

*Trino, Cascina Guglielmina, 23 February 2012*

# **LIFE+ Eco-rice**

**Action E5 – IRFEN-International ricefield ecological network**



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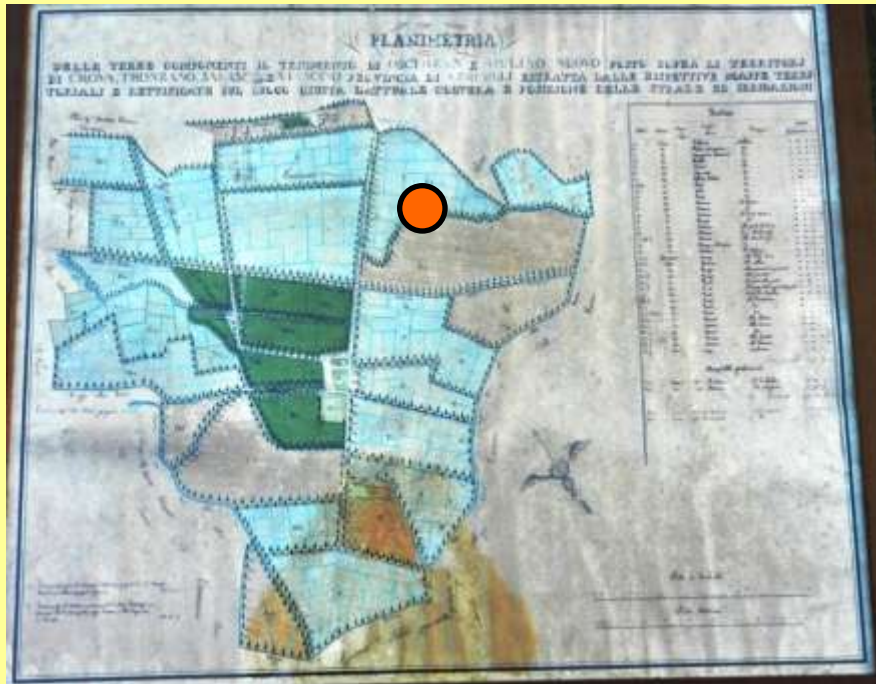
In the afternoon:

**Towards a shared programme for sustainable ricefield management: definition of common issues and objectives for IRFEN activities**

***Method: matrix implementation***







The structure of the farm of Oschiena (Vercelli) in the XIX Century (courtesy Mrs. Alice Cerutti)



The same area today (Google Earth)

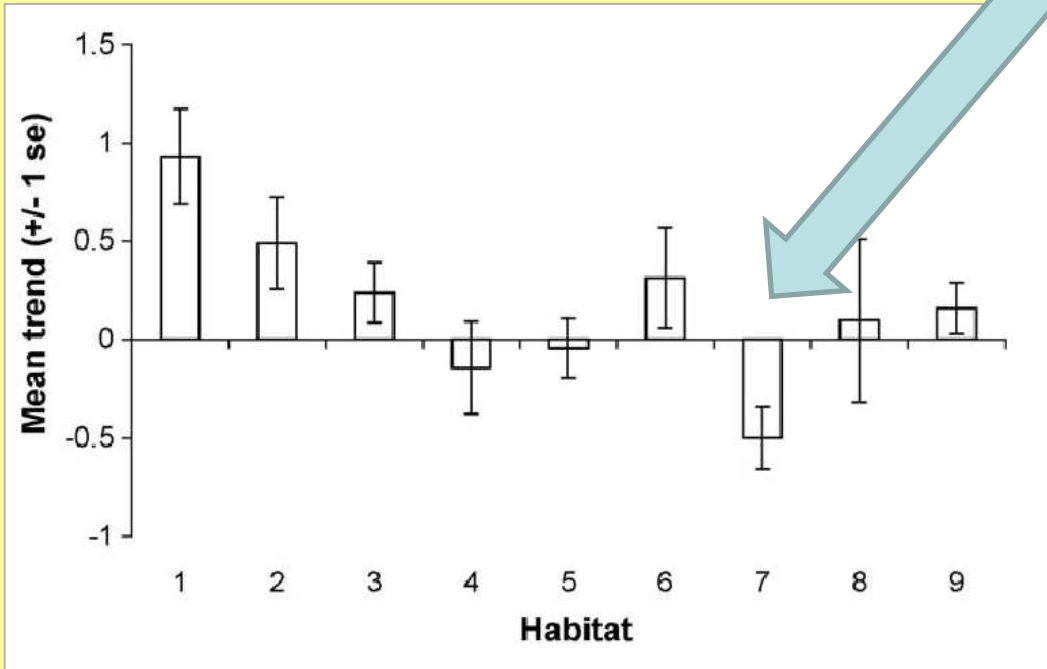


## Further evidence of continent-wide impacts of agricultural intensification on European farmland birds, 1990–2000

Paul F. Donald<sup>a,\*</sup>, Fiona J. Sanderson<sup>a</sup>, Ian J. Burfield<sup>b</sup>, Frans P.J. van Bommel<sup>b</sup>

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<sup>b</sup> BirdLife International European Division, Droevendaalsesteeg 3, P.O. Box 127, 6700 AC Wageningen, The Netherlands



