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Conservation *through* COMMUNITY LEADERSHIP

Empowering community leaders to manage our shared natural resources

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CCL Toolkit

Conservation through Community Leadership

Communities are faced with many challenges and a number of these are their natural resources. Natural resources are recognized as local assets with economic, ecological, and recreational benefits. Overall, the health of natural resources affects the quality of life in a community. Some natural resource issues, like water quality and open space, have an immediate impact on individual and public health, but other concerns also take their toll. For example, insects, like the emerald ash borer, and diseases that target plants have a high economic expense and change the local landscape. On the other hand, loss of biodiversity (i.e. plant and animal species), has a longer-term ecological and economic impact that may not be readily apparent.

Working together to address natural resource issues can make your community a better place to live. Natural resource management goals may include protection, conservation, and various degrees of consumption.

A unique aspect of natural resource management is that these resources can have a variety of owners, which can create conflict. Certain natural resources are preserved for public use and are owned and maintained by the government for the public—for example wildlife and navigable lakes and rivers—but, these natural resources may reside on land that is public or privately owned. Varying goals of federal, state, and local governments, landowners, and the public create complications.

The Conservation through Community Leadership program is designed to serve as a roadmap for communities as they tackle complex land use and natural resource management challenges. The curriculum provides information, tools, and resources to assist communities in working with diverse stakeholders to:

- Identify an issue.
- Assess current community conditions and resources.
- Create a shared vison.
- Develop an action plan and implementation strategies.

Through this program, community groups identify issues of concern and choose a program track of either a) land use planning with a focus on natural resource issues or b) invasive species management. Local leads then convene a working group to meet with Purdue Extension facilitators over the course of approximately four to six meetings. Facilitators help support community visioning, share innovative management strategies, and coach action

plan development. The result is a local or regional action plan and implementation strategies for projects that may include forming invasive species management working groups, developing county or municipal comprehensive plan updates, or creating watershed management plans.

Target Audiences

The Conservation through Community Leadership program is designed for local leaders, government officials and their staff, representatives from nongovernmental organizations, and residents who want to participate in local natural resource decisions.

Format

The community action planning process includes:

- A curriculum guide and education resources to support action planning that is focused on a natural resource concern.
- A series of approximately four to six facilitated meetings that result in a local or regional action plan and strategies for implementation projects. Meetings are structured to fit each community's planning needs.

Program Objectives

Community groups participating in the action planning process will:

- Increase their understanding of assessing ecosystem health and natural resource management options.
- Apply decision-support tools to make decisions and take actions on ecosystem health.
- Form diverse community partnerships to create and implement land use and/or natural resource management action plans. These action plans may be designed to:
    - Identify and address natural resource issues in your community.
    - Form invasive species management working groups.
    - Update county or municipal comprehensive plans.
    - Support watershed management plans.
    - Implement fundraising initiatives for specific projects.

Planning Tools for Land Use and Natural Resource Management

Guiding and managing land use is integral to natural resource management. Most land use guidance is created, updated, and enforced at the county or municipal government level. In counties or municipalities that have a plan commission, comprehensive plans are the primary policy document used to guide land use decisions. This section provides an overview of the planning tools available in Indiana to manage land use and the agencies that administer land use planning.

Watershed Management Planning and the Watershed Management Planning Process

According to the Indiana Department of Environmental Management (IDEM), watershed planning is a geographic approach to addressing water quality problems within the boundaries of a specific watershed. Watershed boundaries often extend across multiple local government jurisdictions and state lines. Progress on watershed issues requires cooperation both among and between private landowners and government entities. Therefore, state agencies such as the IDEM and the Indiana Department of Natural Resources as well as federal agencies such as the U.S. Environmental Protection Agency have developed funding programs, guidance documents, and criteria for determining problems in a watershed. These agencies administer implementation funds and shape the final watershed group planning product. However, the watershed planning process depends on skills and interests that arise as a watershed group forms and the group determines where to focus its attention and defines action steps. The following is a general outline of the process Indiana watershed groups have used to develop and submit watershed management plans to IDEM.

Watershed groups can arise based on common interests or issues among community members and state or local government agencies. Once a watershed group forms and determines its geographic focus, it then conducts a watershed inventory. Using a computer, the inventory can be started by accessing online publicly available data from a variety of sources such as Google Earth and GIS platforms such as IndianaMAP.org. First, the group compiles data and identifies specific areas of interest in the watershed based on the data. For example, a group focused on erosion may identify areas of steep slope or exposed riverbanks using a combination of aerial imagery and GIS contour data. Once areas of interest are identified, a windshield survey provides additional data to use in the watershed management plan.

Next, the group conducts water quality monitoring to provide a baseline to compare with post-implementation data. Through this monitoring, the watershed group will learn whether it has been effective in addressing water quality. This step is important to confirm the existence and significance of problems that the group has chosen to focus on. Water quality monitoring can also reveal unknown issues that the group could

elect to address as well. If technical expertise is required, the group may recruit professionals. For example, it is likely a watershed group will need outside expertise in measuring water quality characteristics such as nutrient loads, pathogens, and biological sampling (IDEM, 2010).

Once the watershed has been characterized through the watershed inventory, and existing conditions have been established via the windshield survey and water quality monitoring, the watershed groups can analyze the data and identify the causes and sources of watershed problems. The group can then prioritize watershed issues and set targets for water quality improvement.

Improvements in water quality should be measured with the same metrics used to determine the existence of the problem. This way, progress towards the project goal can be measured through post-implementation sampling. Implementation actions include best management practices (BMPs) appropriate to the identified problem(s). These implementation practices form the heart of a watershed action plan. The watershed action plan lays out what the group will do to address the problems, and is included as a sub-plan in the overall management plan. Developing the action plan is important because it outlines what is to be done, when it will happen, and who is responsible. It should also outline the cost, any outside assistance or partnerships involved, milestones in the process, and products or results (IDEM, 2010).

The State of Indiana recommends the steps outlined above for developing a factually-based, practical plan that can be implemented to achieve measurable results. While watershed groups may or may not need to tailor their planning process to generate outputs that meet the requirements of a state or federal program, this process pres-

IndianaMAP.org

Indiana Dunes National Park

ents a logical, issue-driven approach that these groups can use to identify and address water quality problems in their watersheds and communities.

Comprehensive Plans

Cities, smaller communities, and counties across Indiana undertake the comprehensive planning process to establish a vision for land use and community needs. Communities that choose this path must develop plans that contain the following: 1) objectives for future development 2) a statement of policy for the land use development of the jurisdiction, and 3) a statement of policy for development of roads, public places, public lands, public structures, and public utilities. Most comprehensive plans focus on how the community will change in the next 20 years. This prevents the plan from being overly specific and provides adaptability. The list below shows some common elements of plans found in Indiana communities:

- Land use (existing and projected)
- Transportation
- Housing
- Natural resources and open space
- Demographics
- Utilities and public services

Land use planning is integral to the comprehensive plan and natural resource management. Most land use planning occurs at the municipal or county level through the comprehensive planning process. The comprehensive planning process is led by plan commissioners or their staff or through a contracted planning consultancy. At minimum, one public hearing is required before the plan is approved by the plan commission. However, a high-quality public input process is critical to receiving buy-in on the plan's policies, goals, and strategies from the public and elected officials. Often, plan commission staff members or a consultant conducts a series of open houses or focus group feedback sessions. Each meeting may focus on a certain element of the comprehensive plan. Though none of these efforts are required in Indiana, they are part of a public engagement strategy that supports comprehensive plan development. Through this process, communities are able to take account of their natural resources and consider how to manage, develop, and conserve them in the best interest of residents and businesses. This process allows the plan commission to develop a plan that reflects community values, interests, and concerns.

The jurisdiction's legislative body must approve the plan via resolution for it to become an official policy document. Comprehensive plans are the primary policy document adopted by local government to guide land use decisions.

Land use planning for natural resources includes doing an inventory of the municipality or county's existing natural resources and developing land use policies, goals, and objectives. The inventory, such as maps, text, and tables that describe existing conditions, is often included as an independent element of the comprehensive plan. In addition, natural resources can be addressed, in part, by other elements of the comprehensive plan, such as land use or recreation. This information forms the foundation for land use policy that can

reduce the impact of development on the community's natural resources.

Monroe County provides a prime example. Its comprehensive plan includes an inventory of natural resources and characteristics including Karst areas[1], wetlands, soils, floodplains, waterbodies, watersheds, contiguous forest canopy, steep slopes, and endangered series of environmental conservation goals and strategies. One strategy is to establish riparian buffers on both sides of perennial or intermittent streams. Chapter 825 of the Monroe County zoning ordinance, titled Environmental Constraints Overlay Zone, states that "riparian buffer zones, measured from the stream/vegetation interface line, shall be established to a distance of 100 feet from each side of all intermittent and perennial streams" (Monroe County, Indiana, 2008). This is a clear example of a natural resource inventory linked to policy that affects land use.

Another important aspect of the comprehensive plan is that it lays out the community's needs for capital projects, such as providing water and sewer service. Typically, Indiana communities develop Capital Improvement Programs (CIPs) that are approved by the jurisdiction's legislative body. These programs prioritize infrastructure investments and should align with the comprehensive plan's policies for land use and future development. Often, public investments in infrastructure have more impact on the form and location of development than land use regulations (Kelly and Becker, 2000). Due to their significant and long-lasting impact, it is critical that decisions regarding CIP projects consider natural resource assets within the community.

[1]Karst areas are areas where water infiltrates into the ground rapidly due to subsurface cavities in limestone bedrock. This has implications for groundwater quality and surface soil stability.

Zoning Ordinance/Subdivision Control Ordinance

Zoning ordinances and subdivision control ordinances are two tools used by Indiana local governments to regulate land use for public objectives. Zoning has been accepted as a legal exercise of government police power since the Supreme Court upheld its constitutionality in the 1926 Euclid v. Ambler Realty Company decision. Later, the Standard State Zoning Enabling Act was passed, which expanded the option to use zoning to all states. Together, zoning ordinances and subdivision control ordinances establish definitions, regulations, and procedures for how land may be divided and its purposes. Zoning classifications and restrictions are the product of each community's public planning process and differ between planning jurisdictions, but must all have a rational connection to a legitimate public purpose (typically related to protecting the health, safety, welfare, and morals of the community). Throughout the history of zoning implementation, separation of land use—and particularly the separation of conflicting land uses—has been standard practice. Residential, commercial, and industrial uses are separated geographically. The zoning ordinance also regulates density, bulk, parking, signage, landscaping requirements, and home-based businesses (Higginbotham, 2017).

Zoning ordinances may require a broad range of BMPs for conservation, such as permeable pavers, bicycle parking, green space, and impervious surface maximums. The plan commission can decide to develop and recommend the adoption of a zoning ordinance that implements best practice for conservation. This is by no means a simple process, as the commission has many stakeholders throughout the community.

A plan commission that has developed a plan with robust public engagement will be able to demonstrate that the plan represents the community's vision,

1926 Euclid v. Ambler Realty

Zoning ordinances regulate land use for public objectives

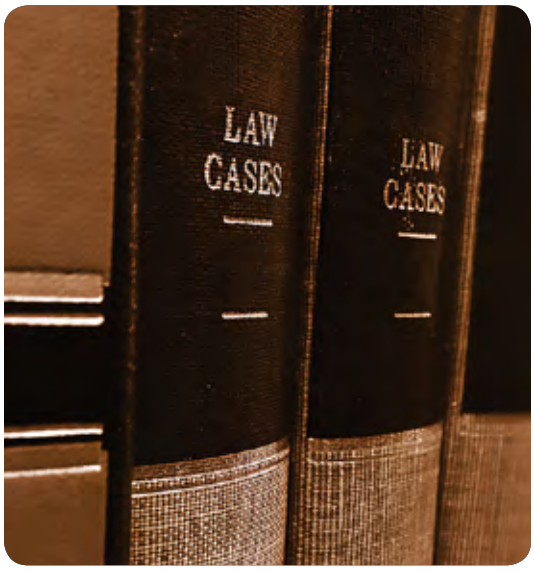
rather than the vision of any number of its members. A plan commission may also develop an ordinance that attempts to balance the environmental impact of development with the financial impact to developers.
The following are examples of zoning tools that can be used to reduce the environmental impact of development:

1. **Performance Zoning** – This type of zoning regulates characteristics of use, rather than use itself. Criteria for performance can include trip generation, odor, surface water runoff, hours of operation, and noise generation. As a result, a wider variety of land uses can occur, as long as the use meets specific performance criteria (Ottensmann, 2000).

2. **Mixed-Use Zoning** – Mixed-use zoning enables higher-density, multi-level commercial or residential development in urban areas where it is identified as desirable. Mixed-use zones are focused on integrating residential and office or retail uses, although in some cases light industrial uses are considered compatible (Atlanta Regional Commission, n.d.). A reduction in environmental impact occurs when density in already-developed areas is increased. Vehicular travel is reduced as distances between commercial and residential use are shortened.

3. **Overlay Districts** – Overlay districts protect natural resources by applying land use regulations in addition to existing regulations that are in the base classification of the zoning ordinance. For example, the City of Richmond has established an Aquifer Protection Overlay District to prevent contamination by restricting land uses that negatively affect ground water quality. Porter County has also used overlay districts in its comprehensive plan to protect its water resources. The county instituted overlay districts divided into different zones according to distance from a stream or waterbody (Thompson, 2013).

In Indiana, the plan commission is responsible for approving subdivisions. The Subdivision Control Ordinance regulates the division of land and sets standards for physical development of infrastructure and buildings. The ordinance can also include requirements for recreation facilities, conservation of naturally-sensitive lands, and landscaping (Luzier, Isaacs, and Schweitzer, 2017). The Subdivision Control Ordinance is used by the plan commission staff during the subdivision review process to recommend the approval or denial of subdivision applications to the plan commission. One



purpose of the Tippecanoe County Unified Subdivision ordinance is natural resource preservation and protection. It states the following as purposes of the ordinance:

(10) To prevent the pollution of air, streams, and ponds, to assure the adequacy of drainage facilities, to safeguard the water table, and to encourage the wise use and management of natural resources throughout the participating jurisdictions in order to preserve the integrity, stability, and beauty of the community and the value of the land.

(11) To preserve the natural beauty and topography of the participating jurisdictions and to insure appropriate development with regard to these natural features.

Other Tools and Strategies for Natural Resource Management through Land Use

1. **Conservation Easement** – A conservation easement is "[a] policy… to preserve lands indefinitely, not only for recreation, maintenance of wildlife, and scenic value, but also for maintenance of agriculture and of a way of life" (Harrison & Richardson, n.d.).

2. **Transfer of Development Rights** – This program establishes a base density and allows some landowners to transfer their development rights to other areas, thus compensating them for agreeing not to develop their land. Conservation can be achieved through the designation of these donor areas. Properties that receive additional development rights may be developed at densities greater than would otherwise be allowed. Donor land may not be developed after development right transfer occurs (Higginbotham 2017).

3. **Purchase of Development Rights** – Communities establish this program to preserve naturally sensitive areas and forbid development. The value of the right to develop land is appraised and purchased, and then the land is placed in a conservation easement (Higginbotham, 2017).

4. **Conservation Subdivision Ordinance** – Development takes place using subdivision cluster, suburban-style dwellings to preserve open spaces and natural features such as topography, water features, or other significant natural features of a site. Open spaces are never developed and are maintained by a homeowners' association (Luzier, Isaacs, and Schweitzer, 2017). According to the Hendricks County zoning ordinance, key purposes for planning for this type of subdivision are to encourage efficient use of land, preserve habitat, and to minimize the street and utility network. (Hendricks County, et al., 2008) See the resources section for example documents and handbooks for conservation subdivisions.

5. **Stormwater Management/Control Ordinance** – The stormwater management ordinance regulates how stormwater is treated in a jurisdiction. It describes required practices at construction sites to reduce sediment runoff.

6. **Riparian and Wetland Setbacks** – Riparian setbacks or buffers are zones of vegetation that allow sediment and other waterborne pollutants to settle or filter out before reaching a stream or other waterbody. They can also serve to moderate water temperature and provide additional species habitat. Setbacks can be required via the zoning ordinance or adopted by individual landowners (Castelle, Johnson, and Connolly, 1994).

Land Use Planning Agencies

Area and Advisory Plan Commissions

Of the 85 Indiana counties with plan commissions, all but three are either an area plan commission or an advisory plan commission (NIRPC, 2007). The main function of both commission types is to adopt the comprehensive plan, zoning ordinance, and subdivision control ordinance. Plan commissions also make recommendations to legislative bodies on land use issues including annexation, text amendments to the zoning ordinance or subdivision control ordinance, and changes to the zoning map. Plan commissions also approve development plans and subdivisions (Reitz and Ternet, 2017).

The two committee types differ in that area plan commissions serve a county and at least one other jurisdiction in that county, whereas advisory plan commissions serve either a county or a municipality. Also, unlike area plan commissions, an advisory plan commission serving a municipality can plan for an area up to two miles outside its corporate boundary (Reitz and Ternet, 2017). Plan commissions also

Tippecanoe County Courthouse

differ in membership composition. They are composed of appointed local officials and residents. Some officials serve in an ex oficio capacity, such as a county council person or commissioner, while residents are appointed because they own property or are in a relevant location. The exact membership requirements for area and advisory plan commissions can be found in IC 36-7-4-207.

City Council/County Commissioners

In Indiana, city councils or county commissioners are responsible for adopting the comprehensive plan and regulatory tools to implement it. These bodies should refer to the comprehensive plan for guidance when making decisions. Local legislative officials consider issues including zoning, infrastructure, annexation, and funding capital projects in the community.

Board of Zoning Appeals

The Board of Zoning Appeals (BZA) is a quasi-judicial body that can grant zoning variances or special exceptions to petitioners. While zoning is an effective tool for land use management, it cannot strictly address all circumstances without becoming cumbersome to administer, enforce, or comply with. Variances and special exceptions are a relief valve for landowners that are caused what is termed impractical difficulty in use of their property by the application of the zoning ordinance. A variance allows a landowner to circumvent certain requirements of the zoning ordinance. Special exceptions are uses permitted in the zoning ordinance only if the application meets clearly defined conditions of the ordinance. The BZA's job is to judge the facts of each case and determine whether granting a variance or special exception is justified.

State and Regional Resources for Land Use, Conservation, and Policy

Indiana Department of Natural Resources – This agency is host to a number of programs focused on conservation such as the Forest Legacy Program. For more information, visit https://www.in.gov/dnr/.

Indiana Department of Environmental Management – The Indiana Storm Water Quality Manual is available at https://www.in.gov/idem/stormwater/. The Watershed Planning Guide is available at https://www.in.gov/idem/nps/.

Indiana Land Resources Council – The council assists local and state decision makers with land use tools and policies. It is composed of public officials as well as experts in land development, the environment, and agriculture. Information from the Indiana Land Resources Council, including model ordinances and other planning guidance, is available at https://www.in.gov/isda/2357.htm.

Indiana Chapter of the American Planning Association – The state chapter holds an annual meeting and serves as a resource for citizens and practicing planners alike. Various workshops and inter-state chapter meetings are held throughout the year, mainly targeted at practicing public, private, academic, or non-profit planners. The Indiana Chapter of the APA's website can be found at http://www.indianaplanning.org/.

Indiana Citizen Planner Guide – The Indiana Citizen Planner Guide provides information on the planning process in a concise format for reference. The guide is available at http://www.indianaplanning.org/professional-development/citizen-planner-manual/.

Ball State University College of Architecture and Planning – Ball State is Indiana's only university offering nationally accredited bachelor's and master's programs in urban and regional planning. Faculty often teach studio courses and seek community partners for design charrettes and other projects. More information on the College of Architecture and Planning is available at https://www.bsu.edu/academics/collegesanddepartments/cap.

Purdue University Land Use Team – The Purdue University Land Use Team provides research-based resources and educational programs for Extension professionals, government officials, and residents on land use issues that impact their communities. Land Use Team efforts are underpinned by a timely and rigorous professional development system that prepares Purdue Extension professionals to effectively serve on plan commissions. The Purdue University Land Use Team's website has additional resources and a listing of current Land Use Team members; it can be found at https://www.cdext.purdue.edu/collaborative-projects/land-use/.

Purdue University Extension – Purdue Extension educators and specialists work to provide training and education in all 92 Indiana counties. Purdue Extension offers signature programs in agriculture, community development, the environment, youth, and family. Find more information about Extension at https://extension.purdue.edu/.

Accelerating Indiana Municipalities – This state-wide non-profit organization serves as a knowledge exchange for more than 460 Indiana municipalities and is recognized as "the official voice of municipal government in Indiana." More information is available at https://aimindiana.org/.

Indiana Office of Community and Rural Affairs – Indiana Office of Community and Rural Affairs (OCRA) offers numerous programs and provides funding that assists communities in efforts—including but not limited to—planning, disaster recovery, land use studies, historic preservation, and stormwater management. Since 2014, OCRA has collaborated with Purdue University and Ball State University in the Hometown Collaboration Initiative. This initiative is focused on developing leadership, economic development, and place making. Explore OCRA's website at https://www.in.gov/ocra/.

Indiana University Public Policy Institute – The IU Public Policy Institute provides a wide variety of analysis and services relating to demographics, land use, development, GIS, economic modeling, and surveys. It also generates publications on Indiana planning issues. The institute's website can be found at https://policyinstitute.iu.edu/.

The Nature Conservancy – The Nature Conservancy works throughout Indiana to shape policy, restore lands, and protect water. The Nature Conservancy's Indiana website can be found at https://www.nature.org/en-us/about-us/where-we-work/united-states/indiana/.

Best Management Practices Stormwater Management Manual for Southern Indiana – You can find this resource at http://www.madison-in.gov/DocumentCenter/View/27.

