**3.1.1 – OZ before Human Habitation**

**Why is Australia so unique?**
- Biological Isolation
- Geological Stability
- Erratic Climate

Before human habitation, Australia was very different from what it is today. Around 225 million years ago all the world’s land masses were joined as **Pangaea**.

**Laurasia** was apart of the ancient supercontinent Pangaea before it split up. It included most of the land masses which now make up the northern hemisphere. **Gondwanna** like Laurasia was once apart of Pangaea, the ‘supercontinent’. Its contained Australia

**What you need to be able to do?**

Describe how an environment may have looked like before human habitation (think about how human impacts have changed the environment)

Describe how geological stability, biological isolation and climatic variations have influenced the natural environment, including plants and animals

Justify and explain why Australian environments are so unique

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**BIOLOGICAL ISOLATION**

Millions of years of isolation from other continents have resulted in Australia’s plants and animals evolving very differently to other places.

This has also contributed to the high number of endemic species found in Australia.

Many of these species have been found to closely related to other species found around the world through the research of fossils.

This also meant that due to the lack of predators that the mammals that we see today were able to flourish.

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**GEOLOGICAL STABILITY**

The Australian continent hasn’t changed, other than eroded, since the uplift of the Great Dividing Range 80m years ago. This geological stability has given erosion a lot of time to expose some of the world’s oldest and most amazing rock formations, like the 12 Apostles.

Geological stability is a characteristic that has resulted in only relatively minor change to Australia’s geological substrates and many of its landscapes over extremely long periods of time.

Where there is no geological activity, there is no formation of new fertile soils, instead the old soil is leached and blown away, leaving plants with little chance to fasten their roots. These soil conditions have forced plants to develop canny adaptations to balance on a bare rock wall or develop long roots to survive in a lifeless desert.

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**CLIMATE VARIATIONS**

Australia is the driest continent on Earth. Its climate is very erratic, often moving from one extreme directly to the other.

The flatness of the majority of the continent turns out to be of importance to the survival of many plants and animals in times of long droughts, which occur often and irregularly. Because of this overall flatness, any high points, from rock outcrops to desert mountain ranges, tend to collect and store more water for longer periods than the surrounding flat land.

The plants and animals of Australia have been very strongly influenced by the climate. Both have adapted to survive, as a species if not always as individuals, in very harsh environments in many parts of the continent.

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**RELATIONSHIPS**

- Perceptions
- Interactions
- Impacts
3.2.2 – Relationships of indigenous oz

**Perceptions:**
Land Belongs to no one, Custodians, Spiritually linked, Believed that they were part of the land and that they would return to it Inherently linked

**Interactions:** (Be able to describe these)
Fire stick farming Conservation Zones Proto Farming Seasonal Movements Ceremonies Hunting and gathering

Remember that these must relate to a specific group – This may make FSF difficult to use

3.2.2 – Relationships of indigenous oz

- May have contributed to the extinction of the Megafauna through use of fire and hunting
- Extinction of fire sensitive plants
- Manipulation of the environment through the use of fire and the regeneration of fire tolerant plants – these flourished
- Introduction of the dingo
- What were the good impacts that they had? Remember that impacts are both positive and negative.

3.2.2 – Relationships of indigenous oz

**Relationship – putting it all together**

Their knowledge and understanding of the land also meant that they employed seasonal calendars and lived in a nomadic way, which ensured that they never exhausted supplies. Their relationship was one about deep respect and care, which is reflected in the way they viewed the land in terms of ownership and the interactions that they employed to ensure that the environment was sustained and not damaged by them.

REMEMBER YOU MUST RELATE THIS TO A SPECIFIC AREA AND TRIBE

3.2.2 – Relationships of indigenous oz

**Relationship – putting it all together**

Early indigenous Australians relationship with the land was based on a deep understanding and respect for the land. This meant that they employed management strategies such as fire stick farming to care for the land. The saw the land as belong to know one and that they were the custodians of it and needed to care for it as they saw themselves as returning it to it. This saw them have a strong spiritual connection with the land and saw interactions such as dreamtime stories and conservation areas where specific areas were protected due to this spiritual connection.

3.2.2 – Relationships of indigenous oz

You will also need to know the following:

1. How the arrival of non-indigenous people impacted the relationships of indigenous Australian
2. How the relationship of early indigenous people compares to contemporary indigenous people
3. Evidence of indigenous people
3.1.3 – Non-indigenous relationships with the land as expressed by:

Early Settlers Experiences

Increasing population

Industrialisation

Nation Building

(You need to be able to use the same area)

3.1.3 – Non-indigenous relationships with the land as influenced by:

Early Settler Experiences (Samuel Anderson)

Perceptions:

- Saw the environment as harsh, hostile and wild,
- Needed to tame the land,
- Saw the land as a means to survive and make ends meet
- Wanted to change it to be like Europe

Early Settler Experiences - Interactions

Due to the perceptions the E.S were influenced to

Farming: crowded paddocks with livestock. Hard hoofed animals compacted the soil and had damaging effect on water sources. Sheep grazed the land aggressively (ate entire plants – leaving little chance for regeneration). Deep-rooted perennial grasses disappeared. Shallow rooted grasses replaced these and resulted in topsoil erosion.

Introduced species: introduced sheep, cattle, goats and pigs for farming; rabbits, dogs and foxes for hunting; horses for work and songbirds for profit and pleasure. They also introduced a large number of plants to make the environment look like home.

Early Settler Experiences - Interactions

Due to the perceptions the E.S relationships were influenced to be

Had very little understanding of aboriginal land management strategies
Large areas were cleared for permanent settlements
Settlements were built close to water sources
Indigenous people were forced to leave or work as servants
Based a lack of understanding of the unique environment – rather than total misuse. They could not see the impacts that they were making
Based around survival

3.1.3 – Non-indigenous relationships with the land as expressed by:

Increased population

Environment seen as providing an opportunity to gain wealth fast by using the resources that it provided. Commodities were targeted with little regard for the impacts on the environment, the environment was very much a resource to be used and exploited for profit.

