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## Programme for Short training course Improvement and innovation of aquaculture effluent treatment technology Freshwater Fish Farming with water recirculation

### Objectives

The aim of the course is to introduce the representatives or consultants of European National Aquaculture Associations to the theoretical and practical nature of the systems developed for effluent treatment and waste management in fresh water aquaculture, focusing on farms using water recirculation systems. Participants will also be able to visit the 'model' fish farms, developed in Denmark, where the results of the first year's operations will be reported.

The course will provide a top-down approach that will also encourage other members of the profession to participate and invest in the systems proposed.

### Target group

- Association representatives
- Association-linked professionals
- Fish farmers

### Number of Trainees

Maximum 20

### Location

Hotel Legoland (Billund, Denmark) and site visits to the trout farms of Høghøj, Nørå and Tingkærvad – all of which are close to Billund.

### Dates of the course

28<sup>th</sup>– 29<sup>th</sup> November 2006

### Transportation and Hotels

Information available at <http://www.hotel.dk/uk/hotel/billund.html> ; all hotels are close to Billund Airport, which benefits from many international connections – see <http://www.billund-airport.com/>

**All hotel and transportation organisation must be undertaken by participants themselves once their registration has been accepted by the organisers.**

### Important Note

Participation in this short AQUAETREAT training course is FREE for **all** participants. For Association representatives or Association-linked professionals, registration acceptance includes a contribution to travel and accommodation expenses.

Fish farmers will be admitted to the course according to the number of places available and on a 'first



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come, first served' basis.

### **Programme of the training course**

#### **Tuesday 28<sup>th</sup> November 2006 (at the 'Hotel Legoland' - Billund )**

##### **'Aquaetreat' and effluent treatment**

###### **Morning Session**

- Introduction and objectives of the course
- Why treat aquaculture effluent?
- The 'AQUAETREAT' strategy:
  - Description of the system in place at the 'Maribrin' sea bass farm (Italy)
  - Description of the system in place at the 'Murgat' trout farm (France)
- Monitoring farm water and effluent quality
- Solutions for the reuse of sludge
- Constructed wetland operation
- Engineering and economic aspects
- Questions and Answer session with presenters

###### **Afternoon session (Site Visit)**

- The 'Aquaetreat' solution for a trout farm using water recirculation (Høghøj Fish Farm) in Denmark, covering:
  - System design
  - Waste and water characterisation
  - Sludge thickening
  - Water reuse
- Questions and Answer session

#### **Wednesday 29<sup>th</sup> November 2006 (at the 'Hotel Legoland' - Billund )**

##### **The Danish 'model' fish farms and effluent treatment**

###### **Morning Session**

- 'Giving birth to the model fish farms'
- Design and Construction
- Results of the first year's operation
- Veterinary Issues in the model fish farms
- Constructing a management system
- Site Visit** to the Nørå model fish farm

###### **Afternoon session**

- Site Visit** to the Tingkærvad model fish farm

*The course will finish in the afternoon on November 29<sup>th</sup>,*



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*returning participants to Billund Airport or Hotel Legoland at 15:15*

### Details of the Presentations in the 'Aquaetreat' Training Course

<b>Nov 28<sup>th</sup> 2006 (Hotel Legoland)</b>	<b>Draft list of Presenter(s)</b>	<b>Time allocation</b>
<b>Morning Session (Starts 09:00)</b>		
Introduction and objectives of the course	Nick Read (UK)	15 min
Why treat aquaculture effluent?	Vincenzo Zonno (IT)	30 min
The AQUAETREAT strategy: The system at Maribrin sea bass farm (Italy)	Licinio Corbari (IT)	30 min
The AQUAETREAT strategy: The system at Murgat flow-through trout farm (France)	Bob Lovitt (UK)	20 min
Monitoring farm water and effluent quality	Jane Claricoates (UK)	20 min
Solutions for sludge reuse	Guy Donaldson (UK)	20 min
Constructed Wetland operation	Geoff Proffitt (UK)	20 min
Engineering and economic aspects	Brigide Loix (IT)	30 min
<i>Lunch break</i>		
<b>Afternoon session (Starts 13:30)</b>		
The 'Aquaetreat' solution for a trout farm using water recirculation (Høghøj Fish farm) in Denmark: <ul style="list-style-type: none"> <li>• System design</li> <li>• Waste and water characterisation</li> <li>• Sludge thickening</li> <li>• Constructed wetland operation</li> <li>• Water reuse</li> </ul>	Gitte Nielsen (DK) – Bob Lovitt (UK)	
Questions and Answers	Nick Read - Moderator	30 min

**Notes:** Coffee and Lunches will be taken in the Conference Centre



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**Languages:** Presentations will be in English

<b>Nov 29<sup>th</sup> 2006 (Hotel Legoland)</b>	<b>Draft list of Presenter(s)</b>	<b>Time allocation</b>
<b>Morning Session (Start 09:00)</b>		
Giving birth to model fish farms	Brian Thomsen (DK)	20 min
Design and construction of the farms	Per B. Pedersen (DK)	20 min
Results of the first year's operation	Kaare Michelsen (DK)	20 min
Veterinary issues in model fish farms	Niels Henrik Henriksen (DK)	30 min
Constructing a management system	Lisbeth Plesner (DK)	20 min
<b>Visit to the Nørå model fish farm</b>		
<b>Afternoon session (Start 13:45)</b>		
<b>Visit to the Tingkærvad model fish farm</b>		
Questions and Answers/Conclusions	Brian Thomsen (moderator)	30 min

**Notes:**

Transfer of participants will be organised from the Conference Centre to the Farms

Refreshment and lunch details will be communicated later

It is anticipated that participants will return from the farm visits to be in Billund Airport at 15:15.

**Languages:** Presentations will be in English