"PROJECT PURPLE" GUIDELINES FOR PURPLE LOOSESTRIFE CONTROL

Purple loosestrife is a hardy perennial that can easily spread if improper control methods are used. Following these simple guidelines will ensure your efforts are effective. Controlling the spread of purple loosestrife is crucial to protecting our wetlands!

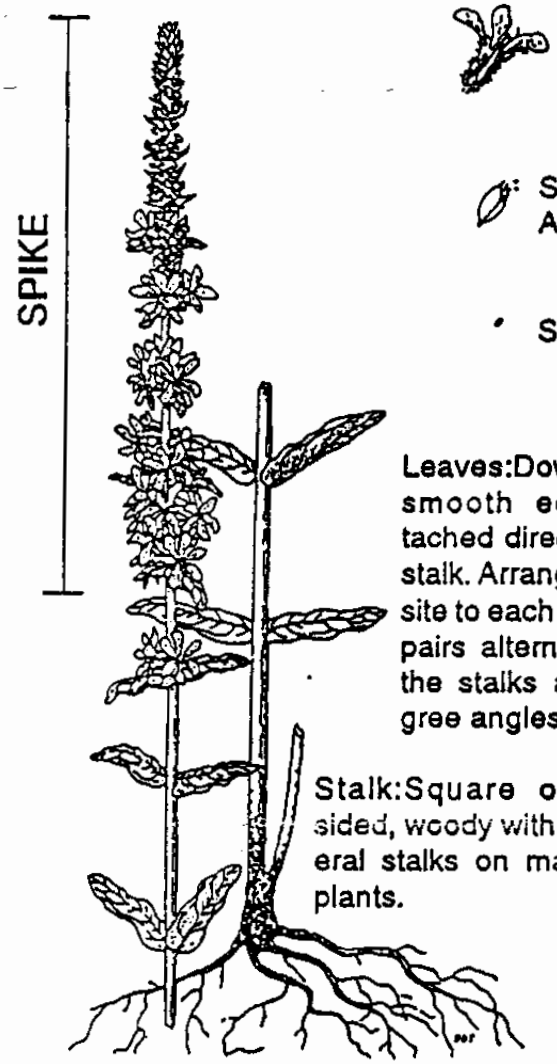
IDENTIFYING PURPLE LOOSESTRIFE

Purple loosestrife flowers can be seen between late June and September. The plant is easily identified by its bright fushia flowery spikes at the tops of the stems.

FLOWER:Five or six, long pink/purple petals with many flowers along its spike.

SEED CAPSULE:Plants begin to go to seed in August after the flower petals start dropping off.

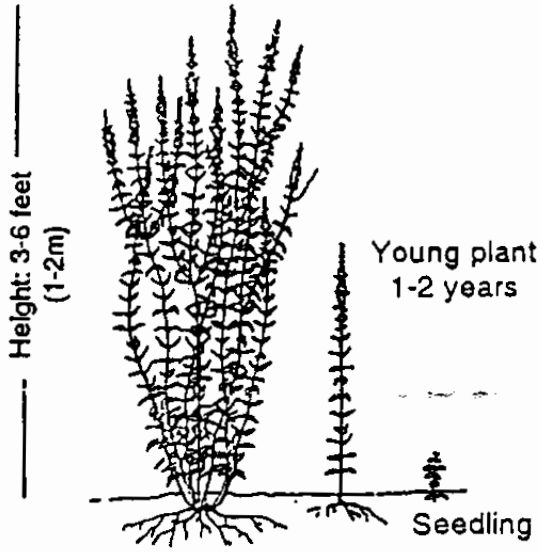
SEED:2.7 million produced annually per plant.



Leaves:Downy, with smooth edges attached directly to the stalk. Arranged opposite to each other and pairs alternate down the stalks at 90 degree angles.

Stalk:Square or 6-sided, woody with several stalks on mature plants.

Perennial rootstock



Illustrations from Thompson et al. (1987) as cited in the Ontario Federation of Anglers and Hunters' "A Universal Manual for Purple Loosestrife Control," by Cathy Keddy, consulting ecologist.

HOW TO CONTROL PURPLE LOOSESTRIFE

First, assess the situation and then use the following table to help decide which control option to use. Remember, these are guidelines only, and you are the best judge of what you or your group are capable of doing.

Estimate the size of the infested area:

- ☐ Isolated plants
- ☐ **Small area:** less than one acre (0.1 - 0.5 hectares)
- ☐ **Medium area:** up to 4 acres (0.5 - 2 hectares)
- ☐ **Large area:** more than 4 acres (more than 2 hectares)

Estimate the density of the infested area. How much purple loosestrife is there? Use either the number of plants or the percentage of the area that is infected.

