Alf See 1990-2008

Position: 8°0´ 45.32“ W , 52°29´ 6.51“ S

Lake Alf was constructed as a storm flood retention pond designed to collect the flood waters caused by frequent flooding of the various watercourses north of the city of Bramsche.
In an otherwise flat landscape a dam was constructed approximately 5 m above NN, creating a lake with a permanent afflux and with controlled discharge. The lake extends approx. 1.5 km from north to south, with a width of approximately 1 km, resulting in a surface area of 220 ha.

Objectives

With an inclination of 1:3 the dam was very susceptible to erosion. Several attempts were made to stop the erosion with variety of synthetic fabrics and non woven material, but each failed. Following some innovative testing at the site, it was decided to protect the banks with “Vegetationsmatten” designed by Lothar Bestmann, and planted with *Phragmites australis*, *Typha angustifolia, Schoenoplectus lacustris* and others reed species.

CONDITIONS BEFORE TREATMENTS **1990/1991**

The beginning of helophytes applications in bioengineering in Europe

Results

Over the years a dense border of reed developed dominated by *Phragmites,* but including *Carex acutiformis, Carex gracilis, Carex spp* and other tall, emergent plants, particularly at the upper parts of the dam. The reed belt effectively protects the entire bank against erosion, creating a habitat of great diversity, as well. Sheep grazing, a potential problem, was carefully controlled by gates and locks.

Conclusion

The lake could have been better integrated into the landscape. Simply by creating bays, small islands and shallow water zones, the lake would be more attractive and of even greater ecological value. This could have easily been accomplished, even in consideration of the technical needs, such as storage capacity, water depth, etc.

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CONDITIONS ON MAY 2008.	**18 YEARS LATER**