

# The Isonzo Rivermouth Nature Reserve



RISERVA NATURALE REGIONALE  
**FOCE DELL'ISONZO**  
**ISOLA DELLA CONA**



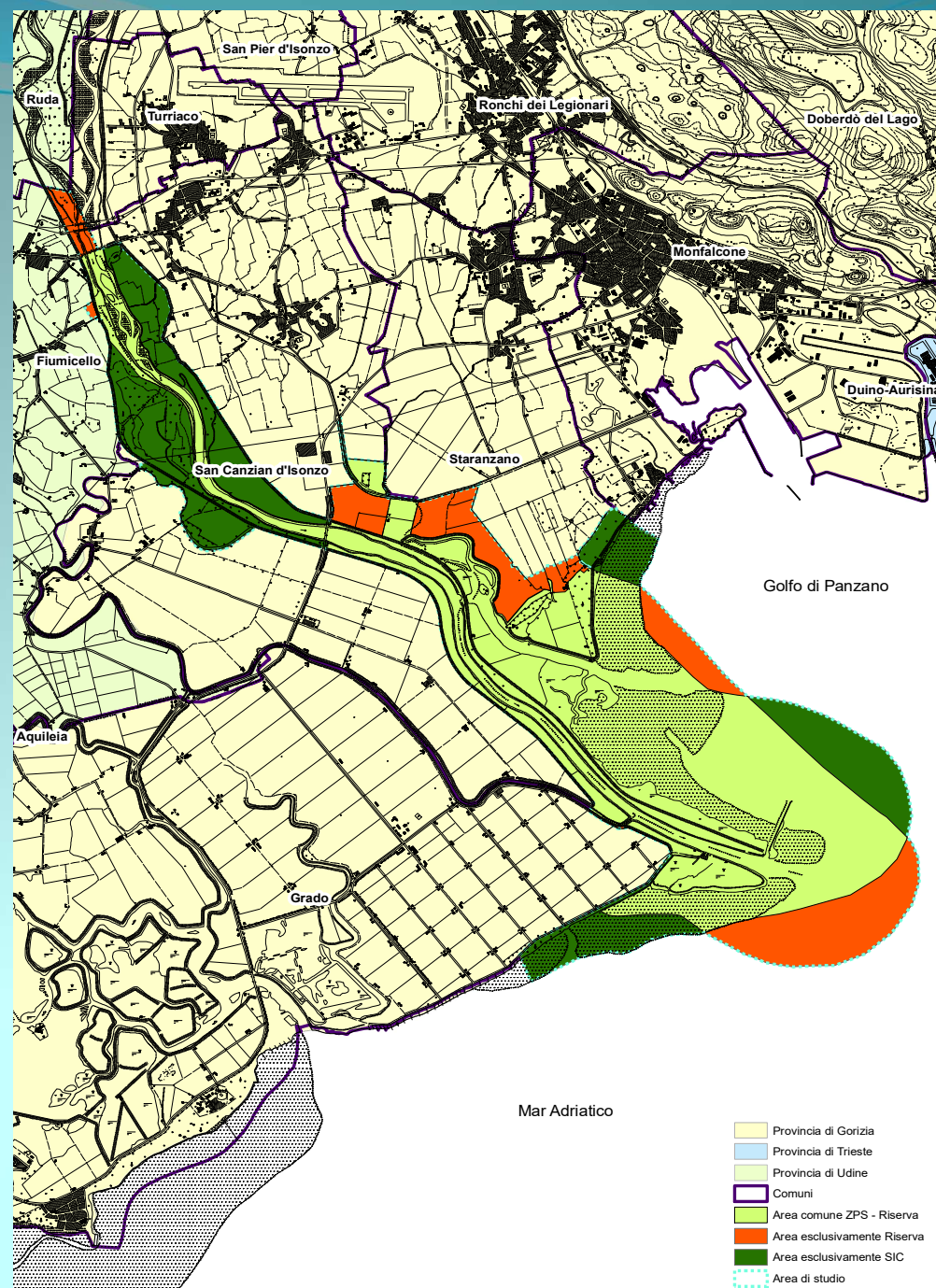
## The protected area:

- *Regional Nature Reserve (L.R. 42/1996)*
- *N2000 - ZSC/ZPS – Foce dell'Isonzo ed Isola della Cona*
- *Ramsar site*

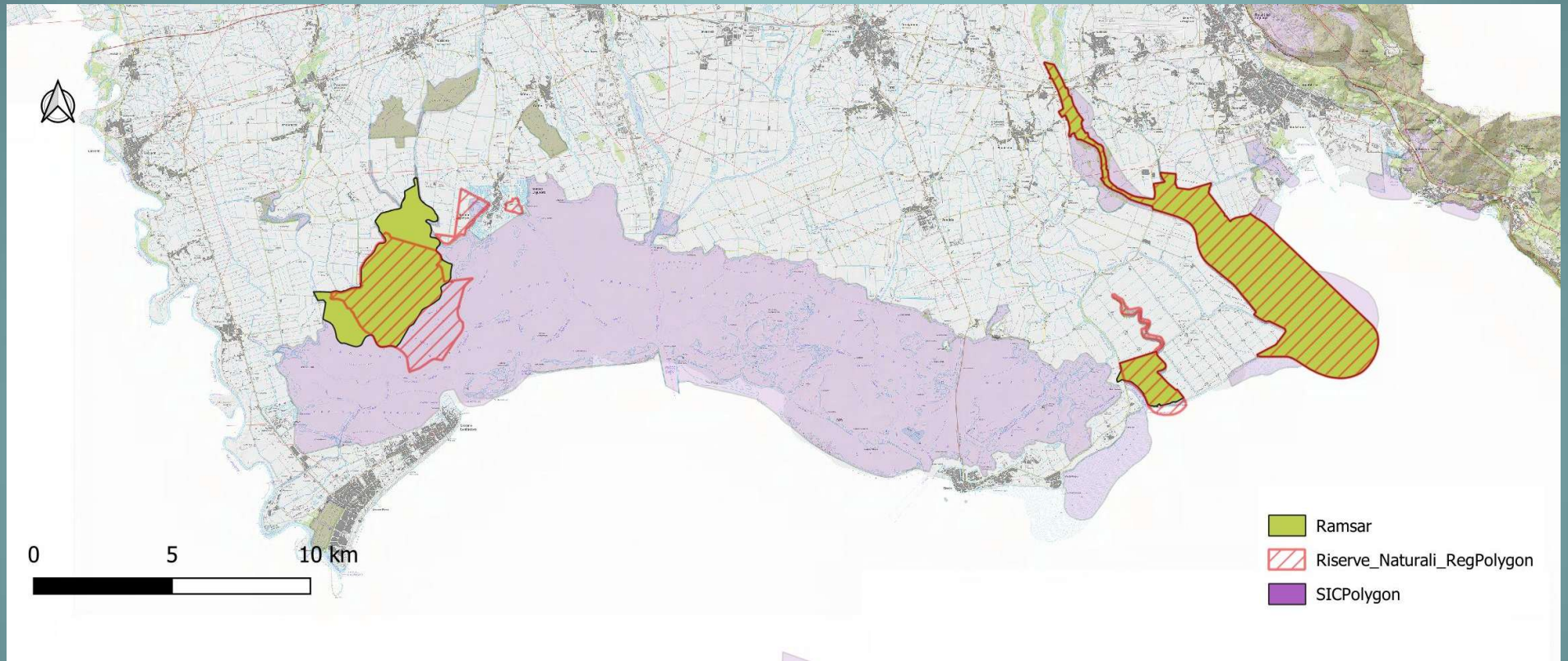


# The Nature Reserve and The Natura 2000 sites

|         | Area (ha) |
|---------|-----------|
| Reserve | 2392,977  |
| ZPS/ZSC | 2668,171  |



