



Tuesday, April 10, 2018

Ocean Acidification

Pick up: none

Today you will:

- Finish Biodiversity & Human Impacts

Homework/Planner:

Study for Thursday, 4/12 Quiz-Populations,
Succession, Interrelationships & Human Impact

Video Supplements

- Amoeba Sisters-Biomagnification
- Human Activities that Threaten biodiversity
- Invasive Species
- Habitat Fragmentation

Renewable Resources

- A natural resource → **can be replaced** by natural processes at a rate comparable or faster than its rate of consumption by humans.

- Solar radiation
- Tides
- Winds
- Hydroelectricity
- May also mean wood, paper, leather, timber, if harvesting is performed in a sustainable manner.



- Sustainable- sustainability describes how biological systems remain diverse and productive over time

Non-renewable Resources

- A natural resource that **cannot** be produced, re-grown, regenerated at the same rate as its consumption
- Exist in a fixed amount, or is consumed much faster than nature can recreate them.
 - Fossil fuel (such as coal, petroleum and natural gas) is an example.
 - Water



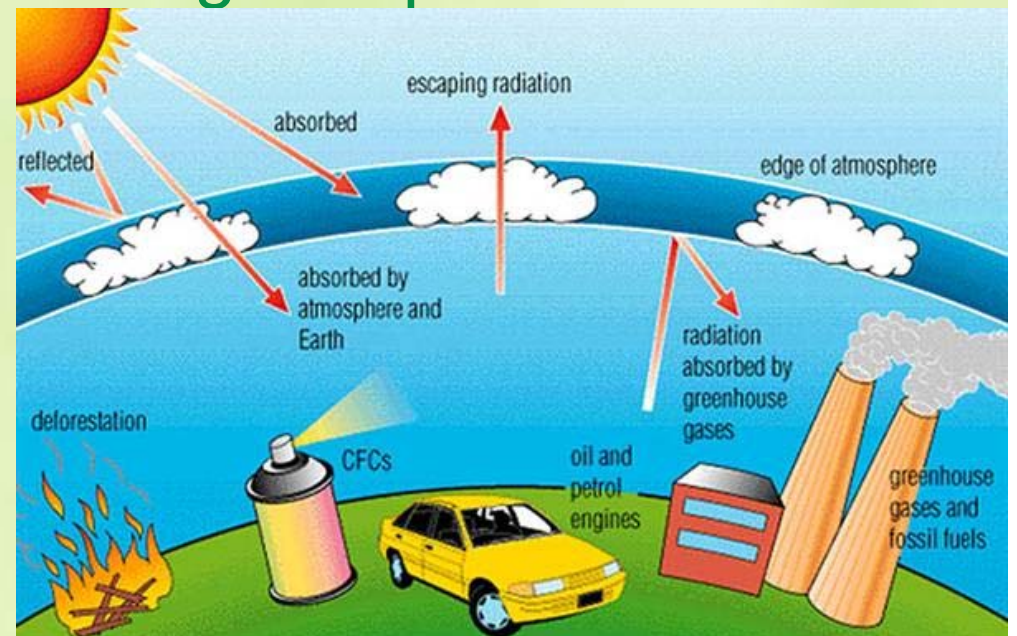
HOT Commodities! ISN pg 130

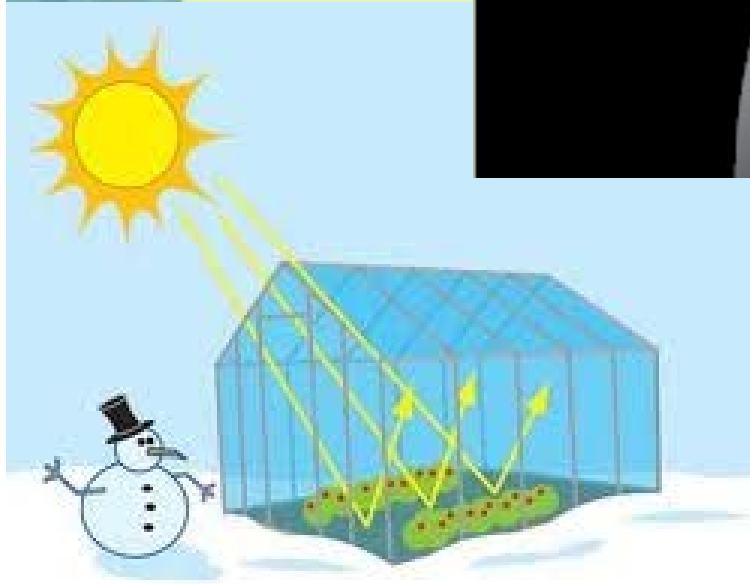
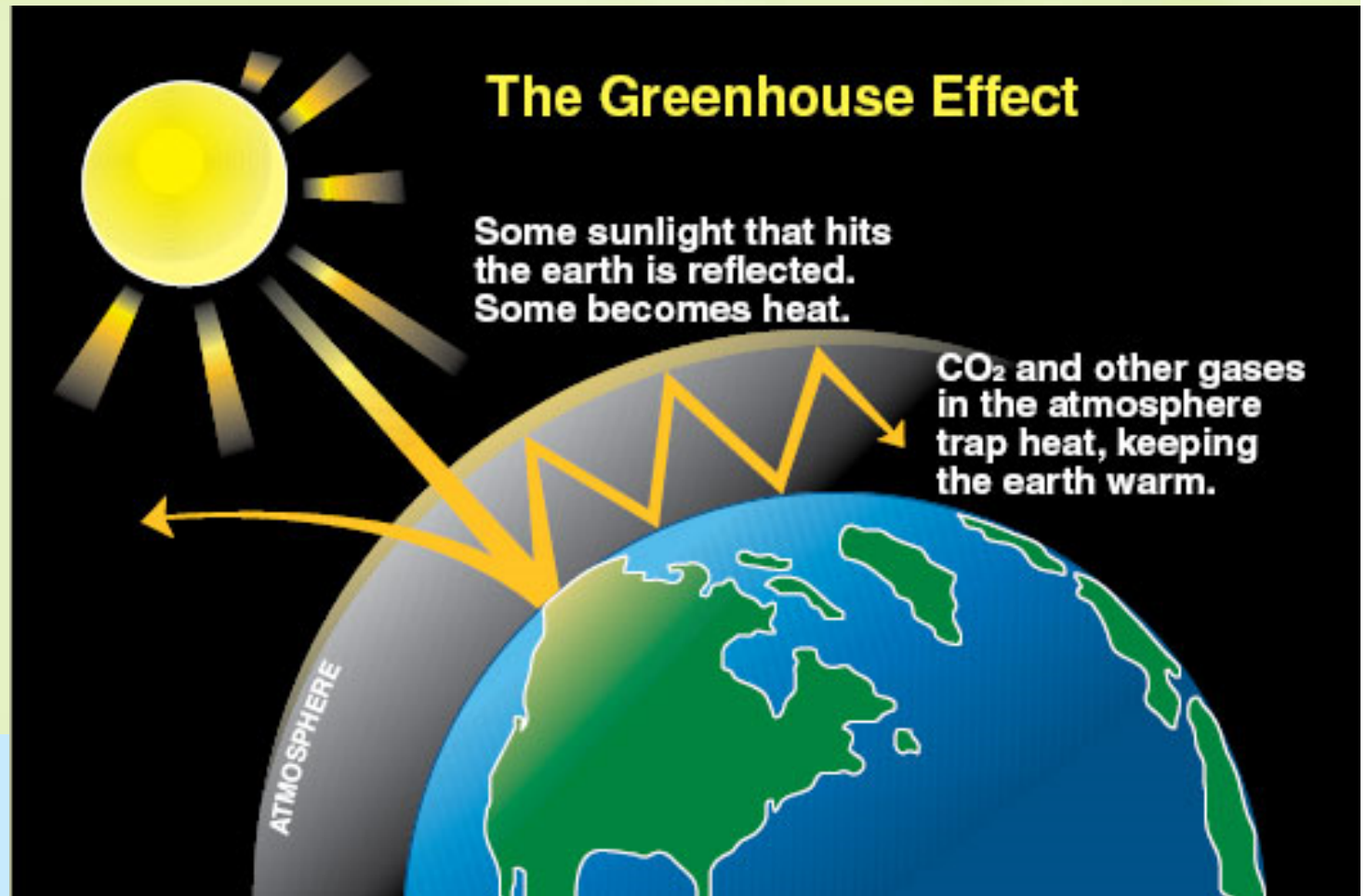
Glue as flip, answer underneath