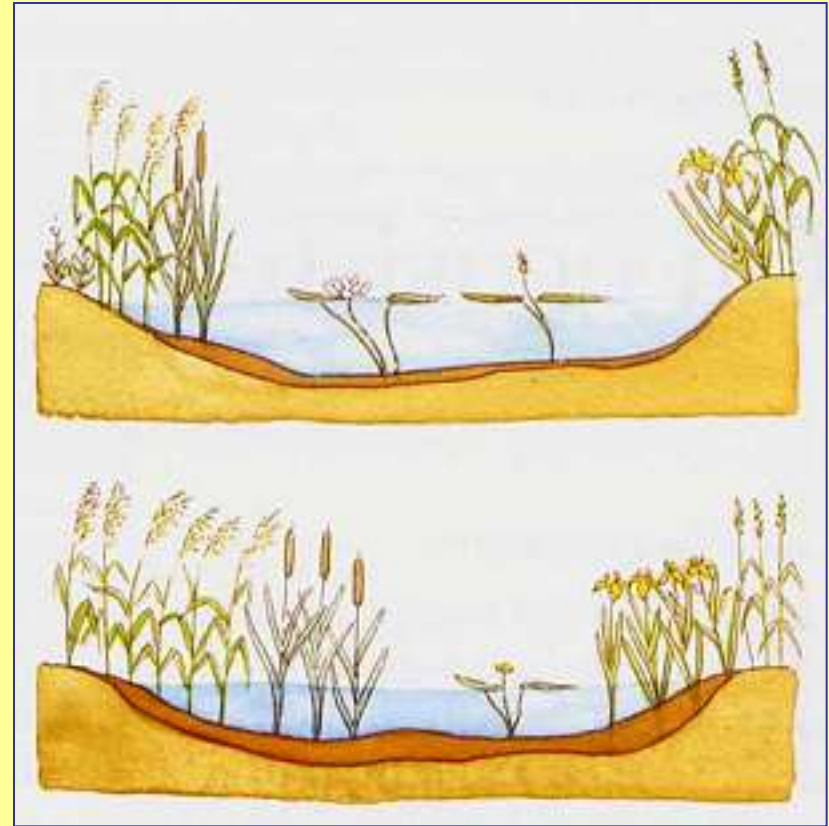
**Farmland and grassland birds are decreasing more than other species in Europe**

Fig. 2. Mean trends across all European countries of bird species in a number of habitats (shown  $\pm 1$  S.E.): 1, marine (25 species); 2, coastal (22 species); 3, inland wetlands (59 species); 4, tundra, mires and moorland (29 species); 5, boreal and temperate forests (67 species); 6, Mediterranean habitats (24 species); 7, farmland and grassland (58 species); 8, montane grassland (eight species); 9, habitat generalists (93 species); see text for methods of classification. Habitat numbering follows the order of Tucker and Evans (1997). Trends for habitats 1 ( $P = 0.0001$ ), 2 ( $P < 0.05$ ) and 7 ( $P = 0.001$ ) differed significantly from zero. Mean trends for all habitats except four and eight differed significantly (at  $P < 0.005$ ) from the mean trend for farmland (habitat 7).

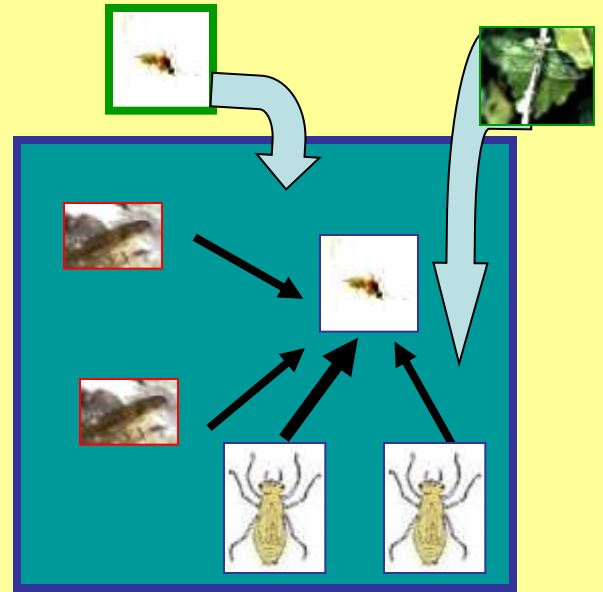
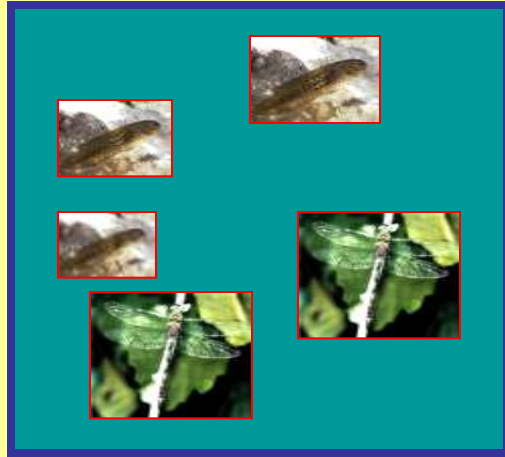
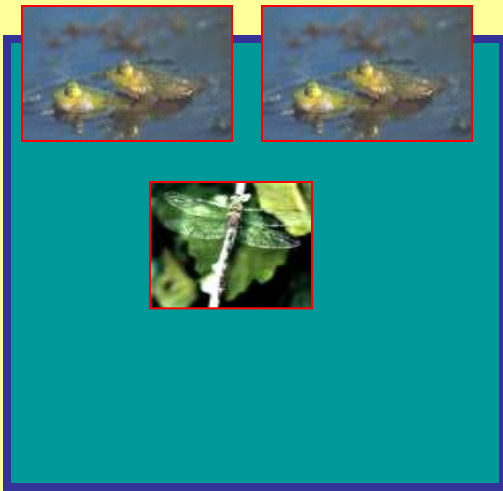
# Are European ricefields wetland surrogates?