## Connections with others protected areas



# Geomorphology



# Habitat e species:

**21 habitat  
listed in annex I of Habitat Directive**

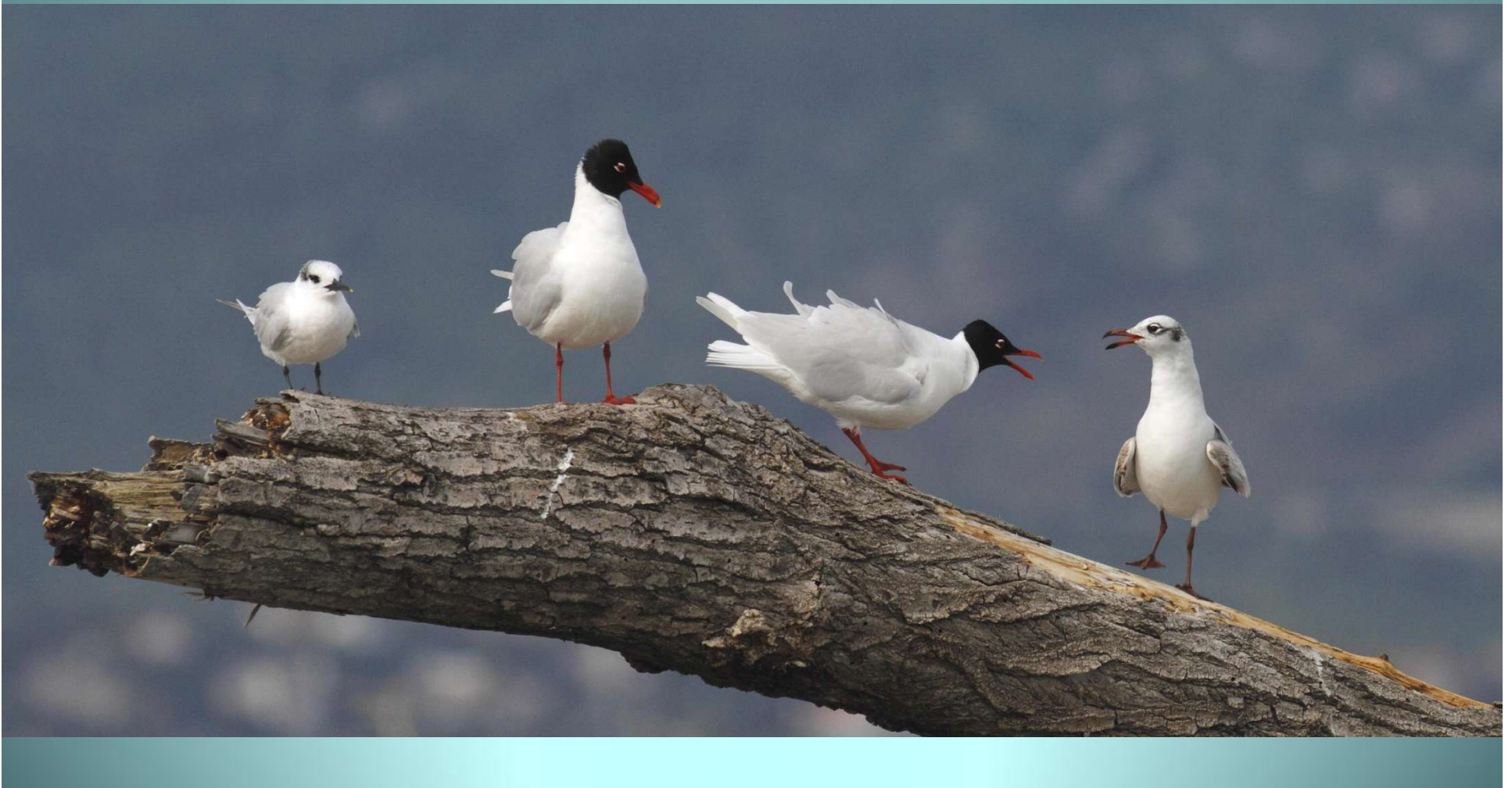


## Habitat e species:

**98 species listed in the Annex I of 147/09 Directive**

**20 species listed in the Annex II of 43/92 Directive**

**340 species of birds Check list**



# Habitat e species:

GORTANIA  
Botanica, Zoologia

46 (2024)



41-56

Udine, 30.XII.2024

ISSN: 2038-0402

Matteo De Luca  
Silvano Candotto

## LISTA DEGLI UCCELLI DELLA RISERVA NATURALE FOCE DELL'ISONZO

BIRD CHECKLIST OF THE ISONZO RIVERMOUTH  
NATURE RESERVE

**Riassunto breve** - Nella nota viene presentato l'aggiornamento della check list degli uccelli presenti nella Riserva Naturale Regionale Foce dell'Isonzo; complessivamente essa ricomprende 343 specie, di cui 217 non passeriformi e 126 passeriformi. 105 specie risultano incluse nell'Allegato I della Direttiva 2009/147/CE "Uccelli".

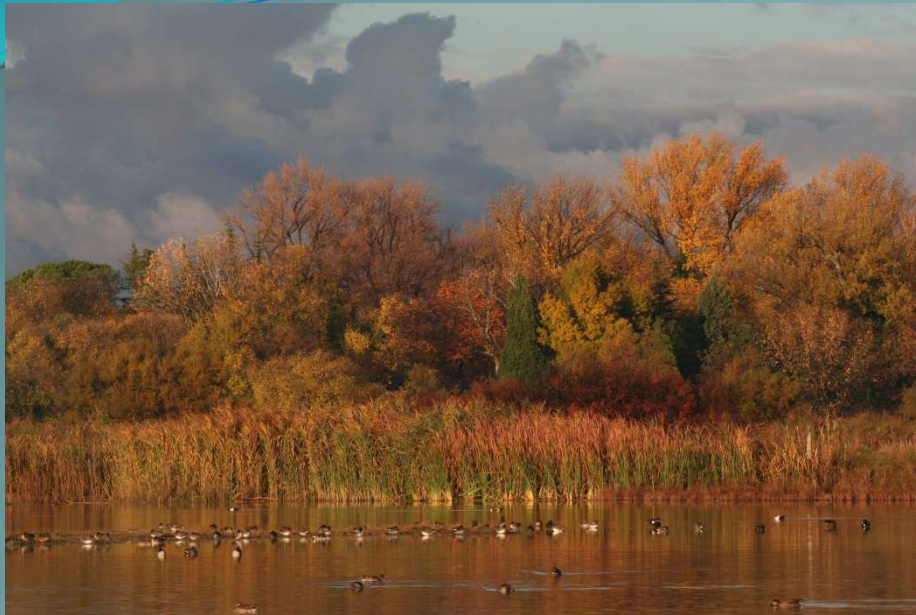
**Parole chiave:** Lista uccelli, Riserva naturale Foce Isonzo, Zone umide, Monitoraggio avifauna



## Habitat e species:









# The restoration project of the Cona Island



## **Management:**



**Municipality of Staranzano leading the Authority body ( with the municipality of San Canzian, Fiumicello, Grado)**



**Scientific and technical experts**



**Visitor center, Horses, Bar, Didactical activities**

## **Facilities:**

### ***Visitor Center***



### ***Guestrooms***



### ***Bar and observatory***

# The Camargue horses



## Monitoring activity



### ***Birds monitoring:***

- IWC
- Point counts
- Geese counts

### ***Monitoring of species listed in Habitat Directive:***

- *Pinna nobilis*
- Fish
- Amphibians and reptiles
- Bats
- Mammals

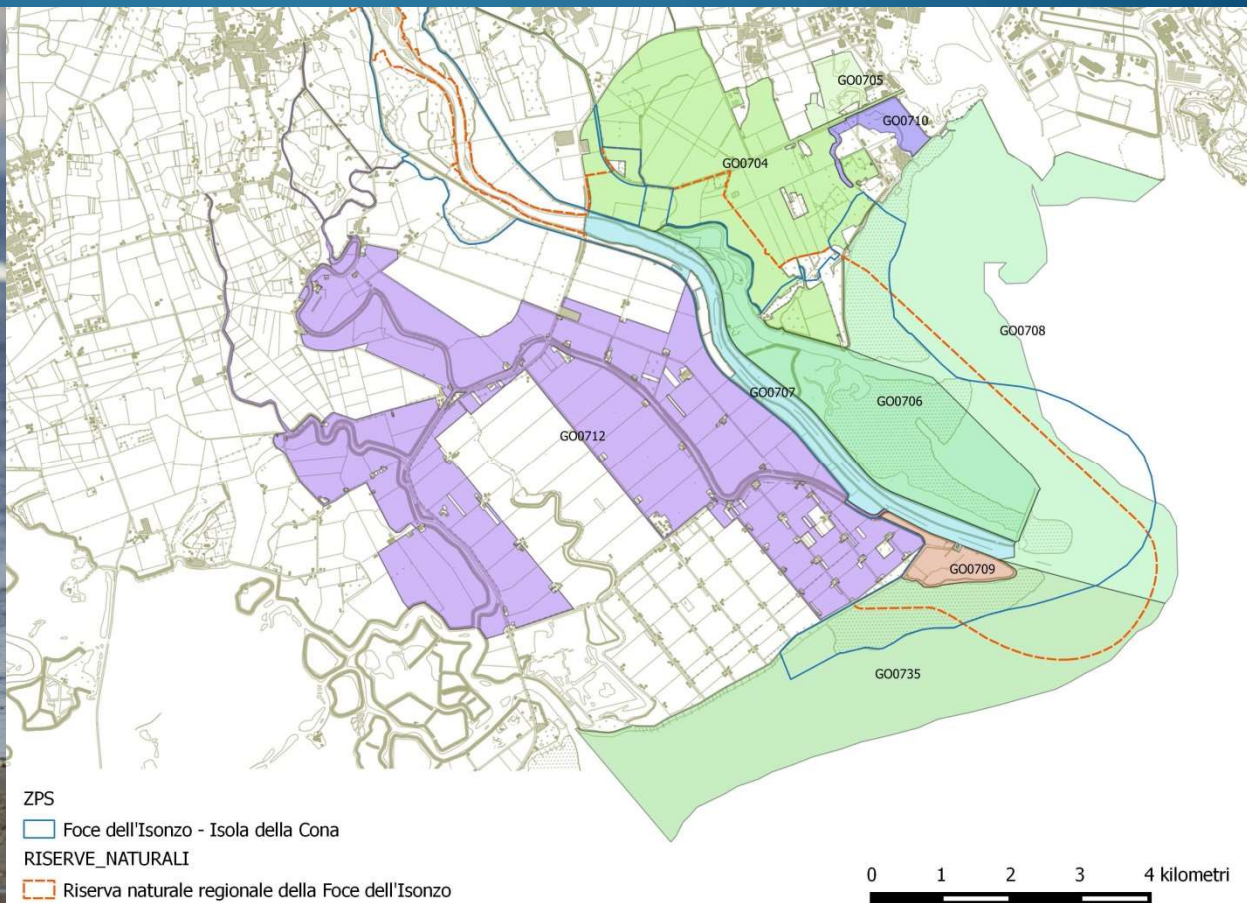
### ***Other activities:***

- Ring observation and recording
- Collection of occasional data
- Cooperation with different University



