

ECOSYSTEM CONCEPTS AND MANAGEMENT



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Natural Resources Specialist III**

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Ecosystem management (holistic) involves an understanding of ecological concepts in an attempt to maintain balance

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Short-cuts are usually not advantageous; a management problem is not 'solved' if short-term gains are achieved at the expense of long-term stability (winter feeding)

ECOSYSTEM MANAGEMENT

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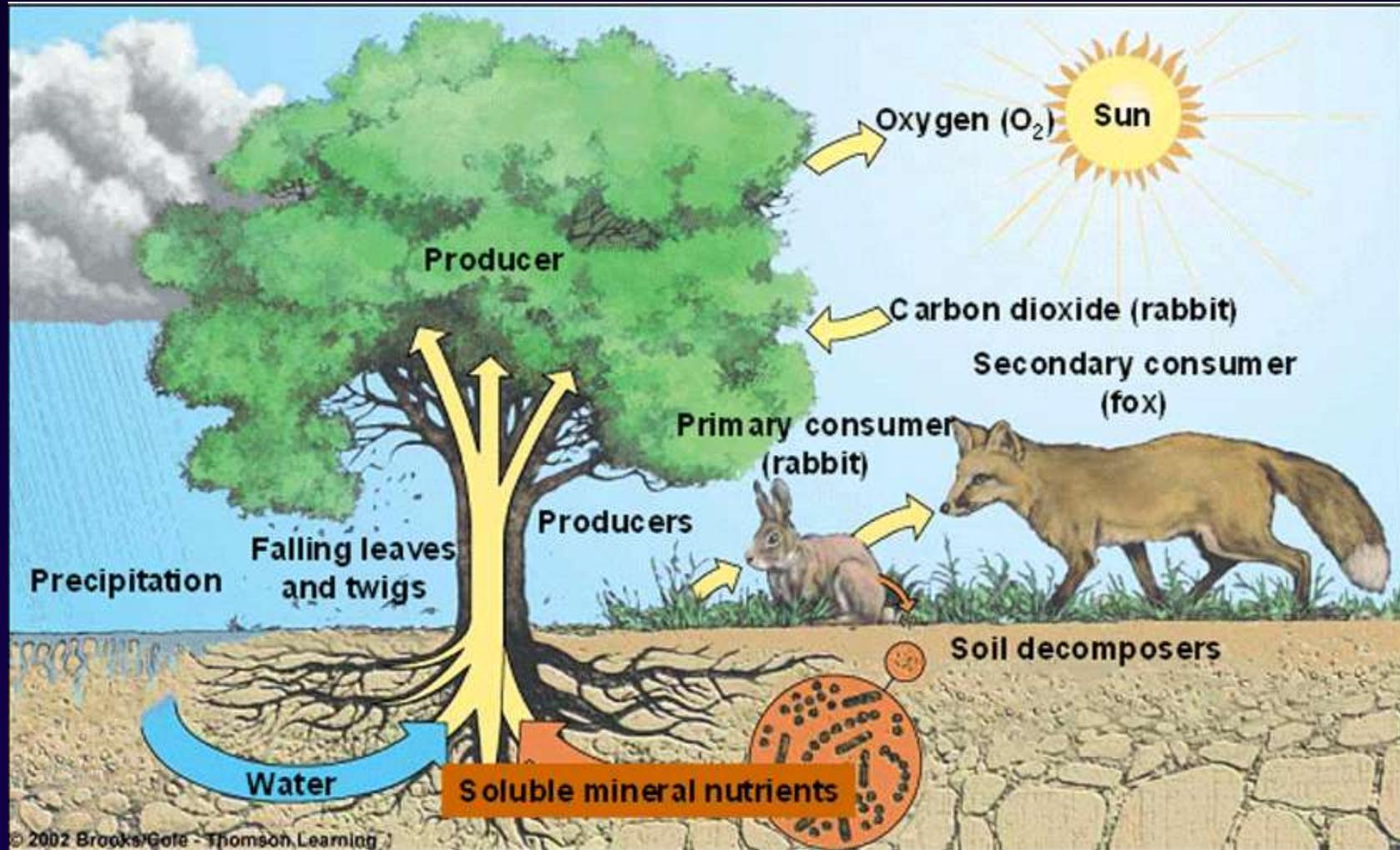


