Figure 3.4 Osmotic relationships between aquatic organisms and fresh or salt water. 
(a) Seawater: animal with body fluid fresher than seawater experiences water loss, salt invasion; animal with body fluid as saline as seawater experiences no net effects. (b) Fresh water: all organisms have body fluids more saline than fresh water; all are invaded by water and lose salt.
FIGURE 11.6 The concentration of salts and other solutes, known as *salinity*, in the body fluids of estuarine animals responds in various ways to the salinity of the surrounding water. In a perfect osmoconformer, the salinity of the blood exactly matches that of the water. In a perfect osmoregulator, blood salinity stays the same no matter what the water salinity is. We have drawn the line for an imaginary perfect osmoregulator at 35%. The salmon and freshwater eel are nearly perfect osmoregulators even though their bloods are more dilute. The important point is not the actual salinity of the blood but the fact that it remains relatively constant. Notice that some organisms, like the crab in the diagram, can only osmoregulate within a certain range of salinity; they are osmoconformers outside this range.