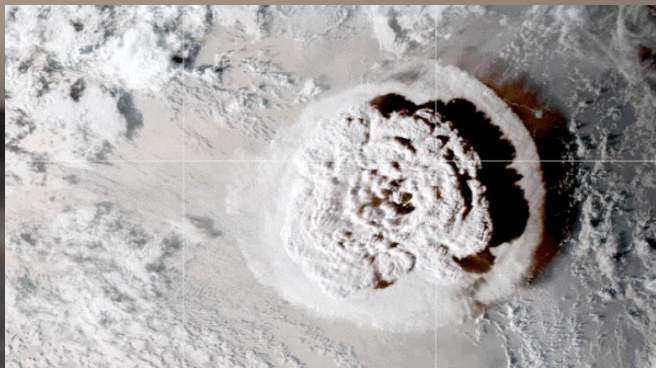


Krakatoa Eruption of August 1883 - Effects on Climate Worldwide

- Geologically this eruption was comparatively small.
- Lasting effect on the world's climate: ash and aerosols emitted into the atmosphere by the blast led to global air temperatures of 2.2 degrees Fahrenheit (Volcanic Winter).
- It was only 5 years later in 1888 that global temperatures began to return to normality.
- Five years following the explosion were unusually cold, and the winter of 1887-1888 included powerful blizzards. Record snowfalls were recorded worldwide.
- A year of Blue Moons - Stratospheric particles block portion of red light making the moon appear blue for a year.
- Caused oceans to cool for as much as a century.
- Sea levels would likely be much higher than they are today if the eruption had not occurred.



Writing from England, poet Gerard Manley Hopkins described skies of a green, blue, gold and purple, "... more like inflamed flesh than the lucid reds of ordinary sunsets ... the glow is intense; that is what strikes everyone, it has prolonged the daylight, and optically changed the season, it bathes the whole sky, and it is mistaken for the reflection of a great fire."



MSP in the 21ST Century

CLFA 2023 ANNUAL CONFERENCE



14 CCR Section 913.11, 933.11, 953.11 Maximum Sustained Production of High Quality Timber Products

MSP is to be achieved by:

Producing a yield of timber products **specified by the landowner**, taking into account biologic and economic factors, while accounting for limits on productivity due to constraints imposed from consideration of other forest values, including but not limited to,

- recreation,
- watershed,
- wildlife,
- range and forage,
- fisheries,
- regional economic vitality,
- employment, and
- aesthetic enjoyment.

Vision of MSP and Forest Product Outputs (What's Your Vision?)

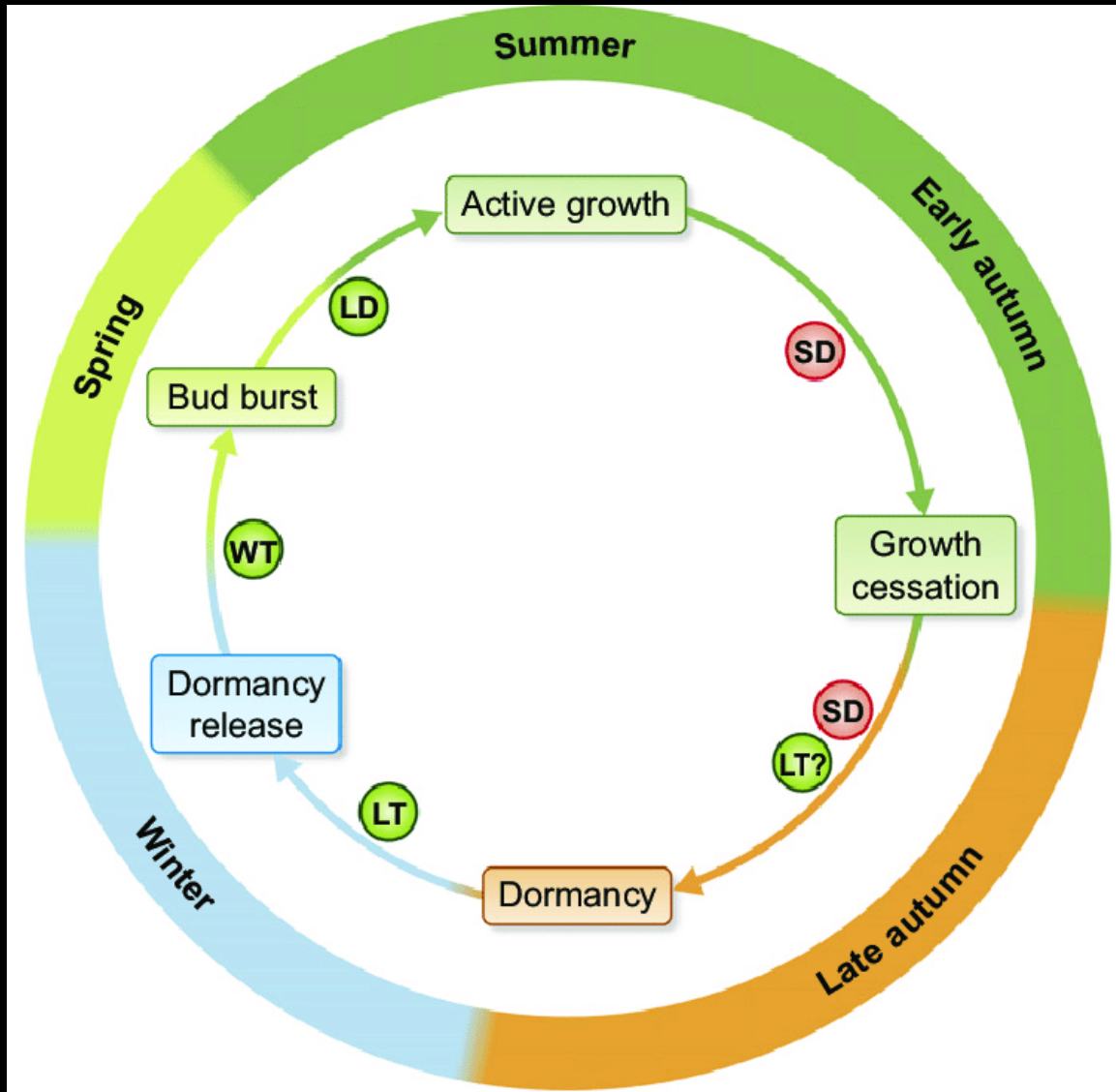
- Financial MSP (Traditional Thinking)
- Biological MSP (Maximizing Production/Site Optimization)
- Ecological MSP (What Mother Nature Wants to See)

