Interactions between forest structure and host community during 50 years of Heterobasidion root disease

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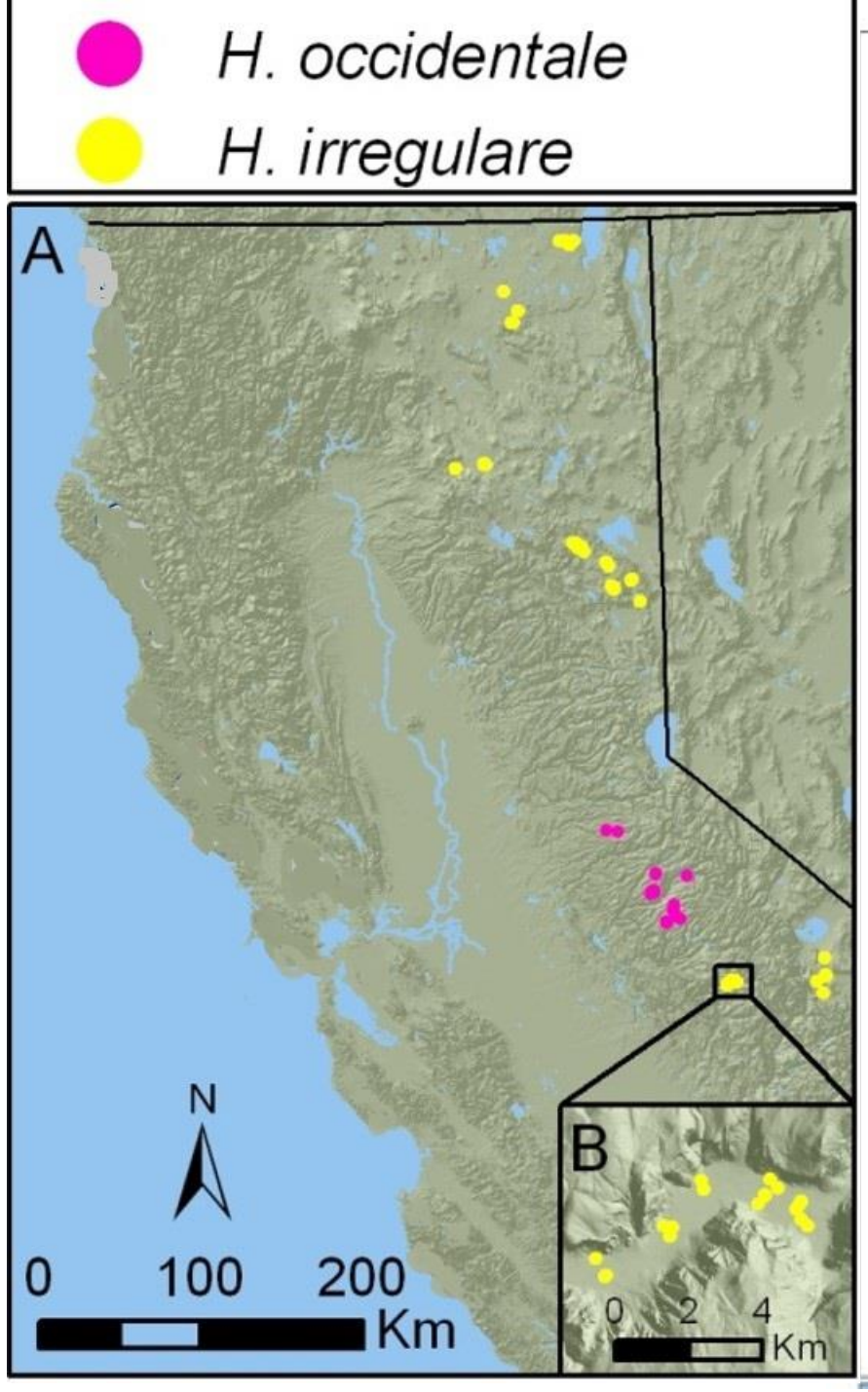
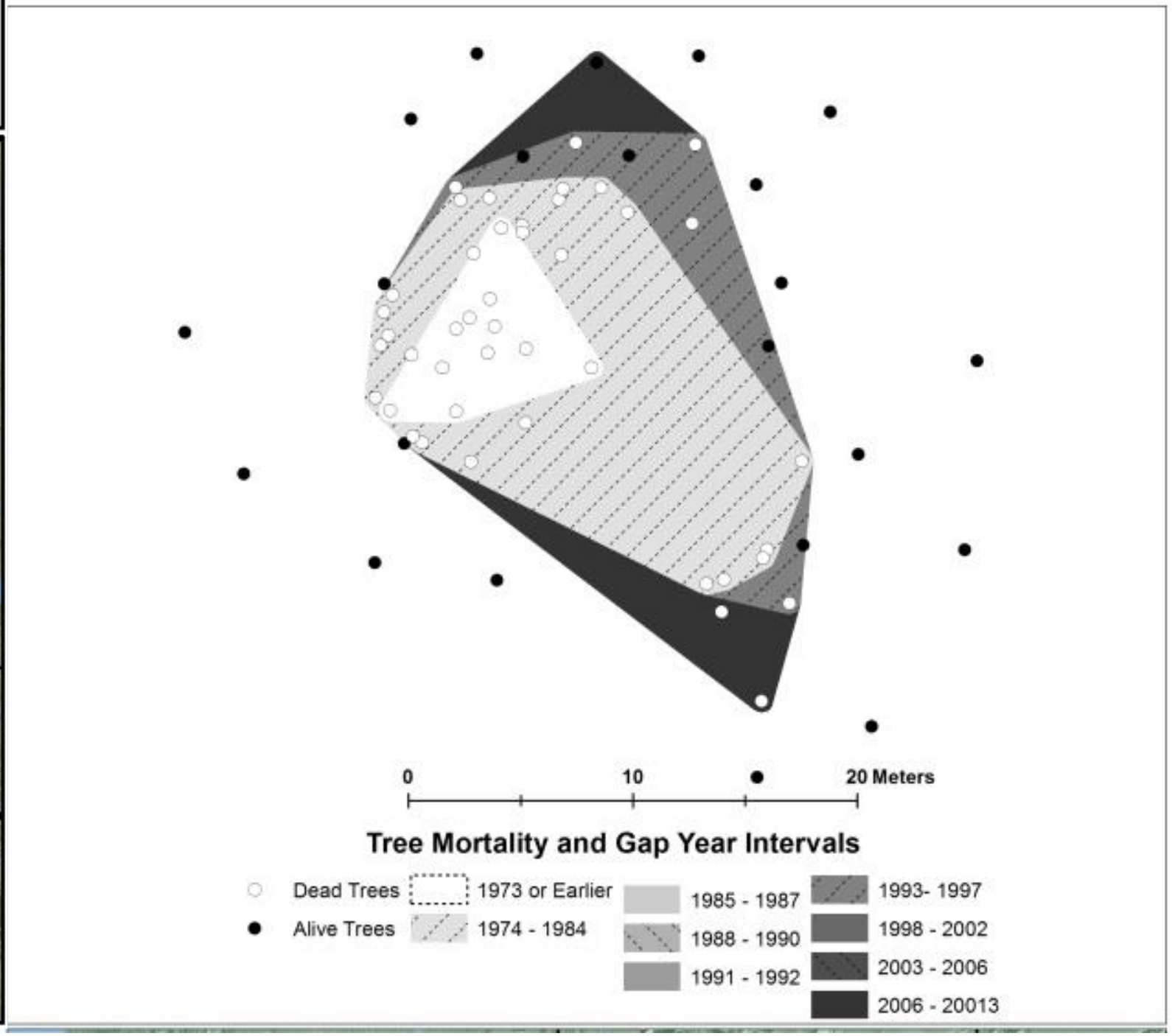
