

## Biomes of Australia, 2006 Itinerary

Australian Embassy in Washington, D.C. 1601 Massachusetts Ave, NW, Washington DC 20036 Telephone: (202) 797-3000 Fax: (202) 797-3168 URL: <a href="http://www.austemb.org/">http://www.austemb.org/</a>	U.S. Embassy in Canberra Moonah Place, Yarralumla, A.C.T. 2600, Phone: (61)(2) 6214-5600, fax (61)(2) 6273-3191
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Our airline ticket agent is

Alice H. Loff, AAA Travel. 2900 AAA Court, Bettendorf, IA 52722 P: 563 332-3347 F: 563 332-7991

Trip interruption/lost baggage, health insurance through Student ID card, Call 1-715-342-4104 collect worldwide for claim service. Also see [www.ISICus.com](http://www.ISICus.com) for details.

### May 8, Monday

Security checks could delay us, so plan to arrive early. American suggests check-in 2 to 3 hours prior to departure for international flights. Your checked luggage may be randomly searched before you get a seat assignment. This can delay you 20 minutes or so. They will essentially search for explosives and then you will have to repack. Carry-on luggage may also be searched at gate. Do not carry on anything that could be considered a weapon: nail clippers, pointed comb handle, razor, hair spray, wires, etc. Think proactively and put all such objects in checked luggage and only carry on absolute necessities. In case your bag is late in arriving in Melbourne, consider the following for carry-on : toilet kit, needed medications, change of socks and underwear, sweater/fleece for Melbourne climate, rain wear, good book or playing cards.

Carry the following documents in a place that is secure but that you can easily access: passport, electronic visa, air tickets, credit card, cash.

Risk Management Analysis: You may miss flights if you do not pay attention to boarding times and allow time for security checks. During transoceanic flight (15 hr+) there is a risk of deep vein thrombosis (blood clots). Be sure to wiggle toes and legs rather regularly and get up to walk around cabin every few hours. Regularly ask cabin attendants for water to stay hydrated.

#### Arrive DSM by 11:30 AM

14:13 PM American 4244 to Chicago, arrive 15:28 (1hr 15 min)

16:20 PM American 545 to LAX, arrive 18:45 (Courtney and Sean will join us at ORD) (4 hr 25 min)

When you get to LAX walk to Tom Bradley international terminal from the domestic terminal and check on flight to Melbourne at Qantas counter. Alison S. will join us in LAX. You need to get a boarding pass. You will now have a little under 3 hours until our flight at 11:40 PM. Plan to go directly to the gate. You must again go through security in LA to get to the international gate; allow time.

23:40 PM Qantas 094 to Melbourne, Arrive 7:55 AM on Wednesday morning (15hr 15 min)

Dinner, breakfast, 2 movies, sleep, sit, snore, drink water and more on plane.

Upon arrival in Melbourne, we will first have to pass through immigration where you must show electronic visa and passport to enter country; purpose of our visit in their terms is vacation (studying means you will attend an Australian university); address during visit is first Enterprize Hotel in Melbourne and then travel. After passing through immigration , you will pick up your checked luggage from carousel and pass through customs. No food should be in luggage; they have dogs that sniff suitcases/packs; luggage may be x-rayed and opened, if they suspect anything.

After processing, gather in Lobby until we find John and Ginny Jennings and the Midland Tour bus which will take us to the hotel. You are responsible for getting your own luggage on the bus.

### May 9, Tuesday

Day lost when crossing International Dateline, but made up on return. Clock shifts 15 hrs forward from Iowa.

#### Melbourne-Temperate Climate Segment

**U.S. Consulate General in Melbourne** serves Victoria, Tasmania, South Australia, and the Northern Territory and is located at 553 St. Kilda Road, P.O. Box 6722, Melbourne Vic 3004, telephone (61)(3) 9526-5900, fax (61)(3) 9525-0769, home page <http://www.usis-australia.gov/melbourne/>.

Biome Synopsis: The area around Melbourne is a temperate biome. Most *Eucalyptus* forests have been cleared and agricultural uses are common. This relatively wet and lush area is not what you think of when you think of Australia. Weather for this segment will be temperate with temperatures ranging from night time 40's to daytime 60's; could have rain and be raw. While here we will visit the city, southern sea coast, a native animal park, and go to an Australian rules football game (Footy). You will be very tired during most of this segment as your biological clock adjusts to the 15 hour time shift.

Melbourne is the second largest city in Australia. It is quite cosmopolitan with all types of ethnic restaurants, an incredible number of shops, and some great museums and an aquarium.

Risk Management Analysis: In the event of an emergency, the hotel or the reception area of the site we are visiting will be our gathering point. The emergency hand radio channel will be 10 (4). Travel in groups at night and do not use dark alleys or side streets. Avoid any large gatherings of a political nature. Melbourne is a safe city, but it is wise to be prudent. If you are far from the hotel late at night, get a cab back to the hotel. Remember Australians drive on left side of road. Look both ways before you step off the curb and be careful at corners which are confusing because of our right hand view of the traffic world.

### **May 10, Wednesday**

Synopsis: Settle at hotel, exchange money, explore city on own, stretch muscles, and get enough sleep to adjust biological clocks.

7:55 AM local time arrive in Melbourne (about 4:55 PM Tuesday May 11 Iowa time, 15 hours behind)

Take the time to talk with John and Ginny Jennings, our local guides; they lived in Ames for a year and are now retired school teachers who live in Seymour north of Melbourne.

home phone is 011 61 3 5792 2311, and mobile phone is 011 61 0407 859153

9:15 Midland Tour Coach to meet us for shuttle to hotel

Phone 61 03 9470 3355 FAX: 61 03 9471 0728

Lodging at Hotel Enterprize with continental breakfast; sleep 2 per room. You are responsible for all extra room charges from courtesy bar, snacks, and phones. Cookies, tea and coffee are free, but others cost.

FAX 61 (0)3 9614 7963, Phone 61 3 9629 6991, E-mail [res@hotelenterprize.com.au](mailto:res@hotelenterprize.com.au)

42-62 Spencer Street

Settle in rooms and then see the city, exploring in groups of at least two.

Need to exchange about US \$500 to get about 675 Aus \$, depending on rates when arrive (Current rate \$1A= 0.76 US 4/210/06, current exchange rates at <http://www.oanda.com/convert/classic>). Commonwealth Bank charges no fee and ANZ charges \$7 AUD (but gives better exchange rate). Remember that money changers make money two ways: one, they give a poor exchange rate and two, they charge a fee. If several people pool their money and one person exchanges for group, you need only pay one fee. Better to exchange most of your money early to avoid paying fees throughout trip. Australian dollars are not lost any easier than USD. ATMs are available but you need to check that your card will work at international locations and look into costs. A 4 digit PIN is needed and there may be transaction fees. The hotel is on the edge of the shopping district and it is fun to wander looking in shops and arcades, buying your lunch along the way. There will be many internet cafes from where you can write home. Walk along Yarra River and have a tea or ice cream. May want to visit the new Federation Square in Melbourne. Houses new National Gallery of Victoria which features Australian Art collection. Well worth seeing. Other museums are also in the complex. Melbourne has a good aquarium and general Australia museum as well. There are many internet cafes in this neighborhood of the hotel.

Buy some snacks and fruits for next two days. We will have a tight schedule and your stomach-clock may not have adjusted to new meal schedule. Pick up a plastic bottle of juice so you can reuse the container as a water bottle during rest of trip. Free brown tourist tram circles business district every 20 minutes, 10 to 3 o'clock and passes by front of hotel. Tipping is not normal in Australia but for exceptional service up to 10% is appreciated, but not expected.

Carry passport at all times. If you lose passport, you will spend considerable time/expense at the US Consulate trying to arrange a replacement. Do not carry bosom buddies outside of clothing; it is an invitation to get robbed.

Note from John Jennings about what to do in Melbourne.

The city centre is in easy walking distance of our hotel and I am sure that you will want to explore the shops also. You will be able to exchange money at any of the banks along the way or use the Automatic Teller Machines. A walk through Myer

in the Mall in Bourke St. is always interesting. This is Australia,s largest department store and takes up a section of two city blocks.

Other top spots to visit from a tourist point of view include the National Gallery of Art, Ian Potter Centre at Federation Square, which concentrates on Australian art. Over the river in the arts precinct is the International section of the National Gallery. Both the Immigration Museum and the Aquarium are also worthwhile.

You should also have a walk along the area known as Southbank. This is on the southern bank of the Yarra River (the city proper is on the northern bank). There are many boutique shops and restaurants and of course the Casino for those who want to lose their money.

If you want to get an overview of the city try a trip on the new free Tourist shuttle bus that takes you to 15 tourist areas in a 45 minute journey. You can get on and off as often as you like. A couple of spots that Ginny and I particularly like are the Shrine of Remembrance and Lygon Street. The Shrine is a memorial to all those who have served in war such as the Boer War, the two World Wars, Korea, Vietnam and the Middle East. Lygon Street is the Italian quarter of the city and has some great restaurants. This aqua coloured bus covers some areas a little away from the city centre such as many of the gardens, the University, the Arts Precinct and the Sports and Entertainment precinct. This latter area contains the Melbourne Cricket Ground, a stadium that seats 100,000 people and the venue for football, cricket, and both the Commonwealth and Olympic Games. Nearby is the Tennis Centre, home of the Australian Championships, a Grand Slam event.

There is also a brown City Circle tram which is worth traveling on for at least part of the circle. It travels continuously around the outer fringe of the main city business district and again you can get on and off as often as you like.

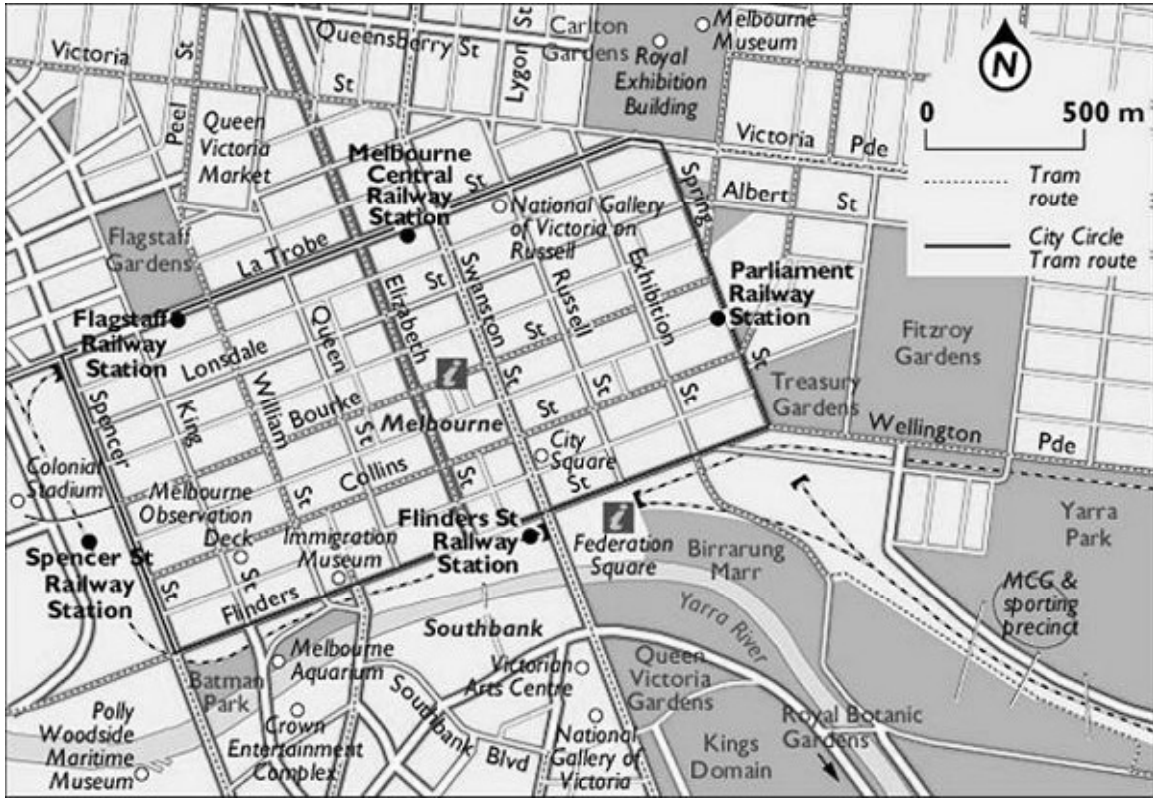
For a bird,s eye view visit the top of the Rialto building. This was our tallest building until earlier this year when the new Eureka Tower went higher. From the top of the Rialto you get magnificent views in all directions and you can see just how close the city is to the sea, something many visitors to Melbourne don,t realize.

