

Pro orientaci v anglické literatuře připojuji ještě glosář od Jamese Hayese-Bohanana, Brodgewater State College, USA

- **Absolute scarcity:** A condition when there is not enough of a resource in existence to satisfy demand for it.
- **Acid mine drainage:** Water leaving a surface or underground mine enriched in acid, usually sulfuric acid.
- **Acid deposition:** The accumulation of acids, either in precipitation or through dry dustfall, on the land surface.
- **Active solar power:** Solar energy gathered by a device that collects this energy and mechanically distributes it to where it is needed.
- **Advection inversion:** A temperature inversion caused by warm air passing over a cool surface.
- **Agribusiness:** Large-scale, organized production of food, farm machinery, and supplies as well as the storage, sale, and distribution of farm commodities, for profit.
- **Agricultural runoff:** Water leaving areas of agricultural land use, usually enriched in nutrients, sediment, and agricultural chemicals.
- **Ambient air quality:** The chemical characteristics of air as it exists in the environment; measures pollutant concentrations in the air.
- **Amenity resource:** A resource valued for nonmonetary characteristics, such as its beauty or uniqueness.
- **Amenity value:** The nonmonetary, intangible value of a good or service.
- **Anadromous fish:** Fish that breed in fresh water but spend most of their adult lives in salt water. Examples are salmon and striped bass.
- **Animal unit month:** The amount of forage needed to support a certain number of grazing animals for one month.
- **Anoxic:** Water without dissolved oxygen.
- **Anthracite:** The highest rank of coal, most modified from its original plant form.
- **Anthropogenic:** Of human origin, such as carbon dioxide emitted by fossil fuel combustion.
- **Aquiclude:** An impermeable layer that confines an aquifer, preventing the water in it from moving upward or downward into adjacent strata. Shale and some igneous rocks often form aquicludes.
- **Aquifer:** A geologic unit containing groundwater; an underground reservoir made up of porous material capable of holding substantial quantities of water.
- **Arable land:** Land that is capable of being cultivated and supporting agricultural production.
- **Arroyo:** A deep, steep-sided gully found in semiarid areas, particularly in the southwestern United States.
- **Augur mining:** A coal-mining technique using a screw that extracts coal as it is drilled into a deposit.
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- **Benefit-cost analysis:** A process of quantitatively evaluating all the positive and negative aspects of a particular action in order to reach a rational decision regarding that action.
- **Bioaccumulation:** The tendency for a pollutant to accumulate in the tissues of plants or animals.

- **Biochemical decay:** Breakdown of pollutants in water through the action of bacteria.
- **Biochemical oxygen demand (BOD):** The amount of oxygen used in oxidation of substances in a given water sample. Measured in milligrams per liter over a specific time period.
- **Biocide:** Willful destruction of living things.
- **Biogeochemical cycle:** The movement of a particular material through an ecosystem over long periods of time.
- **Biological diversity:** The range or number of species or subspecies found in a particular area.
- **Biomagnification:** An increase in the concentration of a pollutant as it is passed up the food chain, caused by a tendency for animals to accumulate the pollutant in their tissues.
- **Biomass:** The total amount of living or formerly living matter in a given area, measured as dry weight.
- **Biomass harvesting:** A forest harvest technique in which whole trees are chipped and used as fuel.
- **Biome:** A major ecological region within which plant and animal communities are similar in general characteristics and in their relations to the physical environment.
- **Bioregion:** A geographic area defined by ecological characteristics. A bioregion includes an area of relatively homogeneous ecological characteristics, or a specific assemblage of ecological communities. It is similar to a biome but may refer to a smaller area with more specific characteristics.
- **Biosphere:** The worldwide system within which all life functions; composed of smaller systems including the atmosphere, hydrosphere, and lithosphere.
- **Biosphere resources:** Resources associated with living organisms.
- **Biotic potential:** The maximum rate of population growth resulting if all females in a population breed as often as possible and all individuals survive past their reproductive periods.
- **Birth rate:** The number of babies born per year per 1000 population.
- **Bituminous coal:** A rank of coal below anthracite, characterized by a high degree of conversion from the original plant matter and a high heat content per unit weight.
- **Boreal forest:** A biome dominated by coniferous forests and found in relatively high altitudes or latitudes, almost exclusively in the Northern Hemisphere.
- **British thermal unit (BTU):** The amount of energy required to raise the temperature of one pound of water one degree Fahrenheit at or near 39.2°F.
- **Bubble approach:** An approach to air pollution emissions control that allows a plant to consider emissions from several sources as combined emissions from the plant.
- **Bureau of Land Management (BLM):** The U.S. Bureau of Land Management, located in the Department of the Interior, established in 1946 to administer federal lands not reserved for military, park, national forest, or other special uses.
- **Carcinogen:** A substance that causes cancer.
- **Carrying capacity:** The maximum number of organisms in one species that can be supported in a particular environmental setting.
- **Cartel:** A consortium of producers of a single product who agree to limit production to keep the price of the product high.

