

***Vermont Testimony:***

**Vermont Climate  
Resilience and  
State Wildlands Act**

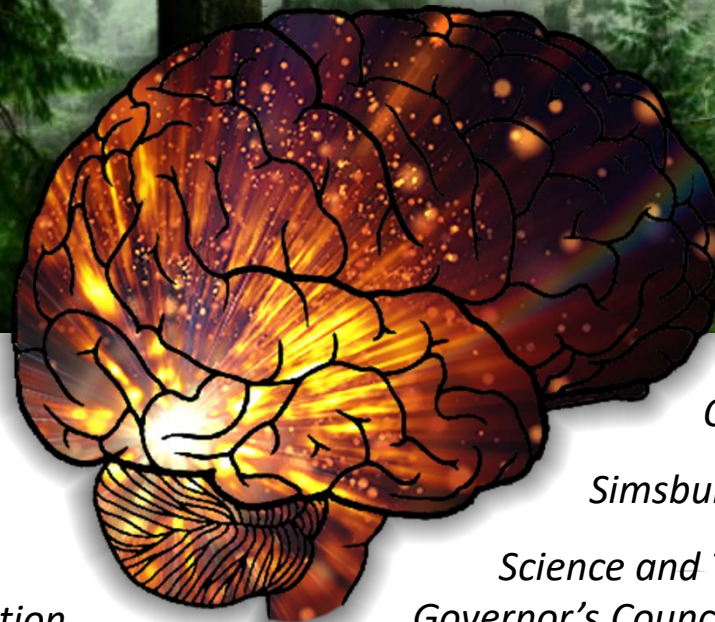
***April 30, 2025***

**Susan A. Masino, Ph.D.**

***Professor of Applied Science, Trinity College***

***Charles Bullard Fellowship in Forest Research***

***Board Member, Pinchot Institute for Conservation***



*Old Growth Forest Network*

*Simsbury Open Space Commission*

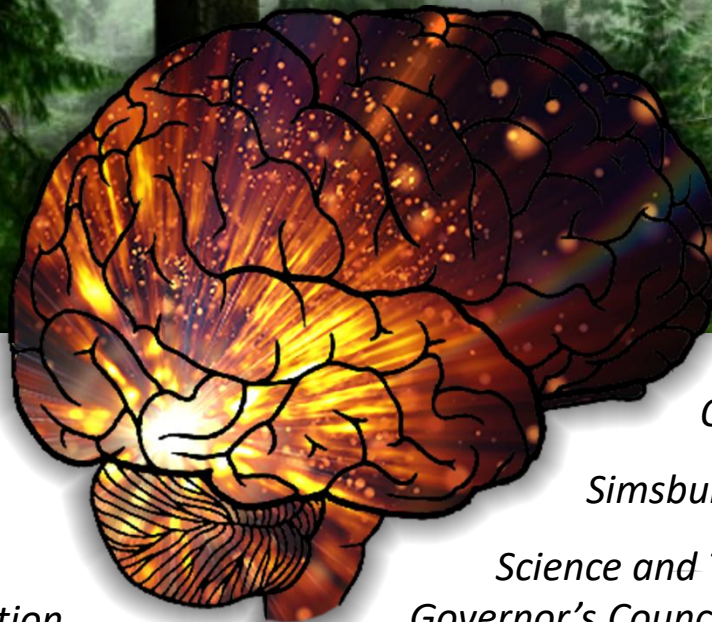