ECOSYSTEM

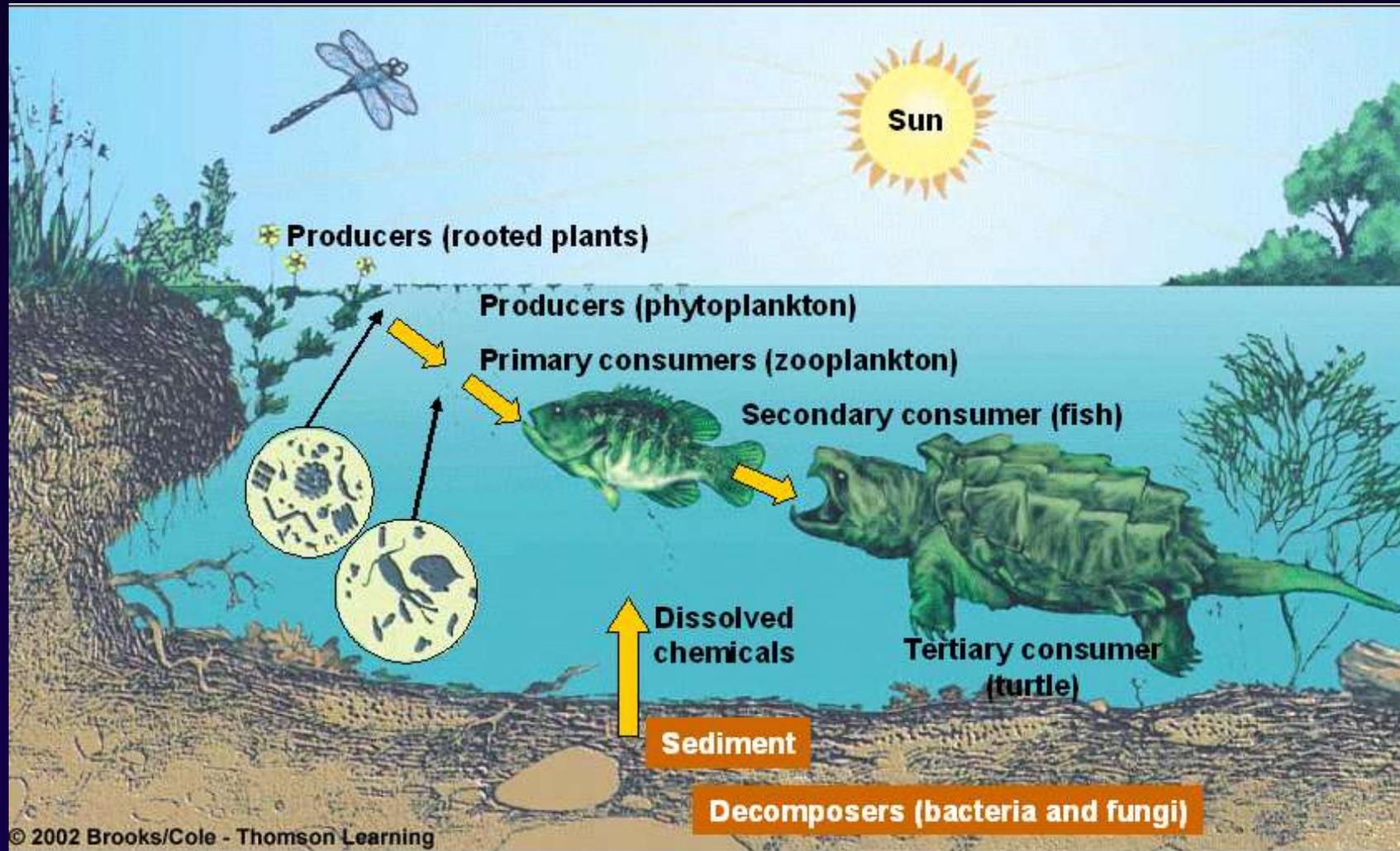
ECOSYSTEM MANAGEMENT



ENERGY TRANSFER AND TROPHIC LEVELS



