

**Forest Insect Conditions
Northern Region
2006**

**Ken Gibson
Forest Health Protection
Missoula Field Office**

BARK BEETLES:

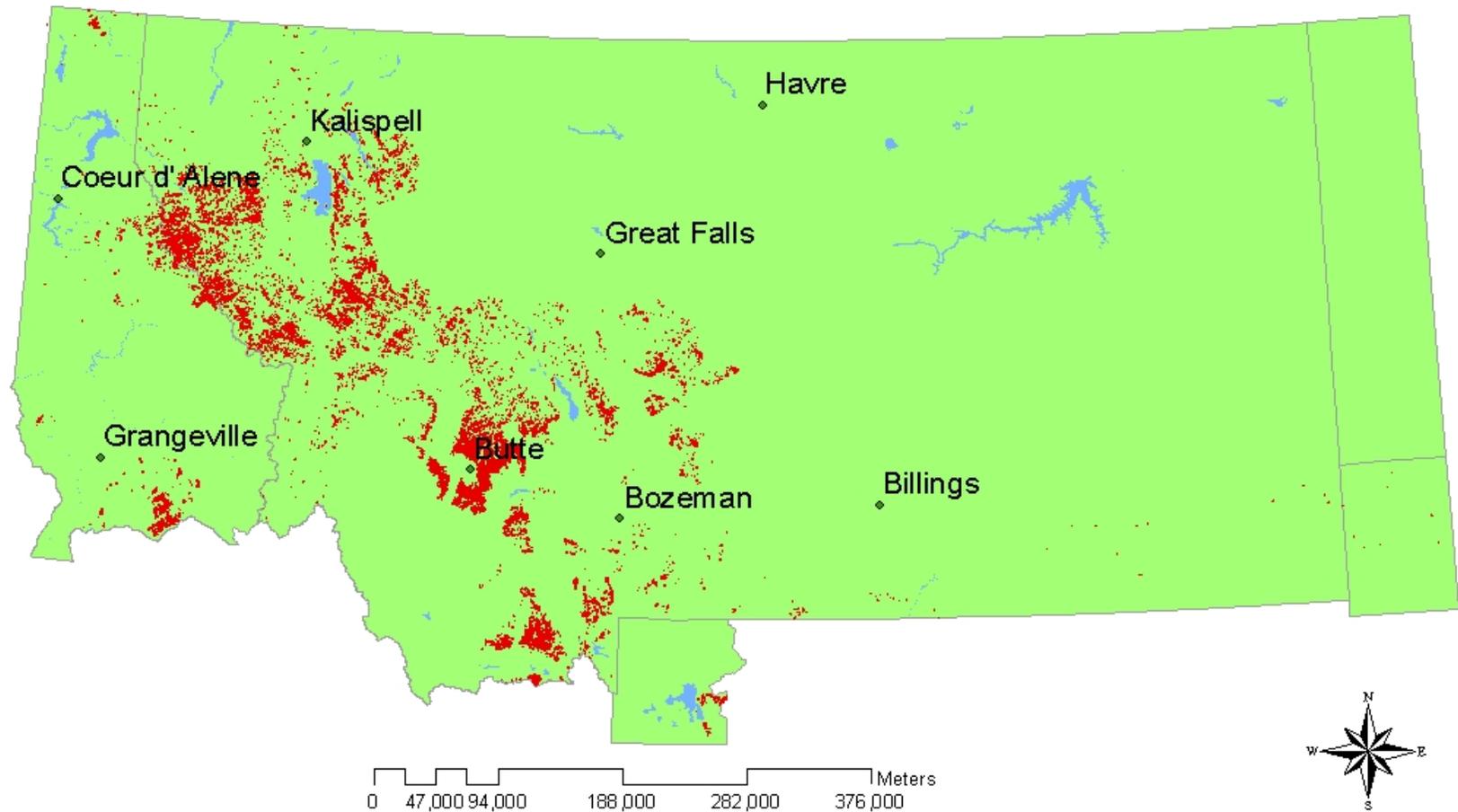




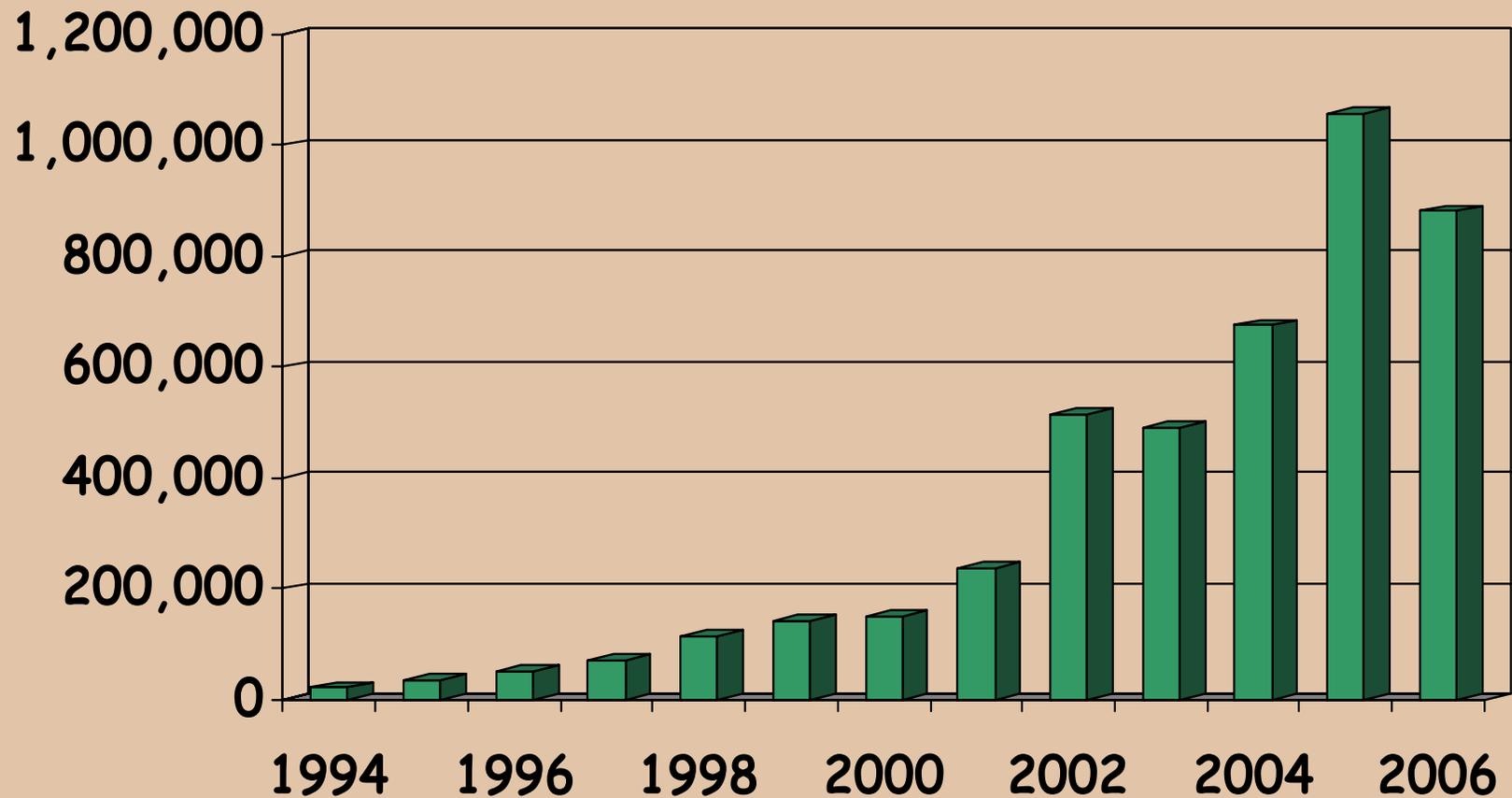
Mountain pine beetle in lodgepole pine



Mountain Pine Beetle in all hosts ADS 2006



Mountain Pine Beetle-Infested Acres Northern Region

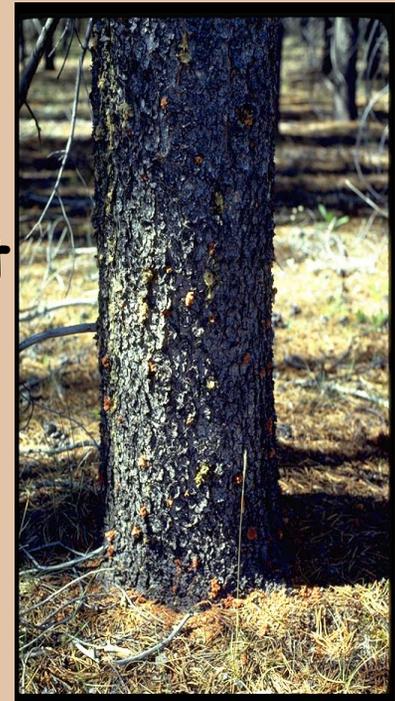


(Not all potentially infested areas were surveyed)

In 2006, in MT we mapped decreasing amounts of beetle-killed lodgepole pine on portions of the Lolo and Flathead NFs, but increasing populations on the Deer-lodge and Gallatin NFs. In northern ID, populations declined on the Nez Perce NF; but much of N. ID was not flown. Ground surveys in 2006 showed still-increasing new attacks in many areas. That trend is likely to continue in 2007.

