Correlation of

Project WET, Project WILD & Project Learning Tree Activity Guides

to the

History/Social Science Content Standards for California Public Schools

and the

Principles & Concepts of the California Environmental Education Initiative Model Curriculum

Introduction

The purpose of this document is to provide California educators who use Project Learning Tree, Project WILD and Aquatic WILD, and Project WET materials with a cross reference to the Grade and Discipline-specific Standards-based learning objectives for K-12 Science and History/Social Science in context to California Environmental Principles and Concepts.

The Environmental Principles and Concepts (EP&C) and Standards-based learning objectives were developed as a template for the development of a "model curriculum" in support the mandate described in Assembly Bill 1548 (Pavley, Chapter 665, Statutes of 2003 and AB 1721 and Pavley, Chapter 581, Statutes of 2005) called the "Environmental Education Initiative (EEI). Information about the "EEI" can be obtained at: http://www.calepa.ca.gov/Education/EEI .

These correlations were developed and reviewed by teams of Project Learning Tree, Project WILD and Project WET partners. A biographical list of those participating in the correlation project follows this introduction. Funding for the development of this correlation was provided by the United States Environmental Protection Agency, Office of Environmental Education under agreement number NT-83272501-0 between the U.S. EPA and the University of Wisconsin-Stevens Point. Additional support was provided by the California Department of Forestry and Fire Protection, California Department of Fish and Game, and the Water Education Foundation.

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For more information about Project Learning Tree in California, contact Kay Antunez, California Department of Forestry and Fire Protection at (916) 653-7958 or Kay.Antunez@fire.ca.gov

For more information about the California Project WET program, contact Brian Brown, Water Education Foundation at (916) 444-6240 ext. 22 – or- projectwet@watereducation.org

For more information about the Project WILD program, contact Bobbie Winn, Department of Fish & Game at (916) 653-6132 -or- bwinn@dfg.ca.gov

Kindergarten

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curriculum
	* Denotes activity that addresses standard when used in context of EEI			
K.1. Students understand that being a good citizen involves acting in certain ways.				
1. Follow rules, such as sharing and taking turns, and know the consequences of breaking them.	· Pass the Jug (p. 392)	Ethi-Thinking, Playing Lightly on the Earth	Tale of the Sun (18); Earth Manners (87)	• List examples of basic rules people need to follow regarding natural systems and resources (e.g., littering, fishing).
2. Learn examples of honesty, courage, determination, individual responsibility, and patriotism in American and world history from stories and folklore.		Ethi-Thinking	Tale of the Sun (18); Earth Manners (87)	• Study examples of people demonstrating honesty, courage, determination, individual responsibility, and patriotism in American and world history as they worked to protect natural systems and resources.
3. Know beliefs and related behaviors of characters in stories from times past and understand the consequences of the characters' actions.			Tale of the Sun (18); Earth Manners (87)	• Provide examples of beliefs and related behaviors of characters in stories from times past and understand the consequences of the characters' actions related to the environment.
K.2. Students recognize national and state symbols and icons such as the national and state flags, the bald eagle, and the Statue of Liberty.				
		National Symbols (modify)		• Recognize that images portrayed on national and state flags and icons are often animals that have great symbolic importance to people.
K.3. Students match simple descriptions of work that people do and the names of related jobs at the school, in the local community, and from historical accounts.				
	· Wet Work Shuffle (p. 360)	Wildwork	Plan an Ideal Community (55-variation); People, Places, Things (74)	• Match simple descriptions of work that people do and the names of related jobs to extraction, harvesting, transporting and consuming natural resources.

K.4. Students compare and contrast the locations of people, places, and environments and describe their characteristics.				
1. Determine the relative locations of objects using the terms near/far, left/right, and behind/in front.	· Rainy Day Hike (p. 186)	Color Crazy, Surprise Terrarium, The Thicket Game, Too Close for Comfort, Wildlife is Everywhere, What Bear Goes Where?	Sounds Around (4-a); Adopt a Tree (21-a)	
2. Distinguish between land and water on maps and globes and locate general areas referenced in historical legends and stories.		Make a Coat, Aq. WILD- Water We Eating, Water Plant Art		• Point out examples of land and water on maps and globes. • Identify the locations of forests, deserts, bodies of water and mountains on a map of the local community.
3. Identify traffic symbols and map symbols (e.g., those for land, water, roads, cities).	· Rainy Day Hike (p. 186)		People, Places, Things (74-a)	
4. Construct maps and models of neighborhoods, incorporating such structures as police and fire stations, airports, banks, hospitals, supermarkets, harbors, schools, homes, places of worship, and transportation lines.	· Rainy Day Hike (p. 186)	Habitracks	Plan an Ideal Community (55-variation); People, Places, Things (74)	• Construct maps and models of natural systems near their school, home or community (e.g., streams, parks, wooded areas).
5. Demonstrate familiarity with the school's layout, environs, and the jobs people do there.	· Rainy Day Hike (p. 186)	Habitracks, Learning to Look, Learning to See, Wildlife Is Everywhere	Plan an Ideal Community (55-variation); People, Places, Things (74)	• Recognize that the environment surrounding the school today is most likely different from what it was when the school was built. • List jobs at the school related to the use and maintenance of any natural systems at the school (e.g., school gardens, green spaces).
K.5. Students put events in temporal order using a calendar, placing days, weeks, and months in proper order.				
	· The House of Season (p. 155)			
K.6. Students understand that history relates to events, people, and places of other times.				
3. Understand how people lived in earlier times and how their lives would be different today (e.g., getting water from a well, growing food, making clothing, having fun, forming organizations, living by rules and laws).	· Common Water (p.232) · The Long Haul (p. 260) · Cold Cash in the Icebox (p. 373)		Did you Notice? (95-var)	• Recognize that people in earlier times used many of the same goods and ecosystem services as we do today (e.g., timber, clean water, food). • Identify that in earlier times people more directly consumed the goods and ecosystem services from natural systems rather than obtaining them from secondary sources (e.g., food markets, lumber yards). • Explain that the quantity of goods consumed by people increases as human communities grow (e.g., water and energy consumption).

1st Grade: A Child's Place in Time & Space

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
1.1. Students describe the rights and individual responsibilities of citizenship.				
1. Understand the rule-making process in a direct democracy (everyone votes on the rules) and in a representative democracy (an elected group of people make the rules), giving examples of both systems in their classroom, school, and community.		Can Do! (adapt)	Pollution Search (36-b); Earth Manners (87)	
2. Understand the elements of fair play and good sportsmanship, respect for the rights and opinions of others, and respect for rules by which we live, including the meaning of the "Golden Rule."		Ethi-Thinking, Ethi-Reasoning		
1.2. Students compare and contrast the absolute and relative locations of places and people and describe the physical and/or human characteristics of places.				
1. Locate on maps and globes their local community, California, the United States, the seven continents, and the four oceans.				• Identify specific natural features such as parks, forests, and bodies of water on maps of their neighborhoods or communities.
2. Compare the information that can be derived from a three-dimensional model to the information that can be derived from a picture of the same location.				
3. Construct a simple map, using cardinal directions and map symbols.			Plan an Ideal Community (55-variation); People, Places, Things (74-enrichment)	

4. Describe how location, weather, and physical environment affect the way people live, including the effects on their food, clothing, shelter, transportation, and recreation.	· Raining Cats & Dogs (p. 435) · The Long Haul (p. 260) · The Thunderstorm (p. 260)		Environmental Exchange Box (20)	• Describe how location, weather, and the physical environment interact to create specific conditions that determine what humans use for food, clothing, shelter, transportation, and recreation. • Recognize that human communities are generally located in close proximity to the natural systems (e.g., forests, farmland, bodies of water) that provide the goods and ecosystem services upon which humans depend. • Explain that human activities and naturally-occurring events can change natural systems. • Provide examples of how changes to natural systems can affect how people live.
1.3. Students know and understand the symbols, icons, and traditions of the United States that provide continuity and a sense of community across time.				
2. Understand the significance of our national holidays and the heroism and achievements of the people associated with them.		Aquatic WILD: Living Research: Aquatic Heroes and Heroines		
3. Identify American symbols, landmarks, and essential documents, such as the flag, bald eagle, Statue of Liberty, U.S. Constitution, and Declaration of Independence, and know the people and events associated with them.		National Symbols (modify); Wildlife on Coins and Stamps (modify)		• Recognize that many of the images portrayed on national and state flags, and icons are often animals that have great symbolic importance to people.
1.4. Students compare and contrast everyday life in different times and places around the world and recognize that some aspects of people, places, and things change over time while others stay the same.				
1. Examine the structure of schools and communities in the past.		Aquatic WILD: Watered Down History	Did you Notice? (95)	• Recognize that communities in the past relied on the goods and ecosystem services provided by natural systems, just as we do today. • Identify, using photographs and other primary sources, that their communities have grown and changed over time
2. Study transportation methods of earlier days.		Aquatic WILD: Watered Down History	Did you Notice? (95)	• Recognize that the distances people traveled in the past were often shorter than distances traveled routinely today with the growth and expansion of human communities and development of transportation systems. • Compare transportation systems used in the past with those used today. • Recognize the differences between the types and quantities of energy

3. Recognize similarities and differences of earlier generations in such areas as work (inside and outside the home), dress, manners, stories, games, and festivals, drawing from biographies, oral histories, and folklore.	· The Long Haul · Water Concentration (p. 407) · Raining Cats & Dogs (p. 435)	Make A Coat	Did you Notice? (95)	• Recognize that in earlier generations, a greater proportion of jobs were directly related to the extraction, harvesting, transporting and consumption of natural resources (e.g., farming and food production). • Provide examples of how jobs related to the extraction, harvesting, transporting and consumption of natural resources have changed from the past to the present. • Compare energy use between past and present methods for extracting, harvesting, transporting and consuming natural resources.
1.5. Students describe the human characteristics of familiar places and the varied backgrounds of American citizens and residents in those places.				
1. Recognize the ways in which they are all part of the same community, sharing principles, goals, and traditions despite their varied ancestry; the forms of diversity in their school and community; and the benefits and challenges of a diverse population.		Changing Societies(adapt)	People, Places, Things (74)	
2. Understand the ways in which American Indians and immigrants have helped define Californian and American culture.		Changing Societies(adapt)	Signs of Fall (78-enrichment)	• Recognize that many of the beliefs, customs, ceremonies, traditions, and social practices of American Indians and immigrants were significantly influenced by the natural systems and resources on which they depended. • Provide examples of the beliefs, customs, ceremonies, traditions, and social practices of American Indians and immigrants that are part of
3. Compare the beliefs, customs, ceremonies, traditions, and social practices of the varied cultures, drawing from folklore.		Changing Societies(adapt)	Tales of the Sun (18), Signs of Fall (78-enrichment)	• Provide examples of beliefs, customs, ceremonies, traditions, and social practices of varied cultures that were influenced by the natural systems and resources on which they depended.
1.6. Students understand basic economic concepts and the role of individual choice in a free-market economy.				
2. Identify the specialized work that people do to manufacture, transport, and market goods and services and the contributions of those who work in the home.	· Wet Work Shuffle (p. 360)		People, Places, Things (74)	• List jobs that are related to extracting, harvesting, transporting and consuming natural resources.

2nd Grade: People Who Make A Difference

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
2.1. Students differentiate between things that happened long ago and things that happened yesterday.				
2. Compare and contrast their daily lives with those of their parents, grandparents, and/ or guardians.	· Water Concentration (p. 407)* · Cold Cash in the Icebox (p. 373)* · The Long Haul (p. 260) · Common Water (p. 232)* · Pass the Jug (p. 392)* · Choice and Preferences, Water Index (p. 367)	Make a Coat, Museum Search Aquatic WILD: Watered Down History		• Compare and contrast their dependence on natural systems and resources with that of their parents, grandparents, and/ or guardians. • Provide examples of jobs related to extraction, harvesting, transportation and consumption of natural resources in the past and present. • Recognize that the ways we use natural resources (goods and ecosystem services) from natural systems has changed over time and can be discovered by comparing our daily lives with those of recent
3. Place important events in their lives in the order in which they occurred (e.g., on a time line or storyboard).			Tree Cookies (76-var)	
2.2. Students demonstrate map skills by describing the absolute and relative locations of people, places, and environments.				
1. Locate on a simple letter-number grid system the specific locations and geographic features in their neighborhood or community (e.g., map of the classroom, the school).		Aquatic WILD: Watered Down History		• Identify specific natural features such as parks, forests, and bodies of water on the maps of their neighborhoods or communities.
4. Compare and contrast basic land use in urban, suburban, and rural environments in California.		Shrinking Habitat		• List different types of land use in urban, suburban, and rural environments in California. • Recognize that land use patterns in California have changed over time. • Compare how different types of land use affect natural systems in urban, suburban, and rural environments. • Recognize that as urban and suburban areas expand, natural systems are converted due to human activity. • Explain that more people have moved into urban and suburban settings as populations grew and economies have changed.

