What is claimed is:

1. A method for treatment of water in a floating lake, wherein the floating lake is installed within a larger water body such as an ocean, river, lake, reservoir, lagoon, pond, canal, estuary, stream, ocean bay, river bay, dam, pond, harbor, or bay, the floating lake including walls and a bottom, and wherein the bottom of the floating lake is constructed of a flexible material having a Young's modulus of up to 20 GPa, wherein the method comprises:

   a. applying an oxidant to the water to maintain an ORP level of at least 550 mV for a minimum of about 10 to about 20 hours within a 52-hour cycle;

   b. applying a flocculant to the water before the turbidity of the water exceeds 5 NTU;

   c. activating operation of one or more mobile suctioning devices before the black color component of the bottom of the floating lake exceeds 30% on a CMYK scale, wherein the mobile suctioning device suctions a portion of water from the bottom containing settled solids;

   d. filtering the water suctioned by the mobile suctioning device and returning the filtered water to the floating lake, thereby providing for removal of settled solids from the water in the floating lake without filtering the total volume of water in the floating lake; and

   e. supplying water to the floating lake to maintain a positive pressure of at least 20 Newtons per square meter of the surface area of the floating lake, wherein the supplied water has a true color of up to 35 Pt-Co and less than 2,000 CFU/ml of bacterial count, and wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals and wherein water is supplied to the floating lake at a reposition rate according to the following equation:

   $$\text{Reposition Rate} \geq \text{Evaporation Rate} + \text{Cleaning Rate} + \text{Leakage rate}$$

2. The method of claim 1, wherein the floating lake has a surface area larger than 5,000 m^2.

3. The method of claim 1, wherein the bottom and walls of the floating lake are constructed of non-permeable materials that are capable of maintaining a body of water inside the floating lake and essentially separate the water on the inside of the floating lake from the surrounding artificial or natural body of water.

4. The method of claim 1, wherein the bottom of the floating lake comprises systems that provide stability for the operation of a suctioning device, such as cushion-type systems, structural frames, a plurality of layers, chambers, or combinations thereof.

5. The method of claim 1, wherein the oxidant is selected from the group consisting of an halogen-based compound, a permanganate salt, a peroxide, ozone, sodium persulfate, potassium persulfate, an oxidant produced by an electrolytic method, and combinations thereof.

6. The method of claim 1, wherein the flocculant is selected from the group consisting of a cationic polymer, anionic polymer, aluminum salt, aluminum chlorhydrate, alum, aluminum sulfate, quaternary ammonium-containing polymers, polyquaternium, calcium oxide, calcium hydroxide, ferrous sulphate, ferric chloride, polyacrylamide, sodium aluminate, sodium silicate, chitosan, gelatin, guar gum, alginate, moringa seed, starch derivatives, and combinations thereof.

7. The method of claim 1, wherein the color of the bottom of the floating lake provides a specific coloration to the water body.

8. The floating lake system of claim 7, where the bottom has a white, yellow, or light blue color, or combinations thereof.

9. The method of claim 1, wherein the application of chemicals is activated by a coordination system.

10. The method of claim 1, wherein the operation of the suctioning device is activated by a coordination system.

11. The method of claim 1, wherein the color of the bottom is determined by empirical methods, algorithms, based on experience, visual inspection, or automated equipment.

12. The method of claim 1, wherein the mobile suctioning device is able to clean a flexible bottom with a Young's modulus of less than 20 GPa.

13. The method of claim 1, wherein the mobile suctioning device comprises a magnetic system capable of maintaining the mobile suctioning device along the flexible bottom.

14. The method of claim 1, wherein the mobile suctioning device comprises a flexible device.

15. The method of claim 1, wherein the filtration system is located in a floating facility or on land.

16. The method of claim 1, wherein the reposition water is fed into the floating lake through a pumping system.

17. An artificial floating lake system, wherein the floating lake is installed within a larger water body such as an ocean, river, lake, reservoir, lagoon, pond, canal, estuary, stream, ocean bay, river bay, dam, pond, harbor, or bay, the system comprising:

a. a floating lake comprising a flexible bottom having a Young's modulus of less than about 20 GPa and walls having a rim, wherein the rim comprises a flotation system;

