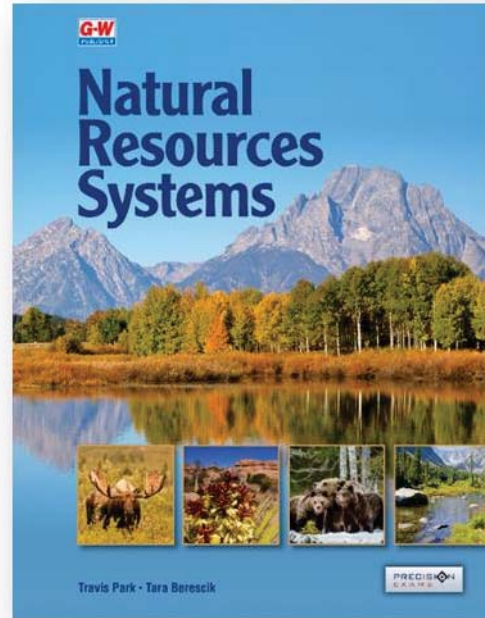


Correlation of
Natural Resources Systems, 1st Edition, Park and Berescik
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to
National Agriculture, Food, and Natural Resources

The following correlation chart lists the standards for the Agriculture, Food, and Natural Resources Content Standards in the left column. Foundational and career pathway standards that are covered include applicable standards from *Natural Resources Systems (NRS)*.

Corresponding content from **Natural Resources Systems** that can be used by a student to help achieve the standards is listed in the right column.

A complete table of contents for the 1st edition of **Natural Resources Systems** is provided at the end of this document.



	G–W Content (TC Thinking Critically; SAA STEM; FFA; SAE; CAFD Communicating about)
NRS.01. Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.	19 (SAE 2) 78 (TC 7) 143 <i>Management of Invasive Species</i> (habitat destruction) 197 (FFA 1) 254 (TC 2) 255 (FFA 2; CA 2) 259–263 <i>Tillage</i> 264–268 <i>Conservation Buffers</i> 269–274 <i>Structural Conservation Practices</i> 279 (ST 3, 4); (SAE 2) 374–375 <i>Wetland Conservation and Management</i> 375–376 <i>Wetland Rehabilitation and Restoration</i> 381 (SAE 2) 461 (SAE 2) 497 <i>Regional Offices and Fish Management Plans</i>

<p>(continued) NRS.01. Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.</p>	<p>498 <i>Magnuson-Stevens Fishery Conservation and Management Act</i> 510–512 <i>Fisheries Management</i> 528 (ST 3) 529 (CA 1) 533–534 <i>Game Species Management</i> 543 <i>A Reclamation Success Story</i> (game species) 559 (ST 4); (FFA 1) 612 (SAE 2) 616 (TC 7) 617 (ST 11) 617 (FFA 1) 617 (CA 1, 2) 748 (ST 2)</p>
<p>NRS.01.01. Apply methods of classification to examine natural resource availability and ecosystem function in a particular region.</p>	<p>4–9 <i>Renewable or Nonrenewable?</i> 9–11 <i>Nonrenewable Natural Resources</i> 11–12 <i>Biotic and Abiotic Natural Resources</i> 200 <i>Soil Functions</i> 200–206 <i>Soil Components</i> 211–215 <i>Physical Properties of Soil</i> 219–221 <i>Soil Classification</i> 254 (TC 4) 258 <i>Land Use Classification</i> 285–291 <i>Mineral Mining in the United States</i> 230 (ST 2)</p>
<p>NRS.01.01.01.a. Summarize and classify the different kinds of natural resources using common classification schemes (e.g., living versus non-living, renewable versus nonrenewable, native versus introduced, etc.).</p>	<p>2–19 CH 1 <i>Introduction to Natural Resources</i> 18 (ST 1) 4–9 <i>Renewable or Nonrenewable</i> 9–11 <i>Nonrenewable Natural Resources</i> 11–12 <i>Biotic and Abiotic Natural Resources</i> 254 (TC 4)</p>
<p>NRS.01.01.01.b. Assess the characteristics of a natural resource to determine its classification.</p>	<p>4–9 <i>Renewable or Nonrenewable?</i> 9–11 <i>Nonrenewable Natural Resources</i> 11–12 <i>Biotic and Abiotic Natural Resources</i> 18 (ST 1, 3) 200 <i>Soil Functions</i> 200–206 <i>Soil Components</i> 211–215 <i>Physical Properties of Soil</i> 285–291 <i>Mineral Mining in the United States</i> 229 (TC 2) 230 (ST 2, 5) 231 (CA 2) 380 (ST 4)</p>

