



# Queensland News

*Rainforest Live*

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LINKING CLASSROOMS AROUND THE WORLD TO RESEARCH SITES AROUND THE WORLD

## Food Web is Complex Chain...



**Tara DeWitt**  
Smith College  
October 16, 1997  
Food Webs

The food web is a complex chain of eating patterns amongst inhabitants of an ecosystem. Generally, the larger creatures eat the smaller ones and so on, however, an initial source of energy is required. The sun is this initial energy source.

The sun is a bright star in the sky that shines upon Earth and provides warmth and energy. The amount of warmth created is perfectly suited for sustaining life. Plants take in this energy and convert it using it as their source of food through photosynthesis. The ability of plants to convert the sun's energy into a food source labels them as the primary producers of the food web. It is



from these primary producers that the rest of the ecosystem gathers energy.

Animals, depending on their dietary habits, are either a herbivore, carnivore, or omnivore. Herbivores feed exclusively on plants. They are the primary consumers of the food chain. Carnivores are exclusively meat eaters, or secondary consumers.

They generally eat the primary consumers.

Omnivores are very versatile when it comes to eating habits, they consume both vegetation and meat. The brush turkeys of the Australian rainforest are omnivores.

Larger animals, such as humans, are categorized at the top of the food chain. Because of size, larger animals are able to eat animals smaller than them. Humans are generally omnivores, but vege-

### QUOTABLE QUOTE

*“Everything that grows  
Holds in perfection  
but a  
little moment.”*

**William Shakespeare**  
*Sonnet 15, l. 1*

tarians have reduced their dietary habits to that of an herbivore. For humans, it is a matter of personal choice.

The food web is very complex and each inhabitant of the ecosystem, despite their position within the web, is essential. All species are interdependent and rely on one another throughout the web. Each species is just as important and necessary as the next. Despite size, each plant or animal has a certain vital position or role within the food web. All are important pieces of an intricate puzzle.

## EXTRA! EXTRA!

- 10/16** Lectures in the morning. Warwork and sports in the afternoon. Pack and get ready for field trip to Babinda.
- 10/17** Left for Babinda. Talk with Errol Wiles about benefits reforestation has for water catchments. Visit to Danny's family banana and sugar cane farm. Spotlighting for nighttime wildlife.
- 10/18** Visit to an organic banana farm. Afterwards we will head back to Warrawee.
- 10/19** Students Day off! Plans are to spend all day hiking in areas around the Center.
- 10/20** Macro-invertebrate sampling at various waterways in the Tableland area. Invertebrate identification in the afternoon.

### Inside this Issue...

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by Sarah Good

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**Student Journals**



**Sarah R. Good**  
**Vassar College**  
**October 16, 1997**  
**Mistnetting**

Yesterday morning I woke up at 5:30 a.m. to the 'Dawn Chorus' performed by the birds who live in the woods surrounding my cabin. The sun had not quite risen as I stumbled to get dressed in the darkness. I was excited because we were going to go mistnetting—a technique used to capture birds. I am involved in a Directed Research project about the birds in the Rainforest. My research group will be identifying, banding, measuring and releasing birds at our study site at the Toohey's creek corridor system.

This particular morning was our first opportunity to mistnet. We set up a series of five nets around the SFS Center at 6:00 a.m. and checked them about every 45 minutes until 10:00 a.m. We caught and identified five male eastern spinebills, two pale yellow robins, two red-browed firetails, one juvenile scarlet honeyeater, one silver eye, one mistletoe bird, one spotted catbird, one Lewin's honeyeater and one eastern whipbird. This was

the first time I had ever taken a bird out of a net. I learned how to hold the bird firmly between my index and middle finger, just above its knee or around the back of the head. It was amazing how small the birds were, each one fit into my palm. The feathers were so soft and the plumage appeared more brilliant than when I saw them through my binoculars. I could feel their heart beating and see them blink their eyes.

