

# PRESENTATION DOCUMENT

**SYNDICAT MIXTE DES MARAIS DE SACY  
EXPERIMENT – WATER BUFFALOES GRAZING PROJECT**



**SYNDICAT MIXTE DES  
MARAIS DE SACY**



## 1. Project

Afforestation is one of the main problems leading to the Marsh drying up and loss of its patrimonial character (peat mineralization, loss of natural habitats...). This threat comes from two main causes:

- ❖ Marsh drainage lowering the saturation of water in the soil. Syndicat Mixte des Marais de Sacy aim to carry out a management plan answering this problem by installing dams and giving advices to marshes owners. The goal of those actions is to higher the marsh surface piezometry. A high piézométry should reduce the possibility of afforestation. This is a long term issue.
- ❖ The lack of maintenance of some areas due to different reasons (tough access, huge area to maintain...) Solutions are described under this paragraph.

Lots of works has been done to fight against marsh afforestation, it consists on deforesting and reopening areas (Mowing, grinding). Most of them have been done through Natura 2000 contracts. Following those actions, Syndicat Mixte des Marais de Sacy lead a research to find the best way to maintain open those areas.

### ***Mowing and/or Grazing; Which distribution in Sacy Marsh ?***

- Mowing has two advantages: Short action time on site and better control of parameters (date, frequency...). However, mowing is really complicated in some places because of low bearing capacity, flooding or complicated vegetation enhancement. Special engines can be used in low bearing capacity zone but the costs of those works are really high.  
Some marshes owners mow areas but all the vegetation stays on the ground after being cut. That brings more nutrients to the soil and, in a long term damage the natural habitats. That's why it's important to evacuate mowed vegetation after being cut, but this is a really hard task for marshes owners (money and time)

**Mowing should be prioritized in high bearing capacity areas. A valorization objective has to determine before. Two properties are mowed each year or each two years.**

- Extensive Grazing is a way to maintain or even to restore wetlands. Its advantages are to have a lower cost, to be less brutal, to make more habitat heterogeneity, and to adapt on almost all the situations (Wet conditions, low bearing capacity...).

**Extensive grazing will be prioritized on many Sacy marsh properties.**

## *Which animal can we use?*

Different kinds of animals were considered:

- Camargue Cattle are already on Sacy Marsh (Property of Conseil Général de l'Oise). This cow is adapted to wetlands; it's a rustic specie which is not scared by really wet conditions. However, those cows are aggressive; it needs strong fences with a high cost to keep them. Moving those animals from one place to another is a complicated task since it has to be done riding a horse. This specie is hard to handle. Those are the reasons why we cannot consider installing Camargue cattle in different places of the marsh.
- Camargue Horses are already on the Marsh (Property of Conseil Général de l'Oise). It is adapted to wet conditions and can be kept with a simple electric fence. But, horses don't maintain the area the same way cows do (eat different vegetation in a different amount). Horses are more used as additional animal. Therefore horses were not chosen.
- Other cow species were considered such as Highland cattle, but according to the experience of private owners in the marsh, this specie feet to wetland with a high bearing capacity and with a low humidity level (diseases, loss of animals...).  
Bretonne pie noir is a specie from the French region of Britain. It is used in Marais de la Souche (near Laon, France). However in this area, those cows graze the wetland only half of the year when the marsh is without water on the ground. With those two species, maintenance can be done only in low wet conditions, which doesn't allow us to consider to graze most of Sacy Marsh.

Therefore, the ideal specie must be rustic, easy to handle, with low cost and fences easy to set up, low veterinary monitoring and which can graze really wet areas and/or low bearing capacity zone. A bibliographic research of experiences and a discussion with M Muller (Pôle Relais Tourbière) led to one specie: Water Buffalo (*Bubalus Bubalis*). It complete all the parameters. The table on the next page show all the advantages and disadvantages of all cows and horses species.

Tableau 1 : Comparaison between horses and cows species in order to graze Sacy Marsh.