I am often trying to fit my timber management projects into one of these categories.

Financial MSP (Traditional Thinking)



Biological MSP (Maximizing Production/Site Optimization)



Recall Your Plant and Tree Physiology?

- Annual Growth Cycle
- Annual Growth Rhythms

Adaptions in site resource utilization.
With high species diversity, biomass and/or biological outputs can potentially be increased as a result of reduced overlap periods in the draw on site resources.

Biological MSP (Maximizing Production/Site Optimization)



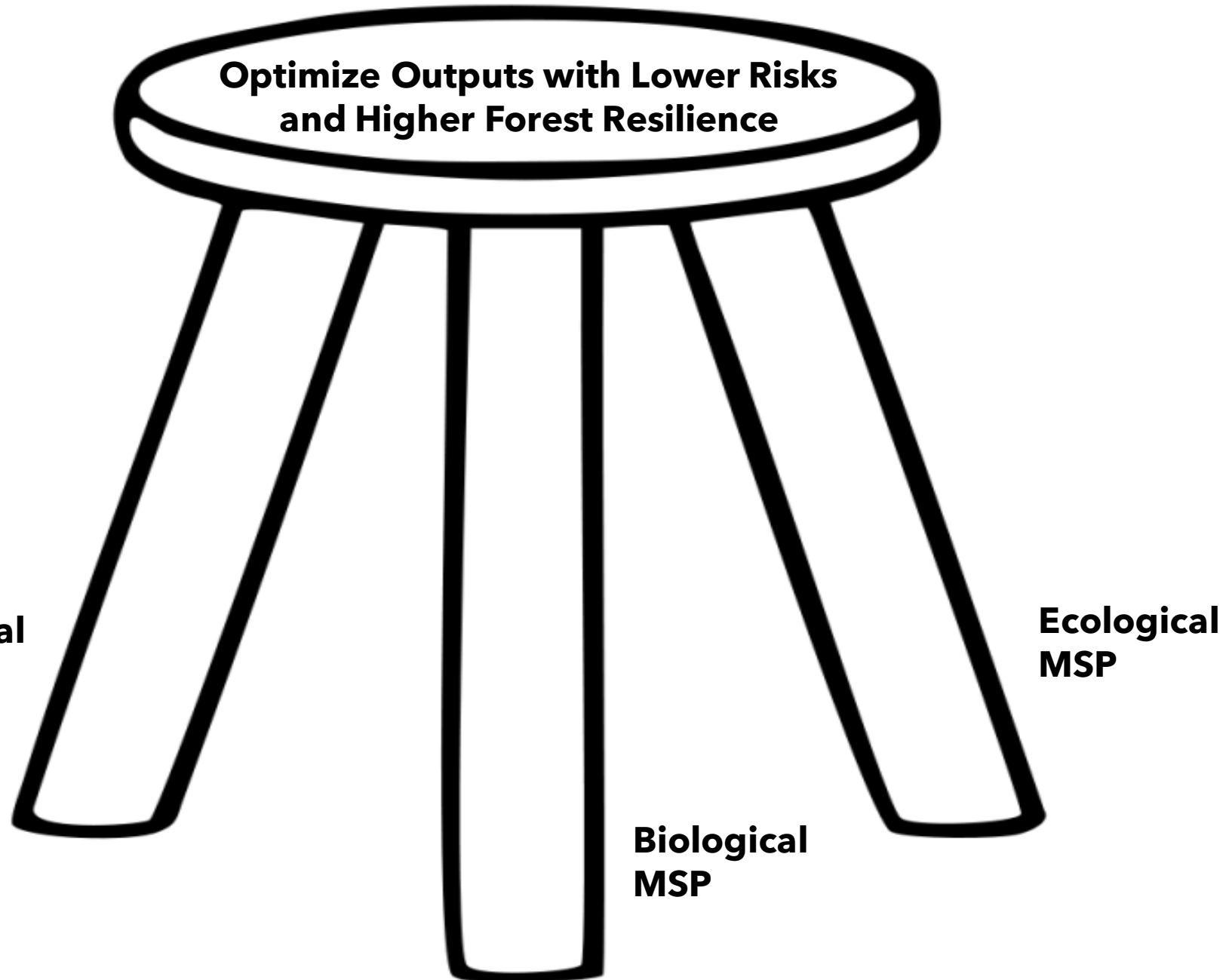
Risks



Ecological MSP (What Mother Nature Wants to See)



**More
Balanced
Approach?**



**Hampton Lumber
Highway 18 in Willamina, OR**