b. a chemical application system for applying an oxidant or flocculant to the water in the floating lake; wherein the chemical application system is activated to apply an oxidant to water in the floating lake to establish an oxidation-reduction potential (ORP) in the water of at least 550 mV for about 10 to about 20 hours within a 52-hour cycle;

c. a pumping system for maintaining a positive pressure of at least 20 Newtons per square meter of the surface area of the floating lake, wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals;

d. a mobile suctioning device capable of moving along the flexible bottom of the floating lake and suctioning a portion of water from the bottom containing settled solids;

e. a filtration system in fluid communication with the mobile suctioning system, wherein the filtration system receives the portion of water suctioned by the mobile suction system; and

f. a return line for returning filtered water from the filtration system to the floating lake.

18. The floating lake system of claim 17, wherein the floating lake has a surface area larger than 5,000 m^2.

19. The floating lake system of claim 17, wherein the bottom and walls of the floating lake are constructed of non-permeable materials that are capable of maintaining a body of water inside the floating lake and essentially separate the water on the inside of the floating lake from the surrounding artificial or natural body of water.

20. The floating lake system of claim 17, wherein the bottom comprises a single non-permeable layer to separate the water inside the floating lake from the surrounding water body.

21. The floating lake system of claim 17, wherein the bottom comprises a plurality of layers to separate the water inside the floating lake from the surrounding water body.

22. The floating lake system of claim 21, wherein the plurality of layers can be of the same or different materials and have different permeability.

23. The floating lake system of claim 17, wherein the bottom comprises a structural frame comprising one or more frame components capable of providing more stability and/or a modular configuration to the bottom.

24. The floating lake system of claim 23, wherein the bottom comprises frame connectors between the frame components.

25. The floating lake system of claim 17, wherein the floating lake includes one or more rails for providing connection between the flexible bottom and the one or more frame components.

26. The floating lake system of claim 23, wherein the frame components are constructed out of rigid materials.

27. The floating lake system of claim 26, wherein the rigid materials of the frame components comprise metal, metal alloys, plastics, wood, concrete, or combinations thereof.

28. The floating lake system of claim 23, wherein the frame components are constructed out of flexible materials.

29. The floating lake system of claim 28, wherein the flexible materials of the frame components comprise rubber, plastic, fabric, nylon, or combinations thereof.

30. The floating lake system of claim 24, wherein the frame connectors are built out of flexible materials.

31. The floating lake system of claim 24, wherein the frame connectors are built out of rigid materials.

32. The floating lake system of claim 17, wherein the bottom comprises one or more cushion-type cells capable of providing a stable bottom.

33. The floating lake system of claim 32, wherein the cushion-type cells are filled with a fluid comprising gas or liquid, or a foam expandable material, or a combination thereof.

34. The floating lake system of claim 17, wherein the flotation system comprises one or more flotation elements selected from the group consisting of polyurethane systems; polystyrene systems, such as extruded polystyrene and expanded bead polystyrene; polyethylene systems; air filled systems, such as air chambers, rubber air bags, or vinyl air bags; and systems constructed of other suitable materials such as plastics, foams, rubbers, vinyl, resins, concrete, aluminum, different types of woods, and combinations thereof.

35. The floating lake system of claim 17, wherein the floating lake comprises one or more additional features selected from beaches, walkways, pedestrian promenades, pontoons, handrails, or sloped entry systems.

36. The floating lake system of claim 17, wherein the bottom and/or walls of the floating lake are anchored to the bottom of the surrounding water body to cope with marine currents, winds, tides and specific weather conditions of the surrounding water body and environment.

37. The floating lake system of claim 17, wherein the floating lake system comprises one or more anchor points connected to corresponding anchor points at the bottom of the surrounding water body.

38. The floating lake system of claim 17, wherein the floating lake is anchored to mainland to provide an entrance to the floating lake system.

39. The floating lake system of claim 17, wherein the floating lake is separated from mainland by a distance, and entrance from mainland to the floating lake is provided by one or more of docks and bridges connecting the mainland to the floating lake.

40. The floating lake system of claim 17, wherein the floating lake system comprises a coordination system.

41. The floating lake system of claim 40, wherein the coordination system is arranged and configured to receive information regarding water quality parameters, process the information, and activate the chemical application means and/or activate operation of the mobile suctioning device, and/or filtration system.