For eating in the city there are countless food courts and little cafes, as well as many hotels that serve meals ^ often referred to as counter meals in Australia because in the beginning you sat at the bar (or counter) to eat them. Of course we have tables and chairs available now but some people still prefer to eat at the bar. You also have all the good places like McDonalds, KFC, Pizza Hut, Hungry Jack,s (just like McD,s) and so on.

Lunch and dinner on own; I budgeted your money for meals as follows (B = \$8 AUD, L = \$12 AUD, D = \$25 AUD in all cities to be visited; travel with buddies; temperatures in 60's

You will be very tired by 7 PM (or earlier!) because of clock shift. Plan to get a good night's sleep as next day is busy.

Sunrise about 7:00 AM and sunset about 5:30 PM. Its almost winter!



**May 11, Thursday**

Synopsis: Bus ride to southern shore to see Tasman Sea-Bass Strait as well as through countryside of this temperate region of Australia known as Gippsland. We will visit a dinosaur fossil site on a beach and a penguin conservation centers on Phillip Island. We will eat dinner at a local pub, but you pay for your own meal. It will be a long day and we will not get back to the hotel until 10 PM or so. You will be tired.

QuickTime™ and a  
TIFF (Uncompressed) decompressor  
are needed to see this picture.

Risk Management Analysis: We will do a lot of bus riding and you may get motion sickness. Remember blue ringed octopus is found in tide pools here and it can kill you. Do not pick up things you can not identify.

6:30 AM Everyone will awaken early because of clock shift

7:00 AM Free continental breakfast in restaurant next to hotel

7:45 Daily briefing in lobby; expect temperatures in 50's; be ready to go on trip. Bring warm clothing to sit on beach at night while viewing penguins (knit hat, gloves, long underwear, sweater; can change there in rest rooms). Bring water bottle, sunglasses, poncho, hat and camera.

7:55 Depart by Midland Tour Coach transportation

Have about a 2.5 hour bus ride south of Melbourne to Phillip Island and then on to Bass Straits/Tasman Sea

9:30 Will stop at Tooradin for morning tea and see mangroves: might be covered by high tide

12:00 Lunch on own in Inverloch, a little resort town on coast of Tasman Sea.

13:45 Meet with Mike Clelland, a paleontological research, from Monash University, at Caves Park

Arrangement through Out There Adventure Tours, phone 61 03 5956 6622

Walk along beach looking for dinosaur fossils

High tide at 11 am and Low tide is at 4.18 pm

16:00 As time permits go to Knobbies boardwalk and see southern coast and Tasman Sea.

17:30 be on beach at Little Penguin Research Station on Phillip Island (Penguin Parade)-15 minute drive

Little penguins nest along the southern coast of Australia in burrows on grassy hillsides. The site that we will visit is a sanctuary and home to thousands of these birds. At this time of the year, they are out at sea for weeks, returning to shore in small groups at dusk. We will see a total of about 600 penguins pop out of the surf in small groups and scurry across the beach to the protection of the grasses as dusk turns to darkness. If we are lucky, we get our first view of the Southern Cross, our celestial navigation point throughout this trip. No flash photos are allowed and cameras may be confiscated.

Penguins come on-shore at 5:30PM; statistics predict 600

FAX: 61 59 56 8394 PHONE: 61 03 59 56 8300

19:45 Dinner: Isle of Wight Restaurant in Cowes (typical pub/restaurant in small town- counter tea dinner), individuals pay. Phone 61 03 5952 2301

22:00 Arrive back at hotel; don't plan to go out, you will need sleep for next day

Lodging at Hotel Enterprize in Melbourne with continental breakfast on next day.

## May 12, Friday

Synopsis: We will drive to the east to the town of Healesville, crossing the Great Diving Range in an area locally called the Dandenong Mts. We will observe wet sclerophyll temperate rainforests of tall *Eucalyptus regnans* with a fern tree understory and then see many native animals at Healesville Sanctuary. About a 2 hour bus ride one way. Lunch is on your own in the country city of Lilydale. We will return early, passing through the Yarra Valley wine region and then go to the "footy" and sample the Australia sports culture. You can grab a bite to eat on your own before the game or have chips and meat pie and a beer at the game.

Risk Management Analysis: Another day of extensive bus riding. At Footy you will be in sports crowds. Be on guard for personal safety.

7:00 AM Free continental breakfast in restaurant next to hotel

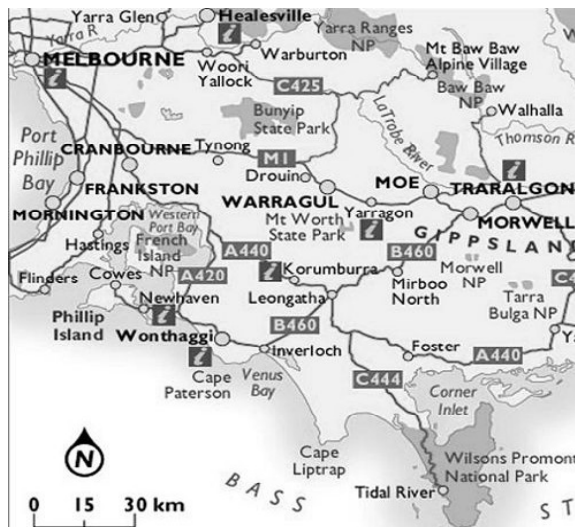
7:40 Daily briefing in lobby and be ready to go. Bring a sweater, jacket, poncho, hat, sun glasses, water bottle, and camera.

7:50 Transport by Midland Tours

9:30 Stop Grants Picnic ground in Fern Tree Gully on Mt. Dandenong Tourist Road (Sherbrook Forest);

We will be between the towns of Kallista and Belgrave. The highest peaks in this area are about 633 meters. Soil is from ancient volcanoes (300 mya) and area receives good rainfall because of orographic effect of mountains. Ranges are cloaked in magnificent temperate rainforest/wet sclerophyll forests with many fern trees. This is ancestral grounds of the Wurrundjeri aboriginal people. First settled around 1850 by prospectors for gold, the general area became a source of timber for Melbourne followed by agriculture, but fortunately extensive tracts were preserved as national parks such as this one started in 1927.

We will be mobbed by colorful crimson rosellas and handsome galahs as we have our morning tea and biscuits. We will cross the road to take a thirty minute hike to see fern trees (Soft tree fern *Dicksonia antarctica* and Rough tree fern *Cyathea australis*) and mountain ash (*Eucalyptus regnans*), the tallest angiosperms in the world. Most of the trees here are not yet fully mature as a major fire swept through the area in 1925. The larger understorey trees are probably Blackwood trees (*Acacia melanoxylon*) or Hazel Pomaderris trees. If you spot a tree with a soft felt-like covering on the under surface of the leaves (trichomes), it is Blanket-leaf (*Bedfordia aborescens*). Epiphytic ferns only a few inches long on the trunks of the trees are most likely Filmy Ferns (*Polypodium venosum*). Other epiphytic ferns and lichens abound on the tree trunks as well. Where sunlight reaches the ground, native wire grass will be found (*Tetrarrhena juncea*). It is eaten by wombats. Echidnas, bandicoots, gliders, and black wallabies that are also found here, although we will most likely not see any in daylight. Over 130 species of birds including lyre birds, 21 reptiles and 9 amphibians occur here.



Student Papers as we have tea and biscuits in pavilion:

Megan Oelmann Kangaroo reproduction

Amy Moreno Aboriginal self determination

11:30 Lunch on own in Lilydale, a small city where you will have a chance to mingle and observe the culture.

13:00 Visit *Healesville Native Animal Sanctuary*. Set in natural woodlands, this 31 hectare, native animal park will give you an opportunity to see 200 Australian wildlife species at close range: many good photo opportunities. Tour sanctuary as small informal groups.

Healesville Sanctuary, PO Box 248, Healesville Vic 3777

Ph: 03 5957 2819 Fax: 61 03 5957 2873 Email: [krodway@zoo.org.au](mailto:krodway@zoo.org.au)

15:00 Birds of Prey demonstration feeding

17:00 Depart for hotel; Dinner on own although you can get a meat pie, fries and a beverage at the game.

Approx 7 PM Walk to Telstra Dome across from hotel. Attend Australian Rules Football game between St. Kilda and Geelong. Kickoff is 7:40 Australian Rules Football, also known as the footy, is a fast moving game with a vague resemblance to rugby, except goals are only scored by on-the-move kicking between poles. Trip pays entrance fee. John and Ginny's daughter, Kim, will join us. She is a cancer researcher and a world traveler.

Dolphin to check confirmation on flight to Cairns and arrange group check-in for May 13

We are off very early next morning to Cairns and tropical Australia, so do not stay out late.

### Cairns-1 Segment-Wet Tropics

Biome Synopsis: Formerly a tropical rainforest/wet sclerophyll biome, the coastal plains around Cairns have been cleared for sugar cane production and farming. The trees in this area, for the most part are not *Eucalyptus*. Instead they are a variety of genera that are descendents from Gondwana rain forests. Forests remain in the Great Dividing Range mountains that form the backdrop to Cairns. We will spend two days here before driving about 100 miles north to live in the rainforest for three days and then drive about 200 miles SE for to the savanna for three days. We will return to Cairns twice before leaving the area. In the next few days, you will get to know the town and will explore aboriginal culture and closely observe the rain forest as you pass over the surrounding mountains in a ski lift gondola and return by an hour train ride through the Barron River Gorge.

#### May 13, Saturday

Synopsis: Change locations from temperate south to tropical north.

6:00 AM Wakeup; check to see that others are up. Pack before breakfast. Eat free quick breakfast at 7 or buy your own at airport.

7:10 AM Be packed and in lobby; Midland Tour Coach shuttle to airport; remember to carry on nothing that will trigger a security check.

9:25 AM Flight Cairns

QANTAS 702 arrive in Cairns 12:45 (Flight 3 hr 20 min)

Flight Geography: This is somewhat like flying from Atlanta, GA to Boston in terms of distance and direction. Look out the plane window. As we leave the green crescent of the coast and head inland to the NE, the land will dry and the population density will drop to next to nothing. As we near the east coast and cross the Great Dividing Range from west to east, we will again enter the green coastal environment. We should then fly north parallel to the eastern coast and Great Dividing Range. As we progress north, sugar cane fields will become common on the coastal plain. When we land, we literally drop into tropical Cairns with its international airport hemmed by high hills on one side and the Coral Sea on the other. Weather will be hot and humid after Melbourne. During cab ride to motel, note the extensive mangrove swamp surrounding the airport and prime salt-water crocodile habitat in the tidal streams flowing through it.