Interactions in Victoria include:

- Gold Rush sites in Gippsland
- Wahalla, Foster etc.
- Large population increases, towns built around settlements (what impacts?) and infrastructure, food and services were in greater demand
- Rail links were established (impacts?)
- Gold mining: land cleared, excavation, roads and shafts, towns (impacts)
- Land clearing for farming, housing, crops, mining with no restrictions
- Timber was in huge demand
Interactions in Victoria include:

- Irrigation channels were made – further extension of farming
- As time past adapted to suit Australian environment and became Australian rather than colonists
- Change is uses by artists (discuss) inspiration was evident in works and depicted the environment as it was

Remember that you need to relate this to a specific area, this means that you more than likely will use the gold rush at stringers creek – how did this influence relationships of this time?

You must also know the impacts caused

3.1.3 – Non-indigenous relationships with the land as expressed by:

**Industrialisation**

Perceptions:
- The environment could be used to feed, house, employ and provide energy for the growing population
- That the environment was a resource
- That the environment needed to be protected
- Beginning of the view that the environment was a place for recreation

**Industrialisation relationships as influenced by …….**

- Economic value
- Beginning of a mixed relationship
- Resource
- Based on export and imports
- Development
- Beginning of conservation
- Worth-ship

3.1.3 – Non-indigenous relationships with the land as expressed by:

**Nation Building - Perceptions**

- The environment was perceived in terms of constructing a national identity
- Resource and appreciation – mixed perception. There was a mixed perception of the land, that it needs to be protected and managed by our government. But that we also have to use the environment as a resource.
- Start of our perception of the environment as a place for recreation – Skiing an example to use
- Beginning with developing a strong appreciation of the natural environment - family holidays etc.

**Nation Building - Interactions**

- SRHS
- Major Roads
- Irrigation Pathways
- Solider settlements
- Man made dams – Glenmaggie
Nation Building - Interactions

- Building national identity and Mixed relationship
- Recreation and appreciation
- Signs of development were becoming obvious. People realised that they had to make changes to the way that they used natural resources.
- Public awareness grew by the 1950's due to the awareness of the need to protect our natural resources. A gradual change occurred during this time frame. Whilst old land management strategies are still used there is an increasing awareness of the value of the environment.
- We have begun to appreciate and celebrate our uniqueness, diversity and character of the environment. Many Australians see themselves as conservers or protectors of the natural environment, there are also Australians that see the environment as a resource for short-term gain or who believe that development is necessary.

3.1.4 - Role of the Wilderness Society in changing relationships with outdoor environments

The emergence of environmental groups campaigning against a range of environmental threats, and the development of national and international concerns in the 1960s and 1970s, marked another stage in the changing relationships with the Australian environment.

The Wilderness Society were involved in the Franklin River Damming conflict and the NO DAMS campaign. This greatly change the way that we impact with the outdoor environment, both then and now.

How has this changed our perceptions, interactions and impacts (Relationship)

- Raise awareness of importance
- Develop a connection to the OE
- Encourage us to look after the OE
- Make us visit an area we wouldn't
- Do things we wouldn't normally do
- Develop and appreciation for the franklin

3.1.4 - Role of the Wilderness Society in changing relationships with outdoor environments

How has this changed our perceptions, interactions and impacts (Relationship)

- Change from resource to temple
- Focus on conservation and these types of activities
- Visit these threatened areas
- Change the way we do things
- Become actively involved in protecting the environment through the development of conservation groups who build infrastructure and also assisted in decreasing the impacts of erosion and compaction in the area.

3.2.1 - contemporary societal relationships with outdoor environments reflected in different forms of conservation, recreation, primary industries, and tourism practices

**Conservation** - refers to humans work in a positive manor to protect and restore the natural environment. Examples include: research into state and quality of natural resources, salinity programs, weed and feral animal eradication.

**Recreation** - refers to the natural environment being used as a venue where recreational based activities can occur. Examples include bushwalking, skiing, rock climbing.
3.2.1

**Tourism practices** - refer to the combination of both recreational and commercial interactions in meeting an individual’s desire to experience natural environments. A profit can be made by commerce-based organisations. This type of tourism may be based on the desire to learn more about an area, the need for adventure, or to explore the uniqueness of the Australian environment. Examples include: 4WD tours, paddle steamer rides on the Murray, horse-riding tours.

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**Primary industries** - refer to industries that are involved in the growing, harvesting, extracting and sometimes processing of natural resources which form the basis of the products we use in our everyday lives. One example would be dairy farming, another would be forestry. Major businesses in the primary industry sector include agriculture, horticulture, agribusiness, fishing, aquaculture, forestry and all mining and quarrying industries.

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**Contemporary views may include:**

- Resource: for meeting people’s needs
- Adversary: an enemy, something to beat or overcome, a challenge or a threat
- Gymnasium: a place to participate in physical activities
- Temple: a place of beauty, somewhere to connect with nature
- Museum: a place of history

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3.2.2 - the factors influencing contemporary societal relationships with outdoor environments, including:

- the effects of different technologies
- commercialisation of outdoor environments and outdoor experiences
- portrayals of outdoor environments and outdoor experiences in the media, music, art, writing and advertising
- social responses to risk taking
- social and political discourses about climate change, water management, biosecurity and other contemporary environmental issues.

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**Example: Mountain Climbing (this can be adapted)**

1. Tents have been developed to be more suited to the conditions. They now have flexible poles that can withstand the winds, as well as being made out of material that makes them more waterproof.

2. Satellite phones, UHF walkie talkies are now available for communication.
- effects of different technology

3. Climbers now climb with boots that are insulated, these are also much more waterproof and if they do get wet they are fast drying

4. Oxygen tanks used by the mountain climbers are now much lighter

5. Mountain climbers now have detailed maps, satellite imagery and GPS that can assist them to navigate in areas such as the Himalayas.

