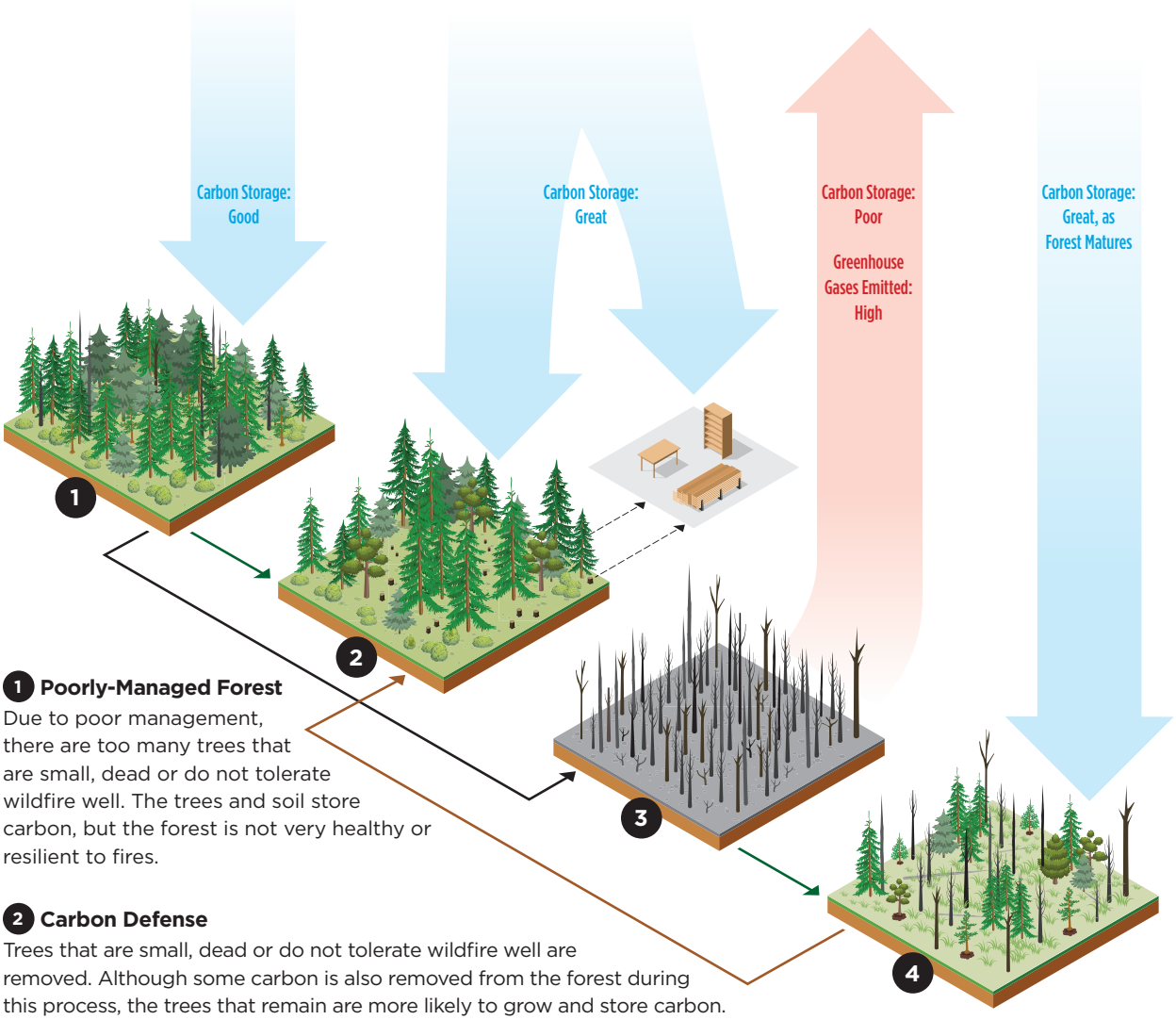
Playing Carbon Defense

AMERICAN FORESTS
- SINCE 1875 -

Trees are gaining momentum as a climate change solution, given the role they play in capturing carbon. This is often done by planting trees, which American Forests refers to as playing "carbon offense." But forests release carbon if they are not cared for and, as a result, degrade. These forests need to be actively managed or restored so they can optimally capture and store carbon, limiting the risk of its release when large and intense wildfires, as well as other events, occur. This is known as playing "carbon defense."



1 Poorly-Managed Forest
Due to poor management, there are too many trees that are small, dead or do not tolerate wildfire well. The trees and soil store carbon, but the forest is not very healthy or resilient to fires.

2 Carbon Defense
Trees that are small, dead or do not tolerate wildfire well are removed. Although some carbon is also removed from the forest during this process, the trees that remain are more likely to grow and store carbon. They, too, are far more resilient to wildfire and other catastrophic events. Bonus: A lot of carbon is also stored in products made out of wood removed from the forest as part of restoration efforts.

3 Burned Forest
Carbon dioxide and other greenhouse gases were emitted from this poorly-managed forest during a wildfire. Few of the remaining trees (dead or alive) can sequester carbon. Natural regrowth of new trees is delayed or never happens. Some of the carbon in dead trees eventually returns to the soil. But some is slowly released into the atmosphere as trees decompose.

4 Restored and Resilient Forest
Recently destroyed in an intense wildfire, this forest is being restored in accordance with climate-smart practices — such as planting a variety of (but not too many) trees that are climate resilient. As the forest matures, a lot of carbon is stored in the trees and soil. Also, the forest can better withstand fire, which can be reintroduced as a management tool.