- ☐ **Low density:** 1 to 50 plants (1-25% of the area)
- ☐ **Medium density:** 50 to 1000 (25-75% of the area)
- ☐ **High density:** more than 1000 (75-100% of the area)

Use the following chart to help decide how to tackle your "Project Purple."

SIZE OF INFESTED AREA

DENSITY OF INFESTED AREA

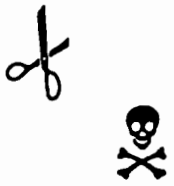
	Isolated Plants	Small	Medium	Large
Low Density				
Medium Density				
High Density				

CHART SYMBOLS

HAND PULLING

Pulling purple loosestrife (*Lythrum salicaria*) out by hand is easiest when the plant is young (up to 2 years old). More mature plants have larger roots and can be eased out with a garden fork. Take your time and get all of the roots because broken roots may sprout new plants.

NOTE: Using a shovel to remove plants is not recommended. Digging causes greater site disturbance and tends to cut off the roots.

CUTTING

Removing the flowering spikes will prevent this year's seeds from producing more plants next year. This is very effective because a mature plant can produce up to 2.7 millions seeds annually! Also, remove last year's dry seed heads, in case there are any seeds left in them. Finally, cut off the stems at the ground to inhibit growth.

NOTE: The very best time to control purple loosestrife is in June and July before it goes to seed. Once flower petals start to drop off (usually in late summer), the plant begins to produce seed. Control activities can continue during this time but require greater care so seeds are not shaken from the plant. Remove all of the flowering spikes first by bending the spikes over a plastic bag and cutting them off into the bag. Further cutting of stems or pulling can now be done without fear of spreading the tiny seeds.

CHEMICAL CONTROL

No herbicide has been approved for use near water. If an infestation is in a dry upland area, and on *your own property*, an approved herbicide can be applied using a wick applicator to individual plants. Broadcast spraying is *not* effective as it kills all of the broad-leaved plants. This will leave the area open to invasion from other nearby sources of purple loosestrife and give an opportunity for existing seeds in the soil to sprout.

BIOLOGICAL CONTROL

In some areas, purple loosestrife is so dense that manual contol efforts are ineffective. Focus your control efforts on all possible escape routes for the plants' seeds, such as ditches or streams leading out of the infested area. Also search for nearby areas with small, more controllable, infestations.
European insect predators of purple loosestrife are presently being released on a trial basis in North America. These insects have been carefully screened to ensure they feed only on purple loosestrife. This long term control solution may take up to 10 years to become fully effective. Biocontrol will not eradicate purple loosestrife but it will help to reduce density. Mechanical control will continue to play an important role in lessening the threat of purple loosestrife to our natural environment.

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THINGS TO KEEP IN MIND

- Purple loosestrife (*Lythrum salicaria*) is available for sale. **DO NOT BUY IT!** Even "sterile" hybrids such as Morden Pink can cross-pollinate with wild purple loosestrife to produce seeds. Purple loosestrife seeds are present in some wildflower seed mixes; check the label before you buy seed packages!

- Purple loosestrife should be disposed by:
  1)putting all plant pieces in plastic bags (vegetation rots quickly in plastic) and take the bags to a sanitary landfill site. If the landfill site in your area requires bags to be broken open, use option 2.
  2)drying the plant parts in a sheltered area (a sand/gravel pit is ideal) and then burning them.

- Composting is <u>not</u> advised, as purple loosestrife seeds may not be destroyed and the thick woody root will take a long time to decompose.

- Be aware that your clothes and equipment may transport the small seeds to new areas. Stand in a garbage bag and brush off your clothes and equipment before leaving the site. Wash muddy equipment thoroughly in a bucket and pour out water in a gravelled area where seeds are not likely to germinate or sprout.

- Wetlands provide habitat for many native song birds, waterfowl, mammals amphibians, and fish which depend on wetland vegetation. Wetlands are also home to many rare and delicate plants. Take care not to trample or damage native vegetation when controlling purple loosestrife.

For more information on purple loosestrife, please call the O.F.A.H. at (705) 748-6324 or write to P.O. Box 2800, Peterborough,Ontario, K9J 8L5.