- **Catadromous fish:** Fish that breed in salt water but live most of their adult lives in fresh water. The American eel is an example.
- **Centralized energy:** An energy conversion technology in which the key conversion (such as combustion of coal to create electricity) is made at a large scale at a single site (such as a power plant).
- **Chaparral:** A subtropical drought-resistant and fire-prone shrubby vegetation associated with Mediterranean-type climates.
- **Chlorofluorocarbons (CFCs):** A group of substances that are compounds of chlorine, fluorine, and carbon. They are widely used in refrigeration and many industrial processes, and contribute to deterioration of stratospheric ozone.
- **Clean Air Act:** The name given to a series of air-quality improvement laws and their amendments passed in the United States beginning in 1963.
- **Clean Water Act:** The name given to a series of water-quality improvement laws and their amendments passed in the United States beginning in 1964.
- **Clear-cutting:** A forest harvest technique in which all trees in a particular area are cut, regardless of species or size.
- **Coal gasification:** A chemical process converting coal to a gas that can then be used in place of natural gas.
- **Cohort:** A group of individuals of similar age.
- **Coliform bacteria:** Bacteria of the species *Escherichia coli*, commonly occurring in the digestive tracts of animals; used as an indicator of the potential for disease-causing organisms in water.
- **Common property resource:** Resource such as air, oceans, or sunshine that is in theory owned by everyone but in practice utilized by a few. The question of regulation arises to prevent or lessen resource abuse.
- **Community:** A collection of organisms occupying a specific geographic area.
- **Concentration:** In the context of air or water quality, the amount of a substance per unit (weight or volume) of air or water.
- **Conservation:** The wise use or careful management of resources to attain the maximum possible social benefits from them.
- **Conservation tillage:** An agricultural system using tillage techniques designed to reduce soil erosion and overland flow. Most conservation tillage techniques involve less manipulation of the soil than conventional techniques, leaving more plant matter on the soil surface.
- **Consumer theory of value:** An approach to valuing commodities based on how much a consumer is willing to pay for them.
- **Consumptive use or Consumption:** Water use that results in water being evaporated rather than returned to surface water or groundwater after use.
- **Contingent valuation method:** A method for determining the value of a resource by asking how much they would be willing to pay for it under certain circumstances.
- **Continental shelf:** Area of the seafloor averaging less than 650 ft (200 m) deep, which generally was exposed at times of lower sea level in the past.
- **Contour plowing:** A soil conservation technique involving plowing parallel to the contour, across a slope rather than up and down it.
- **Cost-effectiveness analysis:** An analysis of all the costs involved in taking a specified action to determine the most efficient way to carry out the chosen action.
- **Cost theory of value:** An approach to valuing commodities based on the cost of production.

- **Crisis management:** A form of decision making that is a seat-of-the-pants response to the issue of the moment with no consideration of longer-term effects.
- **Criteria pollutants:** Air pollutants, including carbon monoxide, hydrocarbons, lead, oxidants, particulates, nitrogen oxides, and sulfur oxides, for which maximum permissible concentrations in ambient air are established.
- **Critical mineral:** A mineral necessary for defense of the United States and available partly in America or partly from friendly nations.
- **Criticality:** A term used to describe environmental regions that are so degraded that economic activity and human habitation are impossible in the short term.
- **Crop rotation:** A soil conservation technique involving changing crops grown on a given parcel of land from year to year. Crop rotations may include fallow periods.
- **Cropland:** Land in which crops are regularly planted and harvested. It includes land in fallow or pasture as part of a regular rotation system.
- **Crown fire:** An intense forest fire that consumes the tops of trees as well as lower strata of vegetation.
- **Crude oil:** Unrefined petroleum as it is extracted from the ground; it is liquid at normal ambient temperatures.
- **Death rate:** The number of deaths per year per 1000 population.
- **Decentralized energy source:** An energy conversion system characterized by numerous small-scale facilities located at or near the end-use site. Photovoltaic cells are an example.
- **Decreaser:** A plant species in a range community that declines in importance as a result of grazing pressure. Usually, decreaseers are the most palatable to the grazing animals.
- **Deep ocean:** Ocean areas seaward of the continental shelf.
- **Deforestation:** Any process of replacement of forest vegetation with other types.
- **Demographic transition:** The process by which a human population goes through a growth pattern, including an early phase of high birth and death rates, an intermediate phase of high birth rates but low death rates, and a later phase of low birth and death rates.
- **Desalination:** Artificial removal of salt from water, such as by distillation or reverse osmosis.
- **Desert:** A biome characterized by plants and animals adapted to extreme moisture scarcity.
- **Desertification:** A process of land becoming more desertlike as a result of human-induced devegetation and related soil deterioration, sometimes aggravated by drought.
- **Dilution:** In water quality, a reduction in pollutant concentration caused by mixing with water with a lower concentration of the substance.
- **Dissolved oxygen:** Oxygen found in dissolved form in water.
- **Dissolved solids:** Substances normally solid at ambient temperatures but dissolved into ionic form in water.
- **Diversification:** The trend in many large corporations toward ownership of a wide array of companies producing unrelated goods and services.
- **Domesticate:** A species that has been bred for specific characteristics that humans value, thereby rendering the species dependent on humans for its continued survival.

