

# ROTTEN LUCK

## The Role of Downed Wood in Ecosystems



The Centre for Applied  
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University of British Columbia



**BRITISH  
COLUMBIA**

Ministry of Forests



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**FRASER RIVER ACTION PLAN**



## Downed wood is created by:

aging, insects, disease, natural disturbances such as high winds, avalanches, landslides, floods, fire and by human activities such as logging.

The natural amount of downed wood in a forest depends on the climate, the site conditions, and the age of the forest.

In general, downed wood is more plentiful in wetter climates and on wetter sites where trees grow more quickly.



*Dry Ponderosa Pine forests have less downed wood than moist Interior Cedar-Hemlock forests.*

There is great variability in natural amounts of downed wood in any ecosystem.



*As forests grow older the volume of downed wood increases. However, disturbances, such as fire, leave large accumulations of downed wood – a biological legacy that becomes a part of the new forest.*

## Downed Wood and Forestry Practices

In the past, foresters viewed downed wood as wasteful debris, a hindrance to planting new trees, a fire hazard, and a shelter for insect and animal pests.

As we understand more about ecosystem processes, however, we are discovering that downed wood is valuable to long-term site productivity and that it provides key habitats for many plants and animals.

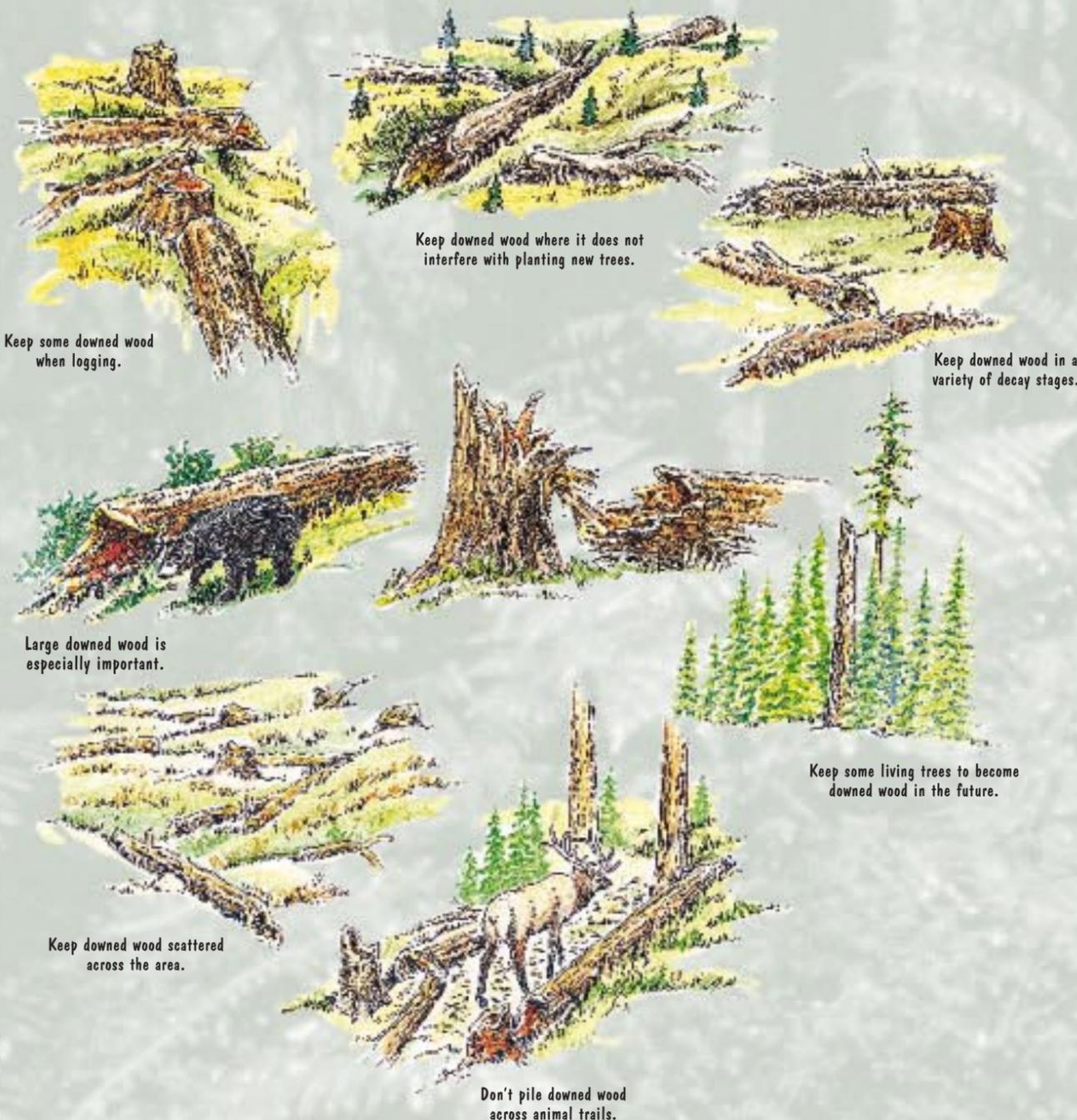
Forestry practices affect both the amount and the distribution of downed wood. For example:

- timber harvesting may temporarily increase downed wood on a site, but it leads to fewer fallen trees in the long-run
- growing cycles in managed forests are usually shorter than in forests left to age naturally; therefore, managing forests can reduce the supply of large, old trees that provide downed wood
- in the long run, thinning stands reduces the amount of large downed wood



*Slash burning or piling of logging slash to prepare planting sites reduces the amount or alters the distribution of downed wood.*

## Considerations for Downed Wood



## In summary...

Fortunately, it is possible to manage forests in a way that will retain downed wood throughout the whole growing cycle of a forest. This kind of management ensures a supply of:

- downed wood of many species, in many stages of decay, and in many sizes
- large logs distributed across the site rather than piled and burned
- live trees and snags of many species, sizes and stages of decay to ensure a supply of downed wood in the future
- large logs in and along the sides of streams and creeks

Decisions about the best species of downed wood to keep and how much of it to retain will vary depending on the kinds and quantities that are typical of each ecosystem. In some areas, fire hazards or concerns about insects may change the recommended levels of downed wood.

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