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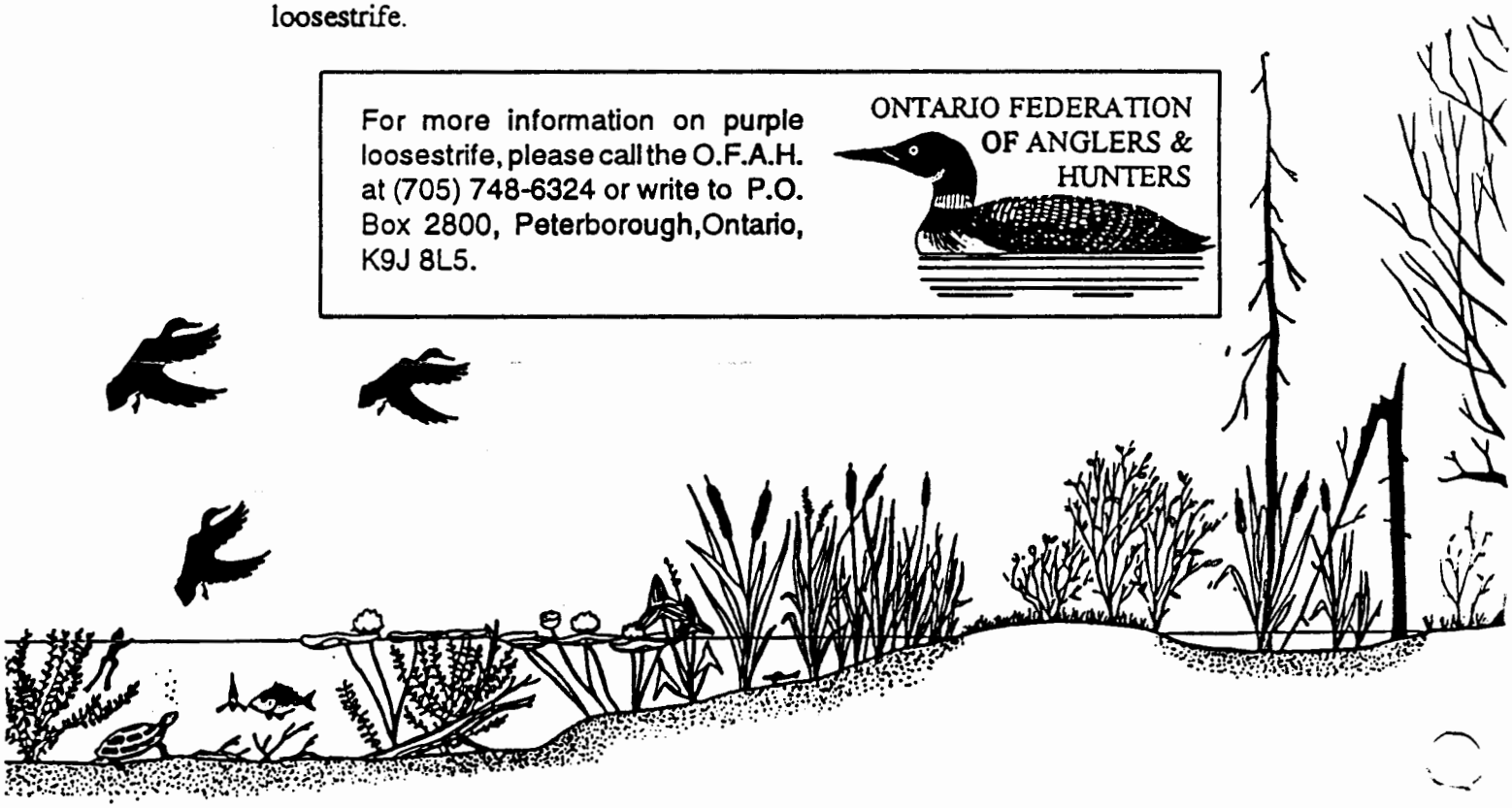

THE INVADER

Purple loosestrife invades wetlands and gradually takes them over. The weed ultimately chokes out all native vegetation, creating a dense purple landscape almost totally devoid of wildlife. Purple loosestrife came from Europe over a century ago. Its unrelenting spread across North America was aided by the absence of native predators.

In Canada, there are no herbicides registered for use against purple loosestrife growing in or close to water. Biological controls have only recently been approved and it may be some time before there are adequate supplies of these insects for widespread use. Large scale wetland infestations are best left until environmentally safe control methods are readily available. Location and size of all sites should be documented NOW with the Purple Loosestrife Report Form so they can be dealt with swiftly once control methods are in place.

Many concerned individuals and groups want immediate action. They want to do whatever they can TODAY to stop the spread of purple loosestrife into more wetland areas. Their actions are being focused on small stands of the weed in parks, natural settings and at home.

