

CLUSTER: Teaching for the Future

A Creative Land Use Series for Teachers and Educator Resources



A CONCEPTUAL GUIDE TO K-12 LAND USE ENVIRONMENTAL EDUCATION

**The Center for Land Use Education (CLUE)
The University of Wisconsin-Stevens Point
College of Natural Resources
800 Reserve Street
Stevens Point, WI 54481
landcenter@uwsp.edu**

P H O T O C R E D I T S

Dr. Todd Fonstad – A Tribute to Carl Guell
Images of Wisconsin: <http://home.earthlink.net/~tfonstad/image1.htm>

Bob Nichols, USDA Natural Resources Conservation Service
<http://photogallery.nrcs.usda.gov/Detail.asp>

Sanjay Jeer, 2001. Land-Based Classification Standards.
<http://www.planning.org/LBCS>. American Planning Association: Chicago, Illinois.

G R A P H I C D E S I G N A N D L A Y O U T

Keara Glatzel, Graphic Designer
keara@wi.rr.com

**The Center for Land Use Education (CLUE)
The University of Wisconsin-Stevens Point
College of Natural Resources
800 Reserve Street
Stevens Point, WI 54481
landcenter@uwsp.edu**



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The Center for Land Use Education,
University of Wisconsin-Stevens Point
College of Natural Resources
800 Reserve Street, Stevens Point, WI 54481
www.uwsp.edu/cnr/landcenter



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University of Wisconsin-Stevens Point
www.uwsp.edu/cnr/GEM/



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Region V
Environmental Education Grant
www.epa.gov



The Wisconsin Environmental Education Board
University of Wisconsin-Stevens Point
110 College of Natural Resources
Stevens Point, WI 54481
www.uwsp.edu/cnr/weeb

Conceptual Framework Development

2001-2003

STAFF

Dr. Anna Haines, Project Director
Heidi Hoover, Project Coordinator
Dr. Dennis Yockers, Committee Member
Dr. Randy Champeau, Committee Member
Dr. Paula DeHart, Committee Member

**Suggested Scope and Sequence, Conceptual Guide
and On-line Course Development**

2003-2005

STAFF

Dr. Anna Haines, Project Director
Rebecca Mattano, Project Coordinator
Dr. Dan Sivek, Committee Member
Dr. Randy Champeau, Committee Member
Dr. Paula DeHart, Committee Member



A C K N O W L E D G M E N T S

Conceptual Framework Development Participants **Nominal Group Technique Participants (2002)**

Todd Andrews, Eau Claire City Planning and Development
Tim Bate, Milwaukee Metropolitan Sewage District
Glenn Bowles, Professor, CLUE
Christopher Cahill, Wisconsin Department of Natural Resources
Forestry Planner
Thom Ciske, Vice President, Government Relations, Fox Cities
Chamber of Commerce
Jerry Deschane, Wisconsin Builders Association (Madison)
Bill Elman, Private Consultant
Nancy Frank, Chair of Urban Planning Department
Scott Godfrey, Director of Planning, Iowa County
Ron Grasshof, Environmental Analyst and Review Specialist
Kathleen Haas, CNRED Agent, UWEX, Columbia County
Martin Havlovic, CNRED Agent, UWEX, Dunn County
Mary Kay Jenkins, Planner, SSWRPC
Ben Jordan, Program Director, Department of Engineering and
Professional Development-UW-Madison
Sarah Kemp, Grant Specialist, WDOA, OLIS
Steven Kohlstedt, CNRED Agent, UWEX, Richland County
Tom Larson, Land Use and Environmental Affairs, Wisconsin Realtors
Association
Brea Lemke, Student, UW-Madison
Dana Lucero, WDNR
Dick Mace, Director -Waukesha County Parks and Land Use
Department
Lynn Markham, CLUE
Phyllis McKenzie, Riveredge Nature Center
Peter McMullen, Program and Planning Analyst, WDNR
Joe Mesler, Building and Zoning Commissioner, Delevan
Doug Miskowiak, CLUE
Patrick Nehring, CNRED Agent, Waushara
Mark Nicolini, Planning and Evaluation Manager, MMSD
Gary Popelka, Planning and Zoning Director, Wood County
Teague Prichard, Forest Planner, WDNR
Nic Sparacio, Senior Planner, Foth and Van Dyke
Chin Chun Tang, CLUE
Rebecca VanderKelen, CLUE
Len Vanness, Calumet County Planning Department
Kassandra Walbrun, Program and Planning Analyst, WDOT
Druex Watermolen, Chief Science Informational Services, WDNR
Peter Watts, Science Teacher
Robert Zeinemann, Planner, WDOA, OLIS

Facilitators

Dr. Anna Haines, Assistant Professor of Land Use, CLUE
Heidi Hoover, Graduate Student, UWSP
Sterling Strathe, Director of LEAF
Dr. Dennis Yockers, Associate Professor of Environmental Education,
WCEE

Delphi Process Participant Affiliations

Village, City and County Planning and Development
Wisconsin Department of Natural Resources
Private Planning/Consulting Firms
University of Wisconsin Professors
University of Wisconsin Students
Wisconsin Realtors Association
Wisconsin Builders Association
Natural Resources Conservation Services
Nature Centers
Regional Planning Commissions
University of Wisconsin-Extension
Global Environment Management Education Center
Center for Land Use Education
Wisconsin Department of Transportation
Wisconsin Department of Administration
Utility Companies
Wisconsin Chapter of the American Planning Association

Suggested Scope and Sequence **Validity Panel Participants (2004)**

Jane McMahon, Baraboo Middle School
Lisa Stein, Lincoln Elementary School
Gary Frisch, Baraboo Middle School
Elise Patton, Gordon L. Willson School
Scott Toutant, Oxford Elementary
Brian Witthun, Baraboo Middle School
Karen O'Donnell, Educator
Darla Johnson, Environmental Education, Waukesha County
Hrysanthi Kinis, Garland Elementary
Shelley Cozzens, Elmbrook/Burleigh Elementary
Craig Phillips, Baraboo Middle School

Facilitators

Dr. Anna Haines, Director, CLUE
Rebecca Mattano, Graduate Student, UWSP

On-Line Course and Guide Evaluation Participants

Sue Deans, Special Education Teacher
Teri Eberhardy, General Education
Jim Favreau, Agriculture, Natural Resources and Earth Science
Gary Frisch, Science, Language Arts and Reading
Patricia Marinac, Teacher Induction and Staff Development
Allison Plute, Interpretive Specialist
Sandra Ryback-Bell, Director of Education, Dunn Foundation
Chantelle Rose, Biology and Science
Joan Schumaker Chadde, Education Program Coordinator, Western
Upper Peninsula Center for Science, Math and
Environmental Education
Robert Selzler, Science and Agriscience
Carrie Ziolkowski, Energy Education Specialist

Facilitators

Dr. Anna Haines, Director, CLUE - Course Instructor
Rebecca Mattano, Graduate Student, UWSP - Course Assistant
Tim Byers, Outreach Coordinator, Wisconsin Center for Environmental
Education



T A B L E O F C O N T E N T S

Program Overview	4-5
🌍 Mission	
🌍 Goals of	
a. Land Use Environmental Education	
b. Environmental Education	
c. Social Studies	
 Rationale for CLUSTER	 6
 Introduction to the Conceptual Framework	 7
 Conceptual Framework	 8 - 14
 Introduction to the Suggested Scope and Sequence	 15
 Suggested Scope and Sequence	 16 - 28
 Wisconsin Model Academic Standards	 29 - 39
 Resources	 40 - 49
🌍 Activity Guides	
🌍 Internet Resources/Activities and Lessons	
🌍 Internet Resources/Information on Land Use Topics and Issues	
 Glossary	 50 - 53



W H A T I S C L U S T E R

The Creative Land Use Series for Teachers and Educator Resources was developed to provide a conceptual guide for K-12 formal and non-formal educational institutions regarding land use environmental education. CLUSTER offers educators a unique land use guide that provides the conceptual framework, a suggested scope and sequence, and an extensive resource guide. Along with the guide, CLUSTER offers a professional development on-line course through the University of Wisconsin-Stevens Point and the Wisconsin Center for Environmental Education for continuing education or graduate level credits. The course accompanies the guide to ensure that educators have the most current information and materials on land use issues and topics and therefore can feel confident in their knowledge and ability to develop and teach land use lessons.

This project began in the fall of 2001 when the Center for Land Use Education, CLUE, at the University of Wisconsin-Stevens Point realized the need for a comprehensive land use education curriculum and has since continued working towards this goal. The first step was the development of the conceptual framework. The construction of this framework was to ensure that the key concepts would be included and also to break down the complexity of land use topics into an organized and teachable manner. Next, the suggested scope and sequence was completed and edited by a panel of selected Wisconsin teachers. Finally, the conceptual guide and accompanying online course was completed, then evaluated and edited by selected educators and professionals.

Until now there has been no complete, validated conceptual framework, comprehensive resource, or training for educators to utilize in the development of land use curriculum materials. The conceptual guide and online course offers educators two great tools to quickly learn about land use and also to begin incorporating land use topics and issues into their existing curriculum.

M I S S I O N

The mission of CLUSTER is to initiate and facilitate the development, dissemination, and implementation of land use environmental educational programs within Wisconsin schools and throughout national and international educational institutions, along with providing educators professional development and training on land use issues and topics.



G O A L S

- 🌍 To improve and increase land use education in Wisconsin's K-12 educational institutions by developing and disseminating CLUSTER, the conceptual guide for K-12 land use environmental education.
- 🌍 To provide teacher training opportunities in land use education through the development and evaluation of an on-line course, Land Use Education and Teacher Resources.
- 🌍 To continue the development and expansion of CLUSTER as a guide and comprehensive resource for developing and integrating land use education into local, national and international educational institutions.
- 🌍 To help increase the knowledge and awareness of the next generation about land use issues and topics in order to produce thoughtful, engaged citizens that will take action in making responsible land use decisions for the future.

The goal of Environmental Education is to help students become environmentally aware, knowledgeable, skilled, dedicated citizens who are committed to work, individually, and collectively, to defend, improve, and sustain the quality of the environment on behalf of the present and future generations of all living things.

Awareness: To help students develop the ability to perceive and discriminate among stimuli; to process, refine and extend those perceptions; and to concurrently acquire an aesthetic sensitivity to both the natural and built environments.

Knowledge: To help students acquire a basic understanding of how the natural environment functions, how its functioning is affected by human activity, and how harmony between human activity and the natural environment may be achieved.

Environmental Ethic: To help students develop a universal ethic on which they may act to defend, improve, and sustain the quality of the environment.

Citizen Action Skills: To help students develop the skills needed to identify, investigate, and take action toward the prevention and resolution of environmental issues,

Citizen Action Experience: To help students gain experience in applying acquired perceptual awareness, knowledge, environmental ethic, and citizen action skills in working toward the prevention and resolution of environmental issues at all levels, local and through the universe.

As stated in the Wisconsin Department of Public Instruction Guide to Curriculum Planning (1994).

The goal of Social Studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world.

K-12 social studies programs integrate knowledge, skills, and attitudes within and across disciplines.

Social studies programs help students construct a knowledge base and attitudes drawn from academic principles as specialized ways of viewing reality.

Social studies programs reflect the changing nature of knowledge, fostering entirely new and highly integrated approaches to resolving issues of significance to humanity.

Social studies can recognize the importance of the disciplines and their specific perspectives in understanding topics, issues and problems, but also recognizing that the topics, issues and problems transcend boundaries and demand the power of integration within and across them.

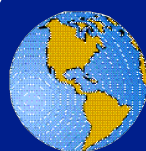
As stated on the National Council for Social Studies web site (10/29/2003)



RATIONALE FOR LAND USE ENVIRONMENTAL EDUCATION

Many of our environmental problems are in reality land use and land use planning problems. Sound land use begins with education and research. Land use environmental education will promote an understanding of the balance between humans and our natural resources. The truth is that many things on which our future health and prosperity depend are in jeopardy: climate stability, the resilience and productivity of our natural systems, the beauty of the natural world, and biological diversity. Every one of these aspects depends on responsible land use decisions and reflects the need to start educating our youth on land use issues.

The primary purpose of social studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. Land use environmental education can increase knowledge, raise awareness, inspire an environmental ethic, and provide students with the skills necessary to make sustainable decisions about future land use. We need to assure that the next generation is given the proper skills and knowledge to make practical and sustainable land use decisions.



"Conservation means development as much as it does protection. I recognize the right and the duty of this generation to develop and use the natural resources of our land....but I do not recognize the right to waste those resources, or to rob, by wasteful use, the generations that come after us."

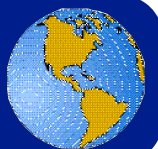
Theodore Roosevelt, 26th President

Land use environmental education will provide students and educators with empowerment. Land use education will increase knowledge, awareness, skills and ethics of students and communities. The lessons will help the students see what is happening outside the classroom in their communities, and around the world in order to build on the real-world skills. The educators will be able to use this framework to show the immediate cause and effect one land use decision can have on the environment, the community and the economy. Also, land use education can aid in community education and not only motivate the students, but entire communities to be active in decisions that regard the land use where they live.