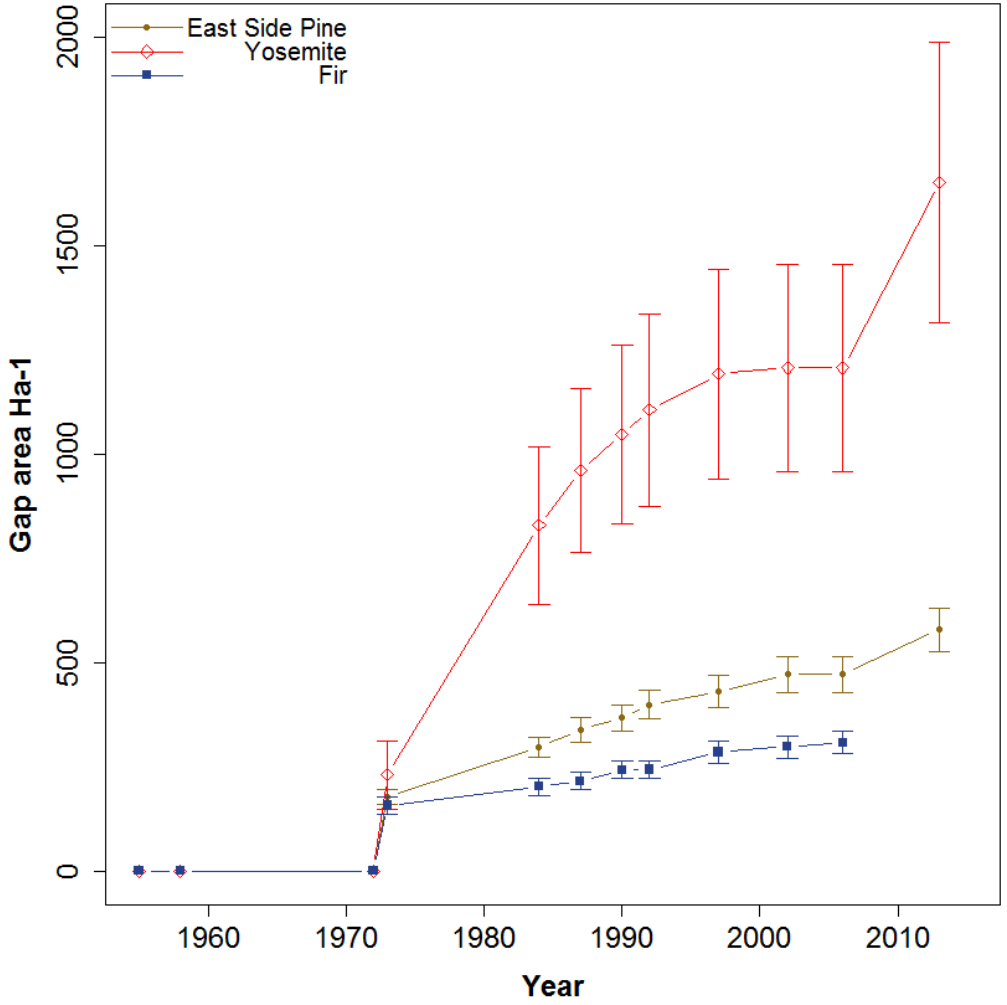
with Adrian Poloni, Chris Lee, Matteo Garbelotto