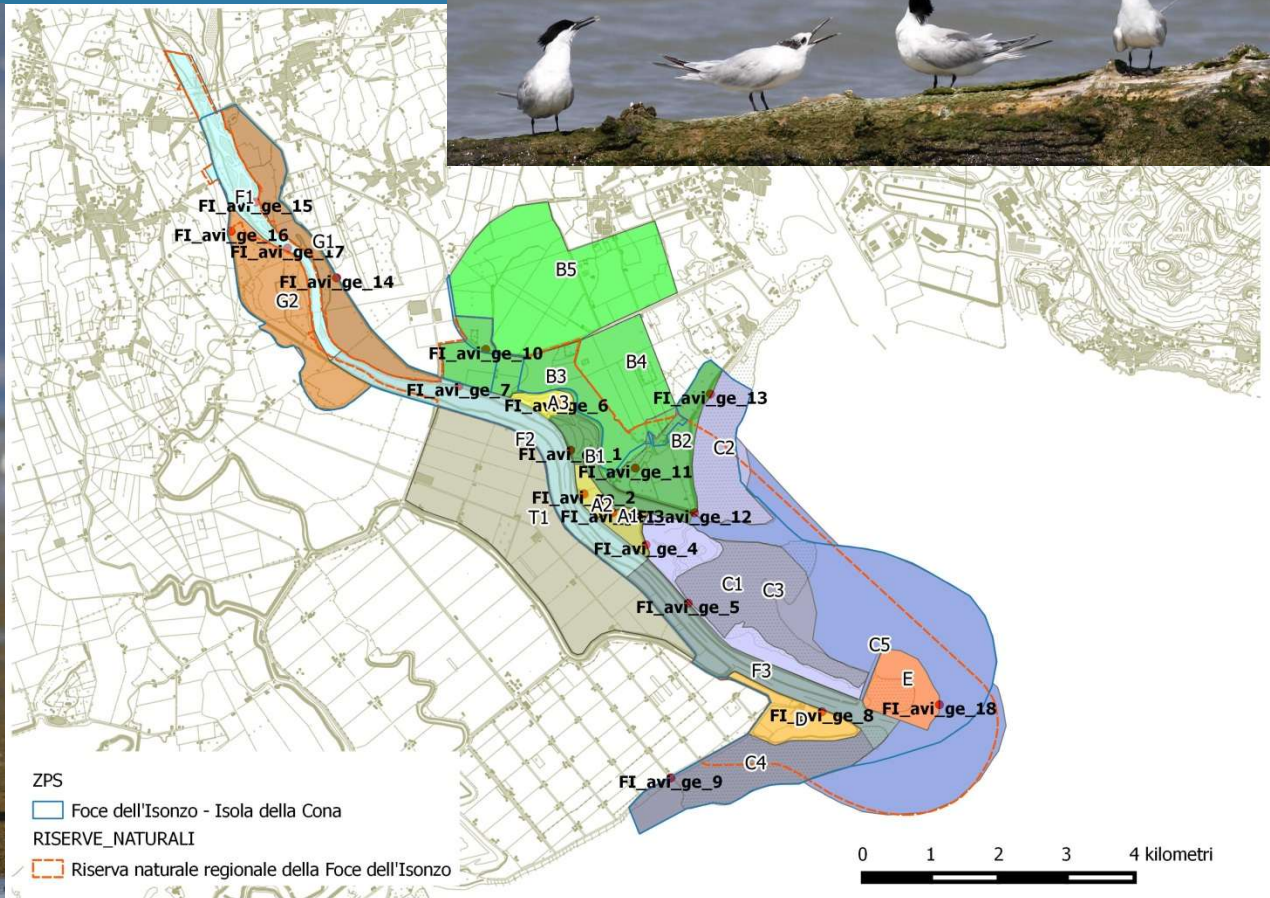
## *Birds monitoring:*

- IWC International Waterbird Count



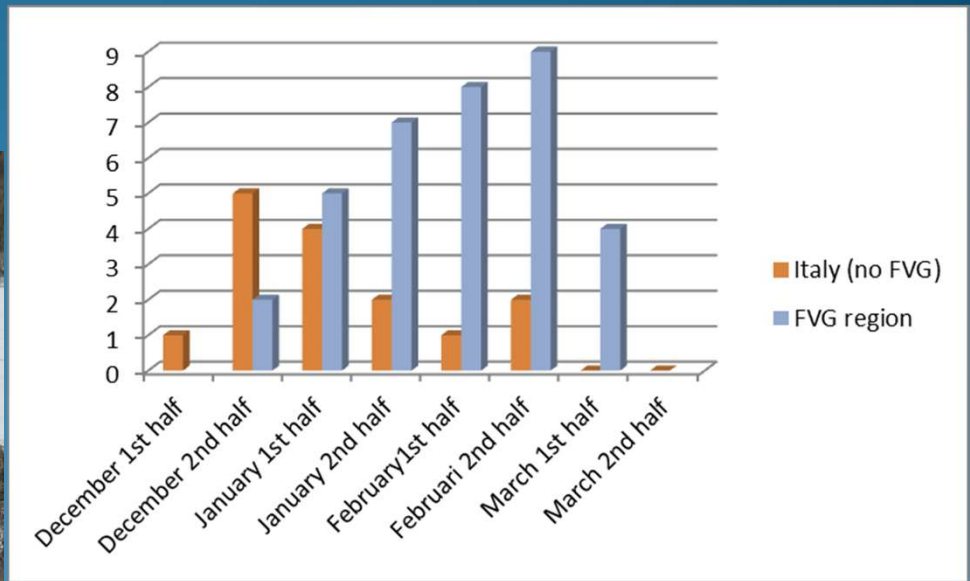
## Birds monitoring:

- Point counts (following Adriawet2000 protocol)



# Birds monitoring:

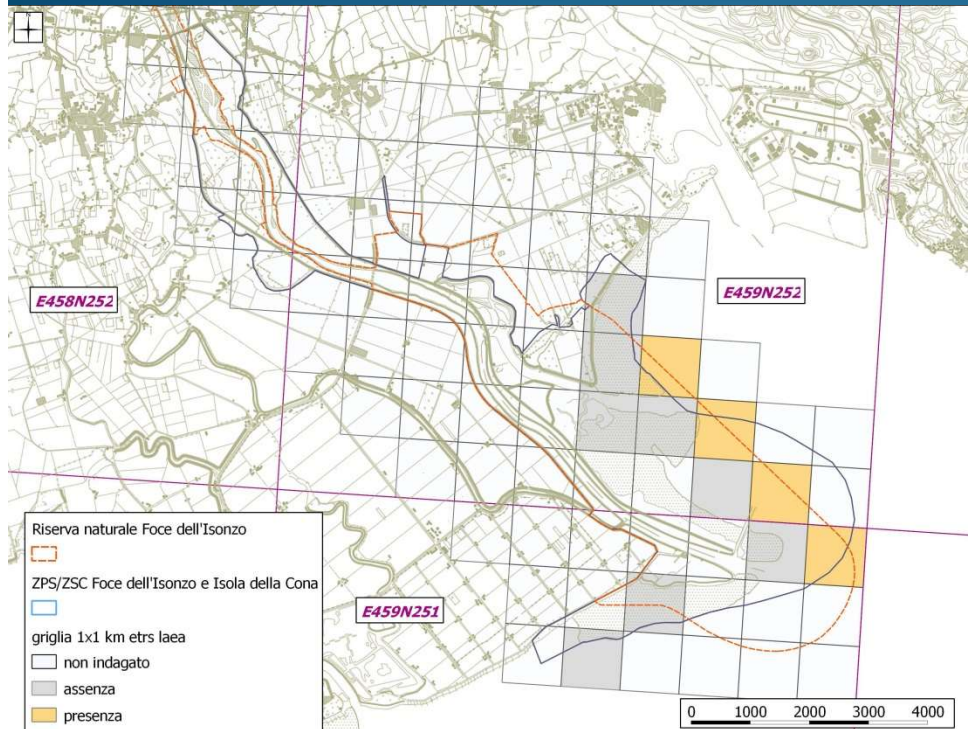
- Geese counts



| point       | transect | species                | number | indicator   | presence | year | month | day | grid       | precisione (m) | zone | observer         |
|-------------|----------|------------------------|--------|-------------|----------|------|-------|-----|------------|----------------|------|------------------|
| FI_avi_ge_  | nd       | Buteo buteo            | 1      | individuals | true     | 2014 | 9     | 10  | E4591N2524 | 500            | B3   | Silvano Candotto |
| FI_avi_ge_1 | nd       | Anas platyrhynchos     | 0      | individuals | true     | 2014 | 5     | 4   | E4593N2522 | 500            | B1   | Fabio Perco      |
| FI_avi_ge_1 | nd       | Anas platyrhynchos     | 0      | individuals | true     | 2014 | 5     | 10  | E4593N2522 | 500            | B1   | Fabio Perco      |
| FI_avi_ge_1 | nd       | Egretta garzetta       | 0      | individuals | true     | 2014 | 5     | 10  | E4593N2522 | 500            | B1   | Fabio Perco      |
| FI_avi_ge_1 | nd       | Fulica atra            | 0      | individuals | true     | 2014 | 5     | 4   | E4593N2522 | 500            | B1   | Fabio Perco      |
| FI_avi_ge_1 | nd       | Fulica atra            | 0      | individuals | true     | 2014 | 5     | 5   | E4593N2522 | 500            | B1   | Silvano Candotto |
| FI_avi_ge_1 | nd       | Fulica atra            | 0      | individuals | true     | 2014 | 5     | 6   | E4593N2522 | 500            | B1   | Altro            |
| FI_avi_ge_1 | nd       | Tachybaptus ruficollis | 1      | individuals | true     | 2014 | 5     | 8   | E4593N2522 | 500            | B1   | Fabio Perco      |
| FI_avi_ge_1 | nd       | Tachybaptus ruficollis | 0      | individuals | true     | 2014 | 5     | 12  | E4593N2522 | 500            | B1   | Altro            |
| FI_avi_ge_1 | nd       | Actitis hypoleucos     | 40     | individuals | true     | 2014 | 8     | 10  | E4593N2522 | 500            | B1   | Altro            |
| FI_avi_ge_1 | nd       | Alcedo atthis          | 1      | individuals | true     | 2014 | 8     | 6   | E4593N2522 | 500            | B1   | Fabio Perco      |

