

Logger Education to Advance Professionalism In Vermont



Curriculum Guide

(Revised: December 2006)

(Revised: April 2019)

MISSION: *The purpose of the Vermont LEAP program is to promote a professional approach to logging by providing the knowledge necessary for loggers to work safely, efficiently, and in an environmentally conscientious manner while harvesting timber in Vermont. This mission shall be accomplished through offering a broad-based primary curriculum in three subject areas:*

1. *Mechanized Logging Safety or Non-Mechanized Logging Safety*
2. *Managing and Using Forest Ecosystems*
3. *Professionalism in Forestry*

Completion of the primary curriculum leads to 'provisional' certification, which is intended to meet the minimum requirements of the Vermont Sustainable Forestry Initiative. However, a logger must also complete a secondary curriculum to achieve full LEAP certification. Full LEAP certification is acquired and maintained by completing the education requirements as later described in this curriculum guide.

PHILOSOPHY: *We recognize that the logging profession is an essential link between Vermont woodlands and forest industry. Along with landowners and foresters, loggers are partners in managing our forests for wood, water, wildlife and recreation. Vermont's forests have a legacy of providing these resources and are capable of sustaining these public benefits if properly managed. We see education as offering a positive approach, bringing everyone together to reach this common goal. The LEAP program is an instrument to encourage life-long learning among loggers. We will strive to promote professionalism through education and instill a stewardship ethic among loggers. The outcome of this endeavor, we envision, will be a well managed and productive forest landscape, and a positive public perception of the logging profession*

OPERATION: *LEAP is governed by a committee of people from around the state who represent a diverse range of views but share a common interest in good logging practices. It is an "open" committee that attempts to resolve, or at least address, the concerns of all parties who come to the table to support the mission and philosophy of LEAP.*

Significantly, LEAP was originally designed as a curriculum guideline for various "providers" to follow when developing workshops, tours, booklets and other educational materials for loggers. The idea was to help providers design events and materials that meet the various requirements of the curriculum outlined here. As of 20 February 2001, that changed with regard to the 'primary' curriculum.

With the changes adopted in February 2001 and April 2019, there are no substitutes for the 'primary' curriculum -- a logger must complete these three elements offered solely by the Vermont LEAP Committee.

*Upon completing these three elements, a logger is provisionally certified. Provisional certification is followed by a secondary curriculum of three all day workshops. The LEAP Committee offers six workshops regularly, which will satisfy the secondary curriculum requirement. Those workshops include (1) Forest Water Quality, Erosion Control and Wetlands, (2) Wildlife Habitat, (3) Low-impact Harvesting, (4) Log Making, (5) First Aid and (6) Surveys and Boundaries. Full certification is achieved after a logger has completed the primary requirements **and** the secondary requirements **within two years** after obtaining provisional status.*

A logger may substitute other non-LEAP hosted workshops for the secondary LEAP requirement as approved by the LEAP curriculum review committee.

Provisional LEAP Certification

A logger must complete 12 hours of instruction (Professionalism and Ecosystems), the required safety training for either mechanized or non-mechanized, plus any prerequisite reading requirements, in the requisite primary curriculum to achieve provisional status.

Full LEAP Certification

A logger must complete an additional 24 hours of instruction (three day long workshops) within two years of obtaining 'provisional' status to achieve full certification. One of these workshops must be "First Aid for Loggers." NOTE: A current American Red Cross card or any other Certified First Aid training is an adequate substitute).

Maintaining Full Certification -- Continuing Education

To maintain full certification, there is a continuing education requirement described later in this curriculum guide.