And Susan Frankel, David Rizzo, Gary Slaughter

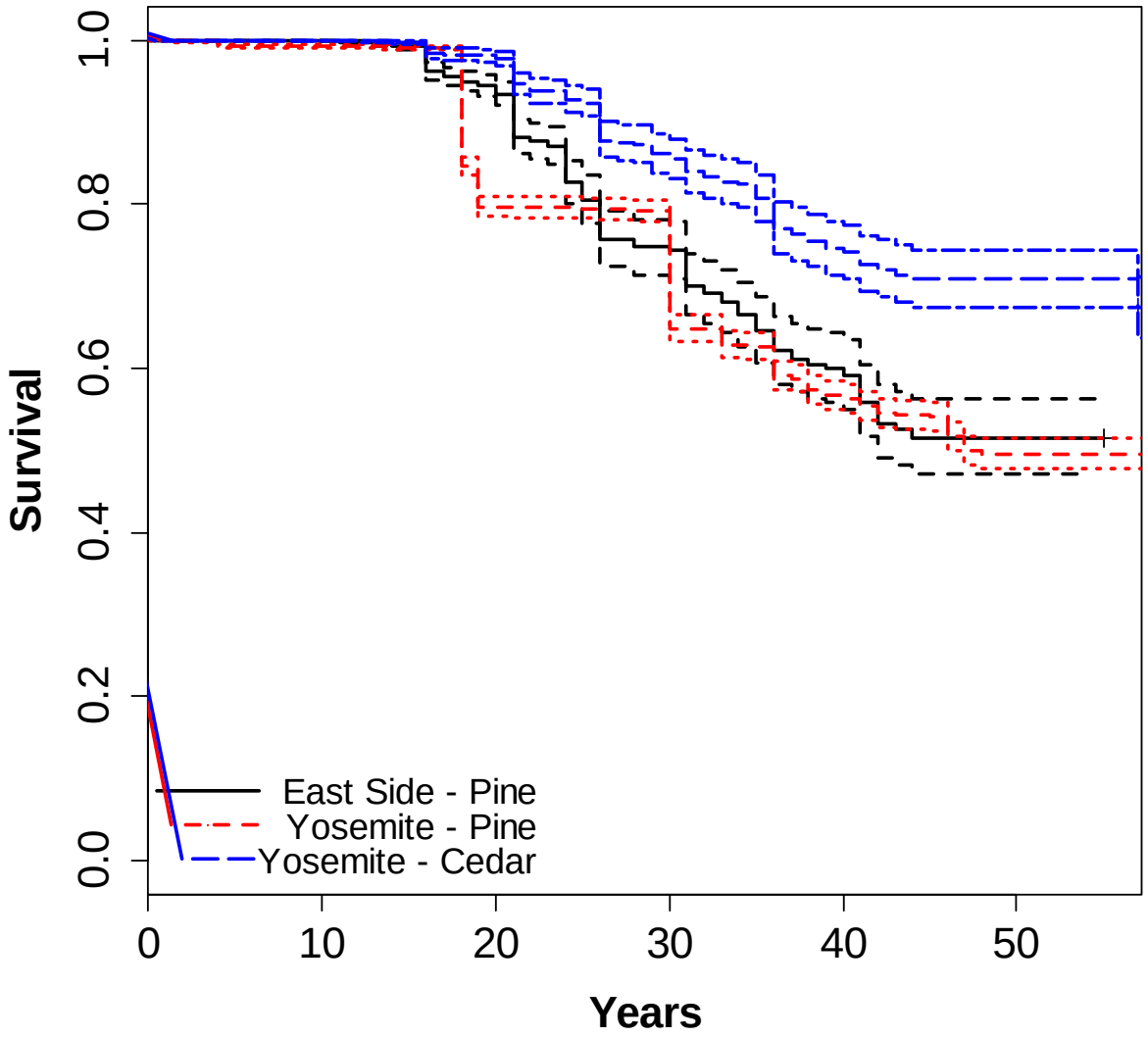

H. occidentale
H. irregulare
A
B
N
0 100 200
Km
0 2 4
Km


0 10 20 Meters
Tree Mortality and Gap Year Intervals
Dead Trees
Alive Trees
1973 or Earlier
1974 - 1984
1985 - 1987
1988 - 1990
1991 - 1992
1993- 1997
1998 - 2002
2003 - 2006
2006 - 20013

