The Association of the Communities around Sempachersee
History and Mission
History

• 1950 – 1990: Eutrophication due to overcrowded cattle population
• 1984: \([P] 200\ \text{mg/m}^3\); burgundy algae cause fishes to die
• 1984 foundation of the Association: start with pure \(O_2\)-aeration
• Since 1996 aeration with compressed air
• 2003 revised allocation of duties between Canton and Association
Our aim

[as established in the statutes of the Association]

• Dissolved P < 30 mg/m$^3$
• O$_2$ in whole water body $\geq$ 4 g/m$^3$
• Whitefish eggs with natural propagation
Measures

• **Internal measures**
  - Aeration of the deep water
  - Internal monitoring

• **External measures**
  - Reduction of fertilizer input
  - Diminution of cattle population
  - Technical measures on the soil
    (e.g. ploughing direction, sewing without prior ploughing)

→ farmers
Artificial Aeration

Belüftung Sempachersee

Sauerstoffeintrag [t]

Jahr


Pure O₂  Pure O₂ / Air  Compressed Air
Political organisation

**Delegates of the 13 member communities**

- Annual assembly: financial decisions, budget approval

**Managing Board**

- [5 members]
- 4 annual meetings;
- President (CEO) and CFO as managing directors

**Plant manager**

- Compressor monitoring
- Maintenance
Cooperation between Canton and Communities

- **Canton** Luzern deals with external measures:
  - Fertilizer reduction at farms
  - Diminution of cattle population
  - Technical measures to avoid P to be washed off
  - Monitoring (chemical analyses) of samples

- **Association** deals with internal measures and sampling
  - Aeration installation (compressor, raft)
  - Sampling at the influent creeks
  - Annual expenses: ~$ 100‘000
Typical influent creek with schematic sampler
Formation and information

• Compulsory formation of farmers
• Open air schoolroom for classes
• Periodic brochures
• Periodic public information
• Presence in media (local newspapers)