- 1. List three benefits to letting forests grow for longer periods of time?
- 2. In your own words, explain “the good news” & “the bad news” of forests.
- 3. Why are old growth forest so important?
- 4. Highlight where in the article you found the information
- 5. Circle unfamiliar terms

Greenhouse Effect

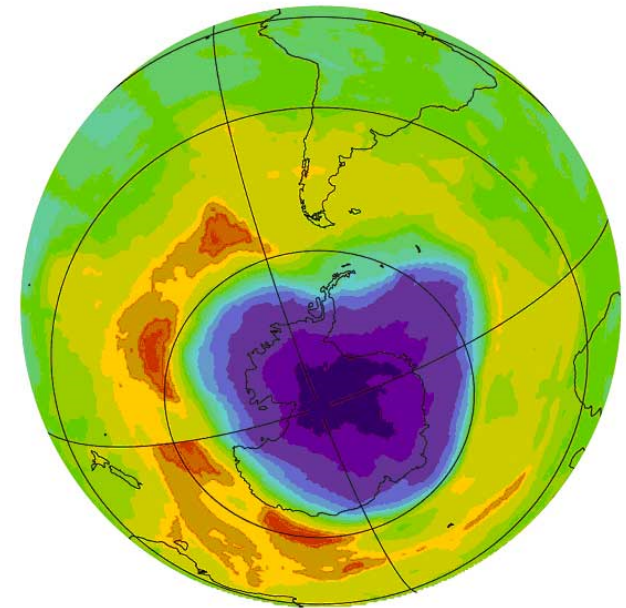
- The rise in temperature of Earth b/c of certain gases in the atmosphere trap heat (like a greenhouse)
 - ex: carbon dioxide, nitrous oxide, and methane
- Without these gases, heat would escape back into space and Earth's avg. temp would be about 60°F colder.



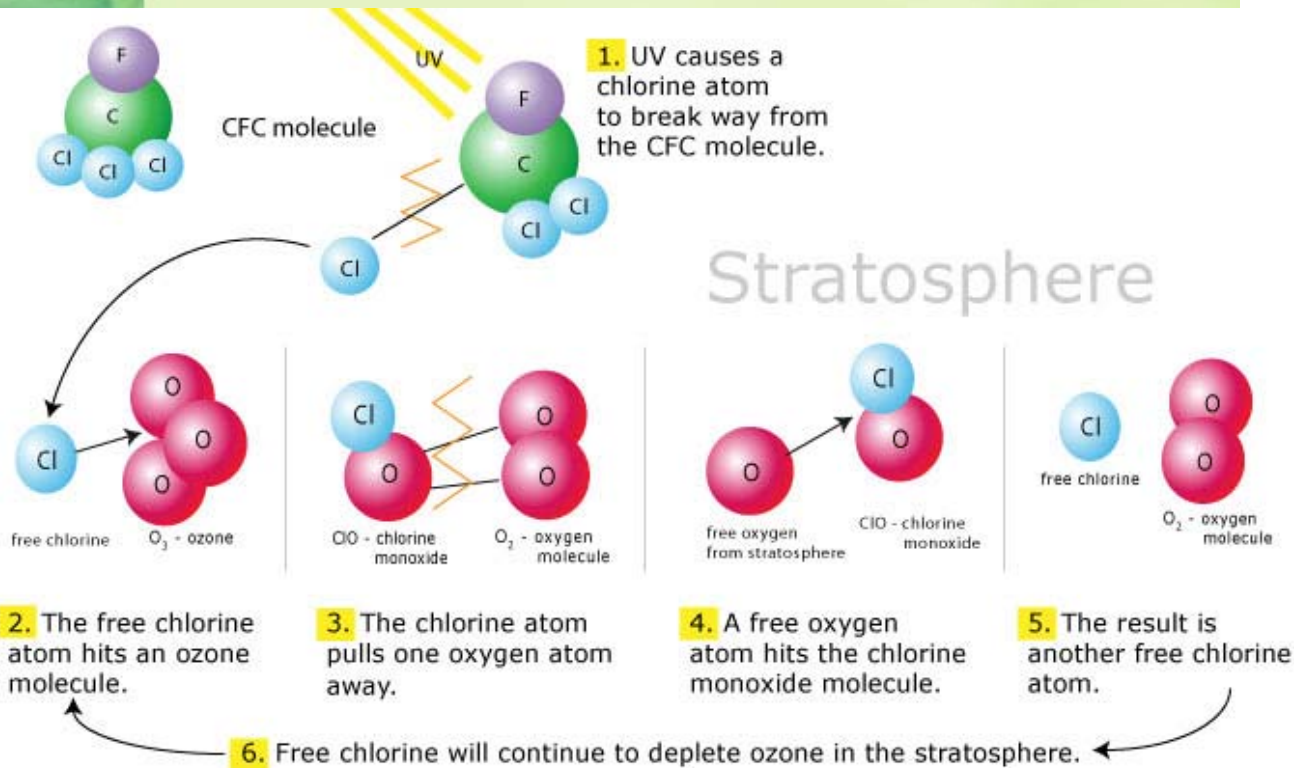
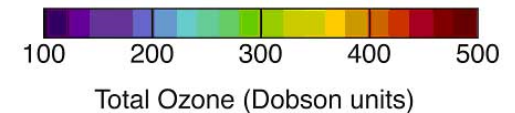