42. The floating lake system of claim 41, wherein the coordination system is arranged and configured to activate the operation of the mobile suctioning device before the bottom's color black component exceeds 30% on a CMYK scale.

43. The floating lake system of claim 17, wherein the bottom material is a flexible material selected from the group consisting of rubbers, plastics, teflon, low density polyethylene, high density polyethylene, polypropylene, nylon, polystyrene, polycarbonate, Polyethylene Terephthalate, fibers, fiberboard, woods, polyamides, PVC membranes, fabrics, composite fabrics, geomembranes, acrylics, and combinations thereof

44. The floating lake system of claim 17, wherein the walls comprise a permeable material that allows for water from the water body in which the floating lake is installed to pass through the walls at a predetermined permeation rate.

45. The floating lake system of claim 17, wherein the system comprises a plurality of mobile suctioning devices, wherein the filtration system comprises a plurality of filters.

46. The floating lake system of claim 17, wherein the bottom has a color that provides a specific coloration to water in the floating lake.

47. The floating lake system of claim 17, where the bottom has a white, yellow, or light blue color, or combinations thereof.

48. The floating lake system of claim 17, further comprising a feed line from the floating lake to a heat exchanger system in an industrial process for feeding the heat exchanger with water from the floating lake and a return water line from the heat exchanger of the industrial process to the floating lake.

49. An artificial floating lake system constructed within a surrounding water body, the system comprising:

a. a floating lake disposed in a surrounding water body, the floating lake comprising water and a flexible bottom having a Young's modulus of less than about 20 GPa and walls having a rim, the bottom and walls defining a volume, wherein the rim comprises a flotation system, and wherein the floating lake has a surface area of at least 5,000 m^2;

b. a chemical application system adapted for applying an oxidant or flocculant to the water in the floating lake;

c. one or more mobile suctioning devices capable of moving along the flexible bottom of the floating lake and suctioning a portion of water from the bottom, where the water contains settled solids;

d. a filtration system comprising a plurality of filtration systems, wherein the filtration system is in fluid communication with the one or more mobile suctioning systems, wherein the filtration system receives the portion of water suctioned by the one or more mobile suctioning systems;

e. a return line in fluid communication with the filtration system for returning filtered water to the floating lake;

f. a coordination system arranged and configured to activate the chemical application system to maintain an oxidation-reduction potential (ORP) in the water of at least 550 mV for about 10 to 20 hours within any 52-hour cycle, the one or more mobile suctioning devices before the bottom's color black component exceeds 30% on a CMYK scale; and

g. a pumping system constructed to pump water into the floating lake and to maintain a positive pressure of at least 20 Newtons per every square meter of the surface area of the floating lake, wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals.

50. A method for treatment of water in a floating lake, wherein the floating lake is installed within a larger water body such as an ocean, river, lake, reservoir, lagoon, pond, canal, estuary, stream, ocean bay, river bay, dam, pond, harbor, or bay, the floating lake including walls and a bottom, and wherein the bottom of the floating lake is constructed of a flexible material having a Young's modulus of up to 20 GPa, wherein the method comprises:

a. applying an oxidant to the water to maintain an ORP level of at least 550 mV for a minimum of about 10 to about 20 hours within a 52-hour cycle;

b. applying a flocculant to the water before the turbidity of the water exceeds 5 NTU;

c. activating operation of one or more mobile suctioning devices before the black color component of the bottom of the floating lake exceeds 30% on a CMYK scale, wherein the mobile suctioning device suctions a portion of water from the bottom containing settled solids;

d. filtering the water suctioned by the mobile suctioning device and returning the filtered water to the floating lake, thereby providing for removal of settled solids from the water in the floating lake without filtering the total volume of water in the floating lake; and

e. supplying water to the floating lake to maintain a positive pressure of at least 20 Newtons per square meter of the surface area of the floating lake, wherein the supplied water has a true color of up to 35 Pt-Co and less than 2,000 CFU/ml of bacterial count, and wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals and wherein water is supplied to the floating lake at a reposition rate according to the following equation:

Reposition Rate $\geq$ Evaporation Rate + Cleaning Rate + Leakage rate.