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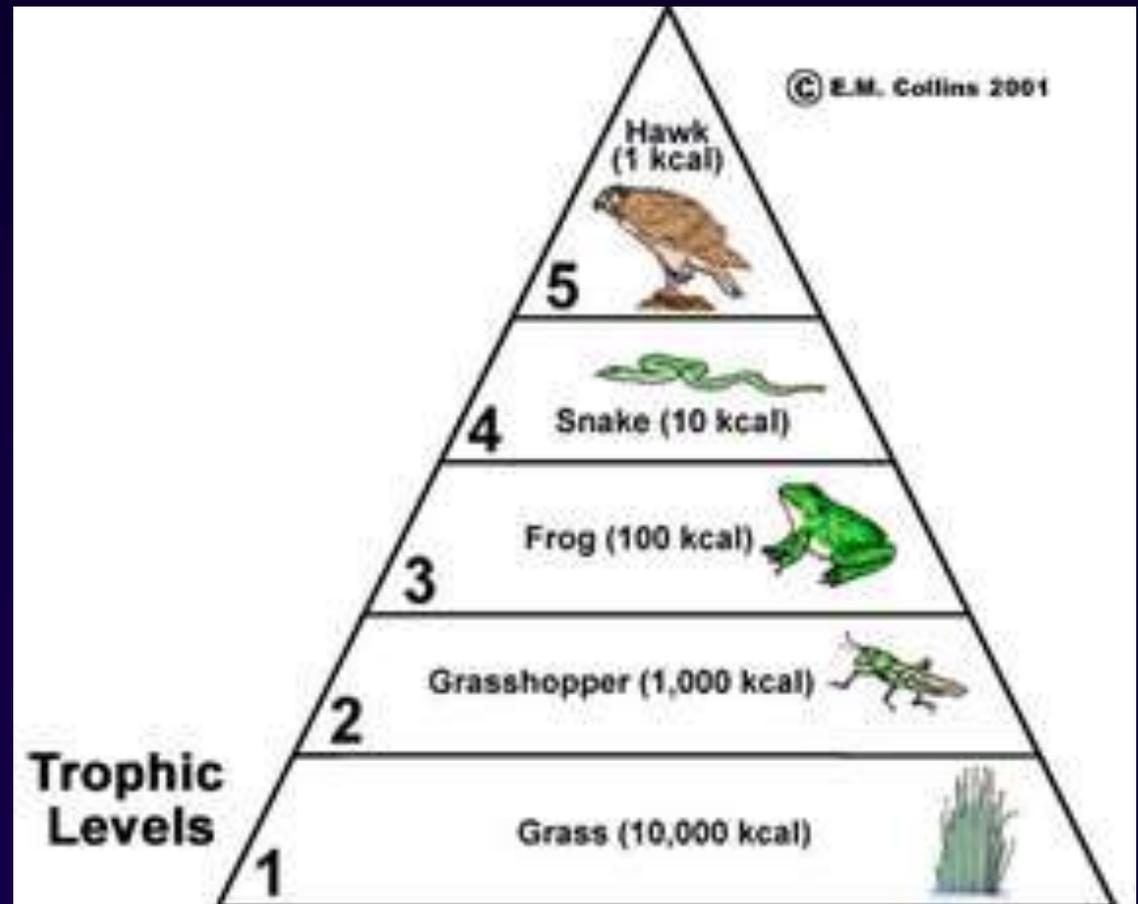