- **Doubling time:** The length of time needed for a population to double in size. It is a function of the growth rate.
- **Drainage basin:** An area bounded by drainage divides and defined with respect to a point along a stream. All the runoff generated within the area must pass the point along the stream; runoff generated outside the basin will not pass that point.
- **Drip irrigation:** An irrigation method involving small pipes placed at the base of plants delivering water slowly to the plant roots.
- **Drought:** A period of time with unusually low precipitation.
- **Dry farming:** Agricultural production in climatically marginal lands without the use of irrigation.
- **Dry rock geothermal energy:** A method of extracting heat from the earth by pumping water through hot rocks.
- **Earth Summit:** The popular name given to the 1992 UN Conference on Environment and Development held in Rio de Janeiro.
- **Ecology:** The study of the interrelationships between living organisms and the living and nonliving components and processes that make up their environment.
- **Ecosystem:** The collection of all living organisms in a geographic area together with all living and nonliving things they interact with.
- **Ecotone:** A transitional zone between two adjacent ecosystems.
- **Ecotourism:** Tourism focused on appreciation of nature rather than on built environments.
- **El Niño/La Niña:** A transient, periodic warming of the equatorial eastern Pacific Ocean, associated with fisheries depletion and large-scale climatic fluctuations.
- **Emissions trading:** A procedure in air-quality regulation by which one polluter can acquire permission to discharge pollutants formerly discharged by another discharger that has ceased emitting pollutants.
- **Endangered species:** A species in imminent danger of extinction.
- **Energy budget:** An accounting of all energy inputs and outputs for a system.
- **Energy conservation:** Using energy resources in such a way as to minimize energy consumption in relation to benefits gained.
- **Energy efficiency:** The amount of utility, either work performed or income generated, gained per unit of an energy resource.
- **Environmental cognition:** The mental process of making sense of the world that each of us inhabits.
- **Environmental ethics:** A philosophical position regarding the relation between humans and nature.
- **Environmental lapse rate:** The average rate at which temperature declines with increasing altitude in the troposphere.
- **Environmental refugee:** A person fleeing a natural or human-caused environmental disaster.
- **Environmental resistance:** Factors such as food supply, weather, disease, and predators that keep a population below its biotic potential.
- **Equity:** Fairness in the use and allocation of resources.
- **Erosion:** Removal of soil by running water or wind.
- **Erosivity:** The ability of rainfall to cause erosion. Erosivity is a function of rainfall intensity and drop size.
- **Estuary:** A semi-enclosed water body, open to the sea, in which seawater is significantly diluted by fresh water from the land.

- **Euphotic zone:** The upper portion of the sea, in which sunlight is intense enough to allow plant growth.
- **Eutrophication:** The process by which lakes become increasingly nutrient-rich and shallow. It is a natural process that is accelerated by water pollution.
- **Evapotranspiration:** The process by which liquid water is conveyed to the atmosphere as water vapor, including water use by plants.
- **Exclusive economic zone:** A zone of the oceans over which a particular nation has claims or exclusive control of certain economic activities, such as fishing.
- **Exploitation:** Use of a resource at the maximum profitable short-term rate, without regard for long-term resource quality or availability.
- **Externality:** A non-market exchange, in which at least one party to the exchange is not compensated and may have little choice in the exchange.
- **Extinction:** The process by which a species ceases to exist.
- **Farmland:** Land that is part of farm units, including cropland, pasture, small woodlots, and areas used for small farm roads and buildings.
- **Federal Land Policy and Management Act (FLPMA):** Passed in 1976 this law consolidated diverse regulations of public land management and strengthened the power of the BLM to manage public lands.
- **Feedback:** An information transmission that produces a circular flow of data in a system.
- **Fertility rate:** The average number of children that women in a given population bear in their reproductive years.
- **Fertilizer:** A substance added to the soil to improve plant growth. The most commonly used fertilizers are those containing large amounts of nitrogen, potassium, and phosphorus.
- **Fire frequency:** The average number of fires per unit time at a given location.
- **First law of thermodynamics:** The law of conservation of energy, which states that energy is neither created nor destroyed, but merely transformed from one state to another or converted to or from matter.
- **Fission:** A process of splitting heavy atoms of uranium or plutonium into lighter elements, thereby releasing energy.
- **Fixed costs:** Costs of operating a business that do not vary with the rate of output of goods and services.
- **Flood irrigation:** A means of irrigation whereby entire fields are occasionally inundated.
- **Flow resource:** A resource that is simultaneously used and replaced. Perpetual and renewable resources are flow resources.
- **Food chain:** A linear path that food energy takes in passing from producer to consumers to decomposers in an ecosystem.
- **Food security:** The condition of having both physical and economic access to the basic food that people need to function normally.
- **Food web:** A complex, interlocking set of pathways that food energy takes in passing from producer to consumers to decomposers in an ecosystem.
- **Furrow irrigation:** A type of irrigation in which water is allowed to flow along the furrows (troughs) between rows of crops.
- **Fusion:** The combination of two hydrogen atoms to create a helium atom, yielding energy.
- **Gaia hypothesis:** A view of earth history that emphasizes the earth's tendency to maintain a balance or equilibrium of natural systems.