Learning, and problem solving outside the classroom in real-life situations helps students believe that they can make a difference, and allows them to see correlations between assignments, applications and the real world. Land use environmental education stresses critical thinking, team work, problem solving, and communication. These are skills that are essential to have in the world today. This guide aims to build these skills through the exploration of land and land use issues, and will encourage students to be responsible, active citizens. Also, students will gain enduring intellectual abilities that will continue to be used long after the particular facts have been forgotten. They will be empowered as learners and as citizens to think and act more effectively.

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed it is the only thing that has."

M. Mead



C O N C E P T U A L F R A M E W O R K

Introduction

Land use has become an important and increasingly complex area of interest, especially in Wisconsin. This conceptual framework is intended to break down the complexity of land use topics and concepts into an organized and teachable manner. This conceptual framework is not a curriculum but rather the basis on which the suggested scope and sequence and CLUSTER guide, Creative Land Use Series for Teachers and Educator Resources, was built. The conceptual framework is a work in progress and it is strongly encouraged that educators provide feedback, get creative with the concepts and issues that relate to their local communities, and get involved in teaching for the future.

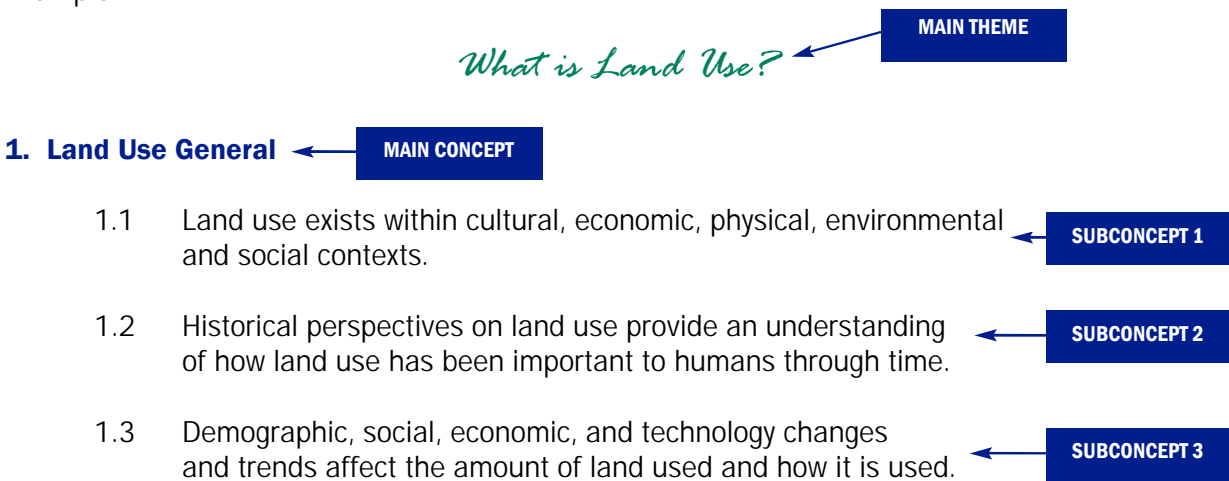
The framework was developed through the use of the Nominal Group Technique and the Delphi Technique, both practical and useful strategies that have been utilized in the realm of curriculum development. The Nominal Group Technique was used at the first workshop in order to aid in the generation of general ideas and concepts. Then, at a second workshop, the Delphi technique was used to refine the ideas generated by the Nominal Group Technique and decide which of the concepts should be placed in the framework. Both of these workshops were composed of Wisconsin land use professionals, stakeholders, and educators.

Conceptual Framework Organization:

The framework is organized under four main themes: What is land use? How are decisions made regarding land use? What are the effects of land use decisions? How do we manage land? Each of these questions is followed by concepts that address the question. This framework lays the foundation for students to understand the basic concepts of land use and to build a concrete understanding of the social, economic, and environmental aspects that surround land use concepts.

There are four themes; each supported by several main concepts and sub-concepts. Each main concept will be listed with a number, for example 1, and each sub-concept will be listed by the main concept number and then a corresponding number according to placement in the list, for example 1.1 or 1.2.

Example:





What is Land Use?

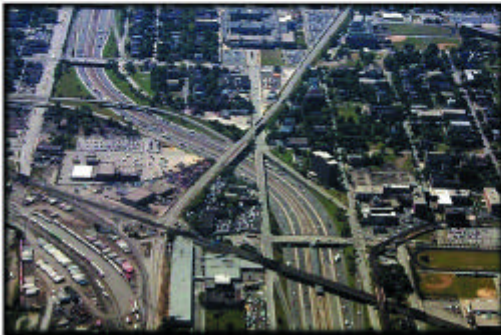
General Land Use Concepts

Land

Land Ownership

History

Various Uses of Land



How are Decisions Made

Regarding Land Use?

Amendments

Federal Laws and Courts

Local Government

Land Use Decisions



What are the Effects of Land Use Decisions?

Land Use Patterns

Outcomes of Land Use Decisions

Transportation

"Commons"



How Do We Manage Land?

Growth Management

Managing Land Use in the Future

Land Use and Natural Resources

Public

Planning and the Plan

Sustainability





What is Land Use?

GLOSSARY

Land Use:

How land is occupied or utilized.

Land Use Plan:

The element of a comprehensive plan that designates and justifies the future use or reuse of land.

Land:

Soil, the ground surface itself, a subdivision, a tract or parcel, a lot, an open space, or the physical elements below the ground.

Eminent Domain:

The right of a government unit to take private property for public use with appropriate compensation to the owner.

Zone:

An area designated by an ordinance where specified uses are permitted and development standards are required.

Rights

(The bundle of rights concept of property): Government and private owners each hold portions of rights in real property.

Owner property rights include:

Right to use: the right to lease for cash, harvest, cultivate, cross over, or not to use.

Right to lease: the right to lease for cash or the right to hold cash, including a share lease or third or fourth party lease, a crop share lease, or a perpetual lease.

Right of Disposition: the right to sell, to bequeath, to mortgage, or to establish trusts on all or part of a property.

Government property rights include:

Eminent Domain: the right to purchase land for public use.

Escheat: the right for the succession in title where there is no known heir.

Regulation
Taxation

The concepts within this theme provide the students with the fundamental knowledge about land use and will help students appreciate land use through a basic understanding of its past, present and future contributions to their everyday lives. This theme will help promote the understanding of the balance among humans and natural resources. Also, these concepts provide the basis for building awareness and knowledge about land use concepts and issues and is the foundation upon which the concepts in the following themes are built.

1. LAND USE (GENERAL)

- 1.1 Land uses exist within cultural, economic, physical, environmental, and social contexts.
- 1.2 Historical perspectives on land use provide an understanding of how land use has been important to humans through time.
- 1.3 Demographic, social, economic, and technology changes and trends affect the amount of land used and how it is used.

2. LAND

- 2.1 Land supplies humans with most of the things they need for life.
- 2.2 Land is a finite natural resource that exists in diverse forms and can have multiple users.
- 2.3 People's decisions and corresponding actions affect the way the landscape changes over time.

3. LAND OWNERSHIP

- 3.1 Land and land ownership mean different things to various cultures within Wisconsin, the USA and the world.
- 3.2 Land is owned by the public (through the government), private individuals and groups, and tribal governments in the USA.
- 3.3 The government has extensive powers over the use of private land: can exercise eminent domain to take private land for: "public purposes", taxation on land (real estate), police power (most common in zoning), and power of the public purse- how government spends funds for public purposes.
- 3.4 Land ownership can be seen as a "bundle of rights"; any single right may be separated from the bundle and sold, regulated, or given away.
- 3.5 The government can limit property rights to protect the safety of the public or its health, morals, or welfare - the right to use or develop property is not unlimited.





What is Land Use?

GLOSSARY

Agriculture:

The use of land for farming, dairying, pasturage, apiculture (bees), aquaculture (fish, mussels), horticulture, floriculture, viticulture (grapes), or animals and poultry husbandry; this includes the necessary accessory uses for packing, treating, or storing the produce from these activities.

Open (Green) Spaces:

A substantially undeveloped area, usually including environmental features such as water areas or recreational facilities.

Natural Areas:

Natural areas are wetlands, meadows, forests, valley lands and other relatively undisturbed lands that are home to many different plants and wildlife. Some contain rare plants, wildlife or landforms, or have features characteristic of the region before European settlement, or are especially large or diverse in habitat.

Sense of Place:

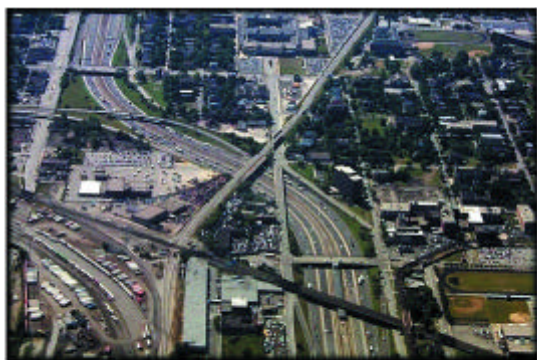
The constructed and natural landmarks and social and economic surrounding that cause someone to identify with a particular community or place.

4. HISTORY

- 4.1 People have been dependent on land since the first humans lived on earth and humans have altered the land throughout history.
- 4.2 Transportation of raw materials influenced the placement of settlements/cities.
- 4.3 Land has provided natural resources that have helped, and continue to help build the USA.

5. VARIOUS USES OF LAND

- 5.1 Agricultural land is critical for food production.
- 5.2 Recreation areas are a part of a community's land uses.
- 5.3 Open space can perform many valuable functions.
- 5.4 Natural areas are being converted for agricultural, recreational, residential, and commercial purposes.
- 5.5 Economic development is a primary concern among communities, which will have subsequent impacts.
- 5.6 Commercial areas change in response to economic factors.
- 5.7 Housing is a land use issue that is concerned with providing an adequate supply of affordable housing options to shelter people with diverse social, physical, and economic backgrounds.
- 5.8 Historically significant buildings and landscapes help make a community unique and give it a sense of place and community character.



How are Decisions Made Regarding Land?

GLOSSARY

Bill of Rights:

A summary of fundamental rights and privileges guaranteed to a people against violation by the state.

5th Amendment: "nor shall private property be taken for any public use, without just compensation".

10th Amendment: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people".

14th Amendment: "No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

Due Process:

A course of formal, legal proceedings in accordance with established rules and principles. A judicial requirement that enacted laws may not contain provisions that result in unfair, arbitrary, or unreasonable treatment of an individual.

Land Use Plan:

The element of a comprehensive plan that designates and justifies the future use or reuse of land.

Public Participation:

When the public takes part in, shares, and influences the outcome of events, issues, or policy decisions. Public meetings, surveys, and open forums are some methods used to provide opportunities for public input.

This theme will help students develop knowledge, awareness and skills to understand the basic laws and rights regarding land use decisions. Building a basic knowledge of these concepts will provide students with the necessary understanding of how land use decisions are made and also provide students with information about their role as citizens. Understanding the laws, rights, and the public role in land use decisions is necessary for the development of thoughtful, engaged citizens that will take action in making responsible decisions for the future.

6. AMENDMENTS

- 6.1 Within the Bill of Rights there are several amendments that are important to land use, for example, the 5th, 10th, and the 14th.
- 6.2 Public interests and private property rights are protected under the U.S. Constitution.
- 6.3 The concepts of due process and equal protection that stem from the U.S. Constitution apply to land use decisions.

7. FEDERAL LAWS AND COURTS

- 7.1 Federal laws influence land use policies at various levels of government.
- 7.2 Federal and state court cases influence land use decisions.

8. LOCAL GOVERNMENT

- 8.1 Local governments have the power to regulate land use.
- 8.2 Although faced with similar issues, each state in the USA has its own set of laws that shape land use.
- 8.3 Various levels of Wisconsin's government all play a part in regulating land use decisions.

9. LAND USE DECISIONS

- 9.1 Since many interests compete for limited, available land, the challenge in deciding how land will be used is complex.
- 9.2 Land use planning and decisions require an analysis of many alternatives and points of view.
- 9.3 Trade-offs are involved in any land use decision and has both positive and negative consequences.
- 9.4 Land use decisions are influenced by a variety of factors and values.
- 9.5 Land use decisions involve the rights of ownership as well as the individual and societal needs.
- 9.6 Land use decisions involve balancing public interests and private rights.
- 9.7 Public participation is an important part in making land use decisions.





What are the Effects of Land Use Decisions?

GLOSSARY

"Commons":

Any resource that is shared by a group such as air and water.

Public Goods:

Goods or services that cannot be used by any one individual without affecting the supply to other people. These are also goods or services which are impractical to charge individually such as lighthouses, defense and police forces.

