>259</b>

65% of Italian trout farms production

# Data collection farming practices



## Salmonids farms in Friuli Venezia Giulia Region (FVG)



### Number of facilities keeping salmonids (trout farms)

N. of <b>authorised</b> APBs keeping salmonid species	72
N. of <b>registered</b> APBs keeping salmonid species	35
N. of <b>other</b> facilities keeping salmonid species	2 (experimental aquarium)
<b>Total</b>	<b>109</b>
<b>Authorised Trout Health Status (72)</b>	
<b>Category I - Free</b>	<b>17</b>
<b>Category III</b>	<b>55</b>
<b>Category V - Infected</b>	<b>0</b>

**Authorization in progress.** Authorized farms include industrial fish farms

**Registration** already done and include put and take fisheries, APBs only for human consumption (art. 1(3)(c)Regulation EC N° 853/2004)





## Data collection farming practices – Salmonids farms – FVG Region



### Number of APBs according to water supply

	N. of <b>authorised</b> APBs keeping salmonid species	N. of <b>registered</b> APBs keeping salmonid species	N. of <b>other</b> facilities keeping salmonid species
<b>Borehole or spring water only</b>	<b>25</b>	10	0
<b>River water</b>	14	0	0
<b>Other*</b>	33	25	2
<b>unknown</b>	0	0	0
<b>Total</b>	<b>72</b>	<b>35</b>	2

\* Borehole or spring water + river water + well

**Mainly located in protected wildlife areas**





## Data collection farming practices – Salmonids farms – FVG Region



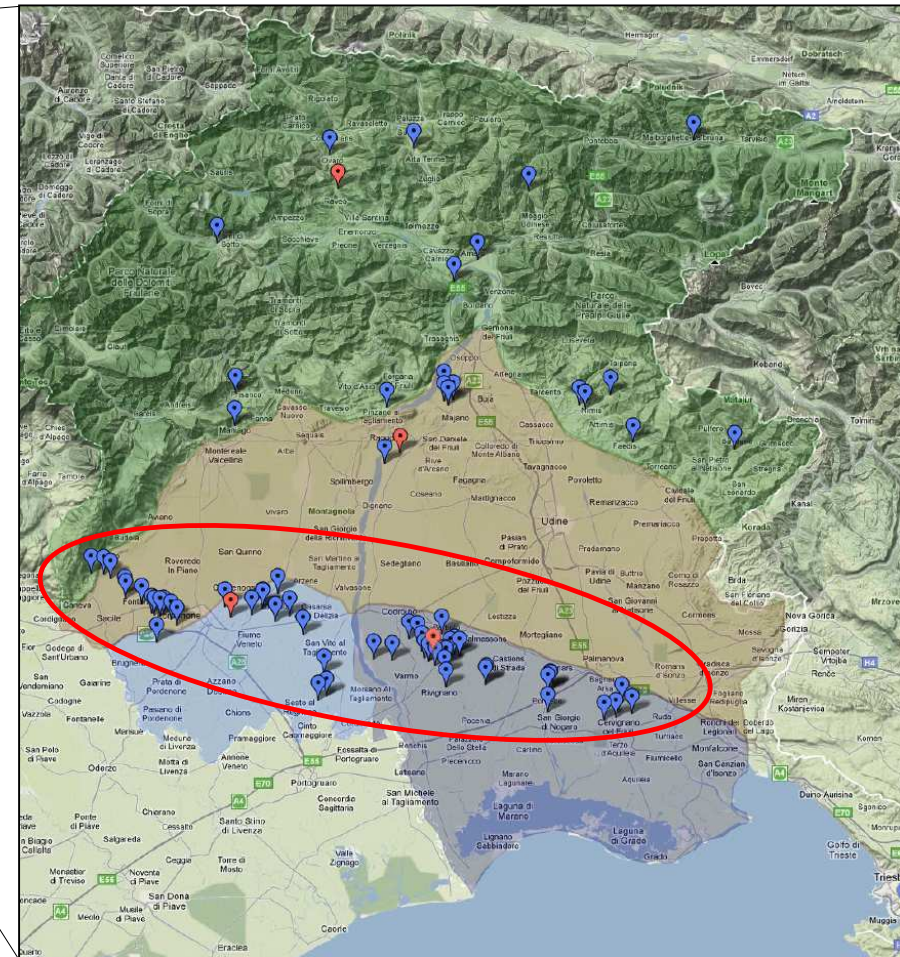
### Number of APBs according to annual production