- **GAP analysis:** The use of remote sensing and GIS techniques to identify holes or gaps in land ownership for species protection.
- **General circulation model:** A computerized representation of the earth's atmospheric and oceanic circulation system used to simulate weather and climate.
- **General Systems Theory:** A way of looking at the world or any part of it as an interacting set of parts.
- **Generational equity:** The fairness doctrine applied to subsequent generations so they receive the environment in the same or better condition than the generation before them.
- **Genetic damage:** Damage to individual cell tissues resulting in changes that are passed along to offspring in chromosomes.
- **Geographic Information System (GIS):** A computer database and data-manipulation system designed to use geographically organized data.
- **Geologic estimate of resource:** An estimate of the amount of a mineral resource in the earth based on information about the concentration and distribution of that mineral in rocks, without regard for the economics of extraction.
- **Geothermal energy:** Energy extracted from heat contained in rocks near the earth's surface.
- **Geopressurized resource:** A geothermal resource in which hot groundwater is pressurized by natural forces.
- **Grassland:** A biome dominated by grasses. Most grasslands have semiarid climates.
- **Green Revolution:** A variety of agricultural systems developed for application in developing countries, involving the introduction of improved seed varieties, fertilizers, and irrigation systems.
- **Greenhouse effect:** The tendency of the atmosphere to be transparent to shortwave solar radiation but opaque to longwave terrestrial radiation, leading to a warming of the atmosphere.
- **Greenhouse gases:** Substances that are transparent to shortwave (solar) radiation but absorb longwave (terrestrial) radiation and thus contribute to warming of the atmosphere. Carbon dioxide, ozone, chlorofluorocarbons, methane, and water vapor are important greenhouse gases.
- **Ground fire:** A forest fire that only burns at ground level, consuming litter and downed trees but not live standing trees.
- **Groundwater mining:** See Overdraft.
- **Groundwater:** Water below the ground surface, derived from the percolation of rainfall and seepage from surface water.
- **Guest worker:** A person allowed in a country on a temporary basis in order to increase the available labor force in that country.
- **Gully:** A steep-walled stream channel incised in the soil by accelerated erosion.
- **Gyres:** A circular flow pattern in the ocean.
- **Habitat:** Land that provides living space and sustenance for plants and animals.
- **Halocline:** A marked change in salinity at a particular depth in the ocean or an estuary; it signals the boundary between two layers of water.
- **Hardwoods:** Trees with particularly dense wood; primarily broad-leafed trees.
- **Heavy-water reactor:** A nuclear fission reactor using deuterium-enriched water to moderate the fission reaction.
- **High seas:** Areas of the oceans beyond the legal control of any nation.

- **High-temperature gas-cooled reactor:** A nuclear fission reactor using helium gas to transfer heat from the core to a steam generator.
- **Homestead Act:** A law passed in 1862 providing 160 acres of federal land free to settlers.
- **Homocentric:** A view of nature that only considers human, rather than plant or animal, needs.
- **Homosphere:** The lower portion of the earth's atmosphere, characterized by relatively uniform gaseous composition. Consists of the troposphere, the stratosphere, and the mesosphere.
- **Horizon:** A layer in the soil with distinctive textural, mineralogical, chemical, or structural characteristics.
- **Hydroelectric power:** Electricity generated by passage of runoff-derived water through a turbine, usually at a dam.
- **Hydrothermal mineralization:** A process of concentration of metallic ores caused by high-temperature geochemical processes in underground waters.
- **Illegal immigrant:** A person who enters and lives in a country in violation of that country's laws.
- **Incommensurables:** Effects of a given action that can, with some effort, be given monetary value.
- **Increaser:** A range plant species that is present in a range ecosystem prior to grazing and that increases in numbers or coverage as a result of grazing.
- **Incrementalism:** A type of decision-making strategy that reacts to short-term imperfections in existing policies rather than establishing long-term future goals. Decisions are made on a sequential basis and do not radically depart from existing policy.
- **Infiltration capacity:** The maximum rate at which a soil can absorb water.
- **Inorganic:** Describes a chemical substance that does not contain carbon.
- **Input:** Energy, matter, or information entering a system.
- **In-stream uses:** Uses of water that do not require it to be removed from a stream or lake. They include such things as shipping, swimming, and waste disposal.
- **Intangible:** A good, service, or effect of an action that cannot be assigned monetary value.
- **Integrated pest management:** A pest control technique that relies on combinations of crop rotation, biological controls, and pesticides.
- **Interbasin transfer:** A movement of water from one drainage basin to another, such as from the east side of the Rocky Mountains into the west-flowing Colorado River.
- **Internal waters:** Waters under the exclusive control of a coastal nation, including bays, estuaries, and rivers.
- **International Whaling Commission (IWC):** An organization set up under the International Convention for the Regulation of Whaling in 1946, to regulate the whaling industry.
- **Invader:** A range plant species not present in a given area before grazing but entering the area as a result of the ecological changes caused by grazing.
- **Irrigation:** The artificial application of water to a crop or pasture beyond that supplied by direct precipitation.
- **Kerogen:** A waxy hydrocarbon found in oil shale.
- **Labor theory of value:** An approach to valuing commodities based on the amount of human labor required to produce them.

