

# Jack Pine Cone Campfire

## Learning Outcomes

Participants will gain a further understanding of the role of fire as an agent of renewal and understand the need for wildfire prevention and suppression.

## Summary

Fire as an agent of renewal is demonstrated by heating jack pine cones over a campfire, and leading a discussion of the results.

### Activity Information

**Audience:** family groups, youth, any type of group

**Duration:** 20 min. to an hour

**Group size:** 6 to 40

**Suitable Site:** outdoors, campfire site

**Materials:** a quantity of jack pine cones, long handled tongs or some other device to use to hold them over a fire. If this is not being done as a campfire activity, you will need a camp stove or other heat source

## Background

Jack pine is one of the major boreal species of the Canadian forest, found from Newfoundland to the Rocky Mountains. It can be seen clinging to rocky outcrops or stony slopes but the preferred site is deep sandy soil where uniform stands many hectares in extent are common. This dry environment is also subject to relatively frequent fires.

Jack pine have evolved an ingenious adaptation. Unlike the cones of most species that open to shed seed as soon as they are fully ripened, most of the cones on a jack pine simply remain on the tree full of viable seeds waiting for the right moment. The right moment occurs when temperatures reach the range of 50 degrees Celsius, as in a forest fire.

As the fire passes the cones are opened, seeds fall to the ground and regeneration is accomplished, usually within a couple of weeks, before any other species has a chance to get established. A few cones on most trees open in the fall as they ripen so that an old stand

will have a fringe of younger trees on the edges and in openings, but the bulk of a jack pine stand will be of one age, dating its origin from a fire in the past and prepared to take advantage of the next one.

## Activity

This is an excellent activity for a group campfire. The presenter however, needs to be comfortable with their knowledge of simple forest ecology and the role of fire in those systems.

At a campfire or similar gathering announce that you are going to heat some jack pine cones for everyone to see. Heat one or two cones like you would a marshmallow over the fire, so that the cone is heated evenly all around and is opened as completely as possible. Have a partner role play someone who doesn't know what is happening. Use questions like "What is going on here?" and "What are those little things with wings on that are coming out of the cone?"

Lead the group through questions as far as you can towards an understanding of serotinous cones and their role in forest renewal. You may wish to distribute cones so people can try it on their own, either at this time or at their leisure.

You should complete this part of the discussion by talking about other fire adaptations such as coppicing in white birch, suckering in poplar, or the thick bark of red and white pine.

Once the role of fire as an agent of renewal is firmly established, go on to the question of whether or not we should be doing fire suppression. Again go to a questioning technique with questions like "Should we be putting fire out at all then?" "Should we extinguish only selected fires?" "Which ones?" "What happens if we're not sure?"

## Resources

*Red 7* (video)  
available from the OMNR

*Some Campfire* (video)  
available from the OMNR

*Gone Forest Fire Fighting* (video)  
available from your local library or from the OMNR

