

# Biodegradable Soap: A "Solution" Degrading the Environment

J. Whitney Evans  
 Environmental Issues: ODED 4500  
 Georgia College & State University

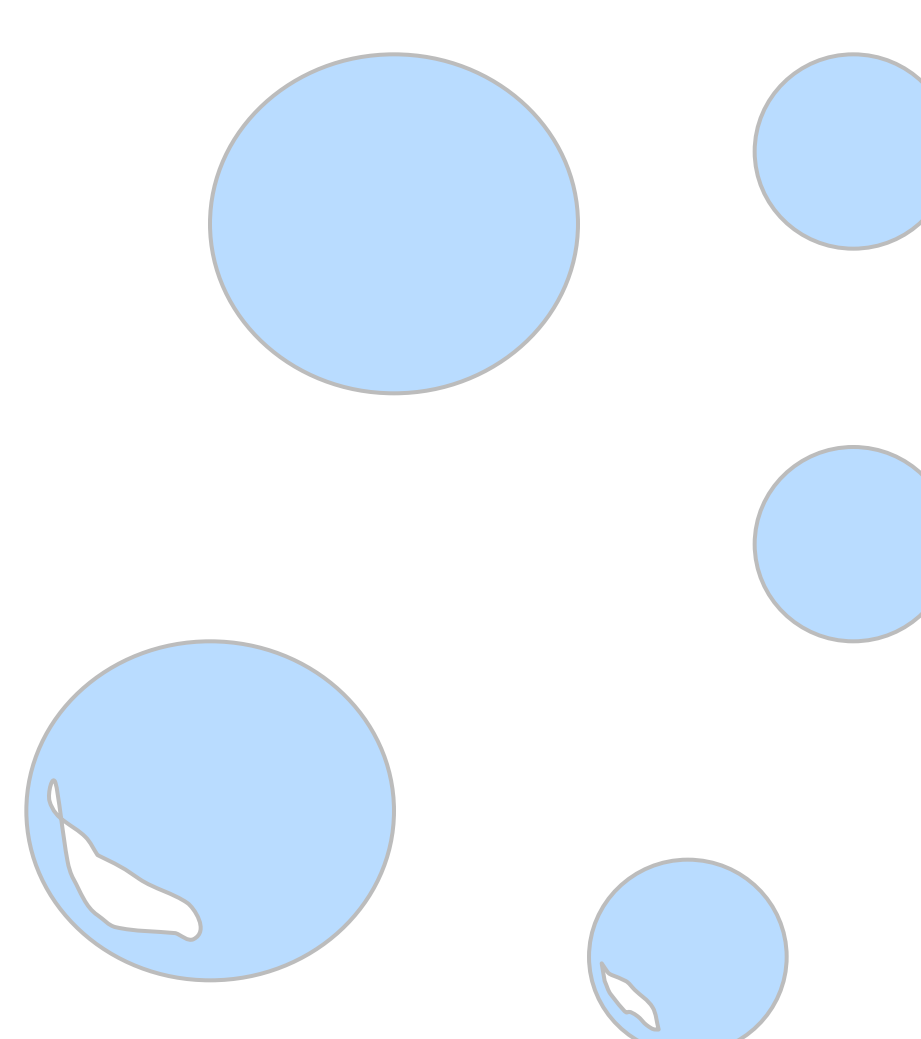
## Introduction

If something is biodegradable it means that it is capable of being decomposed by biological causes, particularly bacteria. If the material is "left alone" it should be able to decompose itself.

Biodegradable soap has been relied upon by many campers to bathe conscience free in the backcountry. However, many campers didn't question the repercussions their *friendly* soap may induce on the environment.

Biodegradable soap is impacting wildlife and flora in the water systems. It can cause an increase in algae growth and cause fish to suffocate. Indirectly, the production of biodegradable soap is causing the destruction of rainforests.

The word "biodegradable" misleads a consumer into believing to trust a product unknowingly. In actuality the producers may impose consumers to believe whatever they want, just as long they'll buy the product.



