

PLT Conceptual Framework

September 2016

Theme: Patterns

1.0 Ecosystems, organisms, societies, cultures, and economies throughout the world exhibit many observable patterns.

Environmental Patterns

1.1. Living components of the environment interact in predictable ways with nonliving components, such as air, water, and geologic features.

1.2 The arrangement of living and nonliving components within a habitat determines the organisms it can support.

1.3 Patterns of variation from region to region in the Earth's atmosphere, water, soil, climate, and geology create a wide diversity of biological communities.

Economic Patterns

1.4 Humans use environments and resources to meet a variety of physical, social, and cultural needs.

1.5 Alternative approaches to economic issues may have different benefits and costs for different groups, for society as a whole, and for the environment.

1.6 Successful economic solutions are those that are appropriate to the people involved, to the sustainable use of resources, and to the preservation and enhancement of environmental quality.

Societal Patterns

1.7 Human societies have many similarities, as well as differences, in their relationship to the landscapes and climates in which they live.

1.8 Humans throughout the world create social, cultural, political, and economic systems and organizations to meet their physical and emotional needs.

1.9 A society's standard of living and individual well-being are dependent on environmental quality; the availability, utilization, and distribution of resources; the government; and the culture of its inhabitants.

1.10 Natural beauty, as experienced in forests and other habitats, enhances the quality of human life by providing artistic and spiritual inspiration, as well as recreational and intellectual opportunities.

Theme: Interrelationships

2.0 The ecological, economic, and socio-cultural systems are interactive and interdependent.

Environmental Interrelationships

- 2.1** Organisms are interdependent and depend on nonliving components of the Earth.
- 2.2** Altering the environment affects all life forms, including humans, and the interrelationships that link them.
- 2.3** Organisms adapt to changes in the environment according to the genetic and behavioral capacity of their species.
- 2.4** Biodiversity results from the interaction of living and nonliving environmental components.

Economic Interrelationships

- 2.5** All humans make individual and group decisions about the consumption of products, which affects the availability of renewable and nonrenewable natural resources.
- 2.6** The management of natural resources provides employment opportunities for many people and communities.
- 2.7** Resource management systems interact and influence environmental quality; the acquisition, extraction, and transportation of natural resources; all life forms; and each other.
- 2.8** International cooperation in regard to sustainable resource management and environmental protection is beneficial to the well-being of humans and other life forms.

Societal Interrelationships

- 2.9** Human societies and cultures throughout the world interact with each other and affect the natural systems upon which they depend.
- 2.10** The quantity and quality of resources and their use—or misuse—by humans affect the standard of living of societies and individual well-being.
- 2.11** Cultural and societal perspectives influence the attitudes, beliefs, and values that people hold toward resource management and environmental protection.

Theme: Systems

3.0 Environmental, economic, and social systems are interconnected and interacting.

Environmental Systems

- 3.1** In biological systems, energy flows and materials continually cycle in predictable and measurable patterns.
- 3.2** Plant and animal populations exhibit interrelated cycles of growth and decline.
- 3.3** Harmful by-products of human and natural systems can enter ecosystems in various ways.
- 3.4** Ecosystems possess measurable indicators of environmental health.

Economic Systems

- 3.5** Global and local economies are complex systems involving costs and benefits, labor markets, citizen rights, and resource distributions.
- 3.6** The application of scientific knowledge and technological systems can have unintended effects on economic, social, and environmental well-being.
- 3.7** Sustainable technologies enable human and natural systems to maintain and extend the productivity of vital resources.

Societal Systems

- 3.8** Most cultures have beliefs, values, and traditions that shape human interactions with the environment and its resources.
- 3.9** In many societies, citizens have a voice in shaping resource and environmental management policies. Individuals and societies share in the responsibility of sustaining resources and behaving in an environmentally responsible manner.
- 3.10** In many societies, individuals and groups can work through governmental channels to influence the management of public and private resources.
- 3.11** Effective decision-making involves a careful study of all sides of the issues, along with the ability to differentiate between honest, factually accurate information and propaganda.

Theme: Structure and Scale

- 4.0** Economies, societal institutions, and components of natural and human-built environments vary in structure and scale.

Environmental Structure and Scale

- 4.1** Populations of organisms exhibit variations in size and structure as a result of adaptations to their habitats.
- 4.2** The structure and scale of ecosystems are influenced by environmental factors such as soil type, climate, availability of water, and human activities.
- 4.3** When the Earth is studied as an interacting ecological system, every action, regardless of its scale, affects the biosphere in some way.

Economic Structure and Scale

- 4.4** Economic issues involve short-term and long-term outcomes, and positive and negative effects on the environment.
- 4.5** The structure and scale of an area's natural resources shape the economy upon which the society and its culture are based.
- 4.6** Conservation technologies, when appropriately applied to resource management or environmental protection, can support environmental, societal, and economic sustainability.
- 4.7** Human-built environments, if planned and constructed to be compatible with the environment in which they will be located, can conserve resources, enhance environmental quality, and promote the well-being of those who live within them.

Societal Structure and Scale

- 4.8** Cultural perspectives and how individuals and groups act affect the management of resources and environmental quality.
- 4.9** The structure and scale of governments and other organizations in power, as well as their actions, influence the management of resources and affect environmental quality.
- 4.10** International cooperation on resource management and environmental improvement programs can benefit individuals and communities in many parts of the world.

Theme: Stability and Change

5.0 Structures and systems may be stable, and yet change over various periods of time.

Environmental Stability and Change

5.1 Organisms change throughout their lifetimes. Species of organisms change over long periods of time.

5.2 Healthy ecosystems are in a state of dynamic equilibrium, with steady inflows and outflows.

5.3 Ecosystems change over time through patterns of growth and succession. They are also affected by other phenomena such as disease, insects, fire, weather, climate, and human intervention.

Economic Stability and Change

5.4 Economic stability is supported by minor fluctuations in the production of goods and services.

5.5 Consumers influence the marketplace with demands for goods and services. Such demands shift with time and may have positive or negative effects on societal and environmental sustainability.

5.6 Industries often respond to consumer demand for recyclable, recycled, or otherwise environmentally sustainable products.

5.7 New technologies require implementation by a well-informed and highly skilled workforce.

Societal Stability and Change

5.8 Stable governments change and evolve over time. Such changes affect the lives of their citizens, as well as resource management and environmental policies.

5.9 Leisure and recreational pursuits can have positive and negative effects on the sustainability of forests and other resource-producing areas.

5.10 Increased public knowledge of environmental issues and the need for sustainable resource management has resulted in lifestyle and community changes in many cultures.