- **Land Capability Classification System:** A scheme used by the U.S. Natural Resource Conservation Service for assessing and classifying the productivity of land units.
- **Landfill:** A land-based disposal method, in which waste is deposited in layers and covered with earth.
- **Law of entropy:** The second law of thermodynamics. Entropy is a measure of disorder in a system.
- **Law of the Sea Treaty:** A treaty establishing jurisdiction over marine resources in coastal and deep-sea areas.
- **Leachate:** Water seeping from the bottom of a layer of ground and containing substances derived from that layer. Usually applied to landfills and other contamination sources.
- **Light-water reactor:** A type of nuclear power plant that uses ordinary water as the cooling medium.
- **Lignite:** A rank of coal characterized by a relatively low degree of modification of plant matter.
- **Limits to Growth:** A world model developed in the 1970s by a group called the Club of Rome; it predicted resource scarcity if world population and resource use growth continued.
- **Liquefaction:** Conversion of coal into a liquid hydrocarbon that can be transported by pipeline and burned as a liquid.
- **Liquid-metal fast-breeder reactor:** A nuclear fission reactor moderated and cooled by liquid sodium, and used to convert nonfissionable material such as uranium-238 to fissionable material such as plutonium-239.
- **Liquid natural gas (LNG):** Natural gaseous hydrocarbons that are pressurized and cooled in order to be stored and/or transported in liquid form.
- **Malthus:** British economist who wrote (1798) that populations increase geometrically while food supplies increase arithmetically.
- **Materials balance principle:** An approach to production systems that focuses on accounting and balancing inputs and outputs.
- **Maximum sustainable yield:** The largest average harvest of a species that can be indefinitely sustained under existing environmental conditions.
- **Mesosphere:** Layer of the atmosphere between 30 and 50 mi (50 and 80 km) in altitude, characterized by decreasing temperatures with increasing altitude.
- **Migration:** The movement of people from one area to another in response to warfare, environmental degradation or perceived better opportunities.
- **Mined-land reclamation:** The return of land disturbed by mining to a more productive condition, usually a use similar to that existing before mining took place.
- **Minimum tillage:** A soil and water conservation technique that leaves the crop residue or stubble on the surface rather than plowing it under to minimize the number of times a field is tilled. Weeds are controlled by herbicides.
- **Mining Act:** An act passed in 1872 providing free access to minerals on federal lands.
- **Mixed cropping:** An agricultural system in which several different crops are grown in close proximity, in a rotation system, or both.
- **Mobile sources:** Sources of air pollution that move, such as automobiles, boats, trains, and aircraft.
- **Monoculture:** An agricultural system in which a single crop is grown repeatedly over a large area.

- **Monopoly:** Control of access to a good or service by a single entity.
- **Montreal Protocol:** An agreement signed in Montreal in 1987 in which signatory nations consented to limit production and consumption of ozone-damaging chemicals.
- **Multinational corporation:** A business entity that operates in many nations and is not wholly subject to the laws of any one nation.
- **Multiple use:** The use of lands for as many different purposes as possible in order to gain maximum benefit from them.
- **Multiple Use Sustained Yield Act:** A law passed in 1960 establishing the principles of multiple use and sustained yield as guidelines for management of the national forests.
- **Municipal solid waste:** Mixed solid waste derived primarily from residential and commercial sources.
- **National Forest Management Act:** An act, passed in 1976, establishing operating principles and administrative divisions for the U.S. Forest Service.
- **National sovereignty:** The right of individual nations to look after their own interests first and foremost and to manage resources within their territorial borders any way they see fit.
- **Natural capital:** The stock of natural resources that provide or can be used to make beneficial things.
- **Natural gas:** Gaseous hydrocarbons extracted from subterranean reservoirs that hold gas at normal ambient temperatures.
- **Natural increase:** In demography, the net change in population without regard to migration. It is the birth rate less the death rate, and it can be positive or negative.
- **Natural resource:** Something that is useful to humans and exists independent of human activity.
- **Natural resource accounting:** The inclusion of the full and often hidden costs of damages to natural resources in traditional benefit/cost analysis.
- **Neo-Malthusianism:** Modern advocates of Thomas Malthus's ideas; those who advocate birth control to avert overpopulation and who see overpopulation as ultimately leading to widespread malnourishment and famine.
- **NEPA:** The National Environmental Policy Act, signed on January 1, 1970, which established nationwide environmental goals for the United States and provided for the preparation of Environmental Impact Statements (EIS) to ensure compliance with those goals.
- **Net primary production:** The net amount of biomass created by plants in an ecosystem once the respiration by those plants is deducted.
- **Neutral stuff:** Something that exists but at present meets no known human material or non-material needs.
- **Nonpoint source:** A pollution source that is diffuse, such as urban runoff.
- **Nonrenewable or stock resources:** Resources that exist in finite quantity and are not replaced in nature.
- **Off-stream use:** Use of water that requires that it be removed or withdrawn from surface or groundwater.
- **Oil:** Hydrocarbons found in the earth, liquid at normal ambient temperatures.
- **Oligopolistic competition:** A process in which a small group controls access to a good or service by agreeing on a single price or by restricting access to these commodities.

