What is claimed is:

1. A dosing system for adding an additive to an aquatic environment from a removable additive container that includes an additive-identification device, the dosing system comprising:

an additive receiver designed and configured to removably receive the removable additive container;

a dispensing mechanism designed and configured to controllably dispense a desired additive into the aquatic environment when the removable additive container is engaged with said additive receiver;

an additive-presence-detecting device designed and configured to interface with the additive-identification device of the removable additive container so as to identify the additive of the additive container; and

a controller in operative communication with said dispensing mechanism and said additive-presence-detecting device, said controller designed and configured to be responsive to a dosing signal and to the identity of the additive by the additive-presence detecting device so as to control said dispensing mechanism to controllably dispense the desired additive.

2. A dosing system according to claim 1, wherein said controller is designed and configured to control said dispensing mechanism to not dispense the additive from the additive container if the identity of the additive does not correspond to a desired additive called for by the dosing signal.

3. A dosing system according to claim 1, wherein said additive receiver is removable from the dosing system.

4. A dosing system according to claim 1, wherein said additive receiver includes a receptacle that is part of a dispensing bin.

5. A dosing system according to claim 1, wherein said dispensing bin is removable from the dosing system.

6. A dosing system according to claim 1, wherein the dosing system includes a plurality of said additive receiver, each additive receiver associated with a corresponding one of a plurality of said dispensing mechanism and a corresponding one of a plurality of additive-presence-detecting device, each of the plurality of additive-presence-detecting devices in operative communication with said controller so as to allow said controller to identify a corresponding additive present in any additive container positioned in a corresponding one of the plurality of additive receivers.

7. A dosing system according to claim 6, wherein said controller is designed and configured to control the plurality of additive receivers such as to control a select dispensing mechanism

corresponding to a select one of the plurality of additive receivers having a desired additive corresponding to a dosing signal.

8. A dosing system according to claim 1, further comprising an additive-quantity-sensing mechanism.

9. A dosing system according to claim 8, wherein said additive-quantity-sensing mechanism includes a dispensing rod of said dispensing mechanism.

10. A dosing system according to claim 8, wherein said additive-quantity-sensing mechanism includes said dispensing mechanism.

11. A dosing system according to claim 1, wherein the dosing signal is based on information from a monitoring device associated with the dosing system, the monitoring device in contact with the aquatic environment to measure one or more parameters of the aquatic environment.

12. A dosing system according to claim 1, wherein the additive is a desired additive and the additive-identification device on the removable additive container includes at least one first key feature unique to the desired additive, and said additive-presence-detecting device includes at least one second key feature designed and configured to uniquely engage with the first key feature to allow the removable additive container to fully engage said additive receiver only if the removable additive container contains, or at one time did contain, the desired additive.

13. A dosing system according to claim 1, wherein the additive-identification device comprises a machine-readable device, and said additive-presence-detecting device includes a reader designed and configured to read the machine-readable device of the removable additive container.

14. A dosing system according to claim 13, wherein the machine-readable device comprises a radio-frequency identification (RFID) device, and said reader comprising an RFID reader located proximate to said additive receiver so as to read the RFID device substantially only when the removable additive container is engaged with said additive receiver.

15. A dosing system according to claim 14, wherein the RFID device on the removable additive container is a writable device, and said RFID reader is designed and configured to write information to the RFID device of the removable additive container.

16. A dosing system according to claim 13, wherein the machine-readable device comprises an optically readable device, and said reader comprising an optical reader located proximate to said additive receiver so as to read the optically readable device substantially only when the removable additive container is engaged with said additive receiver.

17. A dosing system according to claim 13, wherein the machine-readable device comprises a magnetically readable device, and said reader comprising a magnetic reader located proximate to said additive receiver so as to read the magnetically readable device substantially only when the removable additive container is engaged with said additive receiver.

18. A dosing system according to claim 13, wherein the machine-readable device comprises a haptically readable device, and said reader comprising a haptic reader located proximate to said additive receiver so as to read the haptically readable device when the removable additive container is engaged with said additive receiver.

19. A dosing system according to claim 1, wherein said additive receiver includes a piercing structure designed and configured to pierce a wall of an additive container received by the additive receiver when the additive container is properly positioned.

20. A dosing system according to claim 1, wherein said dispensing mechanism includes a dispensing rod.

21. A dosing system according to claim 20, wherein said dispensing rod includes a dosing receptacle.

22. A dosing system according to claim 21, wherein the dispensing receptacle is shaped and configured to reduce the force needed to rotate said dispensing rod.

