

Concept: swimming pond ±clear, less thread algae (since 2011)

Constantly supplied nutrients are absorbed and processed by the fastest-reproducing, light-consuming organisms in the water (suspended algae) and underwater plants. Suspended algae are kept short primarily by large water fleas (Daphnia). Accumulating Sediment is removed regularly.

Requirements for customer satisfaction

Nutrient replenishment must not exceed the reproductive capacity of daphnia and aquatic plants:

-) NO POISON (no, not even biological ones!)
-) adequate dimensions of the pond to accommodate the impact of bathers
 -) construction materials, filling water
-) no open anaerobic zones (removal of sediment if necessary), no open gravel or crushed stone areas (trap dirt that cannot be properly cleaned)
 -) nitrogen replenishment if necessary (growth of underwater plants)
 -) no continuous current, no filters (→ filamentous algae)
-) adequately dimensioned regeneration/planting zones (50/50).



Vergleich der biologischen Aktivität Freiwasser/Pflanzenzone 1
Comparison: biological activity open water/planting zone 1



Vergleich der biologischen Aktivität Freiwasser/Pflanzenzone 1
Comparison: biological activity open water vs. planting zone 1



Vergleich der biologischen Aktivität Freiwasser/Pflanzenzone 2
Comparison: biological activity open water/planting zone 2



Vergleich der biologischen Aktivität Freiwasser/Pflanzenzone 2
Comparison: biological activity open water/planting zone 2



Probable consequences of deviations from the concept

In biology, there is neither "100%" nor "0"!

Scenario: "No/too small planting zones"

Biological activity (sedimentation) of the system is reduced, which will/can have corresponding consequences.

Scenario: Unsuitable materials, unsuitable fill water (P, SO₄)

Continuous contamination by P, increased H₂S formation due to SO₄

Scenario: Gravel and crushed stone areas

inevitably serve as sediment traps; material becomes anaerobic after months, or at the latest after a few years, and P dissolves back (aeration hoses have not proven effective).

Scenario: Filter in a Swimming Pond

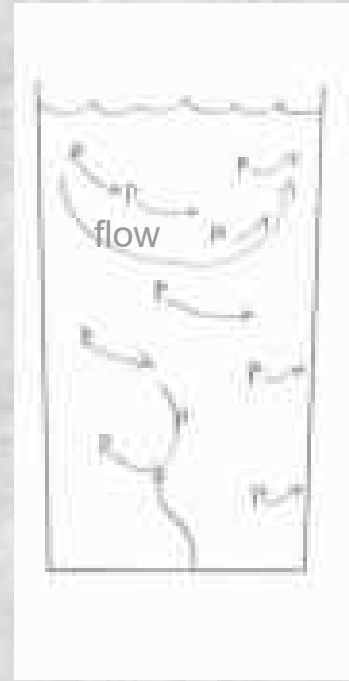
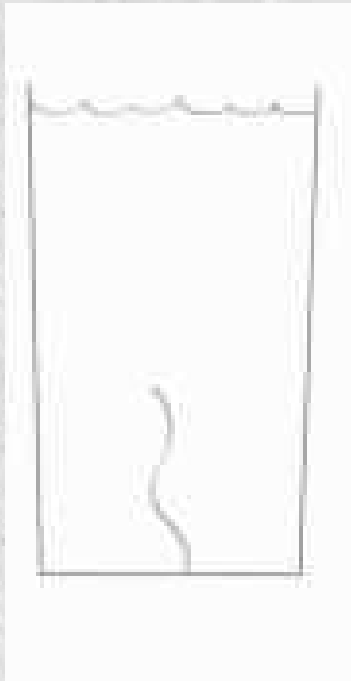
Current flow promotes filamentous algae; Daphnia do not survive the filter/pump passage.

»Swimming Pool is a completely different approach«



Konsequenzen bei Abweichungen vom Konzept

Strömung und Fadenalgen
Continuous flow and thread algae



Konsequenzen bei Abweichungen vom Konzept

"Algaecide" Scenario

Daphnia are extremely sensitive to various toxins (monitor organisms), their natural functions (clarification, sedimentation) are more or less disrupted, and the pond becomes dependent on the toxin. After adjustment, the dose must be increased or the toxin changed.

Separate chapter: Danger to swimmers

Nitrogen Scenario

N is inevitably lost from a swimming pond. With low to medium nitrate levels in the fill/refill water, underwater plants hardly grow and are initially overgrown by green algae. In the medium and long term, N deficiency inevitably poses a threat to blue-green algae.



Konsequenzen bei Abweichungen vom Konzept

Beläge von Blaualgen (korrekt: Cyanobacteria)

Coverings of bluegreen algae



Konsequenzen bei Abweichungen vom Konzept

Beläge von Blaualgen (korrekt: Cyanobacteria)

Coverings of bluegreen algae



Konsequenzen bei Abweichungen vom Konzept
auftreibende Blaualgen (korrekt: Cyanobacteria)
buoyant bluegreen algae

