WHAT IS CLAIMED IS:

1. A method for limiting the spread of a spill of floating substances spilled into water, comprising:

a) providing at least one uninflated sleeve which comprises inflatable compartments selected from a group consisting of a flotation compartments and water containing compartments;

b) inflating said boom by inflating said flotation-compartments with a gas and by at least partially filling said water containing compartments with water so that pressures exerted between said flotation compartments and said water containing compartments maintains at least some of said flotation compartments and at least some of said water compartments in at least a semi-rigid geometrical relationship one with another; and

c) deploying said boom in water around at least a portion of said spill to limit spread of said spill.

2. The method of claim 1, wherein said at least one uninflated sleeve comprises segments each having at least one inflatable or fillable compartment.

3. The method of claim 2, further comprising interleaving one or more segments of a first uninflated sleeve with segments of a one or more uninflated sleeves prior to completion of said filling and inflating.

4. The method of claim 3, where pressures induced by said filling and inflating hold said interleaved segments in at least a semi-rigid geometrical relationship one to another.

5. The method of claim 2, further comprising releasing into water a water compartment comprising openings and further comprising a water-absorbent material, thereby causing said water compartment to auto-inflate.

6. The method of claim 2, further comprising utilizing a chemical reaction to create a gas within at least some of said flotation compartments, thereby inflating them.

7. The method of claim 2, wherein the speed of a deployment craft deploying said boom is automatically adjusted according to the speed of production of said boom.

8. The method of claim 2, further comprising selecting, as a function of environmental conditions, pressures of materials used to fill and inflate said compartments.

9. The method of claim 1, further comprising forming a continuous barrier around said spill using said boom and allowing said continuous barrier around said spill to float freely, unattached to anything.

10. The method of claim 2, wherein said boom is color coded according to at least one of a group of color codes consisting of

a) colors indicating standard lengths of boom, to facilitate judging length of said boom from a distance; and

b) colors indicating positions of openable attachments of said boom, to facilitate locating said openable attachments from a distance.

11. The method of claim 2, wherein said interleaved sleeves become semi-rigid when inflated.

12. A boom for containing a floating material spilled in water, comprising a first sleeve which comprises a plurality of gas-inflatable flotation compartments and a second sleeve which comprises a plurality of water-inflatable compartments, said sleeves being so interleaved that inflation of said air and water compartments connects said sleeves and

forces said flotation and water compartments into at least a semi-rigid geometrical configuration.

13. The boom of claim 12, further comprising a third sleeve which comprises a plurality of water compartments.

14. The boom of claim 12, wherein materials contained in compartments of each of said sleeves, when deployed, are not substantially heavier than water.

15. The boom according to claim 12, wherein said gas-inflatable floatation compartment is wider than it is high, so designed that hydrodynamic forces tend to maintain its wide dimension parallel to surface of water on which it floats, when said flotation compartment is inflated and floating on water; and wherein said

water-inflatable compartment is maintained by inflation forces in a position approximately perpendicular to said wide surface of said flotation compartmentwhen said flotation compartment and water compartment are inflated.

16. The boom of claim 12, containing not more than 1% by volume of material heavier than water.

17. The boom of claim 12, further comprising an end connector manufactured as part of at least one of said sleeves, and useable to connect a boom portion manufactured from one reel of sleeve material to a boom portion manufactured from another reel of sleeve material, wherein said connector is also used as the axis for the boom reel.

18. The boom of claim 12, wherein inflatable compartments in at least one of said sleeves alternate with non-inflatable portions along said at least one sleeve, and said non-inflatable portions are more flexible than said inflatable portions when said inflatable portions are inflated.

19. The boom of claim 12, wherein said boom, exclusive of contained air and water, weighs at most 0.45 kg/meter length.

20. The boom of claim 12, comprising flotation compartments which comprise portions which, when deployed in ambient water, extend along a surface of said ambient water, and said extended portions comprises edges angled downwards when so deployed.

21. The boom of claim 12, further comprising a fillable compartment at least partially filled with water and which is at least partially raised above ambient water level when said boom is deployed in ambient water.

22. The boom of claim 21, wherein said compartment containing water positioned above ambient water level is an extension of a pendent compartment positioned under water, and has a common lumen therewith.

23. The boom of claim 12, comprising at least four extensions of said water-inflatable compartments, at least two positioned below said flotation compartments and at least two at least partially maintained above ambient water level when said boom is deployed in ambient water.

24. The boom of claim 12, wherein said semi-rigid configuration defines a fixed geometrical relation.

25. A boom for preventing passage of a spilled material floating in ambient water, comprising

a) a flotation device; and

b) a compartment containing water in which at least part of said contained water is maintained by said flotation device above water level of said ambient water.