## WHAT'S THE DIFFERENCE?

### Soap:

An agent used in conjunction with water for cleaning mainly consisting of fats and lye

### Bio-Soap:

Soap that decomposes naturally and is not harmful to the environment

### Detergent:

Acts similar to soap in that it is a cleaning agent, but consists of chemicals.



## WEB RESOURCES



<http://www.lnt.org/>

<http://www.bpiworld.org/>

<http://www.fda.gov/>



## The Impacts

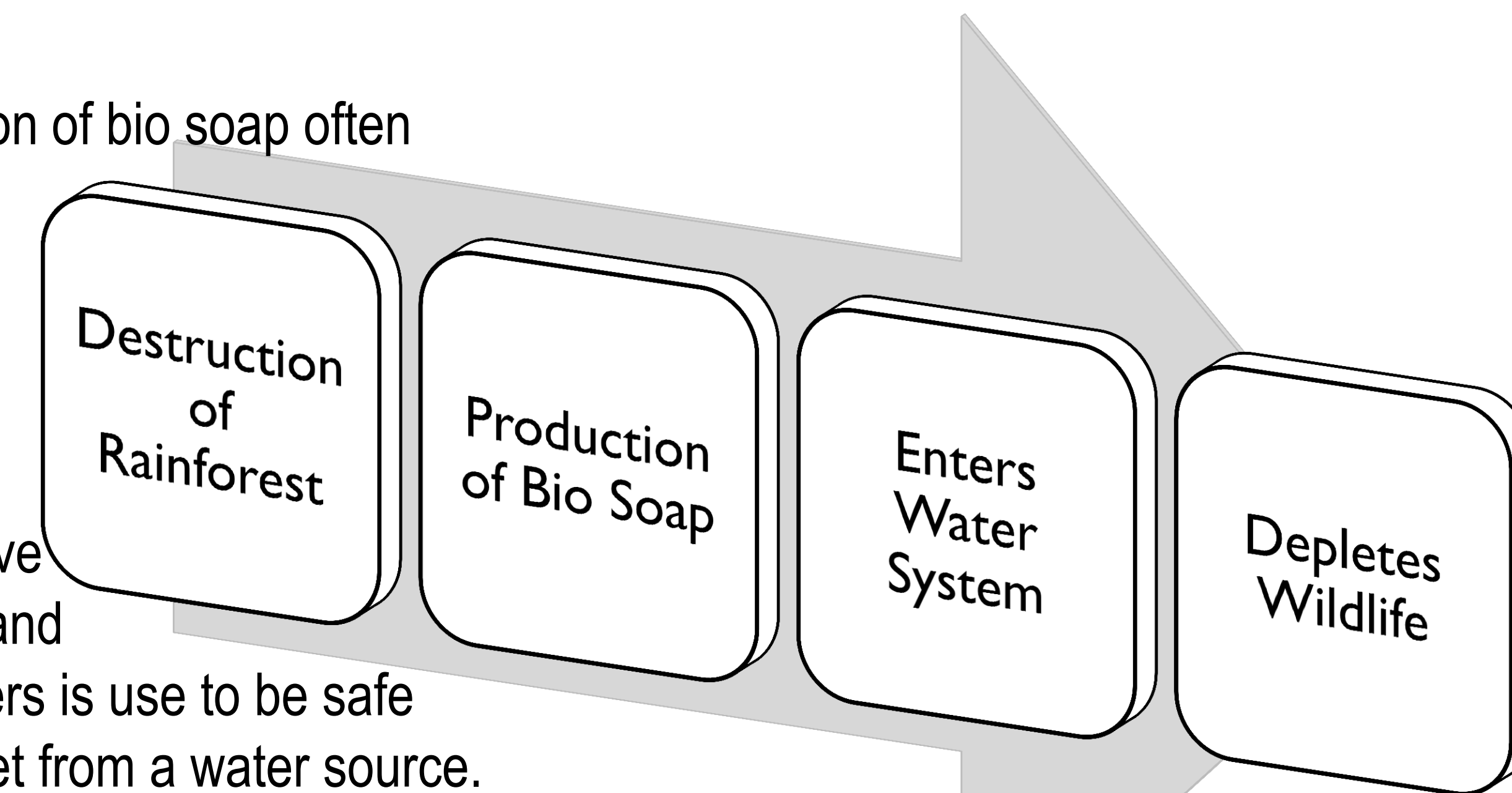
### The Process

**DESTRUCTION OF RAINFOREST:** The production of bio soap often requires the ingredient of palm or lemon oil. Bio soap's biggest set back is that rainforests have been cut down to plant palm and lemon trees in order to produce the soap.