=



*yesterday*

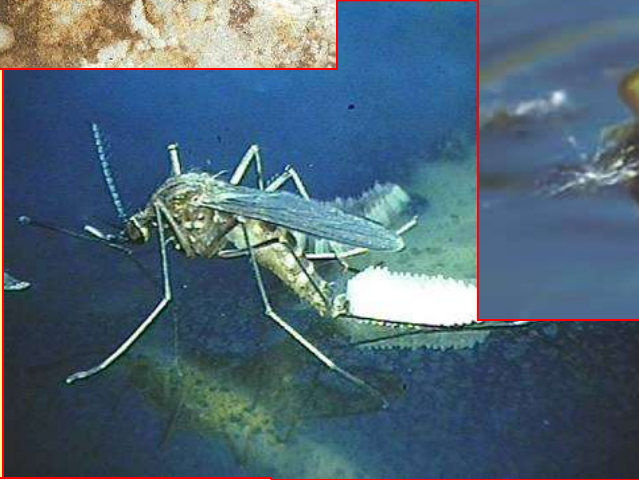


**spring**



**summer**

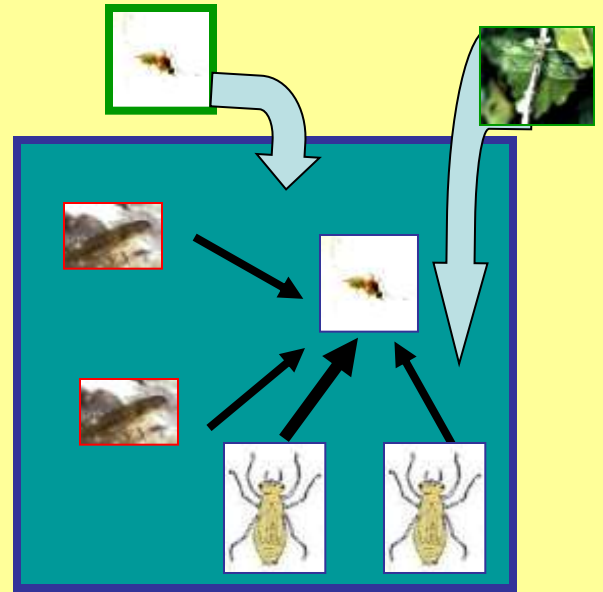
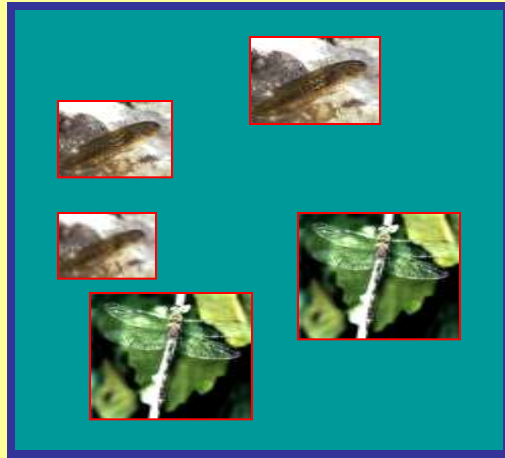
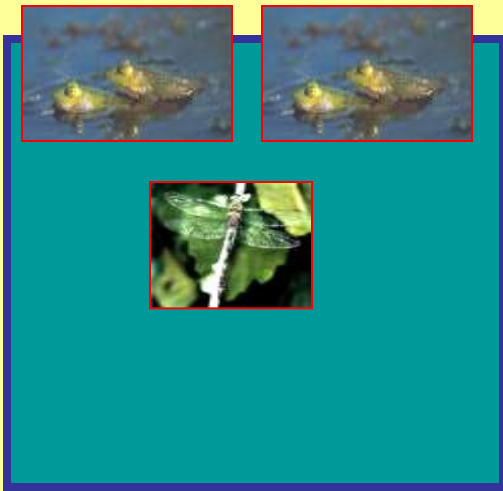






# *Today*

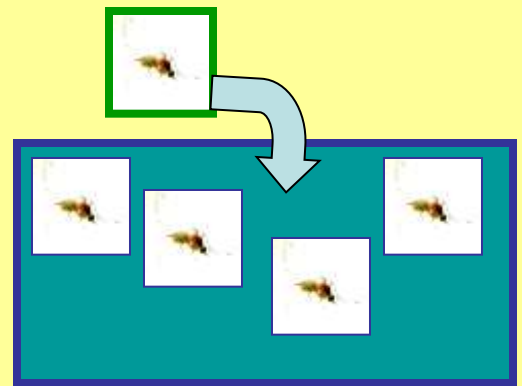
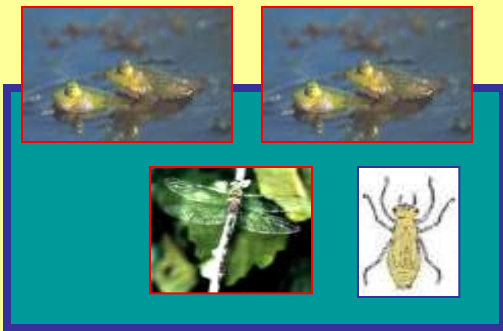