6. Clothing is now synthetic, has also been developed to be windproof, waterproof, well-insulated, breathable and fast drying

- how do these changes change the interaction

1. They now make the experience of mountain climbing in remote areas a lot easier, as they are able to block the wind and are much lighter than tents previously used.

2. The use of this technology has now made climbing to places like Mount Everest a lot safer.

3. These boots now allow people to stay in the elements a lot longer, as they dry quickly. Previously many expeditions in these types of environments would be called off due to equipment failure.

4. The use of this technology may assist with people summiting the mountain more quickly

5. This technology has meant that we now have the information to go to places that we previously thought was too dangerous, but this information ensures that any unknowns are known

6. This clothing helps to keep people dry and warm and may make the expedition not as difficult as there a less elements to deal with.

Putting it all together

As a result of the technological changes mention above more people are now able to engage in mountain climbing, without this technology some people would find mountain climbing very difficult. This technology has helped us to move faster, climb further and go to places that we were unable to before.

This technology has made participation in mountain climbing much safer and easier, which has meant that more people undertake this activity, as it enables people to stay out in the elements longer. This may take some of the difficulties associated with climbing these types of mountains away, people may therefor not view some mountains as much as an adversary as they are easier to climb. It may also mean that they are able to go to mountains that they previously would have thought to impossible.

People who take up mountain climbing may also build a stronger connection to these types of environments and visit these more often. These technologies also ensure that those participating in it have the safety equipment to reduce some of the risk associated with the activity, which again may mean that more people undertake the activity.

However, as this activity is gaining popularity in more remote areas, issues associated with the impacts caused have also occurred. There is now more rubbish at Base camp than ever before, this has meant that expeditions focussed on rubbish removal have had to occur. It has also meant that infrastructure has been out in place to limit the impacts caused by an increase in participation, such as compaction and erosion.

Putting it all together (Cont.)

You must be able to talk about P, I and I

- commercialisation of outdoor environments and outdoor experiences

  - What is commercialisation?
    - Exploitation of the environment to generate a profit
    - Outdoor experiences can be viewed as commodities to be packaged and sold according to consumer demands

  Examples of commercialisation
  - Information centres, tours and packages, guide books, grading systems, guides and instructors,
Commercialisation of outdoor environments and outdoor experiences

Examples of commercialisation that you may have seen
- Outthere adventures
- Snow Camp
- Tourism Australia
- Rip Curl Pro
- Buchan Caves
- 50 walks in Victoria
- Kokoda Track/Mount Everest
- WP Information Centre
- Getaway
- Charter Fishing

Portrayals of outdoor events and experiences
Outdoor experiences and events can be portrayed through media, music, art, writing and advertising

You must have an example for each of the category from contemporary times
- Music – Big Yellow Taxi
- Advertising – Quicksilver Surfing Ad
- Art – Peter Domboski

Effect of technology on relationships
- Encourages people to become physically active in natural environments
- Fear of certain places or activities = avoidance
- A more intimate response to places = connection to
- A greater desire to visit certain places to do certain things
- Change ways of doing interactions to look after NE
- A change in the way we view the NE
- Change in interactions
- Change from a relationship focused on NE as a resource focus – what can we get out of the environment – to one of consideration for other species and conservation

Society’s response to risk taking behaviour in the outdoors and the impact on nature.
The way that people respond to risk-taking behaviour vary and they are generally related to perceived risk rather than real risk

Responses can be affected by the way that high risk adventures are portrayed in the media – particularly after an accident

Remember the series of events that occurs after the accident

- Greater education of the environment - Commercial surfing schools educate their clients about coastal issues and minimal impact appropriate in coastal places. This might lead to more people developing respect for the coastal environment and starting to care about what happens to it.
- Develops a relationship where the environment is not very important as the key factor is the experience – maybe
- May not want to do the experience again (interaction or view may change) due to overcrowding
- May visit areas that we wouldn’t
- Increased environmental awareness of areas

Positive effects on the quality of the outdoor experience = the use of experienced or qualified instructors means that less skills are required by those taking part in adventure. Safety levels are usually higher. Less planning is required by participants. It Result in the experience being more easily accessible by individuals.

Negative effects on the quality of the outdoor experience = Organised adventure travel or experiences generally are quite high cost meaning no chance of access for some within our community.

It decreases the feeling of remoteness. Participants are usually always being lead, therefore don’t learn appropriate skills, or adventure not gained based on their own decision making. It may be said that you experience someone else’s idea of adventure.
3.2.2 - Society’s response to risk taking behaviour in the outdoors and the impact on nature.

How do others react to risk taking?
- closing of areas
- building of infrastructure
- regulations relating to certification and qualifications
- protests
- lobbying by individuals
- safety audits

What does this do to the environment – think about specific impacts that you have seen.

3.2.2 - Effect of responses to risk taking on R’s

- Reduction in the opportunity to participate in these activities,
- May be given a false sense of security and participate in an activity that you wouldn’t normally
- decrease of sense of adventure and therefore avoid the activity or look to do a different activity – change in interaction

3.2.2 - P & S - Examples of discourse

<table>
<thead>
<tr>
<th></th>
<th>Social</th>
<th>Political</th>
</tr>
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<tbody>
<tr>
<td>Climate change</td>
<td>Talking about</td>
<td>Carbon tax</td>
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<tr>
<td></td>
<td>switching to green energy</td>
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<tr>
<td>Water</td>
<td>Discussing</td>
<td>Our water strategy</td>
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<td>water restrictions</td>
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<tr>
<td>biosecurity</td>
<td>Discussing land</td>
<td>Updating</td>
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<td></td>
<td>ownership</td>
<td>quarantine laws</td>
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3.2.2 - Effect of responses to risk taking on R’s

- fear of certain places or activities = avoidance
- Cost of activities increases – may not be able to do or go to particular places that are more popular
- questioning the NEED to participate due to the risk involved,
- questioning of leader and participant qualifications – less likely to do due to increase of perceived risk

3.2.2 - P & S - Social and political discourses about climate change, water management, biosecurity and other contemporary environmental issues.