	N. of <b>authorised</b> APBs keeping salmonid species	N. of <b>registered</b> APBs keeping salmonid species	N. of <b>other</b> facilities keeping salmonid species
<b>&lt;5 t</b>	10	35	2
<b>5-100 t</b>	20	0	0
<b>&gt;100 t</b>	<b>42</b>	0	0
<b>unknown</b>	0	0	0
<b>Total</b>	<b>72</b>	<b>35</b>	<b>2</b>

**Mainly grow out farms for human consumption**



# Geographical distribution of FVG trout farms



	Trout farms
	Processing establishments

## Fish movements

- The majority of movements observed in:
  - Farms with processing plants
  - Grow out for human consumption farms
- N° of movements do not seem to be related with farm size

## Geographical factors

- “Clustered” farms (500 m distance) seem to share mechanical transmission risk factors (ie personnel, equipment, vehicles)

## Exposure/spread via water

- Farms supplied with spring /borehole water are usually located in protected wildlife areas and exposed to avian and mammalian predators. In these farms bio security measures against this risk factor (i.e. presence of nets, barriers) are strongly in force compared to other farms.

# Register loading and unloading of farmed fish



**REGISTRO CARICO SCARICO ALLEVAMENTO  
AI SENSI D.Lgs. 148/08 INTEGRATO  
AI FINI FISCALI E CITES**

**ASSOCIAZIONE PISCICOLTORI ITALIANI**

# Register loading and unloading of farmed fish



## REGISTRO CARICO/SCARICO ALLEVAMENTO AI SENSI D.Lgs. 148/08

N° ord.	Anno		Consumo mangime ton.	Cessioni imponibili kg.	Provenienza/Destinazione			Certificato	Carico			Scarico					
	G	M			Azienda	Cod. All.	Categoria		Specie	Dimensioni/ taglia	Quantità (n° o peso)	Specie	Dimensioni/ taglia	Quantità (n° o peso)			

Traceability

# Register loading and unloading of farmed fish



INTEGRATO AI FINI FISCALI DPR 29/09/1973 N° 600 E AI FINI CITES

<b>Mortalità</b> <small>(ove possibile indicare causa e/o settore)</small>	<b>Note relative al trasporto</b>	<b>Sorveglianza sanitaria</b> <small>(risultati)</small>		
<b>Mortality</b>		data:  Il Veterinario Ufficiale:		
		<b>Transport</b>		data:  Il Veterinario Ufficiale:

Foglio 1

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# Register loading and unloading for



## Transport

N° ord	Anno _____		Provenienza			Pesce trasportato			Destinazione			Mortalità	Note relative al trasporto
	G	M	Azienda	Cod. Ail.	Categoria	Specie	Dimensioni/Taglia	Quantità (n° o peso)	Azienda	Cod. Ail.	Categoria		

## Put and Take Fisheries

Anno — Data	Fornitore			Materiale Ricevuto (Specie)	Dimensioni/ Taglia	Quantità (N° o Peso)	Note	Firma
	Denominazione	Cod. Aziendale	Documento					

Sorveglianza Sanitaria (Risultati)*
Data:
Il Veterinario Ufficiale

# Risk Analysis (following Dec 2008/896/CE)

## •Part 1 : risk analysis table for each listed disease

Acceptable risk level	low	high
<b>A : Likelihood of the contraction of a listed disease</b>		
<b>1- Likelihood of the contraction of disease via water :</b> if at least one item of the right column is selected, the « likelihood of the contraction of disease via water » is considered high ; otherwise, it's low		
Up-stream restocking with fish	<ul style="list-style-type: none"> <li>o restocking</li> <li>estocking only with fish from the farm</li> </ul>	estocking with non disease-free fish (from category 2, 3, 4 or 5 farms)
Fish farms located up-stream	<ul style="list-style-type: none"> <li>one</li> <li>category 1 farms</li> </ul>	on disease-free farms (category 2, 3, 4 or 5)



