

CPAWS Wildlands League

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A Boreal Forest Perspective

can we rely
upon current forest
management to deliver
“sustainable” feedstock

A Boreal Forest Perspective

a tale of three terms...

“sustainable”

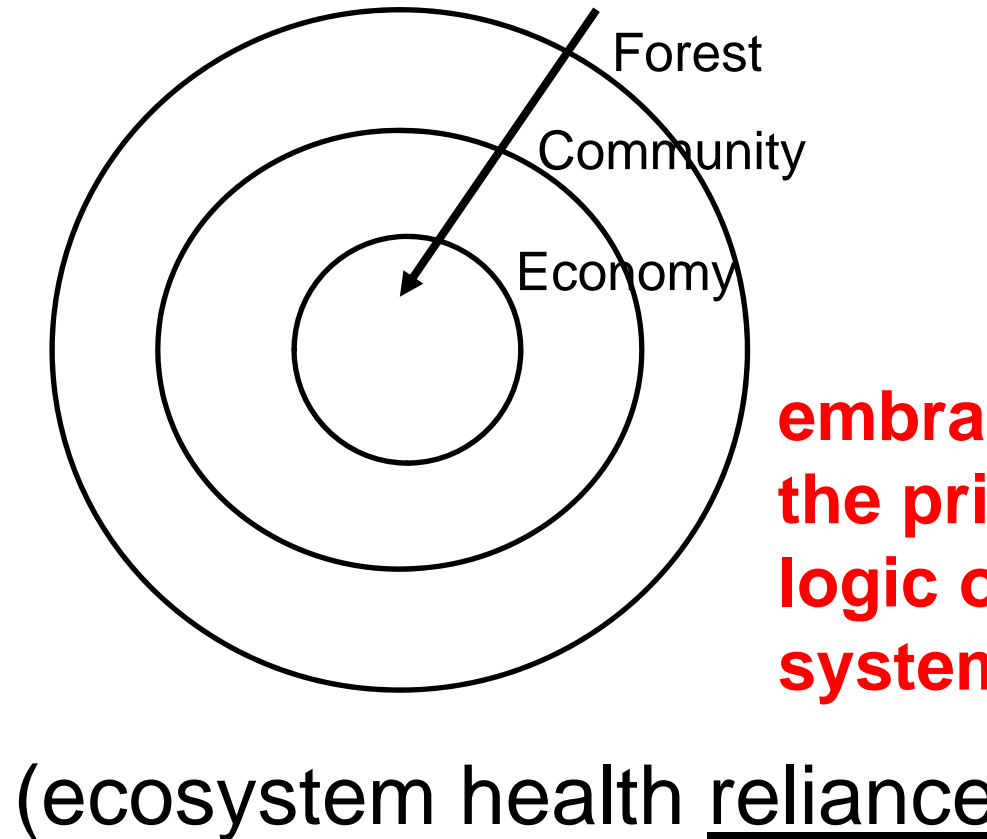
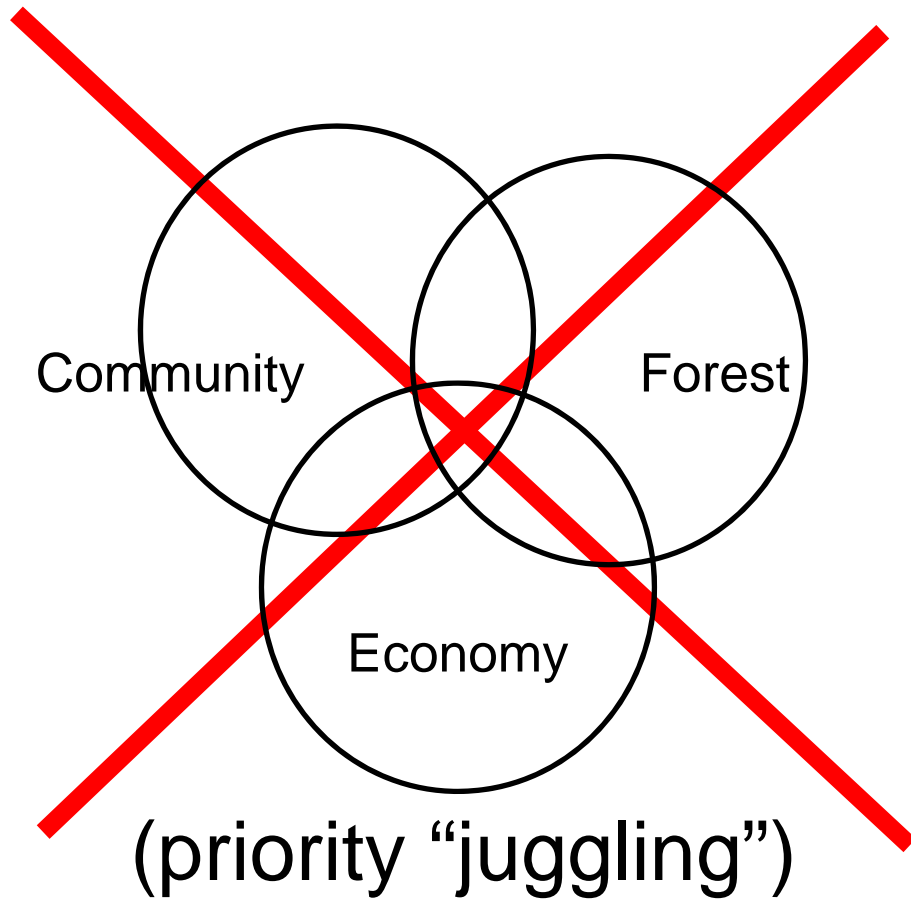
“adaptive management”

natural disturbance emulation

“sustainable” ?

*means that supply will not negatively impact
long-term forest ecosystem health*

“sustainable” ?



Q. what logic model are we pursuing?

must have a forest health priority to address

“adaptive management”

*strategy for “sustainable forest management”
concept of “adaptive management,” - some
continuous improvement based on monitoring
critical analysis*

adaptive management

Q./ where are we in the adaptation cycle?

Q. is the confidence expressed by managers
reasonable?

are we really open to adapting to feedback
suggests that management is not sustainable

adaptive management

sustainability = **long-term** forest health

the real experience - in forests such as the Borneo rain forest, where primary stands are still being preferentially logged, while secondary stands are just now entering their "**second rotation**" (with only **one** experience of renewal...)

cultural contrast - compare to agriculture, with annual rotations per **year** (with many failures, but an eventual adaptive return to conservation tillage etc.)

“natural disturbance emulation”

*A strategy for “sustainable forest management”
for boreal forest is that logging will “emulate” wild*

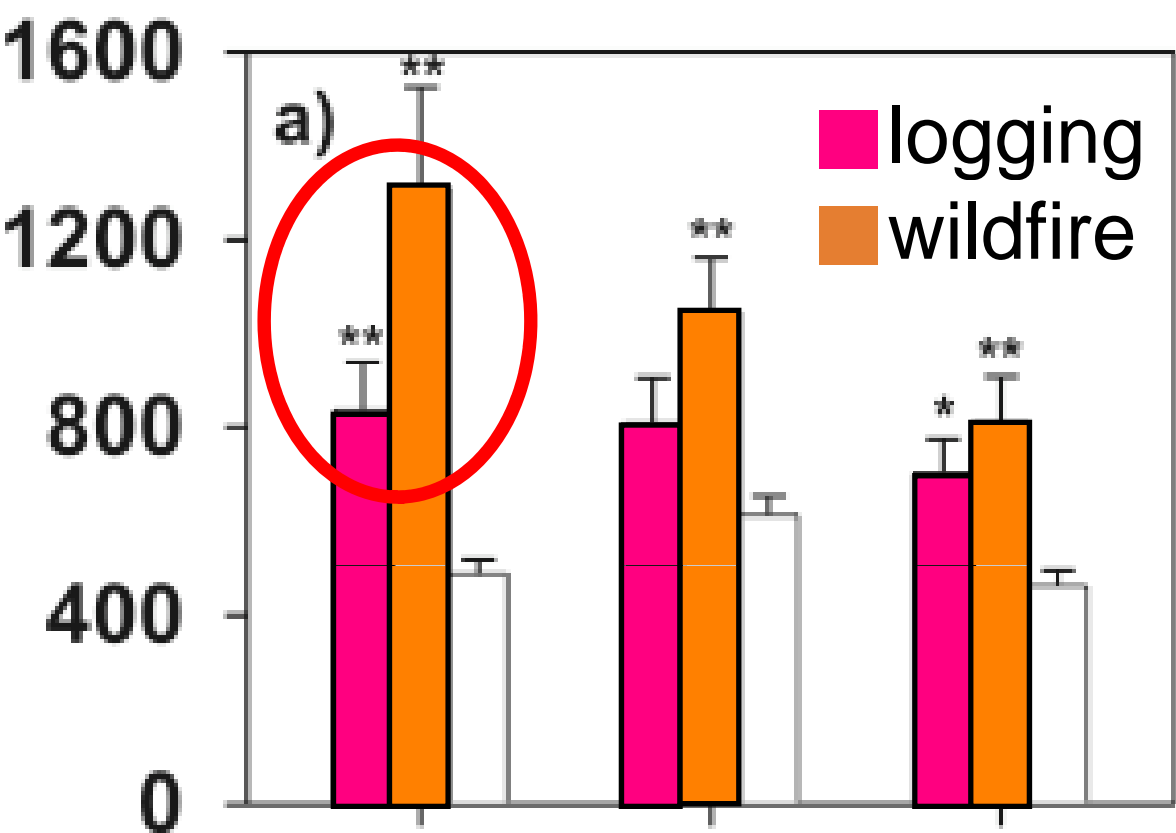
“natural disturbance emulation”

Q./ how well is this strategy playing out?

Q./ will feedstock demands help or hinder?

atural disturbance emulatio

?



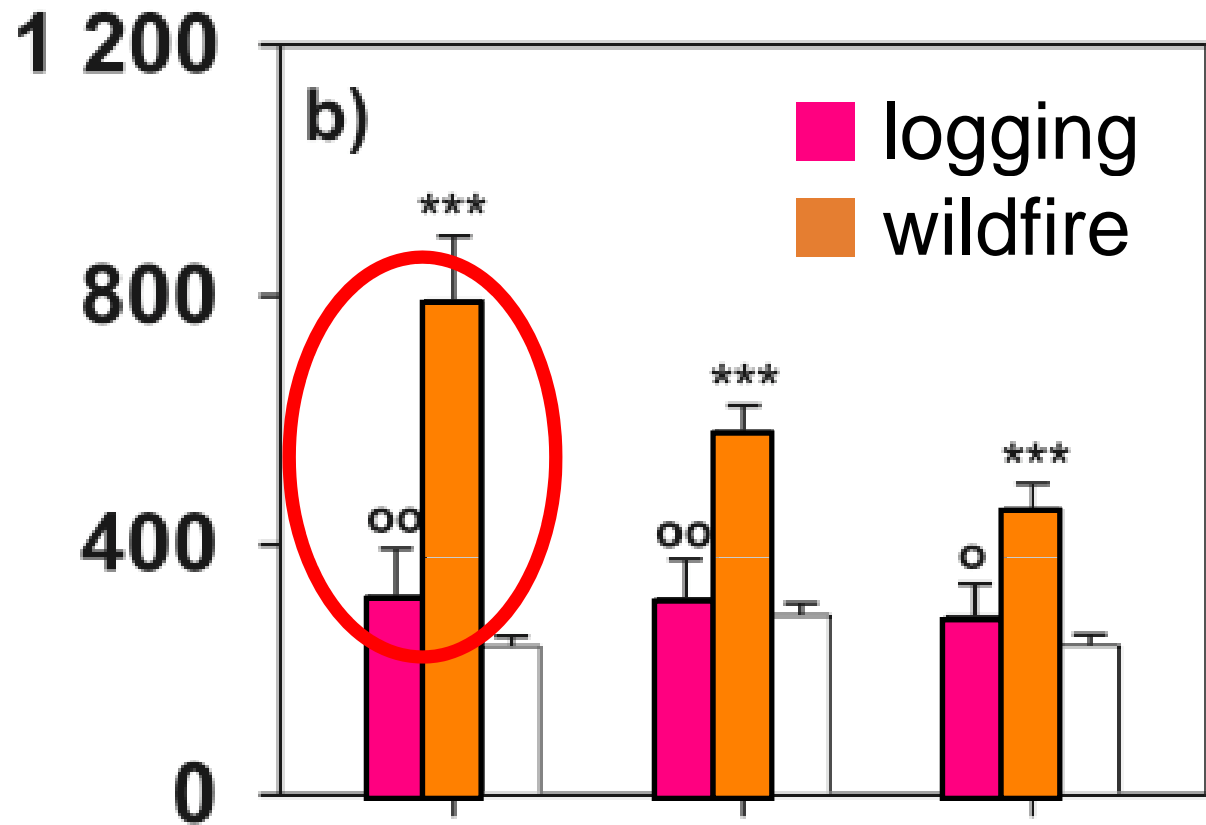
*logging exports
significantly less C
receiving boreal s
lakes than fire*

Lamontagne et al. 2000

*se aquatic systems have evolved to rely on
inputs.*

cultural disturbance enrichment

?



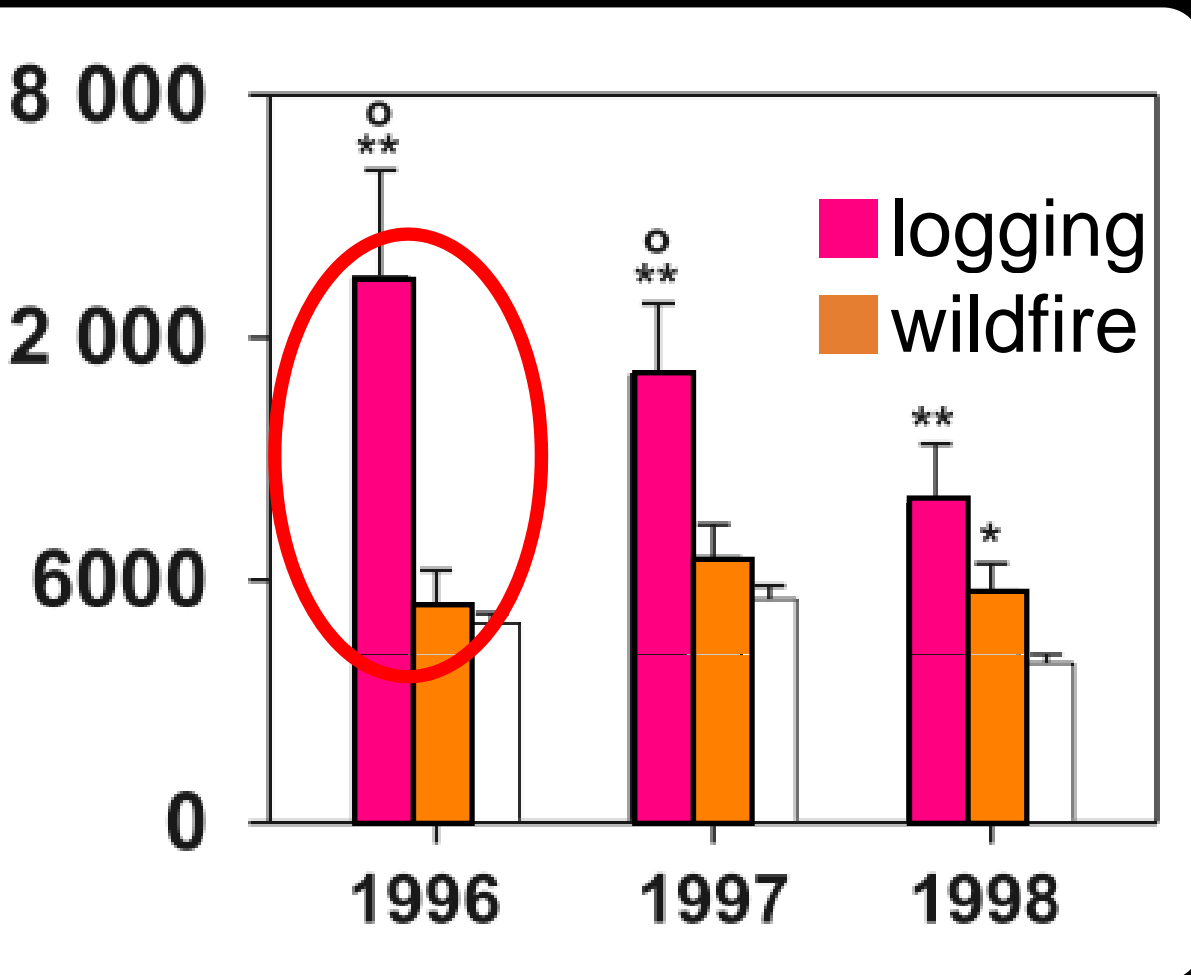
*logging exports
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atural disturbance emulatio

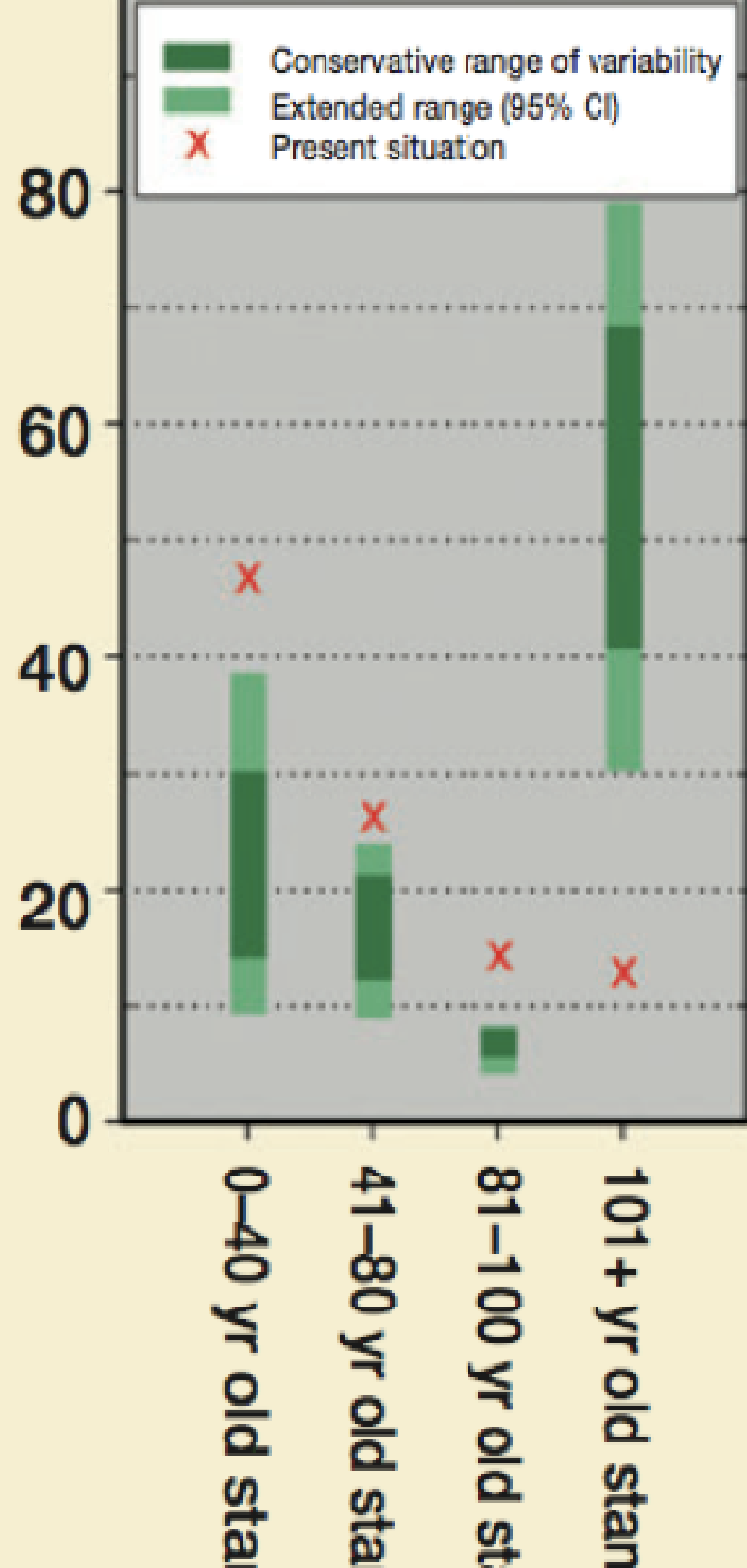
?