*Science and Technology Working Group*

*Governor's Council on Climate Change (GC3)*



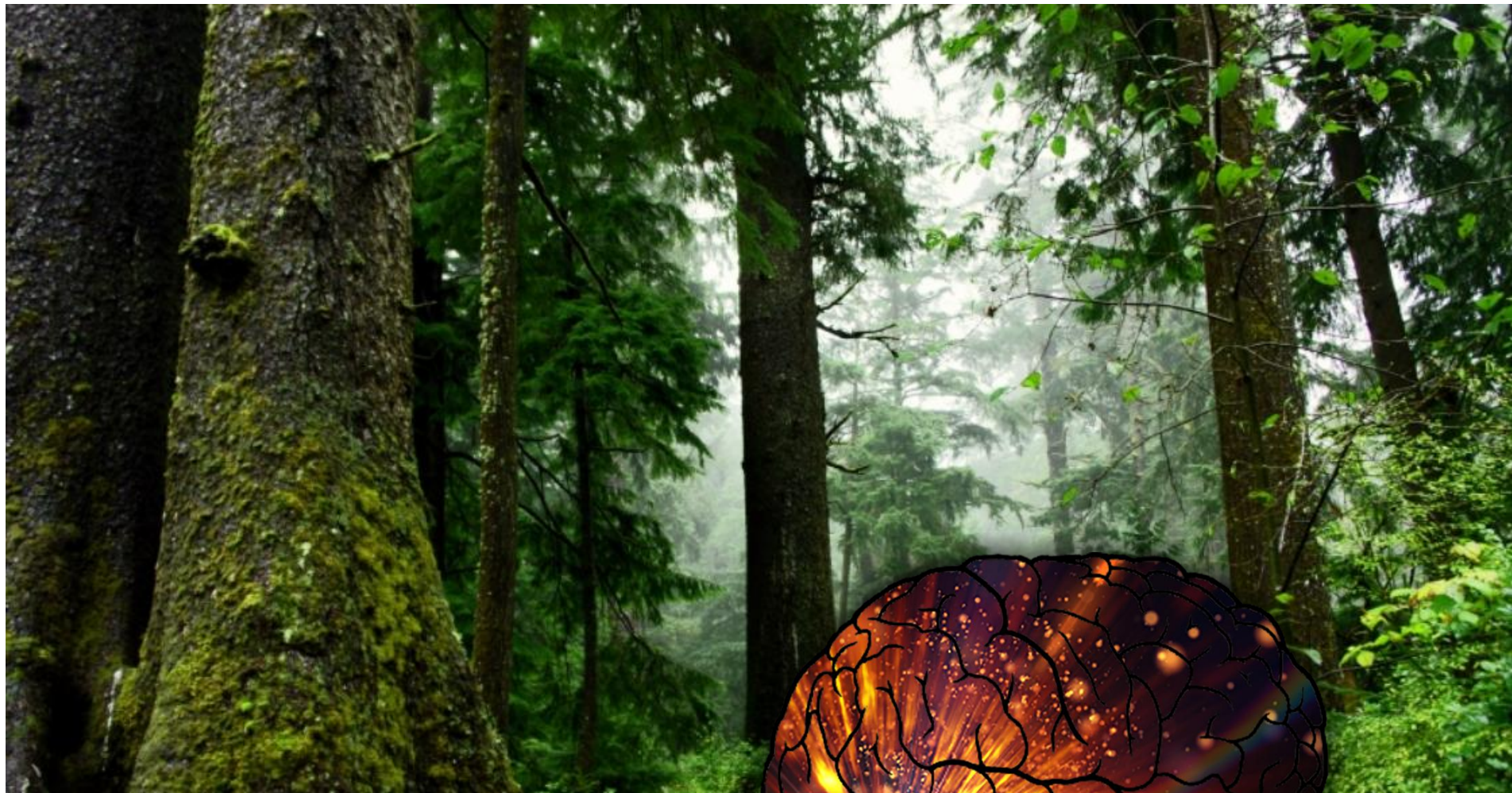
# *Individuals Communities Science*

**Susan A. Masino, Ph.D.**  
*Professor of Applied Science, Trinity College*  
*Charles Bullard Fellowship in Forest Research*  
*Board Member, Pinchot Institute for Conservation*



*Old Growth Forest Network*  
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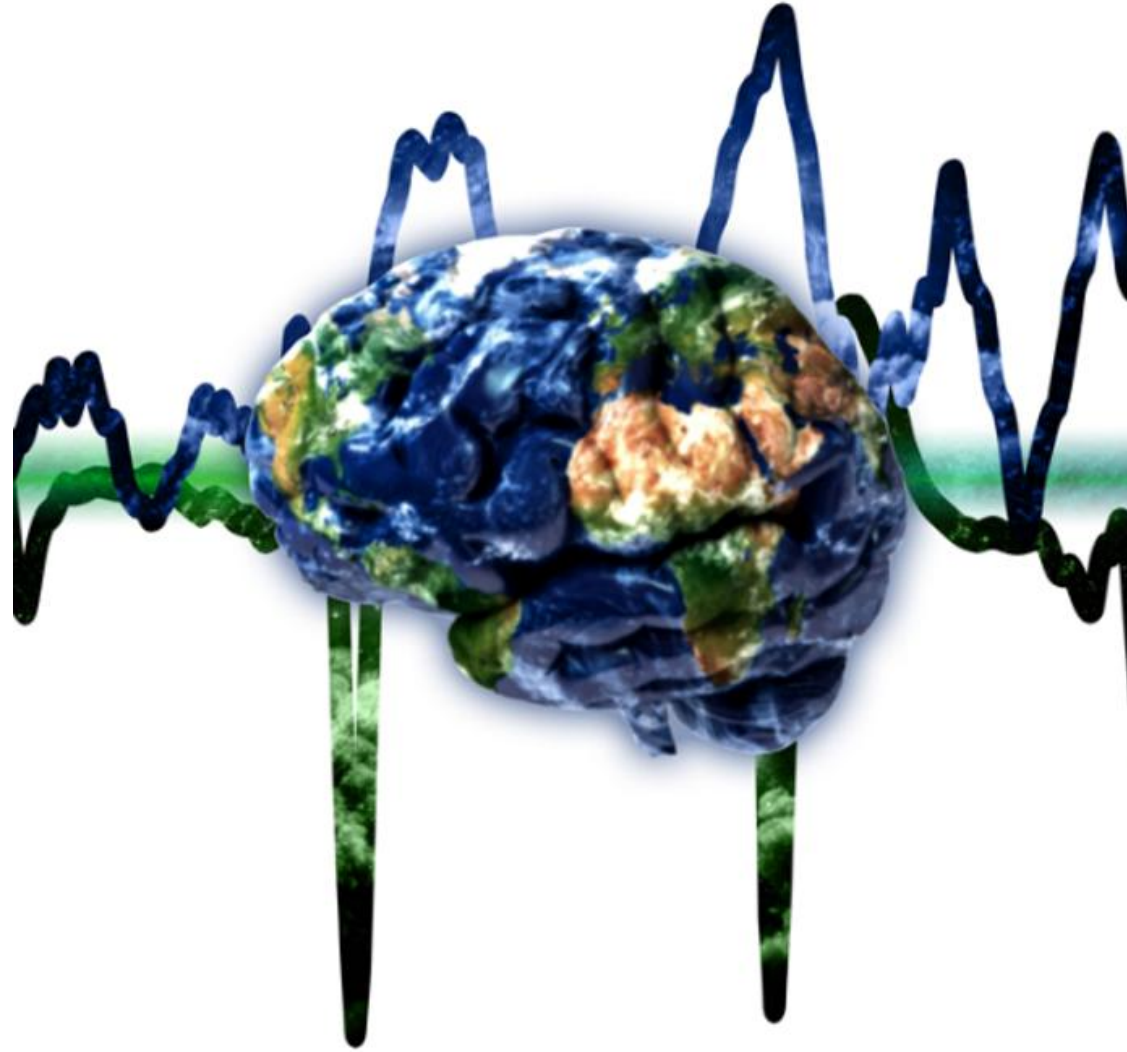