REMOVAL

The entire plant must be removed to minimize the chance for regrowth. Dig out the root mass, making sure you have removed ALL pieces. The roots extend 30 cm (1 foot) or deeper into the soil. Grass or alternative flora may be planted or the area can be allowed to return to native vegetation.

Place ALL plant matter in a carton or a protected site so it can dry completely without danger of being spread by wind, water, human or animal activity.

Once totally dried, the plant matter can be burned, packaged for disposal or composted. When burning, make sure all plant matter is destroyed. When packaging, wrap securely in a plastic bag or container to avoid contamination at land fill sites. When composting, make sure all matter is totally dried first so living material isn't spread to other garden or landscaping sites.

Purple loosestrife will re-root from the tiniest piece of root, stalk, leaf, flower, seedhead or even bits dropped from the wheelbarrow. Also, dormant seeds may germinate because of soil disturbance during removal activity! For these reasons, it's important to work carefully and keep site disturbance to an absolute minimum.

All work should be completed by mid-summer BEFORE the flowers begin to go to seed. Seed formation starts at the bottom of the flower and progresses to the tip. Before taking action, check to see that no ripe seeds are present. If there are and there is a chance of spreading the seed, put the project on hold until next year.

Monitor the site for several years. New shoots may come up from root remnants. This new growth should be dealt with quickly.

FLOWER REMOVAL

A single plant is capable of producing 2.7 million seeds per year. Each seed can lay dormant for ten years or longer before germinating. Where plant digging isn't feasible, flower head removal helps retard the spread of the seed. Simply cut the head in mid-summer BEFORE the flower sets seed. Remove and destroy the flowering head as outlined in REMOVAL.

OTHER CONTROLS

In plain and simple terms, purple loosestrife is one tough plant. It is a deep-rooted perennial that spreads like wildfire. No magical solution is immediately available, but some practical ones are on the horizon. A variety of techniques and tools will be needed to bring this exotic plant under control. Bio-controls and herbicides are two options which hold real promise. But the bottom line is that any control method must be environmentally acceptable.

A number of herbicides have proven effective in dry land control of loosestrife, but are still un-registered for that use. Registration procedures for these applications are underway. Initial research on herbicides now being tested in aquatic situations suggest an effective control is possible there too. However, this research is in the formative stage and it will be some time before an aquatic herbicide is registered.

While herbicides are used to "eradicate" weeds, biological agents are used to "control" them. They reduce weed densities to the degree that their impact on other species is minimized. Biological control is the most efficient and economical long term means of dealing with large infestations. Work is progressing with a number of European insects which have historically kept this plant under control on that continent. Three of these insects were recently approved for release in Canada.

Quick and effective use of biological and chemical control measures will only be possible in those areas where there is good documentation of infested sites. That's why it's important that every site be documented with a Purple Loosestrife Report Form sent to the Canadian Wildlife Federation. Sites can also be reported by calling 1-800-565-6305.

PURPLE LOOSESTRIFE

FEATURES

Height - 3 to 6 feet (1-2 meters)

Stalk - square, woody, several stalks per plant

Leaves- smooth edges, opposite sides of stalk, attached directly to stalk

Flowers-long pink/ purple spike, June to Sept.

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ALTERNATE PLANTINGS

For years, it was felt that commercially available hybrid cultivars (Morden Pink, Morden Rose, Morden Gleam and Dropmore Purple) were sterile and thus unable to produce viable seed. However, recent research shows some of these domestic varieties can, in fact, cross-pollinate with wild strains and thus cause further spread. If you have purple loosestrife on your property and wish to replace it with an alternate plant, follow the steps outlined in this brochure.

The Canadian Nursery Trades Association and local outlets have been quick to respond to the purple loosestrife challenge. Landscapers and home gardeners are now offered a wide variety of alternate perennial plants which pose no threat to the environment. The following is just a small sampling of what's available. See your local nursery or garden centre for details on purple loosestrife replacements.

SPIKED SPEEDWELL

This mid-summer flowering perennial has blue, spike-shaped blossoms and grows to a height of a foot and a half. It does well in full sun, but also tolerates partial shade.

LILIES

There are a wide variety of lilies with a vast range of colors. Different varieties flower from early summer to late fall and may grow as tall as six feet.

SIBERIAN IRIS

This perennial stands two feet tall and flowers through late spring and early summer with white, blue and purple blossoms. It requires a sunny to partly shady site.

SPIKED GAYFEATHER

This five foot tall native of eastern Canada has pink, purple and white blossoms from mid-summer to early fall. It requires full sunlight to partial shade.

GARDEN SAGE

This summer blossoming plant features flowers which are violet to blue. It is drought tolerant, likes full sunlight and grows from a foot and a half up to three feet tall.