**PRODUCTION OF BIO SOAP:** Bio soaps can have harmful substances in it like phosphorous. Trees and waterways depicted on most bio soap's labels infers is use to be safe anywhere when in actuality it's best to use 200 feet from a water source. Huge carbon emissions are produced in the destruction of rainforest and production of soap.

**ENTERS WATER SYSTEM:** Bio soap enters the water system via campers or water treatment plants. Every drop of soap is more powerful than most campers tend to realize.

**DEPLETES WILDLIFE:** Adding phosphorous to a waterway causes an increase in algae growth which can suffocate other fauna from developing. Any kind of detergent will damage the gills and destroy the mucus membranes of fish causing them to be susceptible to bacteria and infection as well as interrupting oxygen transfer.



## THE FISH

Detergents, any in general, are toxic to fish near 15 parts per million and can kill fish eggs at 5 (ppm). Indirectly, even at 2ppm water tension is lowered enough for fish to absorb twice the amount of organic chemicals like pesticides.



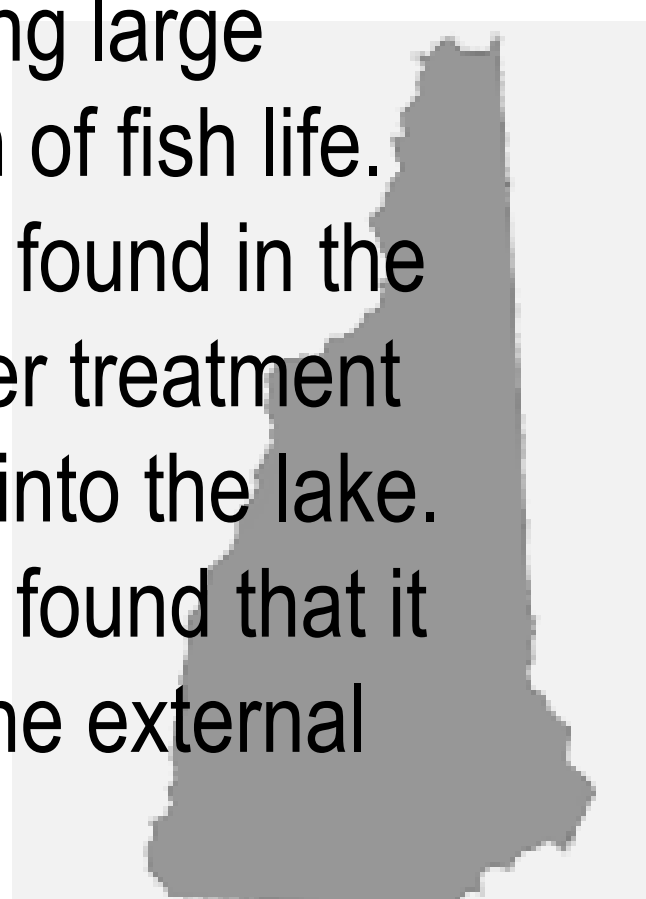
## ONE DROP

**Every drop matters**  
 It only takes 15 parts per million to kill fish  
 A camper *must* realize that their mindset may be like many others...together, their drops and others become more than just ONE drop.