# Risk Analysis (following Dec 2008/896/CE)

**•Part 1 : risk analysis table for each listed disease**

Acceptable risk level	low	high
<b>A : Likelihood of the contraction of a listed disease</b>		
<b>2 - Likelihood of the contraction of disease via movements of aquaculture animals :</b> if at least one item of the right column is selected, the « likelihood of the contraction of disease via movements of aquaculture animals » is considered high ; otherwise, it's low		
Health status of aquaculture products introduced in the farm	o introduction	ntroductions from non disease-free farms (category 2, 3, 4 or 5)
Disinfection of fish transport vehicles and of its material	one outside the farm in fish after quarantine	one into the limits of the farm



# Risk Analysis (following Dec 2008/896/CE)

<b>B : Likelihood of the spread of a listed disease</b>		
<b>Acceptable risk level</b>	<b>low</b>	<b>high</b>
<b>3-Likelihood of the spread of disease via water :</b> <b>if at least one item of the right column is selected, the « likelihood of the spread of disease via water » is considered high ; otherwise, it's low</b>		
Fish farms located down-stream	one	ish farms with susceptible
<b>4 -Likelihood of the spread of disease via aquaculture animals :</b> <b>if at least one item of the right column is selected, the « likelihood of the spread of disease via movements of aquaculture animals » is considered high ; otherwise, it's low</b>		
Aquaculture animals intended for :	uman Consumption  estocking in the compartment/zone where the farm is isolated	estocking in open waterways outside the compartment  estocking in farms outside the compartment
	estocking in « closed » ponds/lakes (epizootiological dead end)	



# Risk Analysis (following Dec 2008/896/CE)

•Part 2 : determination of the risk level for the farm

Step A : Approximation of the likelihood of the contraction of disease on the farm

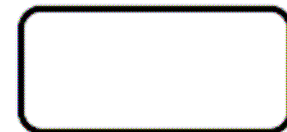
Likelihood of the contraction of	Likelihood of the contraction of disease via movements of	Result
----------------------------------	---	--------

Final step : Combining the estimates of risk levels resulting from steps A and B

→ combined risk level for the farm :

likelihood of the contraction of disease on the farm	likelihood of the spread of disease from the farm		
	LOW (L)	MEDIUM (M)	HIGH (H)
HIGH (H)	M	H	H
MEDIUM (M)	L	M	H
LOW (B)	L	L	M


→ likelihood of the spread of disease :