*conversely...
logging exports sign
more DOC to receive
boreal
shield lakes than fire*

Lamontagne et al. 2000

*DOC is associated with negative effects upon
ecosystems*



natural disturbance emulation ?

logging has demonstra
failed to emulate the sa
range of variability as fi
boreal forests of easter
Canada

(wildfire baseline)

intensity decreases cation exchange

% Effective Cation Exchange Capacity v.s. wildfire

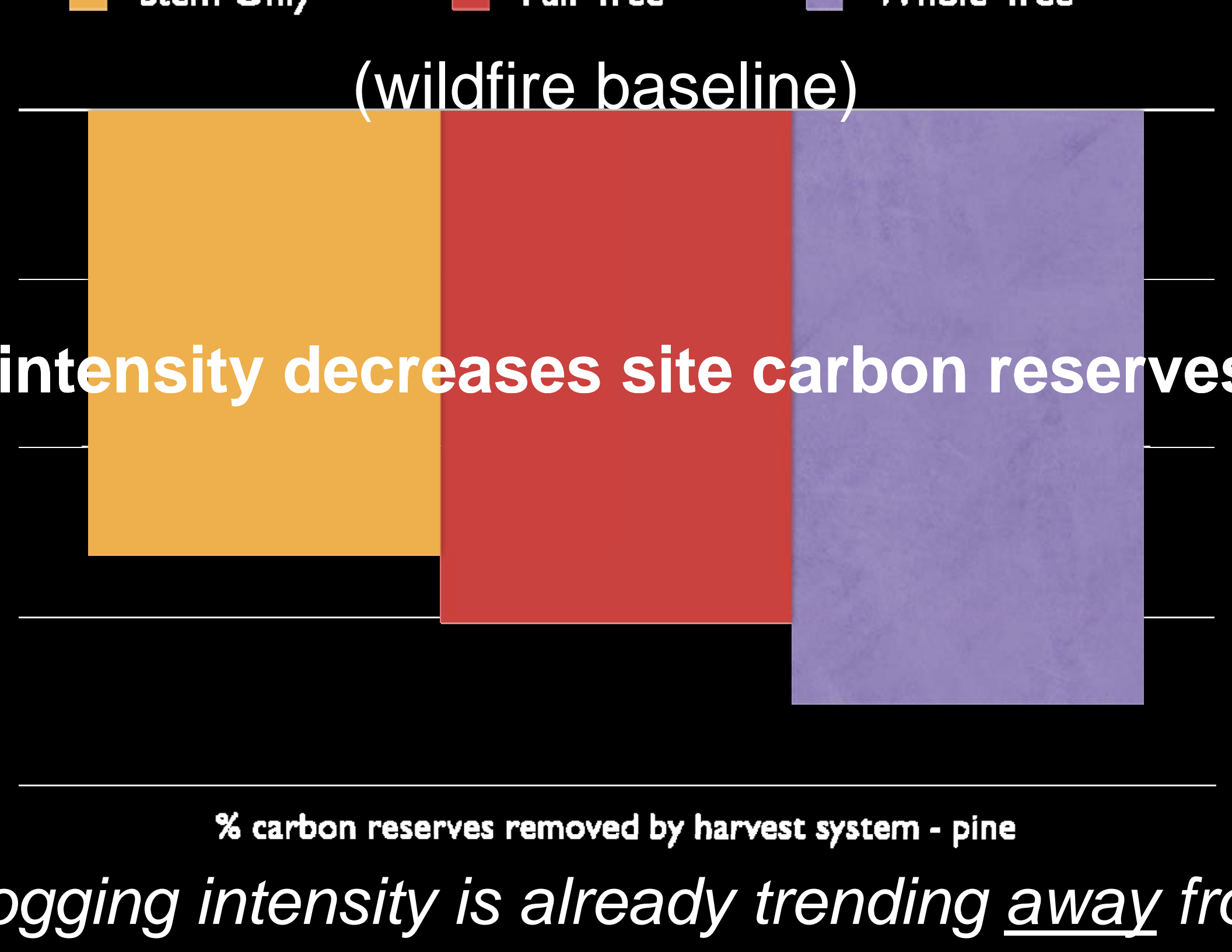
logging intensity is already trending away from

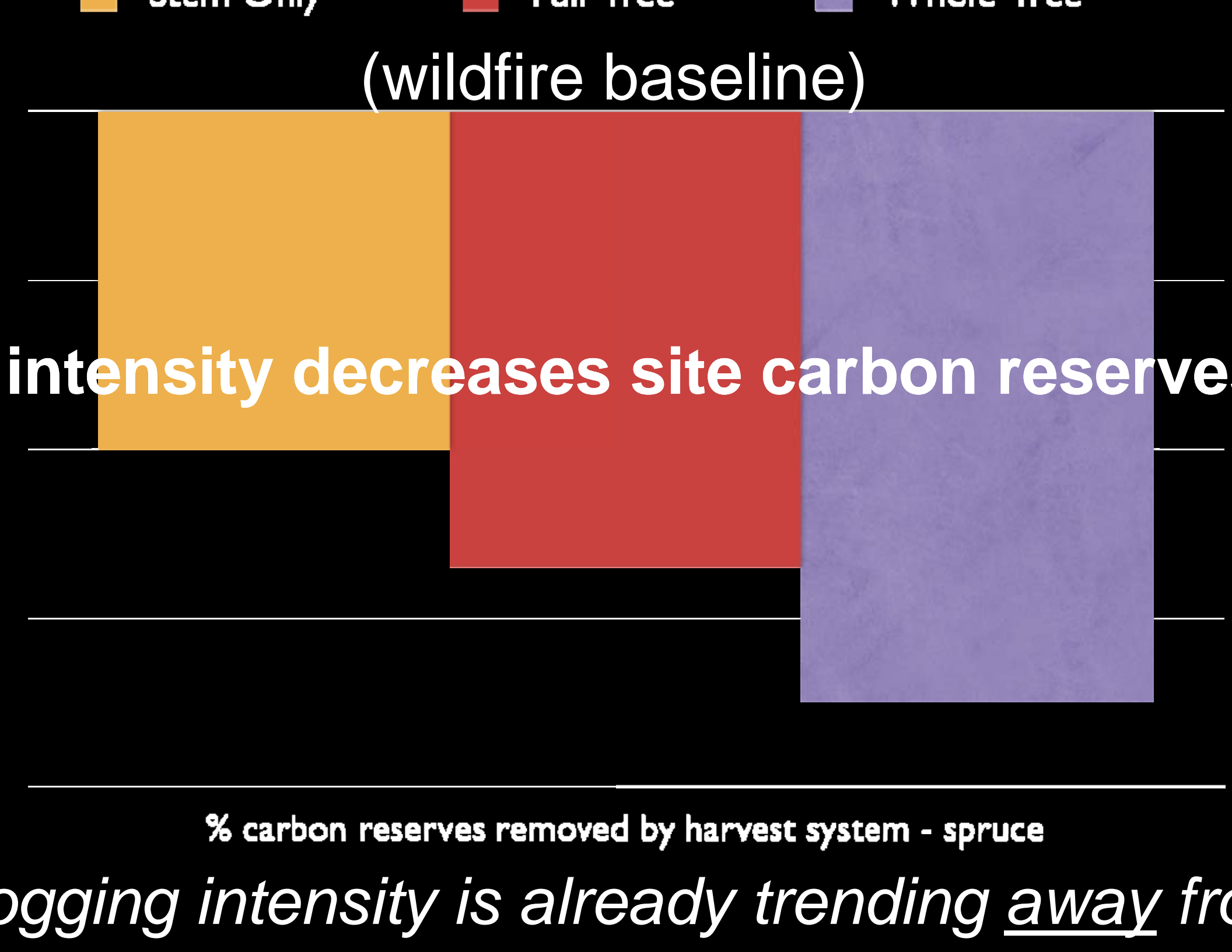
(wildfire baseline)

logging intensity decreases exchangeable nutrient

% forest floor exchangeable calcium v.s. wildfire

logging intensity is already trending away from





■ Stem-Only

■ Full-Tree

(stem-only baseline)

intensity increases site nutrient losses

% difference in average nutrient losses between harvest systems

logging intensity is already trending away from

Ca

Mg

K

(stem-only baseline)

intensity increases base cation loss

% additional removal by FTH over SOH / base cation

logging intensity is already trending away from

■ Stem-Only

■ Full-Tree

(stem-only baseline)

Logging intensity can trigger significant loss of growth

% difference in mean tree volume between harvest systems after 12 yrs

Logging intensity is already trending away from

“sustainable”

“adaptive management”

natural disturbance emulation

does not yet provide sufficient

assurance of sustainability

current systems that are like
not sustainable...

is not sustainable

and will most likely contribute
additional sustainability
problems

removing recastock from our
forests could be possible

probably not to the extent that
generally being contemplated

much more additional regulation
and practical focus is needed

Thank You

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