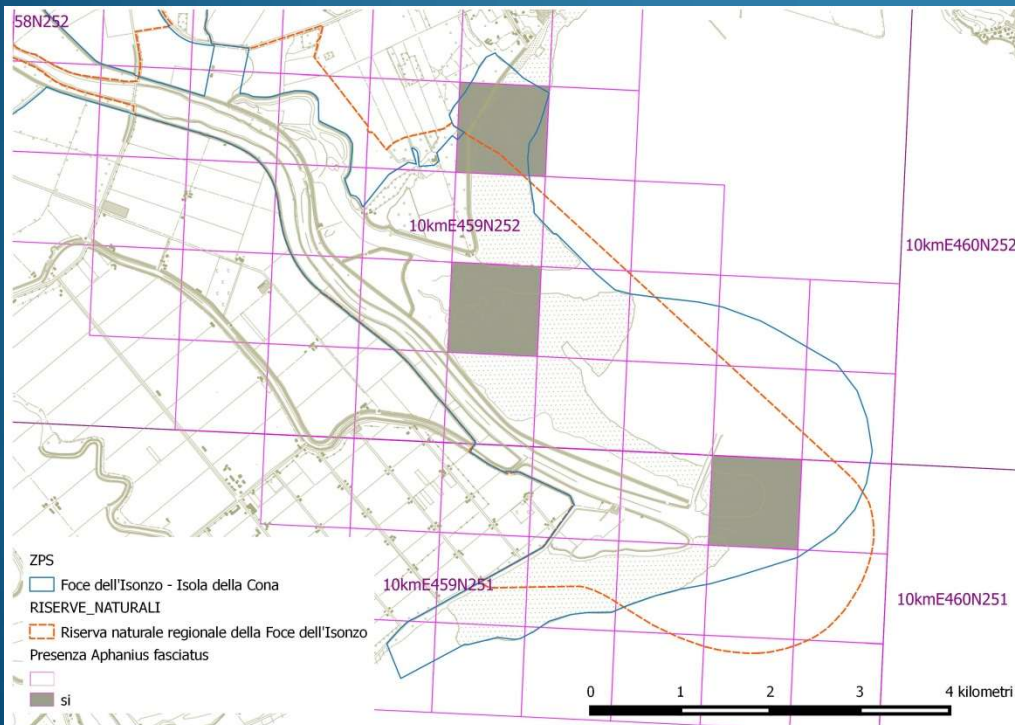
## Monitoring of species listed in Habitat Directive:

- Fun shell mussel *Pinna nobilis*



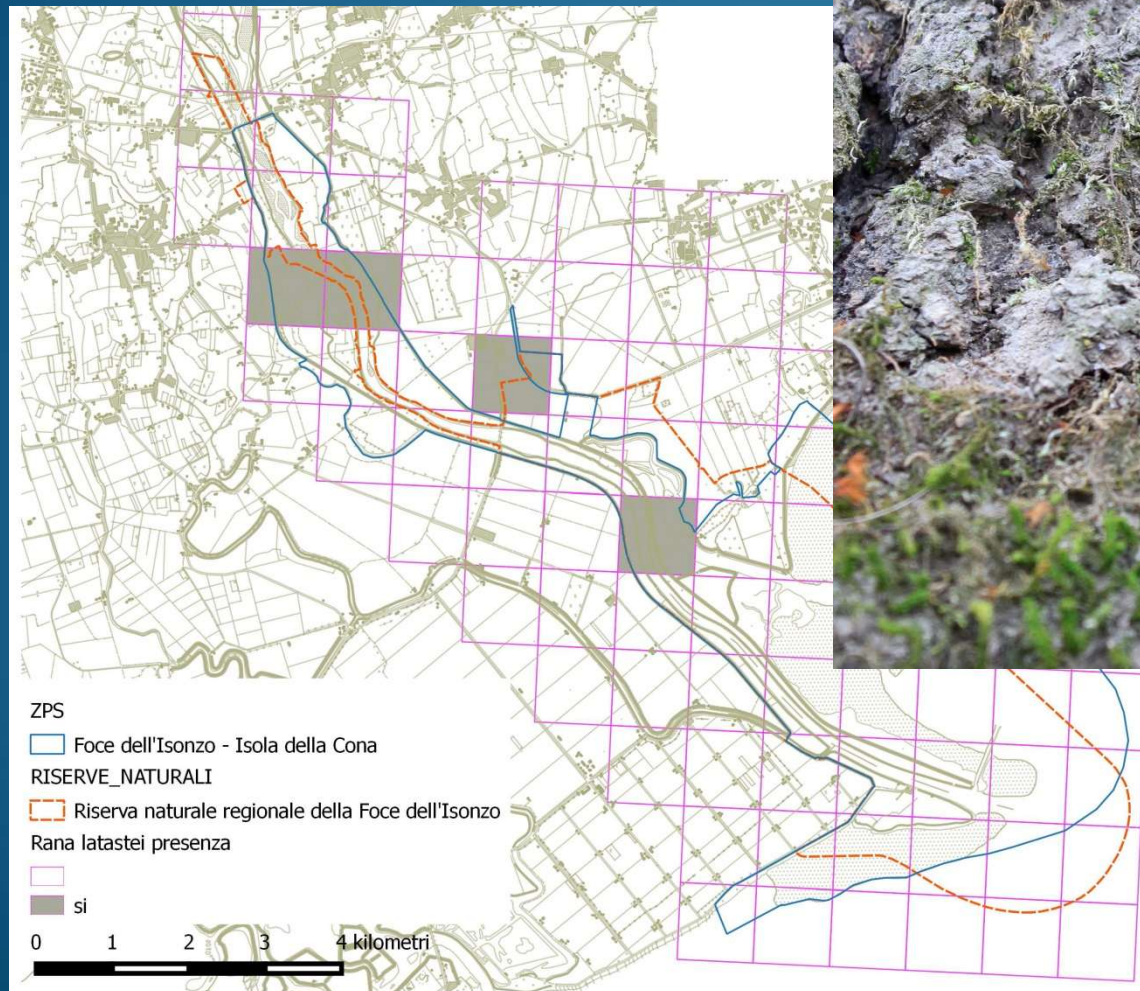
## Monitoring of species listed in Habitat Directive:

- Fish : *Aphanius fasciatus*, *Knipowitschia panizzae*, *Pomatoschistus canestrini*



## *Monitoring of species listed in Habitat Directive:*

- Amphibians and reptiles

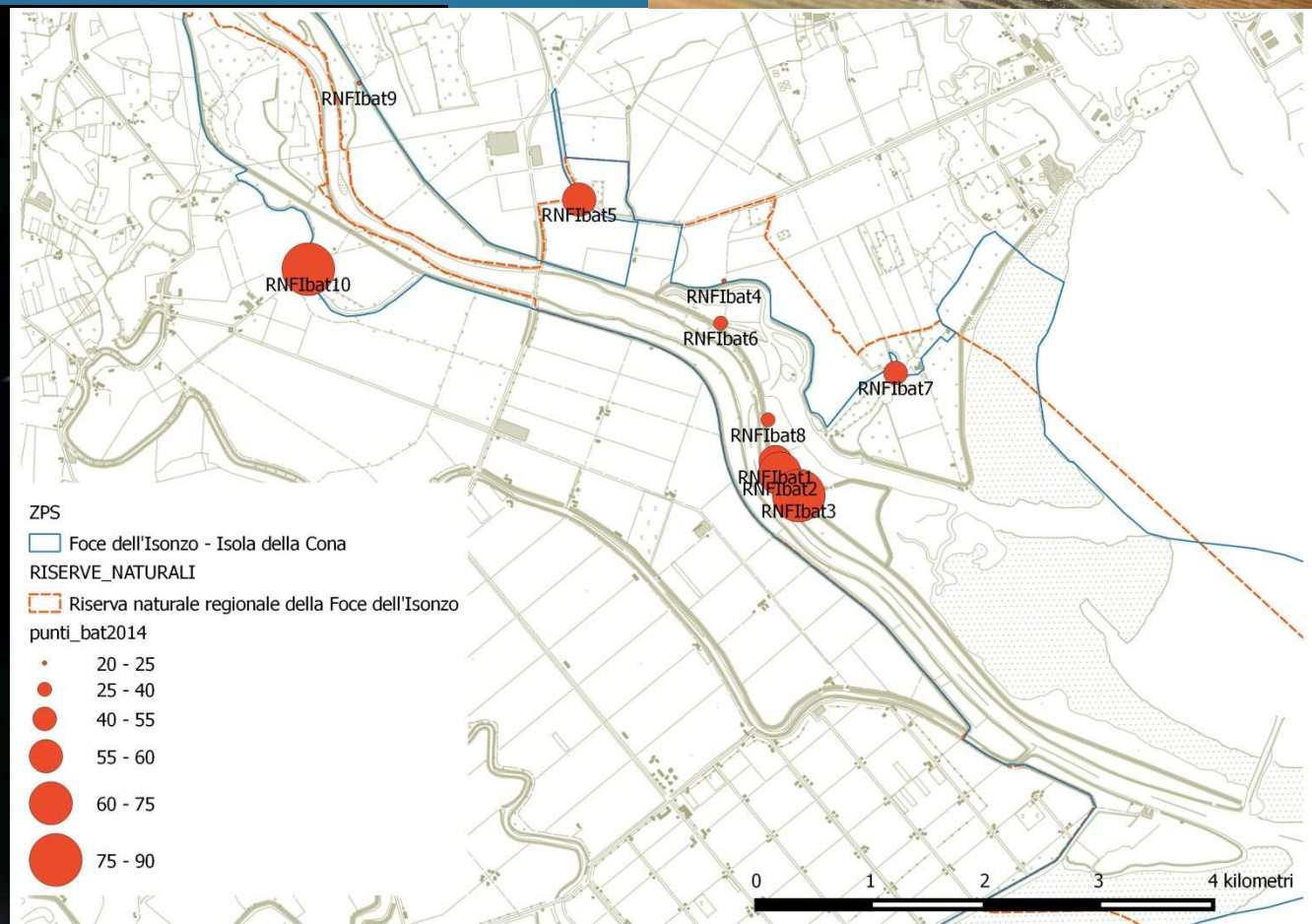


# Monitoring of species listed in Habitat Directive:

- Bats



Nuove specie per ZSC:  
*H. savii*  
*P. pygmaeuss*  
*Nyctalus. Sp*  
*Myotis. Sp*