After we took the measurements on the birds, we released them from where we caught them. It was so gratifying to watch each bird fly away. I am learning to recognize each of the birds by their calls, which is similar to learning a foreign language. I am really lucky to have the opportunity to see and hear all of these birds, because many of them are endemic to or found only in the Wet Tropics. I look forward to recognizing the birds I caught that morning singing its part in the 'Dawn Chorus' another morning.



**Brian Goldberg**  
**Union College**  
**October 16, 1997**  
**Dirt Under the Fingernails**

Today was awesome. I woke up at 6:45 a.m. because I was on kitchen patrol and had to set out breakfast at 7:30 a.m. I also had to peel and cut vegetables for the morning field trip. Marcella, Jon, Natasha, and I cleaned up the kitchen at warp speed.

We arrived at the farm at 9:30 a.m. and met the five reforestation workers from the Wet Tropics

Tree Planting Scheme. Along with twelve other students, I put on a hard hat, sound mufflers, and gloves and fired up the three person hole digging machine.

We spent two hours digging two foot deep holes on the steep, eroded slope. I kept slipping down the hill because there was no vegetation holding the soil in place. After tons of scrapes, cuts, bruises, dirt in our shoes and under our fingernails, Jeremy, Herbie, and I had dug nearly 200 tree holes.

Other students put a handful of organic fertilizer and a tiny six inch tree in the holes. We all felt so great, despite the dirt and sweat. Together, we had planted almost 700 trees!

Back at the center, I took a jog down the access road with Herbie and Christian. We bumped into Cathy at the end of the road and spotted a four foot red bellied black snake curled up like a hose on the road side. It quietly slithered into the woods when the sun disappeared behind the clouds.

Peter, the cook, made a great vegetable stir-fry for dinner. Dessert was a tasty bowl of ice cream topped with chocolate sauce and a spoonful of peanut butter. I played my ecological economics professor, Josh, in the quarterfinals of our Ping-Pong tournament, read an article for tomorrow's lecture and dozed off to sleep at 10 p.m. A great ending to an amazing day!





# Q&A

## Q. What is the weather like? Is it how you expected?

*Tim D., Cambridge, MA, USA*

**A.** From September through December, the Australian rainforest experiences a dry season. It has only rained three or four times over the past month and a half. Usually, the weather is sunny and around 75 to 85 degrees Fahrenheit during the day. Students are always careful to use sunscreen during the day to reduce our exposure to the powerful UV rays of Queensland.

Because our site is located in the Atherton Tablelands located 2100 feet above sea level, the climate is considerably cooler in the spring and summertime than on the East coast, where most people live. At night time, the skies are clear and the temperature drops to around 60 to 70 degrees Fahrenheit.

Although I knew that I would be studying during the dry season, I expected much more precipitation than we are receiving. I think I have only worn my raincoat twice!

*by Marc Hiller*



## Q. Since you live in the rainforest and don't have a garbage dump nearby what do you do with all of the garbage?

*Marc K., Houston, TX, USA*

**A.** Here at Warawee we try to limit the trash we create as much as possible. However, the trash that we do take to the local dump is considerable since we are a



community of nearly 40 people. In addition to the amount of waste we create, the conditions at the Yungaburra dump are not so hot. One of the students here who has visited the dump, and who is familiar with proper dump procedures, was disappointed by Yungaburra's set up. The landfill is not properly lined so trash is just thrown into a hole in the ground—not an ecologically friendly procedure.

In attempts to keep our waste minimal we have adopted a number of waste limiting practices. Most of us have rechargeable batteries for our Walk-mens, cameras, and flashlights, and we reuse any big envelopes that we receive in the mail. We use both sides of our paper and recycle it when we are finished with it. We also recycle all of our soda cans, juice bottles, milk bottles and cardboard. These materials are taken to the school in Yungaburra from which we hope it is taken to a recycling facility in Cairns. However it takes at least as much energy to take the cans, bottle, paper, and cardboard all the way to Cairns as we save by recycling. This makes for an interesting debate.