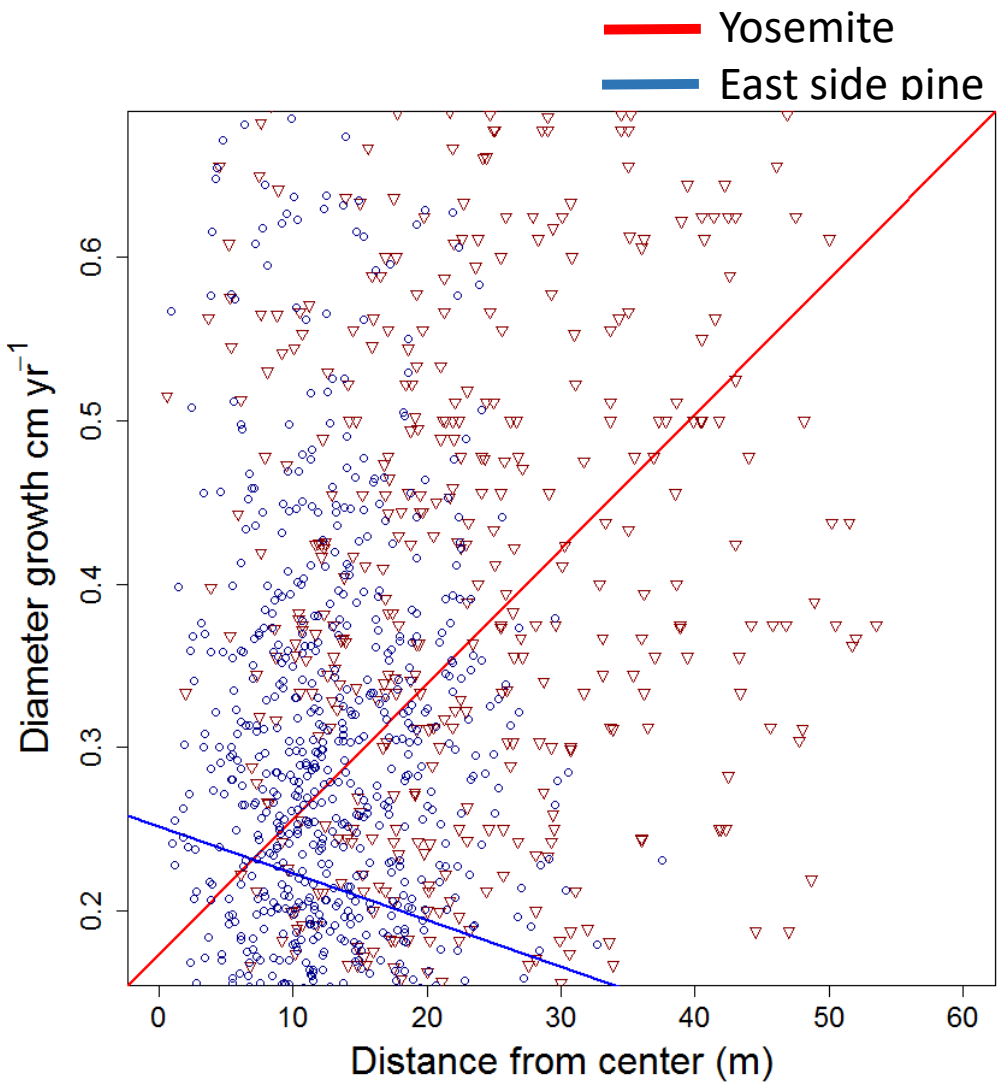
Three systems with different epidemiology and disease impacts



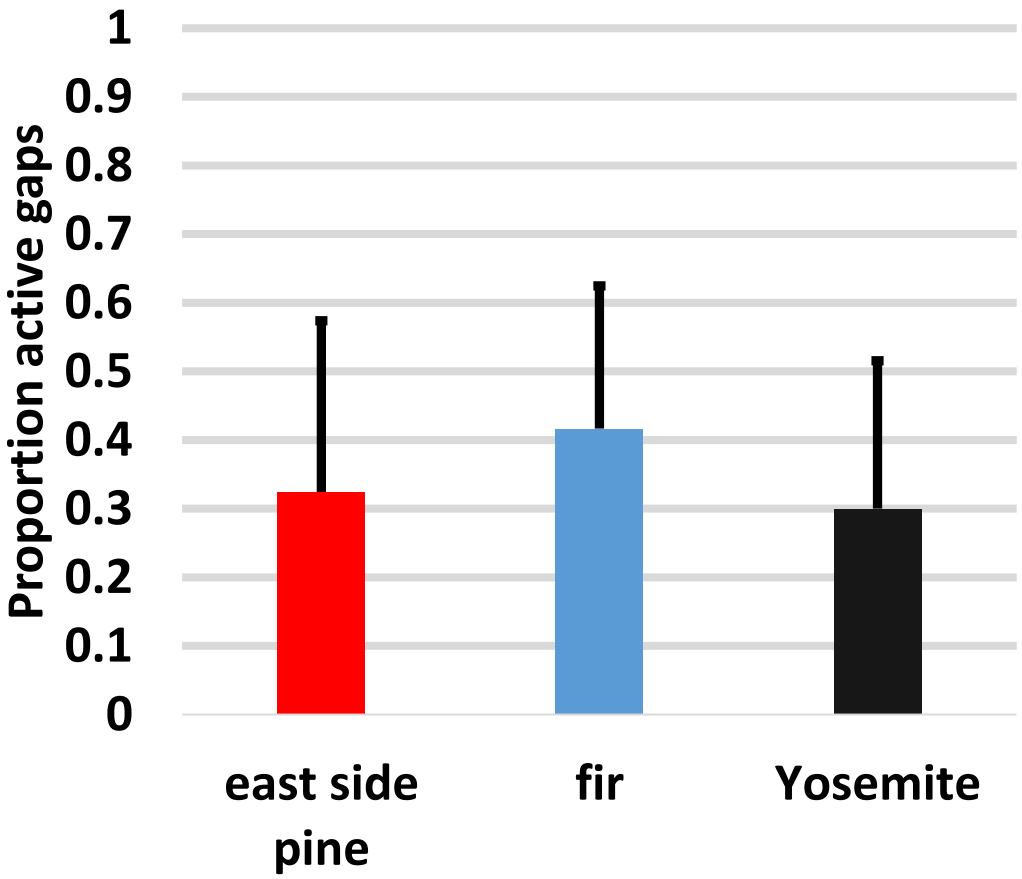
Heterobasidion irregulare: mortality is more rapid in pine vs cedar