## *Monitoring of species listed in Habitat Directive:*

- *Canis aureus*, *Felis silvestris*, *Mustela putorius*; *Lutra lutra*



## *Monitoring of species listed in Habitat Directive:*

- *Canis aureus*, *Felis silvestris*, *Mustela putorius*; *Lutra lutra*



## *Other activities:*

- Ring observation and recording

|                        | Numero anelli/collari letti |            |
|------------------------|-----------------------------|------------|
|                        | 2014                        | 2015       |
| Oca selvatica          | 5                           | 11         |
| Cigno reale            | 3                           | 2          |
| Airone bianco maggiore | 4                           | 1          |
| Spatola                | 11                          | 6          |
| Cormorano              | 1                           | 1          |
| Marangone dal ciuffo   | 4                           | 2          |
| Cavaliere d'Italia     | 7                           | 7          |
| Fratino                | 1                           | 1          |
| Combattente            | 1                           |            |
| Piovanello pancianera  | 8                           | 3          |
| Gabbiano comune        | 18                          | 24         |
| Gabbiano corallino     | 26                          | 22         |
| Gabbiano reale         | 1                           | 2          |
| Sterna comune          | 6                           | 24         |
| Beccapesci             | 66                          | 63         |
| <b>Totale</b>          | <b>172</b>                  | <b>169</b> |



## *Other activities:*

- Cooperation with different University



## Other activities:

- Cooperation with different University

Turk. J. Fish. & Aquat. Sci. 20(4), xx-xx  
[http://doi.org/10.4194/1303-2712-v20\\_4\\_04](http://doi.org/10.4194/1303-2712-v20_4_04)

EARLY VIEW  
RESEARCH PAPER

 Turkish Journal of  
**FISHERIES** and  
**AQUATIC SCIENCES**

### Distribution and Biology of *Aphanius fasciatus* (Actinopterygii, Cyprinodontidae) in The Isonzo River Mouth (Friuli Venezia Giulia, Northeast Italy)

Marco Bertoli<sup>1</sup>, Piero G. Giulianini<sup>1</sup>, Jessica Chiti<sup>1</sup>, Matteo De Luca<sup>2</sup>, Paolo Pastorino<sup>1,3</sup>, Marino Prearo<sup>3</sup>, Elisabetta Pizzul<sup>1,\*</sup> 

<sup>1</sup>Life Science Department, University of Trieste, Via Giorgieri 10, 34127 Trieste, Italy.

<sup>2</sup>Natural Regional Reserve of the Isonzo River Mouth, Cona, 34079 Staranzano (Gorizia), Italy.

<sup>3</sup>Experimental Zooprofilactic Institute of Piedmont, Liguria and Valle d'Aosta, Via Bologna 148, 10154 Torino, Italy.



UNIVERSITÀ DEGLI STUDI DI TRIESTE

Corso di Laurea Magistrale in  
ECOLOGIA DEI CAMBIAMENTI GLOBALI

DIPARTIMENTO DI SCIENZE DELLA VITA

Investigations on the ecology and the biology of three  
species of gobies (Teleostei, Gobiidae) in the Natural  
Reserve of the Isonzo River Mouth (Friuli-Venezia Giulia,  
North-East Italy)

**Relatore:** Prof.ssa Elisabetta Pizzul

**Correlatore:** Dott. Marco Bertoli

**Correlatore:** Dott. Matteo De Luca

**Correlatore:** Prof. Piero Franzoi

**Studente:**

Irene Piccolo

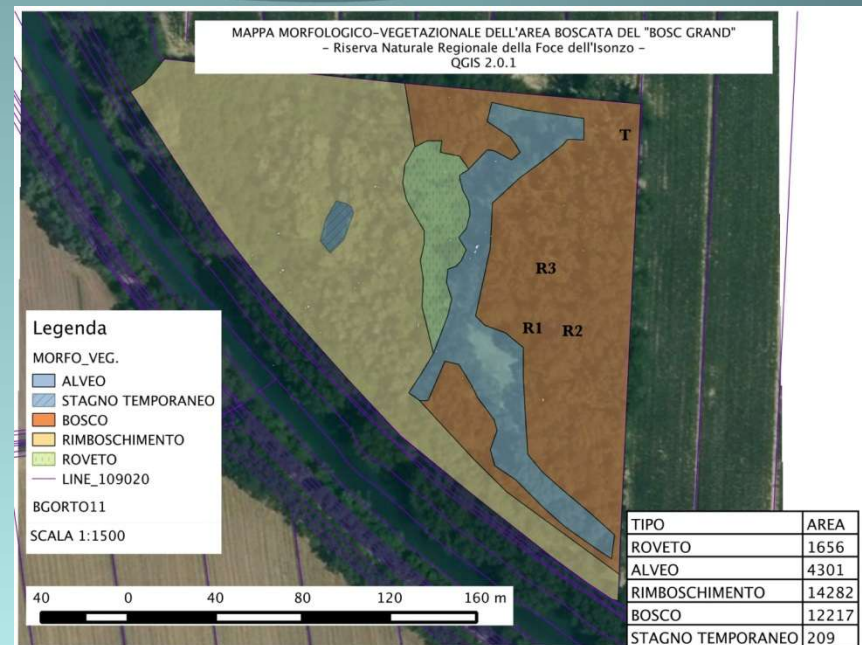
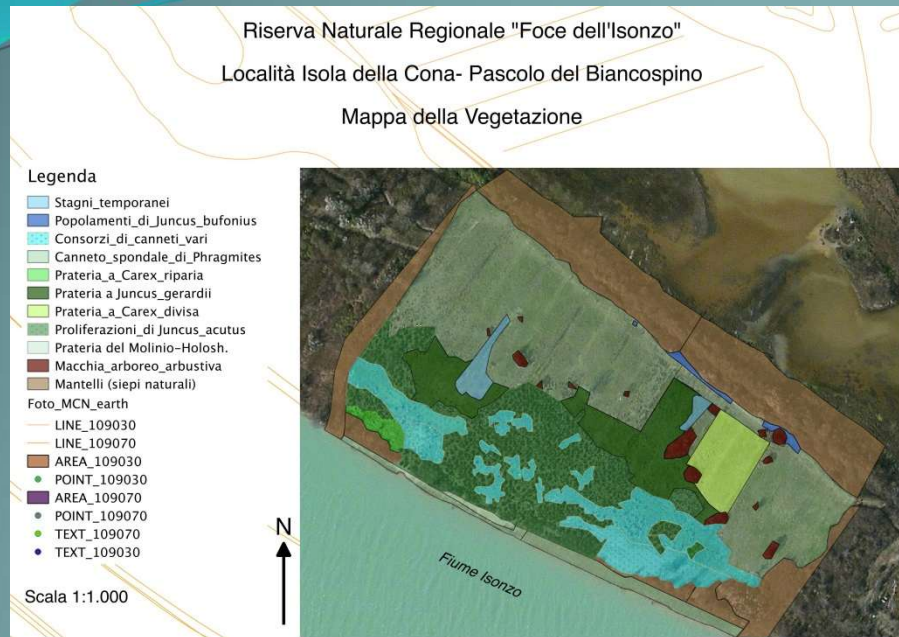
Anno Accademico 2019-2020