51. The method of claim 1, wherein the floating lake has a surface area larger than 5,000 m^2.

52. The method of claim 1, wherein the bottom and walls of the floating lake are constructed of non-permeable materials that are capable of maintaining a body of water inside the floating lake and essentially separate the water on the inside of the floating lake from the surrounding artificial or natural body of water.

53. The method of claim 1, wherein the bottom of the floating lake comprises systems that provide stability for the operation of a suctioning device, such as cushion-type systems, structural frames, a plurality of layers, chambers, or combinations thereof.

54. The method of claim 1, wherein the oxidant is selected from the group consisting of an halogen-based compound, a permanganate salt, a peroxide, ozone, sodium persulfate, potassium persulfate, an oxidant produced by an electrolytic method, and combinations thereof.

55. The method of claim 1, wherein the flocculant is selected from the group consisting of a cationic polymer, anionic polymer, aluminum salt, aluminum chlorhydrate, alum, aluminum sulfate, quaternary ammonium-containing polymers, polyquaternium, calcium oxide, calcium hydroxide, ferrous sulphate, ferric chloride, polyacrylamide, sodium aluminate, sodium silicate, chitosan, gelatin, guar gum, alginate, moringa seed, starch derivatives, and combinations thereof.

56. The method of claim 1, wherein the color of the bottom of the floating lake provides a specific coloration to the water body.

57. The floating lake system of claim 7, where the bottom has a white, yellow, or light blue color, or combinations thereof.

58. The method of claim 1, wherein the application of chemicals is activated by a coordination system.

59. The method of claim 1, wherein the operation of the suctioning device is activated by a coordination system.

60. The method of claim 1, wherein the color of the bottom is determined by empirical methods, algorithms, based on experience, visual inspection, or automated equipment.

61. The method of claim 1, wherein the mobile suctioning device is able to clean a flexible bottom with a Young's modulus of less than 20 GPa.

62. The method of claim 1, wherein the mobile suctioning device comprises a magnetic system capable of maintaining the mobile suctioning device along the flexible bottom.

63. The method of claim 1, wherein the mobile suctioning device comprises a flexible device.

64. The method of claim 1, wherein the filtration system is located in a floating facility or on land.

65. The method of claim 1, wherein the reposition water is fed into the floating lake through a pumping system.

66. An artificial floating lake system, wherein the floating lake is installed within a larger water body such as an ocean, river, lake, reservoir, lagoon, pond, canal, estuary, stream, ocean bay, river bay, dam, pond, harbor, or bay, the system comprising:

g. a floating lake comprising a flexible bottom having a Young's modulus of less than about 20 GPa and walls having a rim, wherein the rim comprises a flotation system;

h. a chemical application system for applying an oxidant or flocculant to the water in the floating lake; wherein the chemical application system is activated to apply an oxidant to water in the floating lake to establish an oxidation-reduction potential (ORP) in the water of at least 550 mV for about 10 to about 20 hours within a 52-hour cycle;

i. a pumping system for maintaining a positive pressure of at least 20 Newtons per square meter of the surface area of the floating lake, wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals;

j. a mobile suctioning device capable of moving along the flexible bottom of the floating lake and suctioning a portion of water from the bottom containing settled solids;

k. a filtration system in fluid communication with the mobile suctioning system, wherein the filtration system receives the portion of water suctioned by the mobile suction system; and

l. a return line for returning filtered water from the filtration system to the floating lake.

67. The floating lake system of claim 17, wherein the floating lake has a surface area larger than 5,000 m^2.

68. The floating lake system of claim 17, wherein the bottom and walls of the floating lake are constructed of non-permeable materials that are capable of maintaining a body of water inside the floating lake and essentially separate the water on the inside of the floating lake from the surrounding artificial or natural body of water.

69. The floating lake system of claim 17, wherein the bottom comprises a single non-permeable layer to separate the water inside the floating lake from the surrounding water body.

70. The floating lake system of claim 17, wherein the bottom comprises a plurality of layers to separate the water inside the floating lake from the surrounding water body.

71. The floating lake system of claim 21, wherein the plurality of layers can be of the same or different materials and have different permeability.