- **Oligotrophic:** Describes lakes that are relatively deep and nutrient poor; opposite of eutrophic.
- **Organic:** Refers to substances containing carbon.
- **Output:** Energy, matter, or information leaving a system.
- **Overburden:** Rock and soil that lie above coal or other mineral deposits and that must be removed to strip-mine the coal.
- **Overdraft or groundwater mining:** Withdrawal of groundwater in excess of the replacement rate over a long period of time.
- **Overgrazing:** Grazing by a number of animals exceeding the carrying capacity of a given parcel of land.
- **Overland flow:** Water flowing on the soil surface and unchannelized, usually derived from precipitation that has not infiltrated.
- **Oxidants:** A group of air pollutants that are strong oxidizing agents. Ozone and peroxyacetylnitrate are among the more important oxidants.
- **Ozone hole:** A semi-permanent depletion in stratospheric ozone concentration over a polar region. Most prominent over the South Pole.
- **Parent material:** The mineral matter from which soil is formed.
- **Particulate matter:** In reference to air quality, solid or liquid particles with diameters from 0.03 to 100 microns.
- **Passive solar power:** The collection of solar energy as heat at the end-use site, without any mechanical redistribution or storage of the energy.
- **Pastoral nomad:** A person who herds animals, and has no permanent place of residence.
- **Pastoralist:** A person whose livelihood is based on grazing animals.
- **Pasture:** In U.S. terminology, land on which the natural vegetation is not grass, but which is used primarily for grazing.
- **Peat:** The accumulated remains of plants, found in swampy or cool, humid areas. It is the initial material from which coal may be formed; may be dried and used for fuel.
- **Performance-based resource estimate:** An estimate of the quantity of a mineral deposit available in the earth based primarily on the ability of prevailing technology to extract the mineral under existing and probable future economic conditions.
- **Permafrost:** Ground below 32°F (0°C) all year round.
- **Permeability:** A measure of the rate at which water will flow into or through soil or rocks.
- **Perpetual resources:** Resources that exist in continual supply, no matter how much they are used. Solar energy is an example.
- **Pesticide:** A general term used to refer to a chemical used to control harmful organisms such as insects, fungi, rodents, worms, and bacteria. Insecticides, fungicides, and rodenticides are kinds of pesticides.
- **Petajoule:** A unit of energy equal to 10^{15} [ten to the 15], or 1,000,000,000,000,000 joules, or 947,800,000,000 British thermal units.
- **Photosynthesis:** The formation of carbohydrates from carbon dioxide and water, utilizing light as energy.
- **Photovoltaic cell:** A semiconductor-based device used to convert sunlight directly to electricity.
- **Placer deposit:** A deposit of a mineral formed by a concentration of heavy minerals in flowing water, such as by a stream or waves.

- **Point source:** A pollution source that has a precise, identifiable location, such as a pipe or smokestack.
- **Polluter pays principle, or residuals tax:** A means of shifting the cost of pollution from the community to the polluter, usually in the form of a tax.
- **Pollution:** Human additions of undesirable substances to the environment.
- **Pollution prevention:** The elimination of potential pollutants at their source such as in a manufacturing process, rather than at the point of discharge to the environment (end-of-pipe) or later.
- **Pollution Standards Index (PSI):** An index of air quality that is a combined measure of the health effects of several pollutants. It ranges from 0 (healthy) to 500 (extremely unhealthy).
- **Population dynamics:** The study of the rapidity and causes of population change.
- **Population pyramid:** A graphic representation of the number or portion of males and females in each of several age categories in a population.
- **Potential evapotranspiration:** The amount of water that could be evaporated or transpired if it were available.
- **Potential resource:** A portion of the natural or human environment that is not today considered of value, but that one day may gain value as a result of technological, cognitive, or economic developments.
- **Preservation:** The nonuse of resources; limited resource development for the purpose of saving resources for the future.
- **Primary standards:** Air pollution standards designed to protect human health.
- **Primary treatment:** Sewage treatment consisting of removal of solids by sedimentation, flocculation, screening, or similar methods.
- **Principle of limiting factors:** Whatever factor (nutrient, water, sunlight, etc.) is in shortest supply will limit the growth and development of an organism or a community.
- **Prior appropriation:** A doctrine of water ownership in which the first productive user of water establishes the right to the water indefinitely; the primary water-ownership doctrine in the western United States.
- **Privatization:** The transfer of government-owned resources, such as national forests, to private ownership or management.
- **Procedural Equity:** A situation in which there is a differential application of environmental regulations, laws, or treaties such that some areas bear more pollution burdens than others.
- **Production theory of value:** An approach to valuing commodities based on the inputs of some critical commodity needed to make it.
- **Proxy value:** A price applied to a commodity that has no established market value.
- **Quad:** A measure of energy use, equal to one quadrillion (1,000,000,000,000,000) British thermal units.
- **Radiation inversion:** A temperature inversion caused by radiational cooling of air close to the ground.
- **Radioactivity:** The emission of particles by the decay of atoms of certain substances.
- **Railroad Acts:** A series of acts passed in the United States in the 1850s and 1860s granting large amounts of land to railroad companies as a subsidy to railway construction and stimulant to settlement of western lands.

- **Range condition:** As defined by the U.S. Forest Service, an estimate of the degree to which the present vegetation and ground cover depart from that which is presumed to be the natural potential (or climax) for the site.
- **Rangeland:** Land that provides or is capable of providing forage for grazing animals.
- **Recycling:** Reprocessing of a used product for reuse in a similar or different form.
- **Relative scarcity:** Short supply of a resource in one or more areas due to inadequate or disrupted distribution.
- **Renewable energy:** Energy resources that are produced naturally as fast as they are consumed, such as solar, wind, and hydroelectric power.
- **Renewable resource:** A resource that can be depleted but will be replenished by natural processes. Forests and fisheries are examples.
- **Replacement cost:** The cost of replacing a resource that is used.
- **Replacement level:** The number of births that will replace a population at the same size, without reduction or rise; also called Zero Population Growth.
- **Reserve:** In the context of mineral resources, a deposit of known location and quality that is economically extractable at the present time.
- **Residual:** Waste products of production. Air pollution is an example of residuals from manufacturing.
- **Residual tax:** A tax on production based on the amount of waste produced.
- **Residuals management:** An approach to production of goods and services that includes accounting of waste products associated with both production and consumption phases.
- **Resource:** Something that is useful to humans.
- **Resource recovery:** Separation of waste into recyclable components such as metal, glass, and heat from incineration.
- **Respiration:** Oxidation of food that releases oxygen, water, and energy, which are dissipated in the biosphere.
- **Reuse:** Repeated use of a product without reprocessing or remanufacture.
- **Rill:** A small channel created by soil erosion and small enough to be obliterated by plowing.
- **Riparian areas:** Lands adjacent to and subject to flooding by streams.
- **Riparian rights:** A doctrine of water ownership in which those whose land adjoins a stream have the right to use the water in the stream. It is the primary water-ownership doctrine in the eastern United States.
- **Ruminant:** One of a group of grazing animals including cattle, bison, sheep, goat, which have digestive systems particularly adapted to grasses.
- **Sahel:** A semiarid east-west swath across Africa, environmentally transitional between the Sahara Desert (to the north) and equatorial rainforests (to the south), in which recent desertification and drought have been particularly severe.
- **Salinity:** The concentration of mineral salts in water. The average salinity of the oceans is about 35 parts per thousand.
- **Saltwater intrusion:** Movement of salt water into aquifers formerly occupied by fresh water as a result of groundwater withdrawal in coastal areas.
- **Satisficing:** A decision-making strategy that seeks a course of action that is good enough but not necessarily perfect. A few alternatives are compared, and the best course of action is chosen from this limited range of options.
- **Savanna:** Tropical or subtropical semiarid grassland with scattered trees.