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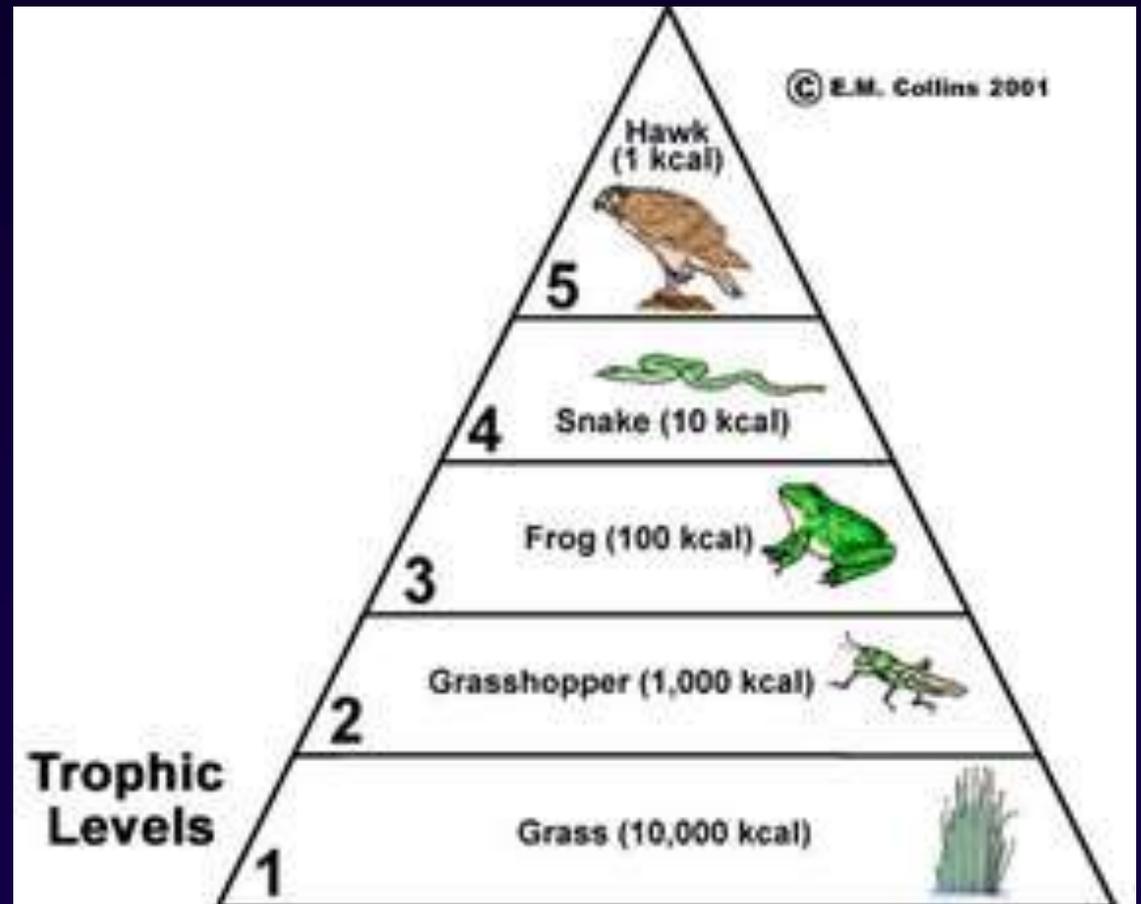
