**Kaplan AP Env. Science 2012 & 2014 reading**

In the United States, the Environmental Protection Agency (EPA) regulates the use of pesticides by licensing who can sell or distribute pesticides, evaluating the potential health and environmental risks, registering pesticides, and setting limits on how much can be used. While an optimal goal would be for a pesticide or other food additive to have a zero chance of causing cancer in humans, for practical reasons the EPA allows a substance to be present in food if it has no more than a 1 in 1,000,000 chance of causing cancer. The EPA also provides information for training workers in effective use of pesticides and safety information for consumers on reducing the risks of pesticides.

Several government agencies - the Department of Interior’s Ofﬁce of Surface Mining and Bureau of Land Management - regulate mining activities in the United States. States also impose regulations on mining activities. These regulations deal with how mining can be done and how the environment should be treated during and after mining operations. For example, the Surface Mining Control and Reclamation Act of 1977 requires mining companies to replant vegetation on land that was strip-mined. In addition to environmental concerns, the federal Occupational Safety and Health Administration as well as the Mine Safety and Health Administration make regulations regarding the exposure and safety of miners.

THE CLEAN AIR ACT passed in 1963 was the ﬁrst national legislation directed toward controlling air pollution when it had become clear that pollution was not a local problem. It identiﬁed seven major pollutants: sulfur dioxide, carbon monoxide, particulate matter, hydrocarbons, nitrogen oxides, photochemical oxidants, and lead. The Clean Air Act was heavily amended in 1970 With two goals in mind. First, a set of primary standards was established to protect human health. A set of secondary standards was also passed to protect materials, climate, crops, visibility, and personal comfort.

The Clean Air Act has been modiﬁed and updated since then. It now covers issues such as improved standards for sport utility vehicles and personal water crafts, and ozone protection, by phasing out CFCs, acid rain, and urban smog.

CLEAN WATER ACT: The goal of the Clean Water Act, passed by the Congress in 1972, was to return all the surface waters in the United States to “ﬁshable and swimmable” conditions. With this act, legislators brought water quality to the forefront of the people’s minds. Maintaining and providing clean water for all citizens became a national priority.

The Clean Water Act requires that speciﬁc point sources of pollution acquire a permit and develop technology that would enable them to control their output. The Clean Water Act also requires the use of best available, economically achievable technology for limiting discharge of toxic substances and allows no discharge at all of 126 specific pollutants.

As a result of these efforts, the surface water in the United States has improved dramatically. All the surface water is not yet swimmable or ﬁshable, but the improvements have been significant. One of the most signiﬁcant changes has been the allocation of federal and state money to build municipal sewage treatment facilities.

As with any legislation, there are opponents to the Clean Water Act. Farmers, some industries, developers, and at times, state and local movements feel pressured and hindered by the Clean Water Act. Provisions for the draining and filling of wetlands have remained one of the more controversial parts of the act. Local and state governments are also required to spend money implementing and enforcing the Clean Water Act, none of which is reimbursed by the federal government.

MORE LEGISLATION: Other laws have been passed to protect the waters in the United States. The Safe Drinking Water Act regulates water in municipal and commercial systems. Some people say that the regulations are too loose for rural communities and provide evidence of pesticides, herbicides, and lead to back up their claims. It is important to note, however, that the mere presence of these substances is not the same as having them at dangerous levels.

An important international agreement concerning water quality was signed in 1972. The Great Lakes Water Quality Agreement. was signed by Canada and the United States. This agreement has made huge strides in cleaning up this major water system. In 1990, The London Dumping Convention set regulations for phasing out ocean dumping of industrial wastes, effluent, and plastics by 1995. The results of this international convention still remain to be seen.

The international community has begun to focus its efforts on reducing and stabilizing greenhouse gas emissions with the goal of reducing the threat of global warming. The Kyoto Protocol was signed in 1997 by 160 nations who agreed to reduce carbon dioxide, methane, and nitrous oxide emissions to about 5 percent below 1990 levels by 2012. It was also agreed that three other greenhouse gases - ﬂuorocarbons, perﬂuorocarbons, and sulfur hexaﬂuoride - would be reduced as well, although the levels were not determined.

Human threats to biodiversity can be summarized by the acronym **HIPPO**: **H**abitat destruction, **I**nvasive species, **P**ollution, **P**opulation, and **O**verharvcsting. Nations around the world are working to reduce the HIPPO threats and maintain the biodiversity that now exists. The United States has enacted many laws and programs to safeguard the environment for future generations. The most well-known, perhaps, was the establishment of the Environmental Protection Agency (EPA) by President Nixon in 1970. Its function is to protect human health; as well as protect and preserve Earth’s air, water, land, and endangered species. The Clean Air and Water Acts, as well as the Superfund for toxic waste disposal, are other examples of U.S. legislations. Launched under the administration of George H. W, Bush in 1992, Energy Star is a program to promote energy-efficient consumer products. Participating companies can indicate their involvement in the program by using the official Energy Star label. In 2006, under George W. Bush, the EPA launched Water Sense, whose goal is to foster water efficiency in the same vein as the Energy Star program.