- Protects the earth from potentially damaging doses of UV radiation.
- Depletion of ozone lead to adverse health effects & impacts to ecosystems.

Antarctic Ozone Hole



4 October 2001



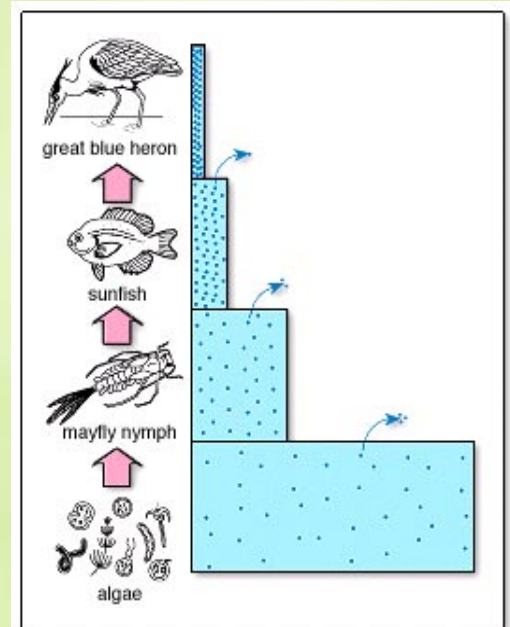
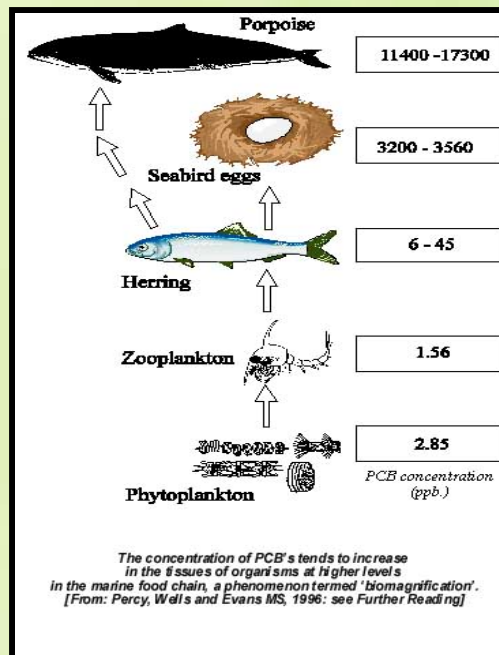
Ozone

Biological Magnification

- The buildup of certain substances, such as DDT, in the bodies of organisms at higher trophic levels.
 1. Where is there MORE DDT in the diagram to the left?
 2. What happens if the Great Blue Heron dies out due to insecticide build up from biological magnification?