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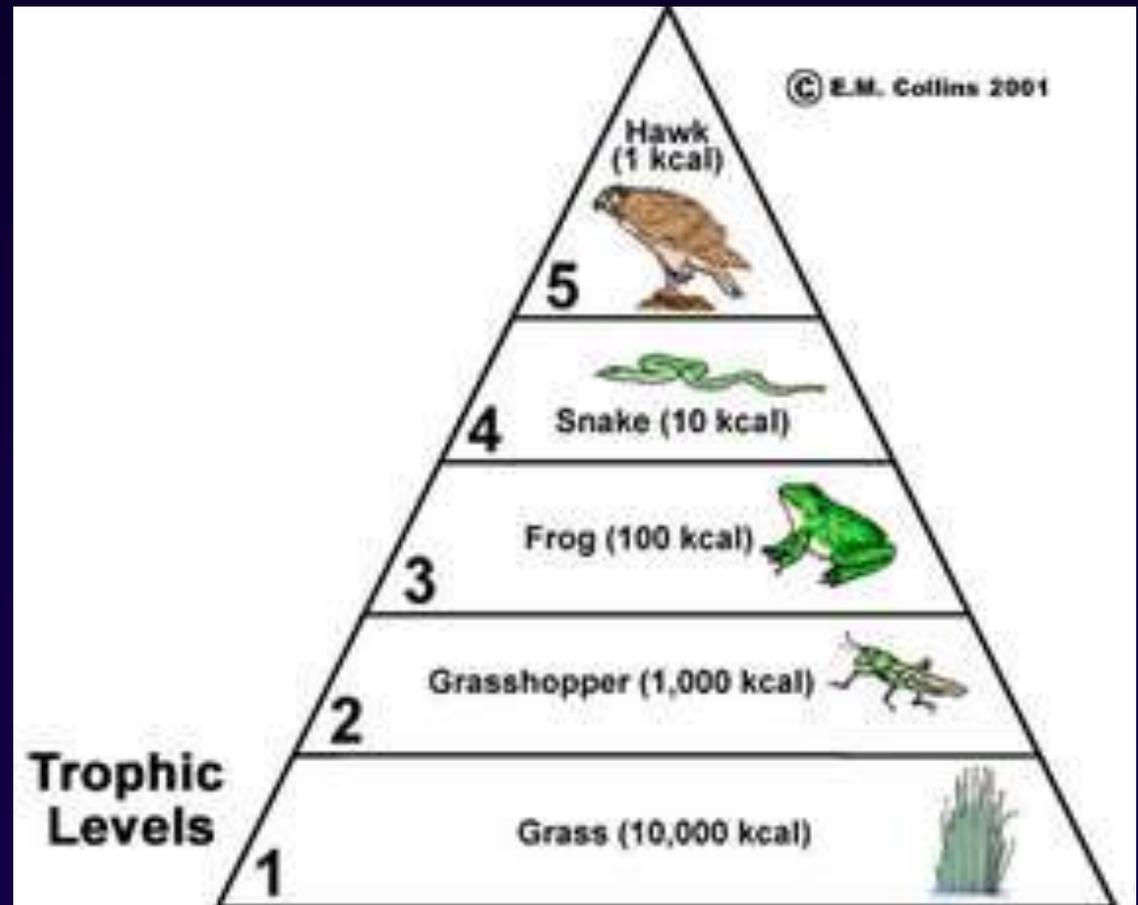