These concepts will help students understand and see the immediate cause and effect that land use decisions can have on the environment, the community and the economy. Through exploration of these concepts and local communities, students will be able to see what is happening outside the classroom in their own communities and around the world and begin to build real-world skills. These concepts will increase the student's awareness and knowledge about their communities and help them to become active in decisions that regard land use where they live.

10. LAND USE PATTERNS

- 10.1 Land use patterns can have varying levels of efficiency depending on the context.

11. OUTCOMES OF LAND USE DECISIONS

- 11.1 Land use decisions affect the cost of government infrastructure.
- 11.2 Land use decisions affect everyone.
- 11.3 Land use decisions can change the physical landscape in fundamental ways.
- 11.4 Land use decisions in one community can affect neighboring communities - the effects of land use practices are not often contained by geographic or political boundaries.

12. TRANSPORTATION

- 12.1 Scattered land use patterns can lead to an increased dependence on automobiles.
- 12.2 Land use decisions shape the demand for transportation and transportation investment decisions shape the future pattern of land use.
- 12.3 Transportation modes affect land use patterns and decisions.

13. "COMMONS"

- 13.1 Surface and groundwater quality and quantity are affected by land use decisions.
- 13.2 Air and surface water are public goods and are "owned" by the public (in trust in Wisconsin.)





How Do We Manage Land?

GLOSSARY

Growth Management:

The pacing of the rate of controlling of the location of development.

Sustainability:

Long-term management of ecosystems intended to meet the needs of present human populations without compromising resource availability for future generations.

This theme provides reinforcement and builds on previous concepts about understanding the balance between humans and natural resources, and the role of citizens in planning while building the knowledge and skills about how to manage land for a sustainable future. These concepts will develop the student's knowledge and understanding about the factors and tools that are used when making land use decisions. This theme provides students and educators with opportunities to build critical thinking skills, teamwork, problem solving and communication skills through the exploration of the tools, roles and factors that are used in making decisions on how to manage land.

14. GROWTH MANAGEMENT

- 14.1 Growth management is a land use planning strategy committed to balancing natural systems with development.
- 14.2 Individual actions may seem insignificant, but unmanaged growth is the result of cumulative impacts of individual decisions.

15. MANAGING LAND USE IN THE FUTURE

- 15.1 Population growth is a critical factor in land use planning.
- 15.2 Land is central in considering the future quality of life

16. LAND USE AND NATURAL RESOURCES

- 16.1 The way in which land is used directly affects natural resources (local, regional, and global).
- 16.2 The way in which our physical environment is planned, or not planned, can greatly influence the quality of natural resources and our lives.
- 16.3 Sustainable land use strives for clean air and water and more efficient, compact development.

17. PUBLIC

- 17.1 An understanding of the relationship between natural resources, economic development, community facilities, and transportation is critical to land use decision-making.
- 17.2 Public involvement is essential for successful planning - a plan will generally get broad support if all parties are involved in the planning process.
- 17.3 Community members will feel more ownership of a plan if they play a role in its development.
- 17.4 Citizen involvement in land use decision-making is essential.
- 17.5 Citizens have a responsibility to become informed about land use issues and decisions, and are a valuable source of information.





How Do We Manage Land?

GLOSSARY

Sustainable Development:
Development that meets the needs of the present generation without compromising resource availability for future generations.

18. PLANNING AND THE PLAN

- 18.1 Planning is central to long-term land use and growth management.
- 18.2 Planning involves the careful study and analysis of current land use needs and the anticipation of future needs.
- 18.3 Planning can help create more predictable, efficient, and sustainable land use.
- 18.4 A comprehensive plan provides context for and guides important future land use decisions and actions for a community.
- 18.5 Land use planning is only one of the components of a comprehensive plan.
- 18.6 Land use planning is a dynamic process that includes planning, implementation, enforcement, and evaluation.
- 18.7 Tools for implementation of land use plans include regulations and provision of services, incentives, and educational programs.

19. SUSTAINABILITY

- 19.1 Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- 19.2 Land use planning can play a role in improving the sustainability of communities by addressing how, where, and when human development occurs.

THE SUGGESTED SCOPE AND SEQUENCE

Introduction

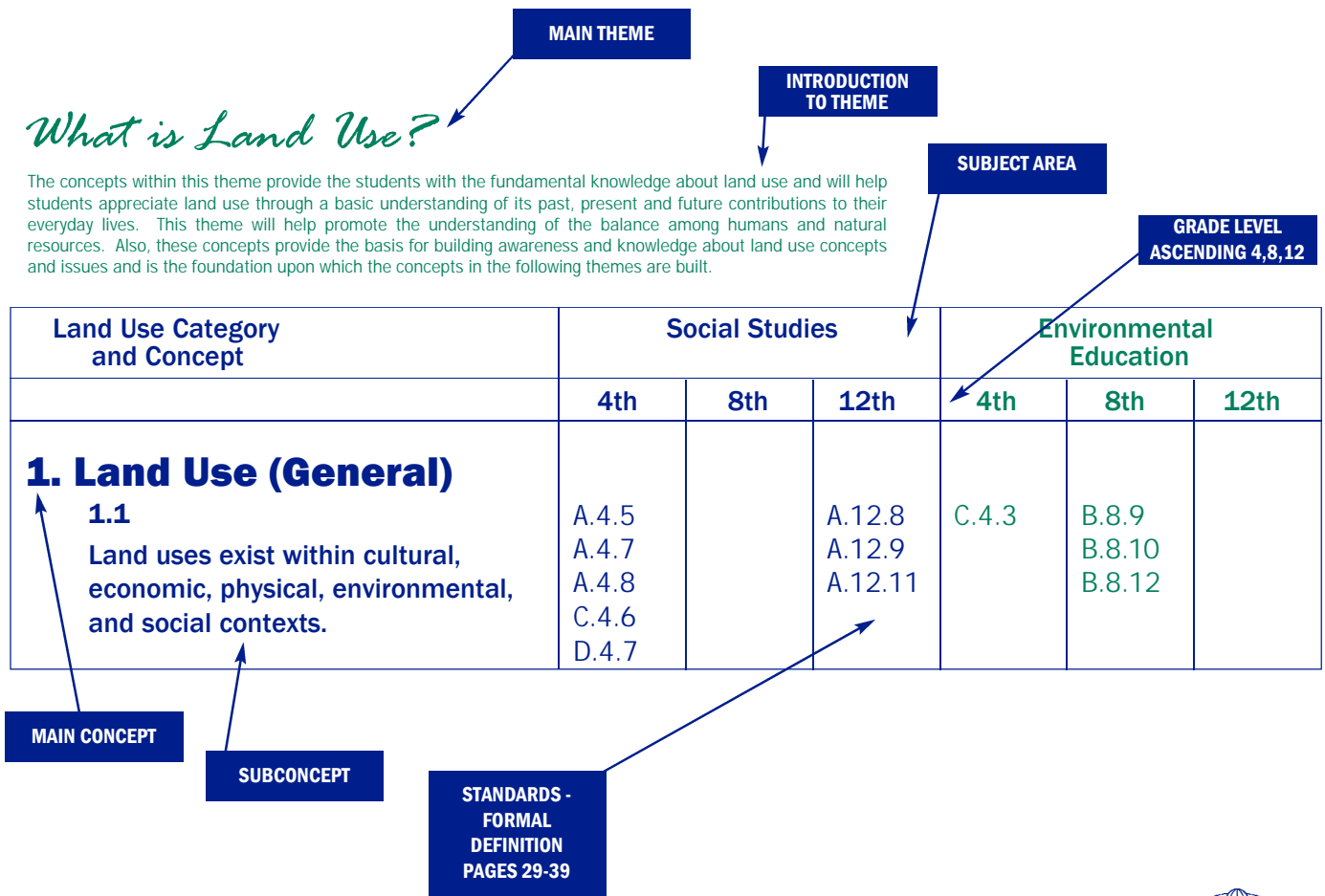
Land use education has become an increasingly important topic and understanding how to link land use issues and topics into the K-12 curriculum is imperative for sustainability.

The suggested scope and sequence is intended to provide educators an easy reference to the conceptual framework concept and Wisconsin Model Academic Standard correlation for social studies and environmental education. Educators can use this as a guide for when (grade level) and where (subject) land use concepts can be incorporated into a curriculum.

Please be aware this is not considered the only way to introduce land use concepts into a curriculum; educators and curriculum developers should determine the most appropriate ways to introduce these concepts within each school system.

Suggested Scope and Sequence Organization

The suggested scope and sequence is organized to follow the order, color and number format of the conceptual framework. Each framework concept is listed and the correlating Wisconsin Model Academic standards for social studies are listed in blue, environmental education in green by ascending grade levels 4th, 8th, and 12th.





What is Land Use?

The concepts within this theme provide the students with the fundamental knowledge about land use and will help students appreciate land use through a basic understanding of its past, present and future contributions to their everyday lives. This theme will help promote the understanding of the balance among humans and natural resources. Also, these concepts provide the basis for building awareness and knowledge about land use concepts and issues and is the foundation upon which the concepts in the following themes are built.

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
1. Land Use (General)						
1.1 Land uses exist within cultural, economic, physical, environmental, and social contexts.	A.4.5 A.4.7 A.4.8 C.4.6 D.4.7		A.12.8 A.12.9 A.12.11	C.4.3	B.8.9 B.8.10 B.8.12	
1.2 Historical perspectives on land use provide an understanding of how land use has been important to humans through time.	A.4.4 A.4.8 C.4.6 E.4.12	A.8.1 B.8.8 B.8.12	A.12.9 B.12.9	C.4.1 C.4.2 C.4.3 C.4.4 C.4.5	B.8.5 B.8.10 B.8.24	
1.3 Demographic, social, economic, and technology changes and trends affect the amount of land used and how it is used.	A.4.5 A.4.7 A.4.8 B.4.8	A.8.7 A.8.8 A.8.10 A.8.11	A.12.9 A.12.11 B.8.8 B.12.9		B.8.10 B.8.13	B.12.3 B.12.9 B.12.11 C.12.1
2. Land						
2.1 Land supplies humans with most of the things they need for life.	A.4.2			B.4.2 B.4.8 B.4.10	B.8.5 B.8.10 B.8.13	
2.2 Land is a finite natural resource that exists in diverse forms and can have multiple users	A.4.2	A.8.1 A.8.4 A.8.5	A.12.4	B.4.2 B.4.5 B.4.8 B.4.10	B.8.5 B.8.10 B.8.13 B.8.15	B.12.10 C.12.1
2.3 People's decisions and corresponding actions affect the way the landscape changes over time.	A.4.8 D.4.7 E.4.12	A.8.4 A.8.11	A.12.4 A.12.9	C.4.3 C.4.4 D.4.2	B.8.5 B.8.10 B.8.15 B.8.21 D.8.2	B.12.11 B.12.12 C.12.1



What is Land Use?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
3. Land Ownership 3.1 Land and land ownership mean different things to various cultures within Wisconsin, the USA and the world.	B.4.9	E.8.11		C.4.3 C.4.4	B.8.9 B.8.10 C.8.3 D.8.4 D.8.7	C.12.3
3.2 Land is owned by the public, through the government, private individuals and groups, and tribal governments in the USA.	B.4.9	A.8.1	C.12.1		B.8.23	B.12.13
3.3 The government has extensive powers over the use of private land: it can exercise eminent domain to take private land for: "public purposes", can tax land (real estate), use its police power for example in zoning, and can use the power of the public purse (how government spends funds for public purposes).		C.8.3	A.12.12 C.12.2	C.4.3 C.4.4	B.8.23 D.8.1 D.8.8 D.8.4	D.12.7 D.12.9
3.4 Land ownership can be seen as a "bundle of rights"; any single right may be separated from the bundle and sold, regulated, or given away, etc...			C.12.1	E.4.12		B.12.13 D.12.9
3.5 The government can limit property rights to protect the safety of the public or its health, morals, or welfare - the right to use or develop property is not unlimited.			A.12.12 C.12.2		D.8.4 D.8.8	D.12.3 D.12.4 D.12.7 D.12.9



What is Land Use?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
4. History 4.1 People have been dependent on land since the first humans lived on earth and humans have altered the land throughout history.	B.4.7 B.4.8	A.8.4 A.8.7 A.8.8 A.8.10 A.8.11	A.12.4	B.4.8 B.4.9 B.4.10 B.4.11	B.8.5 B.8.10 B.8.13 B.8.15 B.8.16 B.8.17 B.8.24	B.12.5 B.12.8 B.12.9 B.12.10 B.12.13
4.2 Transportation of raw materials influenced the placement of settlements/cities.		B.8.8 D.8.7	B.12.9	B.4.11	B.8.13 B.8.14 B.8.16	B.12.9 B.12.10 B.12.11 B.12.15
4.3 Land has provided natural resources that have helped, and continue to help build the USA.	A.4.2	A.8.4 A.8.5 D.8.7	A.12.4 A.12.11	B.4.8 B.4.10 B.4.11	B.8.10 B.8.12 B.8.15 B.8.16	B.12.10 B.12.11 B.12.16 B.12.9 C.12.3



What is Land Use?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
5. Various Uses of Land						
5.1 Agricultural land is critical for food production.		A.8.4	A.12.4	B.4.5	B.8.5 B.8.10 B.8.18	B.12.11 B.12.19
5.2 Recreational areas are part of a community's land uses.	A.4.4	A.8.4 A.8.8	A.12.9	B.4.5 B.4.10 B.4.11	B.8.5 B.8.10 B.8.12 B.8.15 B.8.16	B.12.11
5.3 Open space can perform many valuable functions.		A.8.4 A.8.11		B.4.5 B.4.10	B.8.5 B.8.10	B.12.19 B.12.10
5.4 Natural areas are being converted for agricultural, recreational, residential, and commercial purposes		A.8.1 A.8.4 A.8.5 A.8.11	A.12.4 A.12.12	B.4.12	A.8.5 B.8.5 B.8.10 B.8.15 B.8.18	B.12.5 B.12.10 B.12.11 B.12.19 B.12.20
5.5 Economic development is a primary concern among communities, which will have subsequent impacts.	D.4.7	A.8.11	A.12.12			B.12.12 B.12.15 B.12.19
5.6 Commercial areas change in response to economic factors.	A.4.8 D.4.7		A.12.4 A.12.9			B.12.13 B.12.19
5.7 Housing is a land use issue that is concerned with providing an adequate supply of affordable housing options to shelter people with diverse social, physical, and economic backgrounds.	A.4.4		A.12.4 A.12.12			B.12.15
5.8 Historically significant buildings and landscapes help make a community unique and give it a sense of place and community character.	B.4.1	A.8.4 A.8.9	A.12.9	B.4.5	B.8.12	



How are Decisions Made Regarding Land Use?