| Family  | Specie             | Advantages  | Disadvantages   |
|---------|--------------------|---|---|
| Equidae | Camargue           | <ul style="list-style-type: none"> <li>* Rustic (few disease and low veterinary monitoring),</li> <li>* Easy to handle,</li> <li>* Simple electric fences,</li> <li>* Medium ability to go on particularly wet sites</li> </ul> | <ul style="list-style-type: none"> <li>* Horses are a complement of cows.</li> </ul>  |
| Bovidae | Camargue           | <ul style="list-style-type: none"> <li>* Rustic (few disease and low veterinary monitoring),</li> <li>* Good ability to go on particularly wet sites</li> </ul>   | <ul style="list-style-type: none"> <li>* Hard to handle (by horse)</li> <li>* Big fences with a high cost</li> </ul>                                  |
|         | Highland Cattle    | <ul style="list-style-type: none"> <li>* Quite Rustic (can develop some diseases),</li> <li>* Easy to handle,</li> <li>* Simple fences,</li> </ul>  | <ul style="list-style-type: none"> <li>* Low ability to go on particularly wet sites</li> <li>* Unadapt to really wet conditions</li> </ul>           |
|         | Bretonne pie noire | <ul style="list-style-type: none"> <li>* Rustic (few disease and low veterinary monitoring),</li> <li>* Easy to handle,</li> <li>* Clôture simple (mobile),</li> </ul>  | <ul style="list-style-type: none"> <li>* Low ability to go on particularly wet sites</li> <li>* Unadapt to really wet conditions</li> </ul>           |
|         | Water Buffalo      | <ul style="list-style-type: none"> <li>* Rustic (few disease and low veterinary monitoring),</li> <li>* Easy to handle,</li> <li>* Simple fences,</li> <li>* Good ability to go particularly wet sites</li> </ul>               | <ul style="list-style-type: none"> <li>* Fences must be installed everywhere, a canal is not a natural barrier because it can swim easily.</li> </ul> |



Camargue Cattle



Camargue Horses



Highland Cattle



Bretonne pie noir Cattle

Water buffalo is a kind and a rustic animal. It can be kept with a simple electric fence which can be installed and removed fast. This parameter is important to respect owner's activities (hunting, fishing...) and to keep a fair budget. Moreover, this animal has the ability to go on particularly wet sites, therefore it can maintain more surface.

The use of Water buffalo for natural habitat and landscape maintenance is developed in different countries of Europe. In 2010 in Germany, more than 2100 buffaloes are kept by 90 breeders; buffaloes are also used in Spain, England, Greece or Hungary. Scientific articles considering Water buffalo grazing on natural areas were published (Rostock University, Cambridge...).

**Following this reflection, Syndicat Mixte des Marais de Sacy proceeded to an experiment of Water Buffalo grazing on Sacy Marsh.**



Water Buffaloes in Britain Region (Guern, France)

### ***The technical Part***

First of all, buffaloes have to be found close to Sacy Marsh. Syndicat Mixte des Marais de Sacy found some breeders in the French Region of Britain. After visiting the breeding farm, the institution decided to buy 3 buffaloes to launch an experiment. Those buffaloes were easy to handle and good monitored by their owner.

The aim is to experiment Water buffalo grazing with this 3 animals and to monitor the scientific and technical changes of the herd on the marsh. The experiment takes place on different natural habitat (Wet grazed meadows characterized by moor grass, formation of *Cladium mariscus*, rush and sedge meadows...) and different moisture content. Five sites were chosen to make the experiment, various sizes of pasture are installed.

Different parameters were established before starting the experiment:

- ❖ Syndicat Mixte des Marais de Sacy bought 3 buffaloes acquired a breeder number and is legally responsible for the herd.
- ❖ A grazing calendar was made with Conservatoire d'Espaces Naturels to determine grazing periods and duration according to natural habitat and activities on lands. CEN Picardie monitors vegetation changes.
- ❖ A winter pasture was found in order to receive the buffaloes between November and March each year. Mostly because of hunting activities, water buffaloes cannot be kept on the marsh the whole year. Fodder will be also bought during winter period.
- ❖ Buffaloes monitoring will be made by two persons who are indemnified. Monitoring is important to prevent health issues, maintain animal's docility and to check fences.
- ❖ Fences materials have been bought by SMMS. This material is borrowed to owners. On the other hand, owners have to help installing fences (cutting grass and installing fences) and to maintain them (cutting grass).

## ***Estimated Budget***

Syndicat Mixte des Marais de Sacy, Conseil Général de l'Oise (local institution) and Agence de l'Eau Seine Normandie (Water Agency) are financing the project.

Initial investment consists of buying buffaloes, fences and transportation.

The operating budget will be presented each year to the partners. It will include fencing material, fodder, animal transporters rental, veterinary actions and the allowance for the two persons which monitor the buffaloes

After one year of experiment, an assessment will be made. If conclusions are negative, solutions may be found if possible.

If conclusions are positive, the herd could become bigger according to the big potential grazing area of Sacy Marsh.

Consequently, operating budget will change in the next years. Another investment budget could be presented in case other animals have to be bought (increase the herd faster or to avoid consanguinity).