**Ch 1 Book Synopsis**

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**Ecology’s magic glasses**

If there is nothing else you learn from this book it should be this; ecologists look at nature and see populations, communities, ecosystems, and now landscapes in nature, categories that provide organization for the major theoretical principles in ecology. Without categories, ideas in ecology go by on a conveyor belt. There is no connection between one major idea and another. An entire semester becomes a list of vocabulary with no connecting theme.

Seeing the categories separately is like wearing magic glasses (Fig. 1-1). Blink once and a mountainside is one or more populations. Blink twice and the same mountainside becomes several species interacting to form a community. Blink three times and the mountainside is energy flows and nutrient cycles forming an ecosystem. Blink again and the mountainside becomes a mosaic in landscape ecology.

**Figure 1-1. A mountainside can be viewed in at least six different ways in nature**

These classic ecology views are different from what natural historians (naturalists) see on the mountain. Naturalists focus on the names of species and the major characteristics of each species. Besides biology, natural historians include geology, astronomy, and other natural sciences in their descriptions of nature. In contrast, ecologists emphasize biology.

The classic ecology views are also different from the environmental problems and solutions that environmentalists see on the mountain. Environmentalists address issues with human dimensions like energy use or water quality.

Environmentalism is also characterized by **advocacy**, citizens reporting problems and seeking solutions. Classic ecologists

**Hemlock Wooly Adelgid infestation**

**oak blight**

**hydrocarbon pollution**

**climate change**

**patch**

heat

**H2O**

**matrix**

**patch**

**landscape ecology view**

**environmentalist view**

**population ecology view**

**ecosystem ecology view**

- sees heterogeneous patches

- sees flows of energy and cycles of matter

- sees members of one species interacting in one place

- sees environmental problems and solutions

**forest**

**lake**

**swamp**

**old field**

**succession**

**community ecology view**

- sees several species interacting in one place

**naturalist view**

**Eastern Hemlock**

**White Oak**

- sees nature study

ecologists