This theme will help students develop knowledge, awareness and skills to understand the basic laws and rights regarding land use decisions. Building a basic knowledge of these concepts will provide students with the necessary understanding of how land use decisions are made and also provide students with information about their role as citizens. Understanding the laws, rights, and the public role in land use decisions is necessary for the development of thoughtful, engaged citizens that will take action in making responsible decisions for the future.

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
6. Amendments 6.1 Within the Bill of Rights there are several amendments that are important to land use, for example, the 5th, 10th, and the 14th.	C.4.2	C.8.2	A.12.12 B.12.6 C.12.2 C.12.9		D.8.8	D.12.4 D.12.7
6.2 Public interests and private property rights are protected under the U.S. Constitution.	C.4.2	C.8.1	C.12.1 C.12.2 C.12.5		D.8.8	D.12.4 D.12.7
6.3 The concepts of due process and equal protection that stem from the U.S. Constitution apply to land use decisions.	C.4.2	C.8.1 E.8.11	C.12.10		D.8.8	D.12.4 D.12.7
7. Federal Laws & Courts 7.1 Federal laws influence land use policies at various levels of government.		B.8.9 C.8.4	A.12.12 C.12.6	D.4.4 D.4.5	D.8.8	
7.2 Federal and State courts cases influence land use decisions.						
8. Local Government 8.1 Local governments have the power to regulate land use.	C.4.5 E.4.6	B.8.9	A.12.12 C.12.10	D.4.4 D.4.5 E.4.1 E.4.2	B.8.23 D.8.8	B.12.13 D.12.4 D.12.7
8.2 Although faced with similar issues, each state in the USA has its own set of laws that shape land use.	B.4.9	B.8.9 C.8.3	A.12.12	D.4.4 D.4.5	B.8.23 D.8.8	B.12.13 D.12.4 D.12.7
8.3 Various levels of Wisconsin's government all play a part in regulating land use decisions.	B.4.9 C.4.5		A.12.12	D.4.4 D.4.5	B.8.23 D.8.8	B.12.13 D.12.3 D.12.4 D.12.7





How are Decisions Made Regarding Land Use?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
9. Land Use Decisions						
9.1 Since many interests compete for limited, available land, the challenge in deciding how land will be used is complex.	B.4.9 C.4.6	B.8.4 C.8.7 C.8.8	A.12.12 C.12.4 C.12.8 C.12.10 C.12.11 C.12.14	C.4.1 C.4.2 C.4.3 C.4.4 C.4.5	C.8.1 C.8.2 C.8.3 C.8.4 D.8.6	B.12.3 B.12.5 B.12.6 C.12.1 C.12.2 C.12.3 C.12.4
9.2 Land use planning and decisions require an analysis of many alternatives and points of view.	C.4.1 C.4.6	B.8.4 C.8.8 E.8.11	A.12.12 C.12.8 C.12.9 C.12.10 C.12.11	C.4.1 C.4.2 C.4.3 C.4.4 C.4.5	C.8.1 C.8.2 C.8.3 C.8.4 D.8.1	C.12.1 C.12.2 C.12.3 C.12.4
9.3 Trade-offs are involved in any land use decision and has both positive and negative consequences.			A.12.12	C.4.1 C.4.2 C.4.3 C.4.4 C.4.5	B.8.17 B.8.18 B.8.20 B.8.21 C.8.1 C.8.3 C.8.4 D.8.2	C.12.3 C.12.4
9.4 Land use decisions are influenced by a variety of factors and values.		A.8.4 C.8.3 C.8.8	A.12.4 A.12.9 C.12.8	C.4.1 C.4.2 C.4.3 C.4.4 C.4.5	B.8.23 C.8.1 C.8.2 C.8.3 C.8.4	C.12.1 C.12.2 C.12.3 C.12.4
9.5 Land use decisions involve the rights of ownership as well as individual and societal needs.	B.4.9 C.4.1 C.4.2 C.4.5 C.4.6	E.8.11	A.12.9 C.12.9	C.4.1 C.4.2 C.4.4 C.4.5	C.8.1 C.8.2 C.8.3 C.8.4 D.8.3	C.12.1 C.12.2 C.12.3 C.12.4
9.6 Land use decisions involve balancing public interests and private rights.	C.4.1 C.4.2 C.4.5	C.8.8 E.8.11	A.12.9 C.12.8 C.12.10 C.12.11	C.4.1 C.4.2 C.4.3 C.4.4 C.4.5	C.8.1 C.8.2 C.8.3 C.8.4 B.8.23	C.12.1 C.12.2 C.12.3 C.12.4
9.7 Public participation is an important part in making land use decisions	B.4.9 C.4.1 C.4.5	C.8.7 C.8.8	C.12.10 C.12.11	C.4.1 C.4.2 C.4.3 C.4.4 C.4.5 D.4.5 E.4.1 E.4.2	B.8.23 C.8.1 C.8.2 C.8.3 C.8.4 D.8.3	C.12.1 C.12.2 C.12.3 C.12.4 D.12.2



What are the Effects of Land Use Decisions?

These concepts will help students understand and see the immediate cause and effect that land use decisions can have on the environment, the community and the economy. Through exploration of these concepts and local communities, students will be able to see what is happening outside the classroom in their own communities and around the world and begin to build real-world skills. These concepts will increase the student's awareness and knowledge about their communities and help them to become active in decisions that regard land use where they live.

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
10. Land Use Patterns 10.1 Land use patterns can have varying levels of efficiency depending on the context.	A.4.4 C.4.6	A.8.1 A.8.4 A.8.8		A.4.1 A.4.2 A.4.3 A.4.4	A.8.1 A.8.2 A.8.3 A.8.4 A.8.5 A.8.6	C.12.1 C.12.2 C.12.3 C.12.4 C.12.5
11. Outcomes of Land Use Decisions 11.1 Land use decisions affect the cost of government infrastructure.			A.12.12			B.12.12 B.12.13 B.12.19
11.2 Land use decisions affect everyone.	A.4.8 C.4.1 C.4.5 C.4.6 D.4.7	A.8.4 D.8.11	A.12.2 C.12.8 C.12.11	B.4.11	A.8.4 B.8.5 B.8.10 B.8.15 E.8.1	B.12.12 B.12.18 B.12.19
11.3 Land use decisions can change the physical landscape in fundamental ways.	A.4.4 A.4.8	A.8.1 A.8.4	C.12.8 C.12.11	B.4.5	B.8.5 B.8.10 B.8.15 B.8.17	B.12.10 B.12.11
11.4 Land use decisions in one community can affect neighboring communities - the effects of land use practices are not often contained by geographic or political boundaries.	B.4.9 C.4.6	A.8.1 A.8.11 D.8.11	A.12.12 C.12.8		B.8.10 B.8.15 B.8.17 B.8.19 B.8.21 B.8.23	B.12.17 B.12.19



What are the Effects of Land Use Decisions?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
12. Transportation 12.1 Scattered land use patterns can lead to an increased dependence on automobiles.	A.4.8	A.8.1 A.8.7	B.12.9	C.4.1	A.8.3 B.8.10	B.12.10 B.12.11 B.12.12
12.2 Land use decisions shape the demand for transportation and transportation investment decisions shape the future pattern of land use.	A.4.8	A.8.1	B.12.9		B.8.10	B.12.9 B.12.10 B.12.11
12.3 Transportation modes affect land use patterns and decisions.			B.12.9			B.12.10 B.12.11



How Do We Manage Land?

This theme provides reinforcement and builds on previous concepts about understanding the balance between humans and natural resources, and the role of citizens in planning while building the knowledge and skills about how to manage land for a sustainable future. These concepts will develop the student's knowledge and understanding about the factors and tools that are used when making land use decisions. This theme provides students and educators with opportunities to build critical thinking skills, teamwork, problem solving and communication skills through the exploration of the tools, roles and factors that are used in making decisions on how to manage land.

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
13. Commons 13.1 Surface and Ground water quality and quantity are affected by land use decisions.	A.4.4 A.4.8			B.4.7 B.4.12 C.4.1 C.4.2 C.4.3 C.4.4 C.4.5	B.8.5 B.8.10 C.8.1 C.8.2 C.8.3 C.8.4	C.12.1 C.12.2 C.12.3 C.12.4
13.2 Air and surface water are public goods and are "owned" by the public (in trust in Wlsconsin.)		C.8.7	C.12.8			D.12.4
14. Growth Management 14.1 Growth management is a land use planning strategy committed to balancing natural systems with development.	A.4.4 B.4.8		A.12.12		B.8.15	B.12.3 B.12.12 B.12.13 C.12.1 D.12.9
14.2 Individual actions may seem insignificant, but unmanaged growth is the result of cumulative impacts of individual decisions.		D.8.11	A.12.9 A.12.10	E.4.1 E.4.2	D.8.5 D.8.7	D.12.4 D.12.6
15. Managing Land Use in the Future 15.1 Population growth is a critical factor in land use planning.	A.4.4		A.12.4 B.12.9		A.8.3	B.12.4 B.12.15
15.2 Land is central in considering the future quality of life.	D.4.7	A.8.4 A.8.8	A.12.9		B.8.5 B.8.10	B.12.15 B.12.18 B.12.19 C.12.1



How Do We Manage Land?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
16. Land Use & Natural Resources 16.1 The way in which land is used directly affects natural resources (local, regional, and global).	A.4.4 A.4.8 D.4.7	A.8.1 A.8.4 A.8.7	A.12.12	B.4.8 B.4.9 B.4.10	B.8.5 B.8.10 B.8.15 B.8.17 B.8.18 B.8.19	
16.2 The way in which our physical environment is planned, or not planned, can greatly influence the quality of natural resources and our lives.	A.4.8	A.8.1 A.8.4 A.8.8 A.8.11	A.12.4	B.4.8 B.4.9 B.4.10	B.8.5 B.8.10 B.8.15	B.12.10 B.12.11 B.12.19
16.3 Sustainable land use strives for clean air and water and more efficient, compact development.	B.4.8 C.4.5				B.8.20 B.8.21	B.12.19 D.12.1



How Do We Manage Land?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
17. Public 17.1 An understanding of the relationship between natural resources, economic development, community facilities, and transportation is critical to land use decision-making.		A.8.1 A.8.5	E.12.4	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6 E.4.1 E.4.2		
17.2 Public involvement is essential for successful planning - a plan will generally get broad support if all parties are involved in the planning process.	A.4.4 C.4.1 C.4.5	A.8.8 C.8.7 E.8.4	A.12.12 C.12.1 C.12.8 C.12.9	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6 E.4.1 E.4.2	D.8.8 E.8.2	D.12.7
17.3 Community members will feel more ownership of a plan if they play a role in its development.	B.4.9 C.4.1	E.8.4		D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6 E.4.1 E.4.2		
17.4 Citizen involvement in land use decision-making is essential	C.4.1 C.4.5 B.4.9	E.8.4	C.12.8	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6 E.4.1 E.4.2	D.8.8	D.12.7
17.5 Citizens have a responsibility to become informed about land use issues and decisions, and are a valuable source of information.	C.4.1	C.8.7 E.8.4 E.8.5	C.12.1 C.12.10	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6 E.4.1 E.4.2		



How Do We Manage Land?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
18. Planning and the Plan						
18.1 Planning is central to long-term land use and growth management.			A.12.4 A.12.12	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6	D.8.2 D.8.6	
18.2 Planning involves the careful study and analysis of current land use needs and the anticipation of future needs.		A.8.1 A.8.3	A.12.4 A.12.11	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6	D.8.6	
18.3 Planning can help create more predictable, efficient, and sustainable land use.		A.8.1	A.12.12	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6	D.8.6	
18.4 A comprehensive plan provides context for and guides important future land use decisions and actions for a community.			A.12.9 A.12.12	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6	D.8.3 D.8.6	D.12.2 E.12.2
18.5 Land use planning is only one of the components of a comprehensive plan.			A.12.12	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6	D.8.6	
18.6 Land use planning is a dynamic process that includes planning, implementation, enforcement, and evaluation.			A.12.12	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6	D.8.6	D.12.5
18.7 Tools for implementation of land use plans include regulations and provision of services, incentives, and educational programs.		D.8.4 E.8.4	A.12.12	D.4.1 D.4.2 D.4.3 D.4.4 D.4.5 D.4.6	D.8.4 D.8.6 D.8.8	D.12.3



How Do We Manage Land?

