

# Unit 1



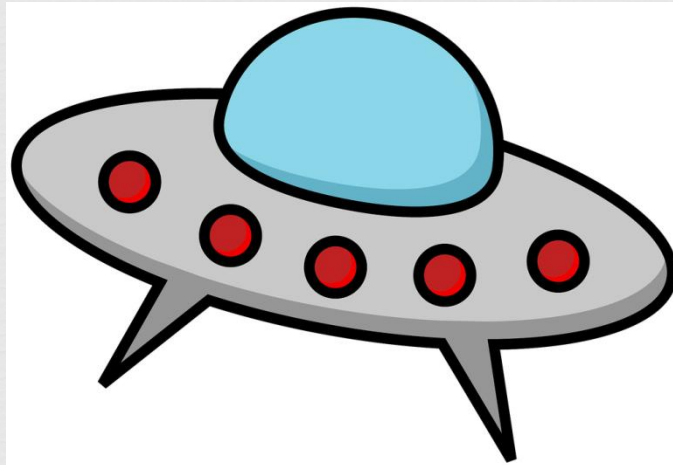
## Introduction to Environmental Science



# Earth as a Spaceship



Like a Spaceship	Unlike a Spaceship
<ul style="list-style-type: none"><li>-limited amount of food, water and oxygen</li><li>-set amount of space</li></ul>	<ul style="list-style-type: none"><li>-spaceship is much smaller</li><li>-has fewer people in there</li></ul>



# The Earth...



- ∞ Geosphere – All Earth's land masses
- ∞ Hydrosphere – All Earth's water (fresh and salt)
- ∞ Atmosphere – The blanket of air and moisture that surrounds the Earth
- ∞ Biosphere – A system of living things that interact with each other.

\*\*Balloon



# Human Impact



- ❧ “Impact” does not always mean negative impact!!
- ❧ Humans often have the greatest impact of all other living things....why?
  
- ❧ What are some types of human impact?
  - ❧ Riding quad
  - ❧ Mining
  - ❧ Fishery
  - ❧ Communities
  - ❧ Litter



# Aboriginal Culture



- ☞ People saw themselves as part of the ENVIRONMENT
- ☞ Attitude – “take only what you need and always give back”





# Plant Uses



☞ Medicine

☞ Food

☞ Recreational



# Animal Use



- ❧ Hides
- ❧ Bones
- ❧ Meat
- ❧ Fat





# European Culture



- ☞ Saw the environment as their BENEFIT
- ☞ Attitude - “The resources were unlimited”



\*worksheet



# Humans & Demand



❧ Our demands go well beyond what we NEED!!!

❧ What are our needs?

❧ Food

❧ Water

❧ Space

❧ Shelter



# We Demand...



## ☞ Transportation

Ex: Cars, motorcycles, ATVs, Snowmobiles, etc.

## ☞ Recreation

Ex: videogames, computers, phones, movies, etc.

## ☞ Energy resources

Ex: electrical, nuclear, fuels, etc.





With such a **LARGE**  
population, there is an  
**ENORMOUS** impact on  
our resources!!!!



# Activity!



Bob's bumper sticker company needs your help! The company recently got funding to launch an environmental awareness campaign. Create a slogan (or use the examples) and draw/decorate your bumper sticker!



# Sustainability



∞ Making resources  
last for future  
generations.



# Sustainability in NL



- ❧ Planting trees
- ❧ Lobsters with eggs (throw back)
- ❧ Big game licenses
- ❧ Quotas on fish





# Stewardship



Sharing  
responsibility  
toward sustainability



# Three levels of Stewardship...

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Self

Local

Global



# Ecological Footprint



∞ All of the water and land resources that you require to survive.







☞ Calculate you individual ecological footprint:

<http://calc.zerofootprint.net>



# Biodiversity



☞ All of the DIFFERENT life forms found in an ecosystem

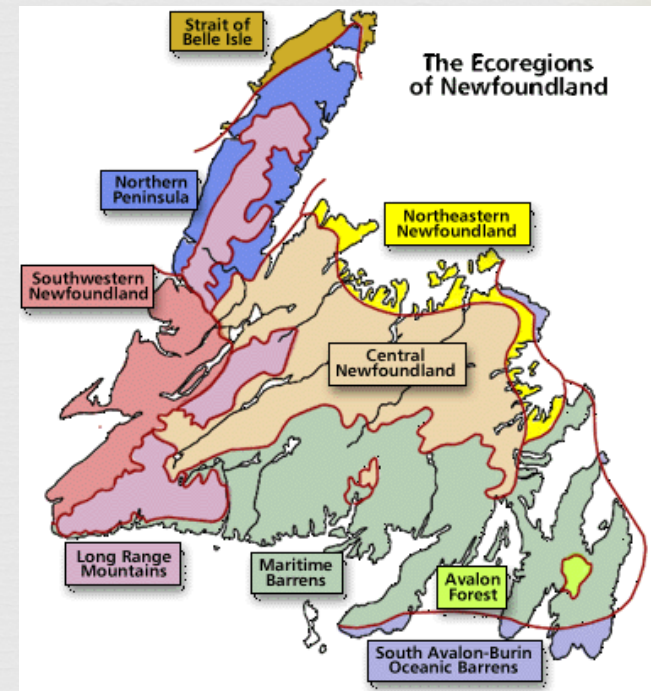


# Ecoregion




☞ An area of land or water that has similar characteristics (climate, soil, etc.)

☞ There are 9 ecoregions in NL and 12 in Labrador.





# Misconceptions in Sustainability

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- ❧ Environmental damage is permanent
  - ❧ Forest fires are bad
  - ❧ One person cannot make a difference
  - ❧ Science can solve all of our problems
  - ❧ Practicing the four R's (reduce, reuse, recycle, recover) is difficult
  - ❧ All human activity in nature is bad

<https://www.youtube.com/watch?v=pPRd5GT0v0I>

# Environmental Impact Assessment (EIA)

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- ∞ The assessment of environmental consequences (positive and negative) of a plan, program or projects before any decision is made.
- ∞ After these are done, monitoring, decision making and policy development come into play.

[http://www.agaportal.de/pdf/nachhaltigkeit/eia/eia\\_tuerkei.pdf](http://www.agaportal.de/pdf/nachhaltigkeit/eia/eia_tuerkei.pdf)

# At Risk



⌘ A species whose number are declining below a certain level are considered to be AT RISK.



# Five Categories:



Extinct – a species that is not found anywhere

❧ Endangered – a species that is close to extinction

❧ Extirpated – any species that no longer exists in one part of Canada but can be found in others

❧ Threatened – any species that is likely to become endangered

❧ Vulnerable – any species that is at risk because of low or declining numbers

# Why are these species at risk?



- ❧ Destruction of habitat
- ❧ Genetic and reproductive isolation
- ❧ Introduced species
- ❧ Overhunting
- ❧ Pollution and climate change