What is claimed is:

1. A monocoque body for an unmanned underwater vehicle (UV) comprising:

a nose portion,

a tail portion,

a body interior surface,

a body exterior surface, and

wherein the monocoque body comprises an underbody that is a one-piece structural shell made of fiber reinforced sheet,

wherein the underbody is configured to receive a removable cover.

2. The monocoque body of claim 1, wherein the fiber reinforced sheet is a polymer reinforced by carbon fiber.

3. The monocoque body of claim 1, wherein the monocoque body forms a portion of a UUV that is free-flooding.

4. The monocoque body of claim 1, further comprising an acoustically transparent window.

5. The monocoque body of claim 4, wherein the acoustically transparent window is integrally formed out of the fiber reinforced sheet and is configured to permit acoustic signals to travel through the monocoque body.

6. The monocoque body of claim 1, wherein:

the body interior surface forms a cavity; and

the monocoque body further comprises a plurality of transverse structural members integrally formed into the monocoque body.

7. The monocoque body of claim 6, wherein the transverse structural members separate the cavity into a plurality of payload area(s) configured to receive a payload for attachment to the monocoque body.

8. The monocoque body of claim 7, wherein the payload comprises at least one of: a battery, a motor, a pressure vessel, or a sensor.

9. The monocoque body of claim 1, wherein the monocoque body further comprises one or more longitudinal supports extending axially along the monocoque body between the tail portion and the nose portion.

10. The monocoque body of claim 9, wherein the longitudinal supports form an attachment rail.

11. The monocoque body of claim 10, wherein the attachment rail is configured to removably receive a payload.

12. The monocoque body of claim 1, wherein:

the monocoque body further comprises an aperture extending through the body exterior surface, the aperture being configured to receive a face of a sensor connected to the monocoque body.

13. An unmanned underwater vehicle (UUV) comprising:

a monocoque underbody providing structural support for the UUV and adapted to receive a payload, comprising:

a nose portion,

a tail portion,

a body interior surface forming a cavity,

a body exterior surface, and

a plurality of transverse structural members integrally formed into underbody.

14. The UUV of claim 13, wherein the underbody is constructed of a polymer reinforced by carbon fiber.

15. The UUV of claim 13, wherein the UUV is free-flooding.

16. The UUV of claim 13, further comprising:

a cover extending from the nose portion to the tail portion and comprising:

a cover interior surface; and

a cover exterior surface;

wherein the cover attaches to the underbody such that the cover interior surface faces the body interior surface, and the cover exterior surface and the body exterior surface together form an exterior surface of the UUV; and

wherein the cover is removably attached to permit access to the cavity.

17. The UUV of claim 16, wherein the body exterior surface forms 30% to 70% of a total exterior surface of the UUV.

18. The UUV of claim 16, wherein:

the cover is adapted to have at least one of a lower strength or weight than that of the underbody.

19. The UUV of claim 13, wherein the underbody further comprises one or more longitudinal supports extending axially along the underbody between the tail portion and the nose portion and forming an attachment rail.