Primary Curriculum

*As of April 2019, participants must select either **non-mechanized** or **mechanized** training curriculum, or both

Non-Mechanized, or, “Conventional” Logger Category

Primary Curriculum safety training requirements:

Game of Logging Levels 1-4 (4 days, 32 credits)

Continuing education requirement:

Eight hours (8 credits) annually of safety training, including; Game of Logging Level 5 refresher (Levels 1-4 must be previously taken to qualify), any other LEAP continuing education in logger safety workshop

The Game of Logging (GOL)

(8 LEAP credits per day/Level)

The Game of Logging is based on the internationally accepted training developed by Soren Eriksson to provide the latest and safest techniques to operate/maintain a chainsaw to directionally fell trees under a variety of circumstances, and to process wood products under compression/tension situations. GOL is the industry standard for chainsaw safety and logging efficiency training. The standard program consists of four levels, each level is an 8-hour day. All levels must be taken consecutively. Class Size is limited to a maximum of 10 loggers per instructor. Level 5 was developed as a “refresher” and an opportunity to share new techniques that have evolved over time.

Objectives: Be knowledgeable of the various saw chain options and how each might be used depending on cutting conditions.

Be able to explain the mechanics of the hinge wood and how length verses thickness effects the control of the tree.

Explain the importance of the 3 active safety features on the modern chainsaw (chain brake, throttle lock, chain catch pin)

Explain the value of having an overall job plan and how that can improve the economics of the job as well as the safety of the workers (job separation reduces the chances of injuries resulting from one worker injuring another).

GOL is an option for continuing education as well. Levels must be taken sequentially.

Level 1: Emergency planning, personal protective equipment, 5-point safety check, reactive

forces, precision plunge cutting, 5-point felling plan, scoring the stump, precision felling practice.

Level 2: Reduced down time; tailgate maintenance, including; air filter, gas, bar, chain and sprocket; art of chain filing; releasing “Springpoles” safely; precision felling practice.

Level 3: Scoring the chain, dealing with the heavy “lean” in a tree, utilizing wedges & shims, understanding stem compression & tension, 5-point limbing plan, limbing concepts/techniques, bucking techniques, precision felling practice (side/back leaners).

Level 4: Focus all the felling and bucking techniques from previous 3 levels into a harvesting plan. Concepts of the 3-R’s (reconnaissance, record & relay) and how they maximize efficiency of man and equipment hours, understanding the costs per minute and how to improve efficiency, cooling the system down.

Level 5: A refresher course – it meets the standards for Safety Certified Non-Mechanized Loggers who have taken the GOL 1-4 more than five years ago. Review of the felling and bucking fundamentals. Review of the 3-R’s Concept; reconnaissance, record & relay and how they maximize efficiency of man and equipment hours, tackling the difficult felling and bucking situations.

Upon completing the four Levels of GOL, LEAP participants should be able to:

Understand the care and importance of wearing Personal Protective Equipment.

Be aware of the “Reactive Forces” and how to avoid serious injury from them.

Be able to identify the five safety features of the saw.

Create a plan to avoid an “accident” in the woods.

Safely and efficiently fell many different situational trees.

Be able to describe the 5 parts of the chainsaw tooth and how to maintain and sharpen them to keep the saw sharp and safe.

Understand the hazardous potential of a loaded “spring-pole” and how to disarm it.

Be able to create a plan to safely and efficiently limb trees.

Be able to identify compression and tension in a log/tree and how to safely deal with it.

Understand how to utilize a wedge and shims to accurately fell tree against it’s lean.

Be able to create a harvesting plan.

Identify how to “Cool” the system down to reduce injuries and inefficiencies.

Mechanized Logger Category

Primary Curriculum training requirement:

Mechanized Logging Safety (8 hours or 8 credits)

First Aid/CPR for Loggers (8 hours or 8 credits)

Continuing Education requirement:

Eight hours (or 8 credits) annually of safety training, including; First Aid/CPR for Loggers, Logger Rescue workshops, any other LEAP continuing education in logger safety workshop

Mechanized Logging Safety Workshop

(8 credits)

This workshop is intended to increase awareness of the many dangers associated with mechanized logging, to improve safety procedures and to change work habits so that safety is a primary concern to the crew.