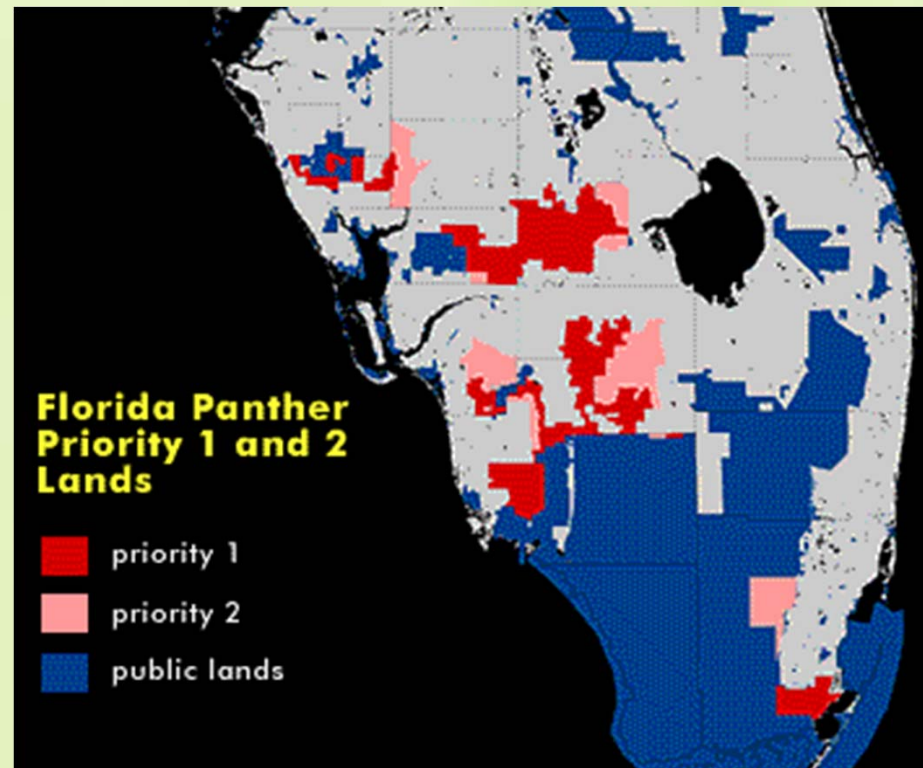
DDT = dichloro
diphenyl
trichloroethane

• Amoeba Sisters-
Biomagnification

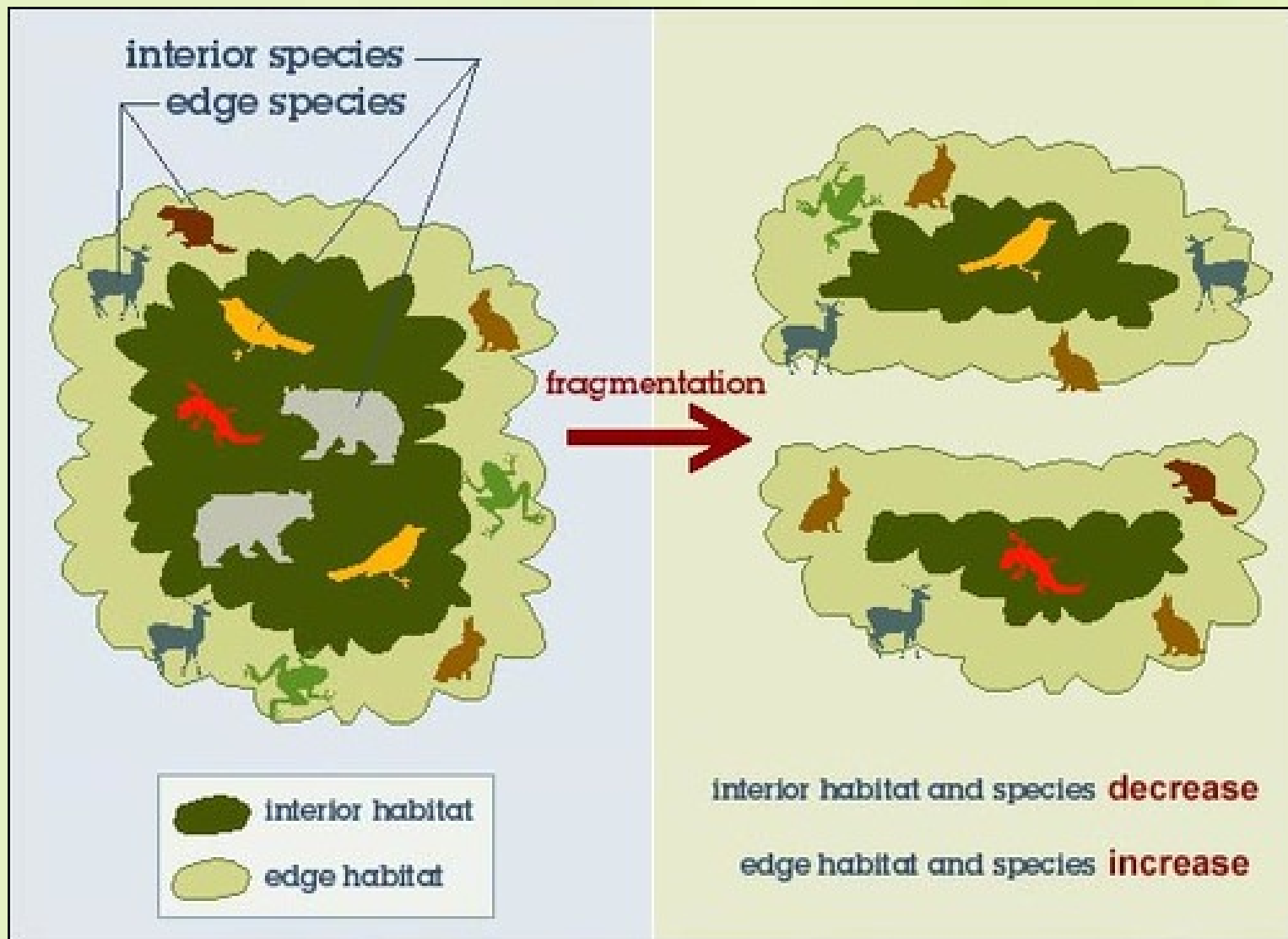


Habitat Fragmentation

- In Florida, suitable habitat for panthers does exist outside of southwest Florida, but to date habitat fragmentation appears to have prevented panthers from reestablishing themselves there



Habitat Fragmentation





Panther deaths

- January–July 2011 vehicle collision deaths
- 2010 vehicle collision deaths

Florida Wildlife Corridor



The proposed Florida Wildlife Corridor would greatly increase available panther habitat.

- Existing protected areas
- Proposed additional protected areas

Detail

Safe Passage

Wildlife overpasses and underpasses are landscaped pathways to channel animals safely across highways.



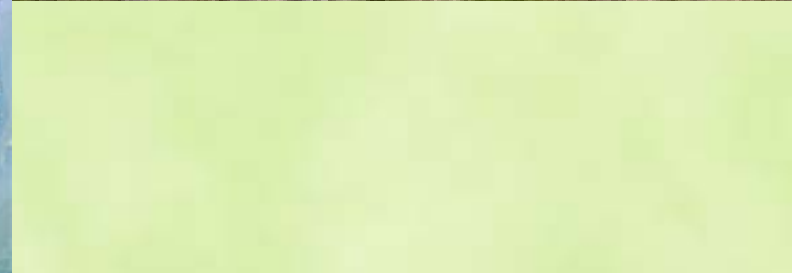
Fences block animals' access to the road.

Raised earth berms block noise and lights from the road.

Overpasses can sometimes be existing bridges modified for wildlife.

Underpasses are favored by panthers and black bears, which prefer sheltered corridors.

Barbed wire snags bits of fur for DNA analysis.



When Florida loses one black bear's home range (25,000 acres), we also lose the homes for:



25,000 acre average home range



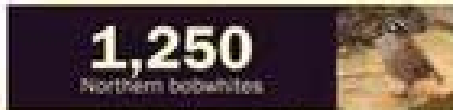
1 bobcat per 410 acres



1 fox per 150 acres



1 deer per 43 acres



1 bobwhite per 20 acres



1 cardinal per 12 acres



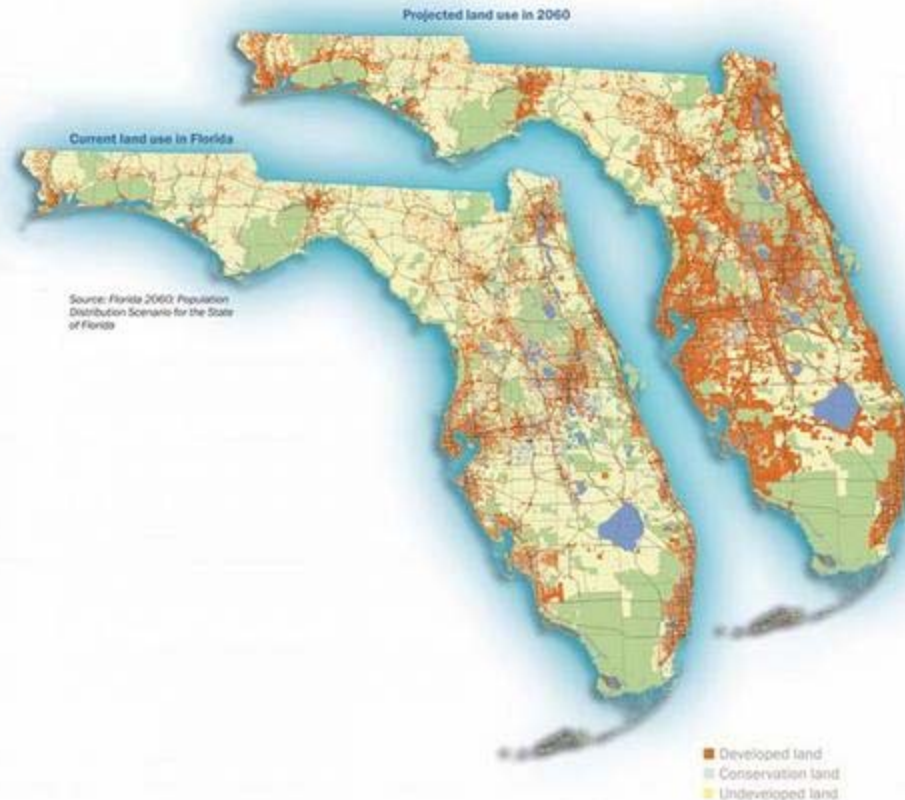
assuming a spacing of 20' x 20' or 100 per acre



assuming 275 million insects per acre

Development of 2.7 million acres of native habitat will result in significant losses for Florida's biodiversity.