THE ENDANGERED SPECIES ACT: A bill was written in 1874 to protect the American bison. The U.S. Congress failed to pass the bill because of the prevailing feelings of the day. Most people thought of wild animals as abundant, but this bill showed an early effort to protect biodiversity. By the turn of the 20th century, most states had some hunting and ﬁshing restrictions in place. The thought was to preserve the wildlife for future human use, not to protect the species themselves. It was not until 1973, With the passage of the U.S. Endangered Species Act, that new approaches to wildlife protection were accepted. It sought to identify all endangered species and protect biodiversity, regardless of how useful a particular species is to humans.

THE WORLD BANK: Third-world nations often have difficulty adhering to environmental policies established by developed nations. Quite often the policies are simply too cost prohibitive for these poorer nations. The World Bank was founded in 1945 to provide funds for Japan and countries in Europe to help them rebuild after World War II. In the 1950s, the World Bank shifted its focus and began sending aid to third-world nations. Some projects funded by the World Bank have been highly controversial and have negatively impacted the environment. For example, the World Bank is funding construction of nearly 200 dams along a river in India. The dams are being constructed to provide hydroelectric, power and water supplies to downstream of the river. However, the project will result in the ﬂooding of upstream areas and the displacement of as many as 1.5 million people.

In response to incidents such as this one in India, the U.S. Congress now insists that all loans for international development be reviewed for potential environmental and social impacts. Each project must use renewable resources, must not cause severe or irreversible damage to the environment, and must not displace people.

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| Rivers and Harbors Act | 1899 | Made it illegal to pollute the water and dredge a water body without a ppermit; notable as the ﬁrst environmental law in the United States |
| Lacey Act | 1900 | Banned commerce in illegally harvested animals or plants |
| Antiquities Act | 1906 | First law to establish penalties for disturbance of archaeological sites or relics on public lands; gave the president the right to designate landmarks and other areas of "historical or scientiﬁc interest"  |
| Migratory Bird Treaty Act | 1918 | International agreement that outlawed, in part, hunting of or trade of designated migratory birds |
| Clean Air Act | 1963; revised repeatedly, notably in 1970 and 1990 | Set air pollution standards, which the EPA was later required to enforce; established the right of private citizens to sue under this act; later amendments added provisions for acid rain, ozone depletion, and trading emissions credits |
| National Environmental Policy Act | 1969 | Required all federal agencies to provide Environmental Impact statements for their activities or regulatory actions; established President's Council on Environmental Quality; led to creation of the EPA by executive order. All its provisions also apply to 'cultural heritage ‘ |
| Clean Water Act | 1972 | Established standards of water quality; established permit requirements for point sources of water pollution; required and provided funding for municipal sewage treatment; provided for research on nonpoint sourcepollution; required EPA and states to compile a national inventory of water bodies and their condition |
| Noise Control Act | 1972 | First law to regulate and establish standards for noise-pollution |
| Endangered Species Act | 1973, but built on earlier laws including the Lacey Act; amended repeatedly | Gave the Department of the Interior the authority to list endangered species of plants and animals, which may not be killed or harassed in any way, and whose habitat must be protected; directed federal agencies to preserve habitat for endangered species on lands they manage and avoid any action that will harm listed species; established rules to ban or prohibit interstate or international trade in endangered species (CITES treaty); required responsible federal agencies to establish recovery plans for endangered species; required all commercial wildlife trade to go through designated ports |
| Safe Drinking Water Act | 1974 | Required EPA to set standards for drinking water and groundwater, and provide oversight of the enforcement of these standards |
| Surface Mining Control and Reclamation Act | 1977 | Established environmental standards and permit requirements for surface mines; gave enforcement authority over mining operations to federal regulators; banned mining entirely in certain public lands; establishedAbandoned Mine Land Fund to pay for reclamation ofabandoned mines |
| Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, aka Superfund) | 1980 | Authorized the EPA to identify parties responsible for contaminated areas and compel them to clean up the damage at their expense; established a trust fund, paid for by taxes on polluting industries, to clean up abandoned sites where the responsible party cannot be found |
| Oil Pollution Act | 1990 | Passed in response to the Exxon Valdez grounding in 1989; established that parties responsible for oil spills had civil and ﬁnancial liability for damage and cost of clean-up, within set limits; required companies to have a plan in place to prevent or contain oil spills; established regional clean-up plans in the event of future spills; banned large tankers from Prince William Sound, Alaska |