Discourse = Conversations

- What are people saying/writing about each of these issues?
- What are their opinions on these issues?
- What are your own opinions about the issues and suggested actions?

You will need to know what people are currently saying about the three issues above. You will also need to know the conversations of politicians regarding these issues.

3.2.2 - P & S - Effect of social and political discourses on relationships

- Change the way that we do activities
- Stop us from doing certain activities
- Undertake conservational activities
- Build a strong connection to an area
- Visit areas that are threatened
- Change our view of the NE
- Become involved in protecting certain natural environments through participation in interest groups such as watershed victoria
3.2.2 - P & S - Biosecurity

- Ensuring preventative measures used to reduce the risk of transmission of infectious diseases, quarantined pests and invasive species, as well as the consideration of the security of food and other natural resources.

3.2.2 - P & S - Biosecurity - social discourse

- Local farmers are concerned at the number of farms that have been sold to either countries or large international businesses. Many of these export the produce removing the ability to be able to support the needs of Australians that we used to.
- Currently 10% of Australia’s agricultural land is foreign owned.
- Many international tourists are failing to follow the quarantine laws that we have in place which is placing considerable threat on our environments.

3.2.2 - P & S - Biosecurity - political discourse

- Need to update our quarantine act which aligns with modern legislation
- Need for Australia to set their own management standards concerning biosecurity when trading with New Zealand – otherwise New Zealand produce may be imported without proper quarantine restrictions
- Gilard agreed to remove restrictions on NZ apples – debate has arisen over this.

3.2.2 - P & S - Question to use to prepare

- One of the issues raised in political and social discourses in regard to _______________ is _______.
- Identify 2 positions on the issue.
- Describe an argument that supports each of the two positions on this issue identified below.
- Identify an action that is being undertaken to tackle this issue. Describe one argument that could be used to support or one argument against.
- Analyse how these discourses about water management have impacts on contemporary relationships with the environment.
4.1.1 - Understandings and critiques of sustainability and sustainable development

What is sustainable development?

"Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs"
Brundtland Commission

Have your own definition and be aware of a couple of others

4.1.1 – Evaluate the understandings and critiques – you need to be able to do this

- Make a judgment
- Provide a reason (justification) of your judgment
- Link it to a criticism or other critique (or both, argue the point)
- Link it to examples

4.1.1 – Sample evaluation

Sustainable development is useful concept. Although criticism has highlighted the fact that people do not understand the term. It has started to encourage some business to focus on ensuring that resources are available for future generations, in that they have developed different practices in ensuring that they are reducing their damage on the environment, this has to be a good thing.

4.1.1 – Some criticisms

- Sustainable development is a contradictory concept
- Sustainability is difficult to measure
- The interdependence of all parts of ecosystems makes sustainability unpredictable
- Sustainable development is a restrictive ideology imposed on poor nations by wealthy ones
- Sustainable development puts human needs above those of other creatures.

4.1.1 – another example

Again it is useful, it has help to ensure that we are using technology to investigate other materials that could be used, rather than the exhausting the supplies of resources that we are currently using. This technology also assist us with investigate previous damage to the environment and make changes to try and reverse this damage.
4.1.2 - Levels of biodiversity

To assess levels of biodiversity, you need to be able to discuss all three levels; the amount of genes, the amount of species & the ecosystems.

Biodiversity can be used to measure the health of a natural environment as generally areas that are more diverse in genes, species and ecosystems are deemed to be more healthy than those that aren’t. Areas of healthy levels of biodiversity are not dominated by one type, they have a diverse amount that make up the natural environment.

4.1.2 - indicators of healthy outdoor environments, including:
- quality and adequacy of water, air and soil
- levels of biodiversity, pest and introduced species

**Water quality** – turbidity, pH levels, organisms, look of the water, if we could drink it, bacteria

**Soil** – Vegetation cover, salinity levels – salt tolerant plants, land degradation, drainage, worms and other species in the soil, root depth, health of vegetation

**Air** – look, smell, particles in the air, smog, ability to see stars.

4.1.2 - EXAMPLE:

Assessing the quality of water in an environment is a good measure of a place’s health. Cleaner and clearer water, and water supporting more living things, is generally found in healthy places. Areas with poor water quality tend to have fewer organisms living in them, or more tolerant species, higher levels of turbidity, pathogens including bacteria (eg. E.coli) and protozoa may be evident in water of poor quality. We used the water at Buchan without any sort of treatment because it was of a very high quality, as it was very clean and clear, suggesting good health. The use of river water for irrigation reduces environmental flows and affects the health of rivers.

4.1.2 - Levels of pest and introduced species

An environment can also be assessed by looking at the numbers and types of introduced species or pest. Low to no introduced species within an ecosystem generally indicates a healthy environment as native species are normally thriving with no threat from predation. Numbers of introduced species can also be used to identify an unhealthy environment.

4.1.2

**Species diversity:** the variety of species. Species richness describes the numbers of species that exists in a particular environment.

**Ecosystem diversity:** the variety of habitats, natural communities and ecological processes in the biosphere. Ecosystem diversity refers to the variety of habitats, communities and ecological processes that exist in a natural environment.

Biodiversity can be used to measure the health of a natural environment as generally areas that are more diverse in genes, species and ecosystems are deemed to be more healthy than those that aren’t. Areas of healthy levels of biodiversity are not dominated by one type, they have a diverse amount that make up the natural environment.