In recognition of the fact that injuries do happen from time to time, some first aid for first responders of logging-related traumas is taught as well, but loggers must also complete a first aid requirement described under the secondary curriculum.

- Objectives:
- Learn woods-working methods that emphasize safety; especially in the areas of equipment operation
 - Learn OSHA Requirements and Regulations for Mechanized Logging
 - Demonstrate safe and efficient methods of working with logging equipment.
 - Demonstrate best practices in Personal Protective Equipment, Fire Safety and Hearing Conservation
 - Describe equipment innovations that improve safety, efficiency and ergonomics.
 - Review case study accidents and help participants understand ways to avoid situations that appear unavoidable.
 - Instill a "safety first" philosophy by discussing both the human and financial tragedies of accidents.
 - Understanding a culture of safety, including; safety trainings and meetings, the statistical difference between new hires and current employees,
 - Understand the types of accidents and why accidents like Slips, Trips and Falls could be more costly than what appears to be a more serious accident.

Upon completing the Mechanized Logging Safety workshop, loggers should be able to:

Describe basic safety procedures for each piece of equipment used in a logging job.

Understand how to safely diagnosis and initiate repair on the equipment and how to initiate a lockout/tagout procedure

Understand industrial ergonomics

Identify at least 3 new ideas that improve safety on the jobsite.

Identify at least 3 new ideas that improve safety on his or her job site, including mentoring new hires to reduce the likelihood of an injury

Know how to correct unsafe practices of co-workers.

Forestry Operations Supervisor

This category is required for all employers or crew foreman to qualify for the Vermont Logger Safety and Workers Compensation Insurance Program

Primary Curriculum training requirements:

Supervising for Safety in Forest Operations (8 hours or 8 credits)

Continuing Education requirement:

Eight hours (or 8 credits) every other year of supervisory training offered by LEAP or another professional development instructor

Supervising for Safety in Forestry Operations

(8 credits)

Forestry operations supervisors instruct, direct and control workers in the performance of their duties. They communicate safety rules and procedures to workers, ensure workers understand and follow them. They lead by example and set the tone towards safety. Each employer participating in the Vermont Logger Safety and Workers' Compensation Insurance Program must have someone in a supervisory position complete the Forest Operations Supervisor leadership and communications training course.

It is not always easy to lead a crew in a small business, but in a dangerous occupation, it is imperative that those in supervisory positions understand their roles and responsibilities, have been trained to develop the proper skill sets to ensure that they're managing a safe and

productive workplace. This workshop is intended to train employers and crew leaders in the best practices for leadership and communications in forest operations.

Objectives: Learn ten tools to handle difficult conversations and addressing unsafe behavior

Learn about improving verbal communications in all aspects of the work all, in the woods, on the landing, and in the shop.

Review case study accidents and help participants understand ways to avoid situations that appear unavoidable.

Learn to identify methods that enhance safety; especially in the areas of landing organization, workers and visitors to the site and machine management both on the landing, on skid trails, in the woods and along roadsides.

Learn about hazard identification and control

Understand safety and production

Conducting useful meetings

Training new hires in safe operations

Knowing the difference between a safety culture vs. the illusion of safety.

Understand trends in forestry operations injuries and insurance claims

Upon completing the Forest Operations Supervisor course, LEAP participants should be able to:

Describe hazards throughout all aspects of the Logging operation.

Be able to conduct a safe Logging operation.

Describe techniques to improve communication to all associated with the operation.

Explain different accidents that can occur and be able to explain how to avoid them.

Explain to others how to increase production and maintain a safe operation.

Know where to find and use different tools to lead useful safety and efficiency meetings.

Demonstrate communication techniques throughout the Job.

Be able to identify and react to unsafe behaviors.

Better relate the need to develop a Culture of Safety.