Additional Resources

Richmond, Indiana's Aquifer Protection Overlay District: https://www.richmondindiana.gov/docs/aquifer-protection-overlay.

A comprehensive list of Indiana state and regional land trusts and conservation organization land trusts: https://www.findalandtrust.org/states/indiana18.

North Carolina State University Conservation Subdivision Handbook: https://content.ces.ncsu.edu/conservation-subdivision-handbook.

Hoosier Environmental Council: https://www.hecweb.org/.

Indiana Wildlife Federation: https://www.indianawildlife.org/.

Indiana Conservation Alliance: http://www.inconservation.org/.

Conservation Easement/Purchase of Conservation Easement (Purchase of Development Rights) – Laporte County Comprehensive Plan: http://www.laportecounty.org/Resources/Planner/LaPorteCountyLandDevPlan.pdf.

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Emerald ash borer, Agrilus planipennis

Dan O'Keefe, Michigan Sea Grant

Silver carp, Hypophthalmichthys molitrix

Warner Park Nature Center , Warner Park Nature Center, Bugwood.org

Asian bush honeysuckle, Lonicera maackii, L. tatarica, L. morrowii, L. X bella

Natural Resource Management: Invasive Species Education and Management

Invasive species present significant ecologic, economic, and in some cases health-related challenges to urban and rural communities. Landowners and communities require appropriate tools and resources to identify, report, and manage existing invasive species problems and prevent additional infestations in the future.

This section will assist stakeholders in addressing natural resource management issues using the community development framework for visioning and action planning with a focus on invasive species. Through this program, we will enable participants to recognize and manage terrestrial plant invasive species locally, understand negative impacts of invasive species, engage invasive species management stakeholders, and create a community action plan to respond to the issue.

What Are Invasive Species?

Invasive species are plants, animals, or pathogens that are non-native (or alien) to the local ecosystem and whose introduction causes or is likely to cause harm (National Invasive Species Information Center).

Examples of invasive species that are affecting Indiana include: emerald ash borer, an invasive insect that is killing ash trees;

Asian carp, an invasive fish that forces out native fish in rivers and lakes; and Asian bush honeysuckle, an invasive terrestrial plant that invades natural areas and prevents native plants from growing.

Framing the Issue: Impact on the Community and People

Economics

The annual cost of terrestrial invasive plants alone to the United States economy is estimated at $15 billion a year. Invasive species are a global problem with the annual cost of impacts and control efforts equal to 5 percent of the world's economy. A 2012 informal survey conducted by the Indiana Invasive Plant Advisory Committee found that landowners and managers in Indiana spent $5.85 million to manage terrestrial invasive plants (Invasive Plant Advisory Committee, 2013).

Aquatic invasive species can also be very expensive or impossible to control and the resulting damage to sport fisheries, recreation, and commercial resources can be serious. Lake residents in Indiana spend an estimated $800,000 per year on public waters to chemically control Eurasian watermilfoil, an invasive water plant that can shade out native species and interfere with boating and fishing (Indiana Department of Natural Resources Division of Entomology and Plant Pathology, 2018). In the United States as a whole, an estimated total of more than $800 million is spent on the damages and control costs of aquatic weed species (Pimentel, 2005).

These are just a few examples of the costs of monitoring, control, and management

Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Fanwort, Cabomba caroliniana

Jörg Hempel https://www.flickr.com/photos/joerghempel

Yellow iris, Iris pseudacorus

Amy Benson, U.S. Geological Survey, Bugwood.org

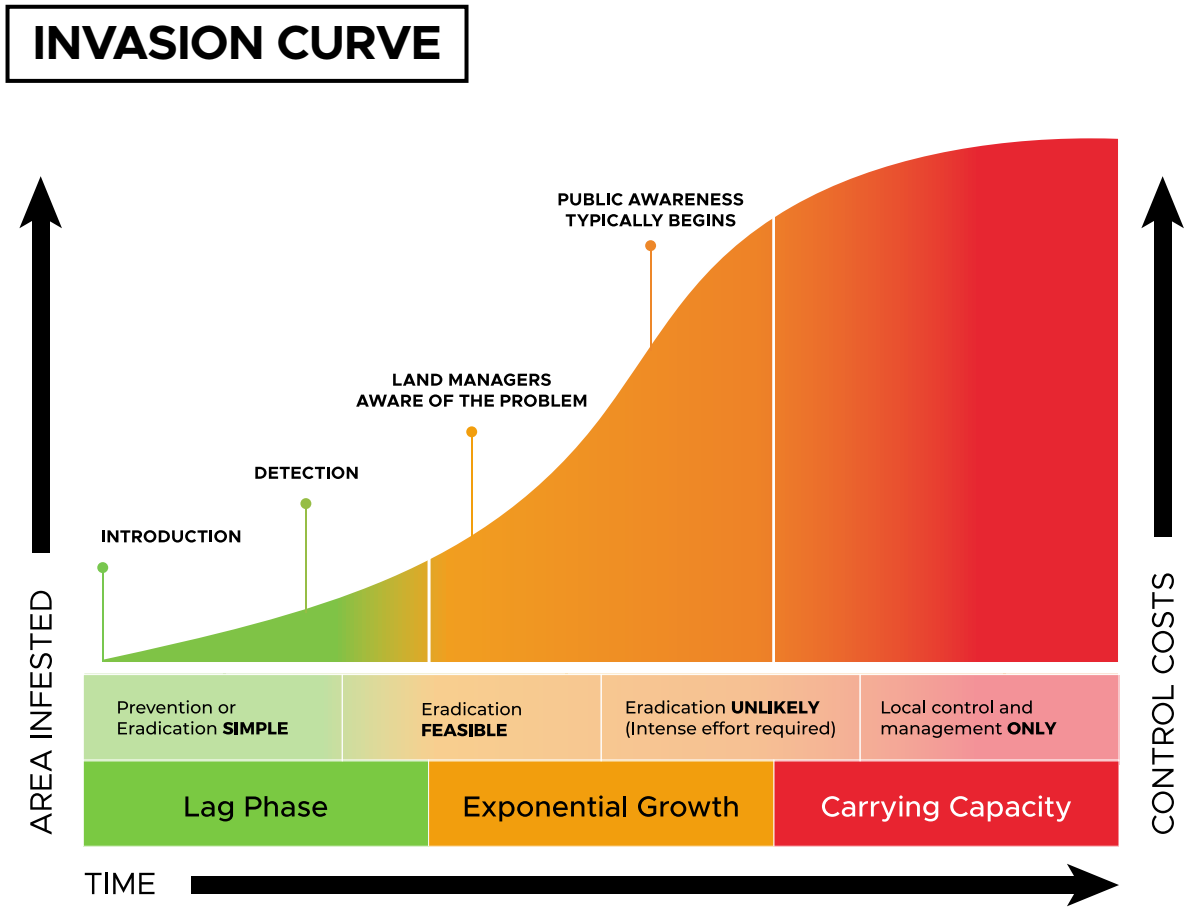
Eurasian watermilfoil, Myriophyllum spicatum

of invasive species. Because no one agency has jurisdiction over the many species and types of invasions, economic costs are difficult to determine.

What are Impacts on the Community?

The impacts on communities depend on the species and extent of invasive plants present and the areas they infest or threaten. As the extent and density of invaded areas increase, the costs of lost values and benefits to the community and the costs of control and site restoration can increase greatly (Figure 1). By detecting or controlling invasive species before they take over large areas or reach high densities, communities can maintain the quality of the land at a much lower cost, both in effort and dollars.

Figure 1.



The goal is to detect and become aware of invasive species during the early (green and orange) stages while eradication is still feasible. Without coordinated effort, awareness generally occurs later in the invasion when eradication is difficult and costly (Source: Southwest Montana Science Partnership's Module on Plants and Pollinators).

Relevance to Economic Development

Natural areas support a strong tourism and recreation industry as well as productive agriculture and forestry industries. Water resources are critical to our municipal and rural water supplies and to the tourism industry. Invasive species impact the quality of these natural resources and our economy. High quality natural resources create a higher quality of life for residents and can lead to increased economic development.

Environmental and Ecological Impacts

One of the single largest threats to our nation's natural resources, invasive species can:

1. **Reduce agricultural production and property values** – A study by the Department of Plant Biology at Ohio University found that in woodlands with an understory dominated by bush honeysuckle, hardwood tree annual volume growth was reduced up to 53 percent, with a subsequent reduction in timber sale value and income (Hartman, 2005). Agricultural losses may occur from invasive insects and weeds, reducing crop yields or increasing expenses from control of weeds and pests. According to the U.S. Forest Service, the invasive kudzu vine has overrun more than 200,000 acres and is increasing by about 2,500 acres per year (Finch, 2015). Kudzu is also an alternate host for soybean rust, leading to potential agricultural losses.

2. **Displace native plants that wildlife and fish depend on for food** – Critical pollinators and other native insects are also impacted by a reduction in native plants.

3. **Further risk endangered and threatened wildlife species** – Invasive species are the second leading cause of animal population decline and extinction worldwide. More than 400 of the over 1,300 species currently protected under the Endangered Species Act, and more than 180 species that are candidates for the list, are considered to be at risk at least partly due to displacement by, competition with, and predation by invasive species (US Fish & Wildlife Service, 2012).

Human Health Impacts

Toxic invasive plants like giant hogweed and poison hemlock present a threat of dermal and oral toxicity to those entering infested areas.

Evidence is building that the presence of invasive plant species may be raising the risks of tick-borne disease transmission to humans. Research reported in the Proceedings of the National Academy of Sciences shows that the presence of bush honeysuckle increases the density of nymph life-stage ticks infected with bacteria that cause human disease, ten times higher in areas infested with bush honeysuckle than areas without honeysuckle (Allan, 2010). A study published in the journal Environmental Entomology in 2009 revealed that higher black-legged tick (deer tick) populations correspond with greater abundance of dense Japanese barberry patches. The study concludes that managing Japanese barberry will effectively

reduce the number of deer ticks that commonly feed on humans and carry Lyme disease (Williams, 2009).

Recreation and Lifestyle Impacts

Changes in vegetation cover due to invasive plant species can decrease the aesthetic qualities of landscapes, which may have impacts on tourism. Invasive plant species can also lessen the enjoyment of recreational activities. Unmanaged and unchecked plant invasions can inhibit access for hiking or horseback riding, limit access to hunting lands, reduce wildlife populations, and can eliminate viewscapes. Invasive aquatic species can also limit swimming and watersports opportunities and harm water quality. Invasive species in the Great Lakes have reduced commercial fishing from 13–33 percent, depending on the lake, decreased sport fishing 11–35 percent, and reduced wildlife watching 0.8 percent (Lodge, 2008).

James H. Miller, USDA Forest Service, Bugwood.org

Burning bush, Euonymus alatus

Defining the problem in a community: Where is it coming from?

Invasive Terrestrial Plants

Invasive plants can come from a variety of pathways, but several of our most problematic plant species have been intentionally planted for landscaping or for conservation purposes, including controlling erosion or providing wildlife habitat. Once the plants are established and producing seed, they may spread into native forests, wildlife habitats, and parks, or disturbed sites like ditch banks, abandoned lots, and roadsides. Many invasive plants are still planted for landscaping (burning bush and Callery pear are examples) and continue to spread as they produce seed or expand as a colony of plants.

Some plants have been accidentally introduced when seed is present in packing materials, soil or gravel fill, feed, or other items that could contain plant seeds or parts. Evidence is mounting that growing deer populations may also facilitate the expansion of invasive species. White-tailed deer may over browse their habitats and this disturbance can create space for invasive species to invade and spread.

As they mature and spread seed, invasive populations can grow quickly and spread to new areas. Birds and other wildlife can spread seed long distances, as can wind and water. People may also unwittingly spread invasive plants by moving seeds or plants in soil, shoes, tools, equipment like mowers and excavators, debris, vehicles, and boats.

Aquatic Invasive Species

Aquatic invasive species may include aquatic plants like hydrilla that grow and choke waterways, or aquatic animals like zebra mussels, which attach to water supply systems and power plants. Aquatic invasive species may be introduced intentionally, such as by people dumping their aquariums in a lake, or accidentally, when organisms are transferred in ballast water or are attached to boats or other recreational equipment.

Invasive Animals, Insects, and Diseases

Invasive animals, insects, and diseases generally result from humans causing an accidental introduction, release, or spread of that species beyond its native range. Due to their potentially massive economic and health impacts, these species are generally monitored and controlled under the jurisdiction of federal and state agencies, including the U.S. Department of Agriculture Animal and Plant Health Inspection Services, U.S. Fish and Wildlife Service, Indiana Board of Animal Health, and Indiana Department of Natural Resources Division of Entomology and Plant Pathology.

Benefits and Challenges of Addressing Invasive Species

Invasive plants commonly colonize edge areas, unmaintained land, or disturbed sites. Awareness and inventory of invasive plants in public and private landscaping, parks, streets and roadsides, and natural areas can help communities prioritize the work of managing their impacts. Detecting and controlling invasive species before they cover large areas or reach high densities provides an opportunity to maintain land in good condition at a much lower cost of money and effort. Information sources and tools for identifying and reporting invasive species are provided in the Additional Resources section.

Being aware of the presence of invasive species and the means by which they spread can help slow or stop their spread. Halting the planting of known invasive plants and replacing existing invasive landscaping with native or non-invasive plants can yield greater success in efforts to control the damage invasive plants cause.

Resources to monitor, report, and control invasive species are in high demand and funding is not readily available. Public and private landowners must recognize the problem and prioritize resources for invasive species. Another challenge is recognizing and responding to an invasion before control costs become prohibitive. Invasions are often not recognized until the population has exploded and control is much more difficult.

Taking action on invasive species may also be challenging because it often involves a change in behavior and priorities. Switching from known invasive landscaping plants to native or non-invasive plants can be a good starting point to limit future infestation sources.

Finally, invasions don't recognize boundaries and can easily spread and inhabit space across the entire landscape. No one jurisdiction or landowner has the ability to manage invasions across the landscape—management requires cooperation among

all levels of government and all land ownerships, both public and private.

Tactical Approaches

Mapping and Identification: What species are present and how bad is it?

Awareness and inventory of invasive plants in public and private landscaping, parks, streets and roadsides, wooded areas, wildlife habitats, and unmaintained areas can help communities prioritize the work of managing their impacts. Invasive plants commonly colonize edge areas, unmaintained land, or disturbed sites. As they mature and spread seed, populations in these areas can grow quickly and spread to new areas. Birds and other wildlife can spread seeds long distances, as can wind and water. Information sources and tools for identification and reporting of invasive species are provided in the Additional Resources section. Often, the most valuable tool for identifying invasive species problems is awareness on the part of officials and citizenry, and a mechanism to report issues.

Several tools are available to assist citizens and communities in reporting and mapping invasive species. The Report IN and EddMaps programs provide resources for identifying, reporting, and mapping invasive species. These and additional local, regional, and national programs are listed in the Additional Resources section.

Through these resources, community members and groups who may work in, monitor, or use sites where invasive species could be present, can help track the presence and intensity of invasive species infestations. Communities can help plan for control measures by including an invasive species assessment as part of the data collection for infrastructure management.

Prioritizing Efforts

An area infested by invasive species may be so large that it is necessary to prioritize where to start. Some guiding principles can be helpful in selecting where to concentrate early efforts. Scouting for and controlling invasive plants very early in the infestation cycle results in much lower control costs, much less environmental disturbance and damage, and the possibility of eradicating the invasive plant in that location. This is termed early detection and rapid response. When invasive plants have been identified, timely reporting to people who work in or use the areas of interest can help with early detection. This needs to be followed by a rapid response to control the detected invasion before the plants begin to spread by seed or sprouts.

If the invasive plants are already well established, eradication is often not possible, but plant spread can be slowed by first controlling those plants that are producing seed. Areas that have been lightly infested should also be prioritized for early control work. Less environmental damage has been done to these sites, and more area can be cleared of invasive plants with less effort.

Several other criteria may also influence where work should start, like public safety, accessibility, unique site characteristics, rare or endangered species that are threatened by invasive plants, laws or regulations limiting activities, and funding and logistic limitations.

Control Methods

Planning and Implementation

Controlling invasive plant species involves several steps:

1. **Scouting and doing an inventory** to establish the invasive plant species present, how much area is impacted, the characteristics of the infested areas, and if possible, the sources of the infestation.

2. **Prioritizing and scheduling the locations** and types of plant control work to do.

3. **Contacting contractors** to schedule control work, or outlining and gathering the equipment, materials, and personnel needed to do the work.

4. **Doing the work** on a seasonal timeline that will provide the best results.

5. **Revisiting the treated sites** to evaluate treatment effectiveness and applying follow-up treatments—controlling invasive plants generally requires repeated treatments to the same area to kill existing plants and new plants emerging from seeds or sprouts.

6. **Monitoring control sites** to occasionally treat any invasive plants establishing in the area.

7. **In some cases, planting native or other desirable plant species** may restore invasive species treatment areas.

Using Herbicides

Herbicides are an important part of an efficient and effective program for invasive species control. An in-depth understanding of herbicide characteristics, application techniques, personal and environmental safety considerations, site conditions, and target plant characteristics is needed to

safely and effectively apply these materials. You should read the herbicide label to determine legal application methods and rates, required personal protective equipment, and appropriate target species and site conditions for applications.

For best practices when using herbicides, you can also refer to some previously mentioned sources for identifying and controlling particular invasive species. Many herbicides used for invasive plant species control are available from local garden and farm supply stores, or may be ordered from agriculture herbicide dealers.

If you are not familiar with herbicide applications in natural areas, it is important to consult with people who have training and experience with similar applications. Some examples include public and private land managers, natural resource contractors (such as foresters and restoration specialists), commercial herbicide applicators, and Extension educators or specialists. To promote safety and effectiveness, consider hiring natural resource professionals with herbicide training and experience in controlling invasive species.

Prevention

Best Management Practices

The Invasive Plant Advisory Committee of the Indiana Invasive Species Council has developed best management practices (BMPs) to prevent the introduction and spread of invasive species. See Additional Resources section for a list of BMPs.

Green Industry Collaboration

It is a good idea to work with local landscaping and nursery businesses to inform

them about this topic, including invasive plants that are still in trade and native or non-invasive alternatives for customers looking for landscaping plants. Some of these businesses may also be well positioned to assist with removing invasive species and restoring desirable plants. A statewide voluntary certification program, Grow Indiana Natives, has been developed to encourage the nursery industry to sell native plants.

Local Organizations that Address Invasive Species

Developing a local organization to address invasive species may be a successful approach for communities to consider. These groups, commonly known as Cooperative Invasive Species Management Areas (CISMAs) or Cooperative Weed Management Areas (CWMAs) organize community members, public lands agencies, and private landowners to prevent, control, and educate with the goal of reducing invasive species impacts locally.

Watershed groups and county Soil and Water Conservation Districts (SWCDs) also address invasive species as part of their mission to improve the environment. Grant programs and resources exist to assist the startup of local groups. Southern Indiana Cooperative Invasive Management (SICIM) is working to develop local groups in all counties across Indiana. The U.S. Department of Agriculture has been an important source of funding for invasive plant species control through cost-sharing conservation programs like the Environmental Quality Incentives Program (EQIP) and special project grants.

Public Education

An important part of an invasive control program is to raise awareness of steps that residents can take to help prevent their establishment and spread. Education field days and other events (including community events like festivals, fairs, and Arbor or Earth Day celebrations), signage and boot cleaning stations at public parks and natural areas, direct mailings, and articles and interviews in local and regional media may all provide opportunities to raise public awareness about invasive species. Education efforts can also engage youth or community service groups.

Regulatory Approaches

Federal Laws

Federal invasive species laws are limited and are generally related to organisms that have the potential to have substantial economic impacts on agriculture or devastating impacts on the ecosystem. A list of federal laws is available in the Additional Resources section.

State Rules and Statutes

Indiana has few regulations and limited ability to further regulate invasive species at this time. The state lists Canada thistle, purple loosestrife, multiflora rose, bur cucumber, Columbus grass, shattercane, and johnsongrass as noxious weeds and subject to state law. In state code (IC 14-24-12), these plants are specifically prohibited from sale, planting, and distribution. Note that existing plants are not regulated under this statute. A list of all state laws related to

invasive species is located in the Additional Resources section.

The Indiana Natural Resources Commission establishes standards for declaration and control of pests and pathogens and regulation of nurseries. The Indiana Division of Entomology and Plant Pathology director has the authority to implement and carry out these rules.

The Indiana Invasive Species Council (IISC) was created with several roles, one of which is to make recommendations regarding invasive species to government agencies and legislative committees (IC 15-16-10). The council has no regulatory authority but has begun exploring potential statutes or rules to regulate invasive species.

The IISC is exploring a new rule that would prohibit five invasive terrestrial plants in the state. Prohibited plants could be monitored, inspected, and removed per the rule. Thirty-nine additional plants would be designated as restricted, preventing sale or distribution. The proposed rule, which is slated for consideration in 2019, provides no legal means of controlling existing plants on the restricted list.

Marshall County Courthouse

Another Indiana statute regulates the possession or distribution of aquatic invasive animals and plants. See the Additional Resources section for a complete list of the prohibited aquatic invasives.

Local Regulation and Ordinances

Local jurisdictions can manage plant pests through a weed control board, whose operation is in statute (IC 16-16-7). Unfortunately, at this time, only five noxious weeds are under control of local weed boards, none of which is considered an invasive woodland plant. In other states, local weed control boards are used to regulate a number of invasive plants that have been determined through state statute. This is an area that could be explored for creating regulations at the local level, but would require state legislation.

