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| County Emphasis |  |

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| [Concentration](https://extension.ca.uky.edu/2025-situation-statements)  *(select up to 4 from list below or the linked website)* | Sustainability, Natural Resources and Wildlife Management, and Environment |

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| [Situation](https://extension.ca.uky.edu/2025-situation-statements)  *(situation statements can be found at the linked website)* | Ensuring the sustainability of Kentucky woodlands and natural resources, without compromising the ability of future generations to meet their own needs, faces many challenges. Many landowners struggle to implement sustainable practices due to economic pressures, lack of access to technology, and workforce. The situation is  exacerbated by development and the increasing demand for food, which often leads to the overuse of land and water resources, contributing to soil degradation, deforestation, and water scarcity.  Kentucky is blessed with a rich array of natural resources, including vast forests, abundant waterways, and wildlife. With woodlands in each of the 120 counties and forest industries in 110 counties, Kentuckians in both rural and urban areas all derive benefits from woodlands. Hardwood forests cover 50% of Kentucky and 473,000 individuals own 88% of the 12.4 million forested acres in the state. Forests stimulate the Kentucky economy through employment and production to the tune of $13 billion annually and there are over 28,000 jobs in Kentucky’s forest sector. Forests provide recreational opportunities and are a powerful tool in efforts to promote sustainability and support native diversity. Wildlife management programs assist landowners through both urban and rural wildlife management and damage control initiatives.  However, Kentucky’s forests and natural areas face growing risks. Threats from climate change are increasing as evidenced by some of the warmest and wettest years on record during the past decade and Kentucky is ranked as the ninth most vulnerable state in the country by long-term climate change impacts. Extreme weather events, such as the December 2021 tornado in Western Kentucky and the 2022 flooding in Eastern Kentucky are becoming more frequent and severe. In addition, a wide range of invasive species (including insects, pathogens, animals, and plants) can cause problems in woodlands, forests and other natural areas, threatening management and long-term sustainability.  Kentucky’s Extension remains committed to developing adaptive management strategies for the critical issues facing the sustainability of farms, natural areas, and forests for today and in the future. Implementing soil and water conservation practices in both urban and rural watersheds is critical to the long-term sustainability of Kentucky’s natural resources.  Youth Focus  Educating youth about natural resources and environmental sciences is crucial for our future, as it empowers them to become proactive stewards of our planet. The Kentucky 4-H Youth Development Program aims to boost environmental literacy among youth, addressing a significant gap in environmental knowledge revealed by surveys from the Kentucky Environmental Education Council. America’s prosperity is inseparably linked to the health of our environment. A healthy environment is an essential component of the quality of life of humans and all living organisms (USDA, 2024). Optimistically, the National 4-H Council’s 2024 Index Survey found that 83% of youth enjoy science, 66% see it as a problem-solving tool, and 62% are interested in science-related careers. The University of Kentucky Cooperative Extension System’s 2023 assessment identified key priorities such as youth life skill training, workforce readiness, and promoting natural resource literacy. Through 4-H projects in natural resources and environmental sciences, young people develop life skills, learn responsibility, and gain knowledge about sustaining our natural resources through various projects and programs. |

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| County Situation |  |

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| Long-term  Outcomes | Adult   * Economic, social, physical, or environmental situations that will change because individuals or communities adopted new (or improved existing) actions, practices, and behaviors (these also take time to mature)). * Forests ecosystem and economic values are enhanced, resulting in healthier forests, improved water quality, and increased revenue * Wildlife habitat is increased and improved. * The sustainability of agricultural and forestry operations is increased and opportunities for further growth are improved.   Youth   * Youth will advocate for natural resources in their communities. * Youth will be life and work ready, contributing to the natural resources community as consumers, leaders, and innovators. * Youth actively adopt and apply advanced natural resources practices, demonstrating a growing commitment to the natural resources community. |

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| Medium-term  Outcomes | Adult   * Youth will advocate for natural resources in their communities. * Youth will be life and work ready, contributing to the natural resources community as consumers, leaders, and innovators. * Youth actively adopt and apply advanced natural resources practices, demonstrating a growing commitment to the natural resources community.   Youth   * Youth will take responsible action in natural resources conservation. * Youth will aspire to explore careers in natural resources and environmental sciences. * Youth will practice skills gained from 4-H natural resources projects and clubs. * Youth will communicate natural resources ideas and concepts more effectively. |