**Genetic diversity:** the total genetic information contained in the genes of all species. Genetic diversity refers to the variety of the genes that occur within the individuals of a particular species, and between different species.
4.1.2 - Example – Introduced species

Low to no introduced species within an ecosystem generally indicates a healthy environment as native species are normally thriving with no threat from predation. Numbers of introduced species can also be used to identify an unhealthy environment. High numbers of introduced species, such as the Cane Toad, have many adverse effects on the environment including local extinction of native species due to dwindling supplies of food sources for native fauna. The aesthetics of an environment can also be ruined due to overpopulation of a particular introduced species such as the rabbit.

4.1.3 - The contemporary state of environments in Australia;

- Lots of good and bad
- What are the concerns
- You will need to know examples from a couple of environments, you should prepare your own.
- You need to be familiar with a variety of reports
- What they are, what they do, who made them

4.1.3 The contemporary state of environments in Australia;

You need to be able to select some common themes and use these to evaluate the health of an environment that you have visited or studied.

Brief example for coast and oceans

Although the water quality has potential to have healthy turbidity levels the risk of pollution, dredging and intensive human use at the Bunurong Marine National Park is very high and may suggest unhealthy levels of water quality or future problems within this area.

4.1.3 - The contemporary state of outdoor environments in Australia, with reference to common themes used in State of the Environment reports

Common themes:
- Atmosphere
- Land & Biodiversity
- Coasts and Oceans

That there are good and bad factors indicating the state of the environment in both Victoria and Australia.

4.1.3 - The 2011 State of the Environment (SoE) report aims to give Australians the best possible and clearest answers to three basic questions:

- What is the current condition of the Australian environment?
- What are the risks the Australian environment faces and are we doing enough to protect it?
- Where is the Australian environment headed?

You should know how and why these reports are made.

4.1.4 - The importance of Healthy Outdoor Environments for individual physical and emotional wellbeing, and for the future of society

Importance for individuals

- Healthy outdoor environments are important because they allow individuals to participate in pursuits that contribute to their mental health and general physical and social well being.
4.1.4 - Healthy outdoor environments are important for **individuals** as it provides places for:

- Recreation and Adventure
- Inspiration and creativity
- Education

**Example**: Healthy Natural environments are important to individuals for recreation and adventure. They provide people with a place to exercise and to pursue physical challenges away from the stresses of everyday life. I am able to visit places such as Wilson’s Prom and participating in activities such as surfing and bushwalking. These ensure that I am active.

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**4.1.4 - Importance for Society**

Having healthy outdoor environments is crucial to maintaining human society in the future.

The Earth’s population relies on our outdoor environments for the production of resources. Food, clothing and shelter are the basic needs of life and the earth is facing increasing pressure as populations around the world strive to meet these needs.

**Importance for Society**

- Resource
- Intrinsic Values
- Biodiversity
- Scientific Research

**Example – Resource**

Natural environments are able to be used to provide jobs to people (such as those that work at Mount Hotham), as well as provide opportunity through economic growth for a range of business (holiday homes, business etc.). They can also be used to make money to provide funds to manage natural environments.
**4.1.4 - Importance for society**

The **intrinsic values** recognize that it is important for outdoor environments to exist for future generations and for the benefit of the flora and fauna that make up these areas.

Example - The health of natural environment is important so we can ensure that all species have the opportunity to survive. This also ensure that food webs are kept intact and that other flow on effects don't occur

**4.1.4 - Importance for society**

Biodiversity ensures a diverse range of species and ecosystems are available to meet all the needs of society. Biodiversity is reliant on healthy outdoor environments.

Outdoor environments ensure that biodiversity can be preserved outside human made environments that can result in a loss of biodiversity.

**4.1.4 - Importance for society**

**Scientific Research**

Provides a site for us to monitor the changes in our environments – Climate change, salinity, species loss and effects of logging are a few things that our environment can be used to monitor.

We may find future medicinal sources that may cure diseases

**4.1.4 - Importance for society**

**Scientific Research**

Greater understanding of natural medicines and new food sources – For example, Tea Tree oil has been found to have many health benefits.

Example - Natural environments are the original source of all human foods. As some foods become scarce the environment is further explored for alternatives (e.g. deep sea fishing has developed as other fish supplies have become exhausted).

**4.1.5 - The potential impact on society and outdoor environments of land degradation, introduced species, climate change, urbanisation and other significant threats.**

Outdoor environments across Australia and around the world are threatened by a wide variety of impacts and issues. Older farming practices, industrial pollution and urbanisation lead to land degradation such as dryland soil salinity, soil contamination, and erosion which can threaten agriculture, native habitats, and water resources. Introduced species such as blackberries, English broom, rabbits, foxes and cane toads are having impacts on native species and their habitats. Climate change has the potential for wide ranging impacts on many aspects of human societies and outdoor environments.

**4.1.5**

You need to be able to identify examples of threats and discuss what they are and the impacts that they are having on the outdoor environments that we have visited or studied this year. You will also need to know some of the possible causes of these (in relation to human use of outdoor environments). You must then be able to relate this information to the range of potential impacts, as they relate to specific environments visited, as well as being able to discuss and evaluate the impact that these will have on society (what will we lose, how much will it cost us).
### 4.1.5 – Introductions species

Introduced predators, such as foxes and feral cats, can decimate prey populations and are believed to have caused the extinction of many native species.

Introduced herbivores can cause extensive damage to native vegetation and soils through grazing, trampling and digging.

They may also compete with native herbivores for food, and further degrade the environment by providing an abundant food source for other pests.

### 4.1.5 – Land Degradation

Deterioration in the quality of land, its topsoil, vegetation, and/or water resources, caused usually by excessive or inappropriate exploitation. This may result in erosion, salinity and soil pollution.

Dry land salinity is a condition on land that is not under irrigation benefits, the land has high levels of salt in it. The obvious effect of the increase in salt levels is the dead plants and organisms living in the soil, and the lack of growth and productivity in them.