72. The floating lake system of claim 17, wherein the bottom comprises a structural frame comprising one or more frame components capable of providing more stability and/or a modular configuration to the bottom.

73. The floating lake system of claim 23, wherein the bottom comprises frame connectors between the frame components.

74. The floating lake system of claim 17, wherein the floating lake includes one or more rails for providing connection between the flexible bottom and the one or more frame components.

75. The floating lake system of claim 23, wherein the frame components are constructed out of rigid materials.

76. The floating lake system of claim 26, wherein the rigid materials of the frame components comprise metal, metal alloys, plastics, wood, concrete, or combinations thereof.

77. The floating lake system of claim 23, wherein the frame components are constructed out of flexible materials.

78. The floating lake system of claim 28, wherein the flexible materials of the frame components comprise rubber, plastic, fabric, nylon, or combinations thereof.

79. The floating lake system of claim 24, wherein the frame connectors are built out of flexible materials.

80. The floating lake system of claim 24, wherein the frame connectors are built out of rigid materials.

81. The floating lake system of claim 17, wherein the bottom comprises one or more cushion-type cells capable of providing a stable bottom.

82. The floating lake system of claim 32, wherein the cushion-type cells are filled with a fluid comprising gas or liquid, or a foam expandable material, or a combination thereof.

83. The floating lake system of claim 17, wherein the flotation system comprises one or more flotation elements selected from the group consisting of polyurethane systems; polystyrene systems, such as extruded polystyrene and expanded bead polystyrene; polyethylene systems; air filled systems, such as air chambers, rubber air bags, or vinyl air bags; and systems constructed of other

suitable materials such as plastics, foams, rubbers, vinyl, resins, concrete, aluminum, different types of woods, and combinations thereof.

84. The floating lake system of claim 17, wherein the floating lake comprises one or more additional features selected from beaches, walkways, pedestrian promenades, pontoons, handrails, or sloped entry systems.

85. The floating lake system of claim 17, wherein the bottom and/or walls of the floating lake are anchored to the bottom of the surrounding water body to cope with marine currents, winds, tides and specific weather conditions of the surrounding water body and environment.

86. The floating lake system of claim 17, wherein the floating lake system comprises one or more anchor points connected to corresponding anchor points at the bottom of the surrounding water body.

87. The floating lake system of claim 17, wherein the floating lake is anchored to mainland to provide an entrance to the floating lake system.

88. The floating lake system of claim 17, wherein the floating lake is separated from mainland by a distance, and entrance from mainland to the floating lake is provided by one or more of docks and bridges connecting the mainland to the floating lake.

89. The floating lake system of claim 17, wherein the floating lake system comprises a coordination system.

90. The floating lake system of claim 40, wherein the coordination system is arranged and configured to receive information regarding water quality parameters, process the information, and activate the chemical application means and/or activate operation of the mobile suctioning device, and/or filtration system.

91. The floating lake system of claim 41, wherein the coordination system is arranged and configured to activate the operation of the mobile suctioning device before the bottom's color black component exceeds 30% on a CMYK scale.

92. The floating lake system of claim 17, wherein the bottom material is a flexible material selected from the group consisting of rubbers, plastics, teflon, low density polyethylene, high density polyethylene, polypropylene, nylon, polystyrene, polycarbonate, Polyethylene Terephthalate, fibers, fiberboard, woods, polyamides, PVC membranes, fabrics, composite fabrics, geomembranes, acrylics, and combinations thereof

93. The floating lake system of claim 17, wherein the walls comprise a permeable material that allows for water from the water body in which the floating lake is installed to pass through the walls at a predetermined permeation rate.

94. The floating lake system of claim 17, wherein the system comprises a plurality of mobile suctioning devices, wherein the filtration system comprises a plurality of filters.

95. The floating lake system of claim 17, wherein the bottom has a color that provides a specific coloration to water in the floating lake.

96. The floating lake system of claim 17, where the bottom has a white, yellow, or light blue color, or combinations thereof.

97. The floating lake system of claim 17, further comprising a feed line from the floating lake to a heat exchanger system in an industrial process for feeding the heat exchanger with water from the floating lake and a return water line from the heat exchanger of the industrial process to the floating lake.