Black and White shuttle buses to hotel. We will rent three minibuses for the transfer to hotel and trip will pay; about 20 minutes.

Phone: 61 7 40 48 8333

14:00 Stay at *Queen's Court Motel*; all rooms air conditioned, sleep 2 or 4 per room. You are responsible for extra room charges such as phone calls. Phone: 61 7 4051 7722 E-MAIL [info@queenscourt.com.au](mailto:info@queenscourt.com.au)

14:30 Meet in courtyard for brief orientation to city. Find out how many would be interested in dinner at Cock and Bull and make reservation.

Free afternoon and evening to explore Cairns; use buddy system & watch late hours; Cairns is a tropical resort town with 100s of ecotourism shops. Expect a cosmopolitan atmosphere with many Japanese, Europeans, Indians, young Aussies and Yanks. Expect high humidity, temperatures in 80s and possibly afternoon rain showers. Check out the Cock and Bull restaurant for a hearty meal and great ice cream treats or Charlie's for all you can eat beef and sea food. The Espanade is a walking path along the coast that takes you downtown to hundreds of shops, pubs, Pier Mall, and restaurants; try seafood and tropical fruits. Buy a second plastic juice container to use as a water bottle for rest of trip. Grocery located south on Sheridan St. Washing machines are available at the hotel and one block north on Sheridan. Internet available at hotel and in many internet cafes in town.

Approx. 18:00 Look at the skies at dusk and see 1,000s of flying foxes leaving their roost to forage for fruits in the trees of Cairns.

18:30 For those who want dinner on own at Cock and Bull, meet at hotel lobby.

Risk Management Analysis: In the event of an emergency, the hotel or the reception area of the site we are visiting will be our gathering point. The emergency hand radio channel will be 10 (4). Travel in groups at night and do not use dark alleys or side streets. Avoid any large gatherings of a political nature. Be careful crossing streets and remember to **look both ways**. Last year, Cairns has had an outbreak of Dengue fever, a viral disease transmitted by mosquitoes from infected persons to uninfected. It is transmitted by *Aedes aegypti* mosquitoes which tend to bite in houses or at dusk. It is a good idea to wear long sleeves, long pants and repellent when sitting out at dusk.

Dolphin to check with Tropic Wings coaches for Daintree transport, Tjapukai, Rum Runner, Beach House, Undara and Cairns Diving Ctr.

Dinner on own

## May 14, Sunday

Synopsis: Day trip to see local rain forest and Great Dividing Range in Barron River Gorge and visit local aboriginal culture center. Trip pays for transportation and admissions but not lunch. About a 30 minute bus ride north of Cairns; note mangroves and sugar cane fields as we go. After we return, we will have a lecturer from Queensland Health tell us about insect bourn tropical diseases.

7:00 Free continental breakfast at motel and briefing

Bring some water, camera, casual clothes for a tourist type day outing. Wear sturdy shoes and wicking socks, but no need for field clothes.

Tjapukai Aboriginal Cultural Park

Aboriginal owned and run. We will experience a history through aboriginal eyes, a creation theater, visit a traditional camp to see some skills, and then view the award winning dance company performing song and dances of the past. Tjapukai and Yirrganydji communities have approved the cultural presentations at the park.

Ultimate Kuranda Experience Confirmation # 258604

<http://www.tjapukai.com.au> PHONE: 61 07 40 42 9900 ; PO Box 816 Smithfield Qld 4870

NAME: IOWA STATE UNI-DOLPHIN GROUP, 21 pay + 1 FOC

**08:45** - Coach Pick Up from the Queens Court

09:00 - History Theatre where we see an excellent documentary on white/aboriginal affairs

09:45 - Creation Theatre where we see a dance presentation of aboriginal beliefs

10:30 - Demonstrations in Cultural Village where you can chuck a spear and throw a boomerang

11:00 Dance theater where we see and hear a lively presentation

12:00 or later - One Way Skyrail to Kuranda (*can do earlier*); lunch on own in village of Kuranda at top

On this 40 minute, 7.5 Km ride you will get a bird's eye view of the wet sclerophyll/rain forest and will have the opportunity to explore a bit as you change lifts twice on your ascent from the coastal plain to the table land top of the Great Dividing Range. Take the time at the lift stations to walk on side paths to lookouts and see the rain forest. Talk to guides at each station who will answer your questions. Kuranda is a quaint tourist town at the top.

Watch the story unfold beneath you as Eucalpts and rainforest battle for domination (T = tower)

T3-5 Eucalyptus woodlands with understory fern tree like cycads and occasional silver barked Melaleuca trees. This is wet sclerophyll and it will change into rainforest as you go along. You are passing over a battle zone between the two, an ecotone.

T5-7 Vine-clad forest

T8 to Red Peak Station: As the elevation increases moisture is more available and you will see well developed rainforest with stag horn and basket fern epiphytes on trees; many huge fig trees and graceful Alexander palms; note yellowish leaves of lawyer cane (wait-a-while) palm vines emerging from tree tops of host trees, Near T8-9 see huge Kauri pines, broadleaved conifers.

Red Peak to T18: Some of the lushest rainforest on route. Look for huge basket ferns in trees

T 19-20: This area was disturbed and now has many Wattle (*Acacia* sp.) trees with silvery leaves

T20-25: Again lush well developed rainforest with trees reaching to 150 ft.

T25 to Barron Falls Station: Regenerating rainforest from earlier human disturbance with remnant Mango, Hoop pine and tropical fruit trees from early farms.

T29 to 32: Aborigenes using fire kept this area as a tall open eucalyptus forest, but now that the burning has stopped, rainforest species are invading. As you approach T30 note the parasitic mistletoes in tree tops.



13:30 –Arrive at Kuranda and walk through village where there are many restaurants and shops to visit

15:30 - One Way Kuranda Scenic Train return to Cairns Central Station; don't be late!

Originally graded by hand in 1886 including 15 tunnels, this railway brought supplies to tin miners near Herberton. Our train ride will bring us down the scenic Barron River Valley to Cairns. Along the way you will see rainforest, wet sclerophyll forests with occasional dry sclerophyll intrusions.

17:15 - Coach return from Central Station to the Queens Court

18:00 -Guest Lecture *Dengue Fever and Mosquito Vectors in FNQ*

in court yard by ISU graduate, Iowa native, and QLD Health official,

Dr. Scott Ritchie- Insects as Tropical Disease Vectors

Medical Entomologist, Tropical Public Health Unit Network - Cairns

email: scott\_ritchie@health.qld.gov.au, phone 07-4050-3619

19:30 Dinner on own

Stay at *Queen's Court*; Good time for washing clothes before starting next segment

### **Cape Tribulation Rain Forest Segment**

Biome Synopsis: We will drive north by bus to the Cape Tribulation World Heritage Wet Tropics National Park (created 1988) and live in the rainforest biome for three days. This is the ancestral home of the Kuku Yolandi aboriginal group. Cape Tribulation takes its name from Captain Cook who ran onto the GBR near here and experienced great tribulation when his ship, the *Endeavor*, nearly sank on June 10, 1770. Here is an excerpt from Cook's log book on his experience:

*Sunday, 10 June 1770: The shore between Cape Grafton and the above northern point forms a large but not very deep Bay which I named Trinity Bay after the day on which it was discovered, the north point Cape Tribulation because here begun all our troubles. Latitude 16 degrees, 6 minutes South, Longitude 214 degrees, 39 minutes West.*

*Monday, 11 June 1770: My intention was to stretch off all night as well to avoid the dangers we saw ahead as to see if any Islands lay in the offing, especially as we now begin to draw near the Latitude of those discover'd by Quiros which some Geographers, for what reason I know not have thought proper to tack to this land, having the advantage of a fine breeze of wind a clear moonlight night. In standing off from 6 untill near 9 oClock we deepened our water from 14 to 21 fathom when all at once we fell into 12, 10 and 8 fathom. At this time I had every body at their stations to put about and come too an anchore but in this I was not so fortunate for meeting again with deep water I thought there could be no danger in standing on. Before 10 oClock we had 20 and 21 fathom and continued in that depth untill a few Minutes before a 11 when we had 17 and before the Man at the lead could heave another cast the Ship Stuck and stuck fast. Emmdiately upon this we took in all our sails hoisted out the boats and sounded around the Ship, and found that we had got upon the SE edge of a reef of Coral rocks having in some places around the Ship 3 and 4 fathom water and in other places not quite as many feet . . . .*

*. . . . we went to work to lighten her as fast as possible which seem'd to be the only means we had left to get her off as we went a Shore about the top of high-water. We not only started water but throw'd over board our guns Iron and stone ballast Casks, Hoops staves oyle Jars, decay'd store, and so on . . . . All this time the Ship made little or no water. At 11 oClock in the AM being high-water as we thought we try'd to heave her off without success, she not being a float by a foot or more notwithstanding by this time we had thrown over board 40 or 50 Tun weight.*

*As the Tide fell the Ship began to make water as much as two Pumps could free. At noon she lay with 3 or 4 Strakes heel to Starboard.*

*Tuesday, 12 June 1770: By the time it was 5 oClock in the pm, the tide we had observed now begun to rise and the leak increased upon us which obliged us to set the 3rd Pump to work as we should have done the 4th also, but could not make it work. At 9 oClock the Ship righted and the leak gained upon the Pumps considerably. This was an alarming and I may say terrible Circumstance and threatened immediate destruction to us as soon as the Ship was afloat. However I resolved to resk all and heave her off in case it was practical and accordingly turnd as many hands to the Capstan & windlass as could be spared from the Pumps and about 20 minutes past 10 oClock the Ship floated and we hove her off into deep water having at this time 3 feet 9 Inches water in the hold.*

Got up the for topmast and fore yard, warped the Ship to the SE and at a 11 got under Sail and Stood in for the land with a light breeze at ESE, some hands employ'd sowing oakam wool etcetera into a lower Studding sail to fother the Ship, others emplo'd at the Pumps which still gain'd upon the leak.

Wednesday, 13 June 1770: In the PM had light airs at ESE with which we kept edging in for the land, got up the Main topmast and Main yard and having got the sail ready for fothering the Ship we put it over under the Starboard fore chains where we suspected the ship had suffered most and soon after the leak decreased so as to be kept clear with one Pump with ease, this fortunate circumstance gave new life to every one on board.

At 9oClock [am] we past close without two small low Islands laying in the latitude 15 degrees, 41 minutes and about 4 Leagues from the Main. I have named them Hope Islands because we were always in hopes of being able to reach these Islands.

Cook then moved northward along the coast, seeking a suitable location for beaching the ship in order to make repairs. He found it at the present site of Cooktown and hauled the ship over in a river there for extensive repairs. It is there that Cook asked a native what do you call that hopping animal and the reply was, "kangaroo."

Expect temperatures which are 80 F + - 5. This is second growth rainforest wilderness, having been lumbered on the lowlands from 1870 until 1962. Now it is growing back with some development on the one road that runs north along coast after crossing the Daintree River by ferry. There is no grid electricity in this area; it is all supplied by generators or solar. A 3 hour bus ride that will take us away from the bustle of Cairns through sleepy resort and working towns. Note extensive sugar cane farming on coastal plain and interesting sugar cane railways. Harvest will begin a month after our visit. As we cross the Daintree River note the extensive mangrove communities. Once we cross the river, we pass through the rainforest of the Wet Tropics World Heritage Area and Daintree National Park. Cycads, fern trees, fan palms, strangler figs and lawyer cane vines (=Calamus sp. or wait-a-while or rattan) will be recognizable against a background of 1,400 unknown other plant species. You do not want to run into the stinging plant or the rest of the trip could be unpleasant. With a little luck, we may see a feral pig, scrub fowl or maybe a cassowary. The mountains of the Great Dividing Range will provide verdant scenic views. Rivers in this area are primary crocodile habitat. Nocturnal mammals include striped possum, bushtail possum, sugar glider, fawn-footed molmays, white tailed rat and spectacled flying foxes.