Populations are still high in whitebark and in ponderosa pine stands throughout the Region.

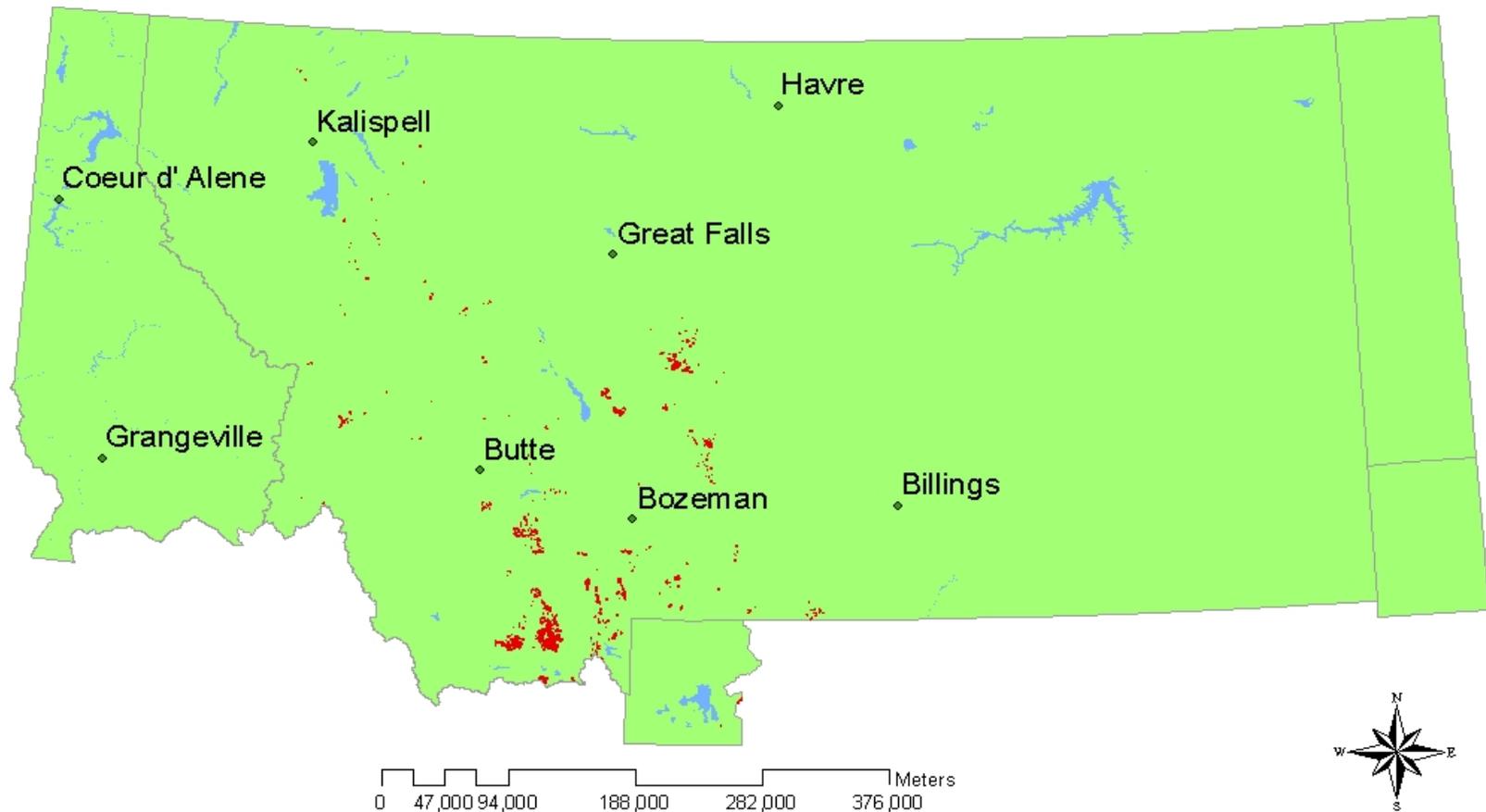
Some areas in which infestations are known to exist were not surveyed in 2006.





MPB-caused mortality in WBP

Mountain Pine Beetle in Whitebark Pine ADS 2006





Identify high-hazard stands; treat silvi-culturally to reduce beetle-caused mortality.