<p>NRS.01.01.01.c. Devise strategies for the preservation of natural resources based on their classification.</p>	<p>13 <i>Environmental Stewardship</i> 13–14 <i>Conservation and Preservation</i> 19 (ST 5) 67–69 <i>Legislation and Natural Resources</i> 70–72 <i>Government Agencies</i> 79 (CA 1, 2) 112–113 <i>A Change of View</i> 161–162 <i>Water Use</i> 162 <i>Power Production and Regulation</i> 166 <i>Reducing Pollution</i> 264–268 <i>Conservation Buffers</i> 269 <i>Drainage Systems</i> 269–274 <i>Structural Conservation Practices</i> 300 <i>Reclamation of Mined Areas</i> 323–324 <i>Water Rights</i> 329 (ST 3); (CA 1) 374–375 <i>Wetland Conservation and Management</i> 430 (TC 4) 482 <i>Legislation</i> (endangered species) 487 (TC 3) 497 <i>National Oceanic Atmospheric Administration</i> 498 <i>Legislation</i> (fisheries) 553–554 <i>Hunter Ethics</i> 709 <i>Land Ownership: Public and Private Land Use Regulations</i></p>
<p>NRS.01.01.02.a. Summarize the components that comprise all ecosystems.</p>	<p>79–107 CH 4 <i>Ecology and Earth</i> 432–461 CH 18 <i>Interactions</i> 444 Figure 18-12 <i>Ecosystem Diagram</i></p>
<p>NRS.01.01.02.b. Analyze the interdependence of organisms within an ecosystem (e.g., food webs, niches, impact of keystone species, etc.) and assess the dependence of organisms on nonliving components (climate, geography, energy flow, nutrient cycling, etc.).</p>	<p>87 <i>The Energy Cycle</i> 200, 206, 209, 210, 211 230 (ST 4) 255 (FFA 2; CA 2) 279 (FFA 1) 279 (CA 2) 430–461 CH 18 <i>Interactions</i> 444–446 <i>Food Webs and Energy Transfer</i> 444 Figure 18-12 <i>Ecosystem Diagram</i> 445 Figure 18-13 <i>Energy Flow Pyramid</i> 446 Figure 18-14 <i>Food Web Diagram</i> 447–454 <i>Keystone Species</i> 459 (TC 2, 4, 6) 460 (ST 2) 461 (SAE 2)</p>
<p>NRS.01.01.02.c. Conduct analyses of ecosystems and document the interactions of living species and non-living resources.</p>	<p>79–107 CH 4 <i>Ecology and Earth</i> 139–140 <i>Natural Cycle of Habitat Disturbances</i> 432–461 CH 18 <i>Interactions</i></p>

<p>NRS.01.01.03.a. Summarize and classify different kinds of living species based on evolutionary traits.</p>	<p>100 (TC) 439 <i>Evolution</i> 442 <i>STEM Connection: Adaptations for Survival</i> 460 (ST 1) 475 <i>DNA Barcoding</i></p>
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<p>NRS.01.01.03.c. Evaluate biodiversity in ecosystems and devise strategies to enhance the function of an ecosystem and the availability of natural resources by increasing the level of biodiversity.</p>	<p>12 <i>Flora and Fauna</i> 78 (TC 5) 268 <i>Wildlife Habitats</i> (movement corridor) 296–297 <i>Loss of Biodiversity</i> 304 (TC 1) 435 <i>Biodiversity</i> 437–444 <i>Competition</i> 460 (ST 8) 470 <i>STEM Connection: A Sixth Mass Extinction</i> 474 <i>Biodiversity and Ecological Health</i> 487 (TC 5) 595 (ST 7)</p>
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<p>NRS.01.02.01.b. Apply identification techniques to determine the species of a tree or woody plant.</p>	<p>562–564 <i>Types of Forests</i> 569–573 <i>Most Common Tree Species in the United States</i> 573–584 <i>Other Important Tree Species</i> 584–588 <i>Non-Tree Forest Plants</i> 594 (ST 2, 5, 8)</p>
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<p>NRS.01.02.02.b. Apply identification techniques to determine the species of an herbaceous plant.</p>	<p>584–588 <i>Non-Tree Forest Plants</i> 595 (ST 8) 632–636 <i>Invasive Plant Pests</i> 653–654 <i>Important Grassland Plant Species</i></p>
<p>NRS.01.02.02.c. Evaluate the species of herbaceous plants present to assess the health of an ecosystem (e.g., presence of native versus invasive plants, biodiversity, etc.).</p>	<p>564–566 <i>Healthy Forest Ecosystems</i> 594 (ST 2) 632–636 <i>Invasive Plant Pests</i> 653–654 <i>Important Grassland Plant Species</i></p>
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<p>NRS.01.02.03.b. Apply identification techniques to determine the species of wildlife or insect.</p>	<p>19 (CA 2) 512–514 <i>Freshwater Finfish Species</i> 515–519 <i>Commercial Marine Finfish Species</i> 520–524 <i>Commercial Crustaceans and Mollusks</i> 632–636 <i>Invasive Plant Pests</i> 653–654 <i>Important Grassland Plant Species</i> 744–764 <i>Illustrated Glossary</i></p>
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NRS.01.06.02.a. Research and summarize examples of invasive species.	140–143 <i>Introduction of Invasive Species</i> (habitat destruction) 147 <i>Invasive Species: Rabbits and Habitat Degradation</i> 153 (FFA 1) 197 (SAE 2) 454 <i>Invasive Species</i> (interactions) 459 (TC 5) 461 (FFA 1); (CA 1) 469 <i>Invasive Species</i> (species extinction) 507–509 <i>Invasive Species</i> (fisheries) 540–541 <i>Wild Boar</i>
NRS.01.06.02.b. Analyze factors that influence the establishment and spread of invasive species and determine the appropriate steps to prevent or minimize the impact of invasive species.	140–143 <i>Introduction of Invasive Species</i> (habitat destruction) 147 <i>Invasive Species: Rabbits and Habitat Degradation</i> 153 (FFA 1) 197 (SAE 2) 454 <i>Invasive Species</i> (interactions) 459 (TC 3) 461 (FFA 1); (CA 1) 469 <i>Invasive Species</i> (species extinction) 507–509 <i>Invasive Species</i> (fisheries) 540–541 <i>Wild Boar</i> 604 <i>Removing Invasive Species</i> 632–636 <i>Invasive Plant Pests</i> 676 <i>Responsibilities with Fishing</i> 680 <i>Responsibilities with Boating</i> 724 <i>Monitoring Invasive Species</i>
NRS.01.06.02.c. Evaluate the presence and impact of invasive species on natural resources in a given area and devise a plan to prevent, control or eliminate invasive species from that habitat.	461 (FFA 1); (CA 1) 604 <i>Removing Invasive Species</i> 632–636 <i>Invasive Plant Pests</i> 676 <i>Responsibilities with Fishing</i> 680 <i>Responsibilities with Boating</i> 724 <i>Monitoring Invasive Species</i>
NRS.02.01. Analyze the interrelationships between natural resources and humans.	4, 18 (#1, #3),