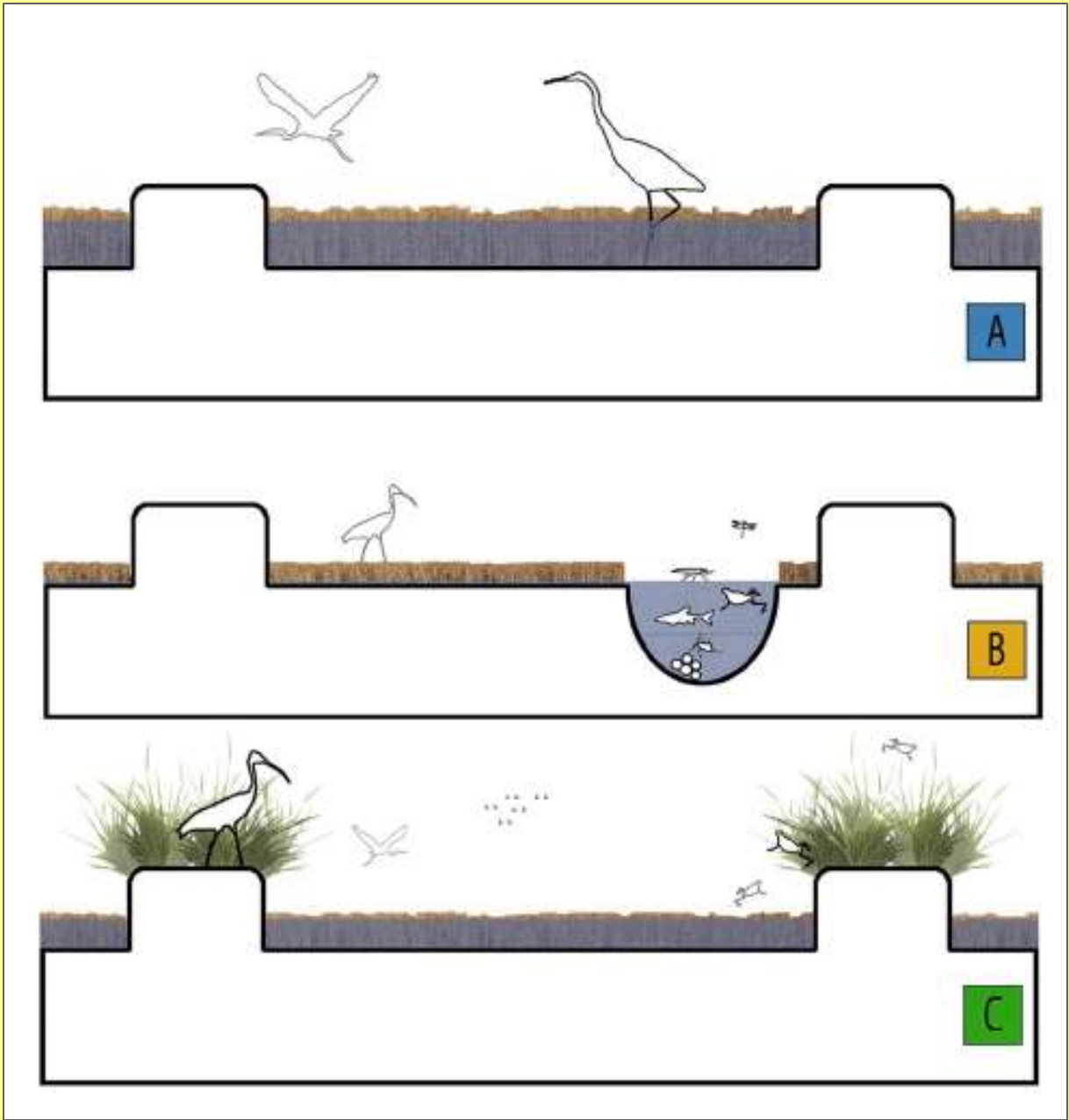


**spring**



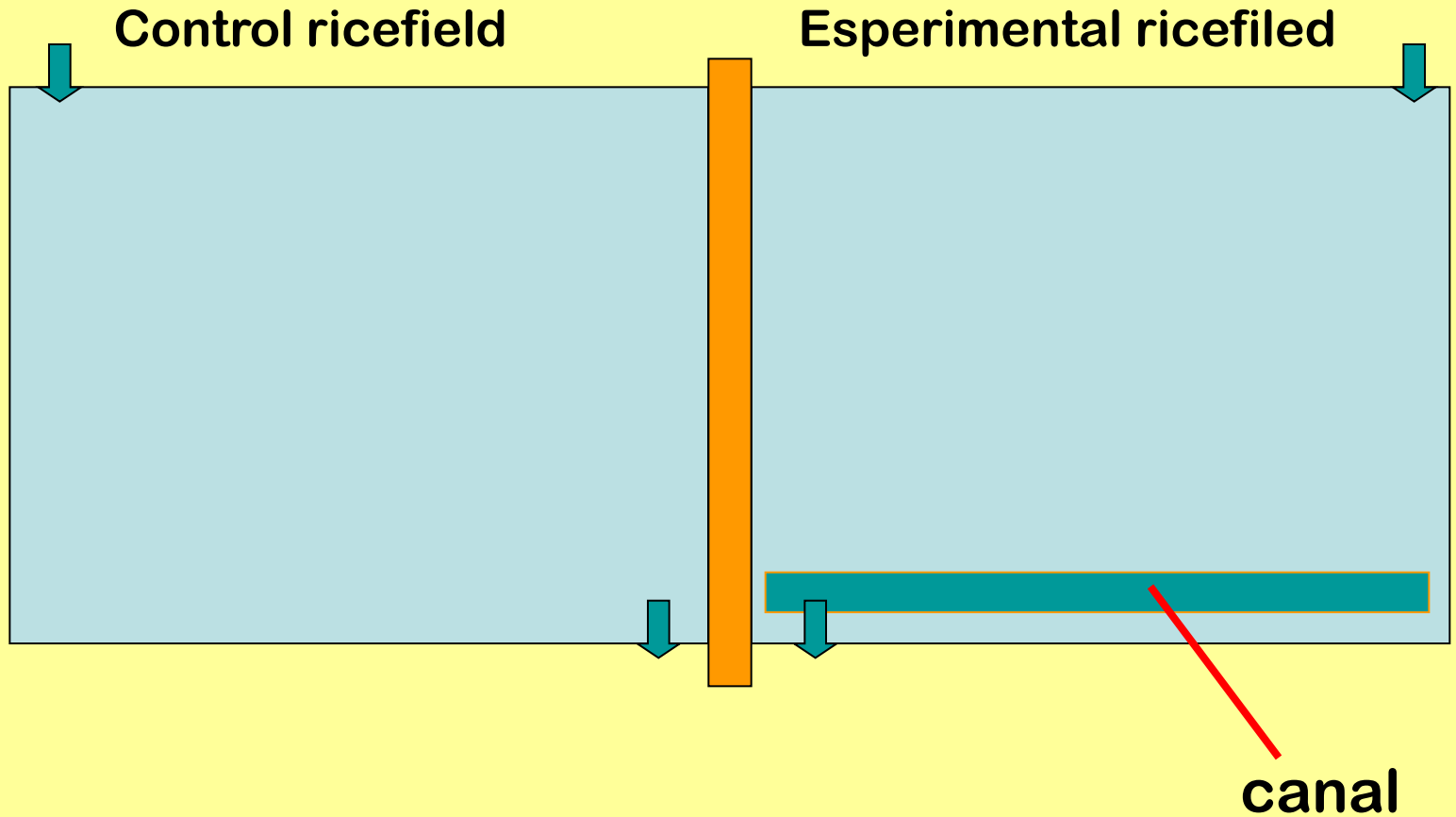
**summer**



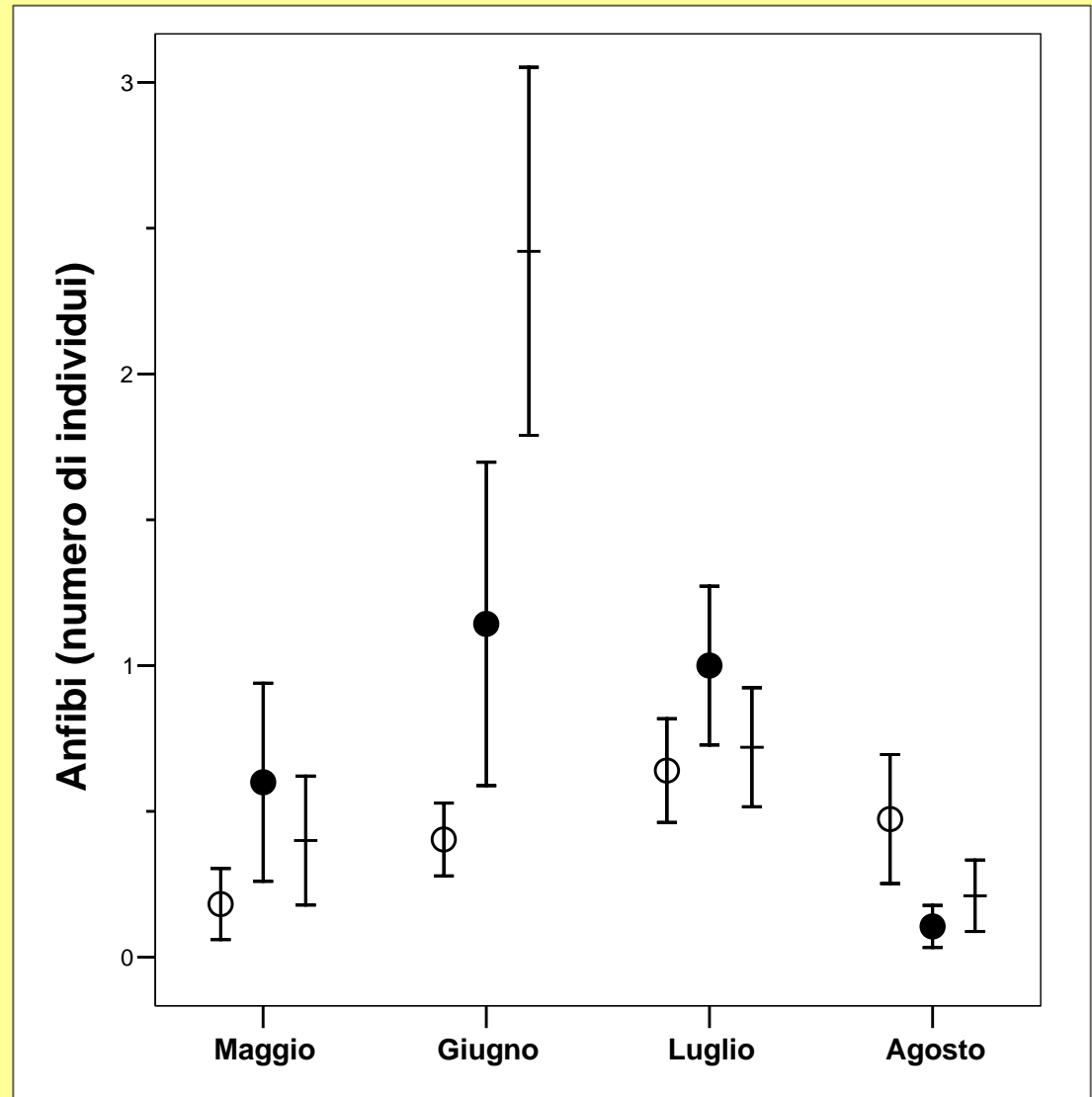