Should a community wish to pursue opportunities for regulating invasive species, it is important to seek guidance from IISC or the director of the Division of Entomology and Plant Pathology. Any new regulation would require either a rule approved by the Natural Resources Commission or a new statute approved by the state legislature. Since regulations are not widely used to address invasive species, prevention and monitoring programs are a commonly used approach to reducing invasive species impacts.

Local Policies to Address Invasive Species

Planting Guidelines

Communities can develop planting guides for public property to discourage the use of invasive landscape plants and encourage the use of native plants. This guide can provide an example to private landowners. Some communities have adopted local guidelines or ordinances covering the planting and care of trees and shrubs, particularly on, but not necessarily limited to, public lands. These documents should include lists of invasive species to avoid in plantings.

Promoting native plants and pollinators can be a positive program for the community. The City of South Bend created a document titled "Trees Suitable for Planting in South Bend City Limits."

In this list, 56.9 percent of the trees that are considered suitable for planting are not native to North America. Only 12.1 percent are true native trees (in green in the pie chart below), which should be the goal of any planting program. This problem is not endemic to South Bend or even to Indiana, but is an example of the lack of knowledge about invasive species, and illustrates that care must be taken when developing planting guidelines.

Summary of "Street Tree MASTER PLANTING LIST 2017," City of South Bend, IN

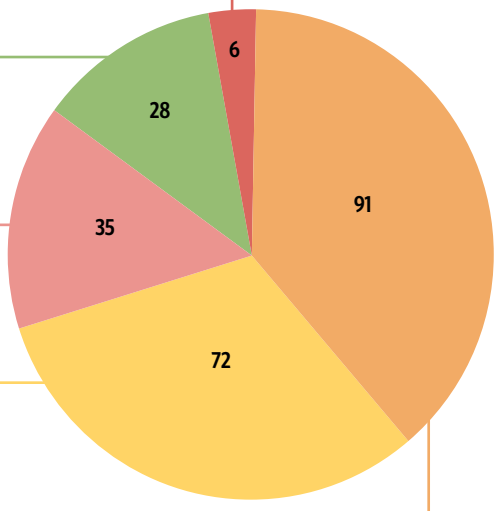
2.6%
Exotic trees that are officially listed as invasive by the **Indiana Invasive Species Council**.

12.1%
Non-cultivated native trees in their pure form.

15.1%
Exotic, non-North American trees that are potentially invasive (have been documented as naturalized in Indiana or in nearby states).

31%
Trees native to North America, but exotic to northern Indiana, and "Nativars" (cultivated varieties of native trees).

39.2%
Exotic, non-North American trees and cultivars thereof without documented examples of naturalized or escaped populations.



Source: Steve Sass, Ecological Advisory Committee Member, South Bend Department of Parks and Recreation

Land Development Guidelines

A common pathway for invasions to occur or spread is when land is disturbed, such as the development of housing, industry, roads, trails, or utilities. General guidelines or contract requirements for the development process could minimize invasive species impacts. Those might include treating invasions on the land before development begins, requiring equipment be cleaned before entering and leaving the property, requiring the use of uncontaminated construction and landscape materials, requiring the use of BMPs, or prohibiting the planting of new invasive plants. See the Additional Resources section for a list of voluntary BMPs that might be considered on development sites.

Model Invasive Species Community Efforts in Indiana

Brown County Native Woodlands Project

The mission of this project is to protect the forests of the Brown County Hills from the devastating effects of invasive plant species through education, training, and eradication of non-native invasive plants.

Example initiatives:

1. In 2007, the project mapped the occurrence on all county roadsides of four prevalent invasive species, to create the foundation for a plan for controlling and eradicating some non-native invasive plants species and to serve as a foundation for grant funds. The results of this work can be seen at http://www.bcnwp.org/road-side-mapping.
2. All invasive species on Brown County State Park were mapped, identifying 14 different species and 2,018 individual occurrences. This map was provided to the state park along with smaller working maps that detail the occurrence of non-native invasive plants in different sections of the park. These smaller maps will be used to direct the treatment of invasive plants on the property and justify funding for invasive plant control for several years to come. Coordinating control on this 16,000-acre property will help minimize outbreaks on adjacent private property. Visit http://www.bcnwp.org/bcsp-mapping to learn more about this project.
3. The group held the annual Nature Daze event, an outreach program to help landowners better understand the importance of managing their property to create a resilient native habitat. Average attendance for this program is 200.

Monroe County Identify and Reduce Invasive Species (MC-IRIS)

This coalition of Monroe County citizens is focused on reducing the environmental and economic impact of invasive species in the county through education and action. Example initiatives:

1. MC-IRIS provides a free invasive plant survey of your land. Visit this web page to apply to have a volunteer tour your property and provide information on plants found and control methods: http://mc-iris.org/invasive-plant-surveys.html.

2. MC-IRIS is collaborating with the Bloomington Urban Woodlands Project (BUWP) to control purple wintercreeper in Dunn's Woods and Latimer Woods. Working together, they have reduced the population of wintercreeper in these two woods by over 90 percent and will work to remove the remainder over the next few years. Since wintercreeper is planted in yards all over town, they contacted neighborhood associations in the area to provide a free opportunity to help identify and control purple wintercreeper in these neighborhoods. Also, residents helped on work days to learn about wintercreeper identification and control. Visit http://mc-iris.org/wintercreeper-control-assistance.html for more information.

3. There are over 100 kudzu sites in Indiana, five of those in Monroe County. The Indiana Department of Entomology and Plant Pathology (DEPP) has treated those five sites for several years. Now, through the Adopt a Kudzu Site project, MC-IRIS visits each site annually and continues treatments as needed, freeing up state resources to take on kudzu in other counties. Visit http://mc-iris.org/adopte-a-kudzu-site.html for more information.

4. Residents of Monroe County can borrow a number of invasive plant control tools through a loan program. To find out more, visit http://mc-iris.org/control-tool-loan-program.html.

Additional Resources

Organizations: Invasive Species is the Primary Mission

Indiana Invasive Species Council: https://www.entm.purdue.edu/iisc/

Midwest Invasive Plant Network: http://www.mipn.org/

Indiana's "Most Unwanted" Invasive Plant Pests Indiana Cooperative Agricultural Pest Survey (CAPS) Program: https://extension.entm.purdue.edu/CAPS/

National Invasive Species Information Center: https://www.invasivespeciesinfo.gov/

National Invasive Species Information Center, Indiana page: https://www.invasivespeciesinfo.gov/us/indiana

National Invasive Species Council: https://www.doi.gov/invasivespecies/

Southern Indiana Cooperative Invasives Management: http://www.sicim.info/

Monroe County Reduce Invasive Species: (MC-IRIS): http://mc-iris.org/

Brown County Native Woodlands Project: http://www.bcnwp.org/

Organizations: Invasive Species is a Secondary Mission or One of Many Missions

Indiana Division of Forestry: http://www.in.gov/dnr/forestry/

Indiana Division of Entomology & Plant Pathology: http://www.in.gov/dnr/entomolo/

Purdue Department of Forestry & Natural Resources Extension: https://www.purdue.edu/fnr/extension/

Purdue Plant & Pest Diagnostic Laboratory: https://www.ppdl.purdue.edu/PPDL/current_interest.html

Indiana Native Plant & Wildflower Society: http://www.inpaws.org/

Indiana Forestry & Woodland Owners Association: http://www.ifwoa.org/

Indiana Land Protection Alliance (alliance of state land trusts): http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/partners/ilpa-partners.xml

Technical Assistance

Purdue Department of Forestry and Natural Resources Extension Specialists can help answer your resource management questions: https://www.purdue.edu/fnr/extension/

Indiana Department of Natural Resources (DNR) district foresters provide landowners with forest management advice and assistance: http://www.in.gov/dnr/forestry/4750.htm

USDA Natural Resources Conservation Service (NRCS) provides a wide range of conservation technical assistance: https://www.nrcs.usda.gov/wps/portal/nrcs/main/in/contact/local/

County Soil and Water Conservation District offices are often jointly located with the USDA NRCS and can provide information on local conservation issues and resources: http://iaswcd.org/

Monetary Support

Pulling Together Initiative, National Fish & Wildlife Foundation: http://www.nfwf.org/pti/Pages/home.aspx

Natural Resources Conservation Service conservation programs for landowners: https://www.nrcs.usda.gov/wps/portal/nrcs/in/home/

Identifying Invasive Species

PLANTS database of USDA NRCS: http://plants.usda.gov/java/

CAPS: https://extension.entm.purdue.edu/CAPS/plants.html

Descriptions and photos: http://www.invasive.org/species/weeds.cfm

New Invasive Plants to Watch For – And What to do When You Find Them: https://www.entm.purdue.edu/iisc/pdf/New%20Invasive%20Plants%20To%20Watch%20For%202016.pdf

Invasive Plant Species in Hardwood Tree Plantings: https://www.extension.purdue.edu/extmedia/FNR/FNR-230-W.pdf

Species-Specific Identification and Control Publications

Mile-a-Minute Vine Fact Sheet: https://www.extension.purdue.edu/extmedia/FNR/FNR-481-W.pdf

Japanese Chaff Flower Fact Sheet: https://www.extension.purdue.edu/extmedia/FNR/FNR-477-W.pdf

Poison Hemlock Fact Sheet: https://www.extension.purdue.edu/extmedia/FNR/FNR-437-W.pdf

Palmer Amaranth Biology, Identification, and Management: https://www.extension.purdue.edu/extmedia/WS/WS-51-W.pdf

Species-Specific Identification and Control Videos

Oriental bittersweet: https://www.youtube.com/watch?v=mtw5Gi3S09c

Wintercreeper: https://www.youtube.com/watch?v=rRxHlCeBECg

Callery Pear: https://www.youtube.com/watch?v=yvnd13TJUJc

Multiflora rose: https://www.youtube.com/watch?v=KMThwvYeFX0

Asian bush honeysuckle: https://www.youtube.com/watch?v=uYoRgE7xTQo

Burning bush: https://www.youtube.com/watch?v=tjHpmdOqztQ

Arrest that Pest! Emerald Ash Borer in Indiana: https://extension.entm.purdue.edu/arrestthatpest/

Controlling Invasive Species

Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas: http://www.invasive.org/gist/handbook.html

Four easy ways to kill Asian bush honeysuckle: http://mc-iris.org/uploads/4/1/1/8/4118817/four_easy_ways_to_kill_asian_bush_honeysuckle.pdf

Useful tools for manual extraction of small invasive shrubs: https://www.entm.purdue.edu/iisc/pdf/ABH_Tool_Info.pdf

Calendar of Control: https://docs.wixstatic.com/ugd/f109ab_acfc3028c5e7490e9747d015bcddca11.pdf

Herbicide Information: Tools and Techniques—Purdue University Weed Science Department maintains a Select-a-Herbicide tool that provides herbicide and application recommendations for weed species on various sites: http://www.purdueweedsci.com/indexNC.php.

The Purdue Pesticide Program has numerous resources covering the safe and efficient use of herbicides: https://ppp.purdue.edu/

Reporting Invasive Species

Report IN is a fast and easy way for you to report invasive species in Indiana. This web-based reporting system includes real-time tracking and distribution maps of invasive species in the state. Data only reflects reporting that has occurred and may be limited, based on local efforts and expertise. Occurrences will likely exist that

are not yet recorded. To see an example of the type of information available, here is a query on "Leafy spurge by county in Indiana": https://www.eddmaps.org/indiana/distribution/uscounty.cfm?sub=3405.

Report IN includes two ways to report—by computer and smartphone. All reports are sent to the appropriate organization for verification. To report by computer, visit www.EDDMapS.org/indiana and create a profile, then click Report Sightings and fill out the form. To report by smartphone, download the Great Lakes Early Detection Network (GLEDN) app. This app is created and maintained by EDDMapS.org. The same EDDMapS profile can be used for both computer and smartphone reports.

Report IN Training Materials: https://www.eddmaps.org/indiana/tools/

How to use Report IN on the website: https://www.entm.purdue.edu/iisc/pdf/how-to-report-on-website.pdf

How to use Report IN on a smartphone: https://www.entm.purdue.edu/iisc/pdf/how-to-report-on-smartphone.pdf

Other Reporting Options

To report by phone, for any type of suspected invasive species, call the Indiana DNR Invasive Species Hotline toll-free: 866 NO EXOTIC (866-663-9684).

Reporting Aquatic Invasive Species: http://www.in.gov/dnr/files/AIS_Reporting_Form.pdf

Contractor Lists

Southern Indiana Cooperative Invasives Management list: http://www.sicim.info/contractors/

Indiana Directory of Professional Foresters: http://www.findindianaforester.org/

Replacement Native Plants

Indiana Native Plant & Wildflower Society: https://indiananativeplants.org/landscaping/

Where to buy native plants: http://www.bcnwp.org/where-to-buy-native-plants

Commercial Greenhouse and Nursery Production: Alternative Options for Invasive Landscape Plants: https://www.extension.purdue.edu/extmedia/ID/ID-464-W.pdf

Alternative Options for Invasive Landscape Plants: https://www.extension.purdue.edu/extmedia/ID/ID-464-W.pdf

Grow Indiana Natives, a statewide voluntary certification program, has been developed to encourage the nursery industry to sell native plants: http://growindiananatives.org/

Regulatory Information

Federal laws regulating invasive species: https://www.invasivespeciesinfo.gov/laws/federal.shtml https://www.invasivespeciesinfo.gov/us/multistate

A list of all Indiana laws related to invasive species is located at: https://www.invasivespeciesinfo.gov/us/indiana

Indiana Noxious Weed Law: http://iga.in.gov/legislative/laws/2017/ic/titles/015/#15-7

Indiana Division of Fish & Wildlife Aquatic Invasive Species Possession Rules: https://www.in.gov/dnr/fishwild/files/fw-AIS_PossessionRules.pdf

Miscellaneous Resources

The Cost of Invasive Species: https://www.fws.gov/verobeach/pythonpdf/costofinvasivesfactsheet.pdf

How to start a Cooperative Weed Management Area: http://www.mipn.org/cwma-resources/

Certified or guaranteed sources of fill and gravel: Indiana Certified Weed Free Program

Best Management Practices

Indiana Invasive Species Council Top Ten List of BMPs for Invasive Species (see complete list below): https://www.entm.purdue.edu/iisc/bmps.php

Extensive list from Wisconsin DNR, includes recreational user groups, forestry, and urban audiences: http://dnr.wi.gov/topic/invasives/bmp.html

Mute swan, Cygnus olor

Top Ten List of Best Management Practices for Invasive Species

The Invasive Plant Advisory Committee of the Indiana Invasive Species Council has developed 10 BMPs to prevent the introduction and spread of invasive species.

1. Develop an organizational invasive species strategy:

- Goals.
- Objectives and priorities.
- Tactics - policies and procedures on:
    - Employee education and training
    - User education
    - Contracting and sourcing
    - Monitoring
    - Prevention
    - Control projects
- Schedule regular assessments – measure and celebrate your success!

2. Create and maintain an invasive species knowledge base:

- Maps - where are current infestations?
- Reporting and mapping process for staff and users.
- Documentation of control projects – exact location, treatment protocol, dates, herbicide concentrations, weather and soil conditions, etc. – and assessment of results initially and after additional growing seasons.

3. Think ahead. Pre-plan major land development or maintenance activities:

- Avoid disturbing heavily infested areas when possible.
- Pre-treat areas that must be disturbed well in advance.
- If possible, conduct such activities when seeds are not easily movable.
- If possible use existing roads, trails, landings, staging areas, and designated equipment cleaning areas.

4. Use native plants and seeds - and make sure they are from "weed-free" sources:

- Use species that are appropriate to site and conditions.
- Assure that species received are as specified.
- Assure that new plants and seeds are not contaminated.
- Use trusted sources whenever possible. (See Indiana Native Plant and Wildflower Society Sources of Native Indiana Plants list.)
- Ask for guarantees or make-good provisions in sourcing contracts.

5. Use uncontaminated construction or landscaping material (mulch, fill, gravel, straw, etc.):

- Find certified or guaranteed sources when possible.
- Use trusted sources whenever possible.
- Ask for guarantees or make-good provisions in sourcing contracts.
- Look to create on-site sources if possible.
- Monitor stockpiles regularly.

6. Keep tools, equipment, vehicles, and clothing clean:

- Require contractors to bring clean vehicles and equipment to your site.
- Designate contained areas for cleaning and disposal.
- Educate and encourage users to inspect and clean clothing, equipment, pets, etc. before and after entry.

7. Have a long-term plan for managing invasives:

- "An ounce of prevention…"
- Prioritize locations and species taking into account severity of infestation, degree of invasiveness, feasibility of control, "value" of habitat at risk, etc.
- Optimize treatment timing and technique.
- Evaluate, measure, and document success.

8. Monitor disturbed locations and high risk areas:

- Monitor regularly and frequently.
- Monitoring is especially important following natural disasters and major development or maintenance projects.

9. Require contractors to follow BMPs:

- Incorporate BMP requirements into RFPs and contracts.
- Inspect and document infestations before and after contractor activity.
- Ask for guarantees or make-good provisions.

10. Educate recreational users (and neighbors) on invasive species BMPs:

- Provide basic education when possible:
    - What are invasive species?
    - Why are they bad?
    - How to identify key species.
- Offer a mechanism for reporting invasives.
- Provide cleaning stations at key entry and exit points.
- Regulate entry of infested material when possible (campfire wood, hay, bait, etc.).

And one to grow on: Actively look for funding opportunities, partnerships, and volunteers to assist in preventing and reducing invasive species.

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Developing an Effective Community Organization

Members of newly-formed community groups are often challenged with making decisions about how to get organized. This section provides a framework for understanding how these types of groups develop over time, with an emphasis on understanding their mission, structure, and processes.

Mission

In the early stages of development, community groups often devote a significant amount of time and energy to the development of a mission statement. These are typically one-sentence declarations that describe why an organization exists. They often summarize what the organization does, as well as who (or what) benefits from it.

Well-written mission statements serve the purpose of informing multiple audiences. They inform external audiences—such as funding sources, the media, and the general public—about what the organization does. For internal audiences, mission statements help to focus, motivate, and guide members of the group. Effective mission statements should also serve to guide the strategic planning and decisions of the organization.

The standard best practice for a mission statement is that it is clear, concise, and useful. It should use concrete language and aim for an 8th grade reading level. The statement should also be short and to the point, and should stay clear of buzzwords. A good rule of thumb is to aim for 5-14 words, with 20 words as a maximum—anything longer may undermine its utility (Korlaar, 2017).

Structure

Group Size

The group's size should reflect its mission, goals, programs, services, and activities. The size of an organization also influences its ability to function effectively and efficiently. While a large group enables greater representation, individual members may feel less needed by the group and, as a result, take on less responsibility. It can also be more challenging to operate, find meeting times, and make decisions with a larger group of people.

On the other hand, a small group may be able to operate more efficiently, but it may lack the broader representation and community outreach that the organization needs. An effective organization strives to strike a balance in the size of its membership. For reference, in the U.S., the average size of a non-profit board is 16 (Hrywna, 2012).

Committees

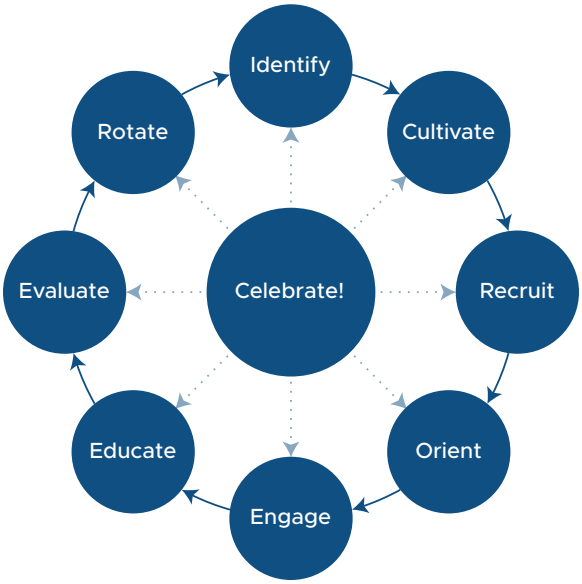
Most groups, over time, develop a subcommittee structure to divide the work, increase the accountability of members, and improve the overall effectiveness of the organization. Over time, most organizations develop standing (permanent) committees, as well as ad-hoc (as needed) committees. The best standard practice is that every organization has at least a

standing committee focused on the overall performance and composition of the group (often referred to as a governance committee).

Committee chairs should be responsible for organizing committee meetings and making sure that committee recommendations are reported back to the organization. Many organizations have developed a model that allows non-members to participate in committee meetings—this practice can serve to increase the impact of the organization in the community while limiting the size of the group's membership.

Processes: The Organizational Development Cycle

Effective groups typically follow a pattern of growth known as the Organizational Development Cycle. Organizations recruit, orient, and engage new members through an eight-step cycle that is in a continuous process of renewal.



Identify

Effective groups begin this process by identifying the qualities and characteristics of potential members based on the needs of the organization to carry out its mission. These qualities include a diversity of skills, knowledge, and connections. To help with this step, an organization may create a group composition matrix that lists these qualities and characteristics, with spaces for names that are generated during the next step of the cycle. A sample matrix is included in the appendices.

Cultivate

During this step, a group will generate a list of potential members, based on the qualities and characteristics identified in the previous step. Effective groups often rely on the help of staff members, volunteers, and others to suggest names and to find ways to connect with those candidates.

Recruit

Groups recruit candidates by informing them about organizational needs, and about how the potential member could possibly help the group fulfil those needs. Effective groups also inform candidates about job descriptions and responsibilities for members, taking care not to minimize those responsibilities.

Orient

During this step of the cycle, new group members are oriented to both the organization (its history, programs, finances, bylaws, calendar of events, etc.) and to the group (committees, other members, meeting calendars, etc.). An orientation can take place at a group meeting led by seasoned members, and provides an excellent time to lay out expectations and set the tone for group service and involvement.