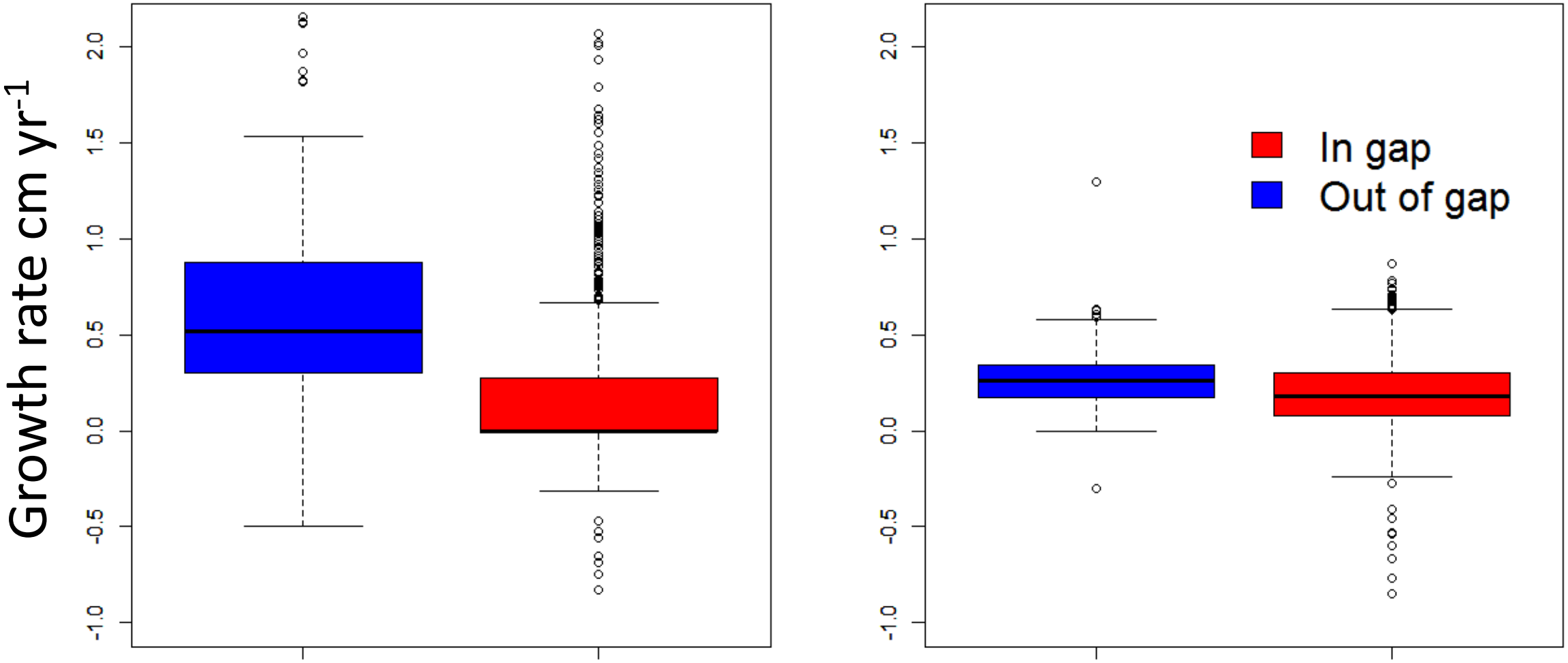
Pine systems: within gap disease patterns vary over time