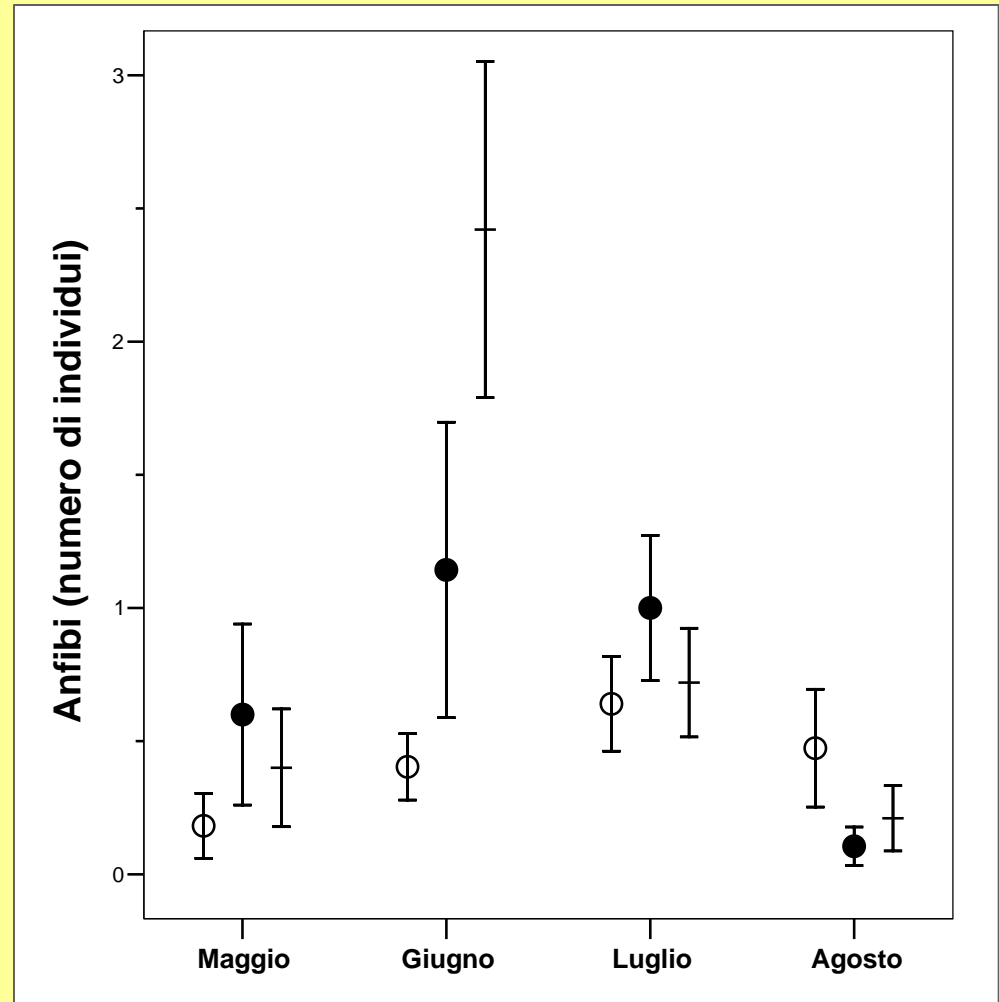
# Paired sample design



# Variation of the number of Amphibians (frog tadpoles) in control and experimental