

Key Idea 7/Standard 4 Review Sheet

Human Impact: Human actions can have both a negative or positive impact on the environment.

The primary reason humans have a negative impact on the environment is because the human population is increasing, which places a **-increasing** demand on resources such as food, water and space.

There are no easy solutions to any ecological problem. Every solution can have BOTH negative and positive consequences. This is known as a tradeoff.

What is meant by the statement “the Earth has finite resources”?

Our resources will eventually run out

Explain the difference between renewable and nonrenewable resources.

renewable resource is something that is being replaced faster than we use it up
non-renewable resource is something that is not being replaced as we consume it

Actions being taken by humans to reduce or repair damage to the environment include:

1. Recycling wastes
2. Conserving available resources
3. Using cleaner resources (ex: solar or wind energy over fossil fuels)
4. Protection of habitats and endangered species
5. Use of biological controls instead of pesticides and herbicides
6. Farming native plants (ex: cocoa in the rainforest)
7. Replanting trees to replace those cut down.
8. Rotating crops or planting cover crops to reduce soil loss.
9. Passing laws to control pollution, land management, hunting, fishing, etc.

The increase in the concentration of a poison as we move up the food chain is called biomagnification.

How can an understanding of ecology help limit human damage in the environment?

We have a greater understanding of how living things including ourselves interact with each other and the environment.

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How have human technologies harmed the ecosystem?		
<u>Human Technology</u>	<u>Harmful Influence</u>	<u>What can be done?</u>
nuclear power	warm water released to environment removes O₂ killing aquatic life	Cool water before it is released to the environment
burning fossil fuels	global warming, acid rain, smog	Recycle, carpool, use alternative energy sources
Use of chemical fertilizers	water pollution	Limit use of fertilizers on golf courses, use less fertilizer, crop rotation
Development and industries around rivers	air and water pollution	Pollution control devices, regulate development
runoff from sewage	water pollution	Use secondary sewage treatment, don't let sewage run into streams
Introduction of foreign or non-native species	outcompete native species and disrupt existing food webs	Inspect imports and quarantine products from countries with known pests, use biological controls
Clear cutting and cutting and burning the rain forest	air pollution, loss of biodiversity	Recycle, reforestation, replant trees, avoid clear cutting

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Other Problems:

1.) Global warming

Increasing amounts of carbon dioxide in the atmosphere appears to be causing a warming of the Earth's atmosphere. This carbon dioxide is coming from increased burning of fossil fuels such as gasoline, coal, and oil.

This may be bad because it is changing sea levels and climate/ patterns. It may also lead to more borne diseases.

What can be done? use alternative energy resources, car pool

2.) Acid Precipitation

Sulfur dioxide (also nitrogen oxides) from coal burning sources + rain = acid rain

-- most of the acid rain damaging New York State comes from the Midwest U.S.

-- acid rain kills aquatic life, crumbles buildings, and has many other effects, etc.

What can be done? burn low sulfur coal, use alternative energy sources, lime lakes

3.) Ozone Depletion

-- ozone brings about a reduction of u-v rays associated with skin cancer

-- our use of chlorofluorocarbons (CFC's) is destroying the ozone layer

CFC sources: some refrigerants and plastics

Problems caused by ozone depletion:

a.) more cataracts

b.) more skin cancers

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What is an exotic or invasive species? a species not native to an area

List three examples of exotic or non-native invading species in NNY.

purple loosestrife, zebra mussel, carp

List two reasons non-native species may damage the ecosystem.

Outcompete native species, no natural enemies, disrupt existing food webs

List an example of religious and/or cultural views contributing to the problem of population growth and or distribution.

Some groups oppose birth control which increases population numbers

What is SEQR? What is its purpose?

State Environmental Quality Review Act (major projects must be reviewed for environmental impacts)

Name two positive aspects of building a large mall in a community and two negative environmental aspects of such a project.

<u>Positive Aspects</u>	<u>Negative Environmental Aspects</u>
More jobs	Increased traffic and air plus noise pollution
Increased entertainment opportunities	Destruction of habitat decreases biodiversity