## PHOSPHOROUS

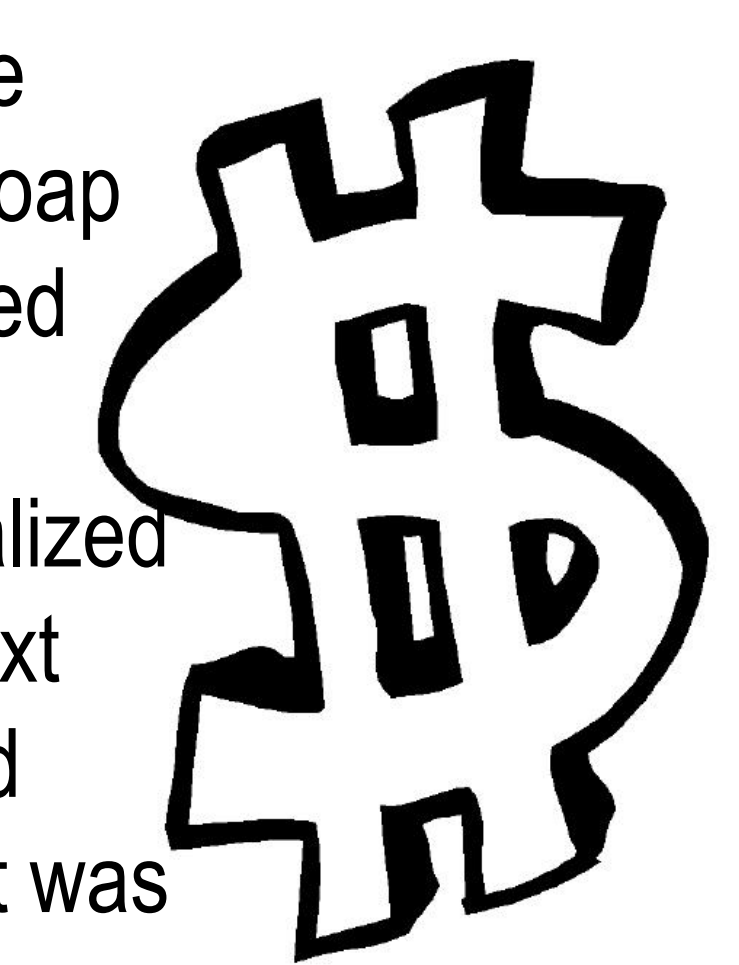
Phosphorous can lead to increased plant or algae growth, oxygen depletion, and tends to age a water source quicker.

In the 1980's New Hampshire had a phosphorous scare when Kezar Lake was showing large amounts of algae growth and death of fish life. The large amounts of phosphorous found in the lake was mostly due to a large water treatment plant that was dumping gray water into the lake. After being shut down, researchers found that it was responsible for 71 percent of the external phosphorous load.



## THE COSTS

Is the leading factor in the negative impact soap now creates. Before soap was a commodity to sell people used fat and mud that gathered at the site of a sacrifice. People soon realized that people would pay for soap. Next scientist found that chemicals could create soap cheaper and detergent was born. The production of bio soap is even cheaper with palm oils being 33 to 39 cents per pound. However the bigger, environmental trepidations, will ultimately have larger costs



## Realize the Tricks and Lessen the Footprint

### Not Using Soap:

Companies that do try and be more environmentally sound should be commended. More green is better than not green at all.

Soap isn't necessary in the backcountry.

A warm wash cloth can clean off most dirt and debris.

Use hand sanitizer to kill germs or sand and pebbles.