REGIONE AUTONOMA  
FRIULI VENEZIA GIULIA

# Surveillance Plan (according Dir. 2006/88/CE)

## ANNEX III PART B

Species present	Health status as referred to in Part A	Risk level	Surveillance	Recommended inspection frequency by the competent authority (Article 7)	Recommended inspection frequency by qualified aquatic animal health services (Article 10)	Specific requirements for inspections, sampling and surveillance necessary to maintain the health status	Comments
No species susceptible to the diseases listed in Annex IV	Category I Declared disease-free in accordance with Article 49(1)(a) or (b) or Article 50(1)(a) or (b).	Low	Passive	1 every 4 years	1 every 4 years	Specific requirements for the maintenance of the disease-free status in accordance with Article 52.	The recommended inspection frequencies shall apply without prejudice to the specific requirements mentioned for each health status.
<div style="border: 1px solid red; border-radius: 50%; padding: 5px; display: inline-block;">Species susceptible to one or more of the diseases listed in Annex IV</div>  <div style="border: 1px solid red; padding: 2px; display: inline-block;">IHN - VHS</div>	Category I Declared disease-free in accordance with Article 49(1)(c) or of Article 50(1)(c).	High	Active, targeted or passive	1 every year	1 every year		Specific requirements in accordance with Article 44(1).
		Medium		1 every 2 years	1 every 2 years		
		Low		1 every 4 years	1 every 2 years		
	Category II Not declared disease-free but subject to a surveillance programme approved in accordance with Article 44(1).	High	Targeted	1 every year	1 every year	Specific requirements in accordance with Article 44(2).	The aim of inspections by the competent authority is to check compliance with this Directive in accordance with Article 7.
		Medium		1 every 2 years	1 every 2 years		
		Low		1 every 4 years	1 every 2 years		
Category III Not known to be infected but not subject to surveillance programme for achieving disease-free status.	High	Active	1 every year	3 every year	Specific requirements in accordance with Chapter V.	The aim of inspections by qualified aquatic animal health services is to check the health status of the animals, to advise the aquaculture production business operator on aquatic animal health issues, and where necessary, undertake the necessary veterinary measures.	
	Medium		1 every year	2 every year			
	Low		1 every 2 years	1 every year			
Category IV Known to be infected but subject to an eradication programme approved in accordance with Article 44(2).	High	Targeted	1 every year	1 every year	Specific requirements in accordance with Article 44(2).		
	Medium		1 every 2 years	1 every 2 years			
	Low		1 every 4 years	1 every 2 years			
Category V Known to be infected. Subject to minimum control measures as provided for in Chapter V.	High	Passive	1 every 4 years	1 every year	Specific requirements in accordance with Chapter V.		
	Medium		1 every 4 years	1 every 2 years			
	Low		1 every 4 years	1 every 4 years			

**Rainbow Trout Farm**  
**Category 3**  
**Low Risk Level**

# Biosecurity Measures

- a) Disinfection vehicles and staff.*
- b) Disinfection tools and tanks.*
- c) Control of ichthyophagous birds and / or other animals*
- d) Access control and possible boundary of the farm.*
- e) Manage loading / unloading of fish.*
- f) Discharge and feed storage.*
- g) Management of dead animals.*
- h) The program for rodent control.*
- i) Devices for preventing the ascent and access to wild fish.*
- j) Identification basins or areas*
- k) Management of effluents.*
- l) Training.*



# Biosecurity Measures



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## The case of Friuli-VG

Integration with Public Health Authorities

**FOR**

Uniformity of Application

Simplifying bureaucratic procedures and mitigation costs associated with implementing D.lgs.148/08

Agree Applicable Guidelines

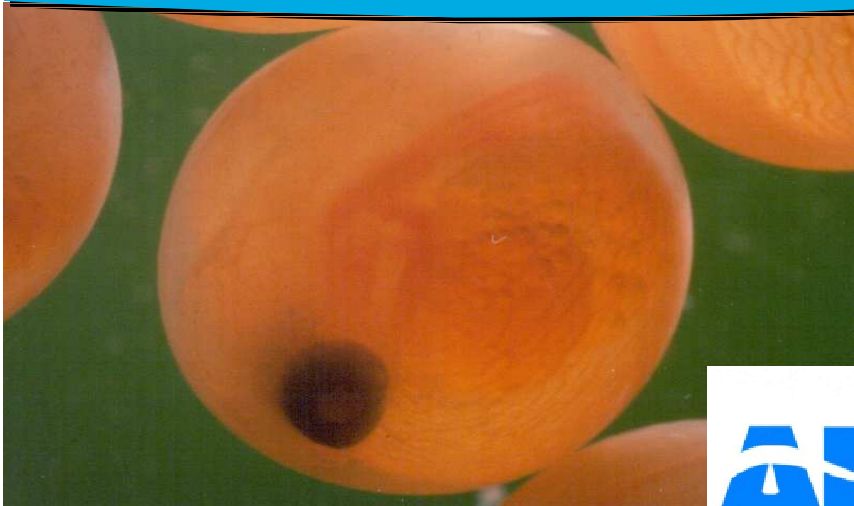
Training / information for operators

**TO**

**Ensure the best outcomes for all stakeholders**

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*Thank you for your attention!*



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