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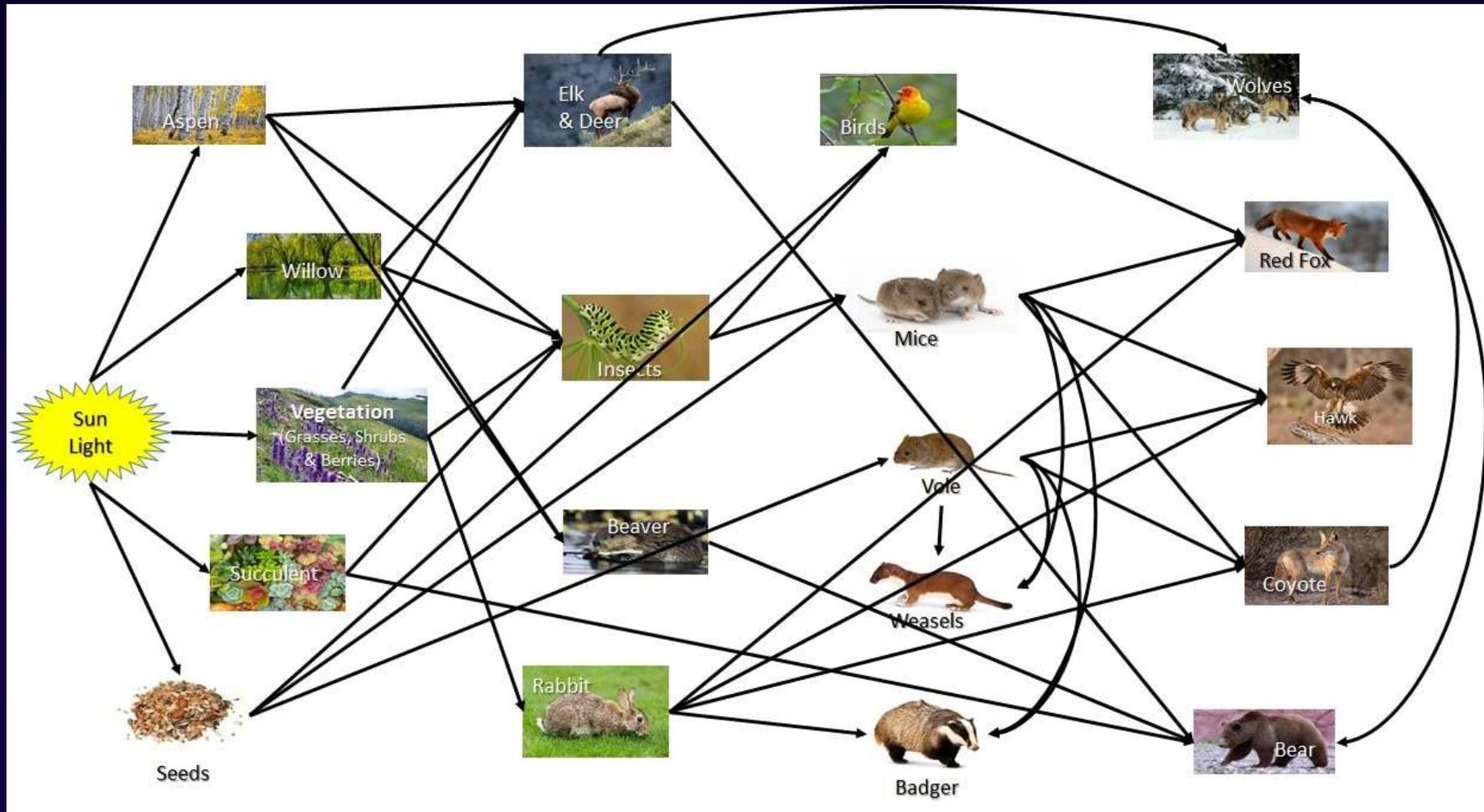
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The longer the food chain, the more producers that are needed



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Top predator: grizzly bear _____ Calories needed
by this predator/year: 3,000,000 _____

AMOUNT OF BIOMASS DIRECTLY REQUIRED

Prey Species	% of bear's diet	# cal needed from	# prey individuals needed
White pine (seeds)	60	1,800,000	1,800,000
Miller moths	20	600,000	1,200,000
Elk	10	300,000	5
Trout	10	300,000	200

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Management of these systems can be achieved by following the seven principles of ecology

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- 5. Nature knows best; organisms that are suited and adapted will occupy the site**

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7. Every gain is won at some cost (burning, predator control)

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Minimize the introduction and spread of non-native species

TAKE-HOME MESSAGE

The reason for management lies not in managing the natural, but in managing the non-natural (non-native species, habitat fragmentation, overgrazing, fire suppression, monocultures, etc.)