2.4. Students understand basic economic concepts and their individual roles in the economy and demonstrate basic economic reasoning skills.				
1. Describe food production and consumption long ago and today, including the roles of farmers, processors, distributors, weather, and land and water resources.	· Common Water (p. 232) · Cold Cash in the Icebox (p. 373) · Irrigation Interpretation (p. 254)	What Did Your Lunch Cost Wildlife? Lobster in Your Lunchbox Aquatic WILD: Water We Eating?	Trees for Many Reasons (89)	• Identify the role of land and water resources in food production. • Provide examples of how natural processes such as climate and weather affect the quality, quantity, and reliability of food resources. • List jobs associated with the production and consumption of food. • Recognize that more food must be produced to support growing human populations. • Provide examples of farming or ranching practices that have changed over the past century. • Describe some of the effects of food production and consumption on natural systems.
3. Understand how limits on resources affect production and consumption (what to produce and what to consume).	· Common Water (p. 232) · The Long Haul (p. 260) · Choices and Preferences, Water Index (p. 367) · Pass the Jug (p. 393) · Irrigation Interpretation (p. 254)	Make a Coat Aquatic WILD: Net Gain, Net Effect, Water We Eating?	Trees for Many Reasons (89)	• Recognize that food production depends on the availability of natural resources (goods and ecosystems services) from natural systems (e.g., water, air, light, soil nutrients). • Explain that natural systems contain limited supplies of natural resources (e.g., water, soil nutrients). • Identify that limits on natural resources can influence food production. • Provide examples of how decisions about what to produce and what to consume can be affected by the quality, quantity and reliability of the resources provided by natural systems.
2.5. Students understand the importance of individual action and character and explain how heroes from long ago and the recent past have made a difference in others' lives (e.g., from biographies of Abraham Lincoln, Louis Pasteur, Sitting Bull, George Washington Carver, Marie Curie, Albert Einstein, Golda Meir, Jackie Robinson, Sally Ride).				
		Living Research, Wildwork		• Name individuals from long ago and the recent past who have played a role in conserving natural systems and resources (e.g., Theodore Roosevelt's role in the national park system).

3rd Grade: Continuity and Change

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
3.1. Students describe the physical and human geography and use maps, tables, graphs, photographs, and charts to organize information about people, places, and environments in a spatial context.				
1. Identify geographical features in their local region (e.g., deserts, mountains, valleys, hills, coastal areas, oceans, lakes).		Habitat Rummy, Urban Nature Search, What's That Habitat	Environmental Exchange Box (20-a)	• Locate the deserts, mountains, valleys, hills, coastal areas, oceans, and lakes in their local region on a map. • Identify the ecosystems (natural systems) that are found in the deserts, mountains, valleys, hills, coastal areas, oceans, and lakes in their local region. • List the resources (goods and ecosystem services) that are provided by the ecosystems (natural systems) in their local region.
2. Trace the ways in which people have used the resources of the local region and modified the physical environment (e.g., a dam constructed upstream changed a river or coastline).	· Cold Cash In the Icebox (p. 373) · Common Water (p. 232) · The Long Haul (p. 260) · Water Concentration (p. 407) · Irrigation Interpretation (p. 254) · Choices and Preferences, Water Index (p. 367)*	Migration Barriers, Planning for People and Wildlife, Shrinking Habitat, Urban Nature Search Aquatic WILD: Dragonfly Pond, To Dam or Not To Dam	Who Works in this Forest? (34); People, Places, Things (74)	• Recognize the ways that people use the resources (goods and ecosystem services) that are provided by the ecosystems (natural systems) in their local region. • Identify the ways humans have changed the natural systems (physical and living environment) in their local region to extract, harvest, transport and consume natural resources (goods and ecosystem services). • Provide examples of how the extraction, harvesting, transportation and consumption of natural resources have influenced the natural systems in the local region. • Explain that some changes to the natural systems are detrimental while others may be beneficial or neutral in their effects.
3.2. Students describe the American Indian nations in their local region long ago and in the recent past.				
1. Describe national identities, religious beliefs, customs, and various folklore traditions.	· The Rainstick (p. 322)* · Water Messages in Stone (p.454)*	Museum Search	Did you Notice? (95)	• Recognize that the beliefs, customs, ceremonies, traditions, and social practices of American Indians were significantly influenced by the natural systems in which those cultures were/are located and by the natural resources upon which they depended. • Provide examples of the national identities, religious beliefs, customs, and folklore traditions that were based on the natural systems where they lived and the natural resources they consumed.
2. Discuss the ways in which physical geography, including climate, influenced how the local Indian nations adapted to their natural environment (e.g., how they obtained food, clothing, tools).	· Irrigation Interpretation (p. 254) · The Rainstick (p. 322)* · Water Messages in Stone (p.454)*			• Provide examples of goods and ecosystem services that were used by specific American Indian nations. • Explain how local Indian nations adapted to their natural environment so that they could extract, harvest, transport and consume natural resources (goods and ecosystem services). • Describe how physical geography, including climate, affected the natural resources (goods and ecosystem services) upon which American Indian nations depended. • Explain how the American Indian nations affected the natural systems where they lived.

3.3. Students draw from historical and community resources to organize the sequence of local historical events and describe how each period of settlement left its mark on the land.				
1. Research the explorers who visited here, the newcomers who settled here, and the people who continue to come to the region, including their cultural and religious traditions and contributions.		Museum Search Aquatic WILD: Watered Down History	Tree Cookies (76); Did you Notice? (95)	• Explain that explorers traveled to new areas seeking the goods and ecosystem services provided by natural systems in the region. • Recognize that settlers who moved to the newly explored regions area were seeking the natural resources (goods and ecosystem services) provided by natural systems in those regions. • Compare the cultural and religious traditions of the American Indian nations, explorers and settlers and describe how those traditions influenced their decisions about natural systems and resources.
2. Describe the economies established by settlers and their influence on the present-day economy, with emphasis on the importance of private property and entrepreneurship.	· Pass the Jug (p. 393)* · Water Crossings (p. 421)*	Aquatic WILD: Watered Down History	Then and Now (40)	• Identify the basis of the economies of the settlers including the roles of the goods and ecosystem services provided by local natural systems. • Explain the importance of private property rights and responsibilities of land ownership in the settlement of new areas. • Describe the importance of the natural resources (goods and ecosystem services) provided by natural systems as the basis of the economy of settlers. • Explain how the availability of natural systems and resources influence decisions about how and where the settlers should select the location of their property.
3. Trace why their community was established, how individuals and families contributed to its founding and development, and how the community has changed over time, drawing on maps, photographs, oral histories, letters, newspapers, and other primary sources.	· Choices and Preferences, Water Index (p. 367) · Cold Cash In the Icebox (p. 373) · Common Water (p. 232) · Easy Street (p. 382) * · Pass the Jug (p. 393)* · Water Concentration (p.407) · Wish Book (p. 460)*	Aquatic WILD: Watered Down History	Did you Notice? (95)	• Identify the goods and ecosystem services provided by natural systems in their local areas that contributed to the founding and development of their communities. • Trace how the ecosystems in and near their communities changed over time, by drawing on maps, photographs, oral histories, letters, newspapers, and other primary sources. • Describe how the dependence of their communities on local natural systems and resources has changed over time by drawing on maps, photographs, oral histories, letters, newspapers, and other primary sources.
3.4. Students understand the role of rules and laws in our daily lives and the basic structure of the U.S. government.				
1. Determine the reasons for rules, laws, and the U.S. Constitution; the role of citizenship in the promotion of rules and laws; and the consequences for people who violate			There Ought to be a Law (58); Earth Manners (87)	• Provide examples of rules and laws that are associated with the management of natural systems and resources (e.g., endangered species). • Identify the consequences for people who violate rules and laws related to the management of natural systems and resources.
2. Discuss the importance of public virtue and the role of citizens, including how to participate in a classroom, in the community, and in civic life.		Ethi-Thinking, Improving Wildlife Habitat Aquatic WILD: Plastic Jellyfish (extension)	There Ought to be a Law (58); Earth Manners (87)	• Discuss the importance of public virtue and the role of individual citizens in making decisions about natural systems and resources. • Provide examples of how individual citizens can be involved in protecting the environment. • Identify ways students can be involved in protecting the environment.

3. Know the histories of important local and national landmarks, symbols, and essential documents that create a sense of community among citizens and exemplify cherished ideals (e.g., the U.S. flag, the bald eagle, the Statue of Liberty, the U.S. Constitution, the Declaration of Independence, the U.S. Capitol).		Wildlife As Seen on Coins & Stamps, Wildlife in National Symbols		
4. Understand the three branches of government, with an emphasis on local government.			There Ought to Be a Law (58)	
3.5. Students demonstrate basic economic reasoning skills and an understanding of the economy of the local region.				
1. Describe the ways in which local producers have used and are using natural resources, human resources, and capital resources to produce goods and services in the past and the present.	· The Long Haul (p. 260) · Water Works (p. 274) · Wet-Work Shuffle (p. 360) · Water Concentration (407)	What Did Your Lunch Cost Wildlife? Aquatic WILD: Water We Eating?, Watered Down History	We All Need Trees (13); A Forest of Many Uses (32); Then and Now (40)	• Provide examples of the natural resources (goods and ecosystem services) used by local producers in the past and the present. • Compare the costs and benefits of methods used by local producers to extract, harvest, transport and consume natural resources in the past and present.
2. Understand that some goods are made locally, some elsewhere in the United States, and some abroad.		Make a Coat, What Did Your Lunch Cost Wildlife? Aquatic WILD: Water We Eating?	We All Need Trees (13); Pass the Plants Please (16); Environmental Exchange Box (20); A Forest of Many Uses (32);	• Identify the availability of natural resources (goods and ecosystem services) as the reason that some goods are made locally, some elsewhere in the United States, and some abroad.
3. Understand that individual economic choices involve trade-offs and the evaluation of benefits and costs.	· Common Water (p. 232) · Choices and Preferences, Water Index (p. 367)	What Did Your Lunch Cost Wildlife? Aquatic WILD: Net Gain, Net Effect, Plastic Jellyfish (extension)	A Forest of Many Uses (32); Trees for Many Uses (89)	• Recognize the wide spectrum of considerations (e.g., economic, legal, environmental, public health, and socio-cultural) that can be involved in making economic choices. • Describe the importance of considering the full spectrum of factors in evaluating the benefits, costs and trade-offs of individual economic choices.

4th Grade: California: A Changing State

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
4.1. Students demonstrate an understanding of the physical and human geographic features that define places and regions in California.				
1. Explain and use the coordinate grid system of latitude and longitude to determine the absolute locations of places in California and on Earth.	· Piece It Together (p: 174) · Great Water Journeys (246)			• Use the coordinate grid system of latitude and longitude to determine the absolute location of various landforms, bodies of water, vegetation and climatic zones in California and on Earth.
2. Distinguish between the North and South Poles; the equator and the prime meridian; the tropics; and the hemispheres, using coordinates to plot locations.	· Piece It Together (p: 174) · Great Water Journeys (246)			
3. Identify the state capital and describe the various regions of California, including how their characteristics and physical environments (e.g., water, landforms, vegetation, climate) affect human activity.		Move Over Rover, Pay to Play, World Travelers, Rainfall and the Forest Aquatic WILD: Fishy Who's Who, Watershed		• Describe the differences among the various regions of California, providing examples of landforms, bodies of water, vegetation and climate in each. • Give examples of the variety of ecosystems in California. • Provide examples of how water, landforms, vegetation and climate affect human activity in California. • Identify that the needs of humans in California are met by using goods and ecosystem services from natural systems.
4. Identify the locations of the Pacific Ocean, rivers, valleys, and mountain passes and explain their effects on the growth of towns.		Planning for People and Wildlife, To Zone or not to Zone Aquatic WILD: Dragonfly Pond, Watered Down History, Watershed		• Identify that humans depend on California's rivers, valleys, and mountain passes for movement and for the transport of goods and use of ecosystem services. • Describe how the Pacific Ocean, and California's rivers, valleys, and mountain passes influence the availability of goods and ecosystem services provided by natural systems for human use. • Explain how decisions to settle in certain areas of California and build towns are typically based on geographic features and distribution of natural systems (e.g., forests, rangelands, bodies of water). • Provide examples of how the factors influencing the location of towns have changed as the human population in California has grown and technology has advanced. • Recognize that although some factors influencing the location of towns in California have changed, human communities are still dependent on the local natural systems for basic resources.

