

# COVID-19 AND CLIMATE CHANGE

Community vulnerability and the integration imperative



**Robert Newell**, Food and Agriculture Institute, University of the Fraser Valley

**Ann Dale**, School of Environment and Sustainability, Royal Roads University

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Community vulnerability and the integration imperative

## Abstract

The COVID-19 outbreak has revealed multiple vulnerabilities and gaps in community systems, presenting planners and decision makers with the significant challenge of developing their communities in ways that address these vulnerabilities and increase local resilience. However, effectively responding to this imperative requires thinking beyond solely pandemic responses, and taking more holistic approaches that integrate sustainability imperatives and objectives in long-term integrated planning.

Climate change, in particular, is a critical challenge that will impact communities around the world, and albeit a different crisis, pandemic preparedness and climate adaptation share similarities in terms of needs and approaches for community sustainability.

This presentation reflects on what the Covid-19 outbreak has illustrated regarding community vulnerability to crises, and it discusses these vulnerabilities in terms of both public health and climate change. It will explore key system vulnerabilities related to local economy, supply chains, and social connectivity.

The presentation then argues for integrated approaches to planning and policy following the outbreak in order to increase community capacity to respond to public health, climate and biodiversity crises. Opportunities for integrated approaches are discussed with a focus on three thematic areas: localisation, diversity, and connectivity.

**Citation:** Newell, R., & Dale, A. (2020). COVID-19 and climate change: Community vulnerability and the integration imperative. In the 4th Healthy City Design 2020 International Congress. Online: November 30 - December 3, 2020.



## Vulnerabilities and Integrated Approaches

*Vulnerabilities highlighted by the pandemic are vulnerabilities to other exogenous shocks*

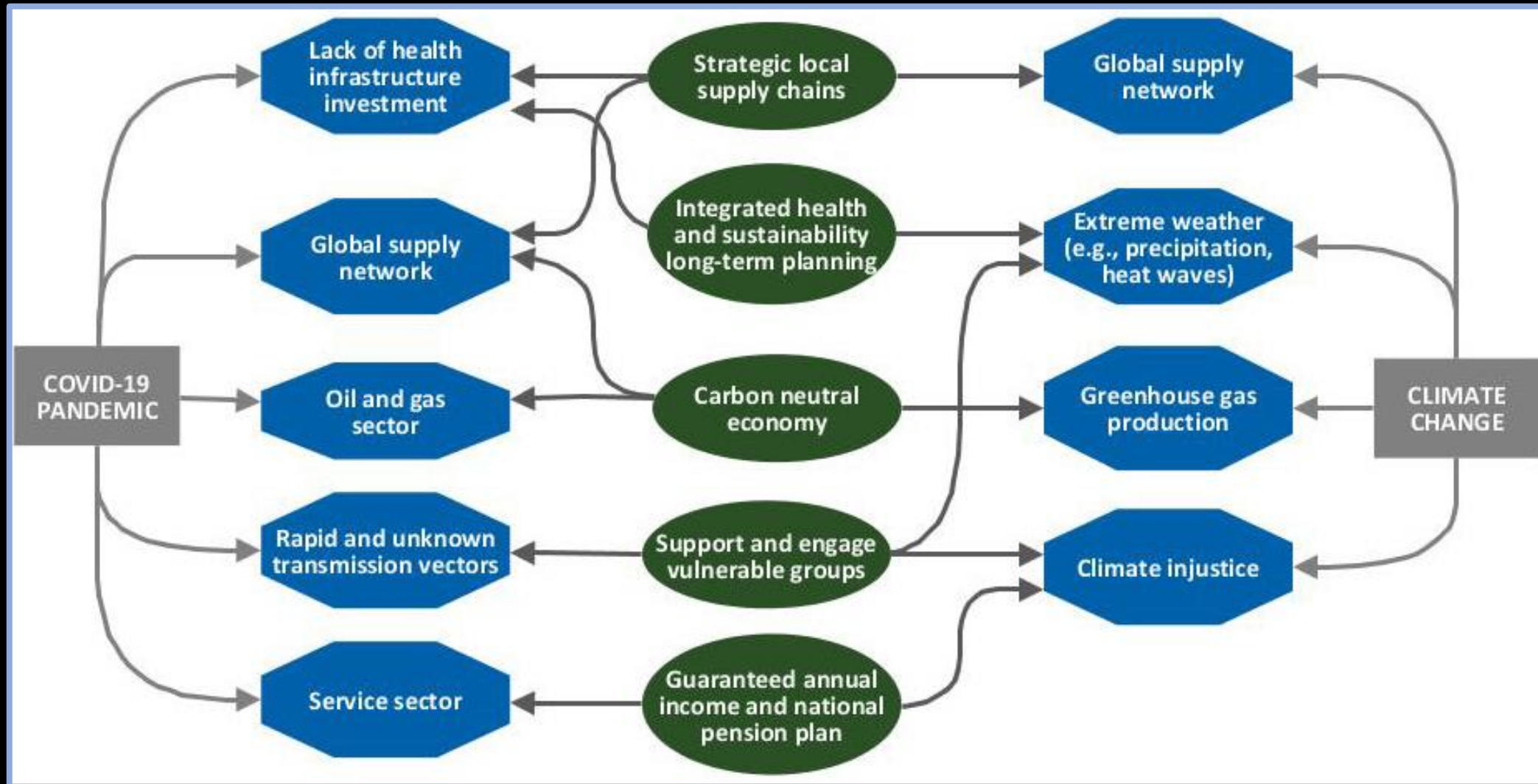
- Global, transboundary supply chains
- Labour shortages
- 'Just-in-time' inventory management
- Disruptions to transportation networks
- Inequitable income and job losses (e.g., oil and gas, service)
- Single-resource economies
- Social connectivity (challenges and needs)
- Vulnerable populations (e.g., homeless and underhoused)



