Claims

1. A floating enclosure suitable for remediating pollutants of interest in eutrophication, said floating enclosure comprising the following components:

(i) a centrally positioned grid frame;
(ii) a plurality of planktivores, and/or macroalgae and/or bacteria positioned within the grid frame of (i), and
(iii) a curtain structure positioned at the periphery of the floating enclosure.

2. The enclosure of Claim 1, wherein the plurality of planktivores are selected from one or more of the following: oysters, mussels, scallops, clams and abalone.

3. The enclosure of Claim 1, wherein the plurality of macroalgae consists of one or more of the following types of microalgae: raphidophytes, dinoflagellates and diatoms.

4. The enclosure of Claim 1, wherein the plurality of bacteria are selected from one or more of the following: Bacillus licheniformis (TSB27), Lactobacillus thuringiensis, Bacillus Plantarum, Bacillus subtilis (B46), Shewanella putrefaciens Pdp11, Bacillus pumilus H2, Bacillus subtilis WB60, Lac. pentosus BD6, Lac. fermentum LW2, Bacillus subtilis E20, Saccharomyces cerevisiae P13, Pseudoalteromonas sp., Pseudoalteromonas sp., Lactobacillus plantarum, Bacillus subtilis, Lactobacillus rhamnosus, Lactobacillus casei, Bacillus sp. MVF1, Bacillus subtilis, Bacillus licheniformis, Kocuria SM1, Rhodococcus SM2, Vibrio lentus, Lactobacillus plantarum, Bacillus megaterium PTB 1.4, Lactobacillus rhamnosus, Lactobacillus

acidophilus, Bacillus subtilis, Lactobacillus bulgaricus, Saccharomyces cerevisiae, Bacillus megaterium, Bacillus polymyxa Lactobacillus delbrueckii, Enterococcus casseliflavus, Pseudoalteromonas sp., Pseudoalteromonas sp. Cepa MLms gA3, Bacillus sp., Pediococcus sp., Lactobacillus plantarum (LP20), Lactobacillus mesenteroides SMM69, Weissella cibaria P71, Bacillus subtilis, Bacillus licheniformis, Bacillus sp., Pediococcus sp., Enterococcus faecalis, Proteobacteria (including Alphaproteobacteria, betaproteobcteria and gammaproteobacteria), *Nitrobacter*, *Nitrospira*, *Nitrospi*, *Prochlorococcus*, *Synechococcus*, *Trichodesmium*, Heterocystus, *Crocosphaera*, Spirulina (Arthrospira platensis, Arthrospira fusiformis and/or Arthrospira maxima), Pseudomonadota or photosynthetic Bacteria (purple non-sulphur bacteria including Rhodovulum sulfidophilum and/or Rhodobacter sphaeroides).

5. The enclosure of Claim 1, wherein the curtain structure consists of a series of connected wave breaking devices and/or a biofilter perimeter fence.

6. The enclosure of Claim 1, wherein component (i) and/or component (iii) of the enclosure can be anchored and/or moored.

7. The enclosure of Claim 1, wherein the plurality of planktivores and/or macroalgae and/or bacteria as positioned within the grid frame (i) provides shade to the water body underneath the grid frame.

8. The enclosure of Claim 1, wherein the curtain structure as positioned at the periphery of the floating enclosure

is discontinuous by way of an entrance for access to the centrally positioned grid frame.

9. A method of remediating eutrophication in a water body, comprising the following steps:

(i) Positioning a floating enclosure according to any one of Claims 1-8 into the water body;

(ii) Allowing the plurality of planktivores and/or macroalgae and/or bacteria as positioned within the grid frame of the floating enclosure to feed on nutrients present in the water body, thereby limiting the availability of such nutrients to prevent, reduce or ameliorate an algae bloom.

10. The method of Claim 9, wherein the algae bloom is determined by way of remote sensing and/or water sampling.

11. The method of Claim 9, wherein the dissolved oxygen level in step (ii) during the prevention, reduction or amelioration of the algae bloom is, on the average more than 3mg/L in the water body within the floating enclosure and its vicinity.

12. The method of Claim 9, wherein the following step (iii) is further present:

(iii) Introducing one or more fish species into the floating enclosure.

13. The method of Claim 12, wherein yet further, the following step (iv) is present:

(iv) Harvesting from the plurality of planktivores and/or macroalgae and/or bacteria and/or fish species.

14. The method of Claim 9, wherein the nutrients contain one or more of the following elements: nitrogen, phosphorous, iron and silicon.

15. The method of Claim 9, wherein the species found in the algae bloom is one or more of the following species: Anabaena, Phenomenon, Microcystis, Noctiluca, Alexandrium, Prorocentrum, Gymnodinium, Ceratium, Pfiesteria, Dinophysis, Gyrodinium, Heterosigma, Chattonella, Skeletonema, Synedropsis, Pseudonitzschia, Leptocylindrus, Chaetoceros; Phaeocystis, Nannochloris, Stichococcus, Aureococcus, Miraltia, Guinardia, Spermatozopsis, Urosolenia, Nitschia, Cyclotella, Cryptomonas, and Pedinophora.

16. A system of at least two floating enclosures, wherein each one of the at least two floating enclosures is selectable from the floating enclosure as defined in any one of Claims 1-8.

17. Use of the system as defined in Claim 16 to prevent, reduce or ameliorate eutrophication and/or the harvesting of the plurality of planktivores and/or macroalgae and/or bacteria and additionally and/or fish species.