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| Short-term  Outcomes | Adult   * Increase the awareness of sustainable forest management practices, economic pressures and technological barriers facing woodland owners and other interested individuals. * Increase knowledge and skills of individuals in both urban and rural settings to address immediate wildlife-related challenges and enhance biodiversity. * Develop the skills and ability of Woodland owners and Ag producers to actively manage wildlife-related damage and nuisance. * Develop emergency preparedness and response strategies focusing on preserving their Woodlands and mitigating immediate damage from events such as floods and tornadoes.   Youth   * Youth will explore their spark in natural resources. * Youth will gain knowledge and develop skills in natural resources and environmental sciences. * Youth will understand how their actions and choices impact natural resources and the environment. * Youth will set goals to become good stewards of natural resources. * Youth will expand life and work readiness skills, gaining awareness of the diverse opportunities within the field of natural resources. |

Learning Opportunities

Adult

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| Audience | Loggers |
| Project or Activity | Master Logger Program |
| Content or Curriculum | Master Logger Curriculum |
| Inputs | Coordination with Kentucky Master Logger Program, Michael Ammerman and Beth Williams |
| Date(s) |  |

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| Audience | Landowners |
| Project or Activity | Woodland Owners Short Course |
| Content or Curriculum | Range of speakers representing different topics and important agencies, webinar and field components |
| Inputs | Developed in partnership with Billy Thomas, meeting local community needs and partners. |
| Date(s) |  |

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| Audience | Forest industry professionals |
| Project or Activity | Wood Expo |
| Content or Curriculum | Range of speakers representing different topics and important agencies at this biannual event, Extension coordination led by Chad Niman. |
| Inputs | Coordination with Kentucky Forest Industries Association and other partners. |
| Date(s) |  |

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| Audience | General public, adult |
| Project or Activity | Master Naturalist Program |
| Content or Curriculum | Master Naturalist Curriculum, range of speakers representing different topics and important agencies. |
| Inputs | Developed in partnership with Ellen Crocker and Laurie Thomas. |
| Date(s) |  |

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| Audience | Adults |
| Project or Activity | IPM and Pesticide Programs |
| Content or Curriculum | Educational materials and program delivery |
| Inputs | UK and subject matter Specialists |
| Date(s) |  |

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| Audience | General public |
| Project or Activity | Pest and disease identification |
| Content or Curriculum | Clinical diagnoses and trainings |
| Inputs | Diagnostic labs and services |
| Date(s) |  |

Youth

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| Audience | 4-H Members |
| Project or Activity | Kentucky 4-H Natural Resources and Environmental Sciences Academy and Teen Ambassador Program |
| Content or Curriculum | Water, Entomology, Forestry, Wildlife; Curriculum - National and State-Level Research-Based, Vetted Publications, Curricula, and Educational Resources (e.g., Project WET, Project WILD, Project Learning Tree, Project Underground, Leopold Education Project) |
| Inputs | * 4-H programs in natural resources in which youth experience a sense of belonging, developmental relationships, explore their spark, and are actively engaged in opportunities that are meaningful to them. * Accredited volunteers in natural resources. * Research base of the Cooperative Extension Land-grant system. * Funding opportunities from the Kentucky 4-H Foundation, Inc. * Funding from local, state, and federal sources, and grants. * Engagement of staff, volunteers, and youth in delivering the program. |
| Date(s) | 4-H Program Year (September 1 – August 31) |

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| Audience | 4-H Members |
| Project or Activity | 4-H Natural Resources Projects (e.g., insect collections, leaf collections, leaf print collections, wood science projects, rock, mineral, and/or fossil collections) |
| Content or Curriculum | Entomology, Forestry, Wood Science, Geology; Curriculum - National and State-Level Research-Based, Vetted Publications, Curricula, and Educational Resources |
| Inputs | * 4-H programs in natural resources in which youth experience a sense of belonging, developmental relationships, explore their spark, and are actively engaged in opportunities that are meaningful to them. * Accredited volunteers in natural resources. * Research base of the Cooperative Extension Land-grant system. * Funding opportunities from the Kentucky 4-H Foundation, Inc. * Funding from local, state, and federal sources, and grants. * Engagement of staff, volunteers and youth in delivering the program. |
| Date(s) | 4-H Program Year (September 1 – August 31) |

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| Audience | 4-H Members |
| Project or Activity | 4-H Natural Resources Programs (e.g., 4-H Forestry Field Days, 4-H Senior 4-H Forestry Judging Contest, 4-H Wildlife Challenge) |
| Content or Curriculum | Forestry, Wildlife, Entomology, Water; Curriculum - National and State-Level Research-Based, Vetted Publications, Curricula, and Educational Resources |
| Inputs | * 4-H programs in natural resources in which youth experience a sense of belonging, developmental relationships, explore their spark, and are actively engaged in opportunities that are meaningful to them. * Accredited volunteers in natural resources. * Research base of the Cooperative Extension Land-grant system. * Funding opportunities from the Kentucky 4-H Foundation, Inc. * Funding from local, state, and federal sources, and grants. * Engagement of staff, volunteers and youth in delivering the program. |
| Date(s) | 4-H Program Year (September 1 – August 31) |

