Ecology and Ecosystems Laboratory

Record your answers in the Concepts of Science lab book under Lab 12.
Community members:
Producer – bacteria, algae, and plants
Consumer – fish, frogs, birds, etc.
Decomposers – fungi and bacteria
Abiotic components:
   water, sediments, rocks, etc.
What are the tropic levels in the box?
How much energy from the plants gets to the bird?

Tropic levels:
- Photosynthetic primary producer - plants
- Herbivore consumer - frogs
- Carnivore consumer - birds

Amount of energy held in the plant that gets to the bird:
- plant (100%) → frog (10%) → bird (1%)
Figure 2 - Desert area

Is this an ecosystem?  
If so, who are the community members?  
What are the abiotic components?

Community members:  
Producers – bacteria, algae, and plants  
Consumers – reptile (Gila monster), birds, etc.  
Decomposers – fungi and bacteria

Abiotic components:  
sediments (sand), rocks, infrequent rain, etc.
Is this an ecosystem?  
If so, who are the community members?  
What are the abiotic components?

Community members:  
Producers – bacteria, algae, and plants  
Consumers – coral, fish, urchins etc.  
Decomposers – fungii and bacteria

Abiotic components:  
water, sediments, rocks (dead coral), etc.
Is this an ecosystem?
If so, who are the community members?
What are the abiotic components?

Community members:
Producers – bacteria, algae, and plants
Consumers – people, other mammals, birds, etc.
Decomposers – fungii and bacteria

Abiotic components:
concrete, asphalt, metal, brick, water, air, etc.
What are the abiotic sources of carbon (carbon dioxide)?
Natural – volcanic eruptions, gas from sea water, sediments
Man-made – fossil fuel combustion

What are the biotic sources of carbon and carbon dioxide?
respiration of animals, decomposition of dead tissue

What are the places where carbon and carbon dioxide reside?
Short term: living tissue, sediments, ocean water, atmosphere
Long term: fossil fuels, rocks
Figure 6 - Law of unintended consequences

Kudzu

Atlanta, Georgia
Figure 7 - Law of unintended consequences

Rabbits in Australia

Wardang Island, Australia (1938)
Since the 1930s, more than 1.2 million acres (1,900 square miles), an area the size of Delaware, has disappeared from the Mississippi River Delta.
Note that by 2100, New Orleans will not be above sea level.