Our agenda while in this area includes hiking in the daylight and at night in the rainforest, and our first opportunity to see some of the Great Barrier Reef complex. This an opportunity to see, hear and smell a rainforest.



Risk Management Analysis: In the event of an emergency while at the Beach House, gather at the reception area up the hill. The emergency radio channel will be 10 (4). Risks on this segment include: crocodiles, snakes, spiders, all types of jellyfish, overheating, dehydration, sprains, and all dangers associated with snorkeling or SCUBA diving on the GBR. Only pre-certified divers may SCUBA. If you get lost

while hiking, do not wander but find some shade and sit and wait for someone to find you. Each morning when you get up, tap your boots out before putting them on to make sure no spiders have taken up residence.

Questions we would like to answer while in this biome:

*-Are any of the species naturally found in the rainforests of Australia also found natively in other rainforests around the planet, more specifically from the Amazon? And if the same species occur in both places, are their any evolutionary connections we can make between the two rainforests?*

*- If the rainforest and sclerophyll are currently waging a battle against each other for land area, is there long term gradual progress moving in the direction to almost completely wipe out either the rainforest or the sclerophyll, or do the boundaries remain generally equal?*

*-I'm not quite sure what wet sclerophyll actually is, is there a better description for wet sclerophyll?*

*- Between the wet and dry vegetation, you said there was a kind of patchwork structure for their growth patterns. In Iowa this fragmentation hasn't worked out for many native animals, moving from habitat to habitat interrupted by farmland. How do the animals migrate and deal with the patchwork in the Australian forests?*

*- It dawned on me that the orientation of eucalyptus leaves in the wet sclerophyll could help create less shade so other eucalypts could grow underneath it. Is this true? Also, has the balance between rainforest and wet sclerophyll changed since the Aborigines stopped using fire as much?*

*- If a river happens to flood, could that potentially kill trees and start more growth of eucalyptus being the sun tolerant species?*

*- What methods are being used for conserving the land from sugarcane fields? -or- How is the government dealing with the depleting forests due to sugarcane fields?*

*- What are the most predominant predators in the rainforest? Are they limited in their territory, as in being only ground predators or canopy predators? Are there any carnivorous plants in the rainforest?*

*-What would happen if the canopy over the rainforest just \*poof\* wasn't there? How many species would be unable to survive without the protection provided by the canopy?*

*I know that the rain forest is home to many insects, but my question is how many of those are dangerous? We didn't talk about any health risks of insects, other than the mosquito, and I was just curious on the number of poisonous insects in Australia there are and if any were dangerous to humans.*

## **May 15, Monday**

Synopsis: Change locations to Cape Tribulation Wet Tropics National Park area

7:30 Free continental breakfast at motel

9:00 Packed and ready to go

9:30 Bus transfer Tropic Wings to Cape Tribulation with lunch stop at Port Douglas, 1 hours

Tropic Wings Coaches 61 (0)7 4035 3555 FAX 61 7 4035-3535 [www.tropicwings.com.au](http://www.tropicwings.com.au)

E-mail [charter@tropicwings.com.au](mailto:charter@tropicwings.com.au) Booking # 15388

We will drive north along the coast with many scenic views. We will stop early for lunch on our own and see the small resort town of Port Douglas, home of the rich and famous; buy snacks at supermarket for next 4 days because we will be isolated; if you do not have a water bottle, buy a half liter juice or soda in a reusable container. From Port Douglas we will continue north through a sugar cane region and the town of Mossman where there is a cane crushing plant. The next stop will be the Daintree River ferry. The Daintree River has been a fortunate boundary impeding development. Once we cross it, we enter a rainforest wilderness area known as the Daintree World Heritage area and will proceed north to Cape Tribulation.

14:30 Beach House at Cape Tribulation-all meals and lodging in cabins here for next three days; 4 share and 2 share per room. Judy to review menus with staff.

Cape Tribulation Beach House

Phone: 61 7 4098 0030 FAX: 61 7 4098 0120

E-mail: reservations@capetribbeach.com.au

After settling in, we will gather on the extensive beach found here for a brief orientation and a free afternoon. An opportunity to get some sun and to beach comb. Do not wade in any knee deep streams crossing beach--salt water crocodiles! Do not pick up snails or jellyfish in this area. Do not swim in the ocean here as there are several species of "stingers," jellyfish such as blue bottler, box jelly, and irukanji

18:00 Dinner and lodging at Beach House

19:00 Student papers

Marc Brouillette—Irikandji jellies

Kelsi Jurik-- Stinging plants

### May 16, Tuesday

Synopsis: Begin exploring the tropical rainforest biome by hiking to the Dubuji Boardwalk to see the lowland rainforest reserve. We will then gather on the beach for some student papers. In the afternoon we will do ecological transects from the beach to part way up Mt Sorrow to see the changing nature of the rainforest.

7:00 Breakfast at Beach House and daily briefing; pick up sac lunch for day

8:00 About 3K hike to Dubuji boardwalk area;

The Dubuji rainforest park is a lowland rainforest on the coastal plane and is probably close to the vegetation types that Cook saw here. Water falling on the Great Divide 2k to the west, percolates through the soil and rises to the surface here, providing ample moisture for luxuriant growth. The forest is second growth, most likely having been cleared for agriculture perhaps about 70 years ago. The trail through the forest is a slightly raised boardwalk to protect the tree roots from soil compaction. As we walk along the boardwalk note the different vegetation zones. As you near the beach, you will note a sand dune barrier with water pooled behind it with dense mangrove growth. The dunes are stabilized by fairly dense tree growth. As you walk this trail, this is good time to try different photographic techniques: close-ups of leaves and patterns, photographic composition to capture the "flavor" of the forest, composition that yields an "arty" photo, depth of field focusing and perhaps front and back lighting.

11:00 Gather on Myall beach for student papers

Alison Edmunds—Glow worms

Sean Phillips--Quolls

12:30 Hike to lemonade stand described in Bryson's "Sunburnt Country" for a quencher and eat sac lunch

13:30 Walk over to Cape Tribulation to begin field study

Divide into teams to do overlapping transects extending part way of Mt Sorrow

Problem Statement: You are with Joseph Banks, the naturalist aboard the Endeavor. Cap't Cook has put you ashore at Cape Tribulation and given you three hours to reconnoiter the \_\_\_\_\_ area bringing back a biological description to be forwarded to the Royal Academy in London. How \_\_\_\_\_ would you describe it to them?

Lodging at Beach House

18:00 Dinner with Ranger Hans as our guest Hans Nieuwenhuizen, the local forest ranger, who we have met on previous trips. (E-mail RANGERHANS@AUSTARNET.COM.AU).

19:00 Poolside chat with Ranger Hans

### May 17, Wednesday

**Synopsis:** Hike north to Emmagen Creek 2 hr hike, one way; walk by Bloomfield track road to Emmegen Creek and return via beach at low tide. Path from beach to road is about 400 meters after ford. Path to swimming hole is just before Emmagen Creek. Go through white gate on left side of road to a stunning freshwater swimming hole with sand beach.. On this hike we will see some great lowland rainforest and have a chance to beach comb.

7:00 Breakfast at Beach House and daily briefing; pick up sac lunch for day

Bring water bottle, hat, sun glasses, camera, journal, swim suit and wear shorts, tees, and good walking shoes.

8:30 Hike to Emmagen Creek on Bloomfield Road, 2 to 3 hours each way; take lunch

06:34 EST Sunrise; Tides will determine whether we hike beach or road

Swim, eat lunch and relax spending some time on journals

Student papers at swimming hole

Eric Warne—Cone Snails

Rachel Bottjen Sea snakes

Reflective discussion after lunch comparing temperate and tropical rainforests and wet sclerophyll

Hike back to Beach House via beach poking into tidal pools as we go to find critters

18:00 Dinner

19:00 Student Papers at poolside

Becca Mack Crown of thorns starfish

20:30 Possible night hike to spotlight small marsupials; late return.

Food and lodging at Beach House

### May 18, Thursday

Synopsis: The activity for this day introduces us to the GBR. We will be picked up from the beach by zodiacs and transferred to the *Rum Runner*, a 40 ft motor-sailer catamaran with a cruising speed of 12 knots. Our travel time to the reef is 65-75 minutes, giving you around 5 hours to explore the magnificent Mackay and / or Undine reefs. With a maximum of 44 passengers, the top deck allows room to lay about enjoying the glorious Queensland sunshine. Down on the main deck, first time snorkelers or divers will be cared for by their highly trained crew to ensure your experience is a safe and memorable one. Snorkeling demonstrations are offered once we arrive at the reef, and swimming aids are available for your comfort. The experienced diver has the freedom to enjoy the abundant marine life. Reef Sharks, Turtles, Clown Anemone fish, Trumpet fish, Giant Clams, Spotted Blue Rays, Nudibranchs, Barracuda, Potato Cod, not to mention the awesome variety of hard and soft corals, many Sea Cucumbers, Feather Stars and Christmas Tree Worms are waiting to be discovered. SCUBA diving depth is 12 meters at this location whereas snorkelers will be in variable depths from a meter or so to the maximum.

Risk Management: We will be on a commercial diving vessel which has operated at Cape Tribulation for 10 years. The vessels is well maintained with the latest electronics. It has a crew of 4 or 5 which operate the boat and oversee the diving. The *RUM RUNNER* is a wide catamaran and very stable. Nonetheless, the risk of boat travel can not be denied. On the reef, biological hazards could be encountered such as: jellyfish, stinging corals, cone snails, sharks, and rays. Do not touch anything and avoid swimming in water that is so shallow that your body scrapes on the coral. Be careful of getting too much sun burn. This has been a painful experience for some in past on this segment of trip. You are close to equator and sun is more intense. SCUBA divers will be taking additional risks that they will have to individually evaluate before making a decision to dive.

7:00 AM Daily briefing at breakfast

8:00 Bus pick up and transfer to Cape Tribulation; also return

Wear swim suit and take backpack with towel, cover-up for sun, sun screen lotion, sun glasses, hat, water bottle and camera; free lunch on-board; Sodas and snacks pay extra; SCUBA divers pay \$ A 70 for 2 dives.