Engage

A group that effectively engages its members often has greater success in retaining those members over time. Efficient meetings and active committees can help new members become more engaged. Effective groups also strive to solicit feedback from their members, and encourage them to become involved in programs and events.

Educate

A highly effective group strives to provide its members with information that is helpful in the decision-making process. One approach is to a send meeting materials packet in advance of each meeting, including the agenda, committee reports, and any supporting documentation associated with actions that a group might make decisions on at a meeting.

Evaluate

As a group matures over time, it is important to occasionally step back, reflect, and review the effectiveness of its work. Successful groups conduct periodic self-assessments to measure that effectiveness and to continue to engage their members.

Rotate

An effective group provides a mechanism for members to resign when the needs of the organization no longer match the qualities, passions, and characteristics of a particular person. One way to do this is by adopting term limits. Effective groups also have succession planning for new leadership as they cycle through the steps of development.

Celebrate

Throughout this cycle, it is important to celebrate the successes of the organization internally, as well as through press releases, community events, and annual reports.

Tips for Managing Volunteers

Community groups often rely on the work of volunteers to carry out their mission. Effective volunteer groups, like effective community organizations, are developed by implementing a set of steps to ensure

appropriate recruitment, development, and retention of helpers. The ISOTURE (identify, select, orient, train, use, recognize, and evaluate) Volunteer Management Model, used in extension programming nationwide, is a seven-step process used to build a sustainable cadre of volunteers for an organization.

Identify

- Identify the organization's needs regarding the skills and characteristics of potential volunteers, and develop volunteer job descriptions based on those needs.
- Cultivate and recruit potential volunteers from a cross-section of the community to fill job descriptions.
- Take advantage of existing volunteer referral services:
    - Local volunteer centers (Indiana Association of Volunteer Centers).
    - Online volunteer matching sites, such as Idealist.org and Volunteermatch.org.
- Develop volunteer application forms to identify a potential volunteer's availability, previous experience, interests, skills, and motives for volunteering.

Select

- Screen potential volunteers through background and reference checks.
- Interview potential volunteers to learn more about their skills, interests, motivations, and attitudes.

Orient

- Give new volunteers the opportunity to learn more about the organization and their role in it.
    - Provide detailed information about the organization's mission and goals.
    - Offer additional opportunities to review job roles and responsibilities, and to answer questions.
- Create opportunities for volunteers to meet staff members.
- Appoint the volunteer to his or her new position.
- Provide the position description to the volunteer and the resources to fulfill the duties.

Train

- Provide volunteers the specific knowledge and skills to carry out their roles and responsibilities.
- Provide opportunities for mentoring from other volunteers and staff members.
- Communicate important information about the organization on a regular basis.
- Train staff members about what motivates volunteers.

Use

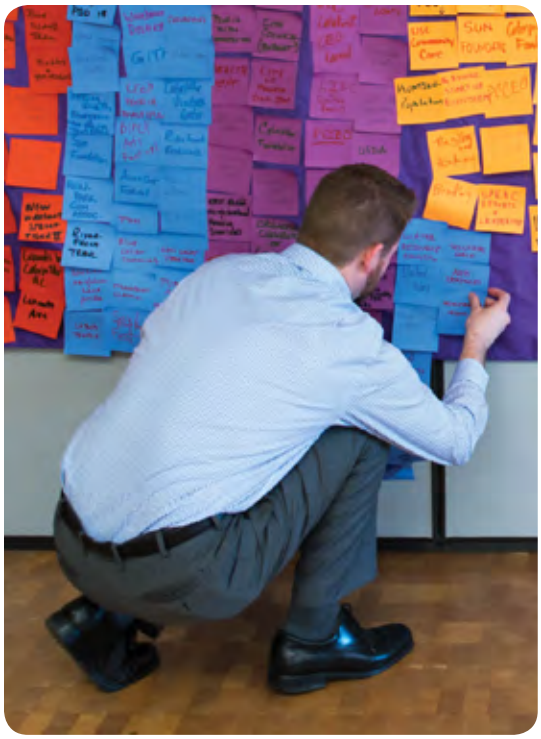
- Treat volunteers as valuable and integral members of the organization's human resources.
- Support volunteers in actively carrying out their responsibilities.

Recognize

- Share organizational accomplishments and milestones with volunteers.
- Provide opportunities to recognize volunteer impact and value in advancing the organization's mission.

Evaluate

- Monitor the service of each volunteer and the overall volunteer program.
- Provide performance-related feedback and a formal performance evaluation at a level appropriate to their involvement in the organization. Volunteers should also have the opportunity to provide feedback to the organization.



Types of Collaborations among Community Organizations

New community groups can often leverage their effectiveness by collaborating with other organizations to take advantage of the networking and efficiencies that exist at a larger scale. The following is a list of the types of collaborations generally found among and between community groups, in increasing levels of formality:

1. **Network** – The most informal type of collaboration, a network allows its members a greater degree of autonomy than in a coalition. In a network, the purpose often involves making connections with similar groups, sharing interests and knowledge, and allowing members to feel as though they are part of something bigger than their organization alone.

2. **Consortium** – Typically, a consortium is an alliance of organizations, usually with a common mission and purpose, that seek to gain a shared benefit. For example, several health clinics might form a consortium to purchase equipment that would have been prohibitively expensive for any one clinic.

3. **Coalition** – A more structured type of collaboration, a coalition has a greater emphasis on getting things done. Autonomy is often sacrificed for the good of group-wide decisions, and the purpose is not so much about making connections and sharing general ideas (as in a network) as it is about focusing narrowly on a specific relevant issue, and working together as a unit to accomplish clearly stated goals related to that issue. In general, the choice of collaboration depends on what the organization wants to accomplish. Does it just want to be more closely connected with other groups working in the field, or is there a clearly-defined objective that it wants to work on?

4. **Partnership** – This is generally regarded as a relationship of two or more organizations in which each has equal status and a certain independence, while maintaining a formal obligation toward a mutual goal they agree could not be achieved alone.

Methods of Decision-Making within Community Groups

- ✓ Majority Vote
- ✓ Consensus
- ✓ Modified Consensus
- ✓ Nominal Group
- ✓ Charting
- ✓ Ranking
- ✓ Robert's Rules of Order

To learn more about these decision-making methods, refer to Facilitator's Guide to Participatory Decision-Making, and Facilitation Skills: Helping Groups Make Decisions. More information is in the Additional Resources section below.

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Sample Board Meeting
November 12, 2015
7:00 p.m.
Monticello Public Library

Time	Agenda Items	Presenter	Purpose
7:00 – 7:05	Welcome	Chair	
7:05 – 7:10	Introduction of New Members	Chair	Information
7:10 – 7:11	Consent Agenda ● October 6 Meeting Minutes ● Presiden'ts Report ● Committee Reports ● Leasing Contract	Chair	Decision
7:11 – 7:20	County Countract Proposal	John Smith	Decision
7:20 – 7:40	Term Limits	Jane Martin	Discussion
7:40 – 8:10	Relocation Proposal	Anette Jones	Discussion
8:10 – 8:25	Summer Outreach Program	Mike Murphy	Decision
8:25	Adjournment	Chair	

Minutes

Minutes from the group's previous meeting should be included in the pre-meeting packet. It is considered a best practice to have also distributed a copy of the minutes earlier—preferably within days following the prior meeting—so that members of the group do not have to wait for the pre-meeting packet to receive the minutes.

Committee Reports

Committee reports should be included in the pre-meeting packet. They should include a summary from the committee's most recent meetings, as well as information that the committee would like for the group as a whole to take action on.

Leader Responsibilities

The meeting leader is responsible for keeping the group focused on important discussions and decisions. If the conversation begins to bog down on details that are better resolved in a smaller group, it is the leader's responsibility to know when to suggest that the topic be moved to committee work. It is also the responsibility of the leader to facilitate group discussions and decision making, allowing everyone at the meeting the opportunity to be heard.

Group Responsibilities

Meeting leaders are not the only ones in the room responsible for an effective meeting. Participants should prepare for the meet-

Implementing Best Practices for Meetings

Effective meetings don't just happen. They require thoughtful planning, leadership, and communication before, during, and after the event. This section outlines key best practices for successful meetings, including the importance of developing a pre-meeting packet, and the responsibilities of the meeting's leader and attendees.

Best Practices

Pre-Meeting Packet

One strategy that contributes to productive and efficient meetings is to provide attendees with adequate information, well enough in advance, so that the group can devote valuable meeting time discussing, deliberating, and deciding on action items. One way to do this is to develop a pre-meeting packet that contains information such as an agenda, minutes, committee reports, relevant articles, and anything else that is relevant to the decision process.

Coordinating and distributing the packet should be the responsibility of the group's leader, secretary, staff members, or another designated member of the group. It's considered best practice to distribute the packet approximately one week before the meeting to allow attendees time to thoroughly review and reflect on the information. The following sections outline the key parts of the packet.

Agendas

A well-designed agenda can lead to more effective meetings that stay on point. Each agenda item should identify the topic of discussion, set the discussion time frame, identify the presenter, and clarify its objective (for example, does a decision need to be made, or is this informational?).

When reviewing the discussion topics, it is worthwhile to also consider the order that items appear on the agenda. Topics needing creative energy should appear early in the meeting when group vitality is at its highest. More mundane items should be scheduled for the end of the meeting when energy levels are at their lowest.

Preparing the agenda is the responsibility of the group's leader, in consultation with the various committee chairs.

The Consent Agenda

A consent agenda is another tool that can lead to more a more efficient meeting. At most meetings, routine agenda items do not usually require discussion. These could include approval of the minutes, reports provided for information only, dates of future meetings, and routine decisions such as contract renewals.

With a consent agenda, these items are approved as a block, without discussion. If an attendee believes that a particular item in a consent agenda requires additional discussion during the meeting, that item may be removed from the consent portion of the agenda and added to the full agenda.

ing by reading the packet in advance. Attendees should also strive to speak concisely and stay on topic. Members of the group should be accountable for their assigned tasks and should participate in a constructive manner.

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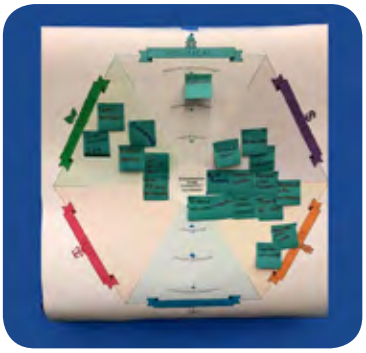
CCL Toolkit

CCL Toolkit

Community Meeting Series and Action Planning Tools

The following sections outline each meeting in the Community Engagement and Action Planning Steps series and the resources or tools that will be implemented with community groups. The process will take place over a series of 4–5 community meetings, with some meetings conducted as longer workshops. Meetings will be held every other week or every month to conclude within three to six months of the start date. Two or three community leads will serve as local coordinators and will be responsible for finalizing the action plan with the Purdue Extension team. Resources for each meeting will include process agendas, participant agendas, resource handouts, worksheets, and/or PowerPoint slides in the order needed for each meeting.



Community Engagement and Action Planning Steps

Community Program Application

Community Program Application

Conservation *through* COMMUNITY LEADERSHIP

PURDUE UNIVERSITY | Extension

Sea Grant ILLINOIS-INDIANA | USDA

Due Date: *February 17, 2017*

Fill in the following information:

Primary Contact:	Position:
Organization name:	Program website:
Telephone number:	E-mail address:

Potential project name:

Potential project description:

200-300 words

Potential project goals:

1.

2.

3.

4.

5.

2-5 goals

Community(ies):

_____

_____

_____

- ❑ State
- ❑ County
- ❑ Regional (multi county)
- ❑ Municipality

Target audience(s):

Project focus area:

- ❑ Land use planning
- ❑ Watershed management
- ❑ Invasive species
- ❑ Other

_____

_____

Optional comments:
(List additional organization partners or team members)

100-200 words

Thank You!

Fill out and email the pdf to Kara Salazar, salazark@purdue.edu.

Kara Salazar | 765-496-1070 | www.purdue.edu/fnr/extension/scep/ccl

Community Action Planning Flyer

Community Action Planning Program

Conservation *through* COMMUNITY LEADERSHIP

PURDUE UNIVERSITY | Extension

Sea Grant ILLINOIS-INDIANA

USDA

Get the tools you need to address the complex natural resource management and land use planning issues faced by your community with a Purdue Extension program that pairs community action planning and education. Participants of this program will complete a high-quality action plan tailored to local initiatives over the course of approximately five meetings.

Who Should Participate

Individuals interested in natural resources management, conservation, agriculture, and land use issues, including:

- public agency staff
- local leaders
- interested community members
- nongovernmental organizations
- board members
- commissioners

What to Expect

Participants will

- Increase their understanding of assessing ecosystem health and natural resource management options
- Apply decision-support tools to make decisions and take actions on ecosystem health
- Form diverse community partnerships to create and implement land use or natural resource management action plans

Program Take Away

The completed action plan can be used to:

- Identify and address important natural resource issues in your community
- Update comprehensive planning efforts
- Support watershed management plans
- Create habitat management plans
- Implement fundraising initiatives for specific projects

How to Apply

The Conservation through Community Leadership program is available to groups throughout Indiana. Submitting a short program application is the first step for scheduling the program. To learn more about Conservation through Community Leadership and to download the program application, visit www.purdue.edu/fnr/extension/scep/ccl or contact Kara Salazar, Sustainable Communities Extension Specialist, at salazark@purdue.edu.

USDA is an equal opportunity provider and employer.

Overview of Meeting Series, Processes and Tools

Planning/Onboarding Session

Call for participation and review

(optional)

- ☐ If needed, the CCL team can support a call for community participation and the review process

Tools

- ☐ One page, simple program participation form
- ☐ Marketing materials

Intro conference call/pre-meeting

- ☐ Provide a general overview of the program
- ☐ Discuss the scoping session meeting agenda and attendees

Local leads and PU facilitation team (1 hour)

Tools

- ☐ Program and meeting overview sheet
- ☐ Marketing flyer

Coaching session

Session 1

Planning Meeting(s) with Local Leads

(Introductory Scoping Session Meeting)

- ☐ Present the CCL Program and how the action planning process can help the community
- ☐ Discuss needs, issues, and local input
- ☐ Form agenda and set the workshop date
- ☐ Determine budget and program funding sources
- ☐ Create contact list of potential participants
- ☐ Address registration and event logistics

Local leads and PU facilitation team (1 hour)

Tools

- ☐ Scoping session agenda
- ☐ Building the team
- ☐ PESTLE framework
- ☐ Marketing materials
- ☐ GIS and data resources form

Processes

- ☐ Stakeholder analysis
- ☐ Conducting an environmental scan
- ☐ Assessing community readiness

Facilitation session

Session 2

Taking Action on Natural Resources Issues in Your Community: Education and Visioning Workshop

- ☐ Present data snapshots and current conditions
- ☐ Conduct visioning and feedback activities for community assets and opportunities

30-50 stakeholders (5 hours)

Tools

- ☐ Workshop sign-in sheet
- ☐ Demographic Sheet
- ☐ Maps and data snapshots
- ☐ Turning point technology
- ☐ PESTLE framework prompts

(tools cont...)

- ☐ Sticky Walls
- ☐ Data resources for issue analysis
- ☐ Rotating flip charts
- ☐ Sticky walls
- ☐ Impact/effort grids

Processes

- ☐ SOAR facilitation process
- ☐ World Café style feedback sessions
- ☐ Workshop feedback and evaluation survey
- ☐ Digital Measures reporting

Coaching session

Session 3

Taking Action on Natural Resources Issues in Your Community: Identifying Goals, Objectives, and Strategies

- ☐ Develop objectives and strategies by goals
- ☐ Provide supporting information and resources such as sample plans, policies, and recommended strategies

10-20 working group members (3 hours)

Tools

- ☐ Workshop sign-in sheet
- ☐ Demographic sheet
- ☐ Sticky walls
- ☐ Goals, objectives, strategies prompts
- ☐ Impact/effort grids
- ☐ Data resources for issue analysis
- ☐ Setting goals, objectives, and identifying strategies worksheet
- ☐ Action plan overview

Processes

- ☐ Digital Measures Reporting

Coaching session

Session 4

Action Planning and Project Implementation

- ☐ Introduce planning tools
- ☐ Draft timelines
- ☐ Identify roles and responsibilities
- ☐ Develop evaluation plan
- ☐ Create communication plan

10-20 working group members (3 hours)

Tools

- ☐ Workshop sign-in sheet
- ☐ Demographic sheet
- ☐ Sticky Walls
- ☐ Action schedule prompts
- ☐ Worksheets
- ☐ Updated setting goals, objectives, and identifying strategies worksheet
- ☐ Action plan overview
- ☐ Action schedule: timelines, evaluation and communication plan
- ☐ Gantt chart

Processes

- ☐ Ripple mapping
- ☐ Post program evaluation survey
- ☐ Digital measures reporting

Follow on coaching meetings with local leads as needed to finalize action plan
12-18 month follow up interview

DSRP Facilitation Questions to Guide

Conservation through Community Leadership Meeting Series

Using the four simple DSRP rules of systems thinking below can enhance how we develop and deliver community planning programs through facilitated discussion.

D	A **Distinction** is made up of an **identity** *(what something is)* and an **other** *(what something is not)*.
S	A **System** is made up of an interaction between **part** and **whole**.
R	A **Relationship** is made up of an **action** and a **reaction**.
P	**Perspectives** are made up of an interaction between **point** and **view**.

Use the following DSRP questions to help guide facilitation in each Conservation through Community Leadership Program meeting session.

D: Make Distinctions

- ✔ What is the purpose of this session? Describe or list expected outcomes.

S: Build Systems

- ✔ What are the parts of the meeting or planning process? Identify where the group is in the process.

R: Discover Relationships

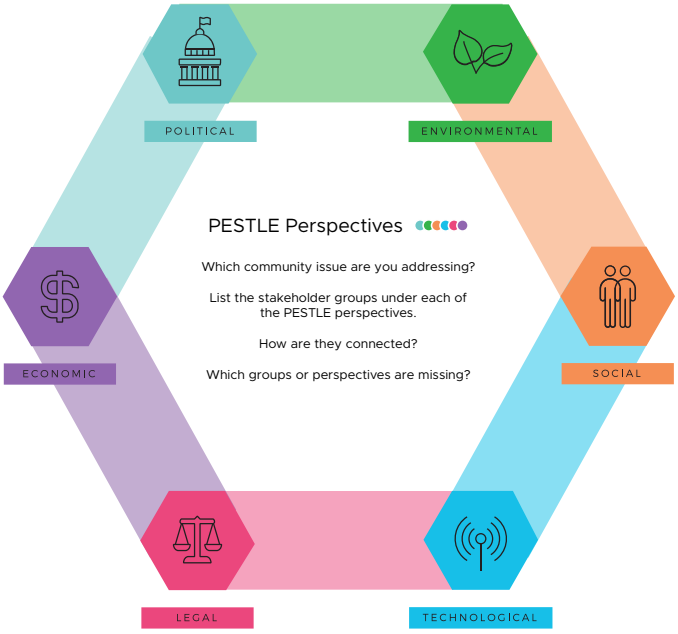
- ✔ What are the relationships between this effort and other efforts in the community to address the identified issue?
- ✔ Is there additional information that we need to acquire and/or share with the group that could help us create a better plan?

P: See Other Perspectives

- ✔ Which perspectives are currently represented in (the session and/or overall action planning process)? What new relationships between perspectives exist?
- ✔ Which groups or perspectives are missing in (the session and/or overall action planning process)? How can we better understand and/or represent other perspectives?

Activity: Map Stakeholders' Perspectives using DSRP Questions

Use the following short activity with local leads and/or a steering committee to support the building of your team process. Set up a sticky wall or flip chart with the community planning issue you will address through the action planning process listed in center of the circle and PESTLE icons as below. Situate the group next to or in front of the sticky wall. Pass out note cards and markers to each member of the group.



5 min – Individual brainstorming:
Each individual silently brainstorms as many stakeholder groups as possible represented under each of the PESTLE perspectives on individual note cards (i.e. - one group should be listed per one note card). When finished brainstorming, each person keeps their note cards.

15 - 20 min – Group discussion:
As a group, share stakeholders listed on note cards. Facilitators place the notes cards on the sticky wall under each category. If others in the group have similar stakeholders, collect those cards at the same time to post. Discuss the following questions: How are stakeholder groups connected? Which groups or perspectives are missing?

10 min – Debrief activity and group discussion:
Is there additional information that we need to acquire and/or share with the group that could help us create a better plan? Begin to assign roles and responsibilities for the next action planning steps, which are building your team and establishing meeting logistics.

Systems Thinking Resources:
Think Water: https://www.thinkwater.us
Plectica Mapping: https://www.plectica.com

Session 1:
Planning Meeting(s) with Local Leads
(Introductory Scoping Session Meeting)

Process Agenda

Attendees

- Purdue Extension CCL team
- Local leadership of 2 or 3 core team members

Activities

- Present the Conservation through Community Leadership Program and explain what the action planning process can do for the community or group.
- Overview the program, including sample agenda, number and duration of meetings, worksheets, and action plan outline.
- Identify key people based on issue or project needs using PESTLE worksheets.
- Purdue team and local leads begin to fill out worksheets for environmental scan and needs assessment and assign next steps.
- Review the assessing community readiness process and assign next steps.

Format

- 2–3 hour in-person meeting.
- Follow up with webinars or conference calls to review information collected and finalize meeting series plans.