- Secondary standard: An air-quality standard designed to protect human welfare (property, vegetation, etc.) as opposed to health.
- **Secondary treatment:** Sewage treatment that removes organic matter and nutrients by biological decomposition using such methods as trickling filters, aeration, and activated sludge.
- **Sedentarization:** Permanent settlement of once-nomadic people.
- **Sedimentation:** Deposition of solid particles by settling in a water body.
- **Selective cutting:** A timber-harvesting technique in which only trees of specified size or species are taken, leaving other trees.
- **Separate impacts:** Effects of a system's activity that can be measured separately.
- **Shadow price:** An artificial monetary value applied to those resources for which a simple price tag is not easy to calculate, for example, wilderness, habitat.
- **Shale oil:** see also kerogen. A petroleum-like substance found in high concentrations in some shale rocks.
- **Shelterwood cutting:** A two-phase timber-harvesting technique in which not all trees are taken in the first phase so that some trees may provide shelter for young seedlings; when these are established, the remaining older trees are cut.
- **Smog:** A term used to describe air pollution.
- **Social cost:** The cost of producing a good or service, plus its cost to humans in terms of pollution and other negative socio-environmental effects.
- **Social equity:** Situations in which there are different pollution burdens or access to resources based on race, ethnicity, age, or gender.
- **Softwoods:** Timber species with relatively low-density wood; primarily needle-leaf trees.
- **Soil:** A porous layer of mineral and organic matter at the earth's surface, formed as a result of the action of chemical and biological processes on rocks over a period of time.
- **Soil erodibility:** A measure of the inherent susceptibility of a soil to erosion, without regard to topography, vegetation cover, management, or weather conditions.
- **Soil fertility:** The ability of a soil to support plant growth through providing water, nutrients, and a growth medium.
- **Soil structure:** The way in which individual soil particles form aggregates, particularly the shapes and arrangement of such aggregates; especially important to soil hydrologic characteristics.
- **Soil texture:** The mix of different sizes of particles in a soil.
- **Solid waste:** Refuse materials composed primarily of solids at normal ambient temperatures.
- **Somatic damage:** Nonhereditary damage to individual cell tissues from radiation.
- **Species:** A group of organisms with similar genetic and morphologic characteristics that are capable of interbreeding.
- **Spent fuel:** Nuclear material that is no longer capable of sustaining the fission process.
- **Sprinkler irrigation:** Irrigation by pumping water under pressure through nozzles and spraying it over the land.
- **Stakeholders:** Individuals or groups who have a vested interest in a particular issue or policy or could be adversely affected.

- **Stationary source:** A pollution source that does not move, such as a smokestack.
- **Steady state:** When a system has inputs that equal outputs.
- **Stock resource:** See Nonrenewable resources.
- **Stockpiling:** Amassing amounts of some substance well beyond present needs in anticipation of a shortage of that substance.
- **Strategic mineral:** A mineral necessary for defense purposes for which the United States is totally dependent on foreign sources.
- **Stratification:** A layering of a water body caused by differences in water density. It is commonly caused by temperature or salinity differences.
- **Stratified estuary:** An arm of the sea in which fresh water from the land overlies denser salt water.
- **Stratosphere:** Layer of the atmosphere between 3 and 30 mi (5 and 50 km) in altitude, characterized by increasing temperature with altitude.
- **Stress management:** A decision-making strategy that is reactive in nature. Once a resource issue becomes critical, then policy is determined to cope with the immediate problem without any consideration of long-term implications of such a policy.
- **Strip cropping:** A soil conservation technique in which parallel strips of land are planted in different crops.
- **Strip-mining or surface mining:** Extraction of a mineral from the ground by excavation at the ground surface.
- **Stubble mulch:** A soil covering composed of the unused stalks of crop plants.
- **Subbituminous coal:** A rank of coal intermediate between lignite and bituminous coal.
- **Subeconomic resource:** A resource that at present is unavailable for use because of the high cost of extraction.
- **Subsidence inversion:** A temperature inversion caused by differential warming of a sinking air mass. Upper portions of the mass are warmed more than lower portions, causing the inversion.
- **Subsidence:** Sinking of the land surface caused by removal of water, oil, or minerals from beneath the surface.
- **Substitutability:** The degree to which one material can be substituted for another in end uses.
- **Sulfur content:** The amount of sulfur found in coal. Combustion of coal with a high sulfur content results in emissions of sulfur oxides, which contribute to acid precipitation.
- **Surface fire:** A moderate-intensity forest fire in which low-level vegetation, such as shrubs, is consumed along with some of the surfaces (bark) of trees, but the crowns of trees are not consumed and trees survive.
- **Surface water:** Water and ice found in rivers, lakes, swamps, and other above-ground water bodies.
- **Suspended particulates:** In reference to air quality, solid or liquid particles with diameters from 0.03 to 100 microns.
- **Sustainability:** Economic growth with environmental responsibility; economic activity that could be carried on indefinitely without resource depletion.
- **Sustainable agriculture:** An agricultural system that is dependent solely on renewable resources and that maintains the soil in such a condition so that it will continue to be productive indefinitely.