5. Use maps, charts, and pictures to describe how communities in California vary in land use, vegetation, wildlife, climate, population density, architecture, services, and transportation.		Ethi-Reasoning, Migration Barriers, Planning for People and Wildlife, Playing Lightly on the Earth, Shrinking Habitat,To Zone or Not to Zone		• Use maps, charts, and pictures to identify and locate the different types of land use, vegetation, wildlife, and climatic zones in California. • Use charts and pictures to provide examples and describe the diverse architectural styles and transportation systems in various California communities and show how they are influenced by local natural systems. • Use maps, charts, and pictures to compare human population density in different areas of California (e.g., urban, suburban, rural, agricultural, undeveloped). • Use maps, charts, and pictures to compare areas representing different population density with areas of varying types of land use, vegetation, wildlife and climate.
4.2. Students describe the social, political, cultural, and economic life and interactions among people of California from the pre-Columbian societies to the Spanish mission and Mexican rancho periods.				
1. Discuss the major nations of California Indians, including their geographic distribution, economic activities, legends, and religious beliefs; and describe how they depended on, adapted to, and modified the physical environment by cultivation of land and use of sea resources.		Changing Societies, Make a Coat, Museum Search for Wildlife, Net Gain Net Effect, Smokey Bear Said What?, What You Wear is What They Were Aquatic WILD: Watered Down History, Where Have All the Salmon Gone?	The Native Way (90)	• Identify the goods and ecosystem services that were essential to the lives, economies, and cultures of each of the major nations of California Indians. • Describe how the regions where different California Indian nations lived supplied them with different natural resources, goods and ecosystem services and resulted in different land use patterns and economic activities in each region. • Identify that California Indian nations developed different methods to extract, harvest, transport and consume natural resources. • Provide examples of how the extraction, harvesting, transporting and consuming of goods and use of ecosystem services by California Indians influenced the geographic extent, composition, biological diversity, and viability of the natural systems they inhabited. • Explain how the California Indian nations modified their physical environment by cultivation of land and use of sea resources.

2. Identify the early land and sea routes to, and European settlements in California with a focus on the exploration of the North Pacific (e.g., by Captain James Cook, Vitus Bering, Juan Cabrillo), noting especially the importance of mountains, deserts, ocean currents, and wind patterns.	· Water Crossings (p: 421) · Great Water Journeys (p: 246)	Aquatic WILD: Watered Down History		• Identify the reasons for the development of the early land and sea routes used in exploration of the North Pacific (e.g., the discovery, extraction, harvest and consumption of natural resources). • Describe the influence of various geographic features including mountains, deserts, ocean currents, and wind patterns on the development of land and sea routes used in European exploration and settlements in California. • Recognize the roles of key explorers in the discovery of natural systems that would provide goods and ecosystem services for the continued growth and development of European nations. • Provide examples of the effects of exploring the North Pacific on the geographic extent, composition, biological diversity, and viability of natural systems found in that region. • Identify how the demographics, distribution and consumption rates of human populations in Europe influenced the geographic extent, composition, biological diversity, and viability of natural systems in the North Pacific.
4.3. Students explain the economic, social, and political life in California from the establishment of the Bear Flag Republic through the Mexican-American War, the Gold Rush, and the granting of statehood.				
2. Compare how and why people traveled to California and the routes they traveled (e.g., James Beckwourth, John Bidwell, John C. Fremont, Pio Pico).	· Water Crossings, (p: 421)			• Identify the goods and ecosystem services provided by California's natural systems that attracted various well-known individuals (James Beckwourth, John Bidwell, John C. Fremont, Pio Pico) and the multitudes of individuals and families to migrate to California. • Describe how the decisions to settle in some areas of California rather than others were influenced by the goods and ecosystem services provided by the natural systems. • Compare how and why people traveled to California and the routes they chose.
4.4 Students explain how California became an agricultural and industrial power, tracing the transformation of the California economy and its political and cultural development since the 1850s.				
1. Understand the story and lasting influence of the Pony Express, Overland Mail Service, Western Union, and the building of the transcontinental railroad, including the contributions of Chinese workers to its construction.		Aquatic WILD: Watered Down History		• Identify the role of communication and transportation systems in bringing the goods and ecosystem services produced by California's natural systems (e.g. agricultural products) to other parts of the nation and world. • Provide examples of how changes in communication and transportation systems, since the 1850s, have influenced the development of California's agricultural and industrial economic powers. • Describe the role of expanding communication and transportation systems and growing demands from other areas of the nation and world, on the rates of consumption of the goods and ecosystem services

5. Discuss the effects of the Great Depression, the Dust Bowl, and World War II on California.	· Dust Bowls and Failed Levees (p: 303)	Migration Barriers Aquatic WILD: Migration Headache		• Recognize the relationship between the Dust Bowl and the Great Depression on the availability and consumption of the goods and ecosystem services from natural systems. • Identify the role of human practices (e.g., agriculture) in altering the cycles that operate within natural systems and the relevance of those practices to the Dust Bowl. • Provide examples of how the migration to California that resulted from the Great Depression, the Dust Bowl, and World War II influenced the consumption of goods and ecosystem services from California's natural systems (e.g., growth of human communities directly and indirectly consumed natural resources). • Recognize that the capacity of natural systems to adjust to these humancaused alterations depends on the scope, scale, and duration of the activity and the nature of their byproducts (e.g., the effects of the "temporary" internment camps (e.g., Manzanar) and migrant work camps (e.g., to house Dust Bowl migrants remain visible on California's landscape after many decades.)
6. Describe the development and locations of new industries since the turn of the century, such as the aerospace industry, electronics industry, large-scale commercial agriculture and irrigation projects, the oil and automobile industries, communications and defense industries, and important trade links with the Pacific Basin.		Aquatic WILD: Aquatic Times, Watered Down History		• Identify the locations of new industries in California since the turn of the century, such as the aerospace industry, electronics industry, large-scale commercial agriculture and irrigation projects, the oil and automobile industries, communications and defense industries, and the development of important trade links with the Pacific Basin. • Identify the influence of new industries, since the turn of the century, on the growth and expansion of human communities in California. • Recognize the influence of California's growing communities on the supply and consumption of goods and ecosystem services from the natural systems where they are located. • Describe how large-scale commercial agriculture and irrigation projects influence the cycles and processes that operate within natural systems of California. • Provide examples of the relationship between the development of new industries in California and the quantities of resources consumed and the quantity and characteristics of the resulting byproducts. • Recognize that the byproducts of both new and old industries enter natural systems and that their effects on those systems may be beneficial

7. Trace the evolution of California's water system into a network of dams, aqueducts, and reservoirs.	· Incredible Journey, (p. 161)* · Common Water (p. 232)* · Choices and Preferences, Water Index (p. 367)* · Pass The Jug, (p. 393)*	Aq. WILD- Alice in Waterland, Hooks and Ladders, How Wet is Our Planet, Living Research:Aquatic Heroes and Heroines,To Dam or Not To Dam, Water's Going On?,		• Identify the importance of California's water to humans, human communities, and natural systems. • Describe how the availability of a reliable supply of clean water influenced the growth of human communities and the development of California's agriculture-based economy. • Describe how the development of California's water system has influenced the natural systems of the state (e.g., Mono Lake, Owen's Lake, Salton Sea). • Describe how the health of California's natural systems directly affects the quality, quantity, and reliability of California's water supply. • Explain how California's economic health is related to the reliability and quantity of water resources available for human use. • Identify the spectrum of considerations that are involved in making decisions about California's water system (e.g., legal factors, economic factors, environmental sustainability, public health, and socio-cultural factors). • Describe how the assessment of these decision-making factors have changed over time in response to changing conditions, which influences how those decisions are made.
9. Analyze the impact of twentieth-century Californians on the nation's artistic and cultural development, including the rise of the entertainment industry (e.g., Louis B. Meyer, Walt Disney, John Steinbeck, Ansel Adams, Dorothea Lange, John Wayne).	· Dust Bowls and Failed Levees (p: 303)	Does Wildlife Sell?; Noisy Neighbors; Saturday Morning Wildlife Watching		

4.5. Students understand the structures, functions, and powers of the local, state, and federal governments as described in the U.S. Constitution.				
1. Discuss what the U.S. Constitution is and why it is important (i.e., a written document that defines the structure and purpose of the U.S. government and describes the shared powers of federal, state, and local governments).			There Ought to Be a Law (58)	
3. Describe the similarities (e.g., written documents, rule of law, consent of the governed, three separate branches) and differences (e.g., scope of jurisdiction, limits on government powers, use of the military) among federal, state, and local governments.		Checks and Balances, Know Your Legislation:What's in It for Wildlife? (adapt), The Power of a Song,Wild Bill's Fate (adapt)		• Identify the similarities and differences among federal, state, and local governments' jurisdiction over laws, regulations, policies, and incentives that govern the use, management, and consumption of goods and ecosystem services from natural systems. • Describe the similarities (e.g., written documents, rule of law, consent of the governed, three separate branches) and differences (e.g., scope of jurisdiction, limits on government powers, use of the military) among federal, state, and local governments.
4. Explain the structures and functions of state governments, including the roles and responsibilities of their elected officials.		History of Wildlife Management; Pay to Play	There Ought to Be a Law (58)	• Identify the structures and functions of state governments that enforce laws, regulations, and policies regarding the use, management, and consumption of goods and ecosystem services from natural systems. • Compare the roles of different state agencies in the use, management, and consumption of goods and ecosystem services from natural systems (e.g., California EPA, Resources Agency and Department of Transportation). • Provide examples of the roles and responsibilities of elected officials in governing the use, management, and consumption of goods and ecosystem services from natural systems. • Explain the structures and functions of state governments, including the roles and responsibilities of their elected officials, regarding the use, management, and consumption of goods and ecosystem services from natural systems.
5. Describe the components of California's governance structure (e.g., cities and towns, Indian rancherias and reservations, counties, school districts).		Know Your Legislation: What's in It for Wildlife?, Pay to Play, The Power of a Song		• Recognize that California has laws, regulations, and policies regarding the use, management, and consumption of goods and ecosystem services from natural systems among cities, towns, counties, Indian rancherias and reservations, and school districts. • Identify the structures and functions of local governments that enforce laws, regulations, and policies regarding the use, management, and consumption of goods and ecosystem services from natural systems. • Describe the components of California's governance structure (e.g., cities and towns, Indian rancherias and reservations, counties, school districts).

5th Grade: United States History and Geography: Making a New Nation

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
5.1. Students describe the major pre-Columbian settlements, including the cliff dwellers and pueblo people of the desert Southwest, the American Indians of the Pacific Northwest, the nomadic nations of the Great Plains, and the woodland peoples east of the Mississippi River.				
1. Describe how geography and climate influenced the way various nations lived and adjusted to the natural environment, including locations of villages, the distinct structures that they built, and how they obtained food, clothing, tools, and utensils.	· Irrigation Interpretation, (p: 254) · Water Messages In Stone (p: 454) · The Rainstick (p: 442)	Changing Attitudes (extension), Changing Societies, Museum Search for Wildlife Aquatic WILD: Watered Down History	People of the Forest (17); Tipi Talk (75); A Look at Life Styles (92-a,b)	• Recognize that pre-Columbian peoples (cliff dwellers and pueblo people of the desert Southwest, the American Indians of the Pacific Northwest, the nomadic nations of the Great Plains, and the woodland peoples east of the Mississippi River) all depended on the goods and ecosystem services provided by natural systems for their survival. • Describe how geography and climate and the natural resources (goods and ecosystem services) available in different regions of North America determined the lifestyles of the communities that developed in each area. • Provide examples of how the structures, clothing, tools, utensils, and choice of foods varied as a result of the natural resources available in particular regions of the continent. • Identify how decisions by the various Indian nations regarding the location of villages, the structures they built, and the methods used to obtain various goods were influenced by the health and viability of natural systems. • Explain that ancient cultures sometimes changed the location of their villages in response to changes in the availability of the goods and ecosys • Explain that pre-Columbian peoples had the same needs as we do today
2. Describe their varied customs and folklore traditions.		Changing Societies, Museum Search for Wildlife	People of the Forest (17); Native Ways (90); Look at Life Styles (92)	• Describe how the resources and natural systems available to the particular nations influenced the cultures, customs and folklore that developed in each region. • Recognize that the customs, folklore, and religious traditions often reflected the direct dependence of pre-Columbian peoples on natural systems for food, water, shelter, and other goods and ecosystem
3. Explain their varied economies and systems of government.		Changing Societies	People of the Forest (17); Did you Notice? (95)	• Describe the direct dependence of the Indian nations on the goods and ecosystem services produced by natural systems. • Identify how the direct dependence of the Indian nations on the goods and ecosystem services influenced the development of their economies and governmental systems. • Explain that although systems of government and economy varied among American Indian nations, these systems were instrumental in determining how decisions about resource use and the treatment of natural systems were made. • Recognize that Indian nations' systems of government had the same goals as current systems of government (e.g., enabling the society to survive).