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| Audience | 4-H Members |
| Project or Activity | 4-H Shooting Sports Program |
| Content or Curriculum | National 4-H Shooting Sports Training Curriculum |
| Inputs | * 4-H programs in natural resources in which youth experience a sense of belonging, developmental relationships, explore their spark, and are actively engaged in opportunities that are meaningful to them. * Accredited volunteers in 4-H Shooting Sports. * Research base of the Cooperative Extension Land-grant system. * Funding opportunities from the Kentucky 4-H Foundation, Inc. * Funding from local, state, and federal sources, and grants. * Engagement of staff, volunteers and youth in delivering the program. |
| Date(s) | 4-H Program Year (September 1 – August 31) |

Evaluation

Adult

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| Outcome | Increased awareness of wildlife, forestry, and natural resources issues |
| Indicator | * Number of participants who reported that they gained knowledge of wildlife. * Number of participants who reported they gained their awareness of forestry. * Number of participants who reported they gained their awareness of natural resources. |
| Method | Survey (Self-Assessment of Learning Gains) |
| Timeline | At program |

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| Outcome | Increased management to address resources concerns |
| Indicator | * Number of participants who reported that they developed new management plans. * Number of participants who reported an increase in the acres managed. * Number of participants (or state agencies) who reported that they implemented wildlife damage management practices |
| Method | Follow-up Survey (Survey previous participants) and tracking number of management plans implemented by state agencies |
| Timeline | Annually |

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| Outcome | Increased understanding of invasive arthropod identification |
| Indicator | * Number of learners that report knowledge gain in identification skills * Number of attendees that report knowledge gain in differentiating native and non-native arthropods (and close relatives) |
| Method | In person survey |
| Timeline | Immediately following Extension event |

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| Outcome | Greater understanding of reporting invasive species to appropriate agencies |
| Indicator | * Number of people self-reporting knowledge gain on how to properly report a sighting of an invasive insect, arachnid, or mollusk * Number of people reporting behavioral changes in reporting and in support of invasive species monitoring methods |
| Method | In person survey and year later survey |
| Timeline | In person surveys at Extension event and digital surveys distributed one year later |

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| Outcome | Increased awareness of and use of safe/effective pesticide application methods |
| Indicator | * Number of certified applicators attending continuing education credit Extension events (both private and commercial) * Number of people self-reporting knowledge gain on integrated pest management techniques * Number of people self-reporting behavioral changes regarding risk mitigation strategies for pesticide application |
| Method | Surveys at CEU events |
| Timeline |  |

Youth

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| Outcome | Short |
| Indicator | * Number of youth who reported that they have identified their interest in natural resources. * Number of youth who reported that they understand how their actions and choices impact natural resources and the environment. * Number of youth who reported that they understand natural resources concepts and ideas. * Number of youth who reported that have set goals to become a good steward of natural resources. |
| Method | Survey |
| Timeline | Administered immediately following program/activity |

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| Outcome | Medium |
| Indicator | * Number of youth who reported that have applied the skills they learned in natural resources to other areas of their life, including at home, school and other programs. * Number of youth who reported that they have taken steps to conserve natural resources. * Number of youth who reported that they have used their skills and/or knowledge gained to complete a natural resources project. |
| Method | Survey |
| Timeline | Administered at end of program year/club year |

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| Outcome | Long-Term |
| Indicator | Long-term evaluation will be conducted using the National 4-H Index Study. |
| Method | Survey |
| Timeline | Administered at end of program year/club year |

Data Sources (select any/all that apply)

Extension Community Needs Assessment – Data Dashboard

Extension Community Needs Assessment – Respondent Comment Summaries

Kentucky by the Numbers – Secondary Data for the Community Needs Assessment

Kentucky by the Numbers Data Profiles

CEDIK County Data Profiles

**Concentrations (select up to 4 – copy and paste your selection in the concentration section above)**

Animal Production and Management

Plant Production and Management

Sustainability, Natural Resources and Wildlife Management, and Environment

Financial Security and Economic Well-Being

Food Safety, Quality, and Access

Connected & Resilient Communities

Building Leadership Capacity

Work and Life Skill Development

Health and Wellbeing

Family and Youth Development

Small Farm Development

Substance Use Prevention and Recovery

Mental Health and Well-Being