98. An artificial floating lake system constructed within a surrounding water body, the system comprising:

h. a floating lake disposed in a surrounding water body, the floating lake comprising water and a flexible bottom having a Young's modulus of less than about 20 GPa and walls having a rim, the bottom and walls defining a volume, wherein the rim comprises a flotation system, and wherein the floating lake has a surface area of at least 5,000 m^2;

i. a chemical application system adapted for applying an oxidant or flocculant to the water in the floating lake;

j. one or more mobile suctioning devices capable of moving along the flexible bottom of the floating lake and suctioning a portion of water from the bottom, where the water contains settled solids;

k. a filtration system comprising a plurality of filtration systems, wherein the filtration system is in fluid communication with the one or more mobile suctioning systems, wherein the filtration system receives the portion of water suctioned by the one or more mobile suctioning systems;

l. a return line in fluid communication with the filtration system for returning filtered water to the floating lake;

m. a coordination system arranged and configured to activate the chemical application system to maintain an oxidation-reduction potential (ORP) in the water of at least 550 mV for about 10 to 20 hours within any 52-hour cycle, the one or more mobile suctioning devices before the bottom's color black component exceeds 30% on a CMYK scale; and

n. a pumping system constructed to pump water into the floating lake and to maintain a positive pressure of at least 20 Newtons per every square meter of the surface area of the floating lake, wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals.

What is claimed is:

1. A method for treatment of water in a floating lake, wherein the floating lake is installed within a larger water body such as an ocean, river, lake, reservoir, lagoon, pond, canal, estuary, stream, ocean bay, river bay, dam, pond, harbor, or bay, the floating lake including walls and a bottom, and wherein the bottom of the floating lake is constructed of a flexible material having a Young's modulus of up to 20 GPa, wherein the method comprises:

   a. applying an oxidant to the water to maintain an ORP level of at least 550 mV for a minimum of about 10 to about 20 hours within a 52-hour cycle;

   b. applying a flocculant to the water before the turbidity of the water exceeds 5 NTU;

   c. activating operation of one or more mobile suctioning devices before the black color component of the bottom of the floating lake exceeds 30% on a CMYK scale, wherein the mobile suctioning device suctions a portion of water from the bottom containing settled solids;

   d. filtering the water suctioned by the mobile suctioning device and returning the filtered water to the floating lake, thereby providing for removal of settled solids from the water in the floating lake without filtering the total volume of water in the floating lake; and

   e. supplying water to the floating lake to maintain a positive pressure of at least 20 Newtons per square meter of the surface area of the floating lake, wherein the supplied water has a true color of up to 35 Pt-Co and less than 2,000 CFU/ml of bacterial count, and wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals and wherein water is supplied to the floating lake at a reposition rate according to the following equation:

   Reposition Rate $\geq$Evaporation Rate + Cleaning Rate + Leakage rate.

2. The method of claim 1, wherein the floating lake has a surface area larger than 5,000 m^2.

3. The method of claim 1, wherein the bottom and walls of the floating lake are constructed of non-permeable materials that are capable of maintaining a body of water inside the floating lake and essentially separate the water on the inside of the floating lake from the surrounding artificial or natural body of water.

4. The method of claim 1, wherein the bottom of the floating lake comprises systems that provide stability for the operation of a suctioning device, such as cushion-type systems, structural frames, a plurality of layers, chambers, or combinations thereof.

5. The method of claim 1, wherein the oxidant is selected from the group consisting of an halogen-based compound, a permanganate salt, a peroxide, ozone, sodium persulfate, potassium persulfate, an oxidant produced by an electrolytic method, and combinations thereof.

6. The method of claim 1, wherein the flocculant is selected from the group consisting of a cationic polymer, anionic polymer, aluminum salt, aluminum chlorhydrate, alum, aluminum sulfate, quaternary ammonium-containing polymers, polyquaternium, calcium oxide, calcium hydroxide, ferrous sulphate, ferric chloride, polyacrylamide, sodium aluminate, sodium silicate, chitosan, gelatin, guar gum, alginate, moringa seed, starch derivatives, and combinations thereof.

7. The method of claim 1, wherein the color of the bottom of the floating lake provides a specific coloration to the water body.