Land Use Category and Concept	Social Studies			Environmental Education		
	4th	8th	12th	4th	8th	12th
19. Sustainability 19.1 Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.	A.4.8	A.8.11				B.12.3
19.2 Land use planning can play a role in improving the sustainability of communities by addressing how, where, and when human development occurs.	C.4.3	A.8.4 A.8.11				B.12.3 D.12.5

WISCONSIN MODEL ACADEMIC STANDARDS

SOCIAL STUDIES

Geography: People, Places and Environment

- A.4.2 Locate on a map or globe physical features such as continents, oceans, mountain ranges, and land forms, natural features such as resources, flora, and fauna; and human features such as cities, states, and national borders.
- A.4.4 Describe and give examples of ways in which people interact with the physical environment, including use of land, location of communities, methods of construction, and design of shelters.
- A.4.5 Use atlases, databases, grid systems, chart, graphs, and maps to gather information about the local community, Wisconsin, the United States, and the World.
- A.4.7 Identify connections between the local community and other places in Wisconsin, the United States and the world.
- A.4.8 Identify major changes in the local community that have been caused by human beings, such as a construction project, a new highway, a building torn down, or a fire; discuss reasons for these changes and explain their probable effects on the community and the environment.
- A.8.1 Use a variety of geographic representations, such as political, physical, and topographic maps, a globe, aerial photos, and satellite images, to gather and compare information about a place.
- A.8.3 Use an atlas to estimate distance, calculate scale, identify dominant patterns of climate and land use, and compute population density.
- A.8.4 Conduct a historical study to analyze the use of the local environment in a Wisconsin community and to explain the effect of this use on the environment.
- A.8.5 Identify and compare the natural resources base of different states and regions in the United States and elsewhere in the world, using a statistical atlas, aerial photos, satellite images, and computer databases.
- A.8.7 Describe the movement of people, ideas, diseases and products throughout the world.
- A.8.8 Describe and analyze the ways in which people in different regions of the world interact with their physical environments through vocational and recreational activities.
- A.8.9 Describe how buildings and their decoration reflect cultural values and ideas, providing examples such as cave paintings, pyramids, sacred cities, castles and cathedrals.
- A.8.10 Identify major discoveries in science and technology and describe their social and economic effects on the physical and human environment.



WISCONSIN MODEL ACADEMIC STANDARDS

- A.8.11 Give examples of cause and consequences of current global issues, such as the expansion of global markets, the urbanization of the developing world, and the extinction of species, and suggest possible responses by various individuals, groups and nations.
- A.12.2 Analyze information generated from a computer about a place, including statistical sources, aerial and satellite images, and three-dimensional models
- A.12.4 Analyze the short-term and long-term effects that major changes in population in various parts of the world have had or might have on the environment.
- A.12.8 Identify the world's major ecosystems and analyze how different economic, social, political, religious, and cultural systems have adapted them.
- A.12.9 Identify and analyze cultural factors, such as human needs, values, ideals, and public policies, that influence the design of places, such as an urban center, an industrial park, a public project, or a planned neighborhood.
- A.12.10 Analyze the effect of cultural ethics and values in various parts of the world on scientific and technological development.
- A.12.11 Describe scientific and technological development in various parts of the world and analyze the ways in which development affects the environment and culture.
- A.12.12 Assess the advantages and disadvantages of selected land use policies in the local community, Wisconsin, the United States and the world.

History: Time, Continuity, and Change

- B.4.1 Identify and examine various sources of information that are used for constructing an understanding of the past, such as artifacts, documents, letters, diaries, maps, textbooks, photos, paintings, architecture, oral presentation, graphs, and charts.
- B.4.7 Identify and describe important events and famous people in Wisconsin and United States history.
- B.4.8 Compare past and present technologies related to energy, transportation, and communications and describe the effects of technological change, either beneficial or harmful, on people and the environment.
- B.4.9 Describe examples of cooperation and interdependence among individuals, groups, and nations
- B.8.4 Explain how and why events may be interpreted differently depending upon the perspectives of participants, witnesses, reporters, and historians.



WISCONSIN MODEL ACADEMIC STANDARDS

- B.8.8 Identify major scientific discoveries and technological innovations and describe their social and economic effects on society.
- B.8.9 Explain the need for laws and policies to regulate science and technology.
- B.12.6 Select and analyze various documents that have influenced the legal, political, and constitutional heritage of the United States
- B.12.9 Select significant changes caused by technology, industrialization, urbanization, and population growth, and analyze the effects of these changes in the United States and the world.

Political Science and Citizenship: Power, Authority, Governance, and Responsibility

- C.4.1 Identify and explain the individual responsibility to family, peers, and the community, including the need for civility and respect for diversity.
- C.4.2 Identify the documents, such as the Declaration of Independence, the Constitution, and the Bill of Rights, in which the rights of citizens in our country are guaranteed.
- C.4.3 Explain how families, schools, and other groups develop, enforce and change rules of behavior and explain how various behaviors promote or hinder cooperation.
- C.4.5 Explain how various forms of civic action such as running for political office, voting, signing an initiative, and speaking at a hearing, can contribute to the well being of a community.
- C.4.6 Locate, organize and use relevant information to understand an issue in the classroom or school, while taking into account the viewpoints and interests of different groups and individuals.
- C.8.1 Identify and explain democracy's basic principles, including individual rights, responsibility for the common good, equal opportunity, equal protection of the laws, freedom of speech, justice, and majority rule with protection for minority rights.
- C.8.2 Identify, cite, and discuss important political documents, such as the Constitution, the Bill of Rights, and landmark decisions of the Supreme Court, and explain their function in the American political system.
- C.8.3 Explain how laws are developed, how the purposes of government are established, and how the powers of government are acquired, maintained, justified, and sometimes abused.
- C.8.4 Describe and explain how the federal system separates the powers of federal, state and local governments in the United States, and how legislative, executive, and judicial powers are balanced at the federal level.
- C.8.7 Locate, organize, and use relevant information to understand an issue of public concern, take a position, and advocate the position in a debate.



WISCONSIN MODEL ACADEMIC STANDARDS

- C.8.8 Identify ways in which advocates participate in public policy debates.
- C.12.1 Identify the sources, evaluate the justification, and analyze the implications of certain rights and responsibilities of citizens
- C.12.2 Describe how different political systems define and protect individual human rights.
- C.12.4 Explain the multiple purposes of democratic government, analyze historical and contemporary examples of the tensions between those purposes, and illustrate how governmental powers can be acquired, used, abused and legitimized.
- C.12.5 Analyze different theories of how governmental powers might be used to help, promote, or hinder liberty, equality, justice, and develop a reasoned conclusion.
- C.12.6 Identify and analyze significant political benefits, problems, and solutions to problems related to federalism and the separation of powers.
- C.12.8 Locate, organize, analyze and use information from various sources to understand an issue of public concern, take a position, and communicate the position.
- C.12.9 Identify and evaluate the means through which advocates influence public policy.
- C.12.10 Identify ways people may participate effectively in community affairs and the political process.
- C.12.11 Evaluate the ways in which public opinion can be used to influence and shape public policy.
- C.12.14 Explain and analyze how different political and social movements have sought to mobilize public opinion and obtain governmental support in order to achieve their goals.

Economics: Production, Distribution, Exchange, and Consumption

- D.4.7 Describe how personal economic decisions, such as deciding what to buy, what to recycle, or how much to contribute to people in need, can affect the lives of people in Wisconsin, the United States, and the world.
- D.8.4 Describe how investments in human and physical capital, including new technology, affect the standard of living and quality of life.
- D.8.7 Identify the location of concentrations of selected natural resources and describe how their acquisition and distribution generates trade and shapes economic patterns.
- D.8.11 Describe how personal decisions can have a global impact on issues such as trade agreements, recycling, and conserving the environment.



WISCONSIN MODEL ACADEMIC STANDARDS

The Behavioral Sciences: Individuals, Institutions and Society

- E.4.6 Give examples of group and institutional influences such as laws, rules, and peer pressure on people, events, and culture.
- E.4.12 Give examples of important contributions made by Wisconsin citizens, United States citizens and world citizens.
- E.8.4 Describe and explain the means by which individuals, groups and institutions may contribute to social continuity and change within a community.
- E.8.5 Describe and explain the means by which groups and institutions meet the needs of individuals and societies.
- E.8.11 Explain how beliefs and practices, such as ownership of property or status at birth, may lead to conflict among people of different regions or cultures and give examples of such conflicts.
- E.12.4 Analyze the role of economic, political, educational, familial, and religious institutions as agents of both continuity and change, citing current and past examples.



WISCONSIN MODEL ACADEMIC STANDARDS

ENVIRONMENTAL EDUCATION

A. QUESTIONING AND ANALYSIS

- A.4.1 Make observations, ask questions and plan environmental investigations
- A.4.2 Collect information, make predictions, and offer explanations about questions asked
- A.4.3 Develop answers, draw conclusions, and revise their personal understanding as needed based on their investigations
- A.4.4 Communicate their understanding to others in simple terms
- A.8.1 Identify environmental issue questions that can be investigated using resources and equipment available
- A.8.2 Collect information from a variety of resources, conduct experiments, and develop possible solutions to their investigations
- A.8.3 Use techniques such as modeling and simulating to organize information gathered in their investigations
- A.8.4 Use critical-thinking strategies to interpret and analyze gathered information
- A.8.5 Use the results of their investigations to develop answers, draw conclusions, and revise their personal understanding
- A.8.6 Communicate the results of investigations by using a variety of media and logically defend their answers

B. KNOWLEDGE OF ENVIRONMENTAL PROCESSES AND SYSTEMS

- B.4.2 Illustrate how they use energy in their daily lives
- B.4.4 List the components of an ecosystem, including the qualities of a healthy habitat
- B.4.5 Describe natural and human-built ecosystems in Wisconsin
- B.4.7 Draw a simple hydrologic cycle
- B.4.8 Describe and give examples of natural resources; e.g., water, minerals, soils, air
- B.4.9 Distinguish between renewable and nonrenewable resources
- B.4.10 Describe how they use natural resources in their daily lives



WISCONSIN MODEL ACADEMIC STANDARDS

- B.4.11 List jobs in the community that result from or are influenced by processing and using natural resources
- B.4.12 Determine the cause of different types of pollution
- B.8.5 Give examples of human impact on various ecosystems
- B.8.9 Explain how the environment is perceived differently by various cultures
- B.8.10 Explain and cite examples of how humans shape the environment
- B.8.12 Provide examples of how different cultures use natural resources reflecting the economic, aesthetic, and other values of that culture
- B.8.13 Diagram how resources are distributed around the world
- B.8.14 Identify the natural resources that are found in Wisconsin and those that are imported
- B.8.15 Analyze how people impact their environment through resource use
- B.8.16 Recognize the economic, environmental, and other factors that impact resource availability and explain why certain resources are becoming depleted
- B.8.17 Explain how human resource use can impact the environment; e.g., erosion, burning fossil fuels
- B.8.18 Identify major air, water, or land pollutants and their sources
- B.8.19 Distinguish between point and nonpoint source pollution
- B.8.20 Identify types of waste and methods for waste reduction
- B.8.21 Identify and analyze individual, local, regional, national, and global effects of pollution on plant, animal, and human health
- B.8.23 Identify governmental and private agencies responsible for environmental protection and natural resource management
- B.8.24 Create a timeline of Wisconsin history in resource management
- B.12.3 Evaluate the stability and sustainability of ecosystems in response to changes
- B.12.4 Analyze the factors that determine the number of organisms that can exist in a given area
- B.12.5 Analyze past and current trends in ecosystem degradation and species extinction