## Flora check-list and vegetation analysis

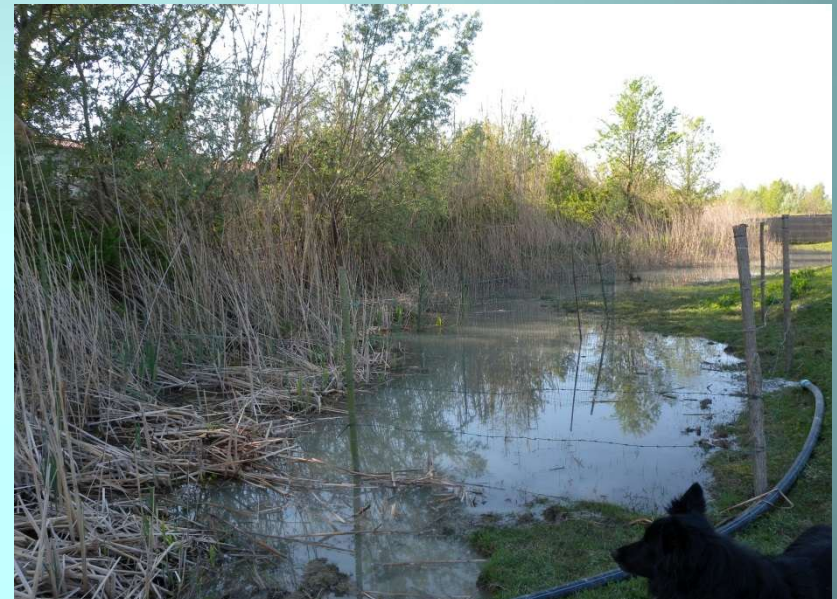
| Praterie umide ruderali dulcicaquicole ( <u>Potentillo-Polygonetalia</u> ) con megaforbie ( <u>Filipendulo-Convolutetia</u> ) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |                                        |                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------------------|-----------------------------------------------------------------------------------|
| Specie                                                                                                                        | Copertura                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   | Optimum Fitosociologico                | Foto                                                                              |
|                                                                                                                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 |                                        |                                                                                   |
| <i>Althaea officinalis</i>                                                                                                    | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | + | <u>Filipendulo-Convolutetia</u>        |  |
| <i>Eupatorium cannabinum</i>                                                                                                  | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | + | <u>Convolutetalia sepium</u>           |                                                                                   |
| <i>Aster novi-belgi</i>                                                                                                       | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3 | <u>Convolutetalia sepium</u>           |                                                                                   |
| <u><i>Calystegia sepium</i></u>                                                                                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Convolutetalia sepium</u>           |                                                                                   |
| <i>Lysimachia vulgaris</i>                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Filipendulo-Convolutetia</u>        |                                                                                   |
| <i>Cirsium canum</i>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Molinietalia caeruleae</u>          |                                                                                   |
| <i>Allium suaveolens</i>                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 | <u>Molinietalia caeruleae</u>          |                                                                                   |
| <i>Tetragonolobus maritimus</i>                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1 | <u>Molinietalia caeruleae</u>          |                                                                                   |
| <u><i>Linum maritimum</i></u>                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Molinio-Holoschoenion</u>           |                                                                                   |
| <i>Pulicaria dysenterica</i>                                                                                                  | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | + | <u>Potentillo-Polygonetalia</u>        |                                                                                   |
| <i>Festuca arundinacea/arundinacea</i>                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1 | <u>Potentillo-Polygonetalia</u>        |                                                                                   |
| <i>Plantago major/intermedia</i>                                                                                              | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Alchemilla-Ranunculion repentis</u> |                                                                                   |
| <i>Potentilla reptans</i>                                                                                                     | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Potentillion anserinae</u>          |                                                                                   |
| <i>Dactylis glomerata</i>                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Molinio-Arrhenatheretia</u>         |                                                                                   |
| <i>Juncus acutus/acutus</i>                                                                                                   | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Juncetalia maritimi</u>             |                                                                                   |
| <i>Juncus maritimus</i>                                                                                                       | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Juncetalia maritimi</u>             |                                                                                   |
| <i>Plantago cornuti</i>                                                                                                       | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Juncetalia maritimi</u>             |                                                                                   |
| <i>Sonchus maritimus</i>                                                                                                      | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Plantaginion crassifoliae</u>       |                                                                                   |
| <u><i>Elymus athericus</i></u>                                                                                                | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3 | <u>Brachypodietalia phaeocidis</u>     |                                                                                   |
| <i>Inula viscosa</i>                                                                                                          | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | + | <u>Lygeo-Stipetia</u>                  |                                                                                   |
| <i>Phragmites australis</i>                                                                                                   | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1 | <u>Phragmito-Magnocaricetia</u>        |                                                                                   |
| <u><i>Peucedanum venetum</i></u>                                                                                              | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   | <u>Geranion sanguinei</u>              |                                                                                   |
| <i>Amorpha fruticosa</i>                                                                                                      | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | + | <u>Salicion incanae</u>                |                                                                                   |
| <i>Aster squamatus</i>                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Scellarietia mediae</u>             |                                                                                   |
| <u><i>Equisetum ramosissimum</i></u>                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Epilobion fleischeri</u>            |                                                                                   |
| <u><i>Prenanthes purpurea</i></u>                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Fagetalia purpureae</u>             |                                                                                   |
| <i>Prunus spinosa/spinosa plantule</i>                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | + | <u>Prunetalia spinosae</u>             |                                                                                   |
| Commento                                                                                                                      | Praterie umide delle superfici più elevate e dissolate, <u>un tempo fortemente invase</u> da <i>Amorpha fruticosa</i> , specie che il pascolo bovino degli anni scorsi ha quasi completamente eliminato, ma sempre latente in zona. Le specie prevalenti sono quelle delle praterie umide di megaforbie ( <u>Filipendulo-Convolutetia</u> ), dei prati umidi acquadulcicoli ( <u>Molinietalia caeruleae</u> ) e dei prati umidi ruderali ( <u>Potentillo-Polygonetalia</u> ). Sempre presente (più o meno abbondantemente) <i>Phragmites australis</i> , a segnalare la natura comunque molto umida del terreno, mentre la limitata penetrazione di specie alofile ( <i>Juncus</i> sp.pl, <i>Plantago cornuti</i> , ecc.) è spiegata dalla dominanza di tali specie su superfici limitrofe più basse. |   |                                        |                                                                                   |
| Manuale Habitat FVG                                                                                                           | Codice habitat: OB4<br>Denominazione: Vegetazioni litanose lungo i corsi d'acqua<br>Sintassonomia: <u>Convolutetalia sepium</u> R. Tx, 1950 em. Mucina 1993<br>Habitat N2000: 6430 - Orti igrofili ad alte erbe pianiziali e <u>dei piani montano ed alpino</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |                                        |                                                                                   |
| Specie rilevanti                                                                                                              | <i>Allium suaveolens</i> , <i>Cirsium canum</i> , <i>Plantago cornuti</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |                                        |                                                                                   |

[illegible]

# Habitats maps for management purpose



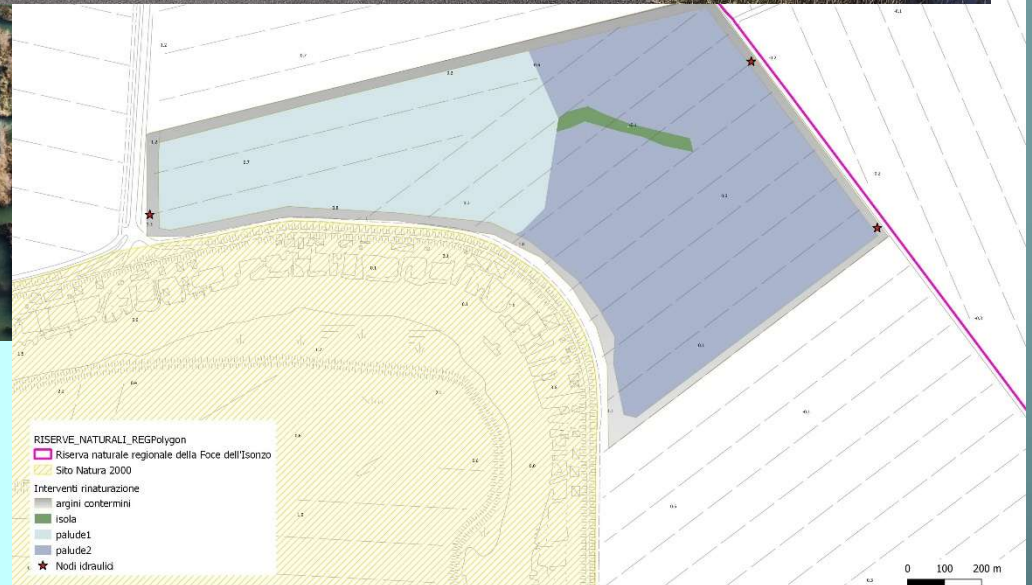
## Permanent areas in woodland and marshes