8:15 –16:00 PM Snorkeling and SCUBA on MacKay's Cay from *Rum Runner*

Damian Zammit

*Rum Runner Dive & Cruise*

PO Box 127 Westcourt QLD 4870. ABN: 80106150592 Downplay Pty Ltd T/A Rum Runner

Hand out lists of organisms that they should try to see during dive

18:00 Dinner

Maybe a night hike for some marsupial spotting

Lodging at Beach House

## Undara Segment-Dry Tropic Open Woodlands and Savanna

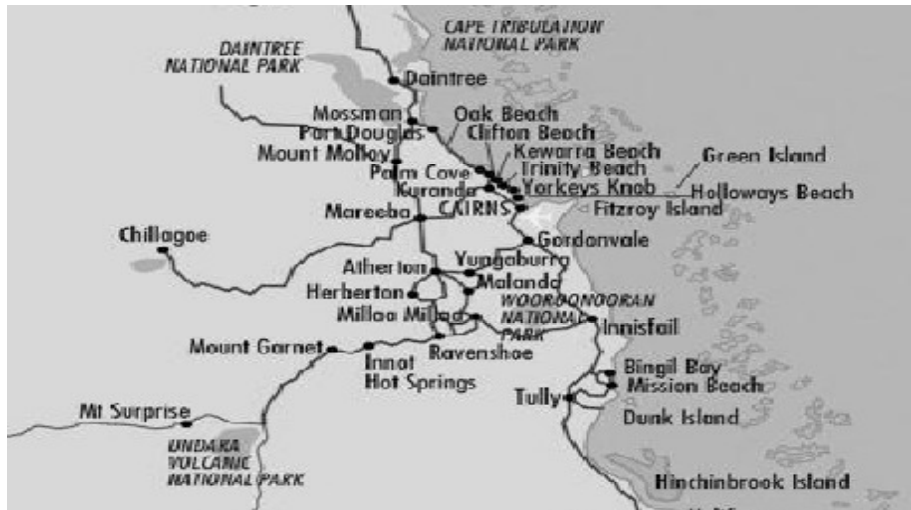
Biome Synopsis: We will shift from the tropical rain forest biome to the open woodland savanna in one day. The contrasts will be striking. As we cross the Great Dividing Range, the lush dark green vegetation of the rainforest will give way to the blue green *Eucalyptus*, *Acacia* and *Grevillia* of open woodlands with relatively shorter trees spaced at approximately 10 meter intervals. If leaves are examined they tend to be smaller, thick and brittle, a condition called sclerophyllous. Also, trees seem to have fewer leaves which are often held at vertical orientation rather than horizontal, an adaptation to the intense sunlight in this biome. Because of this, light reaches the ground level and supports grasses which are the understory plants. Black speargrass (*Heteropodon contorta*) and Kangaroo grass will be common and trees will include various eucalypts, *Acacia*, and others which can be hard to differentiate. A mob of wallabies is resident in the area and will offer hours of observation. Fire is a significant ecological factor in this environment. The evening stars will be spectacular

We will stay at Undara Lava Tube Lodge, a facility at Undara Volcanic National Park. This area is part of the McBride Volcanic Province and is centered around the Undara Volcano that was last active 190,000 years ago. In the area there are 164 extinct volcanic cones. Many millions of years before these volcanoes formed, the area was a shallow granite valley. Over the past 7-8 million years the granite valley has been filled with lava and ash flows. What you see now in the area is a gently sloping dome, which is the lava flow from Undara. Enough lava spilled to fill Sydney Harbor 3-4 times.

Accommodations will be in a bunkhouse, 3 per room, with common wash-house and picnic pavilion. Meals will be from an excellent restaurant buffet where you have choice of several entrees each night with open air dining and breakfasts are prepared in the "bush" around an open fire. Expect temperatures up into 80's during day and into 40's at night. While here, we will hike and have a guided tour of the lava tubes that make this area famous. This is a good place for birding and for observing kangaroos. At night, you should go up the trail to the Bluff where you can view the spectacular southern heavens.

At different times of the day certain animals can be seen. During the early morning and late afternoon both the antelope and common wallaroo (Euro) can be seen. Pretty faced wallabies are here. In the roof collapses of the lava tubes you may see the Mareeba rock wallaby. The best viewing times for wildlife around the Lodge is just after sunrise and around sunset. What's visible around the Lodge at this time is the rufous bettong or rat kangaroo, the smallest and one of the oldest of the kangaroo family. If it's a still night, the best place to view wildlife is around a prominent light source. The light will attract insects, which will in turn attract insect eaters. If you are patient, you may see either tawny frogmouths or boobook owls feeding around these lights.

Risk Management Analysis: In the event of an emergency, we will gather at the reception area. The hand held radio emergency channel will be 10 (4). The risks that could be encountered here include: snakes, spiders, scorpions, overheating, dehydration, sprains, bruises, and scrapes from stumbling while hiking on rocky paths. If you get lost, do not wander but find some shade and sit and wait for someone to find you. Each morning when you get up, tap your boots out before putting them on to make sure no spiders have taken up residence



### Questions we hope to answer in this Biome

*Are the cattle raising areas semi-wooded, like in the pictures from Undara, or are they more cleared and open like is found in the southwestern US?*

*I wonder if this particular biome is mostly owned by individuals or is it owned by the Australian government and partitioned off by grants, permission, and favoritism for grazing like some of our areas in the West?*

*Besides the obvious dryness of the area, do the plants of the savanna just have lower nutritional value to only sustain .003 cows per acre (compared to our 1 cow calf pair per acre)*

*If it takes 1 million acres to support 2,500 head of cattle, wouldn't it be more cost effective to irrigate a much smaller section of land to grow more grasses to feed the cattle than to go through the hassle of trying to round up cattle with helicopters and other resources?*

*What exactly is the difference between a wallaroo and a wallaby? It has never really been very clear to me.*

You mentioned that fire was an important ecological factor in open woodlands in that it recycles Phosphorous. Some plants even seem to promote fire by producing resin that is very easily burnt. By sometimes an area goes through a long period where there is no fire. When this happens, do the resin producing plants produce more resin or continually build up resin in an attempt to further promote a fire, thus keeping other species (which are injured from fire) from invading the biome? Have the Australians had problems in this area of there country with massive fires? I know like we have had in our forested areas out west that the lack of fires for so long have caused huge problems. The amount of fuel build up over time has been the main problem. Have the Australian's faced similar situations or does this area keep itself burnt down pretty well?

### May 19, Friday

Road Trip Geography: As we change locations, we will have about a 6 hour, 200 mile bus ride to the southwest. Once we cross the Daintree River, our bus will climb from the coastal plane up to the Atherton Tablelands atop the Great Dividing Range (GDR). The western side of the GDR is a gradual sloping plateau rising from the center of the continent to the coastal crest whence it drops rather sharply in an escarpment to the coastal plane. We have just finished five days of poking around on the coastal plane and it is time to see what is on the other side of those mountains that we have been looking at. The area just to the west of the crest is called a tableland. Depending on local topography, it can have high or low orographic rainfall. As we proceed westward, vegetation will gradually thin as the lush vegetation on deep loamy soils supported by high orographic rainfall gives way to open bush where termite mounds and hummock grasses compete for space between sclerophyllous *Eucalyptus* trees. It is in this area that fire advances the open woodlands and reduces rainforest, creating a patchwork of vegetation that we will pass thorough time and time again as we journey to our destination. Eventually dark brown soils will announce our entry into the McBride Volcanic Province--a broad dome of basalt laid down by active volcanoes over more than 2.5 million years with activity ceasing 190,000 years ago. The last of these eruptions gave rise to the Undara Lava Tubes. The lava tubes harbor remnant species from the rainforests that once grew in these areas. This is the start of the outback which gets even drier as you go west.

7:00 Breakfast and briefing

8:30 Tropic Wings coach transfer to Undara with lunch stop on way

Lunch will be on your own, most likely in the countrytown of Mareeba

Buy some snacks for the next three days; we will be isolated

16:00 After arrival and settling into our dorms, hike to Bluff Overlook to see sunset and spot extinct volcanic cones on the horizon.

18:00 Dinner: this will be a treat with five choices; be sure to try the kangaroo entre

After dinner there is usually a resort sponsored campfire activity for about an hour which can include bush yarns, folk song singing, or a nature talk.

21:00 You may want to take a flashlight and walk up to the bluff again to see the spectacular southern sky

Food and lodging at *Undara Experience* in dorm like facilities

Lava Lodge, Mt. Surprise, QLD Phone 61 7 4097 1411, FAX 61 7 4097 1450 .

### May 20, Saturday

Synopsis: Experience the dry grasslands and open *Eucalyptus* forests.

7:00 Bush breakfast over open fire; Walk about 1 k to breakfast area in open woodlands; order your eggs as you like them with beans and bacon plus fruit and toast (you make it on fire!). As you eat, kookaburras and .currawongs will sit in the trees above waiting to snatch a morsel from an unattended plate. It is a pleasant way to start a day!

8:30 All day hike along ridges in area, about 12 to 15 Km: Wear good walking shoes, shorts and light shirt and bring hat, sunglasses, journals, sack lunches and water bottles

We will hike first to Atkinson's Lookout. We will back track from there to the Bush Walk Trail which we follow to the north and east. After crossing the road we will pick up the 100 Mile Swamp Trail which you take to the left (N) and continue onto the Flat Rock where we will have lunch and rest. From the Flat Rock we will continue on to Circle View, a small granite hill that will give us some views of the area. Here, we will separate and spend an hour or so sitting alone and reflecting on the biology of the savanna biome. Thoughts should be recorded in journals. From Circle View we will back track on the Swamp Trail. If time permits, we will walk the trail south of the turn off to the camp and continue to the end of the swamp which terminates in vine thicket clad basalt ridge. A swim in the pool at the Lodge will feel good when we return.

17:00 Student Papers after returning from hike

Lacey Jensen Rainforest/sclerophyll battlelines

Amy MacInnes Rainforest ecotones

18:00 Dinner

After dinner there is usually a resort sponsored campfire activity which can include bush yarns, folk song singing, or a nature talk. On past trips, students have hiked up to the Bluff to sit and talk and view the magnificent stars before turning in.

Food and lodging at *Undara Experience*

**May 21, Sunday**

Synopsis: Explore the unique geological formation of Undara, lava tubes. These geological features were formed about 190,000 years ago when lava flowed from active volcanoes down dry river beds. As the surface cooled and solidified, the liquid lava beneath continued to flow leaving cave-like formation. Over the years the ceilings have collapsed, allowing access to short sections of the tubes. The collapsed areas have more moisture than the surroundings and support remnant ancient rain-forest type vegetation in an otherwise dry environment.

7:00 Bush breakfast over open fire

8:30 Half day tour of Lava Tubes; take water bottles

12:00 Lunch

13:00 Field problem in groups of 2 or 3

Grasses predominate in this area. We will break up into small groups that we each layout a study area and attempt to characterize the grass communities that occur in the area. Specimens will be collected for comparison and photographs taken to illustrate associations and the physical nature of the area. We will gather for a discussion and comparison of results.

16:30 Student Papers after returning from field problem

Courtney Pershall Bird adaptations to aridity

Brandon Behrens UV effects on plants

18:00 Dinner

After dinner there is usually a resort sponsored campfire activity which can include bush yarns, folk song singing, or a nature talk.

Food and lodging at *Undara Experience*

**Cairns-2 Segment**

**May 22, Monday**

Synopsis: Last look at savanna and five hour return to Cairns

7:30 Bush breakfast over open fire, return and pack gear

9:00 Reflective discussion of rainforests, dry and wet sclerophyll and this biome

10:30 Have gear ready

11:00 Depart Undara for Cairns by Tropic Wings Coach hire

12:00 Lunch in town of Ravenshoe on own

16:00 Arrive Cairns

Dinner on own in Cairns

Stay at *Queen's Court 2* and 3 per room; air conditioned.

FAX: 61 7 4051 4811 Phone 61 7 405 7722 E-MAIL [info@queenscourt.com.au](mailto:info@queenscourt.com.au)

Good time for washing clothes from this segment



## GBR Segment.

Biome Synopsis: In shallow waters, generally less than 60 m deep, for 2,300 kilometers from New Guinea to just south of the Tropic of Capricorn, the Great Barrier Reef is a complex of over 2,500 smaller reefs. It is the product of calcium carbonate secreting organisms; corals had a dominant role, but coralline algae, bryozoans, sponges, molluscs, and many other organisms also have contributed. Your eyes will be dazzled by hard and soft corals that seem to show every color of the rainbow due to the pigments of the zooxanthellae that inhabit their tissues. Colorful fish will flash by your face mask. Starfish, sea urchins, sea slugs will be common and giant clams will gape at you from the bottom. Colorful Christmas tree worms will decorate coral heads and myriad other invertebrates will peer at you from the uncountable nooks and crannies of the reef.