***We need nature.***

***We need healthy brains.***

# *Land and Water is the Foundation*



## ***What - Why - Where - How***





## *What - Why - Where - How*



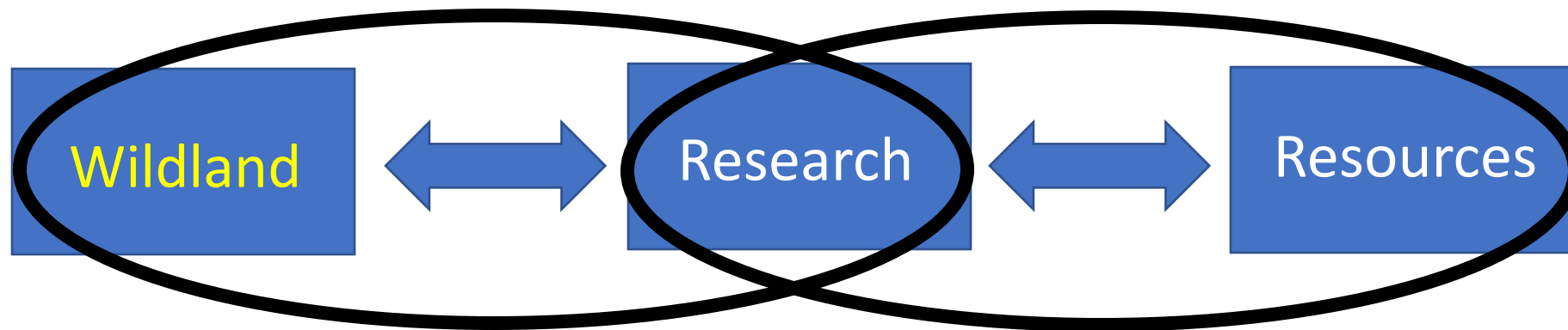
**Wildlands in New England**  
*Past, Present, and Future*

## *What - Why - Where - How*



Wildlands are tracts of any size and current condition, permanently protected from development, in which management is explicitly intended to allow natural processes to prevail with “free will” and minimal human interference.

Humans have been part of nature for millennia and can coexist within and with Wildlands without intentionally altering their structure, composition, or function.