ricefields and in canals



# Variation of the number of mosquito larvae in control and experimental ricefields and in canals



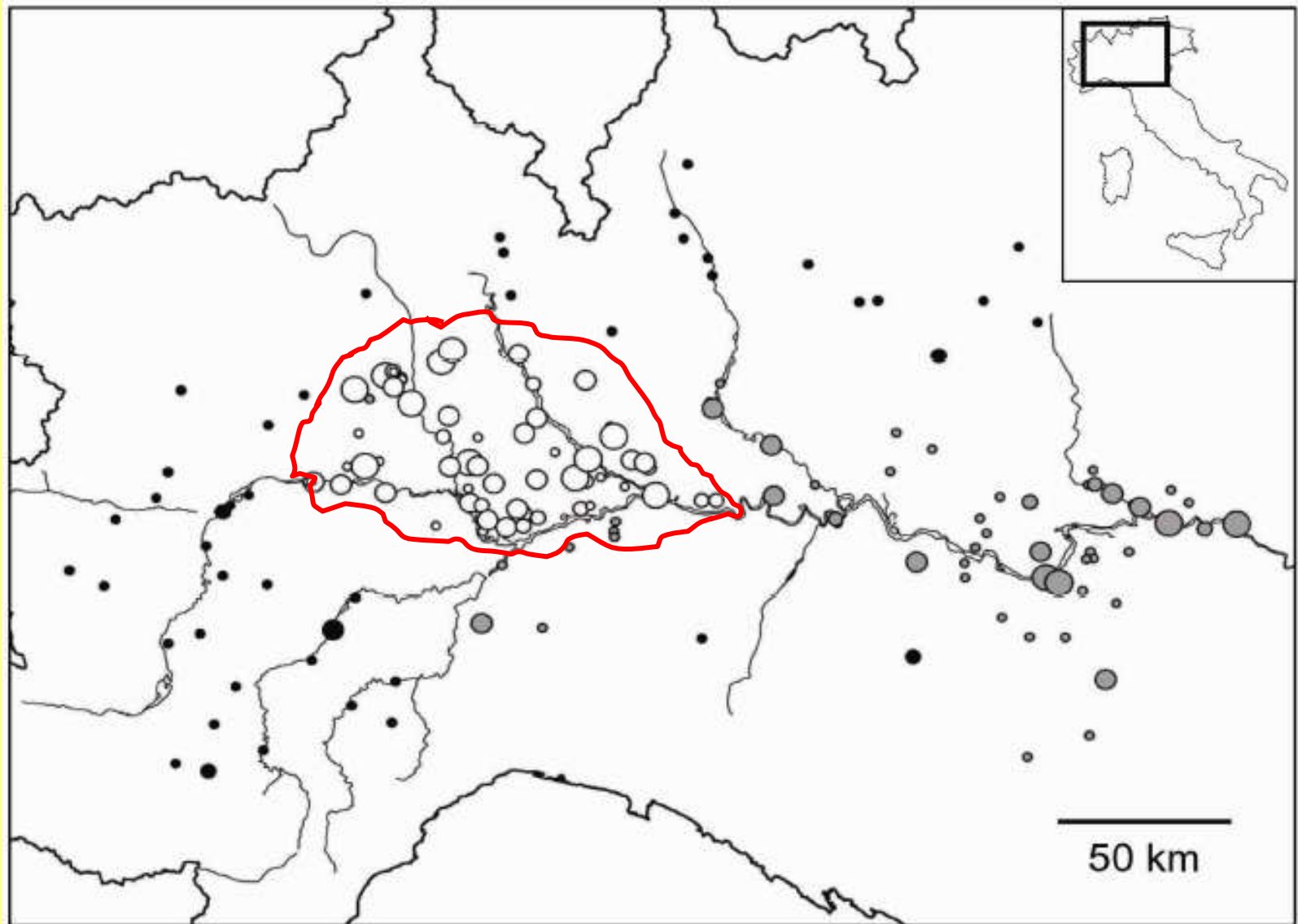