The Atlantic Clipper is an overnight liveaboard dive and sail vessel operated by Down Under Cruise & Dive. A 140 ft (45 meter) tall-ship, she combines the adventure and romance of sailing with state of the art equipment and modern facilities. Air-conditioned through-out, The Atlantic Clipper Cairns offers accommodation in comfortable 2, 3, or 4 berth cabins. Her spectacular saloon with large dining area, lounge and bar, reflects her nautical charm. All meals are prepared daily in her commercial galley by the on-board chef. There is a spa on the foredeck to soak in, or join the crew to hoist the sails as you cruise to the next reef, up to 2 hours sailing per day. Life aboard the SV Atlantic Clipper is as active or relaxed as you like.

The Reef Encounter is a 35 meter motor catamaran permanently based on the edge of the Great Barrier Reef, moving daily to a new reef location offering a greater variety of unique diving. A fast transfer boat, the *Compass*, daily brings new guests and supplies from Cairns to the vessel. Rooms are in twin share and double staterooms with ensuite facilities. We will visit Norman, Saxon, Hastings, and Breaking Patches reefs during the three days we are out.

We will observe the coral reef biome for three days as we live on the *Reef Encounter*, about 25 miles off the coast of Cairns.

Weather will most likely be in the 80's during day and 60's at night. Shorts, a couple of tees, sweatshirt, light jacket, bathing suit, towel, and sun screen are all that is really needed here. If prone to motion sickness, bring dramamine. No shoes are worn on the boat. All diving gear is supplied by boat. Pack for three days in small back pack, wear swim suit and cover-up. Bring money for extra non-meal beverages and snacks. Main luggage will be stored at hotel.

Risk Management Analysis: We are booked with a very reputable dive company out of Cairns that operates several dive boats which are well maintained and have the latest electronics and conveniences. Both have crews of 6+ who have years of experience. On the reef, biological hazards could be encountered such as: jellyfish, stinging corals, cone snails, sharks, and rays. Do not touch anything and avoid swimming in water that is so shallow that your body scrapes on the coral. Only those who are pre-certified may SCUBA dive. SCUBA divers will pay \$110 AUD for gear. SCUBA divers encounter additional risks that they will have to evaluate on their own before accepting individual responsibility to dive.

### Questions

- Are there any mammalian marine species that inhabit the GBR?-
- What causes the bleaching of the corals and does how the coral react? Is it hurt or killed? I know that the corals are getting bleached due to global warming or partly because of that (warming of the water) but how is this affecting the organisms that survive because of the corals?
- How much has land based pollution from humans affected the reef? What efforts are being made to reduce the pollution?
- How many of the species of sea snakes are venomous and how potent is their venom?
- Is cyanide still being used to capture fish for hobbyists, and how does the rest of the reef (especially with toxins being directly dumped into the water)?
- Are organisms that live in and around the reef but can swim away from the reef (such as fish) considered to be a part of the reef like sponge and bryozoans, or are they classified separately as organisms that just live there?
- What is the major difference between hard and soft corals? And, zooxanthellae inhabit gastrodermis, what is gastrodermis?
- I know that a young snake is more toxic than an adult snake, or releases more venom at a time. I was wondering if toxic Cnidarian larva is toxic like the adults, and if so, is it worse or the same as the adults.
- About how long did it take for the Great Barrier Reef to form? Why did it get so much larger than other reefs?
- Do coral species ever battle out territories or just grow where ever they feel?
- After talking with my friends that are currently taking a microbiology class, they said that they had just discussed coral and bacterial interactions. They neglected to go any further so...What role do bacteria play in the growth and development of coral?
- Can new species live in the coral after coral bleaching? How long does it take for coral to "unbleach"?
- Will the GBR ever reach a certain size? or will it continuously keep growing? If it stops growing (for environmental reasons for example) how will the reef competition/diversity change?

**May 23, Tuesday**

Synopsis: Snorkeling/SCUBA on GBR for 3 days living aboard the *Reef Encounter*

Arrangements through

Reef Encounter & Compass Cruises

100 Abbot Street, CAIRNS QLD 4870 Australia

Phone 617 4051 5777 FAX617 4041 0655

[lyndell@reeftrip.com](mailto:lyndell@reeftrip.com) <http://www.reeftrip.com>

6:30 Free continental breakfast at motel

7:00 All bags in storage area of hotel;

7:20 Pick up at *Queens Court*

Paper work and transfer to docks

SCUBA cost is approximately \$AUD 110 paid individually

8:00 Depart Marlin jetty aboard *Compass*

Transfer 35 miles offshore to GBR locations -2.5 hours

10:30 Arrive at *Reef Encounter's* location on GBR

Settle in cabins and get boat orientation talk

Lunch

Snorkel and dive

15:00 Boat changes to new reef location

Student paperin evening on deck

Alison Schafhauser Reef growth and degradation

Leah Olson Red corraline algae

Disacussion of comparisons between what seen this day and what was seen off Cape Tribulation at Mckay's Cay..

Lodging and meals on *Reef Encounter* for 3 days/ 2 nights

### **May 24, Wednesday**

Synopsis: Comparison of species diversity and abundance in reef communities

Day on GBR snorkeling/SCUBA

Take time between dives to record thoughts/observations in journal

Student Presentations in late afternoon/early evening on deck

Sarah Asberry Stonefish

Danelle Carley Sex reversal in Wrasse

Lodging and meals on board *Reef Encounter*

### **May 25, Thursday**

Synopsis: Final day on GBR. Snorkel in morning; return direct to Cairns. Divers are advised that they have already had several dives and that they will fly to Alice Springs the next morning. SCUBA divers should be aware that air embolisms could develop if they do not allow adequate time for excess nitrogen to be lost from their blood before flying.

Breakfast and lunch on board *Reef Encounter*

Morning and early afternoon snorkeling

14:00 Transfer to *Compass* for return to Cairns

17:45 Return to Cairns docks and bus transport to motel.

Dinner in Cairns and free evening on own

Stay at *Queen's Court* 2 or 3 per room, air conditioned

FAX: 61 7 4051 4811 Phone 61 7 405 7722

E-MAIL [info@queenscourt.com.au](mailto:info@queenscourt.com.au) <http://www.queenscourt.com.au/index.site.rooms.4.html>

Good time for washing clothes

### **Uluru, Kata Juta and Watarrka- Semi-Desert Outback Segment**

Biome Synopsis: On this segment of the trip we will fly into the heart of Australia and see the semidesert biome that characterizes most of the interior of the continent. Undara will seem lush in comparison and the thought of a rain forest will cause cognitive dissonance. Dominant *Eucalyptus* will be replaced by the more xeric species of *Acacia* and *Casurina* as we enter the land of mulga and malee. Expect high daytime temperatures (to high 70's) and cold nights (to low 40's). Skies will be clear and unimaginably blue while the southern cross will become a familiar night time reference point.

The E-W running MacDonnell Range and broad sandy plains will be our area of exploration for this segment. Base rock of MacDonnells at Alice Springs are granites formed by cooling of molten rock 1,800 mya. At one time they were the size of the Canadian Rockies but have eroded, blanketing the surrounding area in a coarse sand 800 m thick. This sand/gravel has been pressure cooked to form Heavitree quartzite which is now exposed in orange cliffs to the south of Alice Springs. The Heavitree Gap is the major route from Alice Springs to the south.

We will travel close to 1200 kilometers during our four day safari experience. Days will be long from 6:00 AM or earlier to 22:00, and sleep will become a luxury. However, don't give in and close your eyes because the bus ride shows you what the "Red Center" is all about: open, uninhabited dry land stretching as far as you can see. We will stay the first and last nights in Alice Springs. The other three nights we will sleep under the stars. We will day-hike into several natural areas and aboriginal sacred sites such as Uluru (Ayers Rock), Kata Tjuta (the Olgas), Watarrka (Kings Canyon), the Ochre Pits, and Ormiston Gorge.

Risk Management Analysis: In the event of an emergency, we will gather at the hotel desk or at the bus when in the outback. Use channel 10 (4) on hand held radios for emergency communication. If you get lost, do not wander but find some shade and sit and wait for someone to find you. Dangers of this segment include snakes, spider, scorpions, overheating, and dehydration as well as the risks of hiking on rocky trails. Each morning when you get up, tap your boots out before putting them on to make sure no spiders have taken up residence

#### **May 26, Friday**

Synopsis: Change location and prepare for safari.

7:00 AM! Wakeup call and be ready to leave hotel by 9:15 AM: Pack so you can get to field clothes easily for Center

Breakfast at Hotel

9:15 Leave hotel in Black and White Minibusses for airport; Phone 131-008

11:55 AM Flight Cairns to Alice Springs

Qantas 1949, arriving 13:40 PM (Flight 2 hr, 15 min)

Flight Geography: The flight is somewhat like flying from Boston to Des Moines in distance covered and direction. Look out the windows during the flight. This will give you an idea of the vastness of the outback. We will fly over the Great Dividing Range on the coast, after 45 minutes or so the Gregory Range, followed in 30 minutes by the Selwyn Range, followed in 20 minutes or so by the Simpson Desert. The next range that will be visible is the Macdonnell Range with Alice Springs located in a north/south gap that was an important route to early travelers. To pass the time, count the number of houses you see in this area. It won't be difficult!

14:00 Our guide Reggie Ramsden will meet us at airport and drive through Alice Springs to show us the town. Depending on time, we may get out for a "sticky beak walk" around the Alice business district. We will walk back to an aboriginal youth center where we will enjoy some games with the children and then have dinner.

Toddy's Backpackers Resort, sleep up to 6 per room

41 Gap Road, Alice Springs, Northern Territory, Australia 0871

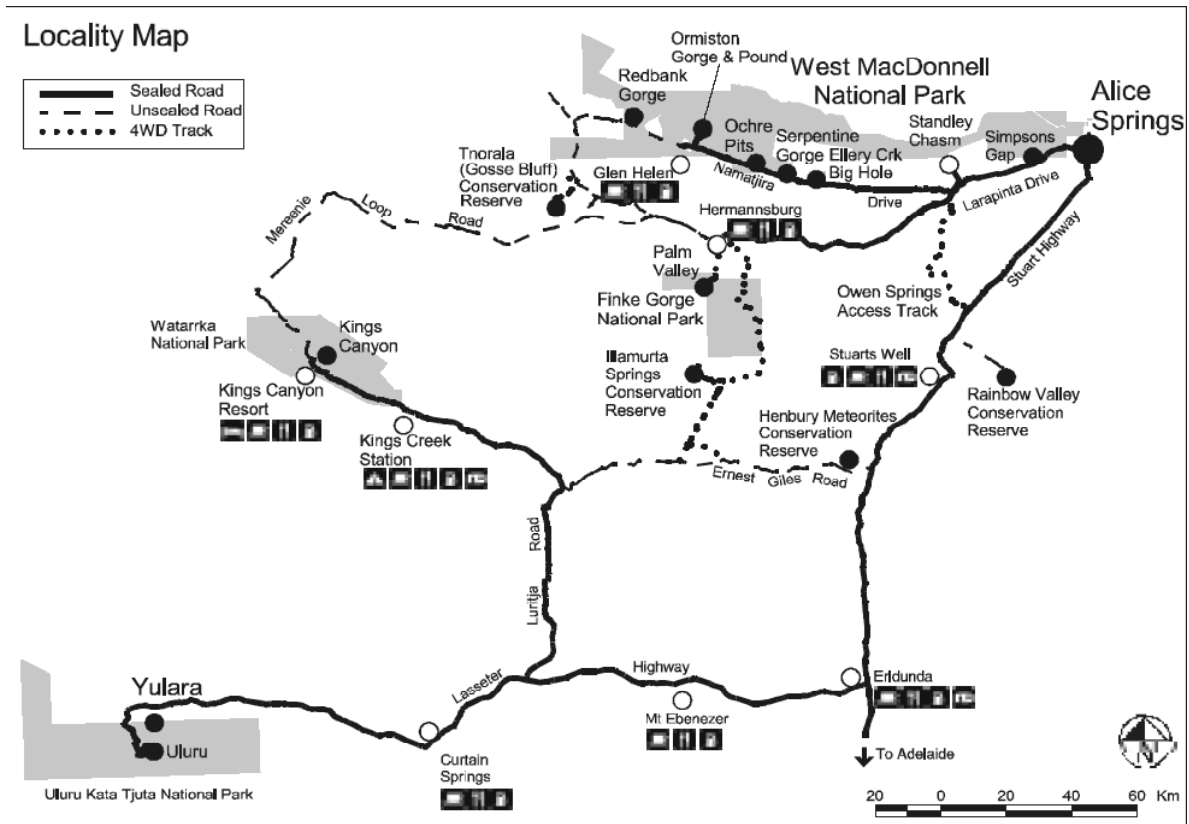
Phone 61 8 8952 1322 or FAX 61 8 8952 1767