### 4.1.5 – Climate change

Refers to a long-term change in the earth’s climate, especially a change due to an increase in the average atmospheric temperature.

Climate Change is associated with the use of fossil fuels and clearing of vegetation, is currently being addressed at an international level. Causes sea levels to rise, weather patterns to change, rain levels change, increases energy use, changes to ecosystems, movement of species and people.

### 4.1.5 – Urbanisation

Due to the growing population, demands for water, food, housing, heat, energy, clothing, and consume goods are increasing alarmingly. Rapid population growth not only lessens available calorie supply from food per person but also risks the present food production with pollution.

Land clearing for agriculture and urbanisation and contemporary land use changes have led to major catchment-wide changes, including erosion and salinity, which have significantly affected water quality in inland waters.

### 4.1.5 – Other threats

When talking about other significant threats you need to ensure that you are discussing man made threats on the natural environment. Therefore you are unable to discuss floods, fire and other weather phenomena.

Oil Spills may be due to releases of crude oil from tankers, offshore platforms, drilling rigs and wells, as well as spills of refined petroleum products and their by-products, heavier fuels used by large ships such as bunker fuel, or the spill of any oily refuse or waste oil.

### 4.1.5 – the potential impact of these

- Fewer places to find inspiration or stimulation for creativity
- Less access to recreational sites and challenge based adventure – what is the flow on effect of this?
- Increased visitor pressure from educational groups – what is the flow on effect of this?
- Decrease in the economic viability of the tourist industry as a result of fewer visitors – flow on effect
- A loss of biodiversity impacting on a range of factors
- Need to spend significant amounts of $ on repairing damaged land. (Salinity and erosion)
4.1.5 - the potential impact of these

<table>
<thead>
<tr>
<th>Significant Threat</th>
<th>Impact on Society (X3)</th>
<th>Impact on the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduced Species – Such as the Cane Toad</td>
<td>Possible loss of jobs and effect on the economy should the cane toad become established</td>
<td>Death of species that prey on the cane toad (loss of B/D)</td>
</tr>
<tr>
<td></td>
<td>Loss of resources such as sugar cane due</td>
<td>Competition with native species may also result in a loss of B/D</td>
</tr>
<tr>
<td></td>
<td>Loss of biodiversity and possible extinction of species, which decreases the health of and therefore ability to use the OE</td>
<td>Threatening process which impacts natural cycles of flora and fauna species in Oz</td>
</tr>
</tbody>
</table>

4.1.5

You need to understand what could happen (potential impacts) to biodiversity and NE caused by significant damage such as native forest clearing, land degradation, loss of biodiversity, pollution and the greenhouse effect.

You need to be aware of other ways that we can measure how healthy natural environments are. Pollution, land degradation etc, and what is used to measure these.

4.2.1 - Desalination Plant

Why did the conflict occur?

The Victoria Desalination Plant at Wonthaggi was proposed to be built by the Victorian government to ensure the water supply needed for Victoria. The desalination plant will supply up to 150 billion litres of water a year to Melbourne, Geelong and, via other connections, South Gippsland and Western Port towns. The residents were opposed to the plant due to a range of issues.
4.2.1 – Desalination Plant

Key events – know a couple of these and be able to explain in detail

2007 – Desal plant proposed
Aug 08 – EES
Dec 08 – court hearing
Dec 09 – Plant construction begins

You will need to know the same for the Franklin river also

4.2.2 – methods used to influence decision makers

Include things such as

Direct action – Blockades, protesting, stunts
Petitions
Letters
Phone Calls
Lobbying
Prominent People
Social Media
Advertising
Events

Know at least 3 and be able to describe and evaluate

4.2.2 – methods used to influence decision makers

How to evaluate a method example:

For letter writing to be an effective method used by YWYS/Watershed Victoria the group would have to get large numbers of community members or others interested in the conflict. This would in turn ensure that large numbers of letters are received by the decision makers. If a small number are received they are easily ignored. To assist them to possibly get more letters being sent to decision makers WV had sample letters to copy, they also asked people to write these in.

4.2.2 – methods used to influence decision makers

Prominent people – gains attention and provides credibility; planet ark
Letters to newspapers – limited impact on D-M’s but again acts as a way of informing more in the community about the issue. There are other strategies, which can be used by interest groups. Most interest groups will make use of a combination of these strategies when trying to influence D-M’s
Lobbying – effective strategy as it allows the interest group to directly put its case and arguments to those who are to make the decisions and avoids confusion in regard their position on the issue

4.2.2 – methods used to influence decision makers

• Interest groups use a range of methods to influence decisions about the use of outdoor environments

• The success of the methods used will depend on the characteristics of the conflict and the interest groups involved

• They are many methods that can be used to effectively influence decision making

How to evaluate a method example:

Protesting can be an effective method as it was able to show the level of support that YWYS had on regard to the desal conflict. The more support that a group is able to gain, the more pressure is put on decision makers. A positive aspect of protesting is that it is able to gain media attention and make other Victorians aware of the issue. The protest conducted caused limited disruptions to others, which at times can get people of side.
4.2.2 – methods used to influence decision makers

Letter writing – effective in large volumes. If small can be ignored. Hand written more effective than a largely produced letter signed by individuals

Petitions – make community aware, but are easy to get someone to sign and carry limited weight unless numbers are extremely large.

Advertising – effective at communicating to others, but due to cost is often only available to large community based interest groups or commercial based groups. Probably has little effect on D-M’s, but may get more people involved to put pressure on D-M’s.

4.2.3 – Process

Consultative group: can be formed with representatives from all interest groups and also individuals with specialized knowledge of the issue. Can be effective as it provides the opportunity for all sides to be heard, accurate info gathered and promotes compromise. Can be WIN/WIN. Can take a long time, may be expensive and result in no agreement

Creation of laws: may be created to allow something to take place or prevent it. Provides a quick clear decision but is WIN/LOSE

4.2.3 – The role of VEAC

The role of the Council is to conduct investigations that are requested by the Victorian Government relating to the protection and ecologically sustainable management of the environment and natural resources of public land.