# Results

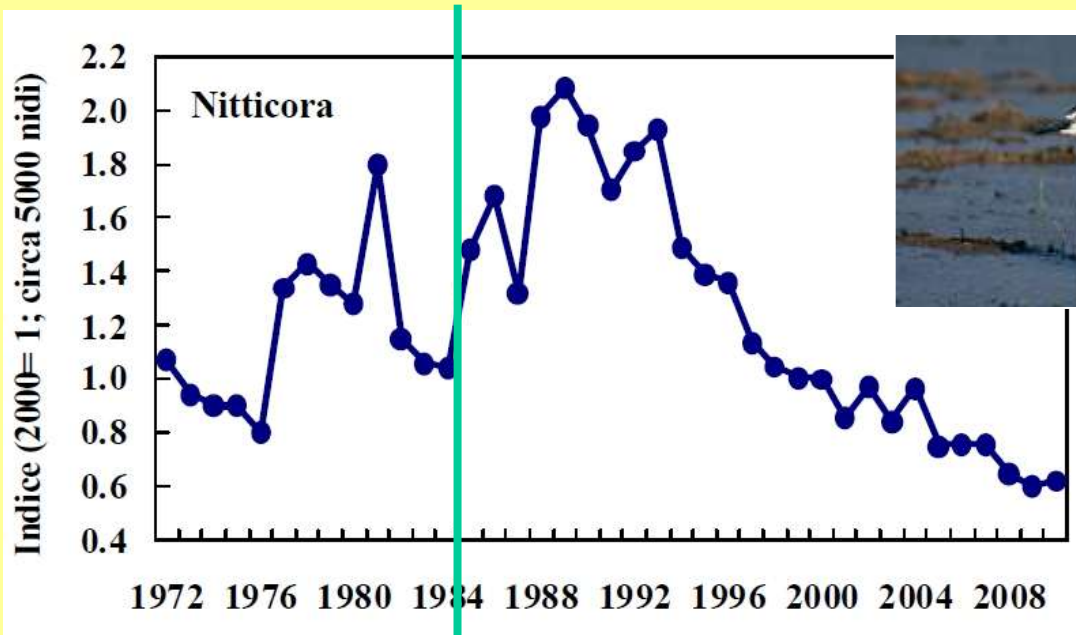
- Experimental ricefields hosted more invertebrates and Amphibians than control ricefields.