5.2. Students trace the routes of early explorers and describe the early explorations of the Americas.				
1. Describe the entrepreneurial characteristics of early explorers (e.g., Christopher Columbus, Francisco Vásquez de Coronado) and the technological developments that made sea exploration by latitude and longitude possible (e.g., compass, sextant, astrolabe, seaworthy ships, chronometers, gunpowder).		Aquatic WILD: Watered Down History		• Identify that the principle entrepreneurial drive motivating early exploration of the Americas was the pursuit of the natural resources (goods and ecosystem services provided by natural systems) available in other parts of the world. • Recognize that the pursuit of new sources of natural resources was driven by population growth in Europe where some of these resources were becoming less abundant. • Identify how the demographics, distribution and consumption rates of human populations in Europe influenced the geographic extent, composition, biological diversity, and viability of natural systems in North America.
3. Trace the routes of the major land explorers of the United States, the distances traveled by explorers, and the Atlantic trade routes that linked Africa, the West Indies, the British colonies, and Europe.	· Great Water Journeys, (p: 246) · Water Crossings, (p: 421)	Aquatic WILD: Watered Down History		• Identify the principle natural resources sought by the major land explorers of the United States and exchanged through the Atlantic trade routes that linked Africa, the West Indies, the British colonies, and Europe. • Describe how the climate and physical geography of the United States, the Atlantic, Africa, the West Indies, the British colonies, and Europe influenced the development of the major routes. • Recognize that the cycles and processes operating within natural systems, such as wind patterns, ocean currents and climate, influenced the routes and distances traveled by the land explorers and traders. • Trace the routes of the major land explorers of the United States, the distances traveled by explorers, and the Atlantic trade routes that linked Africa, the West Indies, the British colonies, and Europe.
5.3. Students describe the cooperation and conflict that existed among the American Indians and between the Indian nations and the new settlers.				
1. Describe the competition among the English, French, Spanish, Dutch, and Indian nations for control of North America.		Make a Coat Aquatic WILD: Watered Down History, Watershed		• Identify how the goods and ecosystem services provided by the natural systems in North America and already in use by Indian nations became increasingly important to the European economies. • Recognize that population growth in Europe, where some of these resources were becoming less abundant, increased the demand for the goods and ecosystem services provided by North America's natural systems. • Compare the European and Indian nations' methods of extracting, harvesting, transporting and consuming natural resources and their effects on natural systems (terrestrial, freshwater, coastal and marine ecosystems). • Describe how the demand for North American goods and ecosystem services led to competition among the English, French, Spanish, Dutch, and Indian nations for control of areas of North America.

2. Describe the cooperation that existed between the colonists and Indians during the 1600s and 1700s (e.g., in agriculture, the fur trade, military alliances, treaties, cultural interchanges).			A Look at Lifestyles (92)	• Identify why the goods and ecosystem services provided by the natural systems in North America and already in use by American Indian nations became increasingly important to the colonists who came to settle in North America. • Recognize the factors that influenced the colonists' decisions to cooperate with American Indian nations were motivated by their desire to take advantage of an area's natural resources. • Identify how the cooperation between the colonists and Indians during the 1600s and 1700s in agriculture, the fur trade, military alliances, treaties, and cultural interchanges depended on the demand for goods and ecosystem services from the region's natural systems. • Describe the effects of the cooperation between the colonists and Indians on the natural systems where the colonists and Indians lived. • Provide examples of the types of alliances that existed between the colonists and Indians during the 1600s and 1700s (e.g., in agriculture, the fur trade, military alliances, treaties, cultural interchanges).
4. Discuss the role of broken treaties and massacres and the factors that led to the Indians defeat, including the resistance of Indian nations to encroachments and assimilation (e.g., the story of the Trail of Tears).		From Bison to Bread: The American Prairie, Prairie Memories		• Identify why the goods and ecosystem services provided by the natural systems in North America led to conflicts between the American Indian nations and North America's settlers and colonists (e.g., population growth among the settlers and colonists). • Provide examples of how the colonists' influences on the natural systems (e.g., operation of their settlements and farms) affected the ability of the Indian nations to resist encroachments and assimilation. • Discuss the factors that led to broken treaties, defeats and the massacres of American Indians including economic and socio-cultural factors, and the demand for natural resources. • Describe the resistance of Indian nations to encroachments and assimilation (e.g., the story of the Trail of Tears).
5. Describe the internecine Indian conflicts, including the competing claims for control of lands (e.g., actions of the Iroquois, Huron, Lakota [Sioux]).		Prairie Memories		• Identify the role of natural systems in the internecine Indian conflicts (e.g., competition for control of the goods and ecosystem services provided by natural systems). • Describe the influence of growing populations of colonists on internecine Indian conflicts including competing claims for control of lands (e.g., the colonists encroached on the natural systems that supported the Indian nations, thereby consuming greater quantities of the goods and ecosystem services). • Recognize the influence of the relationships between the various Indian nations and the colonists on the internecine Indian conflicts. • Provide examples of the competing claims for control of lands among the Indian nations (e.g., the Iroquois, Huron, Lakota [Sioux]).

5.4. Students understand the political, religious, social, and economic institutions that evolved in the colonial era.				
1. Understand the influence of location and physical setting on the founding of the original 13 colonies, and identify on a map the locations of the colonies and of the American Indian nations already inhabiting these areas.		Aquatic WILD: Watered Down History, Watershed		• Identify the goods and ecosystem services provided by natural systems that were necessary for the settlement of the 13 colonies. • Provide examples of the physical settings that were important factors in making decisions to locate and develop settlements on the eastern seaboard of North America. • Explain why the physical geography and the natural resources (goods and ecosystem services) on the eastern seaboard of North America made colonization attractive and settlement possible. • Recognize how the role of the goods and ecosystem services provided by natural systems in the original 13 colonies influenced the development of their economic systems. • Identify on a map the locations of the 13 colonies and of the American Indian nations already inhabiting these areas.
5.7. Students describe the people and events associated with the development of the U.S. Constitution and analyze the Constitution's significance as the foundation of the American republic.				
3. Understand the fundamental principles of American constitutional democracy, including how the government derives its power from the people and the primacy of individual liberty.			We Can Work it Out (56)	
5.8. Students trace the colonization, immigration, and settlement patterns of the American people from 1789 to the mid-1800s, with emphasis on the role of economic incentives, effects of the physical and political geography, and transportation systems.				
1. Discuss the waves of immigrants from Europe between 1789 and 1850 and their modes of transportation into the Ohio and Mississippi Valleys and through the Cumberland Gap (e.g., overland wagons, canals, flatboats, steamboats).		From Bison to Bread: The American Prairie, Prairie Memoirs,		• Identify the reasons people from Europe immigrated to the United States between 1789 and 1850 (e.g., in large part they were motivated by the availability of natural resources in the United States). • Describe how the natural resources available in the American territories led to the establishment of communities, economies, and other social systems in the interior of the nation. • Explain the effects of immigration from Europe on the United States as a whole (i.e., individual communities grew, increasing the demand for natural resources as well as directly affecting the natural systems around them). • Provide examples of the modes of transportation used by immigrants to travel into the Ohio and Mississippi Valleys and through the Cumberland Gap and explain how they took advantage of cycles operating within natural systems (e.g., canals, flatboats, and steamboats require natural waterways that depend upon the water cycle). • Discuss how decisions to migrate and settle in particular areas of the United States were influenced by a variety of factors, including the availability of resources and the character of the regions natural systems

2. Name the states and territories that existed in 1850 and identify their locations and major geographical features (e.g., mountain ranges, principal rivers, dominant plant regions).	· Water Crossings (p.421)	Aquatic WILD: Watered Down History		• Name the states and territories in the United States that existed in 1850. • Provide examples of the geographic features of the states and territories that existed in 1850 (e.g., mountain ranges, rivers, dominant plant regions). • Identify the goods and ecosystem services provided by the natural systems in these states and territories that existed in 1850. • Explain why the major cities in these states and territories were typically located on natural waterways.• Name the states and territories in the United States that existed in 1850. • Provide examples of the geographic features of the states and territories that existed in 1850 (e.g., mountain ranges, rivers, dominant plant regions). • Identify the goods and ecosystem services provided by the natural
3. Demonstrate knowledge of the explorations of the trans-Mississippi West following the Louisiana Purchase (e.g., Meriwether Lewis and William Clark, Zebulon Pike, John Fremont).	· Great Water Journeys, (p: 246) · Water Crossings (p: 421)	Aquatic WILD: Watered Down History		• Identify the reasons for the explorations of the trans-Mississippi West following the Louisiana Purchase (e.g., identifying and cataloging goods and ecosystem services available west of the Missouri river). • Describe the roles of key explorers (e.g., Meriwether Lewis and William Clark, Zebulon Pike, John Fremont) in locating natural resources that supported the economic growth of the United States and encouraged westward expansion.
4. Discuss the experiences of settlers on the overland trails to the West (e.g., location of the routes; purpose of the journeys; the influence of the terrain, rivers, vegetation, and climate; life in the territories at the end of these trails).	· Water Crossings (p.421)	Prairie Memories	A Look at Lifestyles (92)	• Identify reasons that the settlers moved to the West (e.g., population growth in the Eastern United States, the availability of untapped sources of natural resources in the West). • Recognize that the natural systems in the American territories west of the Mississippi and Missouri Rivers influenced the experiences of settlers as they traversed the overland trails to the West (e.g., the influence of the terrain, rivers, vegetation, and climate). • Describe how the cycles and processes that operate within natural systems influenced the experiences of settlers as they traversed the overland trails to the West (e.g., the choice and location of the routes, seasons to travel, and length of journey). • Provide examples of the factors that influenced the settlers' decisions to migrate and settle in particular areas (e.g., availability of natural resources, character of the region's natural systems). • Explain how life in the territories at the end of the overland trails was different from life in the regions from which these settlers had originally come.

6th Grade: World History and Geography: Ancient Civilizations

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
6.1. Students describe what is known through archaeological studies of the early physical and cultural development of humankind from the Paleolithic era to the agricultural revolution.				
1. Describe the hunter-gatherer societies, including the development of tools and the use of fire.		Make a Coat, Museum Search for Wildlife	People of the Forest (17)	• Recognize how hunter-gatherer societies met their needs (i.e., they depended upon the goods and ecosystem services that they obtained from natural systems). • Identify the purpose of the development of tools and use of fire by huntergatherer societies (i.e., helping them extract, harvest, transport, and consume goods and use ecosystem services from the natural systems where they lived). • Explain that even though humans today may use different tools and practices, they require the same goods and ecosystem services as those of hunter-gatherer societies to assure their survival. • Describe how the expansion and operation of hunter-gatherer societies influenced the geographic extent, composition, biological diversity, and viability of natural systems (e.g., the extinction of mastodons, flightless birds, and other large animals).
2. Identify the locations of human communities that populated the major regions of the world and describe how humans adapted to a variety of environments.	· Irrigation Interpretation (p. 254) · Water Messages In Stone (p.454) · Raining Cats & Dogs (p. 135) · People of the Bog (p. 89)	Make a Coat	People of the Forest (17)	• Identify the locations of early human communities that populated the major regions of the world. • Provide examples of the factors that influenced the settlement of early human communities in a variety of environments in each of the major regions of the world. • Compare the methods used by different early human communities to extract, harvest, transport and consume natural resources in the major regions of the world. • Describe how humans adapted their practices to the goods and ecosystem services, as well as to the cycles and processes that operated in the natural systems that they inhabited.

3. Discuss the climatic changes and human modifications of the physical environment that gave rise to the domestication of plants and animals and new sources of clothing and shelter.	· Irrigation Interpretation (p. 254) · People of the Bog (p. 89) · Piece It Together (p. 174) · Raining Cats & Dogs (p.135) · Water Messages in Stone (p: 454)			• Identify both the climatic changes and human modifications of the physical environment that early humans caused as their populations grew. • Describe the effects of the climatic changes and human modifications of the physical environment on the natural systems they inhabited and harvested. • Explain the processes that gave rise to the domestication of plants and animals. • Provide examples of new sources of clothing and shelter developed by humans from the Paleolithic era to the agricultural revolution. • Recognize that as the climate warmed and the environment changed, human populations moved into new areas to obtain more goods and ecosystem services from natural systems. • Describe the methods used by humans to extract, harvest, transport and consume natural resources and how those methods influenced the geographic extent, composition, biological diversity, and viability of natural systems. • Explain the relationship between the domestication of plants and animals (e.g., agriculture and ranching), textiles, cooking and preserving food, and work specialization. • Describe how these new practices and their resulting byproducts affecte
6.2. Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of Mesopotamia, Egypt, and Kush.				
1. Locate and describe the major river systems and discuss the physical settings that supported permanent settlement and early civilizations.			By the Rivers of Babylon (94)	• Identify the importance of water and major river systems to human life and social systems (economic, political, legal, cultural, and religious) to the early civilizations of Mesopotamia, Egypt, and Kush. • Compare the uses of water and major river systems from early civilizations to today. • Describe the role of the major river systems and their physical settings in the choice of locations for permanent settlement in these early civilizations. • Provide examples of seasonal cycles in the major river systems that benefited humans and the permanent settlement of early civilizations. • Map the locations and describe the major river systems that were important to the early civilizations of Mesopotamia, Egypt, and Kush and discuss the physical settings of those river systems.