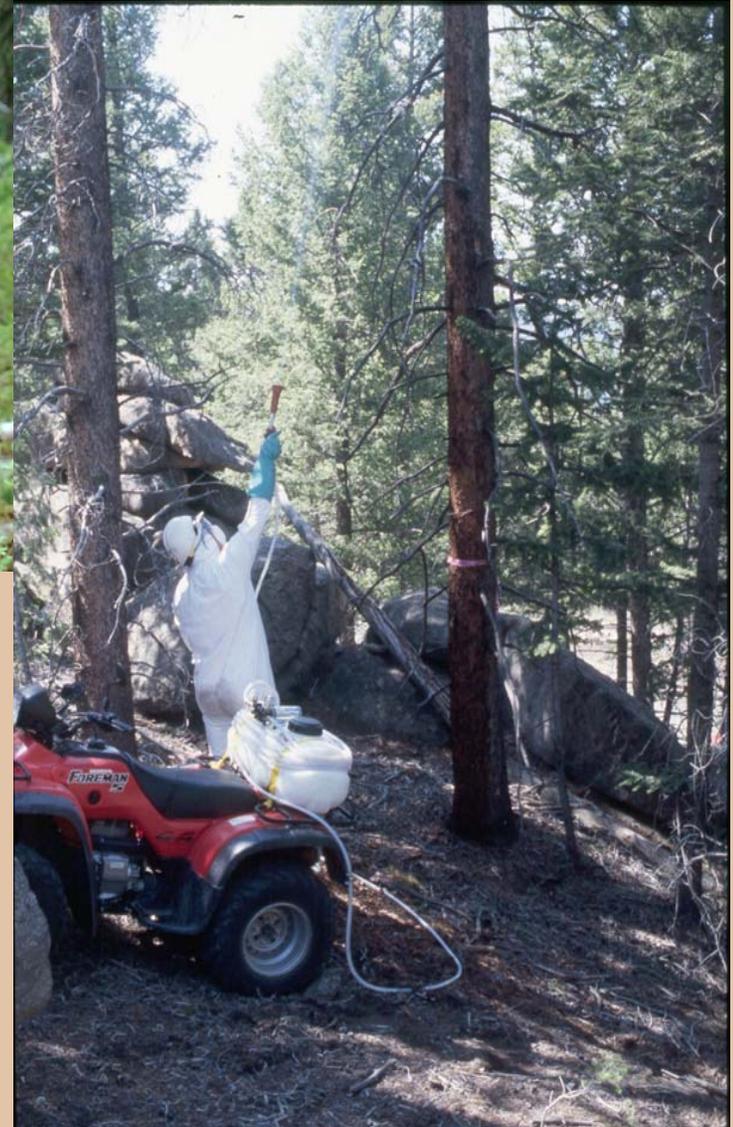


Reduce stand stocking to remove susceptible trees and alter stand conditions to ones beetles tend to avoid.



**Pheromones can be used to
Manipulate beetle populations**

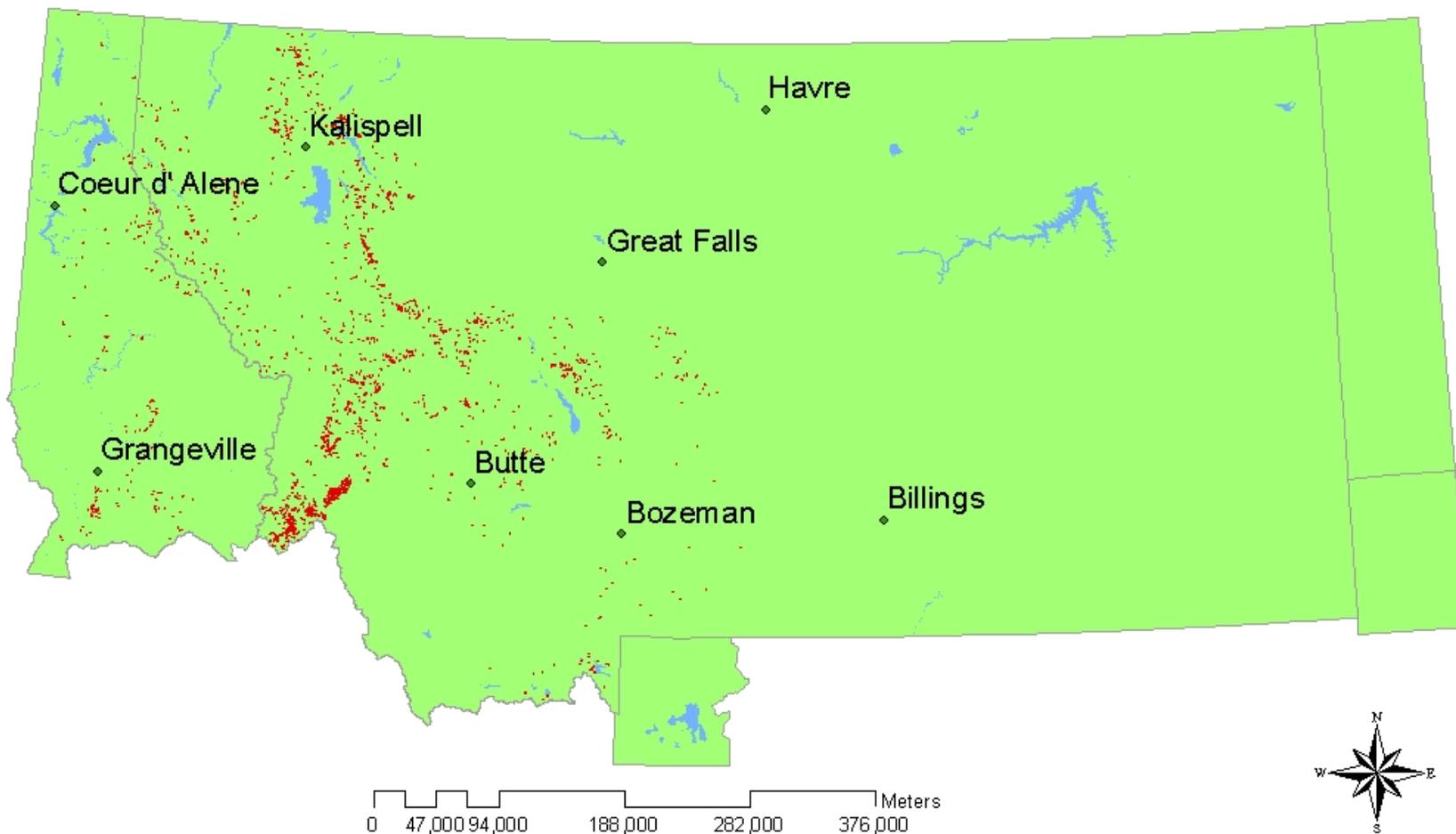
**Preventive treatments can
protect high-value trees.**