Assessing Current Conditions (Introductory Scoping Session Meetings)

An introductory scoping session meeting (or meetings) with the local community core team is led by the facilitator(s) prior to starting the action planning process. The core team could include representation from several sectors, such as those suggested below. Experience suggests 1–3 hours is needed over one or two initial meetings, planned at least 30 days prior to the initial workshop target date or broader stakeholder meeting. The core team should include the two or three local contacts to act as local conveners and to compile and complete the action plan. The meeting objectives include the following:

- Present the Conservation through Community Leadership Program and explain what the action planning process can do for the community or group.
    - Introductory or overview PowerPoint presentation
    - Program overview, including sample agenda, number and duration of meetings, worksheets, and action plan outline
- Identify key people based on issue or project needs.
    - County or regional Extension educators
    - City administrator (or equivalent staff member)
    - Mayor, chair, town supervisor (or equivalent elected or appointed official)
    - Other key municipal staff members (from boards of public works, parks, or planning)
    - State, county, and local agencies

    - Nonprofit organizations
    - Other potential (needed) partners
- Discuss needs, issues, and strategies for local input such as workshops and online feedback.
- Identify draft learning and/or program objectives for the action planning initiative.
- Identify potential desired outcomes.
- Form an agenda and set the first meeting date for approximately one month later and potentially a second meeting date for approximately two months later.
- Determine budget and program funding sources. Program costs typically include:
    - Lunch *(and other hospitality items such as coffee, morning snacks if desired)*
    - Meeting room and related equipment
    - Copies of the curriculum
    - Mileage for facilitators *(if applicable)*
    - Copies of materials for workshop *(if applicable)*
- Create contact list of potential participants and potential leaders using associated worksheets.
- Address logistics of invitations.
    - Who will extend invitations and keep track of RSVPs?
    - How will you get participants there? (Multi-pronged approaches are most effective.)
- Address event logistics.
    - What is the most central potential location?
    - What timing will be most attractive to potential participants?

Other items to address:

☐ .....

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Session 1:
Planning Meeting(s) with Local Leads
(Introductory Scoping Session Meeting)

Participant Agenda

Participant Agenda
Date
Time
Location

Welcome and Introductions
Overview of Conservation through Community Leadership Program
Sample agenda review and process description
Community overview and planning needs
Current and future initiatives
Resources
Next steps
Workshop logistics and timelines
Worksheet review
Conference call follow up
Questions or discussion

Session 1:

Planning Meeting(s) with Local Leads

(Introductory Scoping Session Meeting)

Worksheets and Handouts

- Welcome to Conservation through Community Leadership and Example Meeting Series
- Roles and responsibilities
- PESTLE framework handout
- Building the team handout
- PESTLE worksheet
- Stakeholder analysis handout
- GIS Data Request Checklist
- Conducting an environmental scan worksheet
- Assessing community readiness questionnaire
- Draft press release
- Example registration flyer

Welcome to
Conservation through Community Leadership

www.purdue.edu/fnr/extension/scep/ccl

The Purdue Extension Conservation through Community Leadership Program guides community groups, boards, and commissions through facilitated action planning sessions to support locally-driven natural resource management strategies and policy.

Through this program, community groups identify issues of concern and choose a program track of either a) land use planning with a focus on natural resource issues or b) invasive species management. Local leads then convene a working group to meet with Purdue Extension facilitators over the course of approximately four to six meetings. Facilitators help support community visioning, share innovative management strategies, and coach action plan development. The result is a local or regional action plan and implementation strategies for projects that may include forming invasive species management working groups, developing county or municipal comprehensive plan updates, or creating watershed management plans.

Target Audiences

The Conservation through Community Leadership program is designed for local leaders, government officials and their staffs, representatives from nongovernmental organizations, and residents who want to participate in local natural resource decisions.

Format

The community action planning process includes:

- A curriculum guide and education resources to support action planning that is focused on a natural resource concern.
- A series of approximately four-to-six facilitated meetings that result in a local or regional action plan and strategies for implementation projects. Meetings are structured to fit each community's planning needs.

Program Objectives

Community groups participating in the action planning process will:

- Increase their understanding of assessing ecosystem health and natural resource management options.
- Apply decision-support tools to make decisions and take actions on ecosystem health.
- Form diverse community partnerships to create and implement land use and/or natural resource management action plans. These action plans may be designed to:
    - Identify and address natural resource issues in your community.
    - Form invasive species management working groups.
    - Update county or municipal comprehensive plans.
    - Support watershed management plans.
    - Implement fundraising initiatives for specific projects.

The Purdue Extension CCL Team listed below will serve as the lead facilitators and coaches throughout the process and will invite content experts to present and assist as needed. Please contact any team member below for questions.

Insert name, title, email, and phone for facilitation team leading the local program.

Welcome to Conservation through Community Leadership:
Example Meeting Series

www.purdue.edu/fnr/extension/scep/ccl

Session 1: Planning meeting with local leads (Introductory Scoping Session meeting)

Attendees

- Purdue Extension CCL team
- Local leadership of two or three core team members

Activities

- Present the Conservation through Community Leadership Program and explain what the action planning process can do for the community or group
- Overview program, including sample agenda, number and duration of meetings, worksheets, and action plan outline
- Identify key people based on issue or project needs using PESTLE worksheets
- Purdue team and local leads begin to fill out worksheets for environmental scan or needs assessment and assign next steps
- Review the assessing community readiness process and assign next steps

Format

- 2–3 hour in person meeting
- Follow up with webinars or conference calls to review information collected and finalize meeting series plans

Session 2: Taking Action on Natural Resources Issues in Your Community – Education and Visioning workshop

Attendees

- Purdue Extension CCL team
- Diverse stakeholders identified through planning meetings

Activities

- Education session: Background of issue and analysis
- Visioning and beginning action-planning process

Format

- 5-hour stakeholder workshop (30–50 attendees)
- Education session and stakeholder input

Session 3: Taking Action on Natural Resources Issues in Your Community: Setting Goals and Objectives, and Identifying Strategies

Attendees

- Purdue Extension CCL team
- Working group of stakeholders identified through planning meetings

Activities

- Education session: Issue analysis
- Introduce strategies

- Confirm goals and identify objectives, and short, medium, and long term strategies

Format

3.5 hour working group meeting to begin action-planning process based on previous session (10-20 attendees)

Session 4: Action Planning and Project Implementation

Attendees

Purdue Extension CCL team

Working group of stakeholders identified through planning meetings

Activities

- Complete and review action planning tools and identify roles and responsibilities
- Gantt chart
- Timelines
- Sample outline of action plan
- Identify communication strategies
- Discuss and draft monitoring and evaluation techniques
- Indicators and reporting success
- Ripple mapping exercise to wrap up meeting sessions

Format

3.5 hour working group meeting to finalize action planning process (10–20 attendees)

Post-meeting sessions

Participants

Purdue Extension CCL team

Local leads (2–3 finalizing plan)

Activities

- Local leads finalize natural resources or land use action plan using data, tools, and action plan outline
- Purdue team available for coaching as needed to finish plan
- Send drafts to working group members for review
- Complete action plan edits and finalize

Program Roles and Responsibilities

Local leads

These 3–5 people who will manage the program process are responsible for championing the plan completion, and have the authority to support formal adoption and implementation next steps. Responsibilities include:

- Complete the PESTLE stakeholder identification worksheet and MindTools stakeholder analysis worksheet.
    - Create a contact list of potential participants and potential leaders using associated worksheets.
- Complete environmental scan worksheet and send to the Purdue Extension CCL team.
- Complete GIS Data Layers worksheet and send to the Purdue Extension CCL team contacts.
- Identify meeting dates and send to the Purdue Extension CCL team contacts.
- Reserve meeting locations.
- Complete agenda updates with the Purdue Extension CCL team based on local needs.
    - Discuss, needs, issues, and strategies for local input.
    - Identify draft learning and/or program objectives for the action planning initiative.
    - Identify potential desired outcomes.
    - Note: highlighted sections on the process agenda will need local input and edits.
- Determine budget and program funding sources. Program costs typically include:
    - Lunch (and other hospitality items such as coffee, morning snacks if desired)
    - Meeting room and related equipment
    - Copies of the curriculum
    - Mileage for facilitators (as applicable)
    - Copies of materials for workshop (as applicable)
    - Meeting facilitation supplies (as applicable)
- Invite participants and manage registration and attendance. Attendees are either steering committee members or education and visioning participants:

Steering committee meeting members

- Include 5–10 committee members from diverse PESTLE categories/perspectives.
- These participants commit to attending all meetings, potentially leading a working group session between meetings, reviewing action plan, and supporting adoption and implementation next steps.

Education and visioning participants

- Target 50 participants representing the PESTLE framework.
- These participants commit to attending the education and visioning workshop, potentially working with the steering committee to provide input during working group sessions between meetings, providing feedback on the draft action plan.
- Coordinate action planning working groups to manage worksheet completion between sessions.
- Complete review and final action plan edits.
- Be responsible for working through formal channels of plan adoption and implementation based on the type of plan and governing bodies.

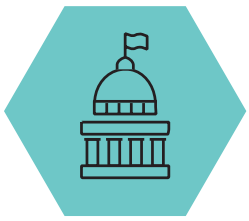
Purdue Extension Facilitators

A small group of Purdue Extension facilitators will lead the community meeting processes and agenda updates, and will coach participants through the action plan process. Responsibilities include:

- Update and finalize agendas and logistics with local leads.
- Collect GIS data and create maps as needed for program focus areas.
- Support materials updates as needed such as a draft flyer, registration, and press release templates.
- Finalize the community-readiness feedback process with local leads, as desired, and set up data entry or online data collection.
- Coach participants through the final action planning process and next steps for adoption and implementation.

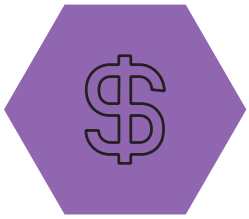
PESTLE Framework
Where Are We Now?

PESTLE analysis originates from the framework developed in 1967 by F.J. Aguilar (Fahey and Narayana, 1986). A PESTLE analysis includes political, economic, social, technological, legal, and environmental perspectives, which allows for a wide range of stakeholders to share their knowledge and expertise. The PESTLE inquiry process assists groups in identifying the influence of external factors on land use and natural resource management issues.



Political

A scan of the political environment reveals the relevant actors within the geography of focus. It identifies the influence that environmental groups, existing partnerships, landowners, elected officials, and other members of the community have regarding land use and natural resource management issues. Change in the political environment can be driven by demographic shifts, elections, changes in standard of living, social values, and trends toward more or less regulation of business activities (Fahey and Narayanan, 1986).



Economic

Land use and natural resource management policies impact livelihoods. Consider how local, regional, or state economic conditions may influence land use or natural resource management. When conducting a scan of the economic environment, it is important to consider influence of residents, businesses, local government, non-profits, and local foundations. How might these audiences react to your group's efforts?

Social

The social environment is broadly inclusive of social attitudes, tendencies, and behaviors. These factors are influenced by demographic shifts, economic conditions, politics, and developments in technology such as social media. Scanning of the social environment should focus on how social conditions within the community can influence land use decisions or natural resource management efforts.

Technological

Consideration of the technological environment looks at new technologies and their effect on land use or natural resource management efforts. Innovations in applying technology to agriculture, fuel production, energy production, transportation, natural resource extraction, waste management, and water treatment are a few of the many areas where change may influence land use or natural resource management.

Legal

The legal regulations pertaining to land use and natural resource management are embodied in state and federal government regulation and local ordinances. Reviewing these documents and policies will help establish how land use and natural resource management is influenced by each governing entity. Changes in the legal environment regard passing, repeal, or modification of law. Laws are often introduced and enacted as a result of change in one or more of the other categories such as social, political, economic, or technological (Fahey & Narayanan, 1986).

Environmental

This category focuses on the factors influencing the natural environment in your community. An inventory of important characteristics of the local environment can inform discussion on the influences on local environmental quality.

References and Resources

Fahey, L. and Narayanan, V.K. (1986). Macroenvironmental Analysis for Strategic Management. St. Paul, MN. West Publishing Company

Mugabi, J., Kayaga, S., and Njiru, C. (2007). Strategic Planning for Water Utilities in Developing Countries. Utilities Policy, 15 (1).

Building the Team

The following are recommendations for building a leadership team. Broad representation is encouraged. Note the key groups or people that are critical to having a well-informed, effective process. Recommended invitees are grouped under their PESTLE framework heading. Input beyond the groups and people listed below may be needed.

POLITICAL

- County commissioner(s)*
- State representative(s)
- City council representative(s)*
- Mayor
- Other elected officials*
- Commission and board members

* *Meetings of this kind are unlikely to be considered "meetings" under the Indiana Open Door statutes, but be sure to notify elected officials of other elected officials that may attend the meeting. A link to Indiana's ODL handbook is supplied in the resources section.*

ECONOMIC

- Community foundation representatives
- Local bank representatives
- Small business owners
- Economic development professionals
- Chamber of Commerce representative
- Representatives from large employers
- Planners
- Travel and tourism groups

SOCIAL

- Religious organizations
- Educational leaders (k-12+higher)
- Non-profit organization representatives
- Senior citizens' groups
- Friends organizations
- Youth organization representatives
- 4-H organization
- Arts community representative
- Media representatives
- Local interest groups

TECHNOLOGICAL

- Utility representatives
- County/city engineer
- County/city GIS specialist
- County/city stormwater specialist
- County/city water works specialist
- Department of Transportation representative
- Surveyor
- Floodplain administrator

LEGAL

- City attorney
- County attorney
- State legal experts
- County/city land use planner
- Conservation officer (Department of Natural Resources)

ENVIRONMENTAL

- Greenway organizations
- Natural resource organizations
- Agriculture organizations
- Land trust representative
- Soil and Water Conservation District representative
- Natural Resources Conservation Service representative
- Watershed groups
- State agency representative
- Recreation organizations or interest groups

Stakeholder Analysis Tool: MindTools

After identifying stakeholders using the PESTLE worksheet, complete the MindTools Stakeholder Analysis process: https://www.mindtools.com/pages/article/newPPM_07.htm#Interactive. Input names, organizations, and/or positions into the online worksheet. Save and download the form to discuss and review the results during the first Purdue Extension facilitator and local lead webinar or conference call.

Conservation through Community Leadership GIS Data Checklist

LOCAL AGENCY

Greetings!

Local community members are participating in Purdue University Extension's Conservation through Community Leadership program. This program facilitates community-based planning for natural resource assets in your area. While a wealth of information is available from state resources like IndianaMAP, we would like to collaborate with your department to provide locally available GIS data in this planning workshop. The information will allow community members to use what is often the latest, most accurate data as they inventory the community's unique assets, develop a community vision, and create action strategies to conserve natural resources.

We would like to use the data layers listed on the following page in the upcoming workshop. If you think other data layers would add depth to the conversation around natural resources in the community, please include them as well.

File transfer may be complicated due to file size. Our Conservation through Community Leadership contact for GIS data is Daniel Walker. Dan will coordinate a method for file transfer with you.

Daniel Walker
Community Planning Extension Specialist
walke422@purdue.edu
765-496-3245

We appreciate any additional information you can provide to assist our community during our Conservation through Community Leadership workshop.

Sincerely,

THE LOCAL LEADS

Requested GIS Data Layers

Reference Layers

- Parcels
- Publically owned lands (redevelopment commission, public works, county commissioners, etc.)
- Address points
- Zoning
- Parks and recreation locations

Hydrology Layers

- Floodplains

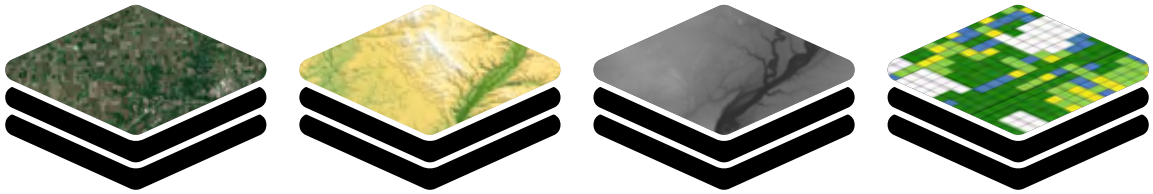
Infrastructure and Utility Layers

- Water lines
- Sewers and related information such as inlets
- Power lines
- Parking lots
- Green infrastructure, for example:
    - Permeable pavement improvements
    - Rain garden locations
- Septic system locations (or permit addresses)
- Location improvement permits and building permits (historical data if available)

Other

We understand that some information about our community's natural resources is not listed above. If you can provide additional geographic information resources that would assist us in planning for natural resources in our community, please list and describe it below.

Layer or Resource	Description



Assessing Current Conditions: Conducting an Environmental Scan

As the action planning process begins, identifying natural resource management issues, land use planning pressures, and current planning efforts are all important first steps in assessing the current conditions of a community or region. Complete this worksheet with local leads and the Purdue facilitation team to prepare for the process to assess community readiness.

Define project area or focus:

- Identify the key strategic issue to address (e.g. invasive species, land use planning).
- Describe area or region.

Draft purpose and need statement:

- Why is this issue important to the community or group?
- Are there recent changes or trends?
- What do you want to accomplish with this action planning process?
- Are any stakeholder groups or decision makers missing from the initial list?

Identify current initiatives and funding sources:

- Discuss and identify current conservation and land use planning initiatives.
    - Are there current land-use conflicts or upcoming projects to specifically address?
- Planning
    - Most recent comprehensive plan completion date was: _____.
        - Is a (hard/soft) copy of the most recent comprehensive plan available to the facilitation and core team?
        - Comprehensive plan update due/expected by: _____.
    - Most recent parks and recreation master plan completion date was: _____.
        - Is a (hard/soft) copy of the most recent comprehensive plan available to the facilitation and core team?
        - Parks and recreation plan update due/expected by: _____.
- Other community planning activities
    - Plan:
    - Status:
    - Lead contact:

- Funding sources
    - Local community foundation
        - Name:
        - Contact:
    - Grant opportunities:
        - Funding agency:
        - Grant name:
        - Purpose:
        - Deadline:
        - Contact information:

Assessing Community Readiness

As part of assessing current conditions, gauging community readiness will bring to light how prepared and willing a community is for taking action on a particular issue. This assessment is modified on the Community Readiness Model, developed by researchers at the Tri-Ethnic Center for Prevention Research and the University of Nebraska-Lincoln Extension publication, Assessing a Community's Readiness. The exercise and questionnaire will serve as a first step in engaging with stakeholder groups to collect general data on the conservation issues related to your action planning effort.

There are five key dimensions of community readiness that will guide the assessment process, including:

1. **Community knowledge of efforts**: What is currently known about programs and activities related to the issue?
2. **Leadership**: What are leaders' attitudes towards addressing the issue?
3. **Community climate**: What is the community attitude toward addressing the issue?
4. **Community knowledge of the issue**: How much does the community know about the issue?
5. **Resources**: What are the resources currently being used or could be used to address the issue?

Review the attached questionnaire and tailor questions and issues to your specific community project. Next, determine how you will distribute the questionnaire. An electronic version can be sent out to all invited participants prior to the first community workshop forum or it can be used as an interview guide. If interviewing participants, divide interview responsibilities among your core team of two or three people. Interview 6–12 people total, covering each of the PESTLE categories. These interviewees should also be identified as potential participants in the action planning workshop series. Complete the interviews or survey distribution at least two weeks prior to the first community workshop. Share the summarized results during the community workshop as a guide for discussion. (If conducting a follow up assessment, please use the same participants.)

For in-depth guides for conducting community readiness assessments here are two resources:

Stanley, L., Oetting, E.R., Plested, B.A., Edwards, R.W., Thurman, P.J., Kelly, K.J., and Beauvais, F. (2014). Community Readiness for Community Change. Tri-Ethnic Center Community Readiness Handbook 2nd edition, http://triethniccenter.colostate.edu/docs/CR_Handbook_8-3-15.pdf.

Trautman, K., Burkhart-Kriesel, C., and Rice, T. (Feb. 2012). "Assessing a Community's Readiness." UNL Extension Publications: Community and Leadership Community Development, http://extension.unl.edu/publications.

Example Community Readiness Questions

Community knowledge of efforts

Replace parentheses words with community-specific information.

1. Are there efforts in (community) that address (issue)?
2. If yes, briefly describe three of these efforts.

Leadership

Use a scale from 1–5 with 1 being "not a concern at all" and 5 being "a very great concern"

1. How much of a concern is (issue) to the leadership of (community)?
2. Describe ways leadership might show support for efforts to address (issue).
3. Describe ways leadership might show lack of support for efforts to address (issue).

Community climate

Use a scale from 1–5, with 1 being "not a concern at all" and 5 being "a very great concern"

1. How much of a concern is (issue) to members of (community)?
2. Describe ways community members might show support for efforts to address (issue).
3. Describe ways community members might show lack of support for efforts to address (issue).

Knowledge about the Issue

1. Would you say that community members know nothing, a little, some, or a lot about each of the following as they pertain to (issue)?

a) (issue), in general
b) the causes
c) the consequences
d) what can be done to prevent or treat (issue)

Resources for efforts (time, money, people, etc.)

1. How are current efforts funded?
2. Is this funding likely to continue into the future?
3. On a scale of 1 to 5, where 1 is no effort and 5 is great effort, how much effort are community members and/or leadership putting towards each of the following approaches to
increase resources to address (issue) in your community?

a. Seeking volunteers for current or future efforts to address (issue) in the community.
b. Soliciting donations from businesses or other organizations to fund current or expanded community efforts.
c. Writing grant proposals to obtain funding to address (issue) in the community.
d. Training community members to become experts.

4. Are you aware of any proposals or action plans that have been submitted for funding to address (issue) in (community)?

a. If yes, please explain.

Press Release Example

Purdue Extension Program Empowers Community Leaders to Manage Natural Resources

COUNTY residents interested in natural resource management, conservation, agriculture and land use planning issues are invited to take part in a Conservation through Community Leadership workshop education and visioning session. This Purdue Extension program empowers participants to work together to set priorities and develop community action plans.