23. A dosing system according to claim 22, wherein the dispensing receptacle is shaped in a V-shape.

24. A dosing system according to claim 1, further comprising a slotted key mechanism for receiving a finned element of an additive container, wherein said slotted key mechanism is physically associated with said additive receiver to prevent insertion of an additive container into said additive receiver if the additive container includes a finned element that does not match said slotted key mechanism.

25. A dosing system according to claim 24, wherein said slotted key mechanism is removable.

26. A dosing system according to claim 25, wherein said slotted key mechanism includes a slotted insert that is removable from an insert receiver that is part of said additive receiver, the slotted key mechanism including a slotted insert identification device configured to identify an

additive corresponding to the slotted insert and said additive receiver includes a slotted insert identification reader for reading the slotted insert identification device.

27. An apparatus for use with an aquatic-environment doser having an additive-presence-detecting device, the apparatus comprising:

a container designed and configured to contain an additive for being dosed to an aquatic-environment by the aquatic-environment doser when the apparatus is engaged with the aquatic-environment doser, said container having a fill opening designed and configured for filling said container with the additive;

a seal designed and configured for hermetically sealing said fill opening after said container has been filled with the additive;

a hopper designed and configured to funnel, via gravity, the additive within said container toward an exit opening when the apparatus is installed in the aquatic-environment doser; and

an additive-identification device engaged with said container and designed and configured to interface with the additive-presence-detecting device when the apparatus is dosingly engaged with the aquatic-environment doser and to allow the aquatic environment doser to identify the additive that is present in said container when the apparatus is dosingly engaged with the aquatic-environment doser.

28. The apparatus according to claim 27, wherein the aquatic-environment doser includes a dosing driver, the apparatus further comprising a dosing mechanism located proximate to the exit opening when the apparatus is installed in the aquatic-environment doser, said dosing mechanism including a drive interface for drivingly coupling said dosing mechanism to the dosing driver when the apparatus is dosingly engaged with the aquatic-environment doser.

29. The apparatus according to claim 28, wherein said dosing mechanism extends into said hopper.

30. The apparatus according to claim 29, wherein the exit opening is a permanent opening, the apparatus further comprising a re-sealable that seals and unseals said permanent opening as a function of engagement of the apparatus with the aquatic-environment doser.

31. The apparatus according to claim 29, wherein the exit opening is a permanent opening, the apparatus further comprising a single-use removable seal.

32. The dosing system according to claim 27, wherein the additive is a desired additive and said additive-identification device engaged with said container includes at least one first key feature unique to the desired additive, and the additive-presence-detecting device of the aquatic-environment includes at least one second key feature designed and configured to uniquely engage with said first key feature to allow the apparatus to fully engage the aquatic-environment doser only if the apparatus contains, or at one time did contain, the desired additive.

33. The dosing system according to claim27, wherein said additive-identification device comprising a machine-readable device, and the additive-presence-detecting device includes a reader designed and configured to read the machine-readable device of the apparatus.

34. The dosing system according to claim 33, wherein said machine-readable device comprises a radio-frequency identification (RFID) device.

35. The dosing system according to claim34, wherein said RFID device engaged with said container is a machine-writable device.

36. The dosing system according to claim 33, wherein said machine-readable device comprises an optically readable device.

37. The dosing system according to claim 33, wherein said machine-readable device comprises a magnetically readable device.

38. The dosing system according to claim 33, wherein said machine-readable device comprises a haptically readable device.

39. An apparatus for a dosing system that utilizes a liquid additive and a pump that draws the liquid additive out of a container containing the liquid additive via a suction tube, wherein the container has an opening and an additive-identification device, the apparatus comprising:

a body designed and configured to engage the container;

a suction-tube receptacle designed and configured to receive the suction tube and position the suction tube so that it extends through the opening of the container when the body is engaged with the container; and

an additive-presence-detecting device designed and configured to interface with the additive-identification device when the body is engaged with the container.

40. The apparatus according to claim 39, wherein the additive identification device comprises a first key structure and said additive-presence detecting system comprises a second key structure and a switch, said second key structure designed and configured to uniquely mate with the first key structure in a manner that activates said switch only when said second key structure uniquely mates with the first key structure.

41. The apparatus according to claim 39, wherein the additive identification device comprises at least one structural feature, and said additive-presence detecting system comprises a haptic reader for haptically reading the at least one structural feature.