2. Trace the development of agricultural techniques that permitted the production of economic surplus and the emergence of cities as centers of culture and power.			By the Rivers of Babylon (94)	• Recognize changes to and the development of agricultural techniques over time (e.g., domestication of plants and animals). • Identify the factors that influenced changes to and the development of agricultural techniques in early civilizations (i.e., as humans learned more about natural systems, resources and cycles, they applied their knowledge to the development of agricultural techniques). • Describe how the development of agricultural techniques produced more goods from the natural systems inhabited by the early civilizations. • Describe how improvements to agricultural practices increased supplies of food and other agricultural products (sometimes surpluses), which in turn resulted in the growth of human populations and the development of larger settlements and cities. • Explain that as humans settled in cities and the population grew, they needed to import agricultural products such as food from farther and farther away. • Provide examples of the direct and indirect influences of agricultural techniques on the natural systems inhabited by the early civilizations (e.g., loss of natural habitat, changes to local water distribution). • Trace the development of agricultural techniques that permitted the proc
4. Know the significance of Hammurabi's Code.			By the Rivers of Babylon (94)	• Recognize that Hammurabi's Code set up laws for early civilizations to govern themselves once people started living in communities. • Identify Hammurabi's Code as the first known attempt to formalize decisionmaking about natural resources on the basis of private property rights. • Provide examples of how the consequences prescribed in Hammurabi's Code influenced actions of individuals in relation to natural resources.
9. Trace the evolution of language and its written forms.			Paper Civilizations (93)	

7th Grade- World History and Geography: Medieval and Early Modern Times

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
7.2 Students analyze the geographic, political, economic, religious, and social structures of the civilizations of Islam in the Middle Ages.				
1. Identify the physical featuers and descraive the climate of trhe Arabian peninsula, its relationship to surrounding bodies of land and water, and nomadic and sedentary ways of life.			By the Rivers of Babylon (94)	• Identify the importance of water supplies to human life and the social systems (economic, political, legal, cultural, and religious) of the Arabian Peninsula. • Identify and describe the physical features and climate of the Arabian Peninsula. • Identify the cycles and natural processes that were important to the nomadic and sedentary ways of life on the Arabian Peninsula. • Explain the relationship of the physical features and climate of the Arabian Peninsula to surrounding bodies of land and water. • Recognize that the nomadic and sedentary ways of life on the Arabian Peninsula resulted from the distribution of water and other goods and ecosystem services on which the people of the region depended. • Describe how both the nomadic and sedentary ways of life on the Arabian Peninsula depended on the people's knowledge of natural systems in the region.
5. Describe the growth of citries and the establishment of trade routes among Asia, Africa, and Europe, the products and inventions that traveled along these routes (eg. Spices, textiles, paper, steel, new crops) and the role of merchants in Arab society.			Paper Civilizations (93); By the Rivers of Babylon (94)	• Describe how improvements to agricultural practices on the Arabian Peninsula increased supplies of food and other agricultural products (sometimes creating surpluses) which led to the growth of trade. • Describe how the growth of human populations and cities led to the establishment of trade routes among Asia, Africa, and Europe to import various goods and products (e.g., agricultural products). • Provide examples of the goods, products and inventions that were transported along these routes (e.g., spices, textiles, paper, steel, new crops). • Describe how towns were settled along well-known routes, thus allowing Arab society to take advantage of raw materials from locations that were even more distant from the region. • Provide examples of the direct and indirect influences of trade routes on the natural systems that were the sources of the goods and products that were being transported.
7.6 Students analyze the geographic, political, economic, religious, and social structures of the civilizations of Medieval Europe.				
5. Know the significance of developments in medieval English legal and constitutional practices and their importance in the rise of modern democratic thought and representative institutions (e.g., Magna Carta, parliament, development of habeas corpus, an independent judiciary in England).	· Pass the Jug (p. 392)			• Provide examples of the laws and practices established in the Magna Carta regarding responsibilities for the management and care of lands (natural systems).

7.8 Students analyze the origins, accomplishments, and geographic diffusion of the Renaissance.				
4. Describe the growth and effects of new ways of disseminating information (eg. The ability to manufacture paper, translation of the Bible into the vernacular, printing),			Paper Civilizations (93)	
5. Detail advances made in literature, the arts, science, mathematics, cartography, engineering, and the understanding of human anatomy and astronomy (e.g., by Dante Alighieri, Leonardo da Vinci, Michelangelo di Buonarroti Simoni, Johann Gutenberg, William Shakespeare).	· Energetic Water (p.242)			• Discuss the role of scientific discovery, mathematics, and cartography during the Renaissance in improving human knowledge of organisms, natural systems, and the planet as a whole, a process that continues today.
7.10 Students analyze the historical developments of the Scientific Revolution and its lasting effect on religious, political, and cultural institutions.				
1. Discuss the roots of the Scientific Revolution (e.g., Greek rationalism; Jewish, Christian, and Muslim science; Renaissance humanism; new knowledge from global exploration).	· Energetic Water (p.242)			• Discuss the role of the Scientific Revolution and new knowledge from global exploration in improving human understanding of the natural world, thus improving our ability to make better decisions about resources and natural systems, a process that continues today.
2. Understand the significance of the new scientific theories (e.g., those of Copernicus, Galileo, Kepler, Newton) and the significance of new inventions (e.g., the telescope, microscope, thermometer, barometer).	· Energetic Water (p.242)			• Explain the significance of the new scientific theories of Copernicus, Galileo, Kepler, and Newton and of new inventions in improving human understanding of the natural world, thus improving our ability to make better decisions about resources and natural systems, a process that continues today.

8th Grade- United States History and Geography: Growth and Conflict

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
8.2 Students analyze the political principles underlying the U.S. Constitution and compare the enumerated and implied powers of the federal government.				
3. Evaluate the major debates that occurred during the development of the Constitution and their ultimate resolutions in such areas as shared power among institutions, divided state-federal power, slavery, the rights of individuals and states (later addressed by the addition of the Bill of Rights), and the status of American Indian nations under the commerce clause.	· Water Bill of Rights (p.403)			
6. Enumerate the powers of government set forth in the Constitution and the fundamental liberties ensured by the Bill of Rights.	· Water Bill of Rights (p.403)			
8.3 Students understand the foundtion of the American political system and the ways in which citizens participate in it				
6. Describe the basic law-making process and how the Constitution provides numerous opportunities for citizens to participate in the political process and to monitor and influence government (eg. Function of elections, political parties, interest groups.)			Energy Sleuths (39-Part B only); Power of Print (59), Publicize It! (60, Watch on Wetlands (71)	
8.4 Students analyze the aspirations and ideals of the people of the new nation.				
1. Describe the country's physical landscapes, political divisions, and territorial expansion during the terms of the first four presidents.	· Great Water Journeys (p.264)		A Look at Lifestyles (92)	• Identify the factors associated with the consumption of natural resources that led to territorial expansion during the terms of the first four presidents. • Describe how the country's physical landscapes and natural systems influenced territorial expansion. • Provide examples of the spectrum of factors that influenced the development of federal laws, policies, and incentives developed to regulate natural resource use and management during the terms of the first four presidents. • Recognize the influences of these natural resource use and

4. Discuss daily life, including traditions in art, music, and literature of early national America (eg. Through writings by Washington Irving, James Fenimore Cooper)	·		A Look at Lifestyles (92), Did you Notice? (95), The Waste Stream (MSW)	• Identify the influence of the availability of natural resources (goods and ecosystem services) on the daily life of early Americans. • Provide examples of the methods used by early Americans to extract, harvest, transport and consume natural resources (e.g., forest and agricultural products, metals and minerals). • Describe how the growth of the American population during the nineteenth century affected the demand for natural resources. • Explain how the growing demand for natural resources affected the natural systems in the areas inhabited by early Americans. • Describe the influence of natural systems (e.g., wildlife and forests, exploration of wilderness) in early American traditions of art, music, and literature, of early national America (e.g., through writings by Washington Irving, James Fenimore Cooper).
8.6 Students analyze the divergent paths of the American people from 1800 to the mid-1800s and the challenges they faced, with emphasis on the Northeast.				
1. Discuss the influence of industrialization and technological developments on the region, including human modification of the landscape and how physical geography shaped human actions (e.g., growth of cities, deforestation, farming, mineral extraction).	· The Long Haul (p.260) · Cold Cash In the Icebox (p. 373)	From Bison to Bread: The American Prairie	The Waste Stream, Landfills (MSW)	• Identify the influences of industrialization and technological developments on the natural systems in the Northeast region. • Provide examples of both short-term and long-term effects of industrialization and technological developments on the natural systems in the Northeast region. • Discuss how the physical geography of the region and the natural systems that are found there (e.g., forests, wetlands) influenced human actions (e.g., growth of cities and ports, deforestation and drainage of wetlands, farming, mineral extraction). • Describe the role of scientific and technological knowledge in industrialization and technological developments on the region. • Describe the influence of industrialization and technological developments on the growth of human populations in the region. • Provide examples of the effects of the growing human population on the natural systems in the region (e.g., chemical byproducts, reshaping of the landscape). • Categorize the direct and indirect effects of industrialization and technological developments as beneficial, neutral or detrimental to the nat
2. Outline the physical obstacles to and the economic and political factors involved in building a network of roads, canals, and railroads (eg. Henry Clay's American System).			A Look at Lifestyles (92)	• Identify natural systems and physical obstacles that affected the building of networks of roads, canals, and railroads. • Describe the direct effects of building the networks of roads, canals, and railroads on the natural systems in the Northeast region. • Provide examples of the indirect effects of building the networks of roads, canals, and railroads on the natural systems in the Northeast region (e.g., increasing rates of resource extraction and consumption).

8.8 Students analyze the divergent paths of the American people in the West from 1800 to the mid-1800s and the challenges they faced.				
2. Describe the purpose, challenges, and economic incentives associated with westward expansion, including the concept of Manifest Destiny (e.g., the Lewis and Clark expedition, accounts of the removal of Indians, the Cherokees' "Trail of Tears," settlement of the Great Plains) and the territorial acquisitions that spanned numerous decades.	· Great Water Journeys (p.264) · Water Crossings (p. 421)	Prairie Memories	A Look at Lifestyles (92)	• Identify the reasons for westward expansion in terms of exploration for natural resources (goods and ecosystem services). • Recognize the role of the growing population in the United States in relation to the westward expansion. • Describe the effects of the westward expansion on the natural systems and resources that were being settled. • Provide examples of the economic incentives provided to individuals willing to settle in the West that are related to natural resources (e.g., homesteading, land ownership). • Explain how the concept of Manifest Destiny related to the control of additional territories and the natural resources that they contained.
3. Describe the role of pioneer wormen and the new status that western women achieved (eg. Laura ingalls Wilder, Annie Bidwell; slave women gaining freedom in the Wesst; Wyoming granting sufffrage to women in 1869).			A Look at Lifestyles (92); Did you Notice? (95)	
4. Examine the importance of the great rivers and the struggle over water rights.	· Water Crossings (p.421) · Pass the Jug (p. 392)		Did You Notice? (95)	• Identify the role that the great rivers and water resources played in the West from 1800 to the mid-1800s (e.g., the location of towns, farming and ranching). • Describe the role of scientific and technological knowledge in the establishment of water rights. • Provide examples of the economic, political, legal, and cultural factors that played a role in decisions about water rights in the West. • Describe how the great river systems and struggles over water rights influenced the development of economic, political, and legal systems in the West. • Compare the issues related to water use and management in the West with other parts of the United States.