<p>NRS.02.01. Examine and interpret the purpose, enforcement, impact and effectiveness of laws and agencies related to natural resource management, protection, enhancement and improvement (e.g., water regulations, game laws, historic preservation laws, environmental policy, etc.).</p>	<p>54 <i>Establishment of National Parks</i> 54 <i>US National Park Service</i> 55 <i>The Soil Conservation Service</i> 67–69 <i>Legislation and Natural Resources</i> 68–69, 113 <i>Clean Water Act (1972)</i> 70–72 <i>Government Agencies</i> 73–74 <i>Advocacy Organizations</i> 79 (ST 4) 113 <i>National Environmental Policy Act</i> 113 <i>Clean Air and Clean Water Acts</i> 116 <i>Farm Bills and Conservation Funding</i> 160 <i>Land Use Regulations</i> 240 <i>Soil Erodibility (USDA NRCS Index)</i> 255 (CA 2) 258–259 <i>Land Use Classification (USDA NRCS)</i> 300 <i>The Surface Mining Control and Reclamation Act</i> 323–324 <i>Water Rights</i> 329 (ST 3); (CA 1) 336–337 <i>Water Standards</i> 374 <i>Wetland Conservation and Management</i> 386 <i>The Montreal Protocol</i> 419–423 <i>Measuring Air Quality</i> 423–426 <i>Focusing on Solutions</i> 430 (TC 4) 464–465 <i>International Union for Conservation of Nature (IUCN)</i> 465–467 <i>The US Federal Lists of Endangered Species</i> 482 <i>Legislation (endangered species)</i> 497 <i>National Oceanic and Atmospheric Administration</i> 497 <i>National Marine Fisheries Service</i> 497 <i>Regional Offices and Fish Management Plans</i> 497 <i>US Fish and Wildlife Service</i> 497 <i>Regional Offices and Fish Management Plans</i> 498 <i>Legislation (fisheries)</i> 498 <i>Magnuson-Stevens Fishery Conservation and Management Act</i> 533 <i>Game Species Management</i> 709 <i>Public and Private Land Use Regulations</i></p>
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<p>NRS.02.01.01.a. Distinguish between the types of laws associated with natural resources systems.</p>	<p>54 <i>Establishment of National Parks</i> 67–69 <i>Legislation and Natural Resources</i> 68–69, 113 <i>Clean Water Act (1972)</i> 113 <i>National Environmental Policy Act</i> 113 <i>Clean Air and Clean Water Acts</i> 116 <i>Farm Bills and Conservation Funding</i> 160 <i>Land Use Regulations</i> 300 <i>The Surface Mining Control and Reclamation Act</i> 323–324 <i>Water Rights</i> 386 <i>The Montreal Protocol</i> 482 <i>Legislation</i> (endangered species) 498 <i>Legislation</i> (fisheries) 498 <i>Magnuson-Stevens Fishery Conservation and Management Act</i></p>
<p>NRS.02.01.01.b. Analyze the structure of laws associated with natural resources systems.</p>	<p>67–69 <i>Legislation and Natural Resources</i></p>
<p>NRS.02.01.01.c. Evaluate the impact of laws associated with natural resources systems (e.g., mitigation, water regulations, carbon emissions, game limits, invasive species, etc.).</p>	<p>67–69 <i>Legislation and Natural Resources</i></p>
<p>NRS.02.01.02.a. Distinguish between the types of agencies associated with natural resources systems.</p>	<p>54 <i>US National Park Service</i> 55 <i>The Soil Conservation Service</i> 70–72 <i>Government Agencies</i> 464–465 <i>International Union for Conservation of Nature (IUCN)</i> 497 <i>National Oceanic and Atmospheric Administration</i> 497 <i>National Marine Fisheries Service</i> 497 <i>Regional Offices and Fish Management Plans</i> 497 <i>US Fish and Wildlife Service</i></p>
<p>NRS.02.01.02.b. Analyze the specific purpose of agencies associated with natural resources systems.</p>	<p>54 <i>US National Park Service</i> 55 <i>The Soil Conservation Service</i> 70–72 <i>Government Agencies</i> 79 (ST 4) 221 <i>Land Capability Classification (USDA NRCS)</i> 464–465 <i>International Union for Conservation of Nature (IUCN)</i> 497 <i>National Oceanic and Atmospheric Administration</i> 497 <i>National Marine Fisheries Service</i> 497 <i>Regional Offices and Fish Management Plans</i> 497 <i>US Fish and Wildlife Service</i></p>