Managing and Using Forest Ecosystems

(8 Hours)

An understanding of forest ecosystems and how they respond to the impacts of logging is essential knowledge for a timber harvester. In this workshop, loggers learn about the main elements of forest ecosystems including water and wildlife, how productivity is influenced by various harvesting practices, and how to conserve soil while building access roads that can withstand heavy equipment and the elements.

A prerequisite of this workshop is completion of the following readings in advance of the workshop: *Introduction to Forest Ecology and Silviculture*.

Objectives: Present basic concepts of forest ecology.

Describe factors that influence forest site productivity.

Present an overview of tree physiology.

Describe the successional strategies of major local timber species.

Learn silvicultural practices as used in Vermont and relate them to their impacts on forest ecosystems.

Describe the impacts of uncontrolled water on bare soil surfaces.

Recognize important features of wetlands and how to protect them during harvesting.

Teach the important elements of forest habitats.

Upon completing the **Managing and Using Forest Ecosystems** workshop, loggers should be able to:

Describe some environmental factors that influence forest site.

Describe the successional strategies of a least 3 major species in Vermont.

Predict the impacts of different silvicultural prescriptions on the direction of succession.

Explain the basics of tree physiology and how trees grow.

Understand in a general way the silvicultural basis of stand prescriptions.

Communicate the importance of silvicultural practices to other loggers.
State three different criteria used to define a wetland.
Describe the ecological importance of protecting water quality during logging.
State the 3 essential elements of habitat.
Understand the impacts of harvesting on succession of wildlife.
Explain ways to create good habitat using harvesting.
Describe how habitat considerations can be easily built into a harvesting plan.

Professionalism in Forestry

(8 Hours)

Understanding regulations that apply to logging, personal liability, ethics of forestry practice and successful communication are the focus of this workshop. Also included are descriptions of forest industry in the U.S., the issues that face it, and the Sustainable Forestry Initiative.

A prerequisite of this workshop is the completion of the following readings: *Regulations that Affect Loggers in Vermont*, *Acceptable Management Practices to Protect Water Quality in Vermont*, *Ethics in Forestry Practice*.

- Objectives:
- Describe current rules and regulations that control harvesting practices in Vermont, including endangered species laws.
 - Help participants understand the purpose of regulations, and the easiest and most cost-effective ways to comply.
 - Describe the basics of the communication process and the factors that influence how and why we communicate.
 - Explore what it means to be a professional.
 - Identify images that people associate with professionals.
 - Explain the *Sustainable Forestry Initiative* and its efforts to change the way industry uses the forest.
 - Explain the concept of liability and loss.
 - Describe instances where a logger is apt to be held liable.
 - Describe situations where ethical concerns arise in forestry.
 - Allow participants to explore ethical questions using case studies.

Upon completing the **Professionalism in Forestry** workshop, loggers should be able to:

*Describe aspects of timber harvesting that are regulated.
Know where to go for more information on a particular regulation.
Identify things that can get in the way of effective communication.
Describe current public opinion about the forest industry.
Explain how the Sustainable Forestry Initiative works in Vermont.
Understand the importance speaking for one's self.
Know how to refute the points of someone who says they speak for you.
Know the importance of projecting a positive image.
Describe at least 3 ways to create a more professional image.
Distinguish between ethical and unethical behavior.
State the most common types of ethical questions that arise in forestry.
Define "conflict of interest" and give examples of how to resolve it.
Explain the importance of "full disclosure" when working with clients.
Know the difference between responsibility and liability.
Explain reasons for liability insurance.*

Secondary Curriculum

Once a logger has obtained provisional certification, that logger must complete three, day-long workshops selected from the following six subjects. This must be accomplished within two years of attaining provisional certification. Other non-LEAP workshops may be substituted. Check ahead of time for workshop approval by the LEAP Curriculum Committee. **NOTE: One of the three workshops must be "First Aid for Loggers." A current American Red Cross card or any other Certified First Aid training is an adequate substitute).**

The Vermont LEAP Committee will regularly offer the following workshops:

First Aid for Loggers

NOTE: This workshop is a requirement of the secondary curriculum!!