42. The apparatus according to claim 41, wherein said haptic reader comprises a plurality of electrical switches.

43. The apparatus according to claim 39, wherein the additive-identification device comprising a machine-readable device, and said additive-presence-detecting device includes a reader designed and configured to read the machine-readable device of the container.

44. The apparatus according to claim 43, wherein the machine-readable device comprises a radio-frequency identification (RFID) device, and said reader comprising an RFID reader located proximate to said receptacle so as to read the RFID device substantially only when said body is engaged with the container.

45. The apparatus according to claim 44, wherein the RFID device on the removable additive container is writable device, and said RFID reader is designed and configured to write information to the RFID device of the container.

46. The apparatus according to claim 43, wherein the machine-readable device comprises an optically readable device, and said reader comprising an optical reader located proximate to said receptacle so as to read the optically readable device substantially only when said body is engaged with the container.

47. The apparatus according to claim 43, wherein the machine-readable device comprises a magnetically readable device, and said reader comprising a magnetic reader located proximate to said receptacle so as to read the magnetically readable device substantially only when said body is engaged with the container.

48. The apparatus according to claim 43, further comprising communications means designed and configured to communicate information from said reader to a dosing controller.

49. The apparatus according to claim 39, further comprising a backflow sensor designed, configured, and located so as to sense backflow of the liquid additive into the container when said body is engaged with the container and the pump is not operating.

50. A method of dosing an additive to an aquatic environment from an additive container engaged with a doser using dosing hardware having a dosing mechanism, comprising:

identifying, via the dosing hardware, presence of the additive container in the doser;

generating, within the dosing hardware, an electronic signal indicative of an amount of the additive to be dosed; and

driving the dosing mechanism as a function of the electronic signal so as to dispense the additive into the aquatic environment.

51. A method of dosing an additive to an aquatic environment from a doser having a plurality of additive receivers each designed and configured to receive any one of a plurality of additive containers that contain differing additives, the method comprising:

identifying, via dosing hardware, which of the differing additives is located in which of the plurality of additive receivers;

receiving, within the dosing hardware, an electronic signal indicating that a particular one of the differing additives requires dispensing; and

automatedly driving, within the dosing hardware, a dosing mechanism as a function of said identifying and the electronic signal so as to dispense the particular additive into the aquatic environment.

52. A method of dosing a liquid additive to an aquatic environment from a container containing the liquid additive, the method comprising:

receiving, within dosing hardware, an indication of a dosage of the liquid additive to be dosed;

determining, within the dosing hardware, a dosage pumping time as a function of the indication of the dosage;

determining, within the dosing hardware, an indication of a backflow amount of the liquid that backflowed into the container since an immediately prior dosing of the liquid additive;

determining, within the dosing hardware, a pre-dosage pumping time as a function of the indication of the backflow amount; and

generating, within the dosing hardware, a pump control signal as a function of the dosage pumping time and the pre-dosage pumping time.

53. A method of dosing an additive to an aquatic environment from an additive container engaged with a doser using dosing hardware having a dosing mechanism, comprising:

receiving in a additive receiver of the doser a removable additive container;

identifying using the dosing hardware the identity of an additive in the additive container;

generating, within the dosing hardware, an electronic signal indicative of an amount of the additive to be dosed; and

driving the dosing mechanism as a function of the electronic signal and the identity of the additive so as to dispense the additive into the aquatic environment.

What is claimed is:

1. A dosing system for adding an additive to an aquatic environment from a removable additive container that includes an additive-identification device, the dosing system comprising:

an additive receiver designed and configured to removably receive the removable additive container;

a dispensing mechanism designed and configured to controllably dispense a desired additive into the aquatic environment when the removable additive container is engaged with said additive receiver;

an additive-presence-detecting device designed and configured to interface with the additive-identification device of the removable additive container so as to identify the additive of the additive container; and

a controller in operative communication with said dispensing mechanism and said additive-presence-detecting device, said controller designed and configured to be responsive to a dosing signal and to the identity of the additive by the additive-presence detecting device so as to control said dispensing mechanism to controllably dispense the desired additive.

2. A dosing system according to claim 1, wherein said controller is designed and configured to control said dispensing mechanism to not dispense the additive from the additive container if the identity of the additive does not correspond to a desired additive called for by the dosing signal.