<p>NRS.02.01.02.c. Evaluate the impact and effectiveness of agencies associated with natural resources systems (e.g., regulation of consumption, prevention of damage to natural resources systems, management of ecological interactions, etc.).</p>	<p>54 <i>US National Park Service</i> 55 <i>The Soil Conservation Service</i> 70–72 <i>Government Agencies</i> 79 (ST 4) 221 <i>Land Capability Classification (USDA NRCS)</i> 464–465 <i>International Union for Conservation of Nature (IUCN)</i> 497 <i>National Oceanic and Atmospheric Administration</i> 497 <i>National Marine Fisheries Service</i> 497 <i>Regional Offices and Fish Management Plans</i> 497 <i>US Fish and Wildlife Service</i></p>
<p>NRS.02.02. Assess the impact of human activities on the availability of natural resources.</p>	<p>9–11 <i>Nonrenewable Natural Resources</i> 11 <i>Fossil Fuels</i> 113–114 <i>Harvesting Natural Resources and Sustained Yields</i> 140–143 <i>Habitat Destruction Caused by Humans</i> 164–166 <i>Pollution</i> 166–168 <i>Green Technology</i> 174 (TC 1) 247–250 <i>Soil Pollutants</i> 259–263 <i>Tillage</i> 255 (FFA 2) (CA 2) 278 (TC 1) 279 (ST 1,2); (FFA 1); (SAE 2); (CA 1) 314 <i>Groundwater Pollution</i> 342–350 <i>Water Pollution</i> 406–418 <i>Types of Air Pollution</i></p>
<p>NRS.02.02.01.a. Summarize the relationship between natural resources, ecosystems and human activity.</p>	<p>140–143 <i>Habitat Destruction Caused by Humans</i></p>

<p>NRS.02.02.01.b. Assess and explain how different kinds of human activity affect the use and availability of natural resources (i.e., agriculture, industry, transportation, etc.).</p>	<p>18 (ST 1, 3) 140–143 <i>Habitat Destruction Caused by Humans</i> 152 (ST 2) 153 (FFA 1); (CA 1) 156–160 <i>Land Use</i> 161–162 <i>Water Use</i> 162–163 <i>Social Pressures</i> 163 <i>Economic Value of Resources</i> 176–197 CH 8 <i>Population Dynamics</i> 232–255 CH 10 <i>Soil Erosion, Leaching, and Pollution</i> 255 (FFA 2; CA 2) 259–263 <i>Tillage</i> 278 (TC 1) 279 (ST 1,2); (FFA 1); (SAE 2); (CA 1) 280–305 CH 12 <i>Mining of Natural Resources</i> 342–350 <i>Water Pollution</i> 406–418 <i>Types of Air Pollution</i> 454 <i>Invasive Species</i> 462–489 CH 19 <i>Endangered Species</i> 503–509 <i>Threats to Fisheries</i> 523–524 <i>Water Rights</i> 530–559 CH 21 <i>Game Species</i> 618–645 CH 24 <i>Threats to Forests</i> 646–667 CH 25 <i>Grasslands and Rangelands</i> 692–717 CH 27 <i>Natural Protected Areas</i></p>
<p>NRS.02.02.01.c. Evaluate how the availability of natural resources can be improved through changes to human activity.</p>	<p>79 (CA 1) 108–135 CH 5 <i>Sustainability in the Environment</i></p>
<p>NRS.02.02.02.a. Categorize the primary causes of extinction of living species due to human activity (e.g., overharvesting, habitat loss, invasive species, pollution, etc.).</p>	<p>19 (CA 2) 140–144 <i>Habitat Destruction Caused by Humans</i> 144 <i>Habitat Fragmentation</i> 144–148 <i>Habitat Degradation</i> 468–474 <i>Why do Species Become Extinct?</i></p>
<p>NRS.02.02.02.b. Assess causes of extinction and describe how those causes related to loss of biodiversity.</p>	<p>468–474 <i>Why do Species Become Extinct?</i> 474 <i>Biodiversity and Ecological Health</i></p>

