

## The beginning of helophytes applications in bioengineering in Europe

### Havel –Berlin 1990-2008

**Position:** 13° 16' 58,81" W , 52° 28' 23,12" S

During the time of the separation of the city of Berlin in the western and eastern parts the Havel River, located in the south western part of the city, was a very important navigation waterway for the supply of all kind of goods. In addition, the Havel River had enormous value as a recreational area for the enclosed people of Berlin. The supply of drinking water was a very important issue for the city. Portions of the water supply came from the ground-filtered water of the Havel. Due to the frequent navigation by commercial shipping vessels, as well as sport boats and the impact of other recreational activities, the water was partially polluted. The reed communities that bordered the river banks acted as erosion protection and provided valuable habitat for many wetland species but eventually were decimated due to all of the negative impacts.

#### Objectives

It was important to slow and prevent the decline of the reed communities and protect what was remaining. Furthermore, it was an objective to regenerate the remaining stands by new cultivation, where possible. The administration started an extensive program and provided substantial financial support. In quite a number of particularly exposed banks, construction techniques were introduced that applied: Vegetation Pallets, Vegetation Mats, Plant Plugs, and Fiber Rolls designed by Lothar Bestmann.

### CONDITIONS BEFORE TREATMENTS

1990



## The beginning of helophytes applications in bioengineering in Europe

### Results in 2008

The variety of techniques applied to reestablish the reed and other aquatic plants have been altogether a success. One contributing factor that supported this development of was the reunification of East and West Germany. This brought with it a considerable relief of the human impacts on the River. It should be noted that all of the reestablished plantings had to be protected at least temporarily by palisades or stone dams in order to develop and become established.

### Conclusion

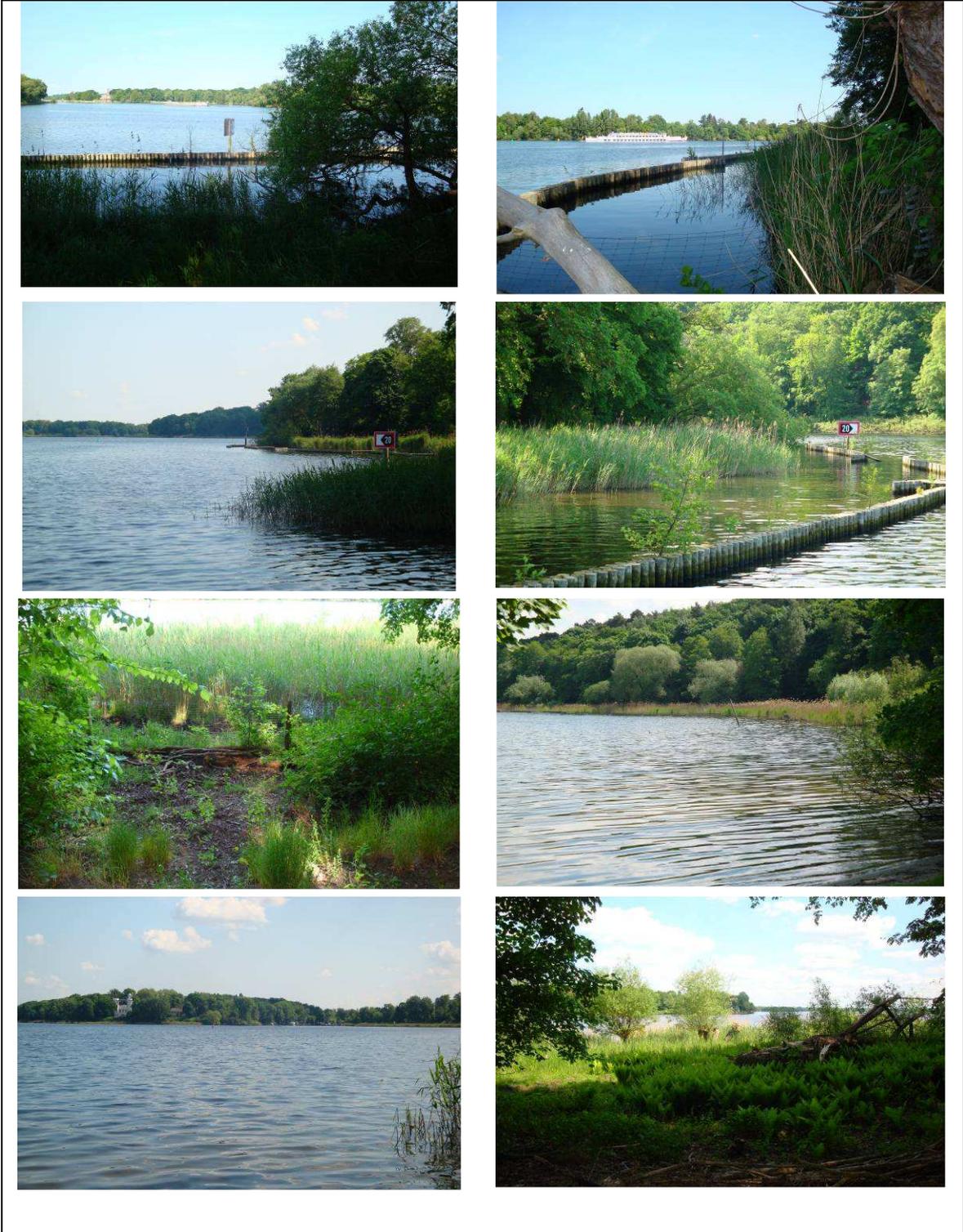
The frequently applied palisade walls constructed from wooden pilings appear as foreign elements in the landscape and are not considered to be aesthetic. The metabolism effect is strongly inhibited by the limited water exchange in localized areas. The water temperature will increase thus supporting the growth of algae and limiting the development of plants.

### CONDITIONS IN 2008

### 18 YEARS LATER



**The beginning of helophytes applications in bioengineering in Europe**



**The beginning of helophytes applications in bioengineering in Europe**