8.12 Students analyze the transformation of the American economy and the changing social and political conditions in the United States in response to the Industrial Revolution.				
1. Trace patterns of agricultural and industrial development as they relate to climate, use of natural resources, markets, and trade and locate such development on a map.	· Common Water (p. 232) · Irrigation Interpretation (p. 254) · Pass the Jug (p. 392) · Water Crossings (p. 421) · Dust Bowls and Failed Levees (p. 303) · Long Haul (p.261)	From Bison to Bread: The American Prairie, Prairie Memories	A Look at Lifestyles (92); Paper Civilizations (93)	• Recognize patterns of agricultural and industrial development as they relate to climate, use of natural resources (i.e., goods and ecosystem services) and availability of markets. • Describe the role of scientific and technological knowledge in agricultural and industrial development. • Describe how technological advances in industry and agriculture during the late nineteenth and twentieth centuries influenced the growth of human populations and communities. • Provide examples of how the technological advances in industry and agriculture during the late nineteenth and twentieth centuries affected the natural systems where this development was taking place. • Explain how political, economic, cultural and environmental factors affected technological advances in industry and agriculture during the late nineteenth and twentieth centuries.
5. Examine the location and effects of urbanization, renewed immigration, and industrialization (e.g., the effects on social fabric of cities, wealth and economic opportunity, the conservation movement).	· Water Crossings (p.421) · Wish Book (p. 460) · The Grave Mistake (p. 311) · Easy Street (p. 382) · Cold Cash In the Icebox (p. 373)	Back From the Brink, Changing the Land, Migration Barriers, Planning for People and Wildlife Aquatic WILD: Dragonfly Pond, To Dam or Not to Dam	In the Good Old Days (91); A Look at Lifestyles (92); The Waste Stream, Landfills (MSW)	• Describe the role of the growing population in the United States on the growth of cities and consumption of natural resources. • Recognize the factors that were considered in decisions regarding the growth and urbanization of cities (e.g., choice of areas and materials for construction, transportation systems). • Provide examples of how the growth of cities resulted in increasing demands for goods and ecosystem services from natural systems (e.g., agricultural products, forestry products) that placed greater demands on farmland (soils, water) and forests (timber). • Describe the direct and indirect effects of urbanization on the surrounding natural systems. • Explain the role of the Industrial Revolution in the development of the conservation movement. • Describe the role of scientific and technological knowledge in urbanization, renewed immigration, and industrialization, wealth and economic opportunity, and the conservation movement.
9. Name the significant inventors and their inventions and identify how they improved the quality of life (e.g., Thomas Edison, Alexander Graham Bell, Orville and Wilbur Wright).	· Energetic Water (p. 842		A Look at Lifestyles (92)	

10th Grade- World History, Culture, and Geography: The Modern World

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
10.3 Students analyze the effects of the Industrial Revolution in England, France, Germany, Japan, and the United States.				
2. Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).	· Energetic Water, (p: 242)*	Aquatic Wild: To Dam or Not to Dam		• Identify how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change. • Describe how the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison depended on natural systems for the basic resources used and/or more efficiently extracted as a result of these inventions and discoveries (e.g., sources of energy transformed into electricity). • Provide examples of how the increased demands on natural systems that resulted from these changes, as well as the availability of new forms of energy, influenced the availability of natural resources and the health and functioning of the natural systems (e.g., the byproducts of energy production for industrialization, such as the burning of coal and the harnessing of rivers for hydroelectric power).
3. Describe the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.	· Energetic Water, (p: 242)* · Poison Pump, (p: 93) · A Grave Mistake, (p: 311)		The Waste Stream (MSW)	• Identify the relation between the Industrial Revolution and the growth in human populations in urban areas (e.g., migration from rural to urban areas for new jobs). • Describe how the urbanization of the population that resulted from the Industrial Revolution influenced the natural systems surrounding the cities and towns directly and indirectly (e.g., the development of new housing and transportation systems, energy transmission systems). • Provide examples of changes to laws, policies, and incentives associated with natural resource use and management that resulted from the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.
5. Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.	· The CEO, (p: 300) · Super Bowl Surge, (p: 353) · Sum of the Parts, (p: 267)* · Energetic Water, (p: 242)* · Easy Street, (p: 382)*	A Picture is Worth a Thousand Words, Artic Survival, Changing the Land, Pay to Play, Aquatic WILD: Net Gain, Net Effect, Sea Turtle International		• Recognize natural systems and the resources they provide (goods and ecosystem services) as the basic capital for the development of an industrial economy. • Provide examples of the major connections between natural systems and resources, and entrepreneurship, labor, and capital in industrial economies (e.g., the labor necessary to extract, harvest, transport, and produce goods and ecosystem services for human communities).

7. Describe the emergence of Romanticism in art and literature (eg. The poetry of William Blake and William Wordsworth), social criticism (eg. The novels of Charles Dickens) and the move away from Classicism in Europe.			Words to Live By (Focus on Forests)	

11th Grade- United States History and Geography: Continuity and Change in the Twentieth Century

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
11.1 Students analyze the significant events in the founding of the nation and its attempts to realize the philosophy of government described in the Declaration of Independence.				
2. Analyze the ideological origins of the American Revolution, the Founding Fathers' philosophy of divinely bestowed unalienable natural rights, the debates on the drafting and ratification of the Constitution, and the addition of the Bill of Rights.	· Water Bill of Rights, (p: 403)			
11.2 Students analyze the relationship among the rise of industrialization, large-scale rural-to-urban migration, and massive immigration from Southern and Eastern Europe.				
1. Know the effects of industrialization on living and working conditions, including the portrayal of warking conditions and food safety in Upton Sinclair's The Jungle.			The Waste Stream (MSW)	• Identify the influences of industrialization and technological developments on the natural systems in the United States. • Provide examples of both short-term and long-term effects of industrialization and technological developments on the natural systems in the United States. • Describe the influence of industrialization and technological developments on the growth of human populations in the United States. • Provide examples of the effects of the growing human population on the natural systems in the region (e.g., chemical byproducts, reshaping of the landscape). • Describe the environmental effects of industrialization on living and working conditions. • Categorize the direct and indirect effects of industrialization and technological developments as beneficial, neutral or detrimental to the natural systems in the United States.

2. Describe the changing landscape, including the growth of cities linked by industry and trade, and the development of cities divided according to race, ethnicity, and class.	· Sum of the Parts, (p: 267)**	Back From the Brink, Changing the Land, Riparian Zone, To Zone or Not to Zone, Shrinking Habitat Aquatic WILD: Dam Design, Dragon Fly Pond		• Provide examples of how the growing population in the United States changes the landscape and influences the natural systems where cities are expanding. • Recognize the factors that are considered in decisions regarding the growth and urbanization of cities (e.g., choice of areas and materials for construction, transportation systems). • Provide examples of how the growth of cities results in increasing demands for goods and ecosystem services from natural systems (e.g., agricultural products, forestry products) that places greater demands on farmland (soils, water) and forests (timber). • Describe the direct and indirect effects of urbanization on the surrounding natural systems.
6. Trace the economic development of the United States and its emergence as a major industrial power, including its gains from trade and the advantages of its physical geography.	· Sum of the Parts, (p: 267)** · Color Me A Watershed, (p: 223)**	Sustainability: Then, Now, Later		• Identify the advantages of the physical geography that enabled the United States to emerge as a major industrial power. • Describe how natural systems and physical geography provide resources (goods and ecosystem services) upon which economic development is based. • Explain that economic development directly and indirectly affects natural systems. • Provide example of how economic development can directly influence natural systems (e.g., conversion of landscapes). • Provide example of how economic development can indirectly influence natural systems (e.g., release of byproducts of agricultural and industrial practices).
11.5 Students analyze the major political, social, economic, technological, and cultural developments of the 1920s.				
7. Discuss the rise of mass production techniques, the growth of cities, the impact of new technologies (e.g., the automobile, electricity), and the resulting prosperity and effect on the American landscape.	· Energetic Water, (p: 242)* · The Price Is Right, (p: 333) · Super Bowl Surge, (p: 353) · Sparkling Water, (p: 348) · Wet- Work Shuffle, (p: 360)			• Identify the relationship between mass production techniques and: the consumption of natural resources; the rates of consumption of manufactured goods; and the production of byproducts that may have detrimental, beneficial or neutral effects on natural systems. • Describe the direct and indirect influences of growing cities on the American landscape and the associated natural systems. • Provide examples of the direct and indirect effects of new technologies (e.g., automobiles, electricity) on natural systems (e.g., consumption of land for transportation systems, release of toxic and non-toxic byproducts and waste materials).

11.6 Students analyze the different explanations for the Great Depression and how the New Deal fundamentally changed the role of the federal government.				
3. Discuss the human toll of the Depression, natural disasters, and unwise agricultural practices and their effects on the depopulation of rural regions and on political movements of the left and right, with particular attention to the Dust Bowl refugees and their social and economic impacts in California.	· Nature Rules!, (p: 262) · Dust Bowls and Failed Levees, (p: 303) · Back to the Future, (p: 293)** · Irrigation Interpretation, (p: 254)** · Sum of the Parts, (p: 267)** · After Math, (p: 289)**			• Identify how natural disasters and unwise agricultural practices can diminish the productivity of natural systems on a short-term or long-term basis. • Describe how diminishing the productivity and/or functioning of a natural system can influence the human population in an area. • Provide examples of laws, policies and human practices that were changed to ameliorate the effects of the natural disasters and unwise agricultural practices that occurred during the Depression and Dust Bowl era. • Describe the effects of migration of the Dust Bowl refugees into California (e.g., new housing developments, increased demands for water and other resources on natural systems and resources). • Identify how the assessment of economic, social, and environmental costs can change as the result of major events such as the Depression and natural disasters like the Dust Bowl that occurred during this era.
11.8 Students analyze the economic boom and social transformation of post–World War II America.				
1. Trace the growth of service sector, white collar, and professional sector jobs in business and government.	· Wet-Work Shuffle, (p: 360)			
6. Discuss the diverse environmental regions of North America, their relationship to local economies, and the origins and prospects of environmental problems in those regions.	· The CEO, (p: 300) · Whose Problem Is It, (p: 429) · Back to the Future, (p: 293) · Choices and Preferences, (p: 367) · Color Me A Watershed, (p: 223) · Dilemma Derby, (p: 377) · A Drop In The Bucket, (p: 238) · Get The Groundwater Picture, (p: 136) · Hot Water, (p: 388) · Nature Rules!, (p: 262) · Sum of the Parts, (p: 267)** · Super Bowl Surge, (p: 353) · Sparkling Water, (p: 348) · Thunderstorm, (p: 196)** · Water: Read All About It!, (p: 400) · Water Court, (p: 413)	Science & Civics: Testing the Law, Legal Eagles, Close to Home, Is There Hardpan Underfoot?	Case Study: Old Growth Forests, Tough Choices, Who Owns America's Forests, Squirrels vs. Scopes (Focus on Forests); Decision Making: Ecological Risk, Wildfires, Natural Hazards, Special Topics: Electromagnetics Fields	• Identify the major ecosystems and environmental regions in North America. • Provide examples of the goods and ecosystem services provided to the human communities and local economies by major ecosystems across the environmental regions of North America. • Describe the methods used by human communities to extract, harvest, transport, manufacture products and consume goods and ecosystem services from the major ecosystems in their regions. • Explain the relationship between the methods used to extract, harvest, transport, manufacture products and consume goods and ecosystem services and the prospects for environmental problems in these regions. • Provide examples of how, as a result of environmental problems in these regions, the assessment of social, economic, political, and environmental factors has changed over time and influenced decisions about processes used to extract, harvest, transport, and manufacture products and consume goods and ecosystem services.

11.11 Students analyze the major social problems and domestic policy issues in contemporary American society.				
5. Trace the impact of, need for, and controversies associated with environmental conservation, expansion of the national park system, and the development of environmental protection laws, with particular attention to the interaction between environmental protection advocates and property rights advocates.	· The CEO, (p: 300) · The Price Is Right, (p: 333) · The Pucker Effect, (p: 338) · Sparkling Water, (p: 348) · Choices and Preferences, (p: 367) · Dilemma Derby, (p: 377) · Hot Water, (p: 388) · Perspectives,(p:397) · Water: Read All About It!, (p: 400) · Water Bill of Rights, (p: 403) · Water Court, (p: 413) · Whose Problem Is It, (p: 429) · Pass the Jug, (p: 392) · Super Bowl Surge, (p: 353)	A Picture is Worth a Thousand Words, Back from the Brink, Can Do!, Cabin Conflict, Cartoon & Bumper Stickers, Deer Crossing, Enviro-Ethics, Here Today Gone Tomorrow (extension), History of Wildlife management, Improving Wildlife Habitat in the Community, Planning for People and Wildlife, Riparian Zone, Pay to Play, Sustainability: Then, Now, Later, World Travelers Aquatic WILD: Dragonfly Pond. Living Research, Sea Turtle International Science & Civics: Presidential Prerogatives, The Law: Before and After, Executive Influence, What's their Difference?, Legal Eagles, Is There Hardpan Underfoot?	What's a Forest to You, Case Study: Old Growth Forests; Tough Choices, Who Owns America's Forests, Balancing America's Forests, Words to Live By, Take Action (Focus on Forests); Communicating Risk, Weights and Options: A Look at Tradeoffs, Decision Making: Ecological Risks, Wildfires and Natural Hazards; Special Topics: Plastics, Risk Benefit Analysis, Environmental Legislation (Risk); Recycling and Economics, Waste to Energy, Landfills, Take Action (MSW)	• Recognize the spectrum of factors considered in making decisions about resources and natural systems and how those factors influence decisions. • Identify the benefits and costs associated with the establishment and maintenance of the national park, national wildlife refuge and national forest systems. • Provide examples of the social, economic, and political considerations that lead to controversies associated with environmental conservation and the development of environmental protection laws. • Provide examples of laws, policies and regulations related to the use and management of natural systems and resources that influence individual property rights and liberties. • Identify the role of environmental protection advocates and property rights advocates in generating the controversies associated with environmental conservation and the enforcement of environmental protection laws.