<p>NRS.02.02.02.c. Devise a strategy for preventing the loss of species and biodiversity that takes into account the primary causes of species extinction from human activity.</p>	<p>13 <i>Environmental Stewardship</i> 19 (SAE 2) 67–69 <i>Legislation and Natural Resources</i> 69 <i>Endangered Species Act</i> 108–135 CH 5 <i>Sustainability in the Environment</i> 256–279 CH 11 <i>Controlling Soil Erosion</i> 268 <i>Wildlife Habitats</i> (movement corridor) 300 <i>Reclamation of Mined Areas</i> 374–375 <i>Wetland Conservation and Management</i> 375–376 <i>Wetland Rehabilitation and Restoration</i> 510–512 <i>Fisheries Management</i> 533–534 <i>Game Species Management</i> 602–612 <i>Forest Management Practices</i> 632 <i>Managing Diseases and Insect Pests</i></p>
<p>NRS.02.02.03.a. Examine and describe the manner in which modern lifestyles are related to the depletion of natural resources.</p>	<p>140–144 <i>Habitat Destruction Caused by Humans</i></p>
<p>NRS.02.02.03.b. Identify solutions to improve the sustainability of modern lifestyles.</p>	<p>108–135 CH 5 <i>Sustainability in the Environment</i> 134 (ST 1) 135 (CA 1) 166 <i>Reducing Pollution</i> 170 <i>Reducing Our Ecological Footprints</i> 174 (TC 5)</p>
<p>NRS.02.02.03.c. Evaluate how modern lifestyles affect resource consumption and energy use and devise a strategy to prevent the complete loss of a natural resource.</p>	<p>108–135 CH 5 <i>Sustainability in the Environment</i> 134 (ST 1) 135 (CA 1) 166 <i>Reducing Pollution</i> 170 <i>Reducing Our Ecological Footprints</i> 174 (TC 5)</p>
<p>NRS.02.03. Analyze how modern perceptions of natural resource management, protection, enhancement and improvement change and develop over time.</p>	<p>79 (CA 1) 112–114 <i>Perceptions of the Environment Over Time</i> 134 (TC 2); (ST 3) 135 (CA 1) 528 (TC 1)</p>
<p>NRS.02.03.01.a. Summarize and categorize the different social considerations in regards to the use of natural resources (e.g., public versus private, laws and regulations, economics, green technology, etc.).</p>	<p>54 <i>Establishment of National Parks</i> 156–160 <i>Land Use</i> 161–162 <i>Water Use</i> 162 <i>Power Production and Regulation</i> 162–163 <i>Social Pressures</i> 163–164 <i>Economic Value of Resources</i> 166–168 <i>Green Technology</i> 258 <i>Land Use Classification</i> 135 (SAE 3) 175 (CA 2)</p>

<p>NRS.02.03.01.b. Analyze how social considerations can affect the use and sustainability of natural resources.</p>	<p>156–160 <i>Land Use</i> 161–162 <i>Water Use</i> 134 (ST 1, 2) 135 (CA 1) 174 (TC 5)</p>
<p>NRS.02.03.01.c. Develop predictions for how the management, protection, enhancement and improvement of natural resources will evolve through social considerations (e.g., establishment of national parks, public opinion, and fishing, reduction of waste and energy consumption, etc.).</p>	<p>54 <i>Establishment of National Parks</i> 79 (CA 1, 2) 108–135 CH 5 <i>Sustainability in the Environment</i> 156–160 <i>Land Use</i> 161–162 <i>Water Use</i> 162 <i>Power Production and Regulation</i> 162–163 <i>Social Pressures</i> 163–164 <i>Economic Value of Resources</i> 166–168 <i>Green Technology</i> 258 <i>Land Use Classification</i> 135 (SAE 3) 175 (CA 2)</p>
<p>NRS.02.03.02.a. Research and assess how historical figures played a prominent role in shaping how natural resources are viewed and used today (e.g., Aldo Leopold, Teddy Roosevelt, John Muir, Rachel Carson, Gaylord Nelson, etc.).</p>	<p>60–66 Conservationists and Preservationists (Norman Borlaug, Archie Carr, Rachel Carson, Jacques-Yves Cousteau, Dr. Dian Fossey, Jane Goodall, Aldo Leopold, John Muir, Margaret Murie, Gaylord Nelson, Gifford Pinchot, Theodore Roosevelt, George Vanderbilt, Edward O. Wilson, Charles Young) 78 (TC 1) 79 (ST 6); (CA 1, 2)</p>
<p>NRS.02.03.02.b. Examine and describe the relationship between current trends in natural resource systems and historical figures that played a prominent role in shaping how natural resources are viewed and used today.</p>	<p>60–66 Conservationists and Preservationists 78 (TC 1) 79 (ST 6); (CA 1, 2) 197 (CA 1)</p>
<p>NRS.02.03.02.c. Anticipate and predict how society's views and use of natural resources will continue to change as a result of historical figures and trends in modern society.</p>	<p>60–66 Conservationists and Preservationists 78 (TC 1) 79 (ST 6); (CA 1, 2) 134 (TC 2) 135 (CA 1) 197 (CA 1)</p>
<p>NRS.02.03.03.a. Research how technology has affected the use and views of natural resources.</p>	<p>79 (CA 1, 2)</p>
<p>NRS.02.03.03.b. Analyze and document how some technological advancements changed how natural resources were used and viewed (e.g., Industrial Revolution, fossil fuels, green technology, etc.).</p>	<p>79 (CA 1, 2) 135 (CA 1) 196 (TC 4)</p>
<p>NRS.02.03.03.c. Anticipate and predict how future technological advancements may affect the use and views of natural resources.</p>	<p>79 (CA 1, 2)</p>

