



Water treatment and
remediation solutions.

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A global challenge

Nutrient load is a widespread problem which affects water bodies worldwide. It is a natural phenomenon which usually occurs over centuries, as water bodies fill with sediments.

Human activity accelerates this process, particularly via phosphorous and nitrogen inflows, which are the primary cause of undesirable changes to lake ecosystems. Excess phosphorous and nitrogen eventually lead to deterioration in the structure and function of a water body, such as the loss of a biodiverse aquatic community.

Excess nutrients can enter water bodies from external sources such as groundwater, the atmosphere and connecting waterways and can include both diffuse sources, such as surface run-off from the surrounding catchment and point sources such as septic tank effluents.

Following decades of nutrient pollution, lake sediments can act as sinks and store these nutrients, particularly phosphorus. However, under certain environmental conditions these sediments also become a nutrient source by releasing the phosphorus they contain into the overlying water column.

This can delay the recovery of lakes from nutrient pollution for decades, even following efforts to reduce external nutrient sources. The constant cycling of phosphorus from sediments to the overlying water column means that lakes can continue to suffer from the effects of nutrient pollution for many years unless the phosphorus release can be controlled.

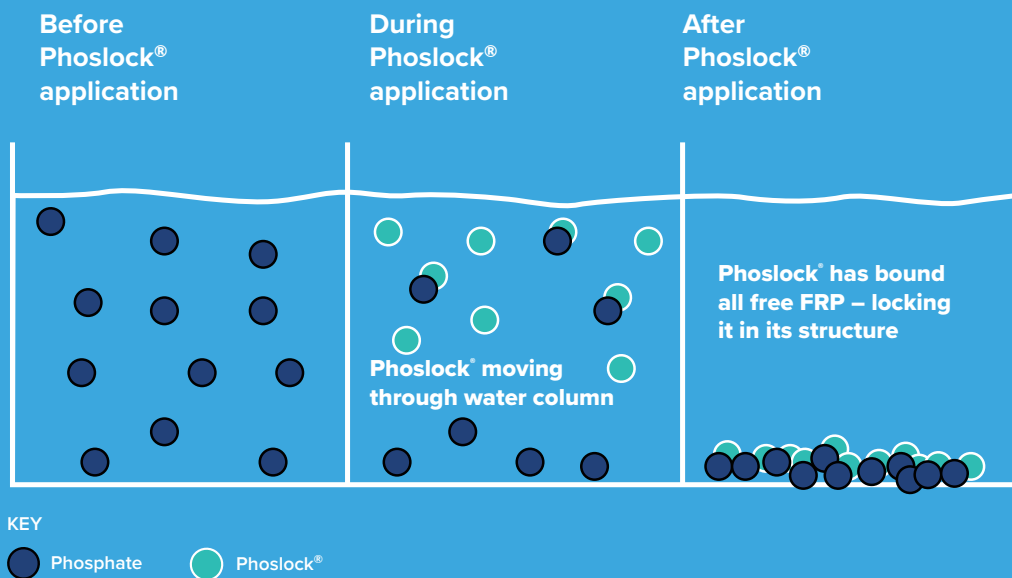
When nature needs a helping hand

One solution to help break the cycling of phosphorus within lakes is to use Phoslock®.

Phoslock is a lanthanum-modified bentonite. Its active ingredient, lanthanum, has a strong affinity to bind phosphate which is the soluble form of phosphorus.

The binding of lanthanum and phosphate forms an insoluble mineral, Rhabdophane, which does not release phosphate back into the water column once bound. Phoslock granules are applied by mixing with in-situ lake water to create a slurry, which is then sprayed over the water surface.

The slurry falls through the water column, binding phosphate as it sinks, before settling on the sediments, where Phoslock binds phosphate as it is released from the sediments until all lanthanum binding sites are saturated with phosphate.

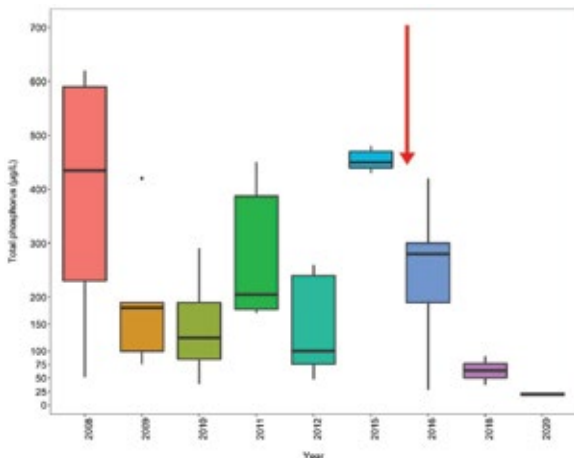


Phoslock binds the available FRP (filterable reactive phosphorus)

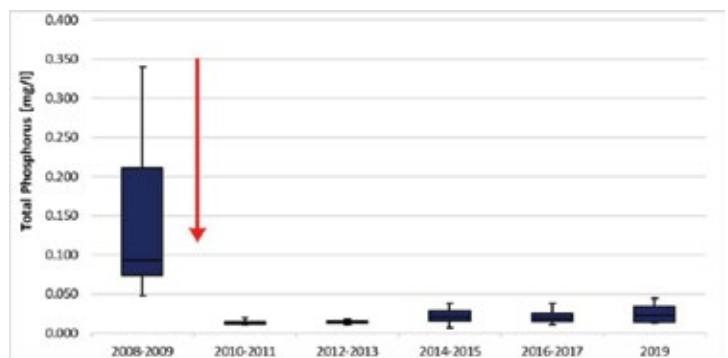
The Results

Phoslock® has been applied to more than 300 water bodies worldwide, reducing in-lake phosphorus concentrations in more than 20 countries.

Thoroughly independently scientifically researched over the past 25 years, all toxicological evaluations have found that Phoslock is safe for both humans and aquatic biota.



Total phosphorus reduction in a Southern German lake treated with Phoslock in 2016.



Total phosphorus reduction following Phoslock treatment in 2009 for a Northern German lake.

Learn more

To learn more about the difference Phoslock can make to waterway health, please visit petwatersolutions.com. There you will find explanation of how Phoslock works, numerous case studies, technical details, scientific reports, and application information.

You can also contact us at enquiries@phoslock.com.au.
Phoslock Environmental Technologies Ltd

World leaders in water remediation.

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