"This training provides the tools to address complex natural resource and land use planning issues faced by communities, such as invasive species or stormwater management," said Kara Salazar, sustainable communities extension specialist with Purdue and Illinois-Indiana Sea Grant (IISG). It's designed for local officials, representatives from nongovernmental organizations or residents who want to take part in natural resource decisions and contribute to community planning efforts.

Participants can come to the sessions with a project in mind, or through the visioning process the group can identify issues to address. Over the course of approximately five meetings, participants will develop a high-quality community action plan to address priority natural resource issues, support watershed management plans, implement fundraising initiatives for specific projects, and more.

"The action plan will be tailored to natural resource management issues and will be informed through community feedback and engagement," said Salazar.
The **COUNTY** visioning workshop will kick off the action planning process on **DATE**, **LOCATION** To participate in the program, contact **EMAIL** or register **URL**.

To learn more about Conservation through Community Leadership and other Purdue University and IISG sustainability programs, visit bit.ly/purduesustainablecommunities. Contact Kara at salazark@purdue.edu with additional questions.

Community Callout Flyer

Community Action Planning Program

Conservation *through* COMMUNITY LEADERSHIP

PURDUE UNIVERSITY | Extension

Sea Grant ILLINOIS-INDIANA

USDA

Get the tools you need to address the complex natural resource management and land use planning issues faced by your community with a Purdue Extension program that pairs community action planning and education. Participants of this program will complete a high-quality action plan tailored to local initiatives over the course of approximately five meetings.

Who Should Participate

Individuals interested in natural resources management, conservation, agriculture, and land use issues, including:

- public agency staff
- local leaders
- interested community members
- nongovernmental organizations
- board members
- commissioners

What to Expect

Participants will

- Increase their understanding of assessing ecosystem health and natural resource management options
- Apply decision-support tools to make decisions and take actions on ecosystem health
- Form diverse community partnerships to create and implement land use or natural resource management action plans

Program Take Away

- The completed action plan can be used to
- Identify and address important natural resource issues in your community
- Update comprehensive planning efforts
- Support watershed management plans
- Create habitat management plans
- Implement fundraising initiatives for specific projects

Registration Information

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Event Information

Date
Time

[Grab your reader's attention with a great quote from the document or use this space to emphasize a key point. To place this text

USDA is an equal opportunity provider and employer.

Session 2:

Taking Action on Natural Resources Issues in Your Community

(Education and Visioning Workshop)

Process Agenda

Supply list: 3 sticky walls, participant packets (agenda, demographic sheets, photo release form, evaluation, PESTLE overview sheet), name tags, registration form, markers, adhesive spray, painters tape, 3x5 cards in 3 colors, large post it notes, projector, laptop, pens and pencils, PowerPoint with prompts, process agenda, slide advance, dots, sticky wall topic and labels, table card/prompts, participant rotation sheets, table tents (4 sets), worksheets, maps, clickers, camera, chime, and a timer.

Refreshments: lunch and light snacks for afternoon break.

Additional Session Instructions: See Session 2, facilitation resources folder in shared drive for example room set up, worksheets, PowerPoints, and prompts. Set up and test turning point technology for community characteristics and other 'clicker' questions prior to the workshop.

Time	Topic	Activity Description/Staff
8:30 am	Arrive for set up	Set up the following: • 3–6 tables/spaces for station rotations, depending on number of participants • 1 table for facilitation supplies • 1 table by door for registration • 1 table for lunch/refreshments • Wall space for 3 sticky walls • Locations for projector and screen - for PowerPoint display • 1 flat screen monitor for technology station
9:30 am	Registration table open – at least 1 person at table for sign in	Participants sign in and sit at any table
10:00 am	Welcome and introductions (20 min)	• Welcome • Ground rules • Model best practices • Introduction prompt • Which conservation issue are you most passionate about (personal or professional perspective)? Why were you interested in attending today? • Participants share name, affiliation, answer to prompt in ~1 min

10:30 am	Conservation through Community Leadership overview
	(30 min)
		• Review agenda for day and relevant logistics: Location of bathrooms, lunch, break times as needed, etc. (3 min)
		• CCL Introduction and program purpose (7 min)
		  ○ Include Indiana stats and brief intro to PESTLE, SOAR frameworks
		• Introducing CCL best practices (20 min)
		  ○ Group activity: Working in groups and best practices for meetings
		  ○ Each table generates and prioritizes responses to the following two questions:
		  ▪ Why work in groups?
		  ▪ What behaviors/practices make a group effective?
		  ○ Each table quickly reports on one response at a time, while answers are captured on a flipchart up front.

11:00 am	Education Session: Natural Resources Planning and Data Snapshots (1 hour)	• Introduction to community action planning (5 min) ○ Review community readiness feedback • Introduction: Clickers 101 (5 min) • Community characteristics: Clicker question series (20 min) *Note - up to five additional, closed-answer clicker questions can be included. Past examples include:* **Clicker Question:** Which type of natural resource are you most interested in protecting or improving in your community? Ⓐ Urban greenspace Ⓑ Farmland Ⓒ Recreation areas Ⓓ Woodlands Ⓔ Trails (hiking, biking) Ⓕ Other natural areas (i.e. nature preserves) Ⓖ None **Clicker Question:** Which type of water related recreation activities do you participate in? (select top three) Ⓐ Fishing Ⓑ Boating/canoeing/kayaking Ⓒ Tubing/waterskiing/paddleboard Ⓓ Swimming Ⓔ Nature (picnicking, photography) Ⓕ Other Ⓖ None

		Clicker question: In which watershed do you live? Ⓐ (Option 1) Ⓑ (Option 2) Ⓒ (Option 3) **Clicker question:** What do you consider to be the most important conservation issue for X? Ⓐ Water quality/stormwater management Ⓑ Heritage tourism Ⓒ Recreation (boating, fishing, trails, etc.) **Clicker question:** From the following choices, which one improvement could make the X more accessible or user-friendly for recreation purposes? Ⓐ Signs to identify or direct to existing points of interest Ⓑ Improved trails Ⓒ More trails Ⓓ Canoe/kayak put-in Ⓔ Nothing. Existing access is adequate. **Clicker question:** What do you consider to be the most important feature about the X? Ⓐ It's a natural resource. Ⓑ It has historic significance in attracting early settlers to this area. Ⓒ The old swimming pool era has historic significance. Ⓓ It's the pedestrian bridge over the falls. **Clicker question:** I have spent the most time and effort doing the following to address invasive species in my community: Ⓐ Controlling invasive species on my own property. Ⓑ Controlling invasive species on public property. Ⓒ Inspecting my land for invasive plants. Ⓓ Attending education programs or searching the internet for information about invasive species. Ⓔ Talking to neighbors or family members about invasive species. **Clicker question:** How familiar are you with other Indiana community invasive species groups? Ⓐ I know of other invasive species groups and have attended their programs or become involved. Ⓑ I am aware of other groups but have not been involved. Ⓒ I am not aware of other local invasive species groups.

Clicker question: Are you aware there are cost-share programs to assist landowners in addressing invasive species issues?

Ⓐ Yes, I know of cost share programs but have never used.
Ⓑ Yes, I know of cost share programs and have used them.
Ⓒ No, I am not familiar with cost share programs for invasive species management.

Clicker question: Have you taken effort to control invasive species on your own property?

Ⓐ Yes, I have controlled invasive species on my property.
Ⓑ No, I have not controlled invasive species on my property.
Ⓒ I don't have invasive species/not applicable.

Clicker question: Have you attended education programs or field days to learn about invasive species?

Ⓐ Yes, I have attended programs on invasive species.
Ⓑ No, I have not attended programs on invasive species.
Ⓒ No, but I plan on attending a program in the future.

Clicker question: How familiar are you with invasive plant species in X County?

Ⓐ I can identify most invasive species in the area.
Ⓑ I can identify a few invasive species in the area.
Ⓒ I have little or no familiarity with invasive plant species.

Clicker question series: Community characteristics feedback votes with clickers (quality of place/quality of life focus)

Note - this section is likely more relevant to land use planning and watershed projects.

- Introduce each characteristic with a slide to explain its relationship to planning initiatives.
    - Characteristics were created using urban, rural, and suburban lifestyle characteristics.
    - Part of the decision support system (DSS), Tipping Point Planner
    - Will enter in the results to the DSS and show the results in the report
    - Results display preferences and relationships to action strategies to consider for final action plan
- Distribute paper tally sheets.
- Provide time to vote for 0—5, some lines will be blank.
- Open up poll voting – one slide per characteristic vote.

		Characteristics I can walk, bike, or take public transit. ● Comprehensive plans provide an opportunity for stakeholders to discuss non-automotive transportation options valued by the community and determine what needs to happen to make those available. There is common open space or a park near my house. ● Comprehensive plans are an effective way to manage open spaces and ensure parks and other recreational areas are available. I am safe from flooding. ● Comprehensive plans are an effective way to identify areas at risk for flooding and discourage development in those areas. Outdoor recreation areas are easily accessible. ● Comprehensive plans are an effective way to manage open spaces and ensure parks and other recreational areas are available. I can have a large yard. ● Comprehensive planning provides opportunity to discuss compact development and lot sizes. I can always find a parking spot quickly. ● Comprehensive planning provides opportunity to discuss compact development strategies and preferences for parking lot sizes. I can live a rural lifestyle. ● Comprehensive plans can preserve rural areas by encouraging orderly growth. My house will significantly appreciate in value. ● When communities are well planned and functional, property values increase. My community has clean air and water. ● Comprehensive plans help preserve existing resources, including water and air quality.

		The natural beauty around me is protected.
		● Communities can use comprehensive plans to enhance quality of life while simultaneously protecting natural beauty.
		
		● What do we have? Local natural resource assets—land use and natural resources data snapshots (20 min)
		  ○ Demographic snapshot—county and major population/cities/towns
		  ○ County natural region maps and summary statistics
		  ○ County land cover maps and summary statistics
		  ○ Future land use projections
		  ○ Introduce maps for current conditions/ feedback activity
		
		● Invasive Species Education Session option (40 min)
		  ○ What are invasives?
		  ■ Definition
		  ■ Factors that make them successful
		  ■ Invasive curve
		  ■ Invasion map of US
		  ■ Examples
		● Why are they a problem?
		  ○ Ecological impacts
		● Benefits of identification and control
		  ○ Private lands
		  ○ Public lands
		● What is a CWMA? Why have a CWMA? (pg. 4–6 of CWMA cookbook: http://bugwoodcloud.org/mura/mipn/assets/File/CWMACookbook2011reduced.pdf)
		  ○ Benefits
		
		● Questions/Discussion/Instructions for lunch (10 min)

12:00 pm	Lunch (45 min)	● Provide instructions for lunch and how to rotate through stations—rotation groups can be defined by counting off by 3 or assigning tables.
12:45 pm	Visioning and feedback session (1.15 hours)	Activity facilitation

Sticky Wall

Topic Header

Strengths and Assets	Opportunities and Aspirations	Results
PESTLE Categories	PESTLE Categories	PESTLE Categories

Instructions (5 min)

- Divide into 3 (or 6) working group tables (number of tables depends on participant numbers) based on rotations (A, B, C).
- Complete three rounds of World Café method feedback sessions using SOAR (see below).
- Instruct participants to use PESTLE when providing feedback.
- Introduce resources on the table (question prompts per round, maps, data).
- Allow 20 minutes to discuss questions per round.
- Use a time timer and chime for rotation.
- Facilitator leads the discussion.

Facilitation instructions

- Table welcome and instructions (3 min)
  The facilitator will:
  - Welcome group and describe examples and question overview.
  - Point out the PESTLE example overview on the sticky wall, the questions to answer, and the resources to reference.
  - Explain Think and Share model—participants take 3 minutes to write their thoughts on a sticky, then each shares and we discuss as group. Modeling best practice from working with groups in the morning allows for all voices to be heard.

    - Watch time and let group know when to share.
        - Participant think and write time (3 min)
    - All participants have time to think and write question responses on sticky notes silently (one idea per sticky).
        - Share ideas in rounds (10 min)
    - One idea per participant per round—gather sticky notes as sharing occurs.
- Group discussion about what's missing using PESTLE as guide. (4 min)

During the table rotation time, place the new prompt on the table for each round.

Working group table topics will become goals later in the process. Past examples are included below:

Working Group Tables

A - Topic	B - Topic	C – Topic

Invasive Species Focus examples:
A - Early detection, reporting and mapping
B - Management and control
C - Education and outreach

Land Use/Natural Resources Planning Focus examples:
A - Outdoor recreation
B - Water quality and stormwater management
C - Natural and cultural areas conservation and management

Rounds:
Set up time timer and chimes to indicate table rotations.
- 1 = S in SOAR is strengths: What are we doing well? What are our assets? How do we use our strengths to get results? (Current assets and data snapshot maps) (20 min)

		○ 3 index card colors (1 color per table) Change rotation/Prompt (2 min) ● 2 = O&A (20 min) ○ Opportunities: How do we understand outside threats? What are top three opportunities we should focus our efforts on? How can we best partner with other groups? ○ Aspirations: What are we passionate about? How can we make a difference? ○ 3 index card colors (1 color per table) Change rotation/Prompt (2 min) ● 3 = R is results: What meaningful strategies will indicate we are on track for achieving goals? (comprehensive plan strategy recommendations) (20 min) ○ Based on discussions through the day, do you recommend additional objectives, policies or action steps? ○ 3 index card colors (1 color per table)
	Break as needed	Return to original tables
2:00 pm	Review and report out (55 min)	Instructions (5 min) ● Review (15 min) ○ Participants return to original table. ○ Review SOAR results and place on the sticky wall by category. ○ Summarize results using worksheets. ● Report out (5 min per table) ○ Introduce topic. ○ Summarize strengths/assets. ○ List 3 opportunities for topic ○ List 3 strategy recommendations
2:55 pm	Next steps	Purdue will enter compiled information into worksheets and send along with maps to local leads.
3:00 pm	Thank you and conclude	

Pack Up, Data Entry, and Report

- ✔ Photograph sticky wall before packing up for data entry reference.
- ✔ Stack up and organize sticky wall data (sticky notes) by table topic headers.
- ✔ Package each category together and label with the date.
- ✔ Enter data in worksheets to prepare for Session 3.
- ✔ Create a summary report with Session 2 data (see final report example).

Session 2: Education and Visioning Workshop

Participant Agenda

Date
Time
Location

10:00 am	Welcome and introductions (30 min)
10:30 am	Conservation through Community Leadership overview (30 min)
11:00 am	Review of day Program purpose Working with groups activity Community readiness feedback
12:00 am	Networking lunch (45 min)
12:45 pm	Visioning and feedback session (1.15 hours) Working group table topics Topic A Topic B Topic C
2:00 pm	Review and report out (55 min)
2:55 pm	Next steps (5 min)
3:00 pm	Conclude

Working in Groups Activity

Working in Groups: Introduction (1 min)
We will be working together in groups throughout the day. I thought it would be a good time, right now, to "prime the pump" with a group activity that gets all of us thinking about best practices for working in groups.

Working in Groups: Activity

- Prior to workshop, provide each table (up to 10) with a flipchart sheet and two markers.
- Have someone from each table draw a line down the middle of the sheet, adding these two headers (provide example) (1 min):
    - Why work in groups?
    - What behaviors/practices make a group effective?
- Give tables four minutes to come up with five ideas (bullet points) for each column.
- Give tables three minutes to place a star next to each of their top three bullets.
- Call on one representative per table to share ONE idea at a time. (5 min)
    - Listen up. If your idea has been stated by another table, then give us the next bulleted item on your list.
- Capture bullets on flipcharts in front of room.

Working in Groups: Closure (1 min)

- Please keep these ideas in mind as we move forward with our efforts.
- We will post these thoughts at upcoming meetings

Other potential questions to ask the group

- What are behaviors that build group relationships?
- What are behaviors that hinder a group?
- What makes a meeting effective?
- What are behaviors that help accomplish group goals?

A Guide to Incorporating Turning Point Technologies Live Audience Response Technology in the Conservation through Community Leadership Program

To build and operate a live polling session you will need the following hardware and software:

Hardware

Laptop PC or Mac
Turning Points receiver USB unit
Response cards (“clickers”)
Projector
Projector screen

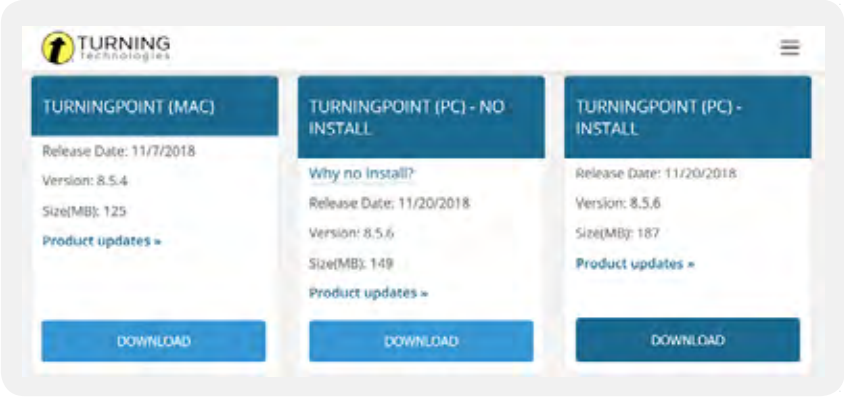
Software

Microsoft PowerPoint with Turning Point Technologies
Live Polling Add-On installed

Account Access:

Email: walke422@purdue.edu
Password: Contact your Conservation through Community leadership campus representative

Step 1:
Download and install the Turning Points software here: https://www.turningtechnologies.com/downloads/turningpoint-desktop/



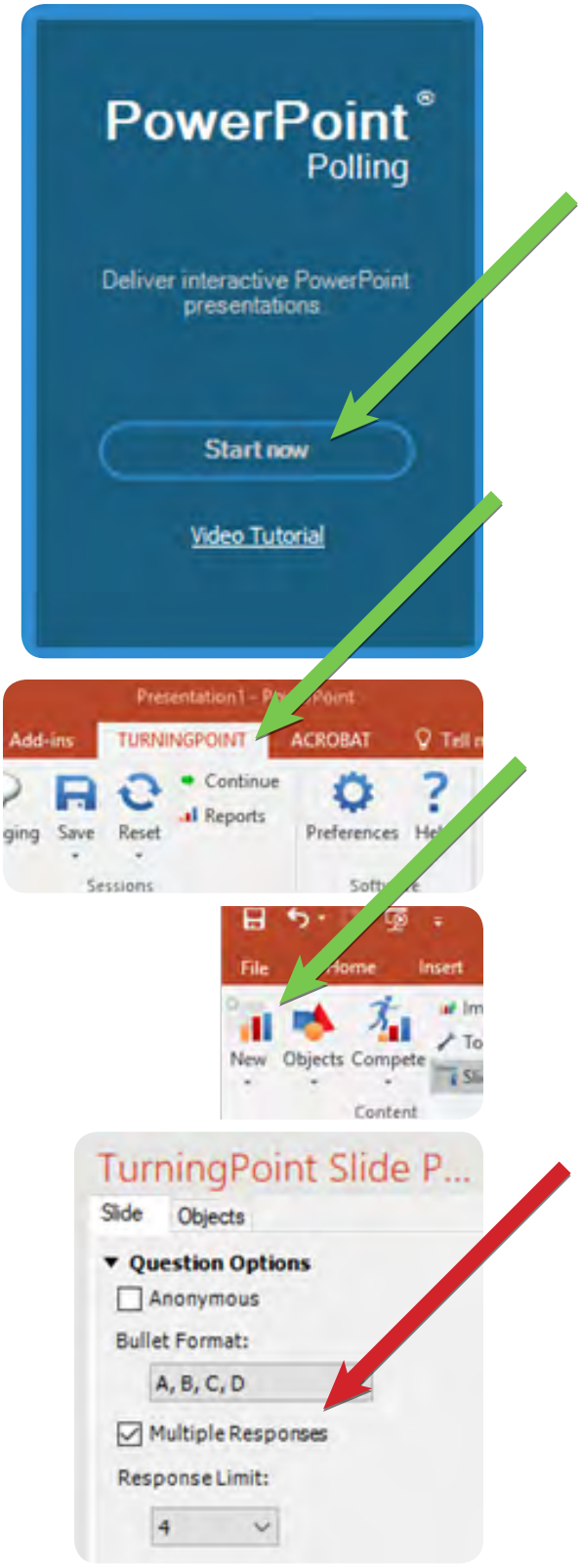
Step 2:
Open the Turning Point application and sign in.

Step 3:
Press "Start Now" in the PowerPoint Polling column as shown below. This will open PowerPoint automatically. If you want to add live polling to an existing presentation, simply open it as you would normally.

Step 4:
PowerPoint has automatically opened. To add a polling question into a presentation, first make sure that "TURNINGPOINT" is selected on the ribbon.

Step 5:
Select "New" to add a new live polling question. You can then select what type of question it will be. For Conservation through Community Leadership, we use multiple choice questions.

Step 6:
Follow the prompts to enter the question and response options. A series of options appears on the right hand side of Power-Point that allow you to tailor the response format. Note that "Multiple Responses" is checked by default. This box will allow more than one vote per clicker and can cause inaccuracy when tallying respons-es. If you do not want participants to vote more than once, make sure this box is deactivated.



A Guide for Using Live Polling to Collect Data from an Audience

Collecting data from program participants is a fun and integral part of the Conservation through Community Leadership program. In the community visioning session, we poll program participants on natural resource and community planning values statements. In your workshop, you can use these questions or adapt them to fit local interests. The responses are shown live and provide an instant sense to the group of its own values. In later workshops, the information is presented and used to inform selection of goals and strategies.

It is highly recommended to arrive early to test your presentation and equipment. After you are sure the polling slides are receiving input from the response cards, begin your presentation. We recommend using a test question with a live audience to introduce them to the functionality of the response cards and to see how many responses the audience generates. You can then use the total number of responses from the test question as a threshold for determining when to close the poll and move on to the next question.

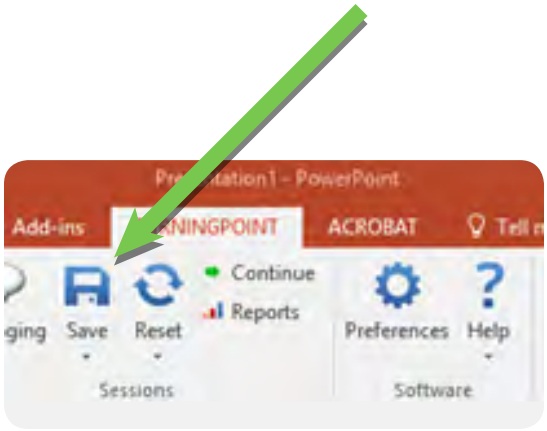
Step 1:
Insert the Turning Points USB receiver into any USB port on your laptop.

Step 2:
Open the Turning Points app on your PC and open the presentation that contains your live polling slides.

Step 3:
Begin the presentation as you normally would. When the presentation reaches a live polling slide, polling should automatically open and you should cue the audience to enter their responses.

Step 4:
Verbally confirm that everyone has voted who wishes to vote, and advance the slide to close the poll and move on.

Step 5:
After you have completed polling the audience during your presentation, you should save the Turning Points session. To do this, again be sure the Turning Points ribbon is selected, and click “Save.” Specify your preferred file format. The CSV file format is widely used and can be used with most other program partners.



Community Characteristics

Identify the characteristics that are most important in your community. The averaged results will help to determine action strategies to include in future planning.

Rank the community characteristics below from 0–5, with 0 being not important and 5 being most important. Each person is given a maximum of 20 points to work with. It is likely that you will not rank each category. Select the characteristics most important to you. After all characteristics have been ranked, total your score. Please make sure your total score does not exceed 20.

CHARACTERISTIC	IMPORTANCE (0—5)					
I can walk, bike, or take public transit.	0	1	2	3	4	5
I am safe from flooding.	0	1	2	3	4	5
I can have a large yard.	0	1	2	3	4	5
I can live a rural lifestyle.	0	1	2	3	4	5
My community has clean air and water.	0	1	2	3	4	5
I can always find a parking space quickly.	0	1	2	3	4	5
My house will significantly appreciate in value.	0	1	2	3	4	5
There is common open space or park near my house.	0	1	2	3	4	5
Outdoor recreation areas are easily accessible.	0	1	2	3	4	5
The natural beauty around me is protected.	0	1	2	3	4	5

Session 3:

Taking Action on Natural Resources Issues in Your Community

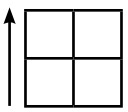
Setting Goals and Objectives and Identifying Strategies

Process Agenda

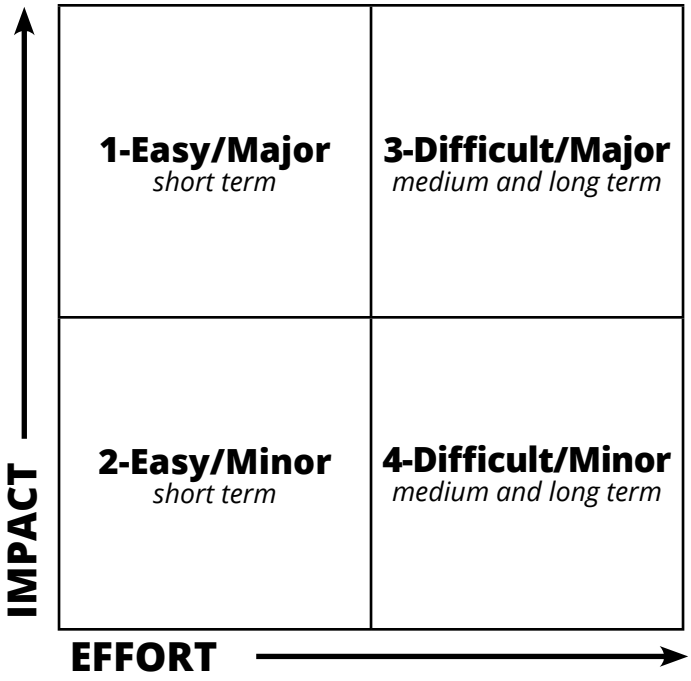
Supply list: 3 sticky walls, agendas, name tags, registration form, markers, adhesive spray, painters tape, 3x5 cards in 3 colors, large post it notes, projector, laptop, pens and pencils, PowerPoint with prompts, process agenda, slide advance, dots, sticky wall topic and labels, table card/prompts, strategies and goals print outs, copies of assets and opps worksheets for participants, 3 reports to reference, camera, chime, and a timer.

Refreshments: as needed.

Additional Session Instructions: See Session 3, facilitation resources folder in shared drive for example room set up, worksheets, PowerPoints, and prompts.

Time	Topic	Activity Description/Staff
8:30 am	Registration table open—at least 1 person at table for sign in	Participants sign in and sit at any table
9:00 am	Welcome and introductions (15 min)	• Welcome, brief introductions, and overview of working group session • Post previous ground rules. • Discuss objectives of the meeting series/planning process.
9:15 am	Previous meeting review (30 min)	• Recap previous meeting and compiled feedback. • Review information to reference during meeting. • Discuss the report and 3 sections. • Report out on education/field day. • Discuss instructions for day.
9:45 am	Working group sessions (1.45 hours)	Instructions (10 min) Working group sessions to refine objectives and strategies: set up sticky walls with three sections: Set objectives **WOW** (end result) Include previously generated opportunities Identify strategies **HOW** Refer to previously generated assets (now) and objectives (wow) Prioritize strategies Impact/effort grid 

		Introduce rotation 1 and define objectives (2 min) Participants will select one table topic organized by goals to develop objectives and strategies: ● Goal A: Name ● Goal B: Name ● Goal C: Name Rotation 1: Setting objectives (45 min) Working group effort (30 min) Report out (15 min–5 min per table) Develop approximately two to five objectives per table: (Refer to worksheets from previous session.) **Step 1:** Refer to worksheets and group opportunities into general headings and themes using sticky notes. **Step 2:** Decide if opportunities should be removed for later consideration or belong at the other goals table. **Step 3:** Identify reporter to update the group on progress. *Note: Do not take time to create SMART objectives, which will be the homework assignment. Do introduce the concept of SMART objectives.* Introduce rotation 2 and define strategies. Rotation 2: Identifying and prioritizing strategies (60 min) Participants can switch tables if desired but will select one table to develop and prioritize strategies. ● Goal A: Name ● Goal B: Name ● Goal C: Name Identifying/refining strategies by objective (30 min) ● Refer to assets from previous session in worksheet as current reality or 'Now.' ● Review draft objectives under desired future or 'Wow.' (Rotation 1) ● Groups fill in which strategies to take (How) to bridge gap between 'Now' and 'Wow.'

		Prioritizing strategies (30 min) ● Organize all identified strategies into an impact effort grid to identify short, medium and long strategies. ○ 1 and 2 are short term (up to 2 years). ○ 3 are medium and long term. ○ 4 may be medium or long term or discarded.  Review the strategy choices and discuss criteria for placement (1, 2, 3, 4,). Ask for a reporter. ● Discuss where to place each strategy on grid. (Watch out for too much detail to keep the discussion moving—possibly use a parking lot or notes if issues are outside of scope.) ● Review lacement and decide on category changes. Vote if needed.
11:30 am	Table report out, discussion, and next steps	● Report out (15 min – 5 min per table) ○ Summarize strategies and prioritization grid. ○ Discuss actions, voting if needed, and missing information.
11:45 am	Next steps	● Brief overview of other county groups. ● Purdue will compile information and send back as report. ● Review information to edit and prepare for next meeting.

		• Next/final working group meeting will focus on putting the action plan together. • Announcements
12:00 pm	Thank you and conclude	

Pack Up, Data Entry, and Report

- ✔ Photograph sticky wall before packing up for data entry reference.
- ✔ Stack up and organize sticky wall data (sticky notes) by table topic headers. See session 3 photograph examples in the shared drive.
- ✔ Package each category together and label with the date.
- ✔ Enter data in worksheets to prepare for Session 4 – make copies for each participant to reference during Session 4.
- ✔ Create a summary report with Session 3 data – see example in final report.
- ✔ Hand out strategic plan overview for next steps.

Session 3: Setting Goals and Objectives and Identifying Strategies

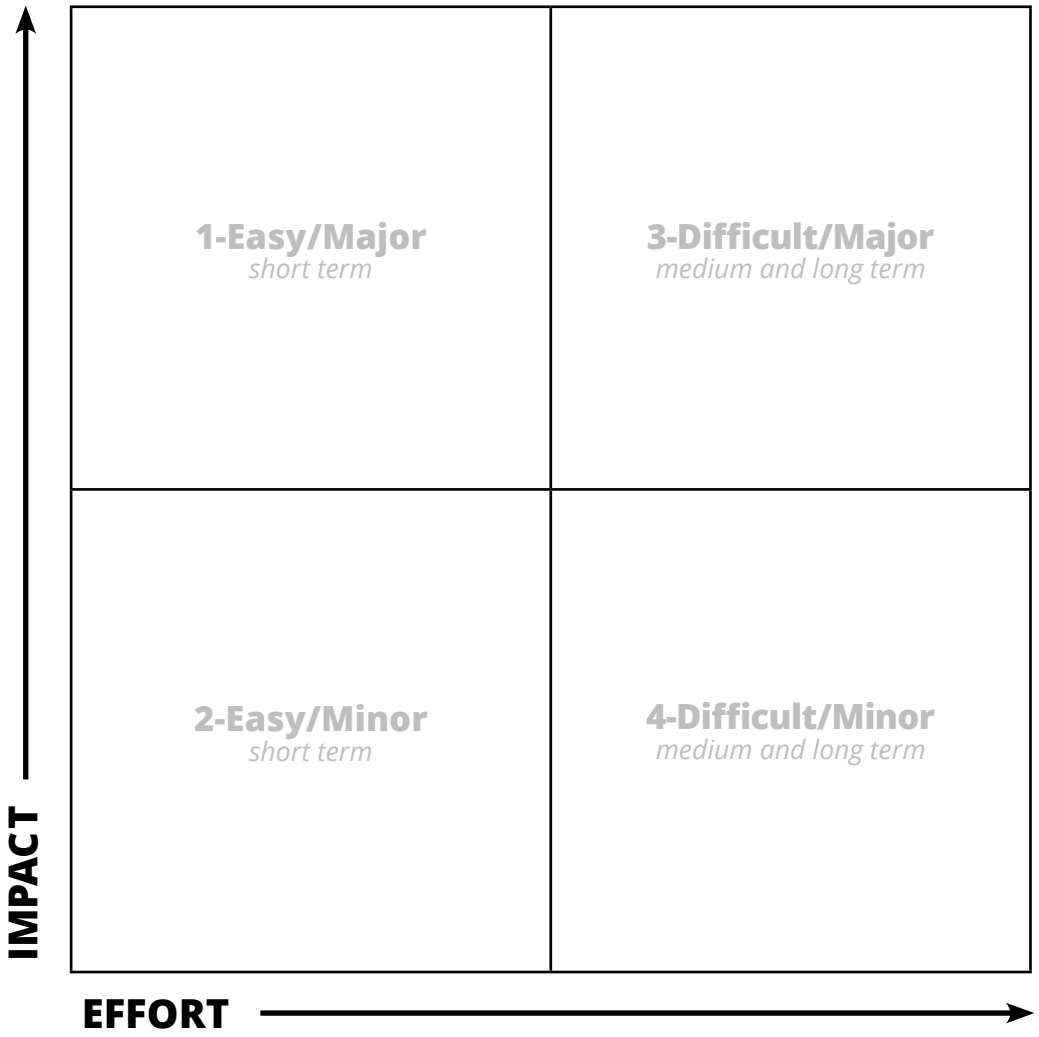
Participant Agenda

Date
Time
Location

1:00 pm	Welcome, introductions, and overview of working group session
1:15 pm	Recap previous meeting and compiled feedback
1:45 pm	Working group sessions Participants will rotate through the three table topics identified in the previous workshop. A. B. C. Rotation 1: Setting goals (45 min) Rotation 2: Identifying and prioritizing strategies (60 min)
3:30 pm	Table report out, discussion, and next steps
4:00 pm	Conclude

Draft Goals, Objectives, and Strategies Worksheets

Date:
Goal:
Objective:
Prioritized Strategies:



*Category 4 - Consider if strategy is feasible or should be discarded.

Action Plan Overview

Vision

- Describe what the organization would like to accomplish.

Mission

- Describe the organization's purpose, focus, and target population.

Goals

- Typically, 3–5 goals in a strategic plan
- Describe the overarching results or achievements toward goals
- Include broader, more general statements.

Objectives

- Clearly define how organizations achieve project goals.

Strategies

- Define activities and outputs.
- Divide them into short, medium, and long term outcomes.

Evaluation and monitoring plan

- Define indicators of success once the strategy is implemented.
- Define what success look like.
- Determine how to collect data to monitor and report success.
    - Primary data collection
    - Secondary data collection
- Identify who will collect the data.

Communication Plan

- Identify communication method.
    - Report, meeting, etc.
- Determine communication recipient.
- Outline timelines and deadlines for communication.

SMART Objectives

S	**Specific**: clearly define what the group wants to achieve. Use verbs to describe changes.
M	**Measurable**: Include a numerical target—something that can be counted and/or monitored.
A	**Audience** or issue driven: Focus on changes that can occur within the audience or issue.
R	**Realistic** and ambitious: Create attainable yet challenging objectives.
T	**Time-bound**: Set timelines and limits.

Strategies

Short-term outcomes – changes in knowledge, skills, motivation, awareness
- Activity examples: planning, field day, education event

Medium term outcomes – changes in behavior, practices, polices, procedures
- Activity examples – implementation practices, program development

Long-term outcomes – expected situation changes (environmental, social, economic, and political conditions)
- Activity examples – changes in management structure, long term monitoring

Working On Your Plan

- Decide how you want to use your plan.
    - Write proposals?
    - Guidance document for group organization?

- Tailor a plan to move your effort forward.
    - Include what needs to happen for your group to be successful.

- Get started immediately to take a step closer to your goals (but don't do everything).

- Check in and monitor progress together.

- Outline clear roles and responsibilities.

- Celebrate successes.

Session 4:

Taking Action on Natural Resources Issues in Your Community

Action Planning Session

Process Agenda

Supply list: 3 sticky walls, agendas, name tags, registration form, markers, adhesive spray, painters tape, 3x5 cards in 3 colors, large post it notes, backup projector and laptop, pens and pencils, PowerPoint with prompts, process agenda, slide advance, sticky wall topic and labels, table card/prompts, printouts for draft goals, objectives, strategies, copies of session 3 data worksheets, example action schedule, camera, chime, and a timer.

Refreshments: as needed.

Additional Session Instructions: See Session 4, facilitation resources folder in shared drive for example room set up, worksheets, PowerPoints, and prompts.

Time	Topic	Activity Description/Staff
8:00 am	Arrive for set up	Set up three sticky wall stations by goals with action register sections (see working group session below for set up).
8:30 am	Registration table open – at least 1 person at table for sign in	Participants sign in, collect agenda, and sit at any table.
9:00 am	Welcome and introductions (5 min)	• Welcome, brief introductions, and overview of working group session
9:05 am	Recap previous meeting and Q&A (10 min)	• Announcements and updates
9:15 am	Review action plan outline and introduce action planning tools (15 min)	Provide overview of planning tools and instructions for the session. • Gantt charts, timelines, evaluation and monitoring, and communication strategies
9:30 am	Working group sessions (2 hours)	These sessions are to define timelines, roles, responsibilities, evaluation and communication for each table topic.

Participants stay at one goal table for the session duration. Set up sticky walls with three sections:

- A.
- B.
- C.

Goal Title

Action Schedule

Objectives	Strategies	Timelines	Responsible Parties	Funding Source

Evaluation and Monitoring

Objectives	Strategies	Indicators of success	Data Collec-tion Method	Responsible Party

Communications Plan

Objectives	Strategies	Method	Recipients	Timelines	Responsible Party

Rotation 1: Action Schedule (20 or 40 min)

- Clarify strategy selection and prioritization.
- Identify timeline categories (short, medium, long = years or months).
- Identify when strategies will occur (specific year, month).
- Identify the responsible party to implement the strategy.
- Identify potential funding sources (if applicable).

Rotation 2: Evaluation and Monitoring (20 or 40 min)

- Define indicators of success once the strategy is implemented.
- Define what success looks like.
- Determine how to collect data to monitor and report success.
    - Primary data collection
    - Secondary data collection
- Identify who will collect the data.

		Rotation 3: Action Schedule (20 or 40 min) ● Identify communication method (report, meeting, etc.). ● Determine communication recipient. ● Outline timelines and deadlines for communication. ● Identify the responsible party to implement the communication plan.
11:30 am	Introduce ripple mapping exercise to wrap up meeting sessions (45 min)	● See instructions on pg. 123. ● Set up ripple mapping template to brainstorm three sections in PESTLE categories. 1. What specific actions or activities were started because of the CCL planning initiative? 2. Who is benefitting and how? 3. What changes are you seeing in the community's systems, institutions, and organizations? Are everyday ways of thinking and doing changing because of all of this work? How? ● Map the final question: What do you think the most significant change is on the map? Why? ○ Put a star beside those items in a new color.
12:15 pm	Next steps	● PU sends final, compiled engagement report. ● PU send action plan template for team to finalize write up. ● PU team is available for coaching sessions as needed. ● Announcements ● Feedback survey
12:30 pm	Thank you and conclude	

Pack Up, Data Entry, and Report

- ✔ Photograph sticky wall before packing up for data entry reference.
- ✔ Stack up and organize sticky wall data (sticky notes) by table topic headers. See session 4 photograph examples in the shared drive.
- ✔ Package each category together and label with the date.
- ✔ Enter data in spreadsheet to prepare for action plan.
- ✔ Create a final report with Session 4 data. See final report example – all reports can be compiled for final report.
- ✔ Reference strategic plan overview.

Session 4:
Action Planning Session

Participant Agenda

Date
Time
Location

9:00 am	Welcome, introductions
9:05 am	Recap previous meeting and Q&A
9:15 am	Review action plan outline and introduce action-planning tools Gantt charts, timelines, evaluation and monitoring, and communications strategies
9:30 am	Divide group into three table topics and work through a facilitated discussion to map out key sections. ● Gantt charts and timelines ● Evaluation and monitoring techniques ● Communications strategies
11:30 am	Introduce ripple mapping exercise to wrap up meeting sessions.
12:15 am	Next steps: ● PU sends final, compiled report. ● PU send action plan template for team to finalize write up. ● Local group next meeting and outreach events
12:30 am	Conclude

Post action planning meeting sessions

- Participants
    - Purdue University facilitation team (as needed).
    - Local leads (2-3 finalizing plan).

- Activities
    - Local leads finalize action plan using data, tools, and action plan outline.
        - Purdue Extension facilitators available for coaching, as needed, to finish plan.
    - Send drafts to working group members for review.
    - Complete action plan edits and finalize.

Additional Meeting Options

The following education and development meetings can be held between sessions 2 and 4 when needed. Each meeting is recommended but the flow and timing can be tailored to community needs.

Developing an Effective Organization

Process Agenda

Date
Time
Location

Supply list: agendas, name tags, sign-in sheet, 8 mission statement activity cards (and master), 5 self-adhesive table-top flipcharts, 10 markers, 25 "Pair and Share" activity handouts, 10 pens, projector, laptop, PowerPoint file, process agenda, slide advance, camera, and a timer.

Refreshments: As needed.

Review curriculum sections 3–6.

Time	Topic	Activity Description/Staff
8:15 am	Arrive for set up	Set up the following: ● 5 tables with chairs ● 1 table for facilitation supplies ● 1 table by door for registration ● 1 table for refreshments ● Wall space for flip charts ● Locations for projector and screen for PowerPoint display ● Location for the time timer to keep track of sessions.
8:30 am	Registration table open – at least 1 person at table for sign in	Participants sign in, collect agenda, and sit at any table.
9:00 am	Welcome and introductions (15 min)	● Welcome (5 min) ● Review of previous sessions, housekeeping, and introductions (5 min) ● Review agenda (Slide 1) (5 min) ○ Mission statement development ○ Organizational structure ○ Organizational development cycle ○ Effective meetings design
9:15 am	Warm-up activity: what makes organizations effective? (20 min)	● Provide one tabletop flipchart and marker per table ● Answer the following questions (Slide 2) (5 min) ○ What makes an organization effective? ○ What makes an organization ineffective? ■ Have groups identify at least 8 points in response to each question.

		• Each table reaches consensus on the three most important points per question. (5 min) Star them on sheets. • Report out to everyone while posting flipcharts on walls. (5 min) • Identify themes to focus on for the rest of the session. (5 min)

9:35 am		• Slides 3–5 (5 min.)
		• "Find Your Mission" Activity (15 min)
		  ○ Match the mission statement cards to the organization cards.
		  ○ Group Discussion
		  ▪ Is there a mission statement that you particularly like? Why?
		  ▪ What are the components of an effective mission statement?