NRS.02.04. Examine and explain how economics affects the use of natural resources.	160, 163, 164 19 (CA 2) 134 (#3)
NRS.02.04.01.a. Compare and contrast how the economic value of a natural resource affects its availability.	19 (CA 2) 110, 111 <i>Economic Sustainability</i> 135 (CA 2) 164 Untapped Resources
NRS.02.04.01.b. Assess whether economic value increases or decreases the conservation, protection, improvement and enhancement of natural resources.	19 (CA 2) 110, 111 <i>Economic Sustainability</i> 135 (CA 2) 164 Untapped Resources 175 (ST 4)
NRS.02.04.01.c. Devise a plan to improve the conservation, protection, improvement and enhancement of natural resources based on economic value and practices.	19 (CA 2) 300 <i>Reclamation of Mined Areas</i> 304 (TC 4)
NRS.02.04.02.a. Research the impact of the use of natural resources on local, state and national economies (e.g., outdoor recreation, energy production, preservation, etc.).	19 (CA 2, 3) 355 (ST 3) 360 <i>Recreational Activities</i> 668–691 CH 26 <i>Outdoor Recreation</i>
NRS.02.04.02.b. Assess the importance of the use of natural resources on local, state and national economies.	111 <i>Economic Sustainability</i> 135 (CA 2) 160 <i>Economic Strength</i> 163–164 <i>Economic Value of Resources</i> 175 (ST 4) 321–322 <i>Watersheds</i> 355 (ST 3) 360–361 <i>Recreational Activities</i> 601–602 <i>Sustainable Forest Management</i> 656–661 <i>Management of Grasslands and Rangelands</i> 685 <i>Economic Impact of Outdoor Recreation</i> 160 402 (TC 1)
NRS.02.04.02.c. Anticipate and predict how changes to the availability of natural resources because of human activity may impact a local, state and national economy.	79 (CA 1) 160 656–661 <i>Management of Grasslands and Rangelands</i> 685 <i>Economic Impact of Outdoor Recreation</i>
NRS.02.04.03.a. Compare and contrast the economic impact of green technology and alternative energy.	166 79 (CA 1, 2) 135 (SAE 3)
NRS.02.04.03.b. Analyze and document how the adoption of green technology and/or alternative energy affected a local, state or national economy.	166 135 (SAE #3)
NRS.02.04.03.c. Anticipate and predict the economic impact green technology and alternative energy.	166

NRS.02.05. Communicate information to the public regarding topics related to the management, protection, enhancement, and improvement of natural resources.	19 (CA 1) 175 (CA 1) 255 (FFA #2; CA 2) 279 (FFA 1)
NRS.02.05.01.a. Examine and describe ways in which a message regarding natural resources may be communicated to the public through standard media sources (e.g., press, radio, TV, public appearances, etc.).	19 (CA 1) 79 (CA 1) 175 (CA 1) 255 (CA 2)
NRS.02.05.01.b. Assess the effectiveness of different methods for communicating natural resource messages.	255 (FFA 2); (CA 2) 279 (FFA 1)
NRS.02.05.01.c. Devise and implement a strategy for communicating a natural resources message through media.	19 (CA 2) 78 (TA 1) 79 (CA 1) 135 (FFA 2) 153 (CA 2) 174 (TC 4, 8) 175 (CA 1) 196 (TC 4) 305 (ST 3) 329 (CA 2) 355 (CA 3) 403 (ST 2) 489 (ST 6); (CA 2) 528 (TC 1) 529 (FFA 1) 559 (CA 2) 595 (CA 2) 667 (CA 1) 690 (TC 3)
NRS.02.05.02.a. Research and summarize how social media and the Internet have changed how people perceive and utilize natural resources (e.g., greater awareness of conservation issues, calls to action, etc.).	79 (CA 1, 2) 134 (ST 3) 135 (CA 1) 175 (CA 1)
NRS.02.05.02.b. Assess how to most effectively communicate a message about the conservation, management, enhancement and improvement of natural resources via social media and the Internet.	19 (CA 1) 79 (CA 1) 135 (CA 1) 175 (CA 1) 255 (CA 2)
NRS.02.05.02.c. Anticipate and predict how messages about the conservation, management, enhancement and improvement of natural resources will change because of social media and the Internet.	79 (CA 1) 134 (ST 3) 135 (CA 1) 175 (CA 1)