We will have to leave our main baggage in Alice Springs for the next four days. Pack field clothing for next four days in your backpack. Should include toilet kit; medicines; a water bottle, hat, sun glasses, long underwear for sleeping, ski hat, gloves, wind breaker jacket, change of underwear, change of socks, extra shirt and long pants. Wear sturdy shoes, wicking socks, long pants, tee shirt and long sleeve shirt, hat, possibly fleece for early morning.

Expect temperature highs in 70's and lows in 30's F. You may want to buy some snacks to have on this segment. We will be in very remote locations. While on safari, we will divide into kitchen "teams" who will help Reggie prepare and clean up meals. (This reduces costs and really will not be a burden, so be ready to help out.) We want to be sure to wash dishes and cups thoroughly and to plunge in boiling water if possible to prevent sharing too many cold germs.

Our Outfitter is Reg Ramsden who operates Remote Tours, PO Box 4078, Alice Springs, NT 0871

Phone: 61(08) 8953- 0383 ; in Sydney 61(02) 9476- 5535; FAX Sydney 61(02) 9940-3905



Questions we hope to answer in this Biome

*You mentioned in class tonight that the semi-desert experiences a lot of fires, which are largely fueled by the high-resin plants. How do the animals and insects living in this area protect themselves from the fires (termites, lizards, etc.) or do they die off and then new populations re-migrate into the area as the community re-generates?*

*How far down do the roots have to go to reach water for the Eucalyptus that are in the dry creek beds?*

*What physically happens to spinifex that causes it to roll up, and why doesn't it unroll?*

*What types of species are introduced to the semi-desert area besides camels? Are they wreaking as much havoc on the ecosystem as the camels are doing for grazing?*

*What makes these camels different to the camels of the middle east to make them valuable? Are they sort of the Texas Longhorn of the camel world?*

*What is in the soil that makes it such an intense color of red and why is it present in the soils of these areas and no where else? Does it have anything to do with the lack of rain and intense UV light that bears down on the ground?*

*If Eucalypts and Acacias are found in the same environment, why is it that Acacias are able to tolerate greater dryness than Eucalypts?*

*Ayres Rock emerged from the ground because of rocks eroding away that were around it. At what rate is the ground eroding away to reveal more and more of Ayres rock? Where else in the world does this geologic event occur?*

*What are the poisonous species that live here? Are we going to be okay sleeping in tents? What species may threaten our safety?*

## May 27, Saturday

Synopsis: We will drive from Alice Springs to Ulara the aboriginal resort adjacent to Uluru (Ayers Rock). There we will set up camp and then visit the Olgas for some hiking.

6:00 AM Breakfast at Aboriginal Youth Ctr

440 Km drive to Ulara, about 5 to 6 hours

As we leave Alice Springs we pass through and along the Western MacDonnell Range made of quartzite rocks.

We will pass over dry creek beds where you will see gum trees growing in the bed. As we proceed southwest, the land will become hummock grasslands with stands of Acacia (mulga). When large trees are seen they are probably members of the genus *Casuarina* also known as she oaks and pencil pines.

Pass through broad valley which is the location of a the fossil Amadeus Lake system. Now a few salt lakes remain from what was an immense lake system covering 1,750 square kilometers. Hike in to dry lakes and salt pans along the way.

As we near Ulara we will get into dune country where the gradual hills are actually sand dunes of red sands.

12:00 Lunch in camp

13:00 45 minute drive to Olgas

14:00 Visit Olgas and walk Valley of the Winds

3 hour hike, 7.4 Km, through Valley of the Winds. Take water and wear good shoes; reasonably difficult

Kata Tjuta (Olgas) means many heads. This collection of rust colored rocks lies west of Uluru and is a sacred ground for the Anangu people who conducted men's ceremonies in the area. These geological formations were exposed when the surrounding deposits were eroded by air and water. Here we will hike the longer Valley of the Winds route (4.6 miles) takes us through some very scenic areas. It is not a race to a destination but a time to observe and reflect on where we are. As you walk through here note the conglomerate sedimentary rocks in horizontal layers.

17:30 View Uluru at sunset

Camp dinner

Student papers at campfire

Emily Brown-- Camels

Sleep in swags on ground; showers available

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## May 28, Sunday

5:00 Wake up before sunrise and drive to Rock

Sunrise and breakfast at the ROCK

Uluru, Ayers Rock in English, is sacred ground for the aboriginal people. Geologically it is a monolith, a single rock, left after the surrounding countryside eroded away. As you stand before it, look to the horizon and think about the volume of material that was washed away. Also note the fine sedimentary material making the rock and the near vertical orientation of the layers.

Walk around or climb Rock (Base walk is 9.4 Km level walk, 3 hr)

Interpretive walk with Reg

Lunch at camp

Pack up and drive to King's Canyon Station, about 4 hours

Reggie's world famous camp dinners.

Student papers

Emily Donahue-- Dingoos

Miranda Gabler --Mistletoes

Sleep at Kings Creek Station Campground in swags around campfire; showers available

### May 29, Monday

6:00 Breakfast

6:30 Walk Kings Canyon Rim at sunrise; 4 hr

This is Watarrka National Park. Watarrka is the Luritja name for the area and also for the umbrella bush, *Acacia ligulata*. The English name, King's Canyon, is derived from early settlers of the area. Located on the eastern edge of the George Gill Range, the canyon was formed from Mereenie Sandstone, 369 mya, on top and older Carmichael Sandstone on the bottom, 430 mya. Mereenie sandstone is porous and holds water that feeds springs in area which support plants that are remnants from a time when this area was less arid. This area has the greatest species diversity of arid Australia as it has water and is at the intersection of two floristic regions of Central Australia. Ascend south side and descend north step routes. Dramatic gorge with vertical sandstone cliffs dropping 330 feet to floor. Second trail follows creek up into valley and is an easy 2.6K in and out trail

Lunch somewhere in the middle of no where

Drive around Mereenie Loop dirt road to Red Bank Gorge

Mt Sonder and Gosse Bluff comet crater

Remote bush camp at Red Bank Gorge; sleep in swags; no showers

### May 30, Tuesday

Work our way back to Alice Springs, about 250 km

Breakfast at about 6:00

Glen Helen Resort

Ormiston Gorge, fantastic walk called the 'Ghost Gum', Ormiston Gorge was formed when hundreds of meters of Heavitree Quartzite were thrust upward by earth movements.

Ochre Pits: The variously colored (by iron oxides) silt stone and shale beds in this stream bank were used by the aboriginal peoples as pigments in their art and for body painting. Make hand prints on damp tee shirts from colored dusts in stream bottom.

Serpentine Gorge

Ellery Creek Big Hole

Stop for 1.5 hr to look for marine fossils in James Range where Maloney Creek crosses road

Larapintine Sea covered this area 500 mya and central Australia straddled the equator before drifting southward and then northward to its present position. Hopefully, we will find lamp shells, nautiloids or trilobites as well as see evidence of marine worm burrows.

Sleep in hostel or swags; dinner at Annie's

### Sydney Segment

**U.S. Consulate General in Sydney** serves New South Wales, Queensland, and the Australian Capital Territory and is located on Level 59, MLC Centre, 19-29 Martin Place, Sydney NSW 2000, Phone (61)(2) 9373-9200, fax (61)(2) 9373-9184, home page <http://www.usconsydney.org>.

Biome Synopsis: Sydney, also in the temperate deciduous biome, has more of a subtropical climate than Melbourne. It is somewhat dryer and warmer. I expect temperatures in high 60's during day and dropping into low 50's (maybe 40's) at night. Could have rain. One in 10 Australians live in Sydney and it is a thriving commercial center for the southern hemisphere. As you contemplate dark blue green waters of the harbor thinking about the First Fleet arriving here, the modern skyscrapers and myriad shops draw you back to the present.

Our program is somewhat relaxed here. We will go to the aquarium one morning as a group and will travel for one day to the Blue Mountains National Park. Otherwise, you are on your own to enjoy this metropolitan city of the southern hemisphere. On the last night we will have a group dinner at a restaurant to bring closure to our experience.

Risk Management Analysis: You will again be in large city. In the event of an emergency, we will gather in the lobby or just outside the hotel. Sydney is not a dangerous city, but is always prudent to go out with "buddies and make sure others know where you are going: no "lone wolf" excursions. Do not take short cuts through back streets at night. Do not go out alone with strangers. Watch traffic and obey pedestrian rules. Consider buying a bus pass. If you are far from the hotel, late at night, consider sharing a cab ride back to the hotel. Cabs are not expensive especially if fare is shared. Traffic in Sydney is very heavy: be careful crossing streets and remember to **look both ways**.

Some Useful Transportation Facts

Ferries: <http://www.sydneybuses.nsw.gov.au/pricing-ferry.html>

From Circular Quay to various locations the fare for the ferry seems to be about \$4-7.

There are ferries that leave every 30 minutes from 7:15 AM (weekdays) and 8:45 AM (weekends) from Circular Quay to the Taronga Zoo. The last ferries leave the zoo to return to Circular Quay at 7:00 PM (weekdays and Sat) and 6:37 PM (Sundays). A ZooPass is about \$28.40

Buses: <http://www.sydneybuses.nsw.gov.au/pricing-bus.html>

Take Advantage of Cultural activities in Sydney

Museums within walking distance of hotel

SYDNEY OPERA HOUSE (several halls in complex) <http://www.sydneyoperahouse.com/boxoffice/>

In the past there have been orchestral performances that several students have gone to

STATE THEATER [http://www.statetheatre.com.au/whatson\\_comingsoon.html](http://www.statetheatre.com.au/whatson_comingsoon.html)

Check this out; playbill not listed now, but has dance and theater performances; located about two blocks from hotel.