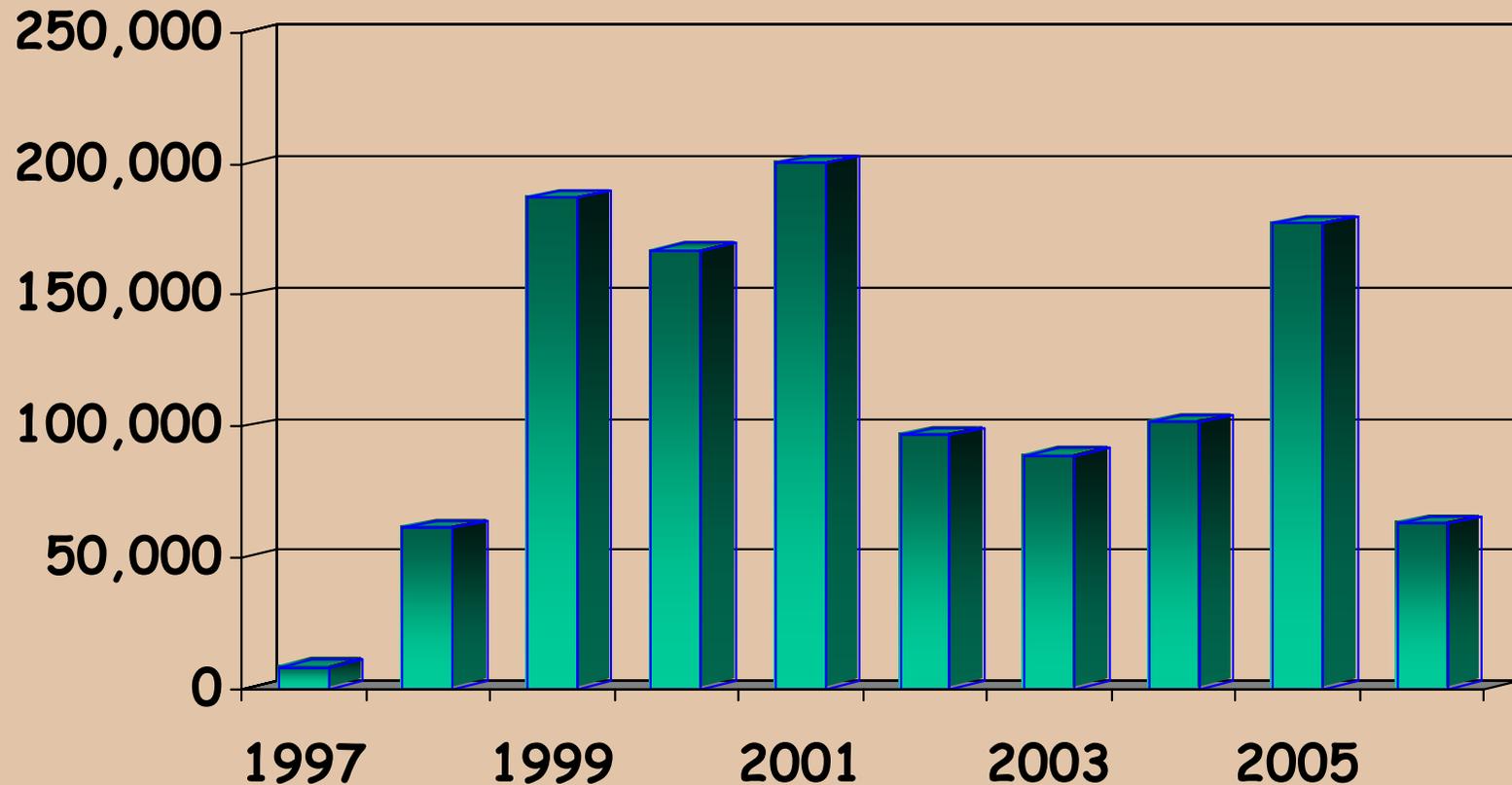


Douglas-fir beetle in Douglas-fir

Douglas Fir Beetle ADS 2006



Douglas-fir Beetle-Infested Acres Northern Region



(Not all potentially infested areas were surveyed)

Douglas-fir beetle populations are generally declining in northern Idaho. Few locations showed increasing numbers of new attacks in last couple of years.

The situation is similar in most of western Montana. Very few sites, where populations have been high—such as Bitter-root and Helena NFs—showed high numbers of new attacks in 2006. In most areas, populations are static or declining. In some surveyed stands, many old, large-diameter Douglas-fir have been killed, but most areas are not experiencing building populations.

In some areas, apparently high populations are the result of difficulty in distinguishing year of attack from the air.





Partial cuts: reduce susceptibility, remove infested trees.



Aggregants



Anti-aggregants

Pine Engraver Beetles:

Pine engraver-infested acres decreased significantly in 2006—from about 12,800 acres in 2005 to less than 1,600 acres in 2006. Most infested acres were recorded in western MT ponderosa pine stands and most beetle-caused mortality is drought related.