NRS.02.05.03.a. Examine and describe how communication can be used to influence behavior, call people to action and instill a sense of civic behavior related to the conservation, management, enhancement and improvement of natural resources.	135 (CA 1) 279 (FFA 1)
NRS.02.05.03.b. Analyze and summarize examples of how communication can be used to influence behavior, call people to action and instill a sense of civic behavior related to the conservation, management, enhancement and improvement of natural resources.	135 (CA 1)
NRS.02.05.03.c. Create a communication plan to influence the behavior of people, call people to action and instill a sense of civic behavior related to the conservation, management, enhancement and improvement of natural resources.	279 (FFA 1)
NRS.03. Develop plans to ensure sustainable production and processing of natural resources.	116, 166 135 (CA 1)
NRS.03.01. Sustainably produce, harvest, process and use natural resource products (e.g., forest products, wildlife, minerals, fossil fuels, shale oil, alternative energy, recreation, aquatic species, etc.).	116, 283, 285
NRS.03.01.01.a. Summarize forest harvesting methods.	608–612 <i>Timber Harvesting Methods</i>
NRS.03.01.01.b. Assess harvesting methods in regards to their economic value, environmental impact, and other factors.	601–602 <i>Sustainable Forest Management</i> 602–612 <i>Forest Management Practices</i> 608–612 <i>Timber Harvesting Methods</i>
NRS.03.01.01.c. Develop a forest harvesting plan that ensures economic, environmental and social sustainability.	601–602 <i>Sustainable Forest Management</i> 602–612 <i>Forest Management Practices</i> 608–612 <i>Timber Harvesting Methods</i>
NRS.03.01.02.a. Research and describe methods by which wildlife can be sustainably harvested (e.g., controlled harvests, hunting licenses, regulations, etc.).	601–602 <i>Sustainable Forest Management</i>
NRS.03.01.02.b. Assess and apply techniques used to harvest wildlife in regards to sustainability, practicality and other factors.	601–602 <i>Sustainable Forest Management</i>
NRS.03.01.02.c. Develop a method for the sustainable harvest of wildlife species.	601–602 <i>Sustainable Forest Management</i>
NRS.03.01.03.a. Compare and contrast the costs and benefits (e.g., impacts on environment, economic, wildlife, etc.) of mineral extraction to a local, state and/or national economy.	280–305 CH 12 <i>Mining of Natural Resources</i> 304 (TC 1–4) 305 (ST 1–4); (FFA 2); (CA 2)
NRS.03.01.03.b. Assess the economic impact of mineral extraction in regards to the costs and benefits to a local, state and/or national economy.	280–305 CH 12 <i>Mining of Natural Resources</i> 304 (TC 1–4) 305 (ST 1–4); (FFA 2); (CA 2)
NRS.03.01.03.c. Evaluate methods used to extract and process minerals for economic, environmental and social sustainability.	281–285 <i>Types of Mining</i> 175 (ST 4)