Now vs. 2060

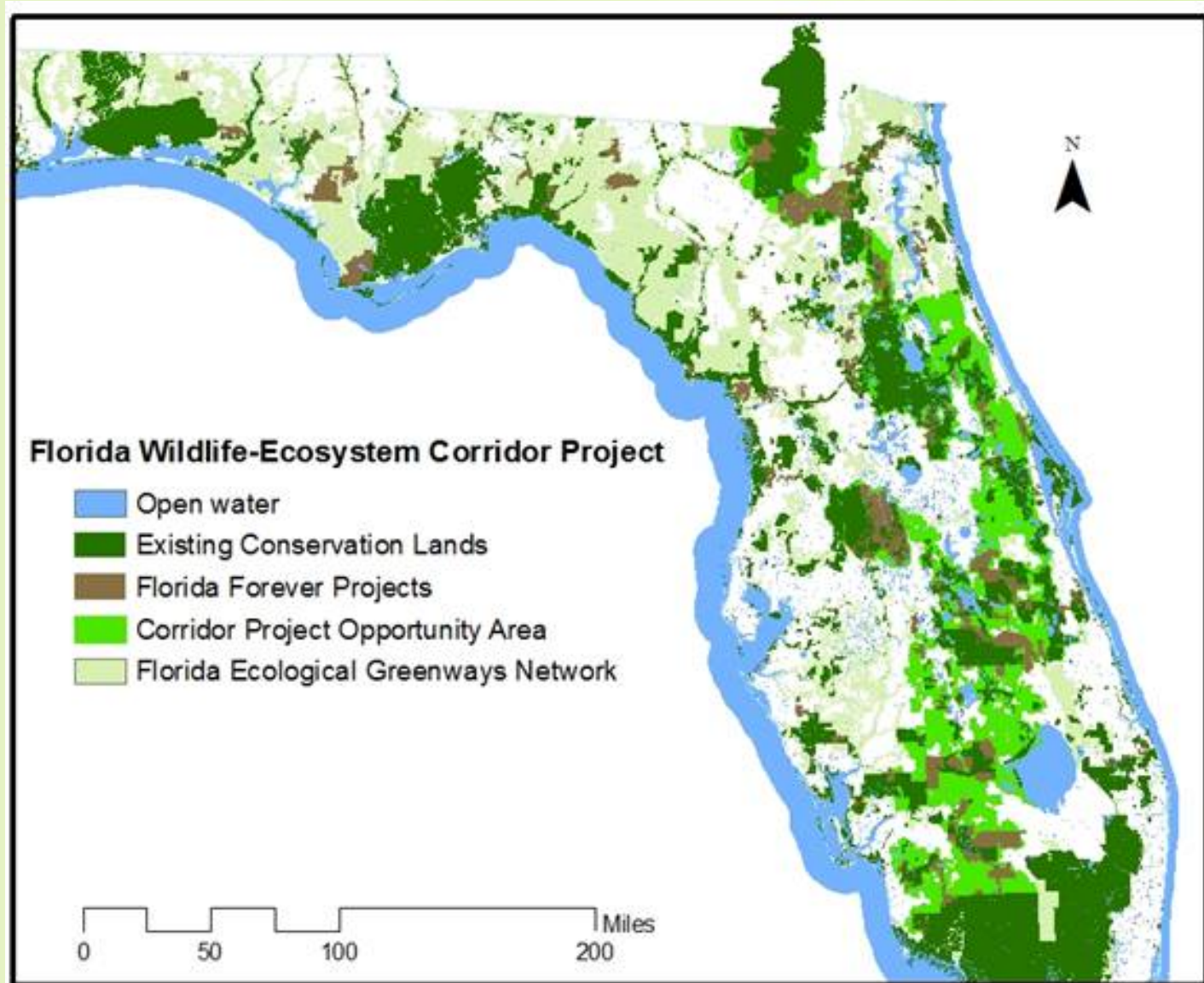


These maps show Florida at today and how it could look if its population doubles, as predicted for nearly 36 million residents.

<https://www.youtube.com/watch?v=BjeJZQ0JJcU>

https://www.youtube.com/watch?v=X7f_J4Dn

The Good News!



Human Impact on Ecosystems

- Use Ch. 16.1, 16.2, 16.3, 16.4, 16.5
- Read and complete page using detail
 - read for understanding, don't skim

REVIEW

Words of the Day

- | | |
|------------------------|---|
| 1. Symbiosis | ▪ Close, long term relationship → 3 types: |
| 2. Parasitism | ▪ Relationship in which one benefits & the other is harmed |
| 3. Mutualism | ▪ Relationship in which both species benefits |
| 4. Commensalism | ▪ Relationship in which one benefits & the other is not affected |
| 5. Biodiversity | ▪ Variety of living things in a community → the more diverse → the more stability |

REVIEW

Words of the Day

6. Biome

- Major community that covers a large area – has certain soil type, rain amount, temp, etc

7. Predator

- One that does the hunting; It's population affects the # of prey

8. Prey

- One that is hunted; It's pop. Size affects the # of predators

9. Plankton

- Free floating organisms in ocean that may photosynthesize & provides 40% of oxygen

REVIEW

Words of the Day

- | | |
|-----------------------------|--|
| 10. Acid rain | <ul style="list-style-type: none">formed from both natural sources, such as volcanoes and decaying vegetation, and man-made sources, primarily emissions of <u>sulfur dioxide (SO₂)</u> and <u>nitrogen oxides (NO_x)</u> (fossil fuel combustion) |
| 11. Ozone | <ul style="list-style-type: none">In upper atmosphere, filters potentially damaging UV light from reaching Earth's surface. Damaged by CFCs |
| 12. Greenhouse gases | <ul style="list-style-type: none">Gases that trap heat in atmosphere<ul style="list-style-type: none"><u>Earth's atmosphere include</u><ul style="list-style-type: none">water vapor, carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.Determines temp of Earth; W/O them planet would likely be too cold, uninhabitable. Human activities have an impact upon the levels of greenhouse gases in the atmosphere |