3. A dosing system according to claims 1 or 2, wherein said additive receiver is removable from the dosing system.

4. A dosing system according to any of claims 1 to 3, wherein said additive receiver includes a receptacle that is part of a dispensing bin.

5. A dosing system according to claim 4, wherein said dispensing bin is removable from the dosing system.

6. A dosing system according to any of claims 1 to 5, wherein the dosing system includes a plurality of said additive receiver, each additive receiver associated with a corresponding one of a plurality of said dispensing mechanism and a corresponding one of a plurality of additive-presence-detecting device, each of the plurality of additive-presence-detecting devices in operative communication with said controller so as to allow said controller to identify a corresponding additive present in any additive container positioned in a corresponding one of the plurality of additive receivers.

7. A dosing system according to claim 6, wherein said controller is designed and configured to control the plurality of additive receivers such as to control a select dispensing mechanism

corresponding to a select one of the plurality of additive receivers having a desired additive corresponding to a dosing signal.

8. A dosing system according to any of claims 1 to 7, further comprising an additive-quantity-sensing mechanism.

9. A dosing system according to claim 8, wherein said additive-quantity-sensing mechanism includes a dispensing rod of said dispensing mechanism.

10. A dosing system according to claim 8, wherein said additive-quantity-sensing mechanism includes said dispensing mechanism.

11. A dosing system according to any of claims 1 to 10, wherein the dosing signal is based on information from a monitoring device associated with the dosing system, the monitoring device in contact with the aquatic environment to measure one or more parameters of the aquatic environment.

12. A dosing system according to any of claims 1 to 11, wherein the additive is a desired additive and the additive-identification device on the removable additive container includes at least one first key feature unique to the desired additive, and said additive-presence-detecting device includes at least one second key feature designed and configured to uniquely engage with the first key feature to allow the removable additive container to fully engage said additive receiver only if the removable additive container contains, or at one time did contain, the desired additive.

13. A dosing system according to any of claims 1 to 12, wherein the additive-identification device comprises a machine-readable device, and said additive-presence-detecting device includes a reader designed and configured to read the machine-readable device of the removable additive container.

14. A dosing system according to claim 13, wherein the machine-readable device comprises a radio-frequency identification (RFID) device, and said reader comprising an RFID reader located proximate to said additive receiver so as to read the RFID device substantially only when the removable additive container is engaged with said additive receiver.

15. A dosing system according to claim 14, wherein the RFID device on the removable additive container is a writable device, and said RFID reader is designed and configured to write information to the RFID device of the removable additive container.

16. A dosing system according to claim 13, wherein the machine-readable device comprises an optically readable device, and said reader comprising an optical reader located proximate to said additive receiver so as to read the optically readable device substantially only when the removable additive container is engaged with said additive receiver.

17. A dosing system according to claim 13, wherein the machine-readable device comprises a magnetically readable device, and said reader comprising a magnetic reader located proximate to said additive receiver so as to read the magnetically readable device substantially only when the removable additive container is engaged with said additive receiver.

18. A dosing system according to claim 13, wherein the machine-readable device comprises a haptically readable device, and said reader comprising a haptic reader located proximate to said additive receiver so as to read the haptically readable device when the removable additive container is engaged with said additive receiver.

19. A dosing system according to any of claims 1 to 18, wherein said additive receiver includes a piercing structure designed and configured to pierce a wall of an additive container received by the additive receiver when the additive container is properly positioned.

20. A dosing system according to any of claims 1 to 19, wherein said dispensing mechanism includes a dispensing rod.

21. A dosing system according to claim 20, wherein said dispensing rod includes a dosing receptacle.

22. A dosing system according to claim 21, wherein the dispensing receptacle is shaped and configured to reduce the force needed to rotate said dispensing rod.

23. A dosing system according to claim 22, wherein the dispensing receptacle is shaped in a V-shape.

24. A dosing system according to any of claims 1 to 23, further comprising a slotted key mechanism for receiving a finned element of an additive container, wherein said slotted key mechanism is physically associated with said additive receiver to prevent insertion of an additive container into said additive receiver if the additive container includes a finned element that does not match said slotted key mechanism.

25. A dosing system according to claim 24, wherein said slotted key mechanism is removable.

26. A dosing system according to claim 25, wherein said slotted key mechanism includes a slotted insert that is removable from an insert receiver that is part of said additive receiver, the slotted key mechanism including a slotted insert identification device configured to identify an additive corresponding to the slotted insert and said additive receiver includes a slotted insert identification reader for reading the slotted insert identification device.