WHAT IS CLAIMED IS:

1. A method for limiting the spread of a spill of floating substances spilled into water, comprising:

a) preparing in advance at least one uninflated sleeve which comprises inflatable compartments selected from a group consisting of a flotation compartments and a water compartments;

b) utilizing a deployment craft to navigate around said spill while manufacturing and deploying portions of a spill-blocking boom, by

i) inflating said boom by inflating said flotation-compartments with a gas and by at least partially filling said water compartments with water so that pressures exerted between said flotation compartments and said water compartments after said at least partial filling and said inflation maintain at least some of said flotation compartments and at least some of said water compartments in at least a semi-rigid geometrical relationship one with another; and

ii) deploying said boom in water near said spill while navigating around said spill,

thereby creating and deploying around at least a portion of said spill a boom which limits spread of said spill.

2. The method of claim 1, wherein said at least one uninflated sleeve comprises segments each having at least one inflatable or fillable compartment.

3. The method of claim 2, wherein inflating of said segments is performed sequentially and deploying of said boom is performed progressively while said deployment craft is moving along an edge of said spill.

4. The method of claim 2, further comprising interleaving segments of a first uninflated sleeve with segments of a second uninflated sleeve prior to completion of said filling and inflating.

5. The method of claim 4, where pressures induced by said filling and inflating hold said interleaved segments in at least a semi-rigid geometrical relationship one to another.

6. The method of claim 4, wherein a segment of said first sleeve interleaves with a single segment of said second sleeve.

7. The method of claim 4, wherein a segment of said first sleeve interleaves with a plurality of segments of said second sleeve.

8. The method of claim 4, further comprising interleaving segments of a first uninflated sleeve with segments of a second uninflated sleeve and with segments of a third uninflated sleeve.

9. The method of claim 2, wherein a cross-sectional profile of flotation compartments of at least a majority of said segments has a width at least 1.5 times greater than its height.

10. The method of claim 2, further comprising using an inflation module to introduce water into said water compartments under pressure.

11. The method of claim 2, further comprising releasing a spring-loaded water compartment under water so as to inflate said water compartment through a one-way valve in said water compartment.

12. The method of claim 2, further comprising releasing into water a water compartment comprising openings and further comprising a water-absorbent material, thereby causing said water compartment to auto-inflate.

13. The method of claim 2, further comprising utilizing a chemical reaction to create a gas within at least some of said flotation compartments, thereby inflating them.

14. The method of claim 2, further comprising releasing a spring-loaded flotation compartment in air so as to allow said flotation compartment to auto-inflate through a one-way valve in said flotation compartment.

15. The method of claim 2, further comprising utilizing a controller receiving information from a sensor to detect an edge of said spill, and using said controller to calculate a steering command for said deployment craft.

16. The method of claim 2, further comprising storing materials and devices for manufacturing said boom at a potential spill site, preloaded on a boat less than 10 m in length.

17. The method of claim 2, further comprising launching said deployment craft and beginning manufacture of said boom within 5 minutes of detection of said spill.

18. The method of claim 2, further comprising manufacturing said boom at a rate of more than 5 meters per minute.

19. The method of claim 2, further comprising connecting one part of said manufactured boom to another part of said manufactured boom to form a continuous barrier around said spill.

20. The method of claim 2, further comprising manufacturing said boom at a speed approximately equal to the speed at which said deployment craft advances around said spill.

21. The method of claim 2, further comprising influencing shape of said manufactured boom by selectively controlling pressure of substances used to fill and inflate said fillable and inflatable compartments.

22. The method of claim 2, further comprising selecting, as a function of environmental conditions, a quantity of water to be introduced into a portion of a water compartment which will be positioned above water level when said boom is deployed.

23. The method of claim 2, further comprising selecting, as a function of environmental conditions, pressures of materials used to fill and inflate said compartments.

24. The method of claim 2, further comprising using a tension sensor to measure tension exerted on a portion of manufactured boom by portions of said boom deployed in the water, and using information provided by said tension sensor to calculate a command to at least one of

a) equipment manufacturing said boom; and

b) a motor imparting movement to said deployment craft.

25. The method of claim 2, wherein said deployment craft is a boat of at most 10 meters in length.

26. The method of claim 19, further comprising allowing said continuous barrier around said spill to float freely, unattached to anything.

27. The method of claim 2, further comprising dispensing, with said boom, at least one of a group consisting of

a) an oil-absorbing layer;

b) an oil-degrading material;

c) a chemical dispenser;

d) a biological dispenser.

28. The method of claim 2, wherein said boom is color coded according to at least one of a group of color codes consisting of

a) colors indicating standard lengths of boom, to facilitate judging length of said boom from a distance; and

b) colors indicating positions of openable attachments of said boom, to facilitate locating said openable attachments from a distance.