- essential lifeline  
*land and water*

- data collection  
*baselines, protocols*

- local, integrated, highest use  
*community support system*

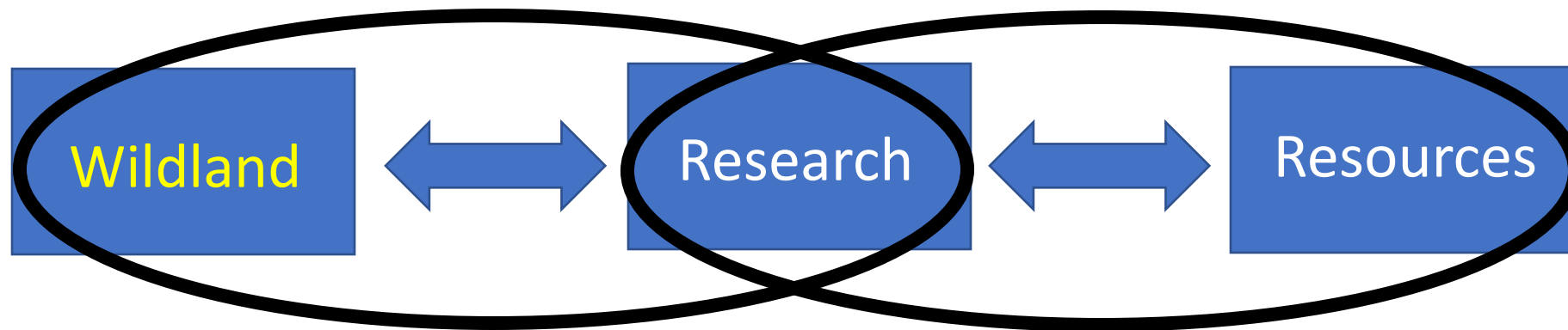
**“First Do No Harm”**

**gain knowledge / “wise use”**

**“waste not, want not”**



**“Nature-based” solutions rely on observing and understanding nature.**



- essential lifeline  
*land and water*

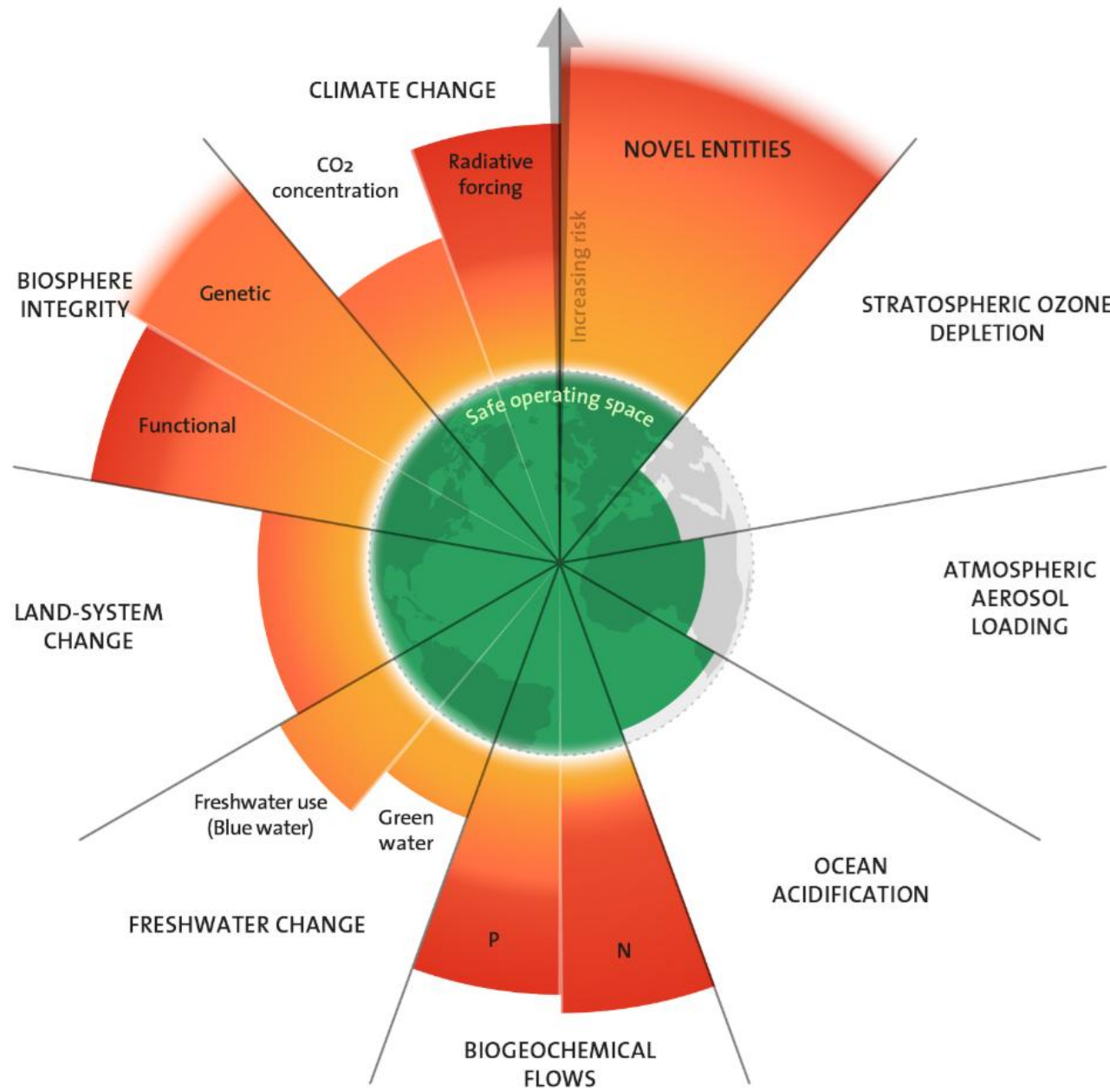
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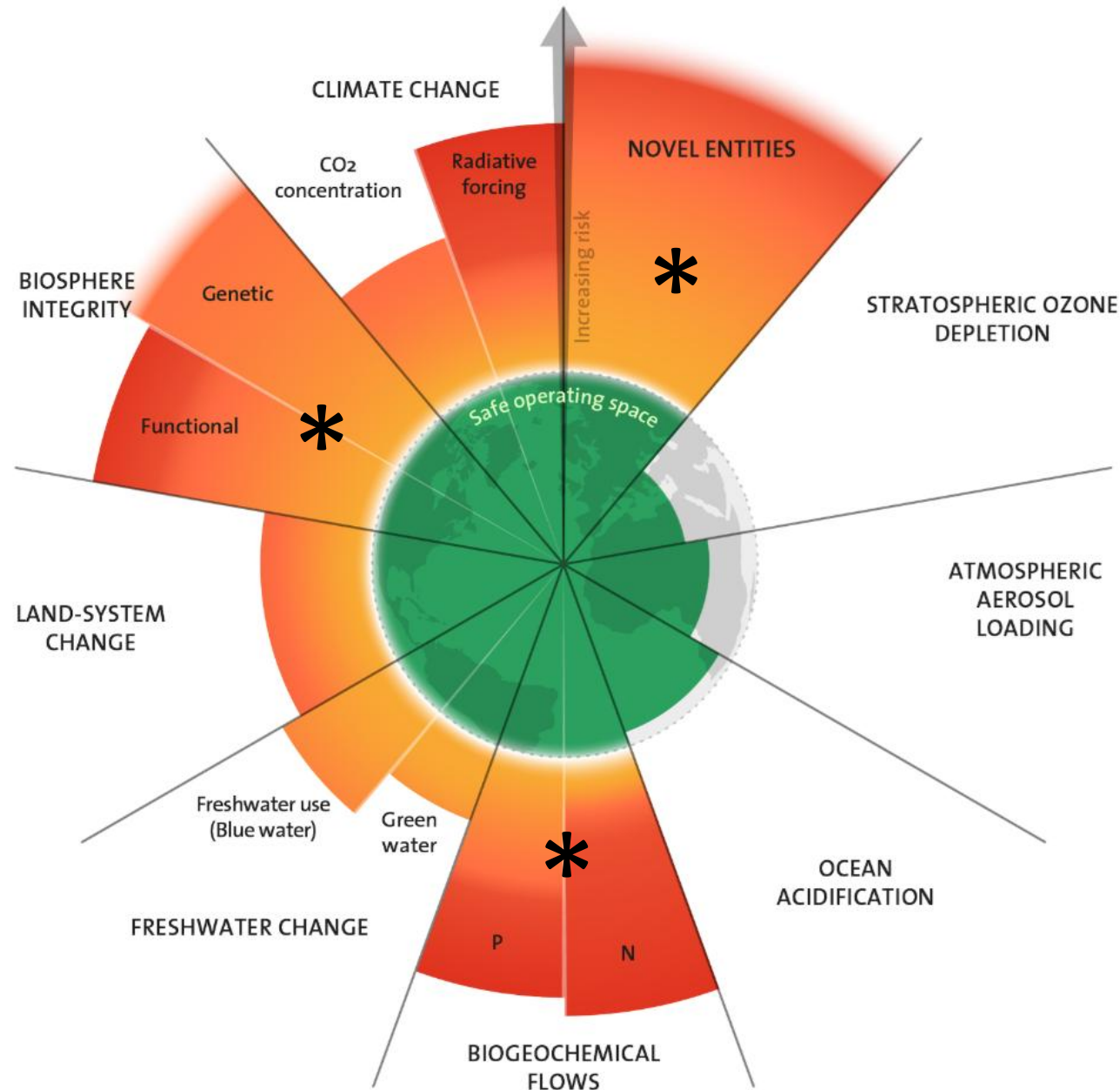
**“First Do No Harm”**

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The most  
serious  
planetary  
boundary  
violations are  
**biological .....**





# Life on earth depends on life on earth.



[www.ParkWatershed.org](http://www.ParkWatershed.org)

[https://www.parkwatershed.org/wp-content/uploads/2020/01/Park\\_EnvEd-report.pdf](https://www.parkwatershed.org/wp-content/uploads/2020/01/Park_EnvEd-report.pdf)



# When It Comes to the Climate, Older Trees Do It Better

Scientists long assumed that as trees got older, they grew slower—just like us. But a new study underscores the climate benefits of the oldest, biggest trees

## In a warming world, New England's trees are storing more carbon

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25-year study traced forest carbon through air, trees, soil and water



## Wilderness areas halve the extinction risk of terrestrial biodiversity

Moreno Di Marco<sup>1,2\*</sup>, Simon Ferrier<sup>3</sup>, Tom D. Harwood<sup>3</sup>, Andrew J. Hoskins<sup>4</sup> & James E. M. Watson<sup>5,6</sup>

Theoretical physicist Dr. Anastassia Makarieva – BIOTIC PUMP  
*(forests regulate themselves and the water system of the entire planet):*

*“The biosphere is divided between  
natural ecosystems that work for stability and  
disturbed ecosystems that cannot do that work.”*

**interdisciplinary international effort, w/o conflicts of interest,  
at the intersection of climate, ecology and health**



