



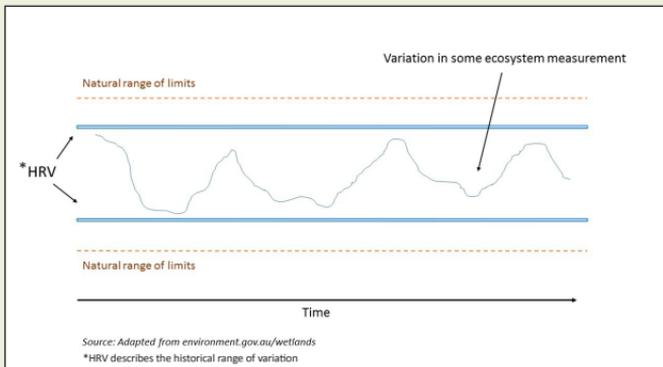
# What is?

## **NATURAL RANGE OF VARIABILITY**

Natural range of variability (NRV) is a description of the conditions of an ecosystem over space and time.

Forests are not static. There is no one specific forest landscape that persists over time. The number and species of trees, the types of plants and animals that live there, even the amount of water available is ebbing and flowing as a result of a host of factors and natural disturbances such as insects, fire, disease, wind, and ice storms. In short, a healthy forest is a dynamic forest.

An understanding of the natural range or conditions in which a forest will remain resilient, dynamic, and productive is helpful for developing forest management activities for the future. Natural range of variability uses history as the benchmark for comparison between the range of ecological conditions prior to human alteration and the desired range of future conditions. For example, tree ring analysis provide an understanding of what percentage of young, middle-aged, and old forest were characteristic on landscapes, based on the potential vegetation for that area. These analyses also provide insight on how often and severe disturbances (typically fire) occurred. Understanding the dynamics of how forests changed historically over space and time provides the basis for the natural range of variability.



# FIRE FACTS

So, how does the natural range of variability influence the way in which a forest is managed? Natural range of variability provides an understanding of how the current state of the forest varies from what would have existed historically. Depending on the desired future condition and what the current state of the forest is, management activities that promote resiliency and productivity are implemented. The natural range of variability of a landscape is also considered to ensure that societal needs align with the ecological capacity of a forest in an ever changing environment.

**For more information:**

Golladay, S.W., K.L. Martin, J.M. Vose, D.N. Wear, A.P. Covich, R.J. Hobbs, K.D. Klepzig, G.E. Likens, R.J. Naiman, A.W. Shearer. 2016. Achievable future conditions as a framework for guiding forest conservation management. *Forest Ecology and Management*. 360:80-96.

Keane, R.E., P.F. Hessburg, P.B. Landres, and F.J. Swanson. 2009. The use of historical range and variability (HRV) in landscape management. *Forest Ecology and Management*. 258:1025-1037.

**Visit us at:**

**twitter** / @nwfirescience | **facebook** / Northwest Fire Science Consortium

**email** / nw.fireconsortium@oregonstate.edu | **online** / [www.nwfirescience.org](http://www.nwfirescience.org)



Oregon State  
University



Sustainable  
Northwest



UNIVERSITY  
OF OREGON



Ecosystem  
Workforce Program



Oregon State University  
Extension Service



The Nature  
Conservancy

Protecting nature. Preserving life.™



Center for Natural  
Lands Management