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## Resilience and Integrated Approaches

*Strategies for pandemic resilience are strategies for community sustainability and resilience*





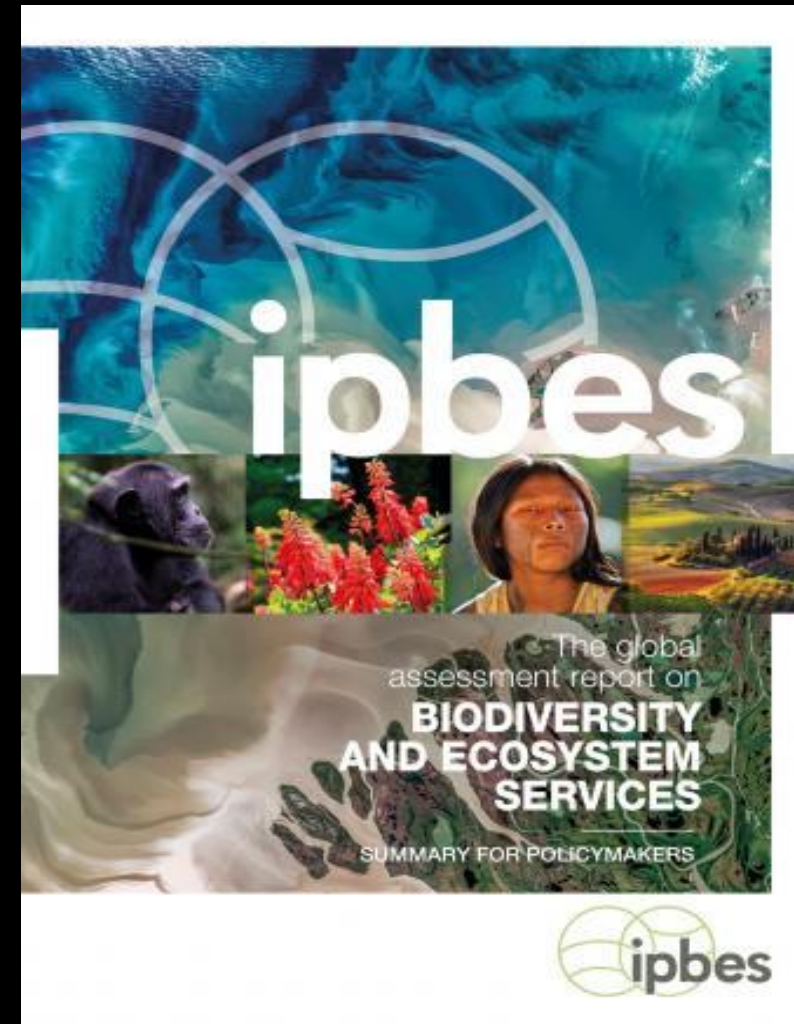
# COVID-19, THE LESSON(S)