Theoretical physicist Dr. Anastassia Makarieva – BIOTIC PUMP  
*(forests regulate themselves and the water system of the entire planet):*

*“The biosphere is divided between  
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**every piece makes a difference**

# April 2024 – Embracing Nature's Complexity



**Embracing Nature's Complexity Conference**

**How to Communicate the Value of Water- and Climate-Regulating Ecosystems?**

**Embracing Nature's Complexity Conference**  
**How to Communicate the Value of Water- and Climate-Regulating Ecosystems?**

**April 9th** (introductory day)

**“The Return of Old Growth Forests”**

*Visit remnant old-growth and self-restoring forests in the Northeastern USA: these forests are reported to have offset much of the regional warming in the last decades. What do these forests look like? How do they develop and function? What's the role of human [mis]management?*



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**Rush of wild nature lowers PTSD in veterans, at-risk teens**

## **The Healing Power of Awe**

By [Tom Valtin](#) August 9, 2018





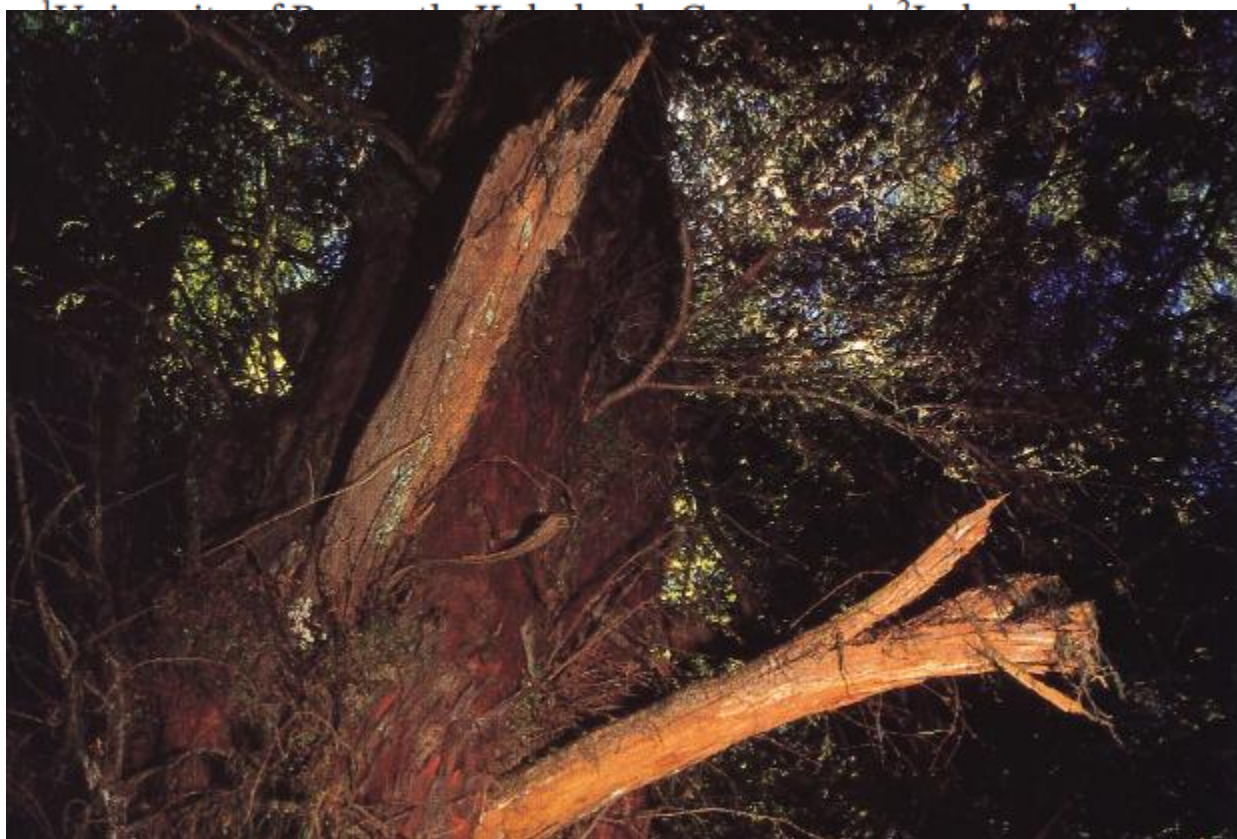
# TREE OF HOPE

Once seen as worthless, the Pacific Yew is the only natural source of taxol, a powerful cancer-fighting drug.