They are not used for outside of Vic

4.2.3 - The decision-making processes followed by land managers and/or governments or their agencies relating to conflicting interests over the use of outdoor environments, including the role of the Victorian Environment Assessment Council (VEAC)

Decision makers use a variety of processes to resolve conflict

These include consultative groups, use of the courts, EES, creation of laws and using the VEAC

You must be able to effectively evaluate these in detail and relate these to a conflict

4.2.3 – Processes

Court system: used when laws exist related to the conflict and need clarification. A clear decision is made, but can be long and costly, is WIN/LOSE. Even after decision a government can also change the law in order to overturn the decision, creating uncertainty.

Environment Effects Statement: Can be used to make a decision on the conflict, as it provides information about the effect on the environment. Can be win/lose though depending on the issue and can take a long period of time.

4.2.3 – Processes example

A consultative group can be formed with representatives from all interest groups and also individuals with specialised knowledge of the issue. This can be effective as it provides the opportunity for all views to be heard, accurate information to be gathered, and it promotes the possibility for compromise between groups, creating a “win, win” situation. This process may also take significant periods of time, may be expensive, and may result in no agreement being found.
4.2.3 – Role of the VEAC

- Can assist in resolving conflicts between the various vested interest groups
- helps to clarify the choices open to those who ultimately make decisions on the balanced use of public land.

How effective is this though?

4.2.3 – Role of the VEAC

- You need to be able to consider it if
  Would it be appropriate for the VEAC to be involved in decisions about particular environments and be able to explain why

- You also need to be able to evaluate the role that they could or did play

4.2.4 - Management strategies and policies for achieving and maintaining healthy and sustainable outdoor environments that may be adopted by public and private land managers, including at least one from the following:

- Victoria’s Native Vegetation Management: A framework for action (Victoria)

You need to understand management approaches used by Aboriginal groups in various parts of Australia and also the management strategies used by land managers and owners and be able to describe a range of management approaches and analyse their effectiveness in particular contexts.

4.2.4 – Management Strategies

- Initiatives used in order to manage and maintain natural environments. These are also called management strategies and are very different to policies.
  - Parks and reserves system
  - Targeted programs
  - Wildlife corridors
  - Translocation or reintroduction of species
  - Ecotourism

4.2.4 – Management Strategies

- Aboriginal approaches to managing and maintaining the natural environment
  - Sacred sites
  - Seasonal calendar
  - Fire stick farming
  - Hunting and gathering
  - Low impact land use practices

4.2.4 – Management Strategies

- Regulate behavior
- Restricted access, duration and equipment
- Concentrate use, disperse use
- Modify management practice and presence.
- Install signs,
- Raise staff profile,
- Increase protected areas
- Stop land clearing and grazing in marginal and sensitive lands,
- Control impact of genetically modified organisms,
4.2.4 – Management Strategies

- Manage fire regimes,
- Manage industrial pollution,
- Monitor climate change
- Close some areas or tracks
- Limiting visitor numbers
- Develop codes of practice
- Enforce fines
- Build infrastructure
- Eradicate introduced species
- Wildlife corridors
- Education
- Build infrastructure

What you need to be able to do:

- Describe the management strategy, including where you have seen it
- Analysis of how it assists with sustainability in the area
- Evaluation of the effectiveness of the management strategy – positive, negatives and an overall judgment
- Make a judgment about the effectiveness
- Draw on your own experiences

4.2.4 – Management Strategies

Example:

Signs to provide information about species, educate about policies or campaigns or control use

Seen at all national parks and many other conservation areas

Some times can be ignored by users, ineffective if damaged etc. Protection of plover habitat while mating signs at bunoroung national park is an example that you may use or the water campaign signs at WP.

4.2.4 – Management strategies example

A management policy for Wilsons Prom requires overnight walkers to pre-book their walks and limits numbers allowed to camp at each campsite. This policy enables management to restrict the numbers walking in any group and consequently spreads the impact of walking groups, as those who miss out on popular areas are encouraged to visit other less popular spots. It also enables management to educate the walkers as to minimal impact techniques as these can be outlined when they book. This policy has been very successful as despite the large numbers visiting the area, impact is well controlled. As large groups are never on the tracks, track erosion is minimal, likewise campsites are well able to cope with the maximum numbers set. This ensures recreational use of the area will be maintained for future generations.

4.2.5 – Acts and conventions

You must know at least two acts or conventions related to the management and sustainability of outdoor environments

You need to be able to provide an overview, describe the purpose of the act, what it protects, how it works and be able to evaluate the act or convention.

We have looked at the FFG and EPBC Acts.
4.2.5 – Acts and conventions: FFG Act


Flora and fauna guarantee act seeks to put in place preventative management mechanisms to ensure no biota or ecological communities become extinct and that the processes that threaten biodiversity are identified and addressed.

It covers ecological communities; potentially threatening processes; community involvement in conservation; a strategic approach to biodiversity conservation and sustainable use.

4.2.5 – Acts and conventions: FFG Act

Process:
1. Nomination
2. SAC review
3. SAC preliminary recommendation
4. Recommendation publish – 30 days
5. Public comments used to make final recommendation
6. Environment minister makes final decision

4.2.5 – Acts and conventions

Success Criteria for evaluation

Justify
Evidence - data to support, types of management strategies put in place
Positives and negatives
Link to environment
Link to primary sources

4.2.5 – Acts and conventions – EPBC Act

The Act aims to provide for the protection of the environment that are matters of national environmental significance

It provides a legal framework to protect nationally and internationally important flora and fauna, ecological communities and heritage places defined in the Act as matters of national environmental significance

It also promotes ESD through conservation and sustainable use of natural resources and promote the conservation of biodiversity

4.2.5 – Acts and conventions – EPBC Act

The act involves
1. Protecting threatened species
2. Protecting heritage places
3. Completing EIA’s if a development will impact on matters of NES
4. Managing wildlife trades
5. Protecting matters of NES

The policy has been effective as evidenced by the stability of the Mountain Pygmy Possum population. However Act only applies to those flora and fauna species that have been placed on the listing after what some believe is a lengthy review and research process.