### If You *Have* to use Soap:

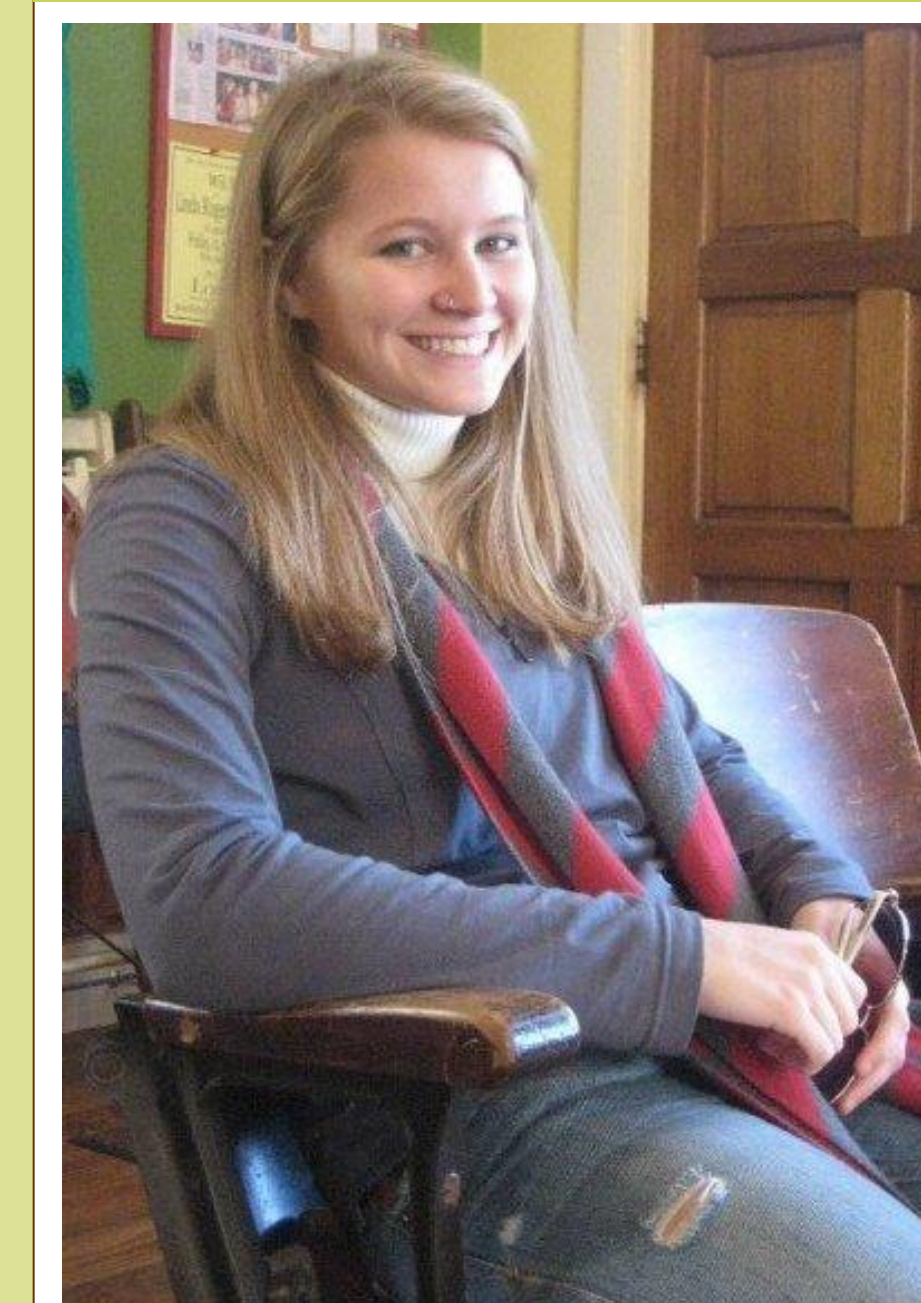
Use it sparingly.

Use at least 200 feet away from a water source.

Dig a cat hole to dump gray water into so that soil can quicken the degrading of the soap.

**Consumers will realize "biodegradable" and "natural" doesn't always equal sustainable**

## CONTACT INFORMATION



J. Whitney Evans  
 GCSU Outdoor Education & Psychology Undergrad  
 jessica\_evans@gcsu.edu

Whitney grew up in the suburbs of Woodstock Georgia where the constrictions of the cookie cutter life bored her. She attended Agnes Scott College her freshman and part of her sophomore year. With a break in life to gather what was missing in her curriculum, she found Georgia College & State University's Outdoor Education Program to match well with her interest in psychology. After her graduation in 2010, she hopes to find work in a therapeutic wilderness setting with the experience she's gathered in her education.