# Management



## Management: new restoration area



## Management: freshwater by pass

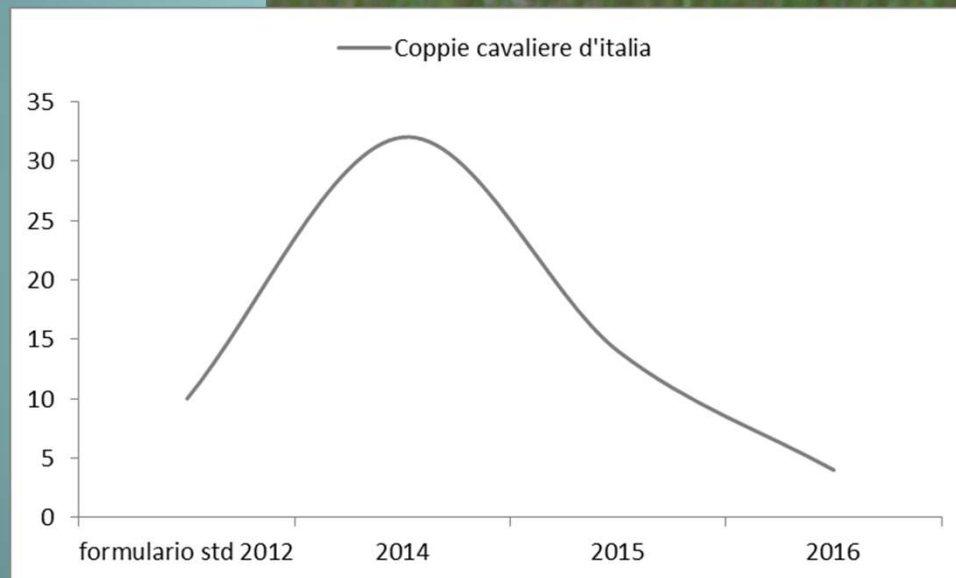
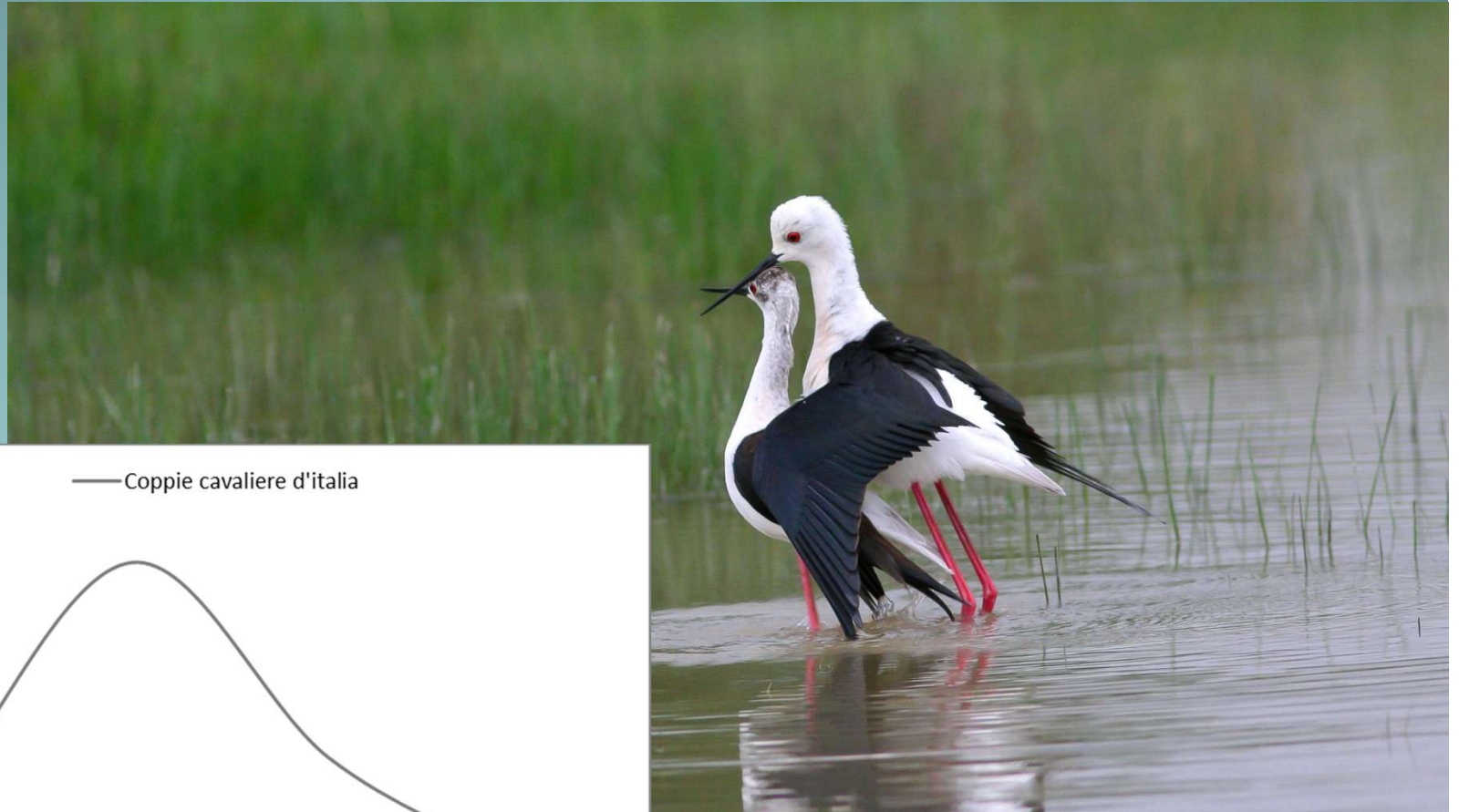


## Management: cooperation with local farms



## Actions for some species

*Es. Himantopus himantopus*



# Actions for some species

*Es. Himantopus himantopus*



# Actions for some species

*Es. Himantopus himantopus*



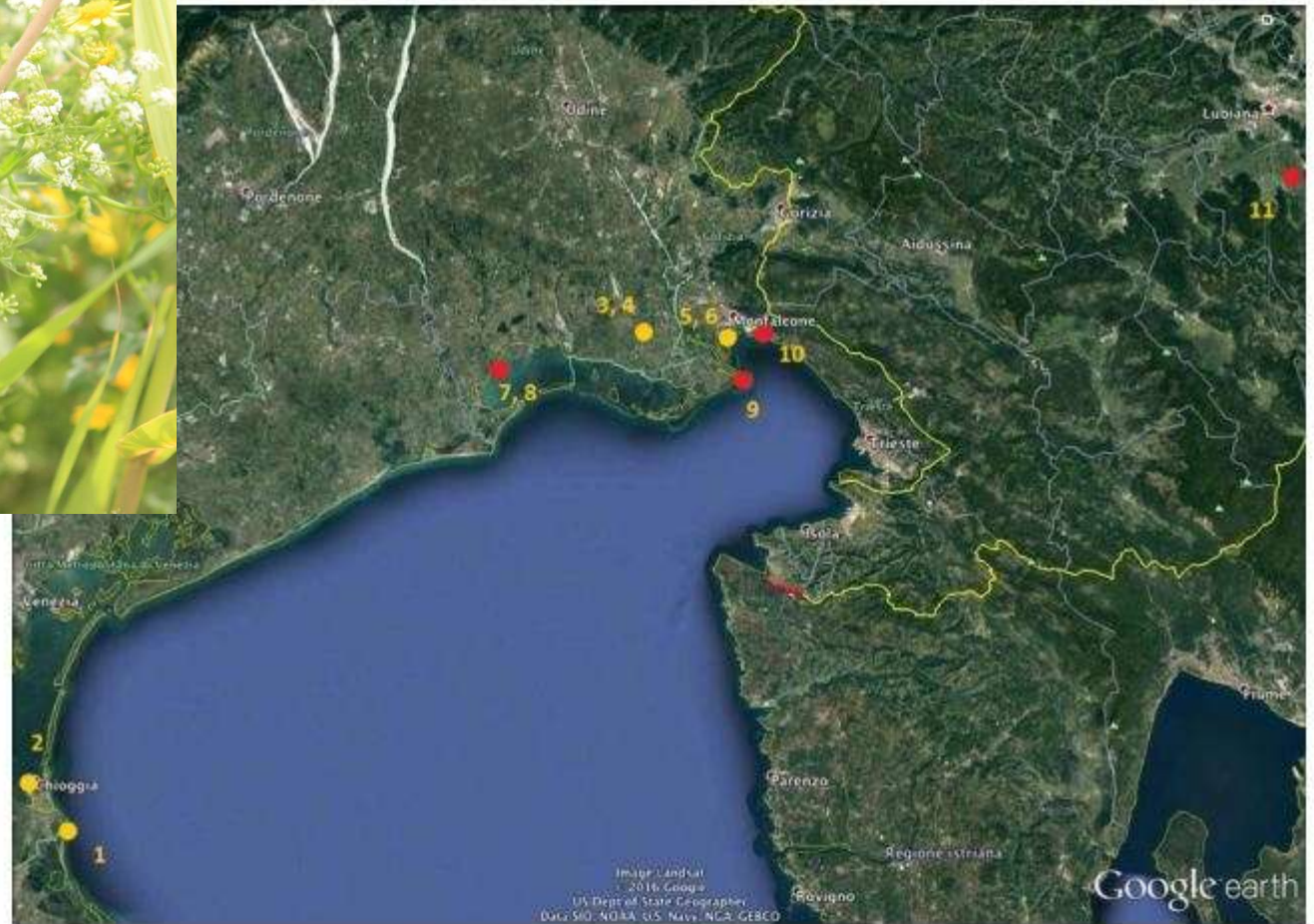
# Actions for some species

*Es. Himantopus himantopus*



## Actions for some species

### *Zeuneriana marmorata*



#### Localities of *Zeuneriana marmorata*

Historical localities 1. Mouth of the Adige (Kleukers et al. 1997). 2. Chioggia (Brunner von Wattenwyl 1882). 3. Aquileia Giordani Soika 1949; Kleukers et al. 1997). 4. Terzo d'Aquileia (Kleukers et al. 1997). 5. Monfalcone (Kleukers et al. 1997). 6. Bistrigna (Kleukers et al. 1997).  
Current localities 7. Cormor River- Rio Muzzanella. 8. Delta of the Stella. 9. Mouth of the Isonzo. 10. Lisert, Monfalcone (Kleukers et al. 1997). 11. Ljubljansko barje (Gomboc & Šegula 2005).

# Actions for some species

## *Zeuneriana marmorata*

### Adriatic Marbled Bush-Cricket (*Zeuneriana marmorata*)

A National Action Plan for Italy 2016-2022

Edited by Axel Hochkirch, Francesca Tami, Yannick Fassin, Carlo Guzzon, Pierpaolo Merluzzi & Paul Tout



### Actions' detail sheets

| Actions                                                                                                              | Who                                                 | When          | How                        | Budget (€)                     | Indicator of success                                           |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------|----------------------------|--------------------------------|----------------------------------------------------------------|
| <b>Goal 1: Habitat management</b>                                                                                    |                                                     |               |                            |                                |                                                                |
| <b>OBJECTIVE 1.1 HABITAT PRESERVATION AND IMPROVEMENT</b>                                                            |                                                     |               |                            |                                |                                                                |
| 1.1.1 Facilitate the protection of the habitat in the Lisert area as a "Biotope"                                     | Region, Monfalcone Municipality, S. Saffer, P. Tout | 2018          |                            | NA                             | Lisert wetland is "Biotope"                                    |
| 1.1.2 Identify land owners in Lisert area                                                                            | S. Saffer, P. Tout                                  | End 2017      | Land Register, interviews  | NA                             | List of land owners                                            |
| 1.1.3 Explore possibilities to close sluice(s) in the Lisert area to increase water level and facilitate restoration | SBIC                                                | 2017          | Dialogues with authorities | Staff time                     | Solution presented by 2017 to close sluice(s) by 2020          |
| 1.1.4 Monitor shrub development in Lisert area to check if shrub removal has to be done                              | SBIC                                                | yearly report | Field surveys              | Staff time                     | Yearly short report (or map), first scrub invasion map in 2017 |
| 1.1.5 Prevent the area Spigola from grazing by putting fences                                                        | SBIC                                                | End 2017      | Field                      | Staff time, 1,000 for material | Fence built                                                    |
| 1.1.6 Ensure the inclusion of                                                                                        | Region                                              | 2017          |                            | Staff time                     | Management                                                     |