8. The floating lake system of claim 7, where the bottom has a white, yellow, or light blue color, or combinations thereof.

9. The method of claim 1, wherein the application of chemicals is activated by a coordination system.

10. The method of claim 1, wherein the operation of the suctioning device is activated by a coordination system.

11. The method of claim 1, wherein the color of the bottom is determined by empirical methods, algorithms, based on experience, visual inspection, or automated equipment.

12. The method of claim 1, wherein the mobile suctioning device is able to clean a flexible bottom with a Young's modulus of less than 20 GPa.

13. The method of claim 1, wherein the mobile suctioning device comprises a magnetic system capable of maintaining the mobile suctioning device along the flexible bottom.

14. The method of claim 1, wherein the mobile suctioning device comprises a flexible device.

15. The method of claim 1, wherein the filtration system is located in a floating facility or on land.

16. The method of claim 1, wherein the reposition water is fed into the floating lake through a pumping system.

17. An artificial floating lake system, wherein the floating lake is installed within a larger water body such as an ocean, river, lake, reservoir, lagoon, pond, canal, estuary, stream, ocean bay, river bay, dam, pond, harbor, or bay, the system comprising:

a. a floating lake comprising a flexible bottom having a Young's modulus of less than about 20 GPa and walls having a rim, wherein the rim comprises a flotation system;

b. a chemical application system for applying an oxidant or flocculant to the water in the floating lake; wherein the chemical application system is activated to apply an oxidant

to water in the floating lake to establish an oxidation-reduction potential (ORP) in the water of at least 550 mV for about 10 to about 20 hours within a 52-hour cycle;

c. a pumping system for maintaining a positive pressure of at least 20 Newtons per square meter of the surface area of the floating lake, wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals;

d. a mobile suctioning device capable of moving along the flexible bottom of the floating lake and suctioning a portion of water from the bottom containing settled solids;

e. a filtration system in fluid communication with the mobile suctioning system, wherein the filtration system receives the portion of water suctioned by the mobile suction system; and

f. a return line for returning filtered water from the filtration system to the floating lake.

18. The floating lake system of claim 17, wherein the floating lake has a surface area larger than 5,000 m^2.

19. The floating lake system of claim 17, wherein the bottom and walls of the floating lake are constructed of non-permeable materials that are capable of maintaining a body of water inside the floating lake and essentially separate the water on the inside of the floating lake from the surrounding artificial or natural body of water.

20. The floating lake system of claim 17, wherein the bottom comprises a single non-permeable layer to separate the water inside the floating lake from the surrounding water body.

21. The floating lake system of claim 17, wherein the bottom comprises a plurality of layers to separate the water inside the floating lake from the surrounding water body.

22. The floating lake system of claim 21, wherein the plurality of layers can be of the same or different materials and have different permeability.

23. The floating lake system of claim 17, wherein the bottom comprises a structural frame comprising one or more frame components capable of providing more stability and/or a modular configuration to the bottom.

24. The floating lake system of claim 23, wherein the bottom comprises frame connectors between the frame components.

25. The floating lake system of claim 17, wherein the floating lake includes one or more rails for providing connection between the flexible bottom and the one or more frame components.

26. The floating lake system of claim 23, wherein the frame components are constructed out of rigid materials.

27. The floating lake system of claim 26, wherein the rigid materials of the frame components comprise metal, metal alloys, plastics, wood, concrete, or combinations thereof.

28. The floating lake system of claim 23, wherein the frame components are constructed out of flexible materials.

29. The floating lake system of claim 28, wherein the flexible materials of the frame components comprise rubber, plastic, fabric, nylon, or combinations thereof.

30. The floating lake system of claim 24, wherein the frame connectors are built out of flexible materials.

31. The floating lake system of claim 24, wherein the frame connectors are built out of rigid materials.

32. The floating lake system of claim 17, wherein the bottom comprises one or more cushion-type cells capable of providing a stable bottom.

33. The floating lake system of claim 32, wherein the cushion-type cells are filled with a fluid comprising gas or liquid, or a foam expandable material, or a combination thereof.