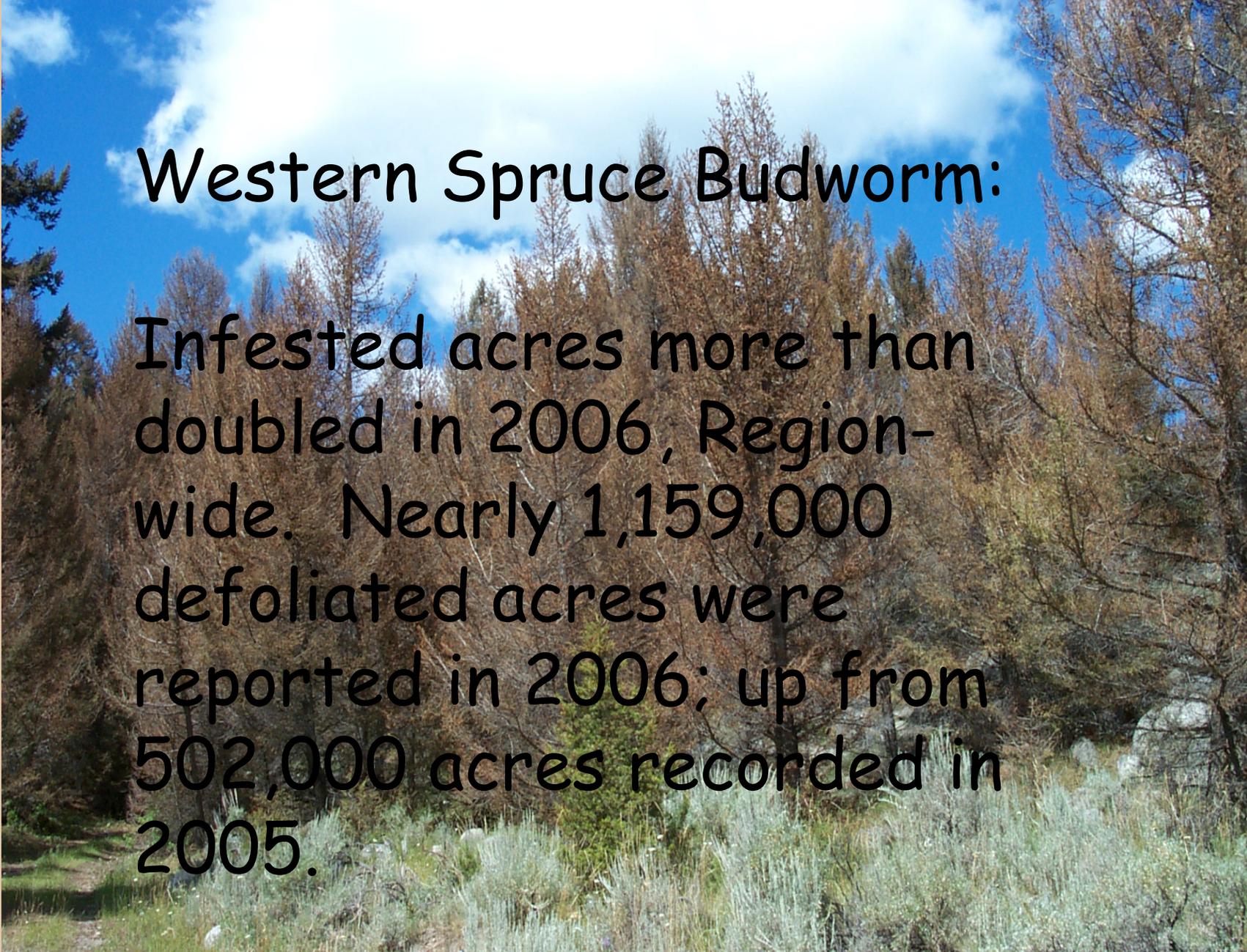




Avoid creating a "good" situation for beetles

DEFOLIATORS:

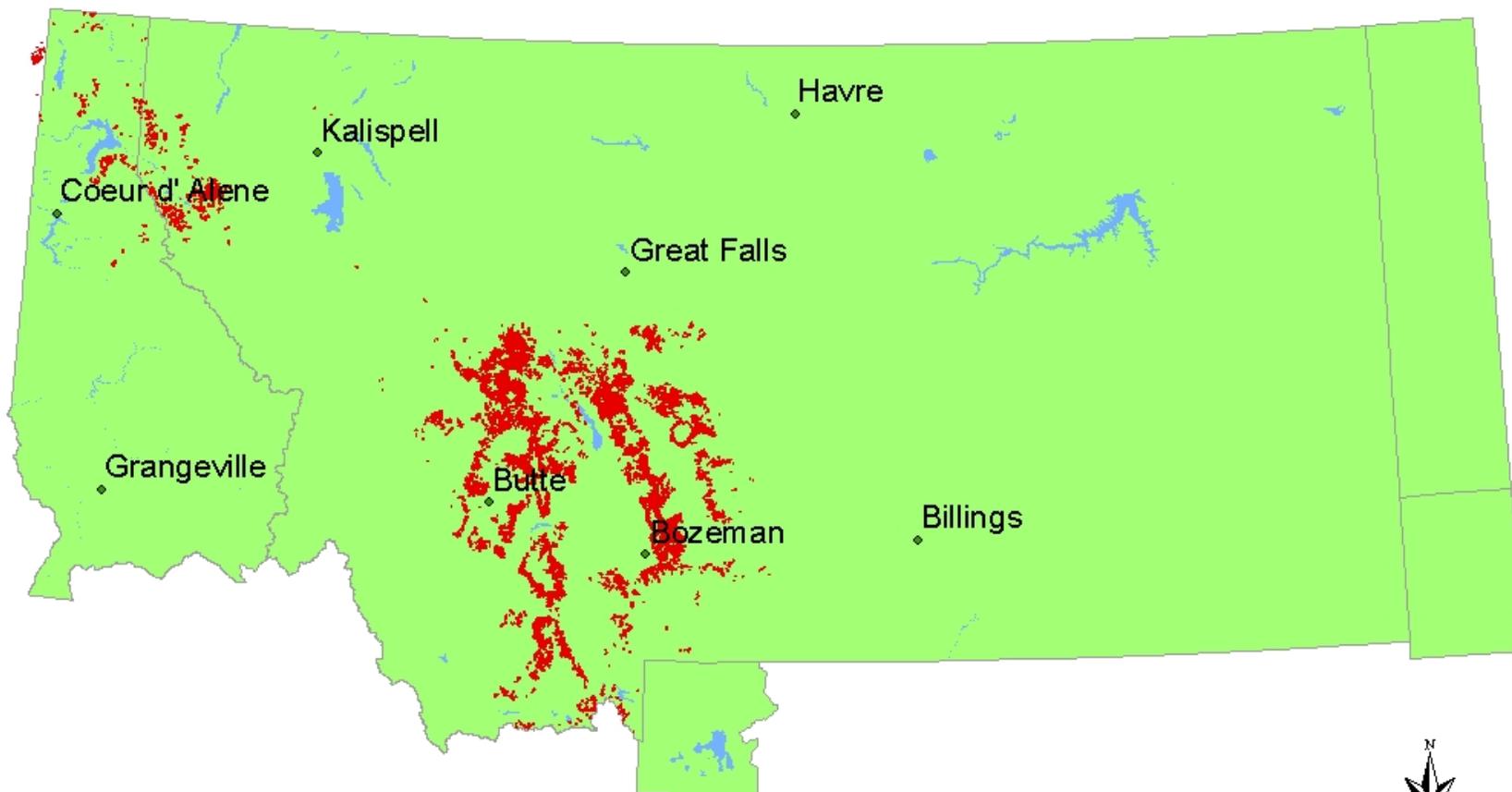




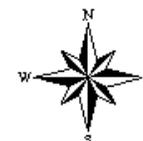
Western Spruce Budworm:

Infested acres more than doubled in 2006, Region-wide. Nearly 1,159,000 defoliated acres were reported in 2006; up from 502,000 acres recorded in 2005.