## The Imperatives

The intersectionality of climate change, biodiversity, and human health



Climate  
change



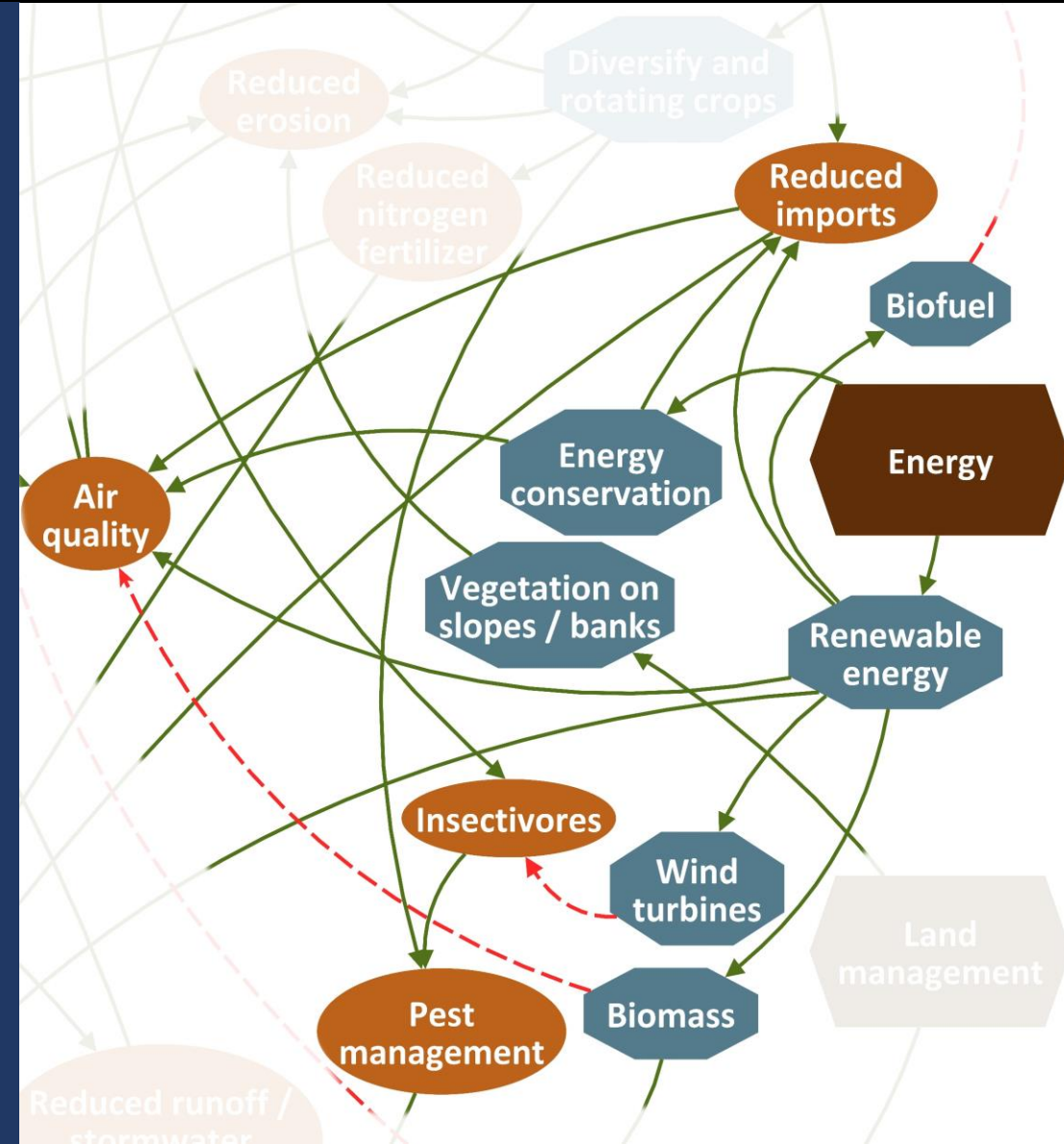
Biodiversity  
loss

## Areas of Vulnerabilities and Integrated Strategies

### Localization

**VULNERABILITIES:** Global supply chains;  
Health infrastructure

**CONSIDERATIONS:** Dynamic balance between local and global supply chains; Food security; Infrastructure resilience - renewable energy prioritization (but consider energy source); Air quality

