## Interactive model wetland

To increase community engagement in the restoration initiatives and to raise stakeholders awareness on the benefits provided by functional wetlands, an interactive virtual model wetland was developed, using real data and maps from Garla Mare area.

The "model wetland, demonstrates the functions of a natural floodplain system and the impact of river embankment to the wetlands and river floodplain.

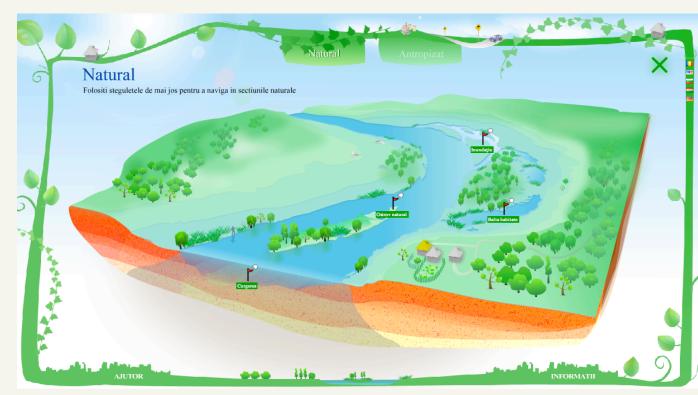
The model wetland will be available in Romanian, English, Bulgarian, Hungarian and german languages on multimedia DVD and online.





### **Vision**

Natural processes providing benefits and services for nature and people are maintained and enhanced along the Lower Danube Green Corridor.





#### Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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Nature Restoration

# Gârla Mare

New perspectives for the Danube river floodplain resilience and livelihoods





# 5 million m<sup>3</sup>

IS THE STORAGE
CAPACITY OF
GÂRLA MARE
WETLAND IF
RECONNECTED THE
DANUBE RIVER

# **Reconnecting the lifeline**

Garla Mare Fish farm was selected to demonstrate the benefits of reconnecting former/transformed wetlands back to the natural flood pulse of the Danube, to enhance the benefits provided to nature and local communities.

Gârla Mare model site is one component of the project "Europe's Lifeline - Reconnecting the Danube and its People,, within the framework of the TCCC-WWF global partnership.

The selection of the site was preceded by a "Scoping Study,, and a "Restoration Plan, to assess the potential areas to be reconnected to the Danube based on a set the criteria including nature conservation priorities, stakeholders involvement and interest, flood risk mitigation, etc.

## Gârla Mare Natura 2000 site

The area is important during wintering for *Phalacrocorax pygmeus*, *Aythya nyroca* and *Aythya ferina*, during migration period is important for Ph. pygmeus and Ph. carbo. Gruia –Gârla Mare area hosts 19 birds species protected under Birds Directive, 89 birds species protected under Bonn Convention and 6 birds species globally endangered.

# Historical condition, present situation and future opportunities

The natural connection to the Danube of Garla Mare marsh has been cut off by dykes and the area has been turned into fish breeding nursery and fishing ponds (mostly abandoned) which are to the most supplied with water from springs at the terrace front.

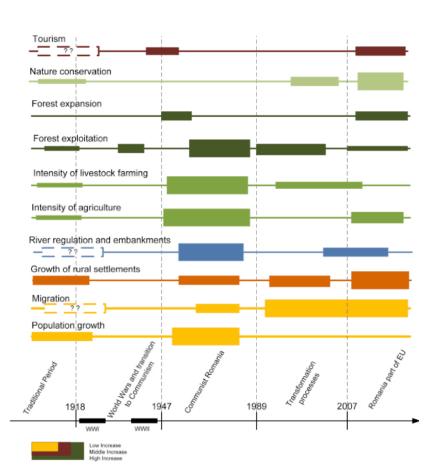
This water though, faces also the problem of pollution, mainly due to ad-hoc landfills and unsustainable waste management in the whole area. The embanked areas, especially some which are deserted, should be reconnected to the Danube by dyke removal.

A natural hydrologic regime should be reintroduced, as local vegetation already develops and wildlife repopulates deserted ponds.

These areas also show a great potential for ecological restoration and need urgent action, apart from the required morphologic changes for the reconnection and the removal of pollution sources from agriculture and waste management.

By restoring the connectivity with the natural flood pulse of the river, Garla Mare wetland system will have increased resilience and improved functions.

Comparing landscape historical conditions with present ones helped identifying the restoration objectives for the area. A feasibility study was developed to assess in more details the technical solutions to reconnect the site again to the Danube River.



#### Our approach

stimulates the development of both ecology and economy through win-win situations

consider the existing natural features and climate changes projections

includes in the solutions the investments done so far in the area

involve stakeholders in the final design through Sketch Match method

add new values through combining functional landscape

take into account the future management of the area and implementation success

#### Leads to

re-connection to natural flooding and water circulation through breaches in the existing diyke a new river channel for use of nature and aquaculture dyke consolidation for protection during volumes >8,000 m<sup>3</sup>/s

high and medium floods storage capacity

water replenishment in the site a freshwater buffer area for fish farm and other usage during arid summers

increased areas of open water depending on the Danube water levels

more diverse habitats for species more available feeding and breeding habitat for species reduce cormorants - fish farmers conflicts

opportunities for new sustainable economic activities in the area

# Re-connection of Gârla Mare marsh to the Danube flood pulse