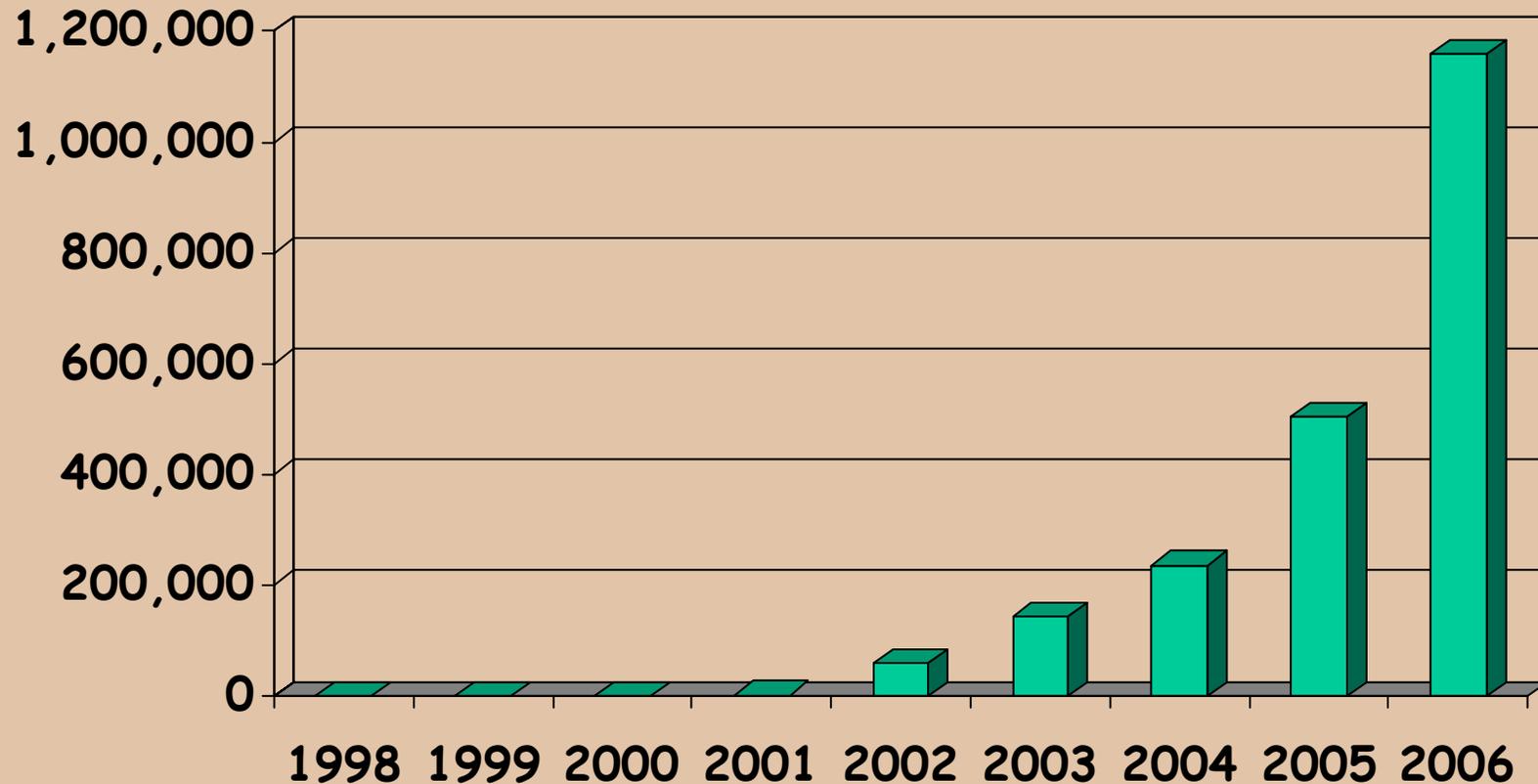
Western Spruce Budworm ADS 2006



0 47,000 94,000 188,000 282,000 376,000 Meters



Western Spruce Budworm-Infested Acres Northern Region



(Not all potentially infested areas were surveyed)

Historically, large-scale aerial applications of insecticides were used to reduce damage.



Insecticidal sprays



Implants



Individual-tree treatments:

