



Vaia: un approccio integrato  
per la gestione post-evento

Agripolis, 15 Marzo 2019



# Schianti da vento e gestione selvicolturale: prevenzione o cura?

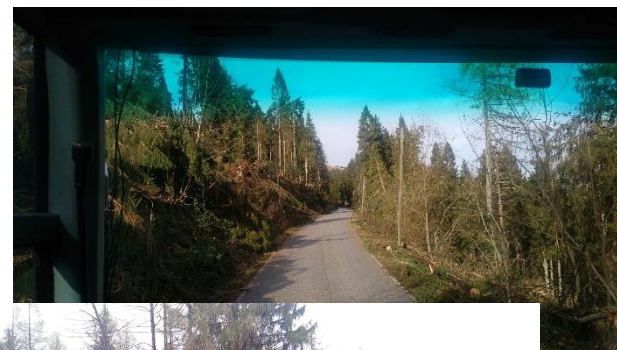
Emanuele Lingua - [emanuele.lingua@unipd.it](mailto:emanuele.lingua@unipd.it)



©Gianluca Schivo



# Interventi post-disturbo



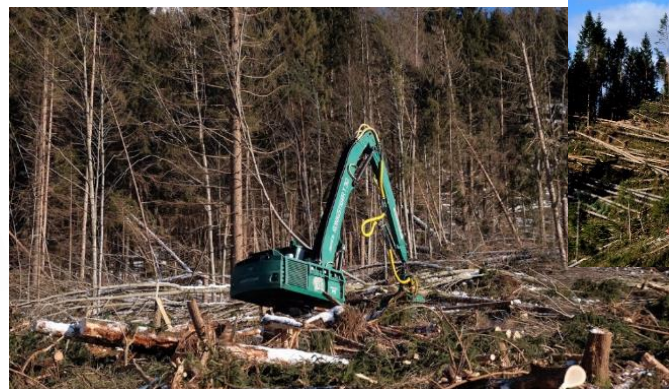
## Fase di Emergenza Civile (edifici, strade,...)



## Sgombero legname

## Salvage logging operations

**CHALLENGE**



# Foreste di protezione



Veneto in ginocchio

I nostri boschi rasi al suolo

14

15

# Rimboschimento

**Why?**

**Sempre necessario?**

**Where?**

**Prioritizzazione aree**

**What?**

**Quali specie?**

**How?**

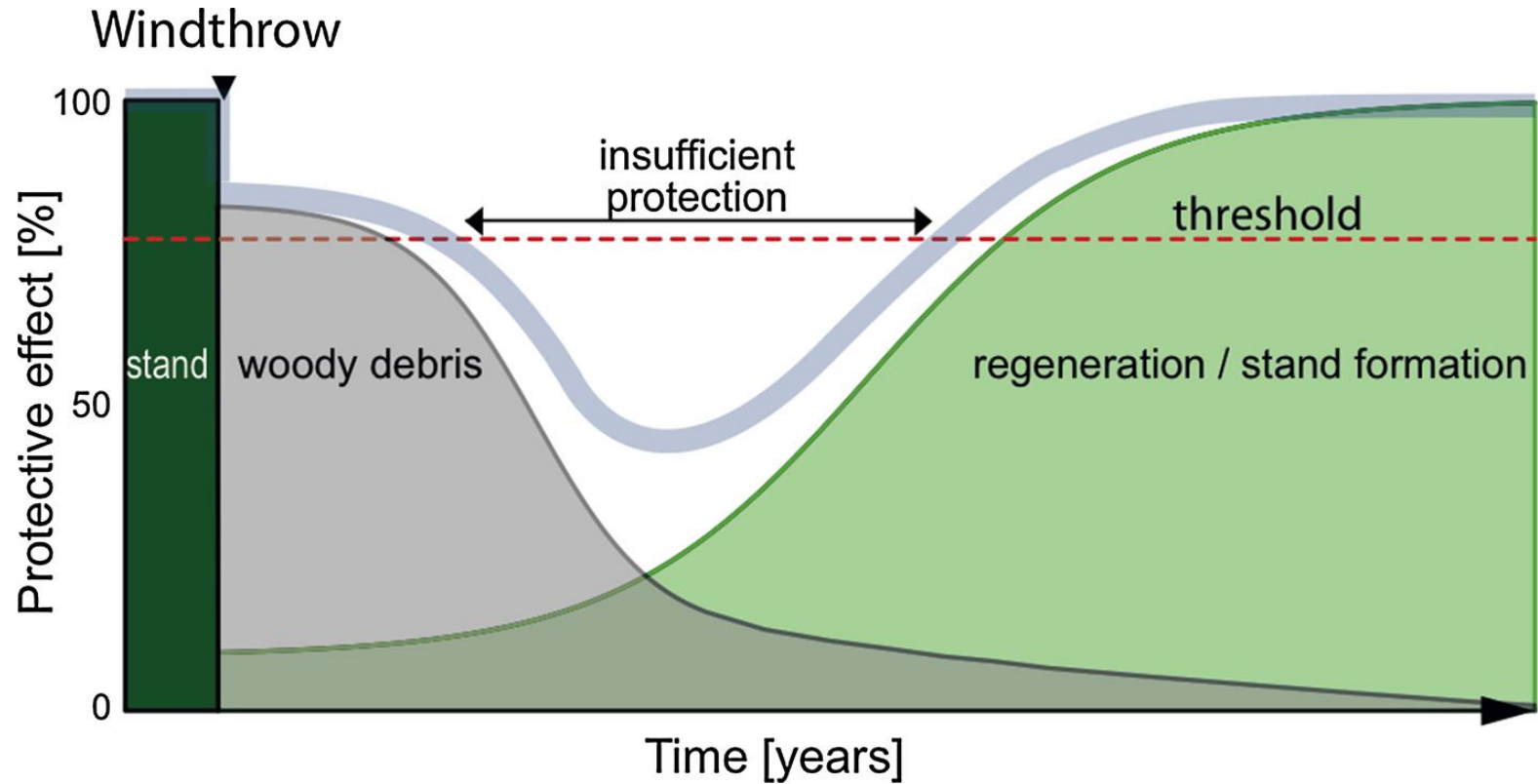
**Con che struttura?**



**CHALLENGE**



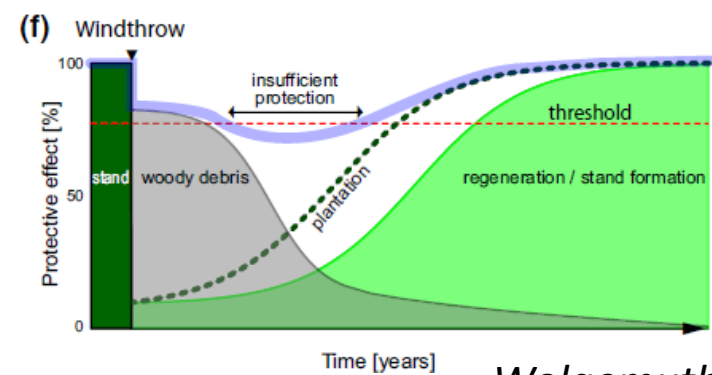
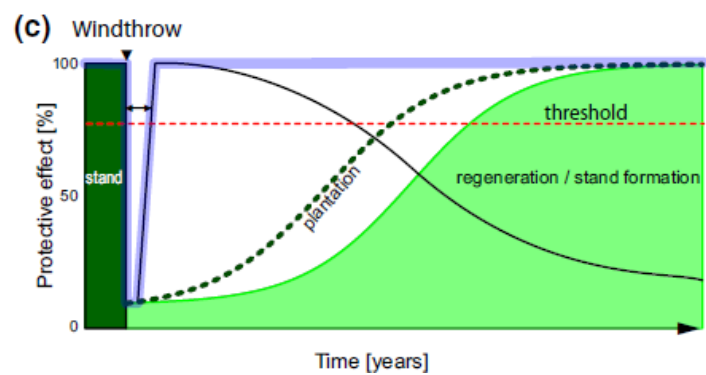
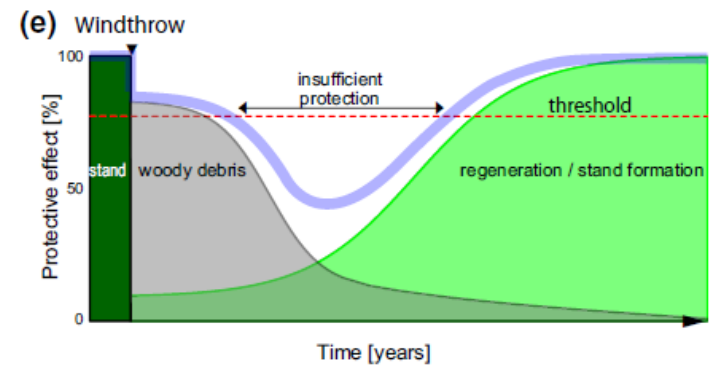
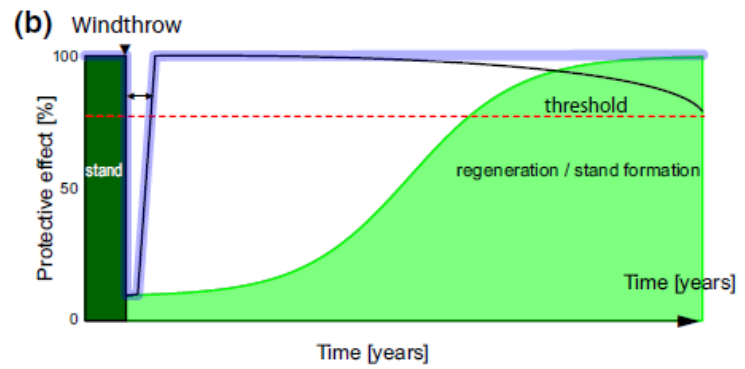
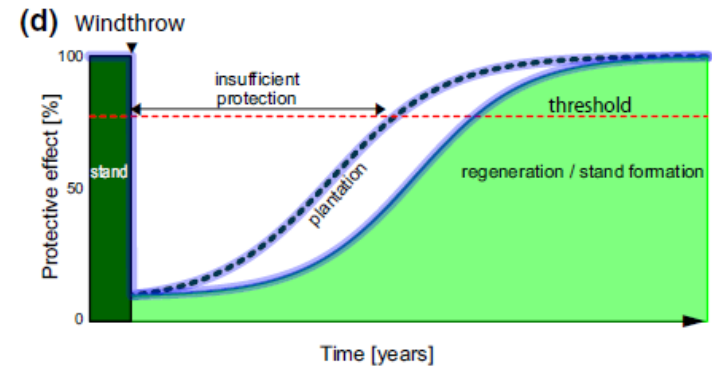
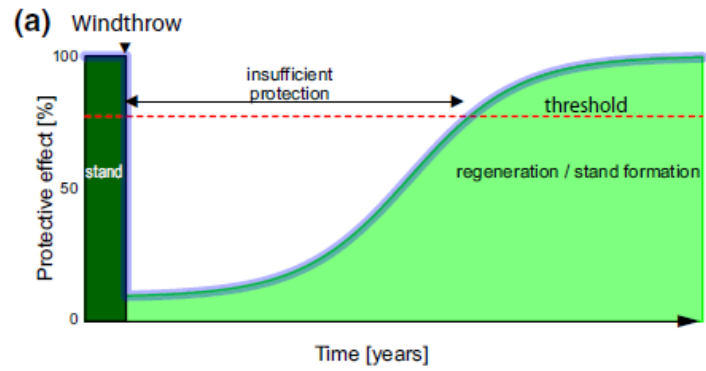
# Foreste di protezione



Wolgemuth et al. 2017







*Wolgemuth et al. 2017*

# Qualcosa si poteva fare?



©Roberto Costa

# Perché gli alberi schiantano?



Mattheck & Breloer 1993

# Schianti

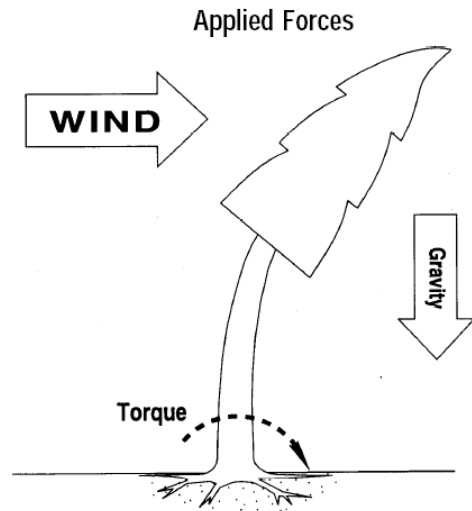


Sradicamento



Stroncamento

# Perché gli alberi schiantano?

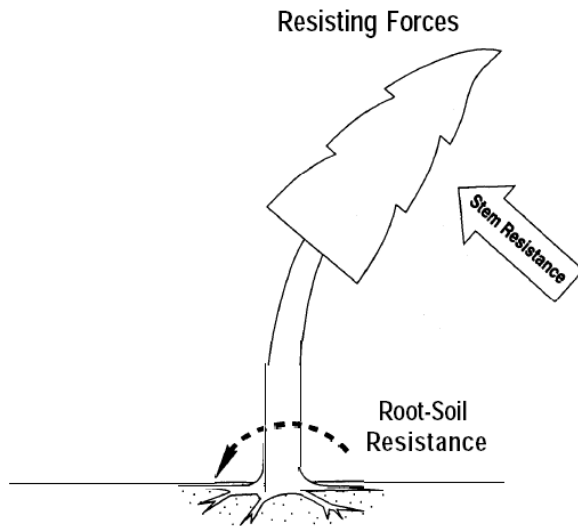


## Factors

Wind speed  
Crown size  
Crown density

Crown mass  
Stem mass  
Stem elasticity

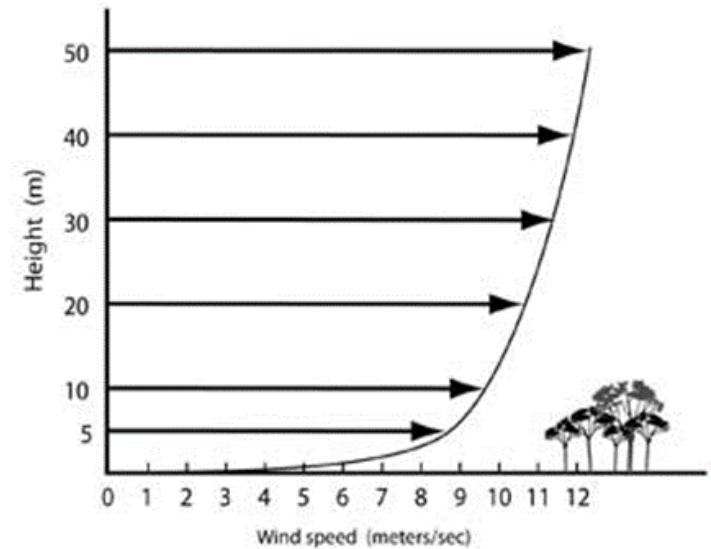
Tree height  
Tip displacement



## Factors

Wood strength  
Wood elasticity  
Stem thickness

Root-soil weight  
Soil shear strength  
Root strength



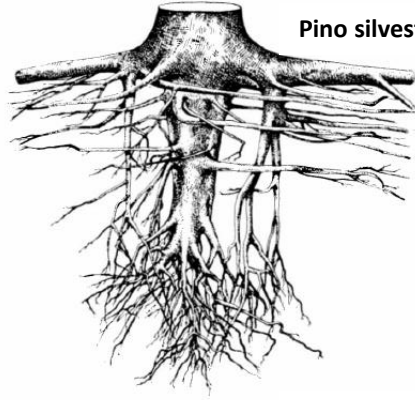
# Conifere

# Latifoglie

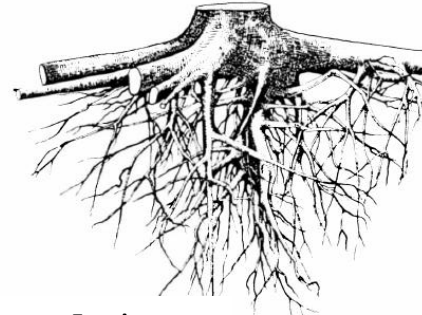
Abete bianco



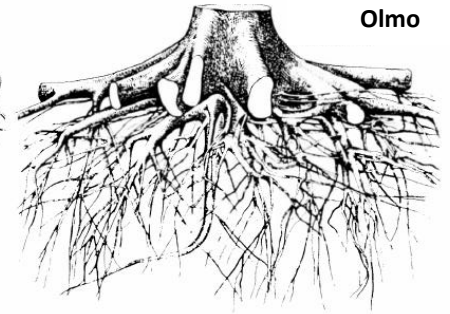
Pino silvestre



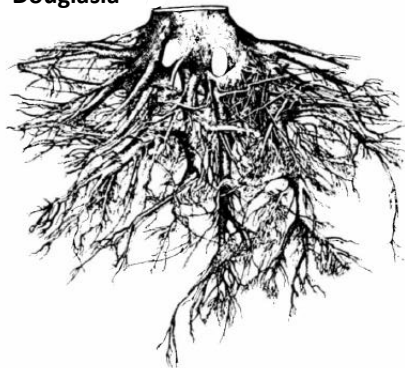
Rovere



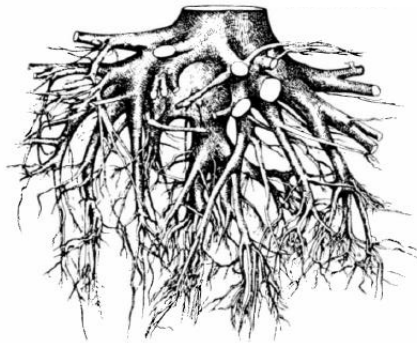
Olmo



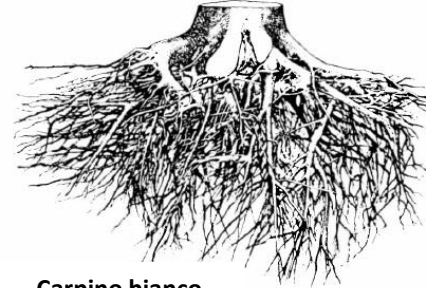
Douglasia



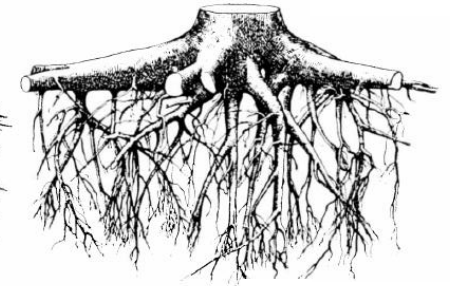
Larice



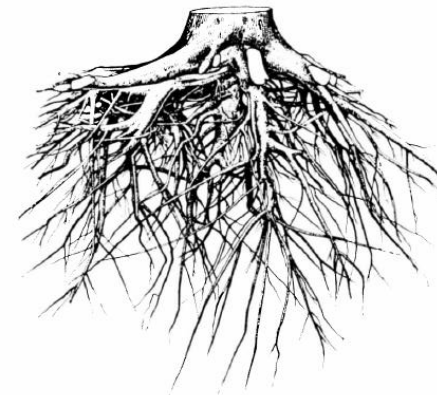
Faggio



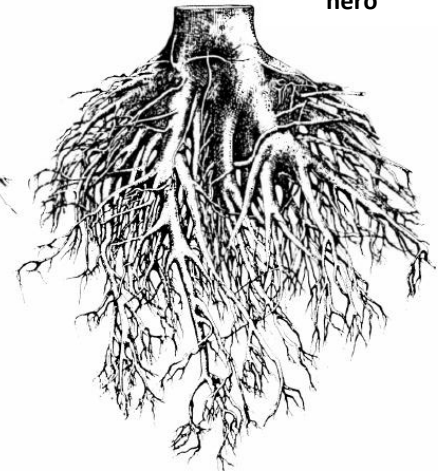
Frassino



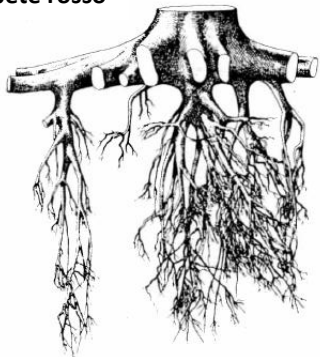
Carpino bianco



Ontano nero

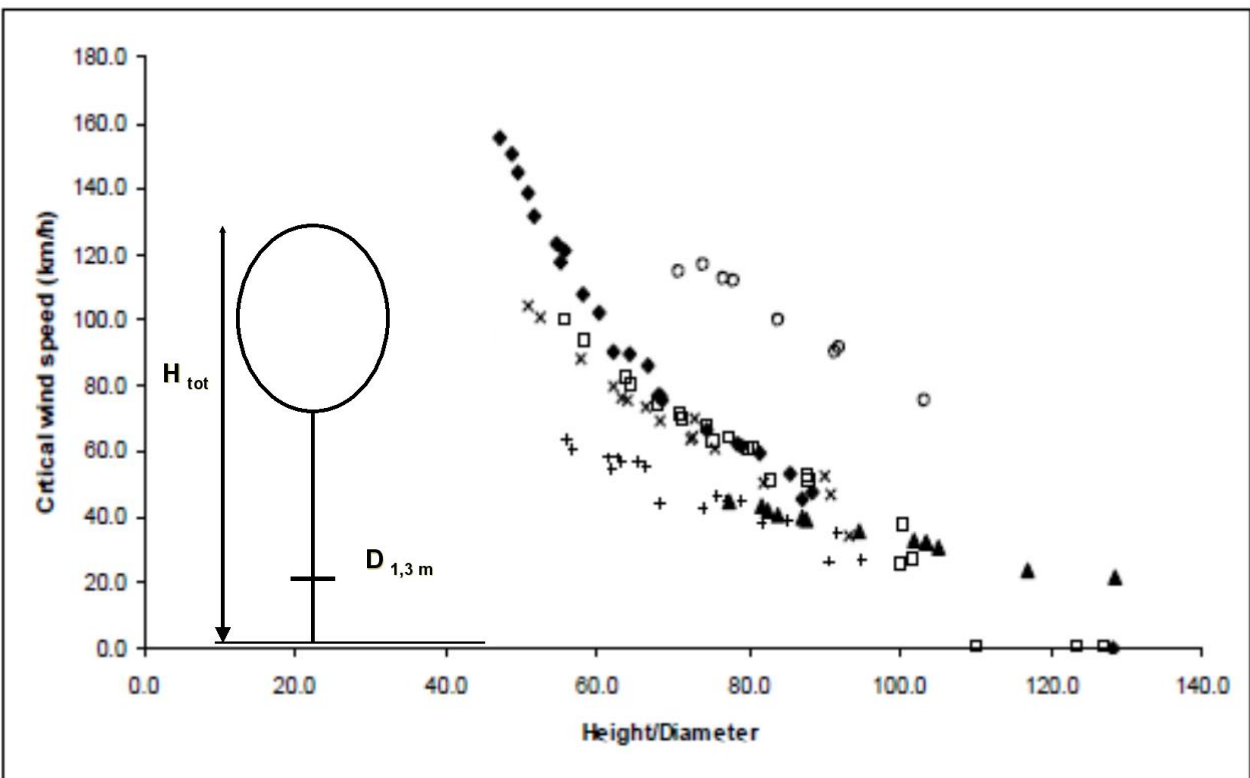


Abete rosso



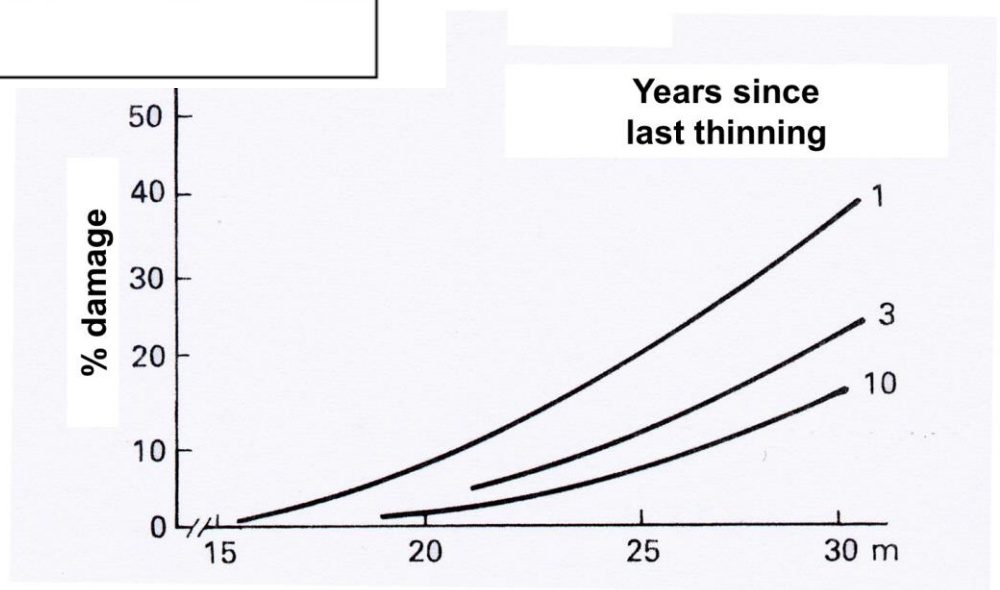
Pino strobo





Coefficiente di snellezza  
 Valori critici  
 > 80 conifere;  
 > 90 latifoglie

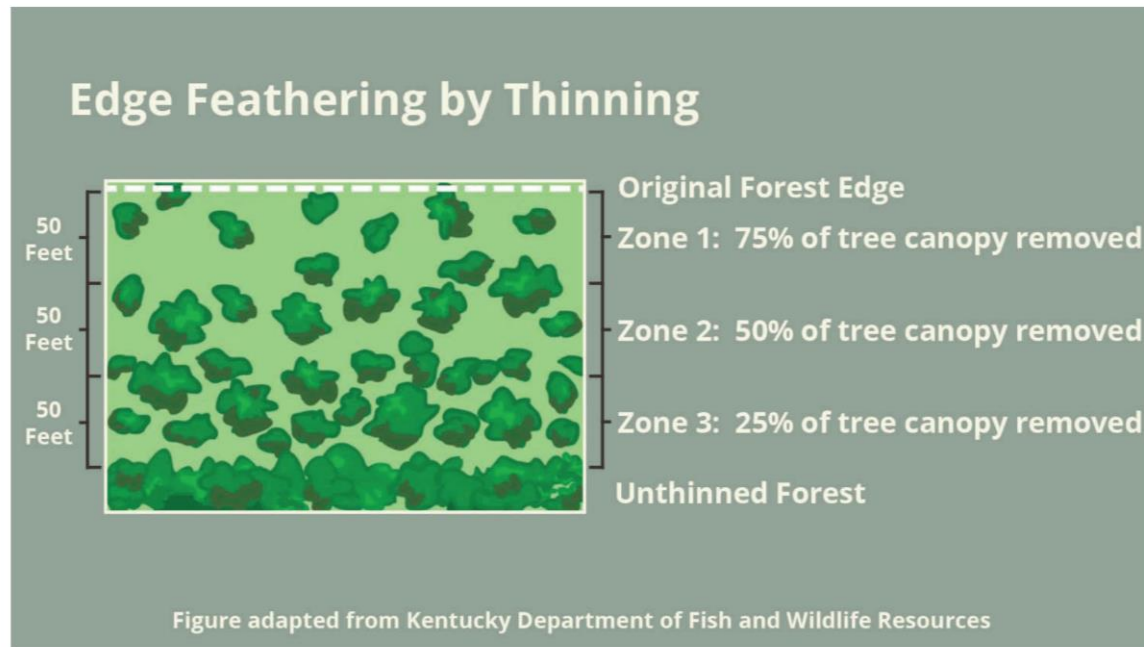
**Diradamenti come strumento per l'aumento della stabilità dei popolamenti forestali (coefficiente di snellezza)**



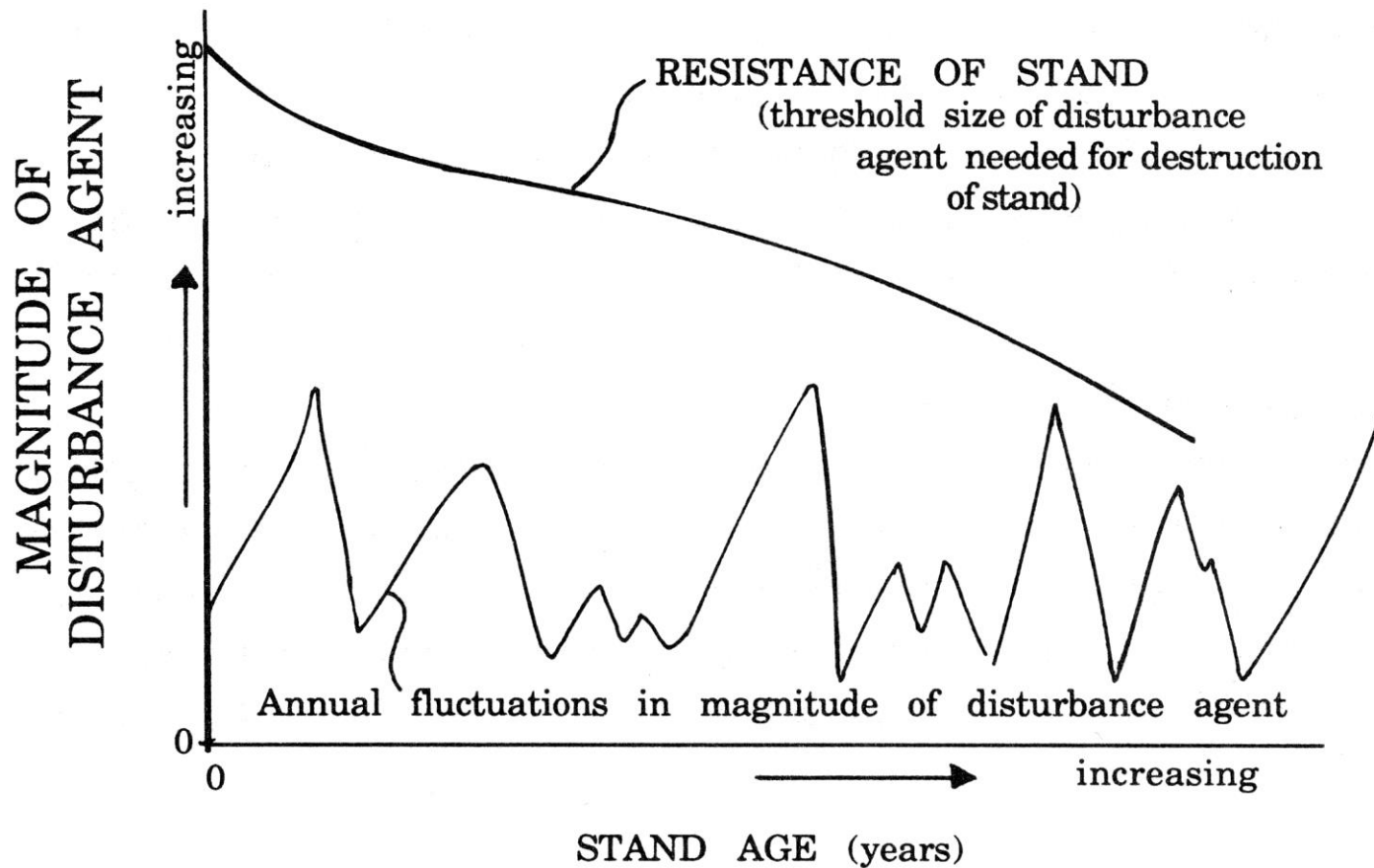
Struttura multiplana, irregolare



Edge feathering







La vitalità dei popolamenti forestali e la loro resistenza ai disturbi tende a decrescere con l'età.