9:55 am		• Slides 6–16 • The size of the group (10 min) • Committees (10 min) • Guiding documents (5 min)

10:20 am		• Slides 18–28
		  ○ **Identify** needs.
		  ○ **Cultivate** names.
		  ○ **Recruit** individuals.
		  ○ **Orient** newcomers.
		  ○ **Engage** everyone.
		  ○ **Educate** continually.
		  ○ **Evaluate** annually.
		  ○ **Rotate** effectively.

10:30 am		• "Pair and Share" Activity (10 min) ○ What makes meetings effective? • Pre-meeting education (5 min) • Developing an agenda (10 min) • Responsibilities of the leader and the group (5 min)
10:50 am		• What are some takeaways from today that will be helpful in developing an effective group?
11:25 am		• Additional action planning meetings schedule review • Homework assignment • Fill out and turn in evaluation sheets at registration
11:30 am	Adjourn	

Invasive Species Indoor Program
Sample Topic Outline

- What are invasive species?
- Why are invasive species a problem?
- How did they get here and how do they spread?
- Identify and describe invasive species that are relevant to the location and audience. Consider providing samples for in-person identification, like herbarium specimens, cut samples, or potted samples.
- Discuss programs to report invasive species, and how adding to this knowledge base assists the larger effort to control and manage invasive species.
- Describe how and where invasive species populate an area, and their impacts to the environment, economy, and people.
- Discuss sources of advice, assistance, and resources for management and control of invasives:
    - Assistance with identification and site evaluation.
    - Sources of control recommendations.
    - Sources of professional and labor assistance for control and management practices
    - Sources of equipment and materials to accomplish control practices
    - Sources of financial assistance
- Discuss specific control and management options (methods, material, timing, follow-up) that you encounter or are displayed.
- Outline steps to manage invasive species on a property:
    - Control starts with positive identification of invasives present and the characteristics of the site and infestation. Get a professional assessment of the site.
    - Evaluate and map, if needed, the extent and intensity of invasion.
    - Consider reporting the infestation to local or regional organizations (EDDSMaps, ReportIN).
    - Outline the control techniques most appropriate for the site and species present.
    - Set up a schedule of work and tasks to be accomplished.
    - Determine and obtain the labor, equipment, and materials needed to accomplish the work on time.

    - Collect and use the appropriate safety gear and procedures.
    - Evaluate disposal and sanitation needs to prevent spread from seed or other sources.
    - Evaluate efficacy as control work progresses and adjust methods as needed.
    - Once work is completed, continue to monitor the site for re-invasion and control invasives quickly to prevent additional population expansion.
    - Emphasize invasive plant control is an ongoing activity.
    - Evaluate control areas for potential re-planting with native species or other restoration practices.
    - Introduce invasive species best management practices.

- Discuss invasive species on the landscape scale and the role of CISMAs/CWMAs.

- Invite participants to get involved in the larger effort by reporting any spotting of invasives, participating in community invasive control efforts, and joining the local CISMA organization.

- Provide take-home references for local and regional information and assistance sources, identification and reporting tools, and control materials and techniques, as appropriate.
- This list suggests topics to cover as time and relevance to the audience and program goals dictate.

- Who could help with presentations?
    - Local or regional CISMA leadership or knowledgeable volunteers, conservation groups like The Nature Conservancy or a local land trust, agency resource professionals like DNR district foresters and wildlife biologists, USDA NRCS conservationists, SWCD educators, Extension educators or specialists, private land managers like consulting foresters or environmental management and restoration firms, and local landowners with invasive species management experience. Many of these contacts can direct you to additional local and regional resources.

Invasive Species Outdoor Program
Sample Topic Outline

Review your field tour site to plan topics to cover at appropriate locations and gauge the amount of time for each. Consider preparing handouts to provide an overview of the information. It is often difficult in a field setting to cover as much information as you planned. If you run short on time, having handouts allows you to briefly mention a point and refer the audience to the handout for more details.

Topics:

- What are invasive species?
- Why are invasive species a problem?
- How did they get here and how do they spread?
- What can we do to prevent invasions?
    - BMPs, laws and policies, sanitation.
- Identify and describe invasive species that you encounter and allow time for participants to get a good look. If it is appropriate, cut off samples to pass around. You could bring previously collected specimens to the site if needed. Compare to similar natives as appropriate.
- Discuss invasive species reporting programs to report invasive species, and how adding to this knowledge base assists the larger effort to control and manage invasive species. Demonstrate using a smartphone app identification as appropriate.
- Note and describe how and where invasive species populate an area, and impacts to the environment, economy, and people.
- Discuss specific control and management options (methods, material, timing, follow-up) that you encounter or are displayed. Demonstrate treatment methods, tools, and materials whenever possible.
- Outline steps to manage invasive species on a property:
    - Control starts with positive identification of invasives invasives on-site, as well as site and infestation characteristics. Get a professional assessment of the site.
    - Evaluate and map, if needed, the extent and intensity of invasion.
    - Consider reporting the infestation to local or regional organizations (EDDSMaps, ReportIN).

    - Outline the control techniques most appropriate for the site and species present.
    - Set up a schedule of work and tasks to be accomplished.
    - Determine and obtain the labor, equipment, and materials needed to accomplish the work on time.
    - Evaluate efficacy as control work progresses and adjust methods as needed.
    - Once work is completed, continue to monitor the site for re-invasion and control invasives quickly to prevent additional population expansion. Emphasize invasive plant species control is an ongoing activity.
    - Evaluate control areas for potential re-planting with native species or other restoration practices.

- Discuss sources of advice, assistance, and other resources for management and control of invasives:
    - Assistance with identification and site evaluation
    - Sources of control recommendations.
    - Sources of professional and labor assistance for control and management practices
    - Sources of equipment and materials to accomplish control practices
    - Sources of financial assistance

- Introduce invasive species best management practices—this could be a handout.
    - Discuss invasive species on the landscape scale and the role of CISMAs/CWMAs.
    - Invite participants to get involved in the larger effort by reporting when they spot invasives, participating in community invasive control efforts, and joining the local CISMA organization.
    - Provide take-home resources with local and regional information and assistance sources, identification and reporting tools, and control materials and techniques, as appropriate.

- This list suggests topics to cover as time and relevance to the audience and program goals dictate.

- Who could help with presentations?
    - Local or regional CISMA leadership or knowledgeable volunteers, conservation groups like The Nature Conservancy or a local land trust, agency resource professionals like DNR district foresters and wildlife biologists, USDA NRCS conservationists, SWCD educators, Extension educators or specialists, private land managers like consulting foresters or environmental management and restoration firms, and local landowners with invasive species management experience. Many of these contacts can direct you to additional local and regional resources.

Measurement and Evaluation

Conservation through Community Leadership Workshop Feedback and Evaluation

Thank you for completing this survey for the Conservation through Community Leadership Program. Your participation is voluntary, and all responses are anonymous. Your input is appreciated and will benefit future implementation of the program.
Fill in <u>one</u> option per question.

Date:
Workshop Location:

1. Please rate the quality of the following workshop areas listed below.

   Scale: 1=Poor, 5=Excellent

	Poor				Excellent
Presentation of information	①	②	③	④	⑤
Opportunities for learning about natural resource management and/or land use planning practices	①	②	③	④	⑤
Facilitation of activities	①	②	③	④	⑤
Encouragement of discussion	①	②	③	④	⑤
Building connections to resources	①	②	③	④	⑤

2. Please rate the quality of the following workshop areas listed below.

   Scale: 1=Limited, 5=Expert

	Knowledge *<u>Before</u>* attending the program		Knowledge *<u>After</u>* attending the program	
	Limited	Expert	Limited	Expert
Assessing ecosystem health and natural resource management options	① ② ③ ④ ⑤		① ② ③ ④ ⑤	
Apply decision-support tools to make decisions and take actions on ecosystem health	① ② ③ ④ ⑤		① ② ③ ④ ⑤	
Form diverse community partnerships to create and implement land use or natural resource management action	① ② ③ ④ ⑤		① ② ③ ④ ⑤	

3. How useful was this program in providing new knowledge to help you make decisions and take action to develop new or enhance existing projects in your community
Fill in <u>one</u> rating per row.

	Not Useful	Somewhat Useful	Useful
Make decisions	◯	◯	◯
Take action	◯	◯	◯

4. What is your most significant takeaway message, tool, or process from this workshop that you can apply in your community?

5. Do you have any suggestions or comments to improve this workshop in the future?

6. Based on the information presented in the program, what is the likelihood that you would recommend the Conservation through Community Leadership program to your family, friends and colleagues?

Scale: 0=Not at all likely, 10=Extremely likely

Not at all likely									Extremely likely
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

Additional comments:

Measurement and Evaluation

Conservation through Community Leadership
End of Program Feedback and Evaluation

Thank you for completing this survey for the Conservation through Community Leadership Program. Your participation is voluntary, and all responses are anonymous. Your input is appreciated and will benefit future implementation of the program.
Fill in <u>one</u> option.

1. Overall, what is your reaction to this program?

Not at all favorable		Somewhat favorable		Very favorable
①	②	③	④	⑤

2. How much did this program increase your confidence in your ability to plan for natural resources management/land use planning?

Very little		Somewhat		Very much
①	②	③	④	⑤

3. How much did this program increase your desire to get involved, or increase your involvement, in natural resources management/land use planning?

Very little		Somewhat		Very much
①	②	③	④	⑤

4. How likely are you to use information from this program for future natural resources management/land use planning efforts?

Not at all likely		Somewhat likely		Very likely
①	②	③	④	⑤

5. Please describe how you plan to use what you learned from this program?

6. When do you plan to use what you learned from this program?
Fill in <u>one</u> option.

Probably never	12 months	6 months	3 months	Immediately
◯	◯	◯	◯	◯

7. Do you have a better understanding of the natural resource/land use planning issues facing your watershed/community as a result of attending and participating in this process?

YES	NO
Ⓨ	Ⓝ

If yes, please describe why. If no, why not?

8. Do you have any suggestions or comments to improve this program in the future?

9. Would you recommend this program to others?

YES	NO
Ⓨ	Ⓝ

If yes, please describe why. If no, why not?

10. Describe the supports in place that encourage you to help implement your high-quality plan using the materials and curriculum you learned about in the program. How can Purdue Extension support your efforts to implement your plan?

11. Describe any barriers you face as you move to implement a high-quality plan in your community. What, if anything, could Purdue Extension do to reduce these barriers?

Additional comments:

Measurement and Evaluation

Conservation through Community Leadership Outcome Evaluation

(Six Months Post Workshop)

Survey core team participants and county extension office (or other local lead) six months after program participation to determine how they transferred program information to projects in their community.

Meeting Date(s):
Workshop Location(s):

1. Did your community complete an action plan after concluding the program session?

YES	NO
Ⓨ	Ⓝ

If yes, please describe implementation and next steps. If no, why not?

2. List the organization's attendee names and the number of representatives from each organization that participated in the action planning process:

3. How many organizations or agencies received data items, reports, or surveys, provided by the CCL program efforts?

4. How many individuals received data items provided during the CCL program efforts?

5. Have you contributed to education programs such as planning meetings or presentations in your community to support the action plan implementation?

YES	NO
Ⓨ	Ⓝ

If yes, please describe product (location, number of attendees, title). If no, why not?

6. Enter the number of volunteer hours related to the development of the action plan.

7. Enter the dollar value of volunteer hours (based on Independent Sector hour value) related to the action plan.

8. Have grants or matching funds been invested as a result of the completed action plan?

YES	NO
Ⓨ	Ⓝ

If yes, please describe the number of grants, dollar amount, and partners. If no, why not?

9. Have boards, commissions, work groups, and/or public input sessions been developed to support project(s) as a result of the action plan?

YES	NO
Ⓨ	Ⓝ

If yes, please describe. If no, why not?

10. Have new policies and/or practices been developed to support project(s) as a result of the action plan (i.e. comprehensive plan update, watershed management plan, wildlife habitat or invasive species management plans)?

YES	NO
Ⓨ	Ⓝ

If yes, please describe. If no, why not?

11. Enter the number of acres of land that have been protected, enhanced, or restored as a result of the initiatives implemented in this program. Enter 0 if the initiative has not yet been implemented, and enter NA if this is not applicable.

12. Describe the number and types of best management practices installed (e.g. bioretention, tree plantings) since action plan implementation.

13. Have soil, air, and/or water quality indicators improved since action plan implementation?

YES	NO
Ⓨ	Ⓝ

If yes, please describe. If no, why not?

14. What are the next steps over the next six months for implementing your action plan? How can Purdue Extension support your efforts to implement your plan?

15. Describe any barriers you face as you move to complete next steps for action plan implementation. What, if anything, could Purdue Extension do to reduce these barriers?

Additional Comments:

Measurement and Evaluation

Conservation through Community Leadership Outcome Evaluation

(12-18 Months Post Workshop)

Survey core team participants and county extension office (or other local lead) 12-18 months after program implementation to determine program results.

Meeting Date(s):
Workshop Location(s):

1. Did your community implement a new program or activity based on a completed action plan?

YES	NO
Ⓨ	Ⓝ

If yes,

Number of program participants:

Program/activity and location:

Targeted stakeholder groups/demographics:

If no, why not?

2. Enter the number of volunteer hours related to the development of the action plan.

3. Enter the dollar value of volunteer hours (based on Independent Sector hour value) related to the action plan.

4. Have grants or matching funds been invested as a result of the completed action plan?

YES	NO
Ⓨ	Ⓝ

If yes, please describe the number of grants, dollar amount, and partners. If no, why not?

5. Have boards, commissions, work groups, and/or public input sessions been developed to support project(s) as a result of the action plan?

YES	NO
Ⓨ	Ⓝ

If yes, please describe. If no, why not?

6. Have new policies and/or practices been developed to support project(s) as a result of the action plan (i.e. comprehensive plan update, watershed management plan, wildlife habitat or invasive species management plans)?

YES	NO
Ⓨ	Ⓝ

If yes, please describe. If no, why not?

7. Enter the number of acres of land that have been protected, enhanced, or restored as a result of the initiatives implemented in this program. Enter 0 if the initiative has not yet been implemented, and enter NA if this is not applicable.

8. Describe the number and types of best management practices installed (e.g. bioretention, tree plantings) since action plan implementation.

9. Have soil, air, and/or water quality indicators improved since action plan implementation?

YES	NO
Ⓨ	Ⓝ

If yes, please describe. If no, why not?

10. What are the next steps over the next six months for implementing your action plan? How can Purdue Extension support your efforts to implement your plan?

11. Describe any barriers you face as you move to complete next steps for action plan implementation. What, if anything, could Purdue Extension do to reduce these barriers?

Additional Comments:

Reflecting on Success:
Ripple Mapping

To conclude the action planning work during the Conservation through Community Leadership Program, the final group meeting will include a ripple mapping session. The purpose of ripple mapping is to:

- Reflect on how the group's CCL efforts have made a difference in the community.
- Learn from the work accomplished.
- Consider next steps, including how to share the success of the work accomplished.

The data generated from ripple mapping can be shared as part of an update of the action planning

progress to date and also as a mechanism to measure impact for long-term reporting.

The ripple mapping process outlined below is adapted from a March 4, 2016 ripple mapping training workshop and related materials from Rachel Welborn of the Southern Rural Development Center.

Ripple Mapping Instructions

- Create and post a poster-sized paper map of the PESTLE categories and write CCL in the center. Explain to the group that you will be mapping results of the CCL effort to date.
- Participants talk in pairs for five minutes to identify the specific efforts or changes that have taken place because of the CCL action planning meetings. Identify specific examples of actions taken because of the program.
- The ripple mapping process has three levels. The PESTLE categories will help to frame the discussion. Draw three rings on the map to represent the three levels of the process and write the PESTLE categories around the final circle. See the diagram below for an example:

- Map the first ripple with the question: What specific actions or activities were started because of the CCL planning initiative?
    - This is the same question that pairs have brainstormed. Write the items generated during the first ripple discussion near the center and by the PESTLE category they represent. Discuss each PESTLE category. Not all categories may be represented, depending on the progress and focus of the community program.
- Map the second ripple with the question: Who is benefitting and how?
    - Use a different color, so the ripples are evident in the colors scheme. Draw an arrow from the item in the first ripple to the item in the second

ripple. There may be multiple arrows. The arrows will show the process by which change was accomplished, which can inform new efforts. Document specific information, including numbers, where possible. Make notes for follow-up discussions of additional information.

- Map the third ripple with the question: What changes are you seeing in the community's systems, institutions, and organizations? Are everyday ways of thinking and doing changing because of all of this work? How? Tailor this question to the community issue.
    - Use a new color. Use an arrow to link items in the second ripple to those in the third ripple if possible. However, some of these changes may not tie to a single item but may be overall changes.

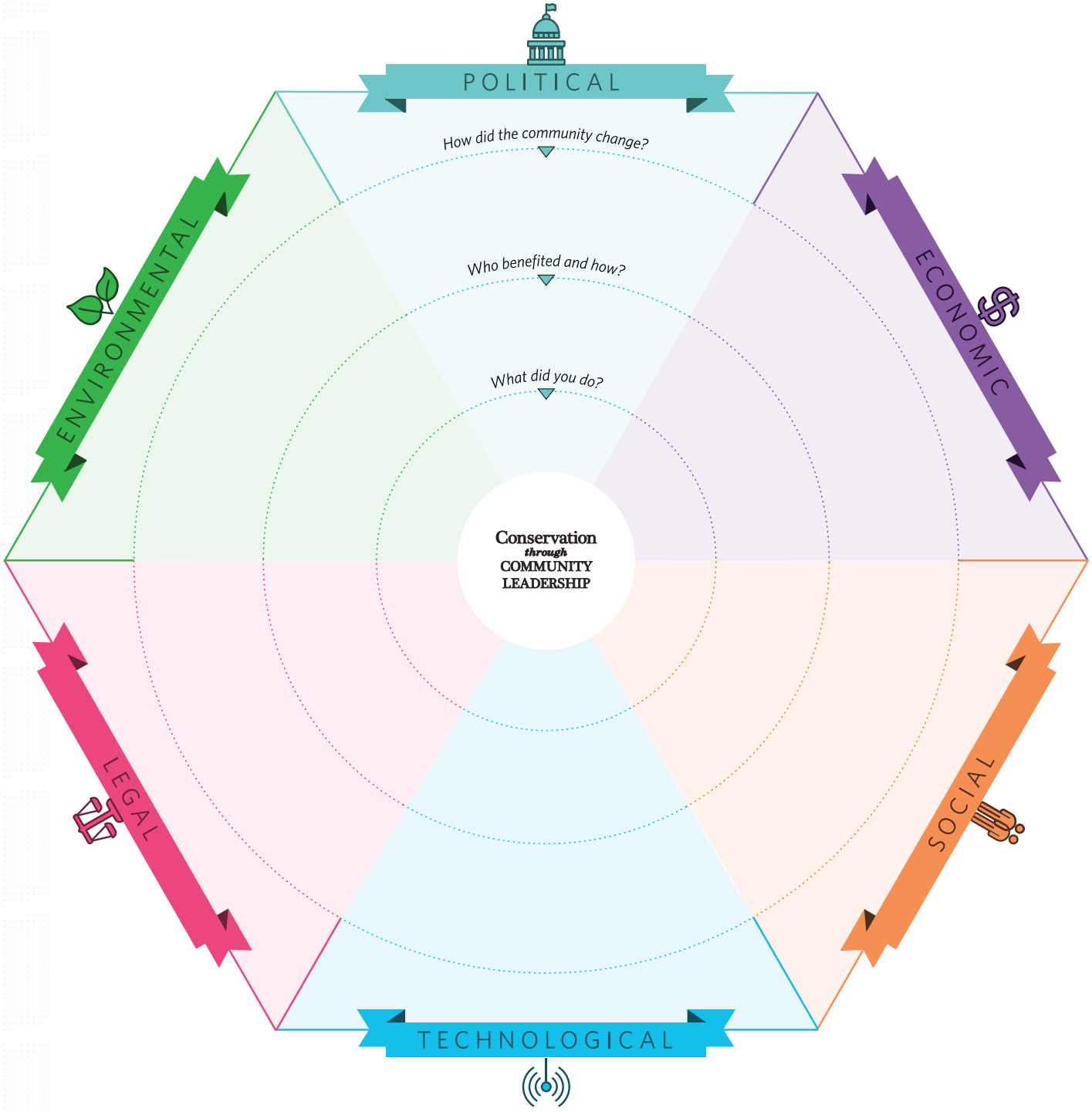
- Map the final question: What do you think the most significant change is on the map? Why?
    - Put a star beside those items in a new color.

- Briefly discuss how the map can help with evaluation.
    - What questions about your work would you like to have answered?
    - Are their items on the map for which data is already available?

- Discus how the reflection process can provide insights into next steps.
    - What are the implications of what we learned about our impact from the mapping that will be helpful in our next round of our work?
    - What additional stakeholders should we add to our advisory committees or project committees based on how we are impacting the community?
    - What are next steps we might like to take to increase our impact?

- Take photos of the final map for evaluation use – one photo of the map itself and one of the participants with the map to promote their work. Leave the map with the group as a record of the work.

Ripple Map


POLITICAL
How did the community change?
Who benefited and how?
What did you do?
ENVIRONMENTAL
ECONOMIC
Conservation through COMMUNITY LEADERSHIP
LEGAL
SOCIAL
TECHNOLOGICAL

Evaluation: Number of Actions or Impacts Identified in Ripple Mapping Session

Write in the types of action or impacts per ripple and PESTLE category. Tally the responses in the final category. Generate a bulleted list of the actions or impacts, including numbers of projects, participants, plans, websites, etc. Identify specific challenges and issues the group addressed and how the actions or impacts directly addressed the challenge and issue.

Community Name:
Date:

	Ripple One	Ripple Two	Ripple Three	Totals
				
				
				
				
				
				

Conservation *through* COMMUNITY LEADERSHIP

Empowering community leaders to manage our shared natural resources

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