BY BILL CANNON | MARCH 1992 ISSUE

# Microbiomes as Modulators of Human and Planetary Health: A Relational and Cross-Scale Perspective

Anna Handte-Reinecker<sup>1</sup>  | Mallika Sardeshpande<sup>2</sup>



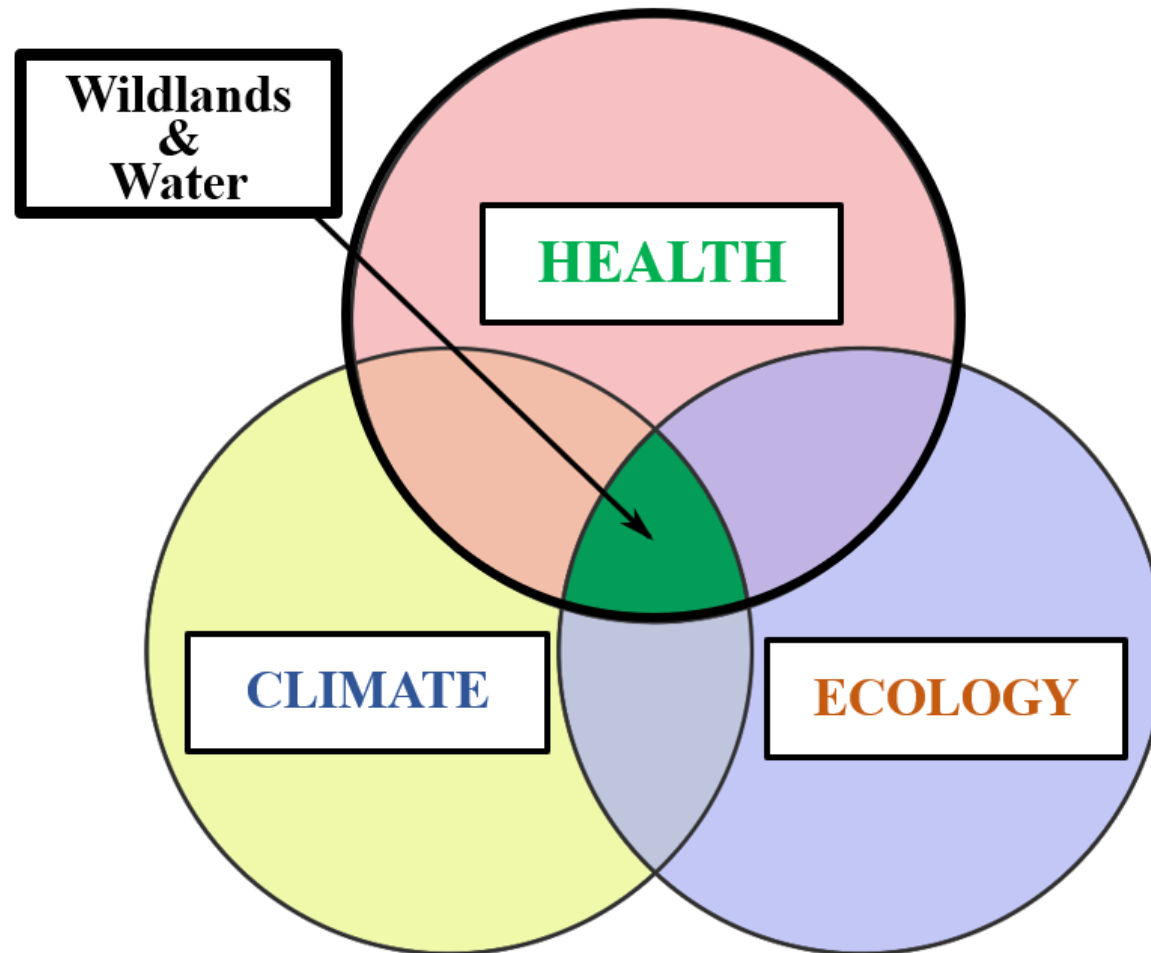
## TREE OF HOPE

Once seen as worthless, the Pacific Yew is the only natural source of taxol, a powerful cancer-fighting drug.

BY BILL CANNON | MARCH 1992 ISSUE



# *Land and Water is the Common Solution*



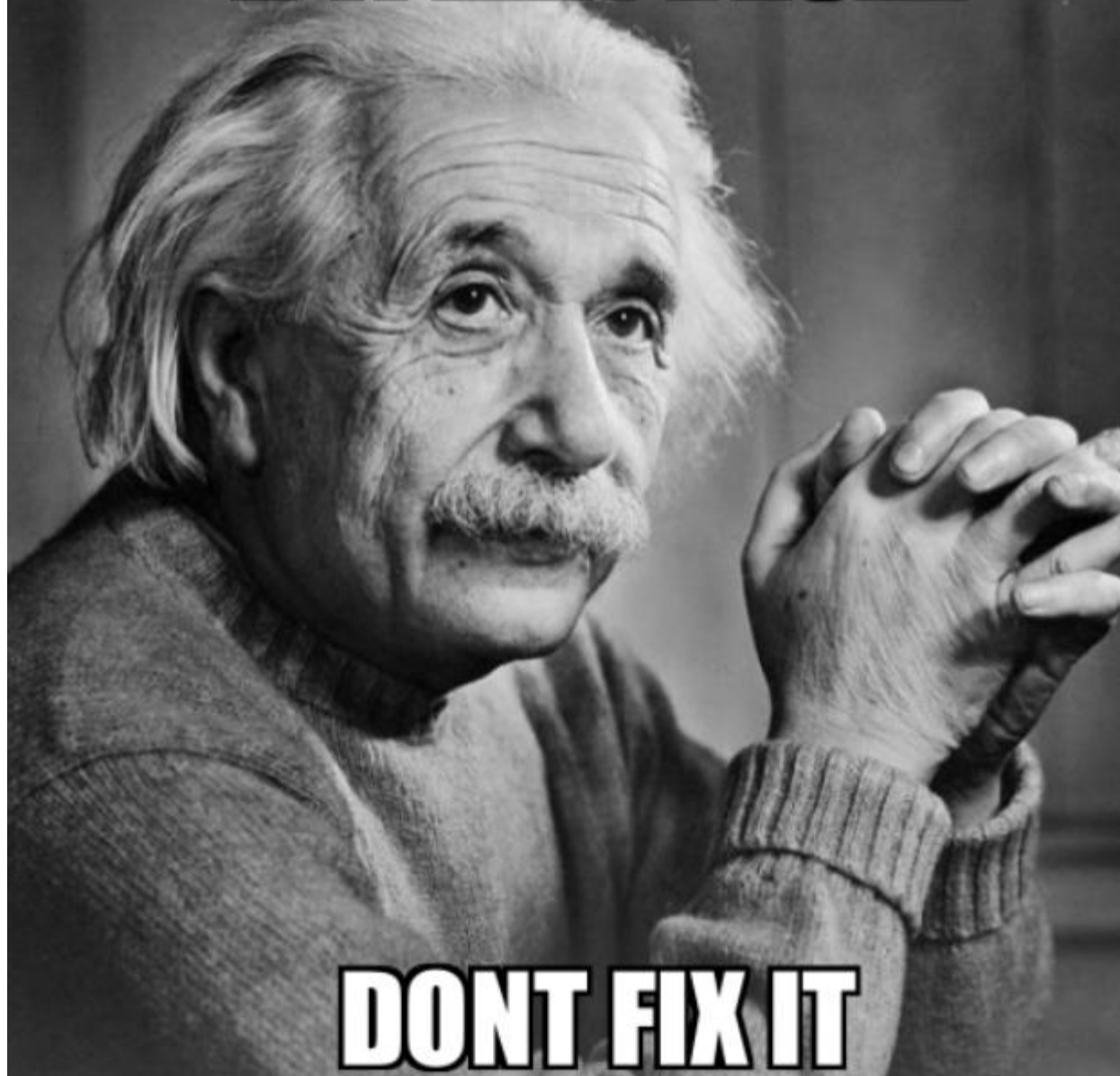
***“Science and everyday life cannot and should not be separated.”***

Rosalind Franklin, PhD (1920-1958)

**A Strategic Imperative for America in the 21st Century**



**IF IT AINT BROKE**

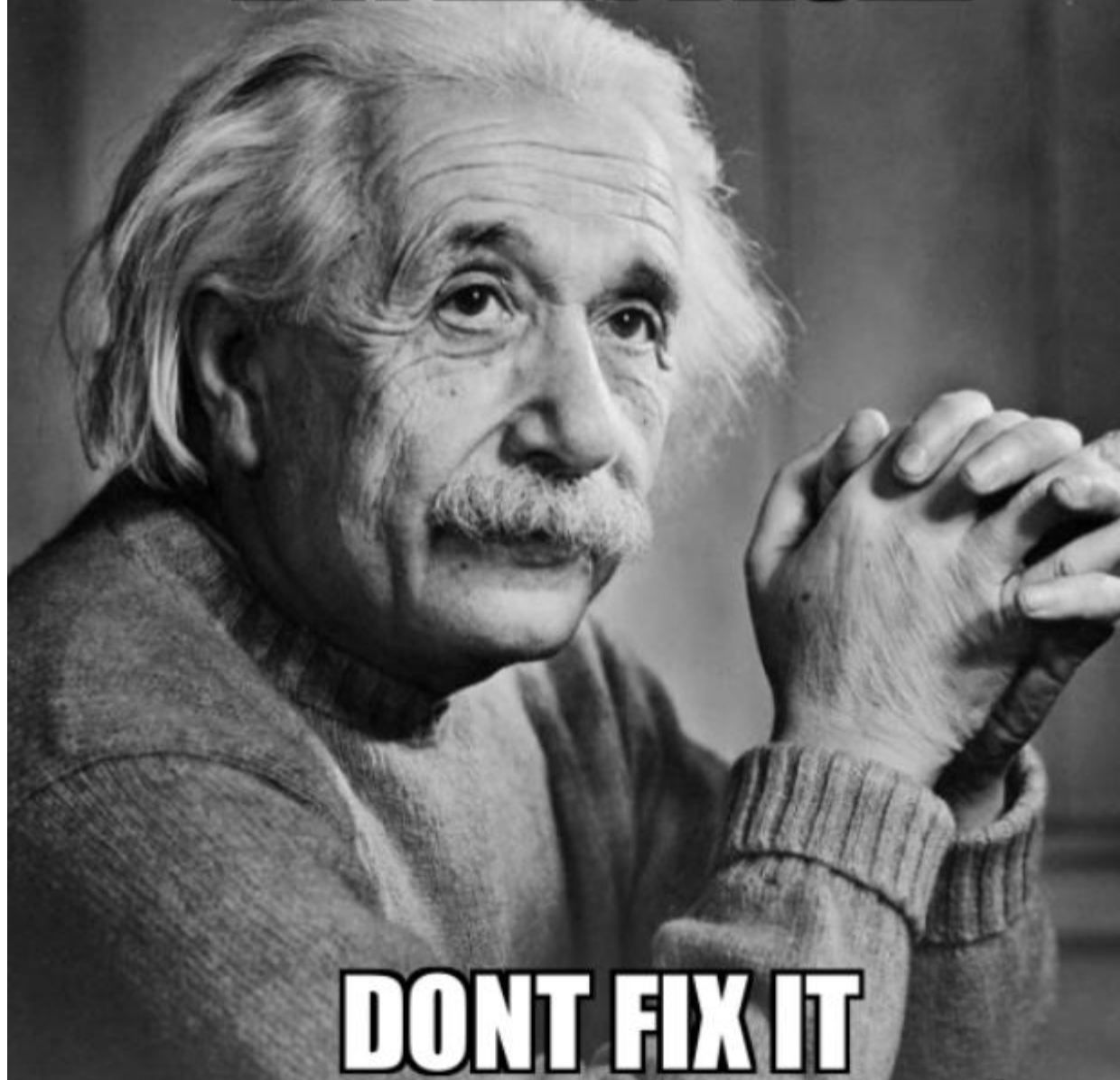


**DONT FIX IT**





**IF IT AINT BROKE**



**DONT FIX IT**



## FROM “PRESERVING WILDNESS”

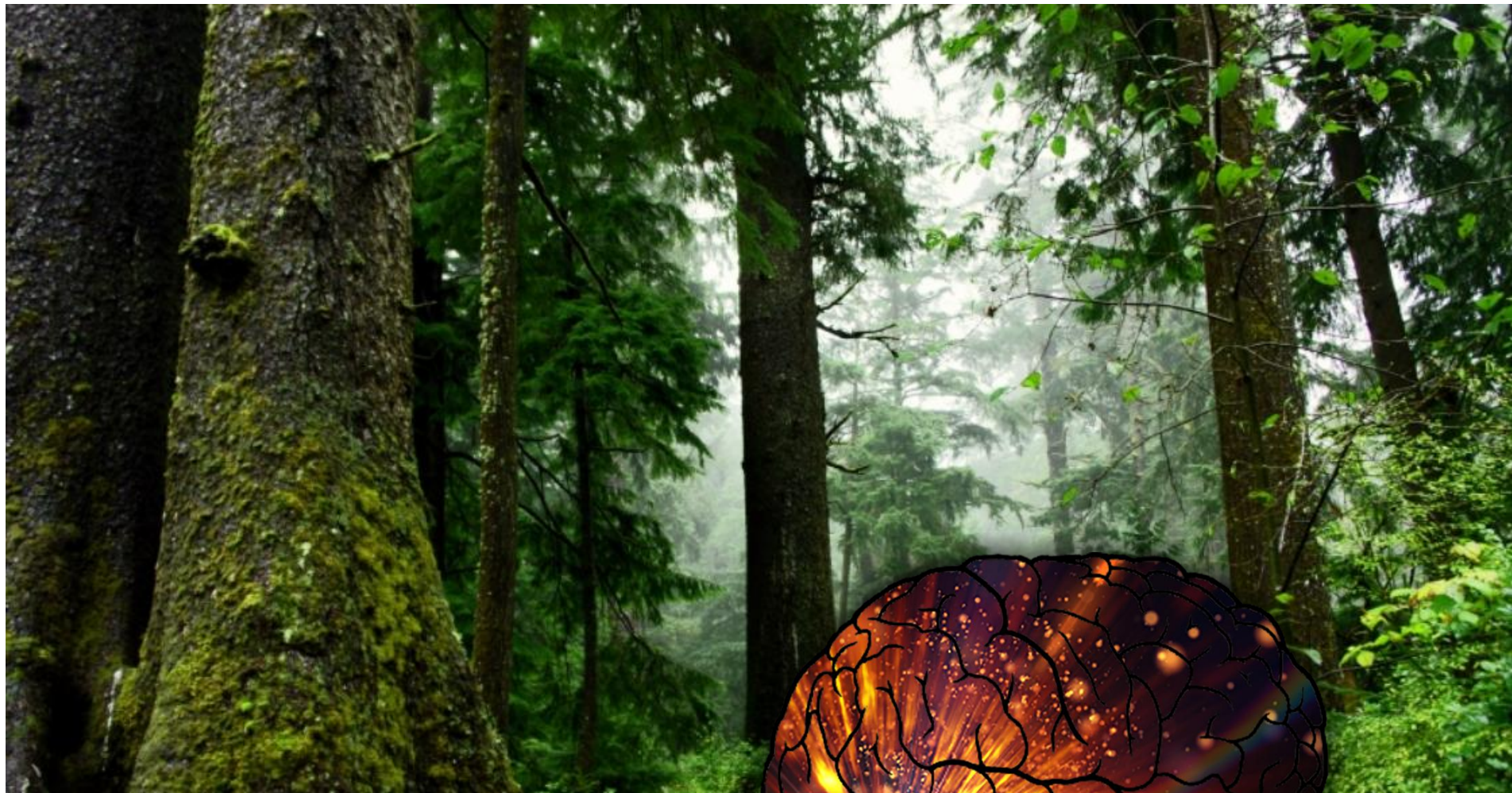
We cannot know what we are doing  
until we know what nature would be doing  
if we were doing nothing.