34. The floating lake system of claim 17, wherein the flotation system comprises one or more flotation elements selected from the group consisting of polyurethane systems; polystyrene systems, such as extruded polystyrene and expanded bead polystyrene; polyethylene systems; air filled systems, such as air chambers, rubber air bags, or vinyl air bags; and systems constructed of other suitable materials such as plastics, foams, rubbers, vinyl, resins, concrete, aluminum, different types of woods, and combinations thereof.

35. The floating lake system of claim 17, wherein the floating lake comprises one or more additional features selected from beaches, walkways, pedestrian promenades, pontoons, handrails, or sloped entry systems.

36. The floating lake system of claim 17, wherein the bottom and/or walls of the floating lake are anchored to the bottom of the surrounding water body to cope with marine currents, winds, tides and specific weather conditions of the surrounding water body and environment.

37. The floating lake system of claim 17, wherein the floating lake system comprises one or more anchor points connected to corresponding anchor points at the bottom of the surrounding water body.

38. The floating lake system of claim 17, wherein the floating lake is anchored to mainland to provide an entrance to the floating lake system.

39. The floating lake system of claim 17, wherein the floating lake is separated from mainland by a distance, and entrance from mainland to the floating lake is provided by one or more of docks and bridges connecting the mainland to the floating lake.

40. The floating lake system of claim 17, wherein the floating lake system comprises a coordination system.

41. The floating lake system of claim 40, wherein the coordination system is arranged and configured to receive information regarding water quality parameters, process the information, and activate the chemical application means and/or activate operation of the mobile suctioning device, and/or filtration system.

42. The floating lake system of claim 41, wherein the coordination system is arranged and configured to activate the operation of the mobile suctioning device before the bottom's color black component exceeds 30% on a CMYK scale.

43. The floating lake system of claim 17, wherein the bottom material is a flexible material selected from the group consisting of rubbers, plastics, teflon, low density polyethylene, high density polyethylene, polypropylene, nylon, polystyrene, polycarbonate, Polyethylene Terephthalate, fibers, fiberboard, woods, polyamides, PVC membranes, fabrics, composite fabrics, geomembranes, acrylics, and combinations thereof

44. The floating lake system of claim 17, wherein the walls comprise a permeable material that allows for water from the water body in which the floating lake is installed to pass through the walls at a predetermined permeation rate.

45. The floating lake system of claim 17, wherein the system comprises a plurality of mobile suctioning devices, wherein the filtration system comprises a plurality of filters.

46. The floating lake system of claim 17, wherein the bottom has a color that provides a specific coloration to water in the floating lake.

47. The floating lake system of claim 17, where the bottom has a white, yellow, or light blue color, or combinations thereof.

48. The floating lake system of claim 17, further comprising a feed line from the floating lake to a heat exchanger system in an industrial process for feeding the heat exchanger with water from the floating lake and a return water line from the heat exchanger of the industrial process to the floating lake.

49. An artificial floating lake system constructed within a surrounding water body, the system comprising:

a. a floating lake disposed in a surrounding water body, the floating lake comprising water and a flexible bottom having a Young's modulus of less than about 20 GPa and walls having a rim, the bottom and walls defining a volume, wherein the rim comprises a flotation system, and wherein the floating lake has a surface area of at least 5,000 m^2;

b. a chemical application system adapted for applying an oxidant or flocculant to the water in the floating lake;

c. one or more mobile suctioning devices capable of moving along the flexible bottom of the floating lake and suctioning a portion of water from the bottom, where the water contains settled solids;

d. a filtration system comprising a plurality of filtration systems, wherein the filtration system is in fluid communication with the one or more mobile suctioning systems, wherein the filtration system receives the portion of water suctioned by the one or more mobile suctioning systems;

e. a return line in fluid communication with the filtration system for returning filtered water to the floating lake;

f. a coordination system arranged and configured to activate the chemical application system to maintain an oxidation-reduction potential (ORP) in the water of at least 550 mV for about 10 to 20 hours within any 52-hour cycle, the one or more mobile suctioning devices before the bottom's color black component exceeds 30% on a CMYK scale; and

g. a pumping system constructed to pump water into the floating lake and to maintain a positive pressure of at least 20 Newtons per every square meter of the surface area of the floating lake, wherein the positive pressure is maintained for at least 50% of the time within 7-day intervals.