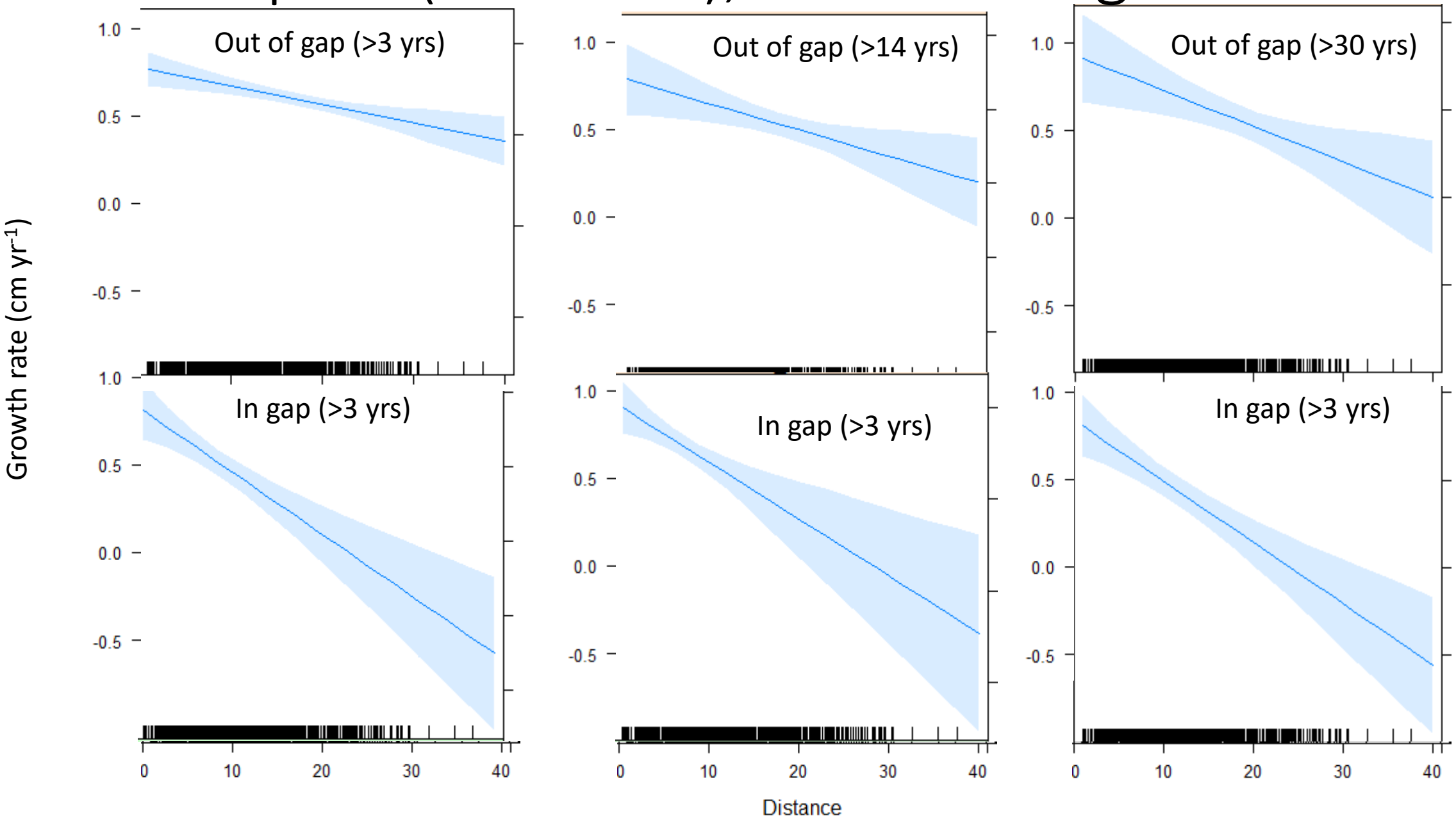
In all disease systems, most centers remain active after 30-50 years, how do within center patterns develop?



Disease centers reduce overall forest growth



East side pine (one host), effect changes over time



On going work in Fir forests

- *Heterobasidion occidentale* expanding wave or persistent disease?
- Fir forest pathogen establishment: are stumps relatively unimportant?
- Emerging mortality in Sierra Fir forests: does root disease lead to bark beetle outbreak?