WISCONSIN MODEL ACADEMIC STANDARDS

- B.12.6 Predict population responses to changes in environmental conditions
- B.12.8 Relate the impact of human activities in ecosystems to the natural process of change, citing examples of succession, evolution, and extinction.
- B.12.9 Evaluate ways in which technology has expanded our ability to alter the environment and its capacity to support humans and other living organisms
- B.12.10 Identify and evaluate multiple uses of natural resources and how society is influenced by the availability of these resources
- B.12.11 Assess how changes in the availability and use of natural resources (especially water and energy sources) will affect society and human activities; such as, transportation, agricultural systems, manufacturing
- B.12.12 Evaluate the environmental and societal costs and benefits of allocating resources in various ways and identify management strategies to maintain economic and environmental sustainability
- B.12.13 Analyze how different political and governmental systems manage resource development, distribution, consumption, and waste
- B.12.14 Investigate how technological development has influenced human relationships and understanding of the environment
- B.12.15 Describe changes in the rates of human population growth in various societies and the factors associated with those changes related to economic and environmental sustainability
- B.12.16 Analyze how natural resource ownership and trade influences relationships in local, national, and global economies
- B.12.17 Explain the concept of exported/imported pollution; e.g., smokestacks, watersheds and weather systems
- B.12.18 Analyze cause and effect relationships of pollutants and other environmental changes on human health
- B.12.19 Illustrate how environmental quality affects the economic well-being of a community
- B.12.20 Debate the risk of producing pollutants



WISCONSIN MODEL ACADEMIC STANDARDS

C. ENVIRONMENTAL ISSUES INVESTIGATION SKILLS

- C.4.1 Identify environmental problems and issues
- C.4.2 Apply ideas of past, present, and future to specific environmental issues
- C.4.3 Identify people and groups of people that are involved in the issue
- C.4.4 Identify some of the decisions and actions related to the issue
- C.4.5 Identify proposed solutions to the issue and discuss arguments for and against the issue
- C.8.1 Define and provide examples of environmental issues, explaining the role of beliefs, attitudes, and values
- C.8.2 Use environmental monitoring techniques; such as, observations, chemical analysis, and computer mapping software to collect data about environmental problems
- C.8.3 Use questioning and analysis skills to determine beliefs, attitudes, and values held by people involved in an environmental issue
- C.8.4 Evaluate the credibility of information, recognizing social, economic, political, environmental, technological, and educational influences
- C.12.1 Compare the effects of natural and human-caused activities that either contribute to or challenge an ecologically and economically sustainable environment
- C.12.2 Explain the factors that contribute to the development of individual and societal values
- C.12.3 Maintain a historical perspective when researching environmental issues; include past, present, and future considerations
- C.12.4 Identify the strengths and weaknesses of different approaches to investigating an environmental issue and identify some of the assumptions for each approach

WISCONSIN MODEL ACADEMIC STANDARDS

D. DECISIONS AND ACTIONS

- D.4.1 Demonstrate knowledge of a decision-making process that includes selecting and using data, suggesting possible alternatives, predicting consequences, and being aware of available resources
- D.4.2 Identify and give examples of short-term and long-term solutions to a problem
- D.4.3 Identify two or more ways to take positive environmental action; e.g., posters, letters and speeches
- D.4.4 Communicate with local, state, or national officials regarding an environmental topic
- D.4.5 Explain how they can influence an environmental issue
- D.4.6 Develop a plan, either individually or in a group, to preserve the local environment
- D.8.1 Identify options for addressing an environmental issue and evaluate the consequences of each option.
- D.8.2 List the advantages and disadvantages of short-term and long-term solutions to an environmental issue or problem
- D.8.3 List reasons why an individual or group chooses to participate or not participate in an environmental activity in the home, school, or community
- D.8.4 Explain the political, legal, and budgetary options for resolving local, state, and national environmental issues
- D.8.5 Explain how personal actions can impact an environmental issue; e.g., doing volunteer work in conservation
- D.8.6 Develop a plan for improving or maintaining some part of the local environment and identify their role in accomplishing this plan
- D.8.7 Identify examples of how personal beliefs can influence environmental decisions
- D.8.8 Give examples of education, economic, and government institutions influence on an environmental issue and the role of citizens in policy formation
- D.12.1 Identify a variety of approaches to environmental issues, evaluate the consequences of each, and select and defend a position
- D.12.2 Evaluate reasons for participation or nonparticipation in an environmental activity in the home, school, or community



WISCONSIN MODEL ACADEMIC STANDARDS

- D.12.3 Describe the range of political and legal options available to resolve an environmental problem; state for each the costs, benefits, and limitations of effectiveness in practice; and select and defend the best option
- D.12.4 Describe the rights and responsibilities of citizenship in regard to environmental issues
- D.12.5 Develop a plan to maintain or improve some part of the local or regional environment, and enlist support for the implementation of that plan
- D.12.6 Identify and analyze examples of the impact beliefs and values have on environmental decisions
- D.12.7 Analyze political, educational, economic, and governmental influences on environmental issues, and identify the role of citizens in policy formation
- D.12.9 Describe the regulatory and economic approaches to improving the environment and explain the advantages and disadvantages of each

E. PERSONAL AND CIVIC RESPONSIBILITY

- E.4.1 Identify and describe examples of their environmental civic responsibilities and the actions they take to meet them
- E.4.2 Understand how their personal actions impact their civic responsibilities toward the environment
- E.8.1 Formulate a personal plan for environmental stewardship
- E.8.2 Explain the importance of characteristics (such as trust, patience, self-discipline, respect, and open-mindedness) that enable people to function together to resolve environmental issues
- E.12.2 Write a plan of action based on personal goals of stewardship for an economically and ecologically sustainable environment



RESOURCE GUIDE

K-12 Land Use Environmental Education Resources

The following are a list of resources that include topics and issues related to land use. This includes a wide variety of lessons, activities and units that cover the increasingly broad topic of land and land use.

For more information on this project, access to an on-line version of this guide, and to look at examples of lesson plans written by students for the on-line course, Land Use education and Resources for Teachers (in italics), visit the Center for Land Use Education website at: www.uwsp.edu/cnr/landcenter.

For more information about the on-line course please visit the website at: www.uwsp.edu/cnr/wcee/nres780

TEACHING ACTIVITY GUIDES AND UNITS

All Around You: An Environmental Study Guide.

United States Department of the Interior, Bureau of Land Management
U.S. Government Printing Office: Washington, D.C. (1977).

This activity guides covers a variety of topics including awareness, the urban ecosystem and nature's ecosystem. It provides a good resource to build from in adapting and creating your own land use lessons.

Grade Level: K-12

Length: 177 pages

A Sustainable Development Curriculum Framework for World History and Cultures

Jefferey Brown, et al.
Global Learning, Inc. Union, NJ. (1991).

Provides examples and ideas of how to infuse sustainable development into World History and Cultures courses by providing sample lessons, an analytical framework, lists of lessons, resources etc.

Grade Level: Varies

Length: Varies

Community as a Context for Learning

Jon Yoder
Northwest Center for Sustainable Resources

This manual includes lessons, tools, resources, and forms that will provide guidance to assist educators and students in entering and connecting to their community for the first time. This is a very comprehensive and useful guide for incorporating land use into the classroom.

Grade Level: Middle School

Length: 252 pages

Other manuals include:

1. The Educators Guide to Program Development in Natural Resources: Education as a Community Resources
2. Community Based Activities for Biology

Community as a Learning Resource: A Teachers Resource Guide.

Ramona Mullahey
Ramona K. Mullahey: Honolulu, HI (1994).

Provides suggestions on a variety of activities based on resources within a community including community issues, people, buildings, etc... This guide focuses on using the community as a classroom.

Grade Level: Varies

Length: Varies

EE News: Our Changing Landscape & Arizona Doesn't Have Tulips

Wisconsin Department of Natural Resources (WDNR)
Wisconsin Department of Natural Resources: Madison, WI
(Winter 1998, Winter, 2001)

This publication offers articles on land use issues and topics to provide some background information for educators as well as providing quick land use lessons and activities (only available through WDNR website). There is also a good reference section about books and other materials for land use and various other environmental education subjects. Also the publication provides up to date information on events throughout the state. The WDNR also offers a great on-line website, EE Kids, which provides materials and activities.

Grade Level: 4-12

Length: Varies



RESOURCE GUIDE

Exploring the Environment Through Children's Literature

Carol and John Butzow

Teacher Island Press: Englewood, CO. (1999).

Provides 15 chapters of activities associated with a children's book about a particular aspect of the environment. The first 5 chapters all relate to land use topics and issues. Each chapter provides a summary of the book, concepts, activities and related resources.

Grade Level: K-4

Length: 163 Pages

Explore Your World

Environmental Systems Research Institute, Inc. (ESRI)

ESRI: Redlands, CA (1998)

This supplemental guide consists of activities and background information about geographic information systems, along with software and software tutorials (ArcView). The supplement examines the concept of GIS and the basic components and uses of this technology. The focus is on population distribution and some of the factors associated with these geographic patterns. There are also other materials and resources available at the website.

Grade Level: 5-12

Length: 50 pages

Going Places, Making Choices

National 4-H Council, Chevy Chase, MD. (1999).

Contains five units and an educators guide. The units include history, natural resources and energy use, climate change, land use, and making choices. The curriculum is concerned with transportation, the environment, and the role that students will play both now and in the future.

Grade levels: 9-12

Length: 17-22 pages per unit

Land (Saving our Planet Series)

Primary by Ava Drutmand, intermediate by Robyn Freedman Spizman and Marianne Daniels Garber.

Good Apple, Carthage IL. (1992).

The primary activity book focuses on environmental problems that affect the land. The children begin looking at the soil, then study various environmental problems that are specifically related to the land. With this basic understanding of the problems they will look and develop solutions to the environmental issues.

Grade Level: 1-3

Length: 44 pages

The Intermediate activity book helps students explore the earth from its first beginnings to present to help them gain an understanding and appreciation for the land.

Grade Level 4-7

Length: 46 pages

Land and People: Finding the Balance

United States Department of the Interior: United States Geological Survey

This is considered an environmental study project that looks at ecosystem resource issues. The project focuses on the interactions between people and the environment in three regions of the United States: Cape Cod, Los Angeles, and the Everglades. The website is also a useful tool in locating materials and activities.

Grade Level: 9-12

Length: 3 case studies

Land Use Management Activities for the Classroom

Mary Lynn Bowman and John F. Disinger

ERIC Center for Science, Mathematics and Environmental Education.

Ohio State University: Columbus, OH. (1977).

This book provides hundreds of interdisciplinary activities relating to land use although most of the lessons provide a minimal amount of information on the background and procedures. This book gives a lot of great ideas of activities to do and also provides to educator with the opportunity to develop the activity to fit into their community or curriculum.

Grade Level: K-12

Length: 260 pages

Land Use Planning Unit

Jim McGinity, et al.

Riveredge Nature Center: Newburg, WI. (2000).

This is a 3-4 week unit to teach students the land use planning process through the development of their own land use plans. It will also familiarize students with current issues within their own communities.

Grade Level: 9-12

Length: 57 pages



R E S O U R C E G U I D E

Learning from the Land: Wisconsin Land Use Teachers Guide and Student Materials.

Bobbie Malone and Anika Fajardo.

The State Historical Society of Wisconsin: Madison, WI. (1998).

The focus is on teaching about the history and culture of Wisconsin. Teaching students about who we are as a state and where we came from will enhance their appreciation of history. This activity book offers a variety of interactive activities that make studying state history a real investigation.

Grade Level: 4

Length: 100 pages

Living Lightly in the City: An Urban Environmental Education Curriculum Guide. Volume I and Volume II.

Maura O'Connor

Schlitz Audubon Center: Milwaukee, WI. (1983).

The activities help children explore various aspects of their environment with an emphasis on enjoyment and development of positive image of self and surroundings. The material is aimed at helping children bridge the gap between the natural world and their urban centered environment. The activities try to bring children closer to the plants and animals while raising the awareness about their own close ties to the natural world. There are two volumes for primary and intermediate grades.

Grade Level: K-3 & 4-6

Length: 177 pages

Living Lightly on the Planet: A Global Environmental Education Curriculum Guide. Volume I and Volume II.

Maura O'Connor

Schlitz Audubon Center: Milwaukee, WI (1985).

This activity guide was developed to inform, activate and motivate students. It provides a lot of background information and resources for educators. The activities focus on preparing students to be active citizens by enhancing their knowledge, skills and abilities through environmental investigations. These investigations will provide students with opportunities to explore different viewpoints, examine and clarify their own values, and evaluate some possible alternatives for solving environmental problems. There are two volumes for junior high and high school.

Grade Level: 7-9 & 10-12

Length: 202 pages

Looks Count-Community Planning, Natural Resources Protection, and the Visual Landscape

Joan Chadde, et al.

Western Upper Peninsula Center for Science, Mathematics, and Environmental Education.

Michigan Technological University, Houghton, MI. (2004).

This guide focuses on enhancing students understanding of the choices and future consequences of community land use decisions. This activity guide offers many interdisciplinary lessons that will build the knowledge and skills for students to become active participants in community decision making.

Grade Level: 6-8

Length: 15 lessons (72 pages)

People and the Planet: Lessons for a Sustainable Future.

Zero Population Growth: Washington, D.C. (1996)

This activity guide focuses on developing the students understanding of the interdependence of people and the environment, as well as the interdependence connecting us with other members of our global family. There is a variety of lessons on four basic topics that include; understanding population dynamics, people, resources and the environment, issues for the global family, and you and your community.