Finally, we have a compost pile where we throw all of our compostable food waste, i.e. any-

thing that doesn't contain fat. This compost pile works year round breaking down our food waste into soil. This very fertile soil is used in gardens around the site.

*by Ecy McIlvain*

## Q. How close is the nearest town? Have you been to visit it yet?

*Tara M., London, England*

**A.** Yungaburra, the nearest town, is about a twenty minute drive from the center. It is a very small town with about a dozen stores, post office, park, fire station, and



school. It is surrounded by pasture land for cattle and agricultural land. Most houses are built on stilts because of the harsh wet season and for better air ventilation during the dry season. Nearly every day a staff member drops off and picks up mail on the way to a field site. We usually drive through Yungaburra to go on various afternoon field trips.

I have been to the Yungaburra State School several times for my Directed Research project. I am teaching 6th graders, along with two other SFS students, the value of the rainforest. We are planning a slide show, food web game, and a tree planting exercise to help illustrate the many roles that the rainforest plays. The school is located right up against a patch of rainforest so we plan to take the students outside for activities.

*by Noel Kemmerer*

Want to send a question?

Email us at

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**Katie Reefe**  
**Research Update: Water Quality**  
**October 21, 1997**

On October 7th, the class took a trip to Bromfield Swamp to meet with Mark from the Integrated Catchment Management Team. The area is unique in that it is the only swamp on basaltic soil on the Tablelands. The main tributary from the area is the major water supply to the Malanda area, which is a town nearby. The area surrounding the swamp is classified as degraded due to poor land uses. These poor land uses include deforesting and cattle grazing, as well as cropping. Cattle have the biggest impact on the creek edge and lead to increased silting of the creek and the downstream areas. Mark and his volunteers are looking to reforest the areas along the creeks (the riparian zones) in order to improve the water quality and insure the health of the swamp and the drinking water supply for the town of Malanda.

Later on that week we took a trip to the town of Babinda, about two hours away. It was southwest of Yungaburra and off the Tablelands and much hotter than it is at the Center. We met with several farmers to learn what they are doing to improve the forestation efforts. We discussed the possibility of creating economic incentives for reforestation and got to talk to farmers that are finding it beneficial to their crops to be ecologically conscious.

On October 18th, we went and gathered macro invertebrates from Toohey's Creek to practice identification and link the species we find with the condition of the site. There are more resilient species that can live in disturbed and exposed areas of land. It also ties in with our study of water quality.

We are having a great time learning about the importance of water quality and what farmers and land owners can do to improve the quality of the water that flows in and out of their property.

### Home Connection:

All living things can be organized within a food web. We can classify things as a producer, consumer, or decomposer. Start out by defining a producer, consumer and decomposer and give an example for each classification. Next, locate several pictures for each classification from magazines, newspapers, or the Internet. Understanding that a food web is a series of interconnecting food chains, create a diagram using the pictures you have collected. Label each picture according to its classification, then connect the pictures with arrows to create a food web.



1. When does the Australian Rainforest have its dry season?
2. What is the name of the town closest to the Center for Rainforest Studies?
3. Name three types of birds the students caught while mistnetting?

### Glossary:

**consumer:** an organism that eats other organisms

**food web:** a feeding pattern in which energy in food passes from one animal or plant to the next

**producer:** an organism that produces food

**tributary:** water that flows into a larger stream or lake

## Site's Log

### 10/21/97

**TIME:** 8:00 a.m. AEST  
(Australian Eastern Standard Time)

**AIR TEMP:** 21° C

**RAINFALL:** .75 mm

**WX:** misty but clearing up to be another sunny day!

#### KEY:

°C=degrees Celsius

mm=millimeter

1. From September through December.
2. Yungaburra.
3. Any 3 of the following:  
male eastern spinebill, pale yellow robin, red-trowed firetail, juvenile scarlet honeyeater, silver eye, mistletoe bird, spotted catbird, Lewin's honeyeater and eastern whp-bird.

### Answers to Quiz



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### Send us your questions!

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