12th Grade- Principles of American Democracy and Economics

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
12.1 Students explain the fundamental principles and moral values of American democracy as expressed in the U.S. Constitution and other essential documents of American democracy.				
3. Explain how the U.S. Constitution reflects a balance between the classical republican concern with promotion of the public good and the classical liberal concern with protecting individual rights; and discuss how the basic premises of liberal constitutionalism and democracy are joined in the Declaration of Independence as "self evident truths."	· Pass the Jug, (p: 392) · Water Court, (p: 413) · Sum of the Parts, (p: 267)**			• Identify how decisions made regarding natural resources and systems, such as land use and land ownership, reflect a balance between the classical republican concern with promotion of the public good and the classical liberal concern with protecting individual rights.
6. Understand that the Bill of Rights limits the powers of the federal government and state governments.	· Water Bill of Rights, (p: 403)			• Describe how the Bill of Rights limits the powers of the federal government and state governments in relation to land use, land ownership, and control over the process of making decisions about resources and natural systems. • Provide examples of how the powers of the federal government and state governments have changed over time in relation to the assessment of environmental concerns.
12.2 Students evaluate and take and defend positions on the scope and limits of rights and obligations as democratic citizens, the relationships among them, and how they are secured.				
1. Discuss the meaning and importance of each of the rights guaranteed under the Bill of Rights and how each is secured (e.g., freedom of religion, speech, press, assembly, petition, privacy).	· Water Bill of Rights, (p: 403) · Water Court, (p: 413) · Pass the Jug, (p: 392)	Science & Civics: Legal Eagles, Who Cares? Do You Hear What I Hear, See What I See?, Close to Home		• Recognize the significance of the clause in the Fifth Amendment regarding the taking of private property for public use in relation to the establishment of park, wildlife refuge and forest systems at the national and state level. • Explain the influence of the Tenth Amendment in delegating federal and state powers to make decisions about resources and natural systems, and describe how this has changed over time.
2. Explain how economic rights are secured and their importance to the individual and to society (e.g., the right to acquire, use, transfer, and dispose of property; right to choose one's work; right to join or not join labor unions; copyright and patent).	· Water Court, (p: 413) · Sum of the Parts, (p: 267)* · The CEO, (p: 300) · Wet-Work Shuffle, (p: 360)	Cabin Conflict, Rare Birds Eggs for Sale, Riparian Zone Aquatic WILD: Dragon Fly Pond, Sea Turtle International, To Dam or Not to Dam		• Describe how laws, regulations and policies affecting land use and land ownership can have a major influence on the growth of human populations and communities. • Describe how laws, regulations and policies also directly affect the extraction, harvest, transportation, and consumption of natural resources, as well as management of the resulting byproducts.

4. Understand the obligations of civic-mindedness, including voting, being informed on civic issues, volunteering and performing public service, and serving in the military or alternative service.	· Dilemma Derby, (p: 377) · Hot Water, (p: 388) · Choices and Preferences, (p: 367) · Sum of the Parts, (p: 267)**	Back From the Brink, Deer Crossing, Enviro-Ethics, History of Wildlife Management, Improving Wildlife Habitat, Know Your Legislation, Pay to Play, Philosophical Differences, Wild Bill's Fate, Wildlife Research Aquatic WILD: Facts and Falsehoods, Living Research Science & Civics: Wild Bill's Fate	Tough Choices, Balancing America's Forests, Taking Action (Focus on Forests); Decision Making: Ecological Risks, Special Topics-Plastics, Risk Benefit Analysis and Environmental Legislation (Risk); Waste to Energy, Take Action (MSW)	• Provide examples of opportunities individual citizens have to participate in decision-making about resources and natural systems as a part of civic life. • Identify additional opportunities individual citizens, including students, have to become involved in their community on behalf of the environment.
5. Describe the reciprocity between rights and obligations; that is, why enjoyment of one's rights entails respect for the rights of others.	· Dilemma Derby, (p: 377) · Hot Water, (p: 388) · Whose Problem Is It?, (p: 429)	Enviro-Thinking, Ethi-Reasoning, Noisy Neighbors, Pay to Play, Philosophical Differences, Pro and Con, Sustainability: Then, Now & Later, The Hunter Aquatic WILD: Sea Turtle International, When a Whale is Right	Tough Choices (Focus on Forests); Decision Making: Ecological Risks	• Identify the spectrum of factors considered in making decisions about resources and natural systems, how those factors influence decisions, and how the enjoyment of one's rights in relation to the environment entails respect for the rights of others. • Provide examples of how decisions related to the use and management of natural systems and resources can result in the need to establish a balance between individual rights and liberties and choices related to the "common good."
12.3 Students evaluate and take and defend positions on what the fundamental values and principles of civil society are (i.e., the autonomous sphere of voluntary personal, social, and economic relations that are not part of government), their interdependence, and the meaning and importance of those values and principles for a free society.				
1. Explain how civil society provides opportunities for individuals to associate for social, cultural, religious, economic, and political purposes.	· Perspectives, (p: 397) · Wet-Work Shuffle, (p: 360)	History of Wildlife Management Science & Civics: Is There a Feather in My Cap?	; Decision Making: Ecological Risk, Wildfires, Natural Hazards, Special Topics: Electromagnetics Fields	
2. Explain how civil society makes it possible for people, individually or in association with others, to bring their influence to bear on government in ways other than voting and elections.	· Perspectives, (p: 397) · Hot Water, (p: 388) · Water Court, (p: 413)	Cabin Conflict, Cartoons and Bumper Stickers, Changing Attitudes, Deer Crossing, Know Your Legislation, Philosophical Differences, Riparian Zone, Wild Bill's fate, Wildlife Issues Aquatic WILD: Aquatic Times, Dragonfly Pond, Facts and Falsehoods, To Dam or Not to Dam, When a Whale is Right Science & Civics: Do you Hear What I Hear, See What I See?, Defining Action	Case Study: Old Growth Forests, Tough Choices, Who Owns America's Forests, Squirrels vs. Scopes (Focus on Forests)	• Identify examples of how civil society makes it possible for people, individually or in association, to influence the factors considered in making decisions about natural systems, resources, and environmental management and, in turn affect how those factors influence decisions. • Provide specific examples of how people, individually and in association, have influenced decisions about natural systems, resources and environmental management.

12.4 Students analyze the unique roles and responsibilities of the three branches of government as established by the U.S. Constitution				
		Science & Civics: Structural Review, Executive Influence, Wild Bill's Fate, Give Wildlife a Break, Presidential Prerogatives		• Identify specific clauses in the U.S. Constitution regarding the unique roles and responsibilities of the three branches of government in relation to the ownership, management and use of natural systems and resources (e.g., land ownership).
12.5 Students summarize landmark U.S. Supreme Court interpretations of the Constitution and its amendments.				
		Science & Civics: Testing the Law		• Identify specific landmark U.S. Supreme Court interpretations of the Constitution and its amendments regarding the ownership, management and use of natural systems and resources (e.g., land ownership), and responsibilities for environmental management issues.
12.6 Students evaluate issues regarding campaigns for national, state, and local elective offices.				
		Science & Civics: Give Wildlife a Break		
12.7 Students analyze and compare the powers and procedures of the national, state, tribal, and local governments.				
1. how conflicts between levels of government and branches of government are resolved		Cabin Conflict, Riparian Zone Aquatic WILD: When a Whale is Right Science & Civics: Structural Review, Wild Bill's fate, Give Wildlife a Break, Legal Eagles, Testing the Law		
2. the major responsibilities and sources of revenue for state and local governments		History of Wildlife Management, Know Your Legislation, Pay to Play, Wild Work		• Identify the major responsibilities of state and local governments in: controlling and mitigating environmental pollution; managing water, energy and air resources; establishing and managing park, wildlife refuge and forest systems; and other key environmental concerns. • Provide specific examples of the role of the State of California in controlling and mitigating environmental pollution; managing water, energy and air resources; establishing and managing park, wildlife refuge and forest systems; and other key environmental concerns. • Provide examples of laws, regulations, policies and incentives developed by the State of California to govern the use and management of natural systems and resources.
5. Explain how public policy is formed, including the setting of the public agenda and implementation of it through regulations and executive orders.	· Water Court, (p: 413) · Perspectives, (p: 397)	Changing Attitudes, know Your Legislation, Philosophical Differences Science & Civics: What's their Difference	Balancing America's Forests (Focus on Foests); Things Aren't Always the Way They Seem; Weighing Options: Ecological Risks, Special Topics: Electromagnetic Fields, Plastics (Risk)	• Describe how public policy is formed, including the setting of the public agenda and implementation of it through regulations and executive orders, using a historical environmental issue as an example.

6. Compare the processes of lawmaking at each of the three levels of government, including the role of lobbying and the media.	· Perspectives, (p: 397) · Water Court, (p: 413)	Wild Bill's Fate, Know Your Legislation	Special Topics: Electromagnetic Fields (Risk)	• Compare the processes of lawmaking at each of the three levels of government, including the role of lobbying and the media, using a historical environmental issue as an example.
7. Identify the organization and jurisdiction of federal, state, and local (e.g., California) courts and the interrelationships among them.	· Water Court, (p: 413)	Science & Civics: Presidential Prerogatives		• Describe the jurisdiction of federal, state (e.g., California), and local courts and the interrelationships among them regarding decisions about ownership, management and use of natural systems and resources, and responsibilities for environmental management issues.
12.8 Students evaluate and take and defend positions on the influence of the media on American political life.				
1. Discuss the meaning and importance of a free and responsible press.	· Hot Water, (p: 388) · Water: Read All About It!, (p: 400) · Whose Problem Is It?, (p: 429) · Water Write, (p: 457)	Aquatic WILD: Fact and Falsehoods	Case Study: Old Growth Forests, Squirrels and Scopes (Focus on Forests); What is Risk?, Things Aren't What they Always Seem (Risk)	
2. Describe the roles of broadcast, print, and electronic media, including the Internet, as means of communication in American politics.	· Water: Read All About It!, (p: 400) · Water Bill of Rights, (p: 403) · Whose Problem Is It?, (p: 429) · Water Write, (p: 457)	Cartoons & Bumper Stickers, Changing Attitudes, Philosophical Differences, The Power of a Song, Wild Bill's Fate, Wildlife Issues	Case Study: Old Growth Forests, Squirrels and Scopes (Focus on Forests); What is Risk?, Things Aren't What they Always Seem (Risk)	
3. Explain how public officials use the media to communicate with the citizenry and to shape public opinion.	· Whose Problem Is It?, (p: 429) · Water: Read All About It!, (p: 400)	Aquatic WILD: Fact and Falsehoods	Case Study: Old Growth Forests (Focus on Forests); What's a Risk, Communicating Risk (Risk)	
12.10 Students formulate questions about and defend analyses of tensions within our constitutional democracy and the importance of maintaining a balance between the following concepts:				• Formulate questions about and defend their analyses of tensions within our constitutional democracy and the importance of maintaining a balance between the following concepts: majority rule and individual rights; liberty and equality; state and national authority in a federal system; civil disobedience and the rule of law, using a historical environmental issue as an example.
		Science & Civics: What's Their Difference?		