## Actions for some species

*Zeuneriana marmorata*



## Actions for some species

*Zerynthia polyxena*



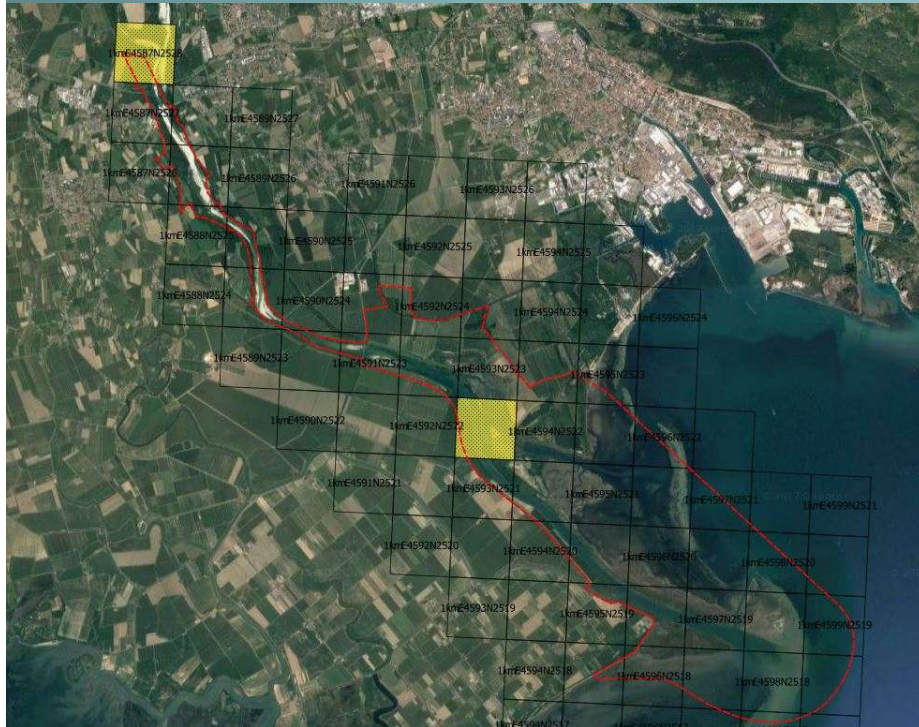
## **Actions for some species**

*Zerynthia polyxena* (*Aristolochia rotunda*)

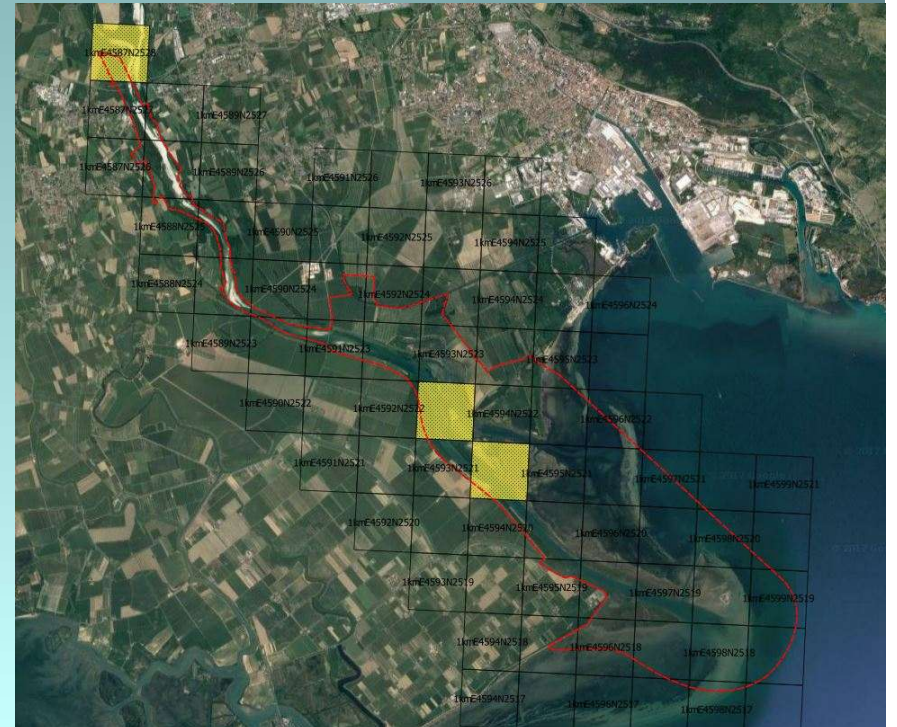


## Actions for some species

*Zerynthia polyxena*



**Ante 2016**



**Post 2016**

## **Actions for some habitats of species**

### **Restoring reedbeds**

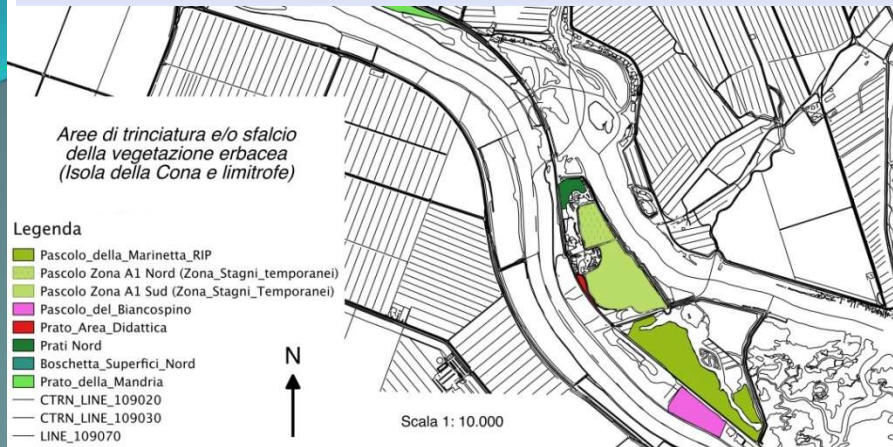


## Actions for some habitats of species

*Diversification of flood bed vegetation through  
Horses grazing*

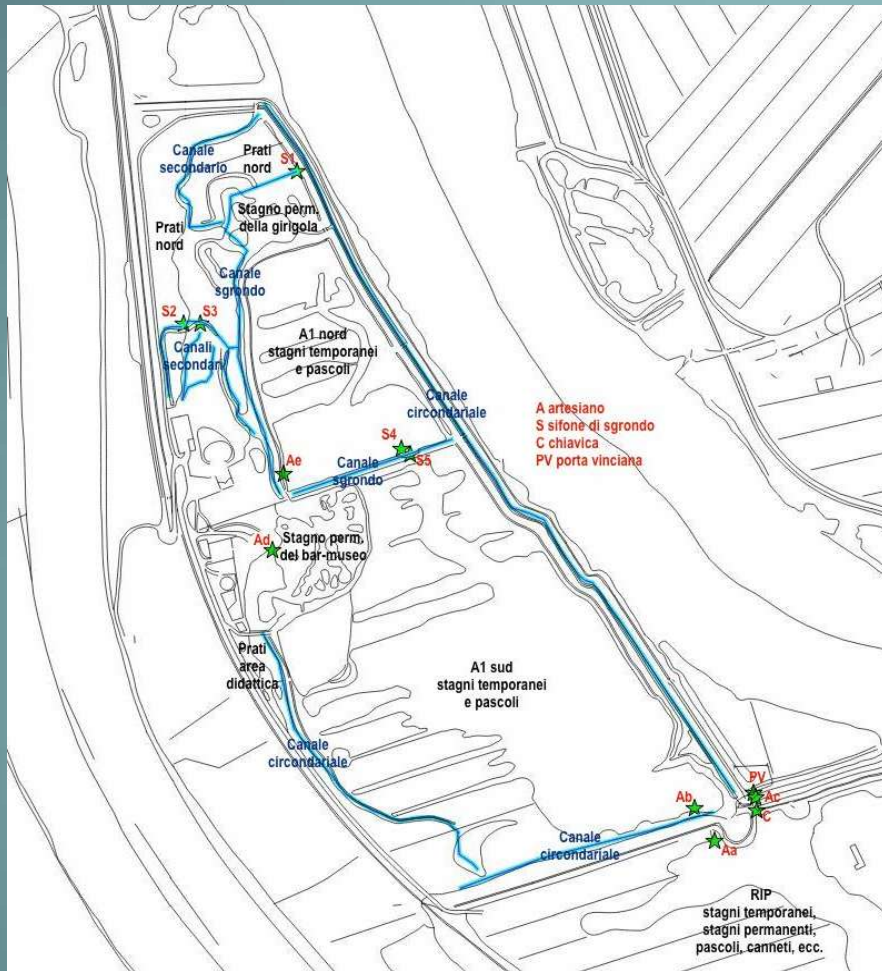


# Management of meadows



- Grazing
- Mowing

## Management of water level: flooding and draining.



## Stakeholders....



## Stakeholders....



**Stakeholders....**



## Stakeholders....



## Stakeholders....



## Stakeholders....



# Communication



Riserva naturale regionale Foce dell'Isonzo - Isola della Cona

Pubblicato da Tina Klanjšček · 23 luglio 2020 ·

Ritorniamo alla #Natura! Dal Coordinamento aree naturali protette della Regione Friuli Venezia Giulia nasce l'idea di realizzare dei contenuti promozionali per pubblicizzare e rilanciare i #parchi e le #riserve regionali. Tra queste vi è anche la Riserva naturale regionale Foce dell'Isonzo - Isola della Cona, nota in tutta Italia per la straordinaria #biodiversità che ospita, grazie al suo mosaico di praterie, boschi e acque dolci e salate. Un #gioiello da visitare in tutte le stagioni. A

Italia non finisce mai  
este e ... HD

UNA STORIA DA CANTARE  
QUESTA SERA ORE 21:25



12.821  
Persone raggiunte

970  
Interazioni

Metti in evidenza il post



**Thank you!**