Scientific surveys, education and warning signs, fences and barriers have all been developed by local land managers to protect species in the area. Whilst on our Alpine Ski trip, we saw the ‘tunnel of love’ is a management strategy used to protect the species.
4.2.5 – Acts and conventions – EPBC Act

**EFFECTIVENESS:**
Has worked by including provisions to protect native species and ensuring the conservation of migratory species

See the establishment an Australian Whale Sanctuary to ensure the conservation of whales and other cetaceans

Protected ecosystems by means that include the establishment and management of reserves.

4.2.5 – Acts and conventions – EPBC Act

How it works: Threatened species

1. Nomination
2. Nomination forwarded to TSSC
3. PPAL developed
4. Minister develops FPAL
5. Public and experts comment on FPAL
6. TSSC the considers and puts in categories
7. Minister decides to list or not
8. Notify the nominator

4.2.5 – Acts and conventions – EPBC Act

How it works: EIA

1. Referral
2. Minister has 20 days to decide if action requires assessment (10 days for public comment)
3. Decision made to control action or not
4. Minister asks for a develop to assess project (EIS etc.)
5. Public asked to comment on draft
6. Final copy submitted
7. Final decision made

4.2.6 – Green Building Design

**Green building** (refers to a structure and using process that is environmentally responsible and resource-efficient throughout a building's life-cycle.

Example:
The 60L Green Building was designed to minimise its impact on the environment: the building structure, choice of materials; location and physical orientation; the methods to be used by the builders; the way the building would function once completed - all these were considered through the 'lens' of sustainable environmental practice.

**4.2.6 - Actions undertaken to sustain healthy outdoor environments, including at least two of the following:**

- **Green building design**
- **Integrated farming**
- **Urban planning**
- **Renewable energy**
- **Landcare**

Actions can be undertaken by individuals and by groups, you need to know both for each of the categories that have been selected.
4.2.6 - Green Building Design

Groups and individuals may do some or all of the following when design and building:

- Double glaze windows
- Use recycled materials
- Face buildings certain ways
- Use sustainable materials
- Install water/grey water tanks

You will need to be able to evaluate the actions that with groups or individuals do:

1. Justify how effective it is
2. Positives in regards to sustaining outdoor environments
3. Negatives in regards to sustaining outdoor environments
4. Provide an example
5. Link to sustaining environments

4.2.6 - Renewable Energy

Renewable energy is sustainable as it is obtained from sources that are inexhaustible (unlike fossil fuels). Renewable energy sources include wind, solar, biomass, geothermal and hydro, all of which occur naturally on our planet.

Again you need to be able to evaluate these strategies undertaken by both individuals and groups.

E = J, +VE, -VE, Eg., Link to sustaining enviro

Groups and individuals may do some or all of the following when design and building:

- Use solar power
- Research renewable energy technology
- Participate in earth hour
- Switch to a green energy company
- Install energy saving devices

4.1.1 - Sustainable development – is the term useful

Favorable

• Has ensure people have changed practices
• Many environmental policies have been developed to align with the concepts
• Increase in renewable resources use
• Promotes positive change and developments to occur
• Ensures that people reflect upon their current practices

Not so favourable

• Concept contradicts itself, if it is development it isn’t sustainable
• Its too difficult to measure – we don’t often know impacts for years
• The term is vague and people don’t always understand it, therefore aren’t truly ensuring they are sustainable
• It puts human needs ahead of the needs of flora and fauna
• Is an ideology that rich countries force on poor ones
**4.2.4 – Victorian Native Vegetation Framework**

An estimated **66% of Victoria’s native vegetation has been cleared** as a result of the growth and economic development of the State. Of the remaining **34%** it is estimated that 7.4 million hectares are located on public land and approximately **1.1 million hectares are found on private land**.

Victorians have made significant progress in protecting and enhancing native vegetation. But a greater effort is needed. **We still have a permanent loss of native vegetation at an estimated 2500 hectares a year and the quality of the remaining native vegetation continues to decline.**

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**4.2.4 – Victorian Native Vegetation Framework**

**Purpose:**

The framework aims to establish the strategic direction for the protection, enhancement and revegetation of native vegetation across the State.

It addresses native vegetation management from a whole of catchment perspective.

It focuses primarily on private land where the critical issues of past clearing and fragmentation exist.

**4.2.4 – Victorian Native Vegetation Framework**

**Effectiveness – Justify, +ves, -Ves, Eg., Evidence**

Where have you seen it work?
Was it successful?
Do people know about the framework?
Do people follow the framework?
What implications did it have for the framework?
How does the framework work?

3 step approach – avoid, minimize, offset

how do the permits, offsets and bush brokerage fit in to the framework?

**4.2.4 – Contemporary indigenous Land management**

Why is it important that they play a role? Remember that they were displaced by the arrival of Non-indigenous people and this has greatly affected their health and wellbeing.

**Indigenous Protected Areas** allow the traditional owners of the land to protect their sacred sites, landscapes and flora and fauna. Local people use traditional land management techniques, along with modern scientific techniques to manage their environment.

**4.2.4 – Contemporary indigenous Land management**

The Yorta Yorta Caring for Country **Ranger Program** is operating across approximately 36,415 hectares of this country and in and around the Barham-Millewa State Forest. The National Parks across the Yorta Yorta people’s traditional country have recently been declared as jointly managed between Parks Victoria and the Yorta Yorta Nation. This involves using a variety of traditional land management techniques – know what they are!

**Education** of traditional land practices (example doc)

**Protection** of cultural sites