# Opportunità

**Gestione forestale**

**Settore Forestale**

**Pianificazione logistica**

**Essere consapevoli**

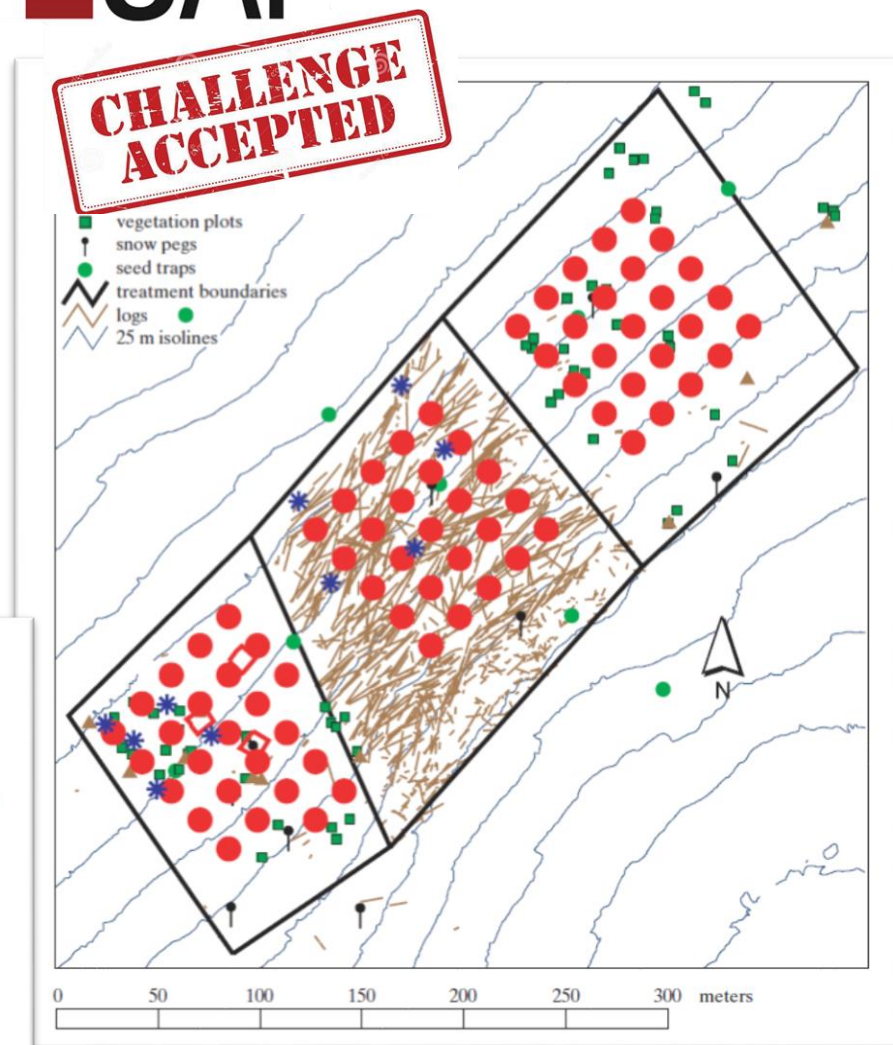
**Essere preparati**



Monitoraggio

Long Term Ecological Research

Interventi post-disturbo



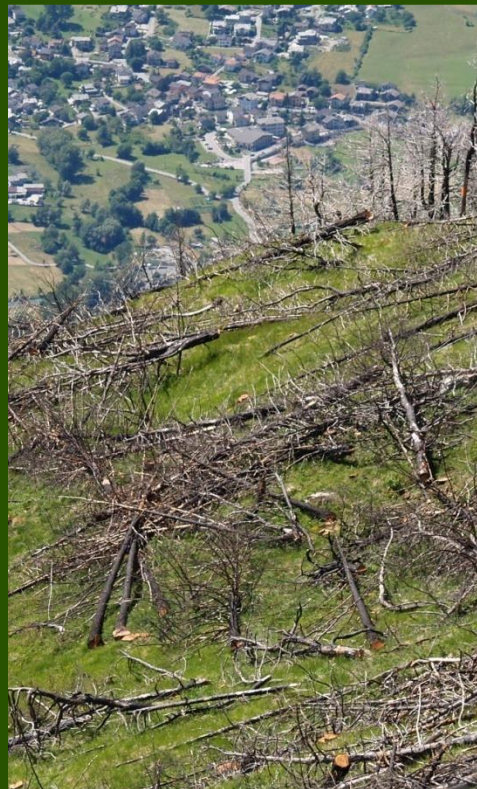
*Schönenberger 2002*

# Strategie di ricostituzione post-disturbo

Impatto antropico



**Nessun intervento**



**Abbattimento e rilascio**



**Abbattimento, sramatura  
e manipolazione**



**Salvage logging  
+ rimboschimento**

# Raccomandazioni

No “one size fits all”  
Adottare soluzioni sito  
specifiche, valutazione caso  
per caso.

Esperienze dei Paesi vicini

Non prendere decisioni  
tecniche affrettate basate su  
componenti emotive.



Synthèses

La forêt  
face aux tempêtes

Y. Birot, G. Landmann, I. Bonhême, coordinateurs



Éditions  
Quæ



Das ist die Zukunft  
unseres Waldes!





**Il clima sta cambiando**  
**I regimi di disturbo stanno cambiando**  
***Land-use* e *Land-cover* stanno cambiando**

.....

**La gestione forestale deve adattarsi**





*Grazie per l'attenzione*

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