29. A boom for containing a floating material spilled in water, comprising a first sleeve which comprises a plurality of gas-inflatable flotation compartments and a second sleeve which comprises a plurality of water-inflatable compartments, said sleeves being so interleaved that inflation of said air and water compartments connects said sleeves and forces said flotation and water compartments into at least a semi-rigid geometrical configuration.

30. The boom of claim 29, further comprising a third sleeve which comprises a plurality of water compartments.

31. The boom of claim 29, wherein materials contained in compartments of each of said sleeves, when deployed, are not substantially heavier than water.

32. A boom for containing a floating material spilled in water, comprising

a) an inflatable flotation compartment wider than it is high, so designed that hydrodynamic forces tend to maintain its wide dimension parallel to surface of water on which it floats, when said flotation compartment is inflated and floating on water; and

b) a water-inflatable compartment maintained by inflation forces in a position approximately perpendicular to said wide surface of said flotation device when said flotation compartment and water compartment are inflated.

33. The boom of claim 32, containing not more than 1% by volume of material heavier than water.

34. The boom of claim 32, wherein width of said flotation compartment is at least 1.25 times height of said flotation compartment.

35. The boom of claim 29, further comprising an end connector manufactured as part of at least one of said sleeves, and useable to connect a boom portion manufactured from one reel of sleeve material to a boom portion manufactured from another reel of sleeve material.

36. The connector of claim 35 whereas said connector is also used as the axis for the boom reel.

37. The boom of claim 29, wherein inflatable compartments in at least one of said sleeves alternate with non-inflatable portions along said at least one sleeve, and said non-inflatable portions are more flexible than said inflatable portions when said inflatable portions are inflated.

38. The boom of claim 29 or 32, wherein said boom, exclusive of contained air and water, weighs at most 0.45 kg/meter length.

39. The boom of claim 29 or 32, comprising flotation compartments which comprise portions which, when deployed in ambient water, extend along a surface of said ambient water, and said extended portions comprises edges angled downwards when so deployed.

40. The boom of claim 39, wherein a degree by which said edges angle downward varies as a function of inflation pressures used in said inflatable compartments.

41. The boom of claim 29 or 32, further comprising a fillable compartment at least partially filled with water and which is at least partially raised above ambient water level when said boom is deployed in ambient water.

42. A boom for containing a floating material spilled in water, which boom, when deployed in water, comprises:

a) flotation compartment containing gas and serving as a flotation device for said boom;

b) a compartment comprising a material at least as heavy as water which is pendent from and is positioned below said flotation device when said boom is deployed in water; and

c) a compartment at least partially filled with water, in which at least some of said filling water is positioned above ambient water level when said boom is deployed in ambient water.

43. The boom of claim 42, wherein said pendent compartment is a fillable compartment in a sleeve and is at least partially filled with water.

44. The boom of claim 42, wherein said compartment containing water positioned above ambient water level is an extension of said pendent compartment and has a common lumen therewith.

45. The boom of claim 42, wherein said boom comprises a first sleeve which comprises said flotation compartment interleaved with a second sleeve which comprises said pendent, said first and second sleeves being held in at least semi-rigid relation to each other when said flotation compartment is inflated with a gas and said pendent compartment is filled with water.

46. A boom for containing a floating material spilled in water, comprising

a) an inflatable flotation compartment; and

b) at least two water-inflatable compartments maintained below said flotation compartment when said boom is deployed.

47. The boom of claim 46, comprising at least four extensions of said water-inflatable compartments, at least two positioned below said flotation compartments and at least two at least partially maintained above ambient water level when said boom is deployed in ambient water.

48. A boom collector for collecting a boom after deployment in water, comprising a machine for puncturing flotation compartments and water compartments of said boom and one of a group consisting of

a) a compressing device for compressing portions of said boom after said portions are substantially emptied of gas and of water;

b) a reel for reeling in said boom after said portions are substantially emptied of gas and of water; and

c) a shredder for shredding said boom.

49. A method for limiting the spread of a spill of floating substances spilled into water, comprising:

a) surrounding at least a portion of said spill with a floating barrier which substantially prevents passage of said spilled material across said barrier; and

b) allowing said barrier to float freely in a water environment, absent physical connections to boats and to objects in fixed physical positions.

50. A boom for preventing passage of a spilled material floating in ambient water, comprising

a) a flotation device; and

b) a compartment containing water in which at least part of said contained water is maintained by said flotation device above water level of said ambient water.

51. A method for limiting spread of a spill of floating material in water, comprising using a deployment craft to surround said detected spill with a boom at least 200 meters long within 15 minutes of detecting said spill.

52. A method of using a deployment craft to deploy a spill-containing boom, comprising using a tension sensor to measure tension exerted on a portion of manufactured boom by portions of said boom deployed in the water, and using information provided by said tension sensor to calculate a command to at least one of

a) equipment manufacturing said boom; and

b) a motor imparting movement to said deployment craft.