Experimental ricefields with the canal had 44% less mosquito larvae than control ricefields without the canal.

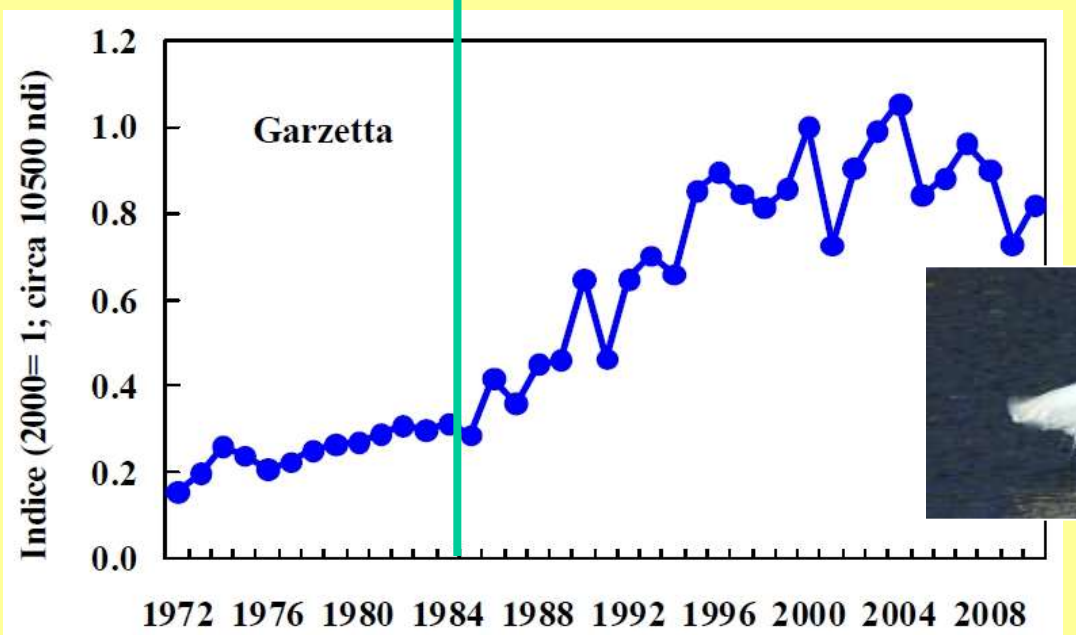
# Heron colonies in Northwestern Italy - 2010



Night heron



Little egret





In conclusion:

- Are there common ideas about the recovery/maintenance of the biodiversity value of rice cultivation ?
- How can we achieve this goal?
- Are there experimented *best-practices* to be shared?

**See you in the afternoon**





**Thank you  
for the  
attention**





*Trino, Cascina Guglielmina, 23 February 2012*  
*Afternoon workshop*

# **LIFE+ Eco-rice**

**Towards a shared programme for  
sustainable ricefield management:  
definition of common issues and  
objectives for IRFEN activities**

## Topics of the afternoon

**1 - Towards a shared programme for sustainable ricefield management: definition of common issues and objectives for IRFEN activities**

**2 - Description of environmental contexts to be evaluated and proposed methodology**

# **Towards a shared programme for sustainable ricefield management: definition of common issues and objectives for IRFEN activities**

## **TOPICS**

- Solutions**
- Common Practices**
- Practices to be proposed**
- Knowledge gaps**
- Financial instruments**

# Critical aspects 1

## TOPICS

### Water cycle management

**FOCUS 1\*:** Within the framework of future scenarios of low precipitation, how is it possible to anticipate the water cycle and at the same time maintain the rice fields' environmental functions (conservation of biodiversity)?

### Treatment of rice antagonists (i.e. weed, parasites)

**FOCUS 2\*:** How is it possible to combine the use of pesticides for the treatment of parasites, with the conservation of biodiversity?

**FOCUS 8\*:** What actions should be taken to diminish or mitigate the impact of chemical products -- required for rice production -- on the flora and fauna (phytodepuration, etc..)



## **Critical aspects 2**

### **TOPICS**

**Stubbles management (i.e. fire, early plowing)**

**Agricultural landscape elements: hedges, tree lines, wooded spots, wetlands**

**Canals and embankments management: i.e on macrophyte, sediments, use of equipments and/or herbicides**

**Minor irrigation network management**

**Exotic species management / ( Treatment of mosquitoes)**

# TOPICS

## Good practices for the conservation of biodiversity

FOCUS 7\*: What good practices combine economic output and conservation of biodiversity?

## Specific environmental conservation projects (on species and habitat)

## Current awareness and sharing tools

## Awareness and sharing tools to be proposed

## Mosquitoes fight

## Current planning tools

FOCUS 6\*: How is it possible to manage rice field landscapes within a locally or regionally integrated ecological network?

Let's work with the board