yellow fever was a mosquito-borne affliction. Following this discovery, Major William Gorgas was dispatched to Havana, Cuba, where he implemented a highly successful mosquito eradication program. This action led to a drastic reduction in yellow fever cases in Havana; later Gorgas conducted a mosquito control program in the Panama Canal Zone, making possible the construction of the canal.

In *The Jungle* (1906), Upton Sinclair described the deplorable conditions in the meat processing industry in Chicago. Sinclair's exposé was instrumental in passage of the first Food and Drug Act that was instituted in the United States in 1906. (Some of the US laws regarding food safety are described in Chapter 11.) One other development that reflected the public's concern for the environment was creation of the US National Park System in 1916.

During the second wave of environmental concern, defined approximately from the middle of the 1950s to the 1980s, environmental issues continued to come to the forefront. The period witnessed the occurrence of several noteworthy air pollution incidents, including the fatal 1930 incident in the Meuse Valley, Belgium; an air pollution episode that caused numerous deaths in Donora, Pennsylvania, in 1948; and the deadly London fog of 1952.[41] (More information on these incidents is presented in Chapter 10.)

Awareness increased regarding the potential health hazards of toxic chemicals. In the United States, efforts were made to protect ecologically sensitive areas from toxic hazards and from overdevelopment. Additional legislation in the United States modified food and drug laws designed to regulate toxins and the use of additives in food. Rachel Carson published *Silent Spring*, which highlighted the potential dangers of pesticides. In 1970, the Environmental Protection Agency (EPA) was founded to address environmental concerns at the federal government level (more information on this topic is presented in Chapter 4).

The topic of disposal of toxic wastes also was the focus of much attention during the 1970s. For example, when residents discovered that their homes had been constructed on a former toxic waste site referred to as the Love Canal, they became alarmed about possible adverse health effects that might be linked to the waste site. Love Canal became a cause célèbre for environmental activists. (This topic is covered in more detail in Chapter 12.)

The most recent period in environmental history (the third wave of environmental concern—1980s to the present) has been marked by high population growth rates, industrialization, and urbanization. Specific concerns have continued regarding the effects of toxic chemicals in the environment.

TABLE 1-3 Examples of Hot Topics in Environmental Health

Air quality	Land use
Conservation	Nuclear power
Endangered species/Wildlife impacts	Oceans
Energy resources	Pesticides and herbicides
Environmental justice	Pollution
Environmental protection	Radioactive waste
Forests	Recycling
Global warming/Global climate change	Solid waste
Greenhouse gases	War and terrorism
Hazardous wastes	Water resources
	Wetlands

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A new topic has been the emission of greenhouse gases and their possible contribution to global warming.

Table 1-3 presents a compilation of some of the contemporary issues that are relevant to environmental health. Although this list is not exhaustive, it identifies several of the major "hot topics" in the environmental health field.

The topics shown in Table 1-3 will be covered in this textbook. However, let us select four of the issues—global climate change, pesticides and herbicides, air quality, and war and terrorism—and consider them briefly. For example, one issue that commands our attention (and that has generated extensive coverage in the media) is the prospect of global climate change including global warming (and production of greenhouse gases). Among the outcomes believed to be associated with global warming are changes in the distribution of insect vectors that can carry diseases such as malaria and the West Nile virus. Later in this text, in Chapter 10, global warming—its hypothesized causes, extent, and effects—will be considered in more detail.

The impact of toxic pesticides and toxic chemicals is a major issue for environmental health. For example, toxic materials have been introduced into the drinking water supplies of some communities. In mid-November 2005, an explosion at a factory in northeastern China caused about 100 tons of benzene and other hazardous chemicals to be released into the Songhua River. This incident led Chinese officials to shut off the water taps in Harbin because of potential contamination of the water supply in this city. This event in China, as well as many other similar occurrences in which toxic chemicals have intruded into the public water supply, raises the issue

be done to prevent and abate such hazards. A concerns the runoff of rainwater that overtaxes processing facilities, resulting in pollution of public and groundwater. Carelessly discarded solvents and chemicals pose dangers to aquifers; the author more information on toxic pesticides and toxic in Chapter 7.

another issue is the impact of air quality on human including the role of in causing can- diseases as well chronic con- such as heart disease. regions face a continu- growing threat to the from air pollu- several US cities, such as located in the Los Ange- of Southern Califor- occasional episodes significant air pollution. nately, air quality has improvement in South- California and elsewhere United States during the decades. In contrast, cities in the rapidly in- ing nations of the ping world are experi- declines in air quality the increasing use of fuels.

Finally, war and terrorism have devastating impacts the environment. Some potential impacts in- the destruction of fauna flora, exposure of the pop- to hazardous radiation spent munitions, and pollution caused by the facture of nuclear weap- Refer to Chapter 8.) Re- health officials and the have been concerned threats to the environ- from the intentional re- of infectious biological agents such as the agent that causes anthrax. (Refer to Chapter 5.)

CAREERS IN THE ENVIRONMENTAL HEALTH FIELD

The field of environmental health provides numerous career roles and possible occupations. Private industry, government units, universities, and private research organizations

TABLE 1-4 Professions Involved in Environmental Health

- Academics, lecturers, teachers, teacher trainers
- Agriculturists
- Agronomists
- Architects
- Bacteriologists
- Biochemists
- Chemical process engineers
- Civil engineers
- Climatologists
- Communications experts
- Disaster preparedness specialists
- Ecologists
- Economists
- Engineering specialists (with postgraduate qualifications)
- Entomologists
- Environmental biologists
- Environmental chemists
- Environmental engineers
- Environmental health administrators
- Environmental health educators
- Environmental health managers
- Environmental health officers
- Environmental health planners
- Environmental health technicians
- Environmental lawyers
- Epidemiologists (with medical degree)
- Epidemiologists (without medical degree)
- Ergonomists
- Fire safety officers
- Food inspectors
- Food safety specialists
- Geneticists
- Geographers
- Geologists
- Health promotion experts
- Hydrogeologists
- Hydrologists
- Hygienists
- Information scientists
- Laboratory assistants/technicians
- Marine scientists
- Materials technologists
- Medical specialists (with postgraduate qualifications in the public health area)
- Meteorologists
- Microbiologists
- Noise inspectors
- Nuclear safety managers
- Nutritionists
- Occupational health nurses
- Occupational health physicians
- Occupational hygienists
- Physicists
- Political scientists
- Pollution inspectors
- Psychologists
- Public health nurses
- Public health physicians
- Public health veterinarians
- Public relations experts
- Risk assessors
- Rural and urban planners
- Safety inspectors
- Sanitary engineers
- Sanitary officers
- Social scientists
- Social workers
- Soil scientists
- Statisticians
- Technical assistants
- Toxicologists
- Transport planners/managers
- Water quality inspectors
- Zoologists

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