



# SLA Training Learning Objectives

Local landcare professionals design and maintain systems that promote and enhance biodiversity, biological cycles, and soil biological activity. They utilize minimal off-site inputs and management practices that restore, maintain, and enhance ecological harmony and beauty in urban and suburban landscapes and gardens.

**The SLA training follows the NOFA Organic Landcare Standards.**

**The following objectives relate to material found in the standards as well as covered during class.**

## **Introduction of Sustainable Landcare (pg. 1-6)**

Objectives:

- Name the basic principles on which the NOFA OLC standards are based.
- Explain what is required for Phipps Sustainable Landcare Accreditation.
- Describe the procedures for emergency non-organic rescue treatment provision in the standards.

## **Site Analysis and Design (pg. 7-8)**

Objectives:

- Make observations of a landscape completing a checklist of physical elements, existing organisms, and cultural elements.
- Identify key elements of a site. Describe the ecology of a site from these elements.
- Design a landscape that connects a client's goals with a site's ecological characteristics, benefits and limitations.
- Describe ways in which plants and animals make up an interdependent living system.
- Explain the importance of the right plant in the right place.
- Design a landscape management program to work with the existing ecosystem.
- Describe methods and techniques of organic landcare maintenance.
- Name the factors that affect water management.
- Describe when and how to water for efficiency.
- Name the key issues associated with irrigation maintenance.
- Follow management practices that encourage a decrease of outside inputs and is guided toward sustainability.

## **Soil Health (pg. 9-10)**

Objectives:

- Describe the distinguishing characteristics of healthy soil. Explain how these components result in water movement, aggregation, and nutrient cycling.
- Name the components that make up soil.
- List three benefits of a healthy soil food web.
- Describe three ways to maintain organic matter on-site.
- Describe how nutrients are cycled within a natural landscape and why this is important to mimic in a garden.
- Explain what a soil profile is and what it means.
- Explain what controls nutrient availability to plants.

## **Soil Testing and Lead in Soil (pg. 10-12)**

Objectives:

- Describe the steps of taking a soil sample.
- Given soil test results, a landcare professional explains the results of the test and gives organic recommendations to improve or maintain the health of the soil.
- Describe the preferred means of handling toxic elements in the soil.

## **Inland Wetlands, Water Use and Quality** (pg. 13-17)

### Objectives:

- Describe the importance of maintaining wetlands and minimizing their disturbance.
- Given a location, name local wetland resources and professionals in order to identify wetlands on the area and list local regulations regarding wetlands.
- Name three activities that are prohibited near a wetland.
- Identify three characteristics of a wetland.
- Explain why all water resources are valuable and should be conserved.
- Describe how they would factor water use into all site designs, construction and management.
- Name three preferred water saving techniques.
- Explain how water moves through natural and developed landscapes.
- Identify potential sources of pollutants affecting residential landscapes.

## **Rainwater Management**

### Objectives:

- Identify appropriate and inappropriate sites for rainwater infiltration.
- Design a small infiltration system by calculating necessary size and determining construction requirements.
- Select appropriate planting materials and mulches.
- Explain how site characteristics, regulations, and client desires shape Green Stormwater Management (GSI) systems.
- Describe common challenges of constructing and maintaining GSIs.

## **Energy, Pollution, and Climate Change** (pg. 18-20)

### Objectives:

- Explain three of the five most obvious impacts related to fuel-powered land care equipment.
- Name ways that they can reduce fossil fuel consumption and increase the use of renewable energy sources.
- Describe ways to return carbon to the soil.
- Name emissions and particulate matter hazards from landscaping.
- List best practices to reduce fossil fuel usage in landscaping.
- Identify the pollutants generated by landscaping practices, which include noise pollution.
- Identify best practices to reduce negative impacts on human and environmental health while caring for landscapes and running an organic landcare business.

## **Organic Fertilizers, Soil and Plant Amendments** (pg. 21-26)

### Objectives:

- Discuss the differences between “feeding the soil” and “stimulating plant growth”.
- Name reasons why ‘synthetic fertilizers are a stressful way to fertilize’.
- Explain the affects to natural systems by the large increase of fixed nitrogen in the environment.
- Explain why phosphorous is essentially a non-renewable resource that shouldn’t be over-applied it to the soil.
- Name two of the three unintended consequences of fertilizer applications.
- Name preferred and allowed soil and plant amendments including microorganisms, inoculants and potting mixes.
- Describe some of the reasons why fertilizers, organic or inorganic, and amendments become necessary.
- Explain basic nutrient cycles: how nutrients become available to plants.
- Describe how old growth forests flourish without any synthetic fertilizers, pesticides or other inputs.
- Explain how nutrients are held in the soil and why they are lost from dirt.

## **Compost and Compost Teas** (pg. 27-31)

### Objectives:

- Name advantages of compost as compared to topsoil and mulch alone.
- Describe characteristics of well-decomposed or finished compost.
- Name three applications for compost tea and how to use.
- Describe different compost recipes including various starting materials.
- Explain how compost management practices affect compost quality.
- Describe how to make sure that various pathogens and weeds can be prevented from developing in compost.
- Explain why one would use compost, compost extract or compost tea.
- Describe critical production factors that help assure there are no pathogen problems in compost tea.
- Describe how one assesses extract/compost tea quality.