Grade Level: 5-10

Length: 189 pages.

Picture This! An Exercise in Responsible Citizenry

Ginny Graves

Center for Understanding the Built Environment. Prairie KS. (2001).

This activity guide is a case study of the students local community that will help them understand how communities are planned, how to make choices, the role of citizens, the role of the youth, and problem solving. This is set up to use for individual community exploration and understanding.

Grade Levels:

Length: 5 Modules (65 pages)



R E S O U R C E G U I D E

Project Learning Tree

Western Region Environmental Education Council, et al.
American Forest Foundation: Washington, DC. (1993)

This is a comprehensive, widely used, usable, and well-developed environmental education activity guide. These lessons can be used with a variety of environmental education units. The guide also has numerous activities that cover land use topics and issues.

Grade Level: preK-8 Length: 402 pages (96 lessons)

Project WET and WET in the City

The Council for Environmental Education.
Council for Environmental Education: Houston, TX. (2002).

A useful guide that is based in water education, but covers many issues involved with water, including land use concerns. This guide also offers a very usable format and covers multiple learning styles.

Grade Level: K-12 Length: 517 and 484 pages

Project WILD and Project WILD Aquatic

Project WILD
Council for Environmental Education: Houston, TX (2000).

This is an extremely useful activity guide that covers numerous subjects, learning styles, and topics. There are many lessons lesson throughout the guide that directly address land use issues.

Grade Level: K-12 Length: 526 and 260 pages

Self & Community-Land Use Planning and the Visual Environment

Joan Chadde, et al.
Western Upper Peninsula Center for Science, Mathematics and Environmental Education.
Michigan Technological University. Houghton, MI. (1999).

This is designed as a unit and begins with students learning how to identify community character using their visual opinions. The lessons culminate to students learning how to use planning as a tool to preserve and enhance their community character. Provides a variety of learning techniques.

Grade Level: 5-9 Length: 14 lessons (no page numbers)

The Story of Land Use

Soil and Water Conservation Society
SWCS: Ankeny, IA

This is part of a set of seven environmental education activities.

Grade Level: 4-6 Length: 7 units

This Land is Your Land

United Growth for Kent County
Michigan State University Extension

This a set of land use curriculum materials that was designed to help students grow and develop into involved citizens who understand the importance and practice of wise land use. Many lessons can be downloaded on-line and all lessons are directly focused on land use.

Grade Level: 3-5 Length: 4 units

Using Earth's Resources: What are the Tradeoffs?

The New York Science, Technology and Society Education Project.
NYSTSEP: Albany, New York (1992).

This is intended to be used as an entire unit over a three to four week period. The first unit involves locating their school and local area on a map and identifying local tradeoffs involved in living where they do. The second unit includes looking at soils and mineral resources. The students identify and explore various properties of soil and minerals and relate the raw materials from the soils and minerals to manufactured goods, food products, and energy resources. The final unit focuses on stewardship.

Grade Level: 7-9 Length: 70



R E S O U R C E G U I D E

ViewFinders: A Visual Environmental Literacy Curriculum.

The Dunn Foundation: Warwick, RI (1996).

This guide was developed to raise awareness of the importance of the visual environment and how it affects our communities and quality of life. It will provide students with direct opportunities to solve problems, do hands-on community oriented activities and make choices about community appearance. It also deals with many land-use related topics. This is an interdisciplinary unit that offers a variety of activities.

Grade Level: Elementary Unit Length: 59 pages.

Viewfinders Too: Exploring Community Appearance

The Dunn Foundation: Warwick, RI (2002).

Provides lessons that allow students to explore their visual landscapes and become active in their communities. The activities challenge students to look at their communities and develop a vision for the future using critical and creative thinking.

Grade Level: Middle School Length: Varies

Walk Around the Block

Ginny Graves and Karen Schaubert

Center for Understanding the Built Environment. Prairie Village, KS. (1992).

This activity guide helps students gain a better understanding of the natural and built environments in their communities. The lessons give students a way to look at and evaluate the buildings, neighborhoods and cities to be able to recognize how to build a better environment. It does not just give students an appreciation of the built environment, but also leads students towards advocacy and stewardship.

Grade Level: 4-9 Length: 121 pages



R E S O U R C E G U I D E

Websites that Provide Lessons, Activities and Units

Be aware that as an educator you will need to discern if there is bias contained within the materials of these websites. These websites are run by a variety of organizations including government, private and non-profit. We are just trying to provide a comprehensive list of the resources that are currently available on the internet.

Bureau of Land Management (BLM) National Environmental Education page: www.blm.gov/education/index.html
The BLM is an agency within the U.S. Department of the Interior, which administers 262 million acres of America's public lands, located primarily in 12 Western States. The BLM sustains the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

Environmental Systems Research Institute, Inc.:

<http://gis.esri.com/industries/education/arclessons/arclessons.cfm>
There are over one hundred downloadable lessons that include areas such as: map and GIS concepts, GIS software and skills, physical and earth sciences, and social studies.

Facing the Future: People and the Planet:

<http://www.facingthefuture.org/> (home page)
<http://www.teacherscorner.org/> (teacher's corner)
This site offers a variety of downloadable activities for education on global issues and solutions. Individuals can also link to learn about and sign up for the interactive workshops that are offered. Also, educators can learn more about getting involved in nation-wide service learning projects. This site offers educators a lot of tools for environmental education including a downloadable guide, Facing the Future Curriculum Guide: Classroom Activities For Teaching About Global Issues and Solutions. Within the guide is Creating Our Future which focuses on how to plan for the future that deals directly with land use and planning.

Green Map Systems

<http://www.greenmap.org/home/home.html>
Provides information and activity to get started on using maps and also links to numerous other great websites.

Green Teachers:

www.greenteacher.com
This is a magazine created by teachers for teachers to enhance environmental and global education across the curriculum. There are over fifty pages of ideas and activities, many of these focus on enhancing student understanding and relationship with their environment and community.

Hands on the Land:

<http://handsontheland.org/>
Educators can find a lot of internet activities, curriculum supplement and lesson plans on a variety of environmental education subjects. This site also offers plenty of interaction with the unique bulletin board that allows students, educators and professional to post thoughts and information. There is also information on workshops, classroom visits, traveling trunks, and much more. This site features looking at America's public lands.

Learning to Give:

<http://www.learningtogive.org/index.shtml>
Offers a variety of lessons and activities for K-12 that contain both academic content about philanthropy, and skill development activities that involve students in giving and serving their communities. The curriculum focuses on four themes: definitions of philanthropy; philanthropy and civil society; philanthropy and the individual; and volunteering and service. Lesson plans are designed for different age groups: grades K-2, 3-5, 6-8, and 9-12. One lesson plan for 6th-8th grades will be of particular interest to those teaching young people about planning. During the activity, entitled "The Planning Commission," students design a community blueprint addressing the general makeup and needs of the community, explain the opportunity costs involved in choosing ideas for land use, and identify possible community needs due to population distribution and geographic location.



R E S O U R C E G U I D E

National Geographic Xpeditions:

<http://www.nationalgeographic.com/xpeditions/lessons/>

This website offers an extensive resource of K-12 lessons that logically builds by subject according to grade level. It provides many activities related to city design, sprawl and planning and also provides links to other sites. "Design your own suburbs" and "What to do about sprawl" are two good lessons among many within this site. Additional site links:

For Kids:

<http://www.nationalgeographic.com/kids/>

For Students:

<http://www.nationalgeographic.com/homework/>

For Teachers:

<http://www.nationalgeographic.com/education/>

Paving the American Dream Educator Resource Guide

<http://www.uncwil.edu/smartgrowth/activities/>

The guide offers numerous activities all based on land use issues and topics. The lessons are listed by subject and offers wide variety to choose from. There are also plenty of additional links to resources both for more lessons and information.

Project Food, Land and People:

<http://www.foodlandpeople.org/resources/lessons.html>

Educators cannot download any of the lessons from the Resources for Learning Activity Guide, but can order directly from this website. The website provides a brief overview of all the lessons offered and grade levels; there is also a link to the conceptual framework that educators can browse through.

Project Learning Tree:

<http://www.plt.org/>

Educators can learn information on the curriculum materials available and how to obtain a copy. The topics range from forests to wildlife and water to community planning, waste management and energy. There are also more educator links provided.

Project WILD:

<http://www.projectwild.org/>

The WILD website offers educators information and examples of the curriculum materials available for order. Also, there is a list of internet resources available on a variety of topics.

Riveredge Nature Center:

<http://www.riveredgenc.org/>

Educators can find many ways to get out of the classroom and also learn about what programs are taught at this nature center. There are a variety of ideas throughout the site and downloadable teacher guides to help prepare for adventures at the nature center.

Save our Lands Save our Towns

<http://www.bullfrogfilms.com/catalog/savec.html>

Video and study guide that studies the causes, effects and remedies for suburban sprawl

Smart Growth America:

www.smartgrowthamerica.org

This organization has developed a CD-Rom kit that covers numerous land use topics and issues.

The American Planning Association:

<http://www.planning.org/resourceszine/>

The APA offers a great resource that includes plenty of information on planning across the nation (ResourcesZine). The focus of this website is to get youth involved in planning and includes useful articles, references and projects. The APA offers five lessons but also provides an extensive list of links to other lessons and curriculum. Other useful links through the APA include:

Kids and Community:

<http://www.planning.org/kidsandcommunity>

Youth and Planning:

<http://www.planning.org/youthplanning>

The Center for a Sustainable Future-Education for a Sustainable Future:

<http://csf.concord.org/esf/>

This curriculum focuses on sustainability and offers over 40 downloadable activities for K-12. There is also information on sustainability, other initiatives, and downloadable software.

The Dunn Foundation:

<http://www.dunnfoundation.org/>

This site provides information on the available curriculum, Viewfinders and how to order it. Also, it has useful information on their available grants and research projects.



R E S O U R C E G U I D E

The Environmental Protection Agency:

<http://www.epa.gov/kids/index.htm>

The EPA offers a wide variety of subjects and learning styles within their downloadable lessons and activities. The activities are primarily for k-8 although, there is a specific area for high school students to learn about everything from careers to conservation. The teacher's site offers links to curriculum, background information, other educational sites, grants, awards, and community service projects.

The Leopold Education Project:

<http://www.lep.org/>

The site describes the organization and provides background on the project and the materials available. The curriculum, Lessons and Land Ethic along with numerous other useful education materials are all available for order through this website.

The North American Association for Environmental Education:

<http://www.naaee.org/>

This site offers educators a vast array of information of vital information about environmental education. There are also many useful publications which can be ordered directly from the NAAEE website. Also, there are more educator links available, and this is where educators can find the Guidelines for Excellence that is used when choosing environmental education curriculum.

The National Environmental Education Training Foundation:

<http://www.classroomearth.org/>

This site offers educators an array of useful information and links including the Best of the Web. "The Best of the Web is a listing of websites that offer broad overviews and deep background files on different kinds of environmental education programs, curricula, and organizations that are available for teaching K-12 environmental education".

The National Wildlife Federation:

www.nwf.org

This website provides activities on a variety of subjects and features Ranger Rick's Go Wild. There is a lot of useful information and there is also a kids' zone which provides kids with interactive ideas and creative activities.

The Sierra Club

<http://www.sierraclub.org/education/>

This website offers a variety of lessons and also information on land and land use issues and topics.

The United Nations:

<http://www.un.org/Pubs/CyberSchoolBus/index.html>

This site offers educators and students plenty of information and activities to search through and read. The main categories include resources, curriculum, quizzes and games and community. Within the curriculum, Cities of the World, provides an intense six unit curriculum that focuses on an overview of urbanization, its history, its potential and its problems.

The National 4-H Council:

<http://www.fourhcouncil.edu/index.aspx>

This organization has published numerous innovative curriculum resources. This site introduces educators to available guides and ordering information.

The Natural Resources Conservation Service:

<http://www.nrcs.usda.gov/feature/education/>

This site offers an area called Tidbits for Teachers and Students that provides conservation education materials for K-12 teachers. There are lessons that focus on land use and history, resource use, and also wetlands, plants, soils and agriculture. The site also offers educators plenty of background information and statistical data.

The Natural Resources Defense Council:

<http://www.nrdc.org/>

This site can offer educators up-to- the-date information about environmental news and events happening around the country. There are publications and information sheets for many of the pressing environmental issues. The website also provides updates on environmental legislation.

The United States Geological Survey:

<http://www.usgs.gov/education/>

This is called the Learning Web and offers student, teacher and explorers pages. This site offers educators lessons, activities and paper models plans. The subject areas are life sciences, working with maps and earth hazards. These mapping lessons offer students a great way to begin studying land use.

The University of Michigan Extension and United Growth for Kent County**This Land is Your Land:**

<http://web4.msue.msu.edu/msuewc/kent/yourland/>

This site offers this activity almost entirely on the internet and what lessons are not available on the internet you can request via email. All the lessons are focused on land use and are fun, creative and easy to use.