>> A CURRENT AMERICAN RED CROSS CARD OR ANY OTHER CERTIFIED FIRST AID TRAINING IS AN ACCEPTABLE SUBSTITUTE FOR THIS REQUIREMENT<<

Objectives: Explain first aid as procedures to stabilize an injured person until medical help is available.

Recognize and be able to treat serious traumas, from blunt injuries to lacerations.

Understand the importance of quick, clear thinking when an accident occurs.

Upon completing the **First Aid for Loggers** workshop, participants should be able to:

Quickly recognize and assess an injury and apply the appropriate treatment.
Know when to move and not move a patient.
Recognize the symptoms of shock and know what to do.
Accurately describe common injuries to off-site medical professionals.
Know how to transport an injured person.

Forest Water Quality, Erosion Control & Wetlands

- Objectives:
- Describe the impacts of uncontrolled water on bare soil surfaces.
 - Identify the methods to employ that will prevent excessive soil erosion and protect water quality.
 - Understand the *Acceptable Management Practices* (AMPs) as they apply to logging in Vermont.
 - Recognize important features of wetlands and how to protect them during harvesting.
 - Understand slope measurements and the effect of slope on location of waterbars and width of buffer strips.

Upon completing the **Forest Water Quality, Erosion & Wetlands** workshop, loggers should be able to:

State three different criteria used to define a wetland.
Understand all AMPs and be capable of applying them in the field.
Describe the importance of protecting water quality during logging.
Use flagging tape and a clinometer to lay out a skid trail.
Carefully consider options for stream crossings and choose the best methods to suit the circumstances.
Describe the review process used to investigate AMP violations.
Measure slope in the field to locate water bars and estimate the width of buffer strips near streams.

Low-impact Harvesting

- Objectives:
- Describe the concept of Low Impact Harvesting (LIH) as a method of operating rather than a series of practices.
 - Identify major forest values and corresponding elements of LIH.
 - Describe methods that can be incorporated into harvesting plans that will

minimize negative impacts to major forest values.

Analyze different types of harvesting systems as to their suitability in meeting the goals of LIH.

Emphasize the importance of job layout to maximize efficiency and minimize potential negative impacts.

Upon completing the **Low Impact Harvesting** requirement, the logger should be able to:

Recognize and identify major forest values in the field.

Associate the elements of LIH with corresponding major forest values.

Understand the concept and value of LIH and be able to explain it to landowners.

Design and conduct harvesting operations to minimize potential negative impacts.

Evaluate different soil types as to their susceptibility of impacts from harvesting equipment.

Easily identify LIH practices in the field.

Surveys & Boundaries

Objectives: Explain the basics of boundary law in Vermont.

Describe common methods of marking boundaries.

Learn how to read a survey, locate a line and recognize a boundary marker.

Upon completing the **Surveys & Boundaries** workshop, loggers should be able to:

Explain the basic of boundary law as it relates to forestry operations.

Locate (identify) a boundary.

Describe the meaning of different blazes along a boundary.

Understand the conditions of, and penalties for, timber trespass.

Log Making

Objectives: Describe lumber grading rules as they apply to log bucking decisions.

Teach value yield over volume production.

Learn bark characteristics that indicate flaws below the surface.

Emphasize the importance of good communication between the log buyer and the log makers.

Upon completing the **Log Making** workshop, loggers should be able to:

Know when and how to isolate defects in the log so as to maximize value.
Make bucking decisions that can substantially improve log grade.
Know when to sacrifice log volume recover to improve grade.
Identify exterior bark characteristics that hide potential lumber defects.
Communicate with the log buyer about grade specifications and premiums for high-value logs.

Managing Woodlands for Wildlife

Objectives: Teach the important elements of forest habitats.

Help loggers understand how habitats change with harvesting.

Learn how to identify and protect rare habitats.