12th Grade- Principles of Economics

Academic Content Standards	Project WET Activities	Project WILD Activities	Project Learning Tree Activities	Current Model Curiculum Plan
12.1 Students understand common economic terms and concepts and economic reasoning.				
1. Examine the causal relationship between scarcity and the need for choices.	· The CEO, (p: 300) · Dilemma Derby,(p: 377) · Whose Problem Is It?, (p: 429) · Pass The Jug (p: 392) · Water Works!, (p: 274)	Back From the Brink, Does Wildlife Sell?, Pro and Con, Rare Bird Eggs for Sale, Sustainability: Then, Now, Later, What You Wear is What They Were Aquatic WILD: Sea Turtle International	Case Study: Old Growth Forests, Squirrels and Scopes (Focus on Forests); Weighing the Options: A Look at Tradeoffs (Risk); Source Reduction, Recycling and Economics, Waste to Energy, Land fills, Taking Action (MSW)	• Recognize the causal relationship between scarcity of the goods and ecosystem services provided by natural systems and the need for choices. • Provide examples of how the quality, quantity and reliability of the goods and ecosystem services provided by natural systems are directly affected by the health of those systems.
2. Explain opportunity cost and marginal benefit and marginal cost.	· The CEO, (p: 300)** · The Price Is Right, (p: 333)		Weighing the Options: A Look at Tradeoffs (Risk); Take Action (MSW)	•• Identify the spectrum of factors that is considered in placing economic and other values on the opportunity costs, marginal benefits and marginal costs involved in decisions about use and management of natural systems and resources. • Compare the concepts of opportunity cost, marginal benefit and marginal cost by evaluating a state or local decision about the use or management of natural systems and resources. • Explain how unexpected long-term costs arise when decisions regarding natural systems and resources are made without sufficient
3. the difference between monetary and non-monetary and how changes in incentive cause changes in behavior		Flip the Switch for Wildlife, Pro and Con, Rare Bird Eggs for Sale, Sustainability: Then, Now, Later, What Did Your Lunch Cost Wildlife?, What You Wear is What They Were	Commuicating Risk, Weighing the Options: A Look at Tradeoffs; Decisionmaking: Ecological Risks, Special Topics: Plastics (Risk); Source Reduction, Waste to Energy, Landfills, Take Action (MSW)	•• Provide an example of the difference between monetary and non-monetary incentives using the management of natural systems and resources as an example. • Explain how incentives have been used to cause changes in the management of natural systems and resources. • Provide examples of state and federal incentive that have been used to encourage and discourage the extraction, harvest, transportation, or consumption of natural resources and/or the management of the byproducts that result from these processes. • Evaluate whether these incentives have beneficial, neutral or detrimental effects on natural systems and resources.

4. Evaluate the role of private property as an incentive in conserving and improving scarce resources, including renewable and nonrenewable natural resources.	· Dilemma Derby, (p: 377) · Sum of the Parts,(p: 267)**	Cabin Conflict, Improving Wildlife Habitat, Pay to Play, Riparian Zone	Case Study: Old Growth Forests; Who Owns America's Forests, Balancing America's Forests (Focus on Forests); Decisionmaking: Ecological Risk (Risk)	• Identify and analyze examples of conservation and the improvement of scarce resources that have been achieved through ownership of private property. • Identify and analyze examples of renewable and nonrenewable natural resources that are managed through the system of private property ownership. • Explain how incentive systems are used to encourage specific management practices that conserve natural resources (e.g., endangered species, coal, timber, oil).
12.2 Students analyze the elements of America's market economy in a global setting.				
2. Discuss the effects of changes in supply and/or demand on the relative scarcity, price, and quantity of particular products.	· The Price Is Right, (p: 333) · Whose Problem Is It?, (p: 429) · Pass The Jug (p: 392) · Sum of the Parts,(p: 267)**	Aquatic WILD: Dam Design, Sea Turtle International	Weighing the Options: A Look	• Provide contemporary examples of the effects of changes in supply and/or demand on the relative scarcity, price, and quantity of particular goods and ecosystems services that are provided by natural systems (e.g., oil, hydroelectric power, water, agricultural products). • Describe the direct and indirect effects on natural systems of changes in supply and/or demand for specific goods and ecosystem services (e.g., changing water flow to obtain either water supplies or hydroelectric power). • Provide examples of laws, policies, and incentives that have been developed to regulate changes in supply and/or demand on the relative scarcity, price, and quantity of particular products (e.g., hydroelectric
4. Explain how prices reflect the relative scarcity of goods and services and perform the allocative function in a market economy.	· The CEO, (p: 300) · The Price Is Right, (p: 333)		Recycling and Economics (MSW)	• Explain how prices reflect the relative scarcity of goods and ecosystem services using international trade in regulated plant and animal products as an example.
5. Understand the process by which competition among buyers and sellers determines a market price.			Recycling and Economics (MSW)	
7. Analyze how domestic and international competition in a market economy affects goods and services produced and the quality, quantity, and price of those products.	· The Price Is Right, (p: 333)** · Whose Problem Is It?, (p: 429)**			• Identify examples of how domestic and international competition in a market economy affects the rates of extraction, harvest, transportation, and consumption of natural resources as well as the management of the resulting byproducts. • Describe the direct and indirect effects of increased rates of extraction, harvest, transportation, and consumption of natural resources. • Explain how greater quantities of the resulting byproducts influence the quality, quantity and reliability of the goods and ecosystem services provided by natural systems and the health of those systems.

10. Discuss the economic principles that guide the location of agricultural production and industry and the spatial distribution of transportation and retail facilities.	· The Price Is Right, (p: 333) · Whose Problem Is It?, (p: 429) · Color Me A Watershed, (p: 223)**		Waste to Energy; Landfills (MSW)	• Provide examples of the influence of environmental management considerations on the economic considerations that guide the location of agricultural production and industry and the spatial distribution of transportation and retail facilities. • Identify environmental management considerations that are influenced by the location of agricultural production and industry, and the spatial distribution of transportation and retail facilities.
12.3 Students analyze the influence of the federal government on the American economy.				
1. Understand how the role of government in a market economy often includes providing for national defense, addressing environmental concerns, defining and enforcing property rights, attempting to make markets more competitive, and protecting consumers' rights.	· The CEO, (p: 300) · The Price Is Right, (p: 333) · Dilemma Derby (p: 377) · Hot Water, (p: 388) · Water Bill of Rights (p: 403) · Whose Problem Is It? (p: 429) · Pass The Jug (p: 392)** · Water Court (p: 413)** · Sum of the Parts (p: 267)**	History of Wildlife Management Aquatic WILD: Net Gain, Net Effect, To Dam or Not to Dam Science & Civics: Wild Bill's Fate	Old Growth Forests; Who Owns Americas Forests; Balancing America's Forest (Focus on Forests); Things Aren't What They Seem, Weighing Options: A Looke at Tradeoffs, Decision Making: Ecological Risk, Special Topics: Electricomagnetic Fields; Special Topics: Plastics (Risk); Waste to Energy, Landfills (MSW)	• Describe examples of environmental laws, regulations, policies and incentives that influence the market economy. • Explain the effects of these environmental laws, regulations, policies and incentives on making markets more or less competitive; and, protecting consumers' rights, as well as environmental and human health.
12.6 Students analyze issues of international trade and explain how the U.S. economy affects, and is affected by, economic forces beyond the United States's borders.				
3. Understand the changing role of international political borders and territorial sovereignty in a global economy.	· Whose Problem Is It? (p: 429)	Aquatic WILD: When a Whale is Right		

Participants in the review of the "Project Learning Tree, Project WILD and Aquatic WILD, and Project WET materials and the development of a cross reference correlation to the Environmental Education Initiative's Environmental Principles and Concepts (EP&C) and Standards-based learning objectives included:

PROJECT LEARNING TREE

Kay Antunez de Mayolo
M.S., B.S., Biological Sciences
California Teaching Credential (Life Credential) – Secondary Science
Classroom science teacher – (grades 3-8, high school, community college, outdoor school educator) – 12 years
Education Director – Sacramento Tree Foundation -5 years
State Coordinator – Project Learning Tree, California Department of Forestry and Fire Protection -18 years
Project Learning Tree PreK-8 revisions team (1990-93, 2001-2005), Spanish translations, Secondary modules (reviewer)
Author: "Investigating the Oak Community" (grades 4-8)

Marianne Chang
B.A. International Relations
California Teaching Credential – multiple subjects (K-8)
Reading Certificate, CLAD
Classroom teacher (grades 1, 2, 5) -10 years
Reading Specialist, Reading Recovery teacher
Literacy Coach
Scorer – CA Subjects Examination for Teachers (CSET) multiple subject exam and Reading Instruction Competency Assessment (RICA)
PLT "Educator of the Year" award (1998)
Member - California PLT Advisory Committee
Author - Science Correlations and curriculum development for PLT's Energy and Society (2000)
Reviewer – PLT Correlations to National Social Studies Standards (1999)
Facilitator – Project Learning Tree
Writer – CA content standard correlation, Ag in the Classroom "What's Growin' On?" (5th edition)

Linda Desai
BS, Conservation Education, M.S. Conservation Education
Community College credential-Biological Sciences, Natural Resources, Forestry and related technologies
Education Director, Placer Nature Center - 15 years
PLT "Educator of the Year" award (2005)
Member - California PLT Advisory Committee
Facilitator – Project Learning Tree, Project WET, Project WILD programs
Correlated all Placer Nature Center curriculum materials to CA Standards

Dennis Mitchell
BA, Liberal Studies
California Teaching Credential (Life) Multiple Subjects
Science and Math teacher (grades 3, 8) - 28 years
Staff development and education consultant – 22 years
Staff developer – California Science Project – 5 years
Science in Rural California – 7 years
Science Project (Project ARISE) – 4 years
K12 Alliance (science) – 2 years
Thematic teaching, science curriculum specialist
Mentor Teacher, Master teacher for pre-service credential programs
PLT "Educator of the Year" (2000)
Education Staff – Forestry Institute for Teachers – 13 years
Facilitator – Project Learning Tree, Project WILD

CALIFORNIA PROJECT WET

Brian Brown
B. S. Forestry, B.A. Social Sciences- Humboldt State University
California Teaching Clear Credentials: Multiple Subjects, Single subject, Life Sciences and Social Sciences
Teacher, Residential Outdoor/Environmental Science – 14 years
Education Staff – Forestry Institute for Teachers - 14 years
State Coordinator, California Project WET - 2 years
Member - California PLT Advisory Committee
Member- California Foundation for Ag. In the Classroom Education Committee
Facilitator for Project Learning Tree, Project WET, Project WILD and BLM Fire Education programs

Ursula Heffernon
B. S. Biological Sciences, M. T. Medical Technology
California Teaching Credential (clear), Biological Sciences and Chemistry
Classroom teacher – middle and high school
Research and development – Atomic Energy Commission and Pharmaceuticals
Education Director – Burrowing Owl Preservation Society and Solano Co. Water Education Program (including curriculum development)
Facilitator for Project WET and Project WILD

Cary Olin

B.A./B.S. Biology/Anthropology
Water Education Program Specialist – teacher workshops, student instruction
Developed student journals (grades 4-6) used with water education program and aligned with California Science Standards.
CABAP(California Building a Presence for ScienceMember - Department of Water Resources Water and
Association of California Water Agencies Water Education Committees
California Science Teachers Association's Informal Science Educator Award (2002)
Facilitator for Project WET, Project WILD, Wonders of Wetlands
Former Education Director at the Hawaii's Children's Museum and the Discovery Center of Sonoma County.

Judy Wheatley Maben

B.A. Biological Sciences, M.A., Secondary Science Education
California Teaching Credential (life) Secondary Science
Classroom Teacher (grades 6-12) – 12 years
Master Teacher – California State University, Sacramento
Education Director – Water Education Foundation - 20 years
California Coordinator – Project WET -10 years
Writing Team for Project WET
National Project WET Advisory Council – 5 years
Other curricula written: "California Water Story" (grades 4-5), "Project Water Science (grades 5-8), "California Water Problems" (grades 9-14), "Groundwater Education" (grades 6-10), "Fountains of Columbia" (grades 4-5), "Water Recycling" (grades 4-6).

PROJECT WILD

Bobbie Winn

B.S. Design/Home Economics, minor Life Science- University of California, Davis
Graduate studies Art Education- California State University, Sacramento; Certified-Early Childhood Education
Classroom Resource Teacher - art and science (K-3) - 5 years
Teacher-Pre-school and extended day program - 8 years
California Project WILD Coordinator, Department of Fish and Game - 9 years
Project WILD Guide Revision Team -activity writer and reviewer for both WILD K-12 and Aquatic WILD (1999-2000)
Co-author of California Aquatic WILD Early Childhood Education Supplement
Development team and writer for the American River Salmon Festival Educator Activity Guide (grade K-8) and Be Bear Aware Curriculum Guide (grades 4-6)
Feature writer for Outdoor California magazine – Kids Opportunity section -5 years
Writing and program development team of the California 4-H Habitat Evaluation Program (developed the WHEP concepts and activity guide)

Diane Coventry

B. A. Geology, M. S. Science Education (in progress)
California Teaching Credential
Classroom Teacher – (grades 4, 5 and middle school math and science) – 15 years
District site science teacher leader
Chevron Geologic Assistant – 10 years
Facilitator – Project WILD

Natalie Schaefer

B. A. Geography and American Indian Studies, M.S. Environmental Sciences
California Teaching Credential, Administrative Services Credential (preliminary)
Classroom Teacher – (grades 4-12, science) - 25 years
Programs Administrator and Education Consultant– Environmental Education and Service Learning