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# ENVIRONMENTAL Fact Sheet

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## Biodegradable Soaps and Water Quality

Outdoors recreation often leaves a little bit of nature on our bodies, our pets, our gear and our vehicles. Facilities for cleaning up after a long day of mountain biking, fishing, hiking or boating are not always readily available when you are in the out-of-doors. There are plenty of biodegradable, all-natural and organic cleaning products on the market, but using them outdoors is usually not appropriate, and in many cases, not what they were meant for. The majority of all-natural soaps and cleaning products are formulated to be used in the home and should not be used outside.

### **What does BIODEGRADABLE Really Mean?**

A material is considered biodegradable if it is "capable of being decomposed by biological agents, especially bacteria," or if it is a "material that, left to itself, will be decomposed by natural processes." When you really think about it, most products can be considered biodegradable; it's just a matter of time.

When considering soaps and other cleansers, the bigger question is: How quickly does the soap break down and what conditions are necessary for breakdown to occur? And, an even more important question is: What by-products does the soap or cleanser leave behind?

Phosphorus was once a common ingredient used in many cleansers, but did you know that it is illegal to sell soaps containing phosphorus in New Hampshire? The exception to this law is for soaps used in automatic dishwasher detergent. As a rule of thumb though, it is always a good idea to check the label and make sure phosphorus is not a listed ingredient.

Phosphorus has been banned because it is a "limiting nutrient" associated with aquatic plant and algal growth. Phosphorus-loading in freshwater systems like lakes, ponds, and rivers leads to increased plant and algal growth, oxygen depletion and ultimately accelerated lake aging. If you are caught using soap containing phosphorus in New Hampshire, other than automatic dishwasher detergent, you may be fined. Aside from the legal issues, it is also important to consider that, with the exception of a few backpackers' soaps, most of these products are meant to be used in the home, not outdoors.

### **Dilution is NOT the Solution to Pollution!**

While it was once thought that dilution would take care of most pollutants in surface waters, over time this theory has been found to be untrue. If you are the only person washing in a cool mountain stream with a bar of organic soap or the only person on your pond washing a boat with a bio-degradable cleanser, that one isolated incident may not have a detectable impact on the

quality of the water. However, if everyone recreating nearby washed themselves in the river or cleaned their boat in the pond with biodegradable soap, the water could reduce or lose the ability to breakdown the soaps and cleansers. It should be noted, too, that it is illegal in New Hampshire to add any-thing to freshwater, including soaps and cleansers.

### **- What is the Alternative?**

Water, by itself, is an excellent solvent. Water molecules are charged and have a negative and positive end that readily attach to other molecules. This property enables water to bond directly to dirt and mud and wash it away. The soap only helps to suspend the dirt that water readily attaches to and rinse it away more quickly and easily. A little elbow grease and a good sponge or cloth should be enough to get most of the dirt off until facilities are available for use.

This principle also applies to boat washing. If straight water is not quite enough to remove a season's worth of grime on your boat, there are a few appropriate alternatives. Boat washing facilities are available in some areas. If that is not feasible, the best thing to remember is to wash your boat like you would your kitchen floor, not your car. Don't spray soap and water all over your boat and the ground, but carefully use a sponge and bucket. Try to keep as much soap and rinse water contained and out of the lake, pond or river as possible. When you are finished, dispose of soapy water in a sink, not a storm drain, as most drains empty into the nearest water body.

Freshwater is a resource we all need and use. It is important to keep it as clean and healthy as possible, so that it may be used and enjoyed by generations to come. For more information about water quality issues in New Hampshire, go to [www.des.nh.gov](http://www.des.nh.gov).