Use logging equipment to enhance wildlife habitat values.

Upon completing the **Wildlife Habitat** requirement, loggers should be able to:

State the 3 essential elements of habitat.
Understand the impacts of harvesting on succession of wildlife.
Explain ways to create good habitat using harvesting.
Describe how habitat considerations can be easily built into a harvesting plan.
Recognize 'special' habitats and know how to protect them.

Continuing Education Requirements to Maintain Full Certification

To maintain **LEAP** certification, a logger is required to participate in 16 hours (2 days) of related continuing education programs, formal education or professional service. This must be accomplished within two calendar years of completing the secondary curriculum and each two years thereafter. A minimum of eight hours (one all-day workshop) must be earned in Category I. The remaining continuing education credits may be earned from either Category I, II or III as described below. **Loggers are also required to maintain both First Aid and CPR certification and provide proof of this certification to the LEAP Steering Committee.**

Category I

Logging/Forestry Seminars and Meetings

Any **LEAP**-approved logging or industry related classes, or seminars offered within Vermont or

other state regional organizations may apply.

Category II

Formal Education/Self Improvement

Hours will be awarded for multiple classes leading towards a degree or certificate (up to eight hours can be earned in this category). Examples: High School GED; College Courses; EMT Courses; Certified Wellness Program; Computer Courses; etc.

Category III

Community and Professional Service

Hours will be awarded for participation and leadership in community and professional organizations (up to eight hours can be earned in this category). Examples of community service: Selectman; School board; Conservation Commission; Scout Leader; School Presentations; etc. Examples of professional service: Forest Industry Associations-Committees; Special Vermont Forestry Committees/Task Groups, etc.

Note -- There are many workshops offered in Vermont and surrounding states that will meet continuing education requirements. However, it is always a good idea to check with the workshop instructors and with the *LEAP* Coordinator to see if a workshop is *LEAP*- accredited.

Category IV

Mechanized and Non-mechanized Logging Safety

Eight hours annually of a LEAP sponsored, or other accredited logging safety training, that is focused on mechanized, non-mechanized safety, logger rescue or other training.

Policies Regarding the Administration of LEAP

The administrative functions of LEAP require that committee members review practices and procedures associated with this program periodically. The LEAP committee is responsible for administering this program in a manner that is consistent and fair to all LEAP enrollees. In order to meet that responsibility, certain policies have been developed that will provide operational guidelines in the administration of this program. These policies will be revised as needed and new policies may be adopted to keep pace with issues and circumstances as they arise. Following is a list of those policies as adopted by the LEAP Committee. These policies become effective immediately upon adoption by the LEAP Committee.

Reciprocity

Approved and Adopted by the LEAP Committee in January 2002

Loggers coming into the LEAP program will receive credit for comparable courses taken from other logger education programs on a case-by-case basis. Registration fees will be applicable.

Mailing Lists of LEAP Loggers

Approved and Adopted by the LEAP Committee on March 10, 2004

Requests for the LEAP logger's mailing list will be considered on a case-by-case basis. The mailing list will not be supplied under any circumstances for solicitation purposes. Mailing labels may be supplied to logger education organizations for one-time use with a fee to cover administrative expenses for the purpose of notification of upcoming logger education workshops and events.

Lapsed Logger Certification Policy

Revised and Adopted by the LEAP Committee on December 14, 2006

A logger who allows their certification to expire and wishes to become current again has a one year grace period without monetary penalty. During the grace period a logger must make up all credits needed to attain or maintain full LEAP certification requirements as outlined in the LEAP Curriculum Guide. If certification expiration is over a year old a logger must pay the current registration fee for re-enrollment into the LEAP Program and complete both the primary and secondary LEAP curriculum requirements within the timeline as stated in the LEAP Curriculum Guide.

LEAP Coordinator – David Birdsall
41 Northrup Road
Middletown Spring, VT 05757
(802) 235-2908