R E S O U R C E G U I D E

The Wisconsin Center for Environmental Education:

www.uwsp.edu/cnr/wcee

Offers numerous opportunities for educators for professional development and continuing education courses.

The Wisconsin Department of Natural Resources, Environmental Education Kids (EEkids):

<http://www.dnr.state.wi.us/org/caer/ce/ee/>

The site offers a very fun and interactive learning arena with a variety of topics and issues. There is a teacher page, riddles to be solved and career information such as, what does a naturalist do. The site also posts outdoor events and activities, provides the Earth Zone to learn about water, air, endangered species and exotic species, along with more information and activities within the Nature Notes. Other useful links through the WDNR include:

Education and Training

www.dnr.state.wi.us/education/

EE News, a quarterly publication on environmental education.

www.dnr.state.wi.us/org/caer/ce/bureau/education/eenews.htm

The Wisconsin Wildlife Federation:

www.wiwf.org

Offers educators traveling education trunks and also have information on other resources and camps.

The Western Upper Peninsula Center for Science, Mathematics and, Environmental Education:

http://wupcenter.mtu.edu/education/land_use/index.htm

This is an interdisciplinary middle school unit entitled, Looks Count! - Community Planning and the visual environment. This unit will walk students through much of and community planning process and teach them to identify their community character, the impacts of the visual environment, public input and involvement along with the community planning tools.

University of North Carolina at Wilmington, Smart Growth Educators Resource Guide:

<http://www.uncwil.edu/smartgrowth/activities/index.html>

The Educators Resources Guide was designed for use in public schools and based on a UNCW documentary, Paving the American Dream: Southern Cities, Shores & Sprawl. This site was developed to broaden students' understanding of growth and its implications as well as smart growth and sustainable development. The primary goal is to inform and inspire young people to become proactive decision makers. In addition to providing information about growth, the Educator's Resource Guide provides teachers and students with links to other organizations involved in smart growth, pertinent newspaper articles, examples of cities and states doing positive smart growth work, and documentary clips. Most importantly, the site offers unique curriculum experiences to teachers and students. These interdisciplinary activities are presented in diverse formats, such as classroom discussions, small group activities, research, outdoor field studies, lab experiments, creative writing, and role-playing. The activities engage the student in discovery-based experiences that build observation, interpretation, analysis, and problem-solving skills in social sciences, history, English, natural life sciences, political science and more (as stated in the APA ResourcesZine article).



R E S O U R C E G U I D E

Websites that Provide Information on Land Use Issues and Topics

1000 Friends of Wisconsin and Land Use Institute: www.1kfriends.org/ or www.1000friendsofwisconsin.com
This organization educates citizens and policy makers about the benefits of responsible land use. Advocates for healthy urban and rural communities and the protection of our economic, cultural and natural resources statewide

American Farmland Trust (AFT): www.farmland.org/
AFT works to stop the loss of productive farmland and promote farming practices that lead to a healthy environment.

Citizens for a Better Environment (CBE): www.cbemw.org/
Protecting human health and the environment through research, advocacy, public education and citizen empowerment.

Cyberbia, the Urban Planning Portal: <http://www.cyberbia.org/index.html>

Environmental Protection Agency: www.epa.gov/smartgrowth
Protecting Water Resources with Smart Growth

Metro: www.metro-region.org/
A regional government that focuses on land use and transportation planning issues in the Portland, Oregon metro politan area.

Natural Resources Defense Council: www.nrdc.org
Offers both information and ideas on environmental education and land use issues and topics.

Picture Smart Growth <http://www.picturesmartgrowth.org/smartgrowth.html>
Provides information and strategies for smart growth.

Planners Web of the Planning Commissioners Journal. www.plannersweb.com/
City and regional planning resources.

Smart Communities Network: www.sustainable.doe.gov/
A project of the US Department of Energy.

Smart Growth America <http://www.smartgrowthamerica.com/>
Provides information on smart growth and how you can get involved.

Smart Growth Online: www.smartgrowth.org/
A service of the Smart Growth Network.

Sustainable Communities Network (SCN): <http://sustainable.org>
SCN links citizens to resources and to one another to create healthy, vital, sustainable communities.

The Green Map System: www.greenmap.org/
This is a globally connected, locally adaptable eco-cultural program for community sustainability. Charts the sites of environmental significance around the world.

The Urban Land Institute <http://www.uli.org//AM/Template.cfm?Section=Home>
Provides information and resources on land use issues and topics and includes worldwide research.

Urban Advantage <http://www.urban-advantage.com/>
Provides information on land use and also programs and projects

Western Upper Peninsula Center for Science, Math and Environmental Education www.wupcenter.mtu.edu
Design Guidelines to Enhance Community Appearance and Protect Natural Resources

United States Census Bureau, US Department of Commerce: www.census.gov/

Wisconsin Chapter of the American Planning Association (WAPA): www.wisconsinplanners.org/index.html

World Resources Institute (WRI) Education Center: www.wri.org/enved/
WRI is an environmental think tank that goes beyond research to find practical ways to protect the earth and improve people's lives.



G L O S S A R Y

Agriculture:

The use of land for farming, dairying, pasturage, apiculture (bees), aquaculture (fish, mussels), horticulture, floriculture, viticulture (grapes), or animals and poultry husbandry; this includes the necessary accessory uses for packing, treating, or storing the produce from these activities.

Amendment:

A local legislative act changing a zoning ordinance to make alterations, to correct errors, or to clarify the zoning ordinance.

Bill of Rights:

A summary of fundamental rights and privileges guaranteed to a people against violation by the state.

5th Amendment: "nor shall private property be taken for any public use, without just compensation".

10th Amendment: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people".

14th Amendment: No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Cluster Development Zoning (Clustering):

Concentrating the total allowable dwelling units on a tract of land into higher densities on a smaller portion of the tract, leaving the remaining land as open space.

Commercial Areas/Districts:

A zoning area designated for community services, general business, interchanges of services, and commercial recreation.

"Commons":

Any resource that is shared by a group such as air and water.

Common Open Space:

squares, greens, parks, or green belts intended for the common use of residents.

Comprehensive Plan:

A county development plan or city, village, town, or regional planning commission master plan prepared under and meeting the content requirements outlined in s. 66.1001, Wis. Stats. Comprehensive plans provide a vision and general idea of how land should be used to assure public health, safety and welfare.

Development:

An artificial change to real estate, including construction, placement of structures, excavation, grading and paving.

Due Process:

A course of formal, legal proceedings in accordance with established rules and principles. A judicial requirement that enacted laws may not contain provisions that result in unfair, arbitrary, or unreasonable treatment of an individual.

Easement:

Written and recorded authorization by a property owner for the use of a designated part of the property by others for a specified purpose.

Eminent Domain:

The right of a government unit to take private property for public use with appropriate compensation to the owner.

Exurban Area:

The area beyond a city's suburbs.



G L O S S A R Y

Geographic Information Systems (GIS):

Computer technology, tools, databases, and applications that provide spatial (geographic) data management, analysis, and mapping capabilities to support policy evaluation, decision making, and program operations.

Global Positioning Systems (GPS):

A computerized tool for determining longitudinal and latitudinal coordinates through the use of multiple orbiting satellites.

Growth Management:

The pacing of the rate of controlling of the location of development.

Historic Area:

An area designated by an authority, having buildings or places that are important because of their historical architecture or relationship to a related park or square or because those areas were developed according to a fixed plan based on cultural, historical, or architectural purposes.

Historic Preservation:

The research protection, restoration, and rehabilitation of historic properties.

Impervious Surfaces:

A ground cover such as cement, asphalt, or packed clay or rock through which water cannot penetrate; this leads to increase in the amount and velocity of runoff and corresponds to increases in soil erosion and nutrient transport.

Infrastructure:

Public utilities, facilities, and delivery systems such as sewers, streets, curbing, sidewalks, and other public services.

Just Compensation:

"When . . . [the] power [of eminent domain] is exercised it can only be done by giving the party whose property is taken or whose use and enjoyment of such property is interfered with, full and adequate compensation, not excessive or exorbitant, but just compensation."

Land:

Soil, the ground surface itself, a subdivision, a tract or parcel, a lot, an open space, or the physical elements below the ground.

Land Use:

How land is occupied or utilized.

Land Use Plan:

The element of a comprehensive plan that designates and justifies the future use or reuse of land.

Land Use Patterns:

Map:

Drawing or other representation that portrays the spatial distribution of the geographic, topographic, or other physical features of an area.

Mixed-Use Development:

A development that allows multiple compatible uses to be in close proximity to one another in order to minimize transportation infrastructure impacts and to create a compact, efficient neighborhood; for example, single family, multiple family, commercial, and industrial uses are located within a reasonable proximity to each other.

Natural Areas:

Natural areas are wetlands, meadows, forests, valley lands and other relatively undisturbed lands that are home to many different plants and wildlife. Some contain rare plants, wildlife or landforms, or have features characteristic of the region before European settlement, or are especially large or diverse in habitat.



G L O S S A R Y

New Urbanism:

An approach to development that includes the reintegration of components such as housing, employment, retail, and public facilities into compact, pedestrian friendly neighborhoods linked by mass transit.

Open (Green) Spaces:

A substantially undeveloped area, usually including environmental features such as water areas or recreational facilities.

Planning Commission:

An appointed local government commission authorized to make and adopt a master plan for the physical development of the city.

Plat:

A map of a lot, parcel, subdivision, or development area where the lines of each land division are shown by accurate distances and bearings.

Public Goods:

Goods or services that cannot be used by any one individual without affecting the supply to other people. These are also goods or services which are impractical to charge individually such as lighthouses, defense and police forces.

Public Use:

The only purpose for which government can take private property under the power of eminent domain. Public Use includes: streets, schools, highways, hospitals, government buildings, parks and many other purposes that are designated to be good or serve a purpose for the public.

Public Participation:

When the public takes part in, shares, and influences the outcome of events, issues, or policy decisions. Public meetings, surveys, open forums are some methods used to provide opportunities for public input.

Preservation:

Leaving a resource undisturbed and free from harm or damage.

Regional Plan:

A plan that covers multiple jurisdictions, often within the administrative area of a regional planning commission, and that can be prepared jointly by cooperating municipalities, regional planning commissions, state agencies and other entities.

Rights (The bundle of rights concept of property):

Government and private owners each hold portions of rights in real property. Owner property rights include:

Right to use: the right to lease for cash, harvest, cultivate, cross over, or not to use.

Right to lease: the right to lease for cash or the right to hold a cash, including a share lease or third or fourth party lease, a crop share lease, or a perpetual lease.

Right of Disposition: the right to sell, to bequeath, to mortgage, or to establish trusts on all or part of a property.

Government property rights include:

Eminent Domain: the right to purchase land for public use.

Escheat: the right for the succession in title where there is no known heir.

Regulation

Taxation

Sense of Place:

The constructed and natural landmarks and social and economic surrounding that cause someone to identify with a particular community or place.



G L O S S A R Y

Smart Growth:

An approach to land-use planning and growth management that recognizes connections between development and quality of life. The features that distinguish smart growth approaches vary. In general, smart growth invests time, attention, and resources in restoring community vitality to center cities and older suburbs. In developing areas, the approach is more town-centered, is transit and pedestrian oriented, and has a greater mix of housing, commercial, and retail uses. Smart growth approaches preserve open space and other environmental amenities. The term is also used to refer to Wisconsin's comprehensive planning law.

Sustainability:

Long-term management of ecosystems intended to meet the needs of present human populations without compromising resource availability for future generations.

Sustainable Development:

Development that meets the needs of the present generation without compromising resource availability for future generations.

Takings:

Government actions that violate the Fifth Amendment to the U.S. Constitution, which reads in part, "nor shall private property be taken for a public use, without just compensation." Such actions include regulations that have the effect of "taking" property. The Supreme Court has established four clear rules that identify situations that amount to a taking and one clear rule that defines situation that do not. The court has found "takings" in the following circumstances:

- Where a landowner has been denied "all economically viable use" of the land.

- Where a regulation forced a landowner to allow someone else to enter onto the property.

- Where the regulation imposes burdens or costs on a landowner that do not bear a "responsible relationship" to the impacts of the project on the community.

- Where government can equally accomplish a valid public purpose through regulation or through requirement of dedicating property, government should use the less intrusive regulation, for example, prohibiting development in a floodplain property.

The Supreme Court has also said that where a regulation is intended merely to prevent a nuisance, it should not be considered a taking.

Urban Area:

The area within a municipal boundary that is serviced by infrastructure; an intensively developed area with a relatively large or dense population.

Urban Growth Area:

An area designated for urban development and usually designed to protect open space or resources beyond its boundaries.

Urban Sprawl:

Low-density, automobile dependent and land-consumptive outward growth of a city; the spread of urban congestion and development into suburban and rural areas adjoining urban areas.

Zone:

An area designated by an ordinance where specified uses are permitted and development standards are required.

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The Environmental Protection Agency Terminology Reference System.

www.epa.gov

