

Notes on the use of a Sedi-filter in restoring a silted up pond

Sedi-filter has been used successfully to remove the sediment from a large pond in a semi-rural environment. On this occasion the weather was fairly warm and dry with light breezes. In periods of heavy rain or very cold weather the process will be slower. Different sediments will also give different results. In this example the sediment was a good mix of silt, sand, stones and vegetable matter that settled fairly quickly. In an environment with more sand, the Sedi-filter will settle much faster and pumping can take place every few hours rather than daily. In an environment with much fine silt, the process will need more time.

In the first phase 4 Sedi-filters were laid out on flat ground. The standard Sedi-filter fabric was in use.

On the first day each Sedi-filter was pumped to a filled height of about 1.20 metres of slurry at 30% solids. At the end of the day each Sedi-filter was left to drain overnight.

On the morning of day two each Sedi-filter was full to a height of about 0.5 metre of high % solids. Each Sedi-filter was then re-filled to a height of about 1.20 metres. As the Sedi-filter was already about 0.5 metres deep the pumping time was much reduced from day one.

On the morning of day three each Sedi-filter was full to a height of about 0.8 metre of high % solids. Each Sedi-filter was then re-filled to a height of about 1.20 metres. As the Sedi-filter was already about 0.8 metres deep the pumping time was shorter than the previous day.

On the morning of day four each Sedi-filter was full to a height of about 0.95 metre of high % solids. Each Sedi-filter was then re-filled to a height of about 1.20 metres. As the Sedi-filter was already about 0.95 metres deep the pumping time was shorter than the previous day.

On the morning of day five each Sedi-filter was full to a height of about 1.05 metre of high % solids. Each Sedi-filter was then re-filled to a height of about 1.2 metres. As the Sedi-filter was already about 0.95 metres deep the pumping time was hardly any time at all.

After a few weeks each Sedi-filter had dried out until the solids inside were about 0.9 to 1.0 metre deep. Therefore each Sedi-filter held about 200 cubic metres of solids. Whilst more solids can be squeezed into each Sedi-filter, this requires frequently pumping small amounts. If there is a significant cost involved in keeping the pumping equipment on site, it can be more cost effective to use more Sedi-filters and only filling each one to about 75% of its capacity. Filling the first 75% capacity takes about 3 days whilst the last 25% can take over a week longer.

In the example above the pumping equipment had to be kept on site because later more Sedi-filters were stacked on top of the original 4 as the site had very limited flat ground. Now the ground level is about 2 metres higher than it was and the Sedi-filters have become overgrown with grasses and bushes.

Adam Robbins and Peter McGuinness
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