- **Sustained yield:** Management of renewable resources conducted in such a way as to allow a constant rate of harvest indefinitely.
- **Synergistic impacts:** Effects of a system's activity that are different from the individual effects of component parts of the system.
- **Synfuel:** A contraction of synthetic fuel; liquid or gaseous fossil fuel manufactured from other fuels that are less useful as found in nature.
- **System:** An entity consisting of a set of parts that work together to form a whole. The human body, a transportation network, and the earth are all systems.
- **Tailings:** Solid waste products derived from mineral extraction or refinement.
- **Tar sand:** Sandy deposits containing heavy oil or tar. The sand must be heated to extract the oil.
- **Taylor Grazing Act:** An act passed in 1934 closing most United States public lands to homesteading and establishing controls on grazing use of federal lands.
- **Temperate forest:** A biome characterized primarily by deciduous broad-leaved trees.
- **Temperature inversion:** A condition in the atmosphere in which warm air overlies cool air. Inversions restrict vertical air circulation.
- **Terracing:** A soil and water conservation technique consisting of ridges on the contour, or level areas constructed on a slope.
- **Territorial sea:** A band of open ocean adjacent to the coast, over which the coastal nation has control. It is generally either 3 or 12 nautical miles (5.6 or 22 km) wide.
- **Tertiary treatment:** Any of a wide range of advanced sewage treatment processes aimed at removing substances not eliminated by primary or secondary treatment.
- **Thermal pollution:** Heat added by humans to a water body or to the air.
- **Thermocline:** A zone in a water body in which temperature declines rapidly with increasing depth. Vertical water circulation is limited by the presence of a thermocline.
- **Threatened species:** A species that is not endangered but has a rapidly declining population.
- **Throughput tax, or disposal charge:** A fee paid by a producer on materials that go into the production of polluting products. The fee reflects the social cost of the pollution.
- **Tidal power:** Energy generated by using tidal water-level differences to drive a turbine
- **Timber Culture Act:** An act passed in 1873 providing free access to timber on federal lands.
- **Toxic substance:** A substance that causes disease or death when organisms are exposed to it in very low quantities.
- **Total dissolved solids:** The total amount of dissolved solid matter found in a sample of water.
- **Transboundary pollution:** Transport of pollutants (particularly air pollutants) across national or state boundaries.
- **Trophic level:** One of the steps in a food chain.
- **Tropical rainforest:** A biome composed primarily of evergreen broad-leaved trees growing in tropical areas of high rainfall throughout most of the year.
- **Troposphere:** The lowest layer of the atmosphere, below about 9 mi (15 km) in altitude, characterized by decreasing temperature with increasing altitude.

- **Tundra:** A biome found in arctic and subarctic regions consisting of a dense growth of lichens, mosses, and herbs.
- **Underground mining:** A mineral extraction technique consisting of subsurface excavation with minimal disturbance of the ground surface.
- **Unidentified resource:** A mineral resource assumed to be present within known geologic districts, but not yet specifically located or characterized in detail.
- **Universal Soil Loss Equation:** A statistical technique developed by the U.S. Department of Agriculture for predicting the average erosion rate by rainfall under a variety of climatic, soil, topographic, and management conditions.
- **Upwelling:** An upward movement of seawater that usually occurs near the margins of oceans.
- **Uranium:** An element, two isotopes of which (^{235}U and ^{238}U) are important in atomic energy production.
- **Urban runoff:** Runoff derived from urban areas, usually containing relatively high concentrations of pollutants; also called urban stormwater.
- **Variable costs:** Costs of production that vary with the rate of output.
- **Visual blight:** Modification of a landscape that is visually undesirable.
- **Wastewater reclamation:** Any process in which wastewater is put to use, such as for cooling or irrigation, with or without treatment.
- **Water harvesting:** Any of several techniques for increasing the amount of runoff derived from a land area.
- **Water-holding capacity:** The ability of the soil to retain or store water.
- **Water table:** The upper limit of groundwater or of the saturated zone.
- **Weathering:** The breakdown of rocks into smaller particles or new chemical substances as a result of exposure to water and air at the earth's surface.
- **Willingness to pay:** A method of determining the proxy value of a resource by asking how much users of that resource would be willing to pay to use or not use it.
- **Windbreak:** A line of trees or shrubs planted perpendicular to the prevailing winds, designed to reduce wind velocities and thus reduce wind erosion.
- **Withdrawal:** The removal of water from surface water or groundwater.
- **Zero population growth:** A term applied to the fertility rate needed to attain a stable population over a long period of time.
- **Zoning:** A system of land-use management in which land is classified according to permitted uses.