### May 31 Wednesday

Synopsis: Change locations

11:00 Reggie to take us to airport

Lunch on own in airport

13:05 PM Flight to Sydney

QANTAS 791, arriving 16:25 PM (Flight 2 hr 50 min)

17:00 White, red and Blue KST Airporter shuttle; bus to be waiting; group name Iowa State University

Trip pays \$15@ roundtrip ticket

Airporter FAX 61 02 9317 5482, phone 61 02 9667 3800

Stay at *Central Station Hostel* in 4 to 6 share rooms with shared bathrooms

Phone 61 2 9281 9111 FAX 61 2 9281 9199 E-mail [sydcentralgroups@yhansw.org.au](mailto:sydcentralgroups@yhansw.org.au)

Washers/Dryers available

Café in hostel has meals-Breakfast ~\$A8, lunch ~10, and dinner ~ 20

Kitchen and cooking facilities available if you wish to make your own meals; inquire at desk for information

Get city maps from the desk at hostel.

For a beautiful introduction to Sydney on the evening we arrive, walk down George Street to Circular Quay or Darling Harbor areas on this first night. The city lights reflected from the water are spectacular and you will find lots of shops, restaurants and pubs to enjoy. Shops generally open from 9 to 5:30, except on Thursday until 9. Saturday 9 to 4, and Sunday 10 to 4. Do not travel alone. Use buses or taxis late at night. Three or four people sharing a taxi will only cost a few bucks per person from harbor

back to hostel.

Use buses on George Street to save time. You can buy 10 ride bus passes at news stands all along street for about \$12.70 AUD for a 10 trip up to two zone pass (card which you dip in reader when getting on bus). You can use it alone or double dip in reader on board bus to pay for two people. If leaving YHA and going to Harbor ask driver if going to Circular Quay. If coming back to hostel, ask driver if he goes by Central Station (Rawson St) or YHA. Passes can be used to travel throughout the city although there are zones. If you have a two zone pass and want to go four zones, you dip twice.

### **June 1, Thursday**

Synopsis: Visit Aquarium; free afternoon in city

Email: mail@sydneyaquarium.com.au

Breakfast, lunch and dinner on own

8:30 Meet in hostel lobby and walk to Aquarium; trip pays entrance fee

11:30 Explore historic harbor area on own with buddies for rest of day

Darling Harbor has many shops, restaurants and malls

Chinatown area

Rocks area

Museums include

Taronga Zoo- (need to take ferry; can get combination pass)

Royal Botanical Gardens- (Free admission; delightful walk through area to Opera House)

Australian National Maritime Museum-at Darling Harbor (Learn about naval history of Australia); Darling Harbor area

Powerhouse Museum of Technology and Social History (An excellent museum); Darling Harbor area

Museum of Sydney Excellent museum covering early settlement of Sydney Corner of Bridge and Phillip Sts very close to Circular Quay ferry docks.

Australian Museum- College St is rated as one of best natural history museums in world

Art Gallery of NSW- one of largest aboriginal art collections as well as other art

Museum of Contemporary Art- located at the Rocks

Hyde Park Barracks, originally a home for convicts it is now a museum of Australian history (open 10 to 5, admissions 8\$)

Art Gallery of New South Wales

Lodging at *Central Station Hostel*

### **June 2, Friday**

Synopsis: Free day in Sydney. Consider going to Olympic Village and swimming in pool, wandering through the Rocks neighborhood, or visiting the museums. Don't miss the Royal Botanical Gardens.

All meals on own

Lodging at *Central Station Hostel*

### **June 3, Saturday**

Synopsis: Observation of sclerophyll forests and rock formations in scenic Blue Mts. About 100 miles west of Sydney

Approx 7:30 AM meet in lobby and be ready to go; need day pack with some warm clothes, rain gear and water bottle; Katoomba is at about 3,000 ft elevation and is considerably cooler than Sydney. Throw in the ski hat, bring or wear wind breaker, and have a



sweater.

8:00 Catch train from Sydney Central Station to Katoomba (trip pays for round trip)

<http://www.cityrail.info/>

10:00 Arrive Katoomba

Geography note: The Blue Mountains were a formidable obstacle to westward expansion from Sydney in the 19<sup>th</sup> century. The area was first explored when Blaxland, Wentworth and Lawson crossed the Blue Mountains in 1813. It is known they came close to the present townsite as one of the members of the expedition clearly marked a tree. The town's name, Katoomba, reputedly comes from a local aboriginal word 'godoomba' meaning 'water tumbling over a hill'. This exploration opened the western face of the mountains to sheep farming. Today the extensive wilderness in the canyon area is a biological refuge. About 10 years ago an amazing discovery was made. The Wollemi Pine, a gymnosperm with ancient characteristics and thought to be extinct, was found growing in a remote canyon in the Park. The location is kept secret.

As early as 1841 George Clarke discovered coal in the area (the whole Sydney basin has an underlay of coal which rises at Newcastle in the north, around Wollongong in the south and is present at the bottom of the cliffs in the Blue Mountains). A coal mine opened at Katoomba in 1879 and kerosene shale was being mined by 1885. The area became hugely popular with the establishment of a railway station in 1876. It was first called 'Crushers' but was changed to Katoomba a year later. From this point it was a popular holiday resort providing excellent bushwalking, delightful views over the valleys and gracious hotels. As Katoomba grew as a holiday destination so its coal mining fortunes declined. The coal mine closed in the 1920s although the spectacular railway to the mine has remained open and is now a popular tourist attraction. We will use it to come out of the canyon after hiking down.

After we get off the train the trip will purchase bus passes with TROLLEY TOURS <http://www.bluemts.com.au/pearce/trolleytours/default.htm>. The passes will allow us to get on and off the bus at different spots for the entire day. We will all go to the canyon together hike and then people can return to town and Sydney when they want to. No lone wolf excursions. Travel with buddies and let others know where you are going.

HIKE (about 4 hrs, reasonably hard): THE FEDERAL PASS is a major track in the Jamison that offers a range of scenery, including waterfalls, rainforest, cliff views and some glimpses of the Three Sisters here and there. Where the Prince Henry Cliff Walk goes along the plateau, the Federal Pass goes along the valley. We will check maps at visitors' center and make a choice. The following notes are from hikers' journals on the WWW.

Start from the visitor centre at Echo Point. Pass through stone arches to start on Prince Edward Cliff Walk. As you come up on the Three Sisters, the Cliff Walk bears right while the three sisters goes down hill. Continue on the Cliff Walk for about an 2K until come to trail to right to Jamison's Look Out and Fern Bower. Take Fern Bower trail down steps past Lilla Falls to bottom (about 45 minute descent). You eventually come to a shady, rain forest like spot with huge trees and leaf litter on the ground, called Leura Forest. Eat lunch on tables in forest and then proceed to Historic Shelter Shed. There is a large clear area here. Here the trail branches into the Dardanelles Pass Track and the Federal Pass Track. Both will take us to the Scenic Railway about 4 to 5 K away. At the fork going left continues on the Federal Pass and is further down the hill, and it is flatter. Going right onto the Dardanelles Pass track is just a good, a little shorter but has more up and down stuff. It doesn't matter which way you go, both are just as good and you eventually come back onto the same track just past the base of the Three Sisters. Many people coming down the Giant Staircase will join the Federal Pass at this juncture. It is about 30 minutes to the juncture with the Scenic Railway. From the Three Sisters you follow the track around past Katoomba Falls till you come to the Scenic Railway (the last train is at 4.50 pm). Gather at the bottom and the trip will pay for us to be hauled to the top on what is said to be the world's steepest inclined railway.

All meals on own

Lodging at *Central Station Hostel*

#### **June 4, Sunday**

Goal: Soak up the last bit of Aussie culture

Breakfast and lunch on your own with a group dinner at site TBA

Dolphin to check for group return; others to check on their destinations

Free day in Sydney to enjoy your last day in Australia. Things to consider:

Paddy's Market is very near hostel and has hundreds of booths selling everything

Opera House and Rocks area has craft stalls, marts and buskers on Sundays

Rocks Market from 10 to 5 on weekends has many crafts for sale

Darling Harbor has many shops and two museums: Power Museum and Marine Museum

Check out the Olympic Village area and possibly swim in pool

Royal Botanic Gardens, Parliament House, and Hyde Point Barracks

Catch a ferry to Manly or Paramatta and enjoy a day of walking/observing; may have festivals

Visit the Taronga Zoo

Breakfast and lunch on own

6:30 to 9:00 Group dinner to be arranged at a restaurant for closing ceremonies (Trip pays)

Lodging at *Central Station Hostel*

### **June 5, Monday**

Synopsis: Return to USA or start trip extension

Those going to New Zealand will have to make their own pick-up arrangements with KST Airporter and should go airport at least 2.5 hours before takeoff time. Cash in Australian dollars for NZ dollars at airport so you have some cash on arrival. Cash American money at bank in Christchurch for best exchange rates.

7:45 AM Arrange KST Airporter Express to Airport, (About 30 minutes; Use round trip ticket from arrival)

Airport Express FAX 61 02 695 4613, phone 61 02 695 4611

Cash in any Australian dollars for US dollars at Sydney Airport; costly to do it in USA.

Flight home

Risk management Analysis: You may miss flights if you do not pay attention to boarding times and allow time for security checks if you leave boarding area. During transoceanic flight there is a risk of deep vein thrombosis (blood clots). Be sure to wiggle toes and legs rather regularly and get up to walk around cabin. Drink plenty of water to stay hydrated.

Do not carry on anything that will prompt a security check (sharp objects, etc. )

10:50 AM QANTAS 107 to Los Angeles, arriving 7:10 AM. (13 hr 20 min)

In LA you will have to pass through immigration and present your passport; after being readmitted to the USA you will have to claim your checked luggage and personally take it through customs; no raw food products (fruit, meat, cheese) should be in luggage; luggage may be x-rayed or searched if they suspect anything. After clearing customs, you place your bag on a conveyer belt that takes it into the domestic air system and puts it on correct flight home. You will have to walk from the international terminal where you arrived to the domestic terminal where you will board flight for home. Do not dilly-dally as the domestic terminal security can sometimes be backed up. You have 3 hrs from landing to clear customs and make your gate.

10:11 AM American 424 LA to Chicago, arriving 16:17 PM (4 hr 6 min)

17:14 PM American 4023 to Des Moines, arriving 18:28 PM (1 hr 14 min)

### **June 6, Still!** (This is when you biologically age a day without chronologically aging!)

Arrive home

Sleep in your own bed!

### **June 7 , Tuesday** No more briefings; Sleep!

**Sometime in September a reunion to share photos and memories.**

**Budget sheet for students in AUD**

<b>Date</b>	<b>B</b>	<b>L</b>	<b>D</b>	<b>Snacks</b>	<b>Souvenirs</b>	<b>Other</b>	<b>Total</b>
8-May	--	12	25	Airports			
9-May	T	T	T	-----	-----	-----	-----
10-May	T	12	25				
11-May	T	12	25				
12-May	T	12	25				
13-May	8	12	25				
14-May	T	12	25				
15-May	T	12	T				
16-May	T	T	T				
17-May	T	T	T				
18-May	T	T	T				
19-May	T	12	T				
20-May	T	T	T				
21-May	T	T	T				
22-May	T	12	25				
23-May	T	T	T				
24-May	T	T	T				
25-May	T	T	25				
26-May	T	12	T				
27-May	T	T	T				
28-May	T	T	T				
29-May	T	T	T				
30-May	T	T	T				
31-May	T	12	25				
1-Jun	T	12	25				
2-Jun	T	12	25				
3-Jun	T	12	25				
4-Jun	T	12	25				
5-Jun	T	12	25	Airports			
<b>Totals=</b>	<b>8</b>	<b>192</b>	<b>350</b>				

T = meal paid by trip

For meals need \$550 AUD = 418 USD

Based on exchange rate of 0.76 USD for 1 AUD