<p>NRS.03.01.04.a. Compare and contrast the costs and benefits (e.g., impacts on environment, economic, wildlife, etc.) of fossil fuels to a local, state and/or national economy.</p>	<p>9 <i>STEM Connection: Does Your Lifestyle Depend on Fossil Fuels?</i> 11 <i>Fossil Fuels</i> 113–114 <i>Harvesting Natural Resources and Sustained Yields</i> 114 <i>Unsustainable Yields</i> 175 (ST 4) 190–192 <i>Carrying Capacity</i> (human beings) 291–296 <i>Energy Sources Mined in the United States</i> 296–299 <i>The Impacts of Mining on the Environment</i> 305 (ST 4) 355 (CA 1) 408–415 <i>Chemical Pollution</i> 594 (ST 6)</p>
<p>NRS.03.01.04.b. Assess the economic impact of fossil fuel extraction in regards to the costs and benefits to a local, state and/or national economy.</p>	<p>291–296 <i>Energy Sources Mined in the United States</i> 296–299 <i>The Impacts of Mining on the Environment</i> 305 (ST 4) 355 (CA 1) 594 (ST 6)</p>
<p>NRS.03.01.04.c. Evaluate methods used to extract and process fossil fuels for economic, environmental and social sustainability.</p>	<p>19 (CA 3) 175 (ST 4) 304 (TC 1–2) 305 (ST 1–4); (FFA 2); (CA 3)</p>
<p>NRS.03.01.05.a. Compare and contrast the costs and benefits (e.g., environmental impacts, etc.) of shale oil from fracking to a local, state and/or national economy.</p>	<p>19 (CA 3) 159 <i>Rivalrous Use</i> 175 (ST 4) 285 <i>In-Situ Mining</i> 294 <i>Extracting Natural Gas</i> 304 (TC 1–2) 305 (ST 1–4); (FFA 2); (CA 3)</p>
<p>NRS.03.01.05.b. Assess the economic impact of shale oil extraction (i.e., fracking) in regards to the costs and benefits to a local, state and/or national economy.</p>	<p>19 (CA 3) 159 <i>Rivalrous Use</i> 175 (ST 4) 285 <i>In-Situ Mining</i> 294 <i>Extracting Natural Gas</i> 304 (TC 1–2) 305 (ST 1–4); (FFA 2); (CA 3)</p>
<p>NRS.03.01.05.c. Evaluate methods used to extract and process shale oil for economic, environmental and social sustainability.</p>	<p>110–112 <i>Sustainability</i> 164 <i>Untapped Resources</i> 175 (ST 4)</p>

NRS.03.01.06.a. Compare and contrast the costs and benefits (e.g., environmental impacts, etc.) of alternative sources of energy (e.g., hydroelectric, solar, wind, biofuels, geothermal, etc.).	5 <i>Solar Energy</i> 5 <i>Wind Energy</i> 6 <i>Geothermal Energy</i> 6 <i>Biomass Energy</i> 7 <i>Water Energy</i> 19 (ST 3) 118 <i>Energy Use and Power Generation</i> 162 <i>Power Production and Regulation</i>
NRS.03.01.06.b. Assess and evaluate factors that affect the economic, environmental and social sustainability in regards to the use of alternative sources of energy.	5 <i>Solar Energy</i> 5 <i>Wind Energy</i> 6 <i>Geothermal Energy</i> 6 <i>Biomass Energy</i> 7 <i>Water Energy</i> 19 (ST 3) 118 <i>Energy Use and Power Generation</i> 162 <i>Power Production and Regulation</i> 175 (ST 4)
NRS.03.01.06.c. Assess trends in energy production and consumption in order to predict how the impact of alternative energy will change in the future.	79 (CA 1)
NRS.03.01.07.a. Research and summarize how recreational uses of natural resources can be changed to improve sustainability.	19 (SAE 2) 134 (ST 2) 355 (CA 3) 668–691 CH 26 <i>Outdoor Recreation</i> 691 (ST 7)
NRS.03.01.07.b. Assess different options for improving the sustainability of outdoor recreation based on its impact on natural resources and likelihood of acceptance.	19 (SAE 2) 134 (ST 2) 135 (CA 1) 355 (CA 3) 668–691 CH 26 <i>Outdoor Recreation</i> 691 (ST 7)
NRS.03.01.07.c. Evaluate an example of outdoor recreation and develop suggestions for how that activity can be made more sustainable in a manner that is acceptable to those who take part in that activity.	668–691 CH 26 <i>Outdoor Recreation</i> 691 (ST 7)
NRS.03.01.08.a. Categorize aquatic species used for commercial and recreational purposes.	512–514 <i>Freshwater Finfish Species</i> 514–519 <i>Commercial Marine Finfish Species</i> 520–524 <i>Commercial Crustaceans and Mollusks</i>
NRS.03.01.08.b. Analyze and apply techniques used to acquire aquatic species for their environmental, economic and social sustainability.	502–503 <i>Fisheries and the Economy</i> 493 <i>Hatcheries</i> 495 <i>Freshwater Aquaculture</i>
NRS.03.01.08.c. Develop recommendations for the sustainable harvest of aquatic species.	510–512 <i>Fisheries Management</i>

NRS.03.02. Demonstrate cartographic skills, tools and technologies to aid in developing, implementing and evaluating natural resource management plans.	79 (CA 1, 2) 279 (ST 4) 305 (CA 1) 666 (ST 3) 718–743
NRS.03.02.01.a. Summarize how to use maps and technologies to identify directions and land features, calculate actual distance and determine the elevations of points.	279 (ST 4) 305 (CA 1) 742–743 (ST 1–8) 743 (CA 1)
NRS.03.02.01.b. Apply cartographic skills and tools and technologies (e.g., land surveys, geographic coordinate systems, etc.) to locate natural resources.	79 (ST 2) 107 (TC 2) 153 (CA 1) 231 (ST 2) 279 (ST 4) 305 (CA 1) 328 (TC 5) 528 (ST 4) 644 (ST 2) 666 (ST 3) 742–743 (ST 1–8) 743 (CA 1)
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