And that is why we need small  
native wildernesses widely dispersed over  
the countryside as well as large ones  
in spectacular places.

—*Wendell Berry*





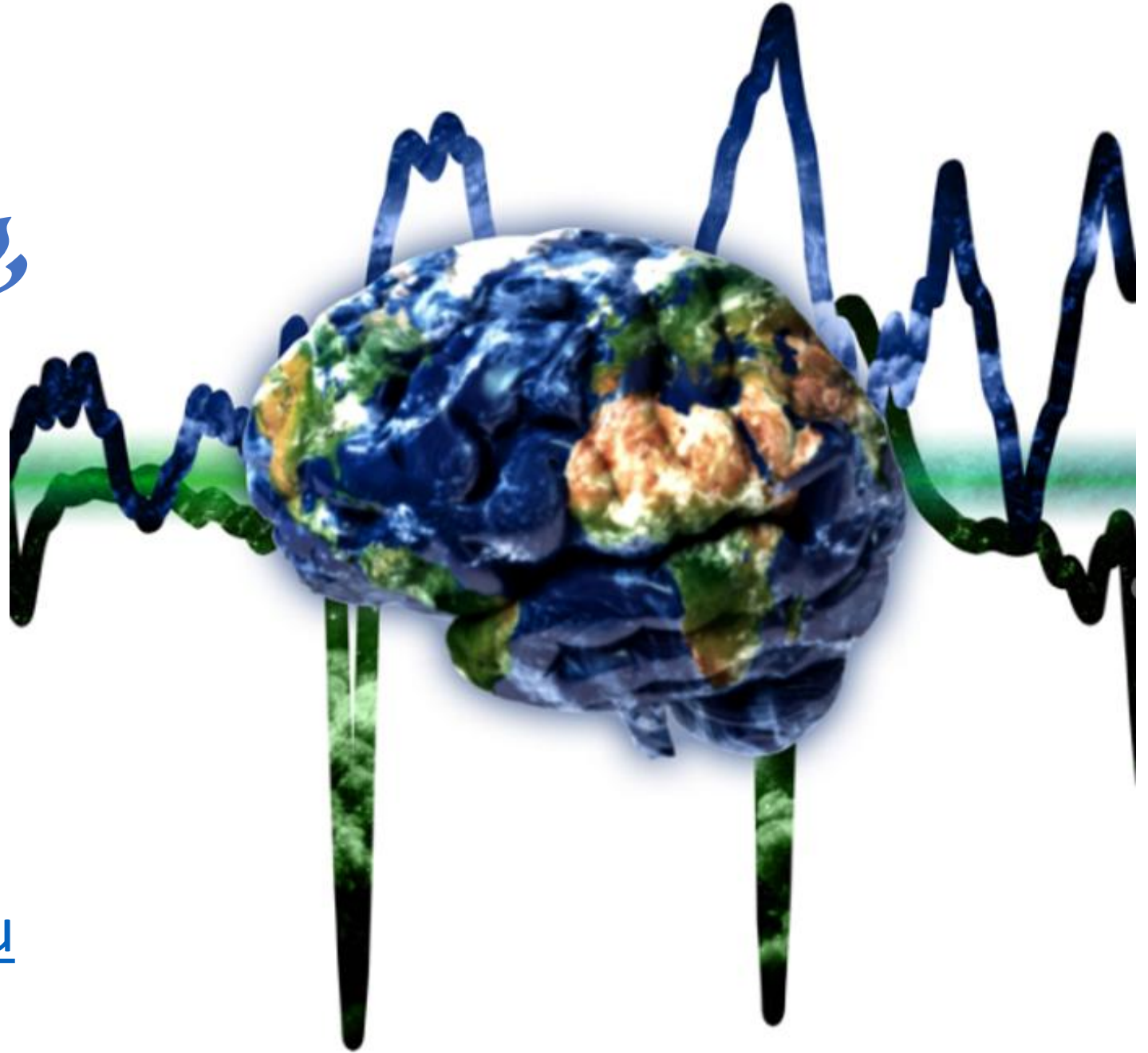


***“An intact forest  
is a mighty act of peace . . .”***

***Dr . Diana Beresford-Kroeger***



# *In Essentials, Unity*



Thank you!

[Susan.Masino@trincoll.edu](mailto:Susan.Masino@trincoll.edu)

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