## **Lawn Alternatives** (pg. 32)

### Objectives:

- Name low-maintenance lawn alternatives for a variety of site conditions.
- Explain how maintaining smaller areas of lawn reduces maintenance costs and is better for the environment.

## **Organic Lawn Care** (pg. 32-36)

### Objectives:

- Describe the genetic predisposition of lawn grasses and how typical lawn maintenance is in direct conflict with this predisposition. Explain how this negatively impacts the environment.
- List the 5 steps to new lawn installation.
- Explain the benefits of using a seed mix with different varieties of grasses.
- Name strengths and weaknesses of various grass types.
- Name three ways that nutrients can be added to a lawn.
- Name five preferred means of lawn maintenance and care.
- Explain the benefits of organic lawn care in comparison to chemical based lawn care.

## **Native Plants in the Landscape** (pg. 37-38)

### Objectives:

- Explain the importance of preserving native plant species in the landscape.
- Describe the biggest threats to native plant populations.
- Share examples of native plants in residential landscapes.
- Explain the benefits of including native plants in ornamental plantings.
- Describe the relationship of native plants to the success of local wildlife populations.
- Identify design techniques used to create residential native gardens.
- Name ways in which native plants can be used to mimic plant communities and habitat types found in nature.
- Describe how known native plant communities and habitat types can help with plant selections and putting the "right plant in the right place".
- List the preferred and allowed plant choices based on the NOFA Standards.

## **Invasive Plants** (pg. 37-40, 56)

### Objectives:

- Name the qualities that characterize an invasive species, define the term invasive species and explain the problems associated with invasive species.
- Given a scenario of a homeowner with an invasive species problem, the professional details a plan of action for control, including pre-control protocols and proper disposal of invasive plant.
- Explain the first step in dealing with an invasive plant, even before beginning any type of control.
- Describe the last step in protecting an area once covered in invasive plants.
- Name two main ways that landcare professionals unknowingly contribute to the spread of invasive plants.
- Identify the preferred and allowed means of invasive plant control.
- Identify the most common invasive plants in Pittsburgh and Western Pennsylvania.
- Identify common management problems and ways to solve them.

## **Organic Tree Care, Planting and Pruning** (pg. 41-45)

### Objectives:

- Use proper planting techniques for healthy trees that have been carefully selected for the given location.
- Read over the preferred methods for organic tree care and evaluate their current practices. Describing the preferred methods that they are using well and those that they can improve upon.
- Define two basic approaches to preparing the soil in a planting bed and compare and contrast the two methods.
- Describe their approach to preparing a site for planting, including as many preferred planting methods as possible.
- Explain why crop rotations are important in a vegetable and annual herb garden.
- List preferred and allowed methods for obtaining seeds and plants.
- Describe how to select, prepare and plant bare root, containerized and B&B plant materials.
- Follow Preferred and Allowed procedures for removing unwanted vegetation.
- Be able to prepare a planting bed based on soil test recommendation using organic materials, site conditions and types of plants.
- Name organic cultural practices used to maintain and enhance plantings.
- Describe the correct time and method of pruning woody plants.
- Name five preferred pruning techniques.

## **Weeds and Mulches** (pg. 46-49)

### Objectives:

- Develop an appropriate weed control program based on careful observation of weed populations and weed seeding emergence patterns after disturbance.
- Name the preferred weed control methods that they are currently using as well as describes those that they will begin to incorporate. Describe how these fit in with current management practices.
- Name three prohibited weed control methods.
- Describe the functions of mulch.
- Name the dangers of too much mulch or mulch piled up against the trunks of plants.
- Name five preferred mulching materials and techniques.
- Name advantages and disadvantages of mulch materials.
- Evaluate various mulches in terms of sustainability.

## **Pest and Disease Management** (pg. 50-53)

### Objectives:

- Define and describe plant health care (PHC) and integrated pest management (IPM) and how the two are related.
  - o Identify the steps of an IPM program.
  - o Describe and identify the different forms of management in IPM.
- Name the basic steps for diagnosing plant problems and the resources available.
- Describe pest outbreaks and the difference between cosmetic problems and true health concerns for a plant.
- Describe action thresholds of a pest population and how to determine them.
- Identify and describe signs and symptoms of pest insects and mites.
  - o Identify some of the common beneficial arthropods encountered in Western PA and describe how they keep pest populations in balance.
  - o Identify common arthropod pests in Western PA.
- Describe what disease is and what the causative agents of disease are.
  - o Explain the disease triangle.
  - o Identify and describe signs and symptoms of disease.

## **Wildlife Management** (pg. 54-55)

### Objectives:

- Identify wildlife species that is causing a problem and develop management strategies specific to that animal.
- Protect, maintain and improve critical habitats for wildlife.
- Name seven preferred wildlife management techniques.
- Name methods of wildlife control and deterrents for deer, groundhogs, voles and rabbits.