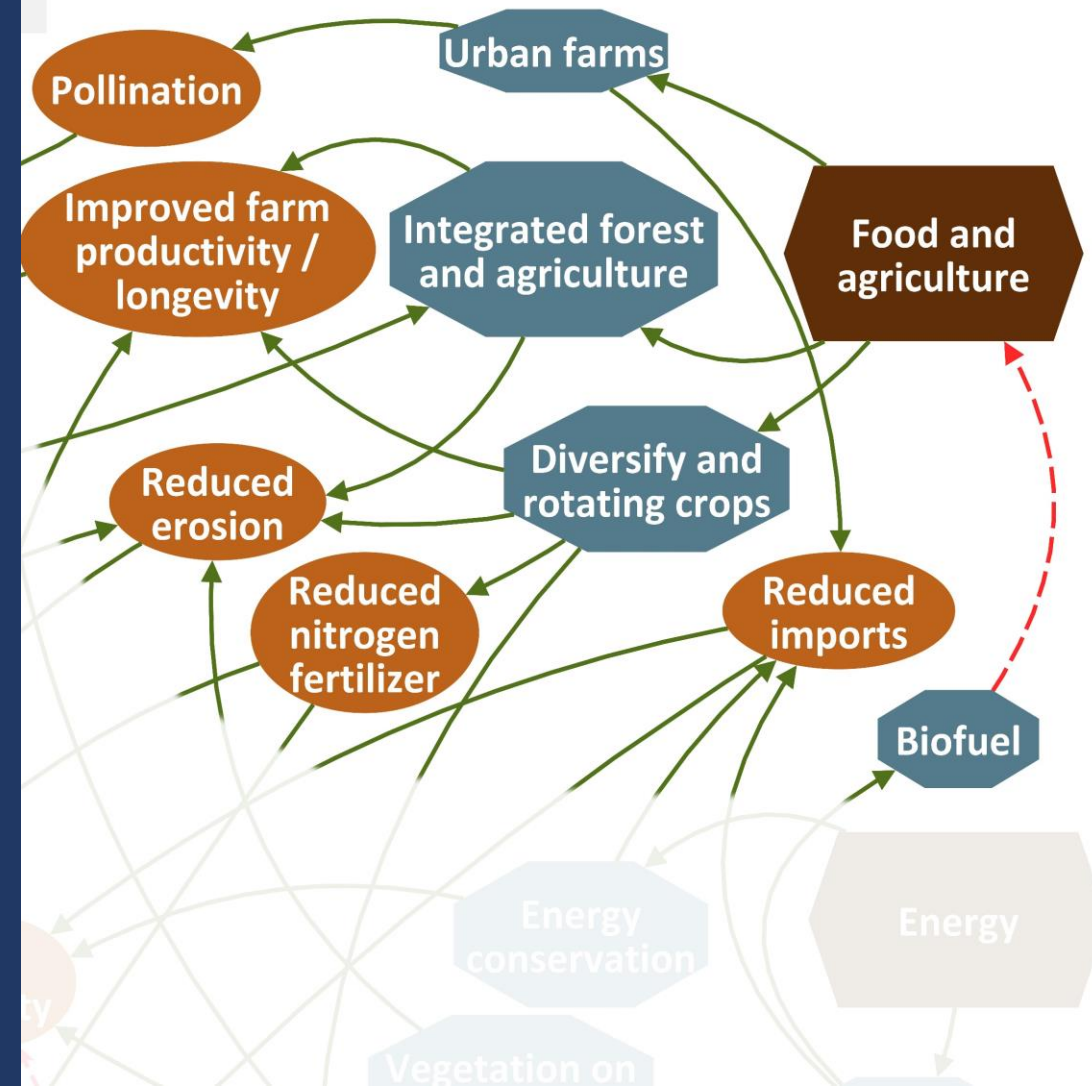


## Areas of Vulnerabilities and Integrated Strategies

# Diversification

**VULNERABILITIES:** Single-resource economies; Vulnerable sectors and loss of employment

**CONSIDERATIONS:** Diversify production; Regenerate ecological function; New practices (e.g., integrated urban agriculture/aquaculture farming)



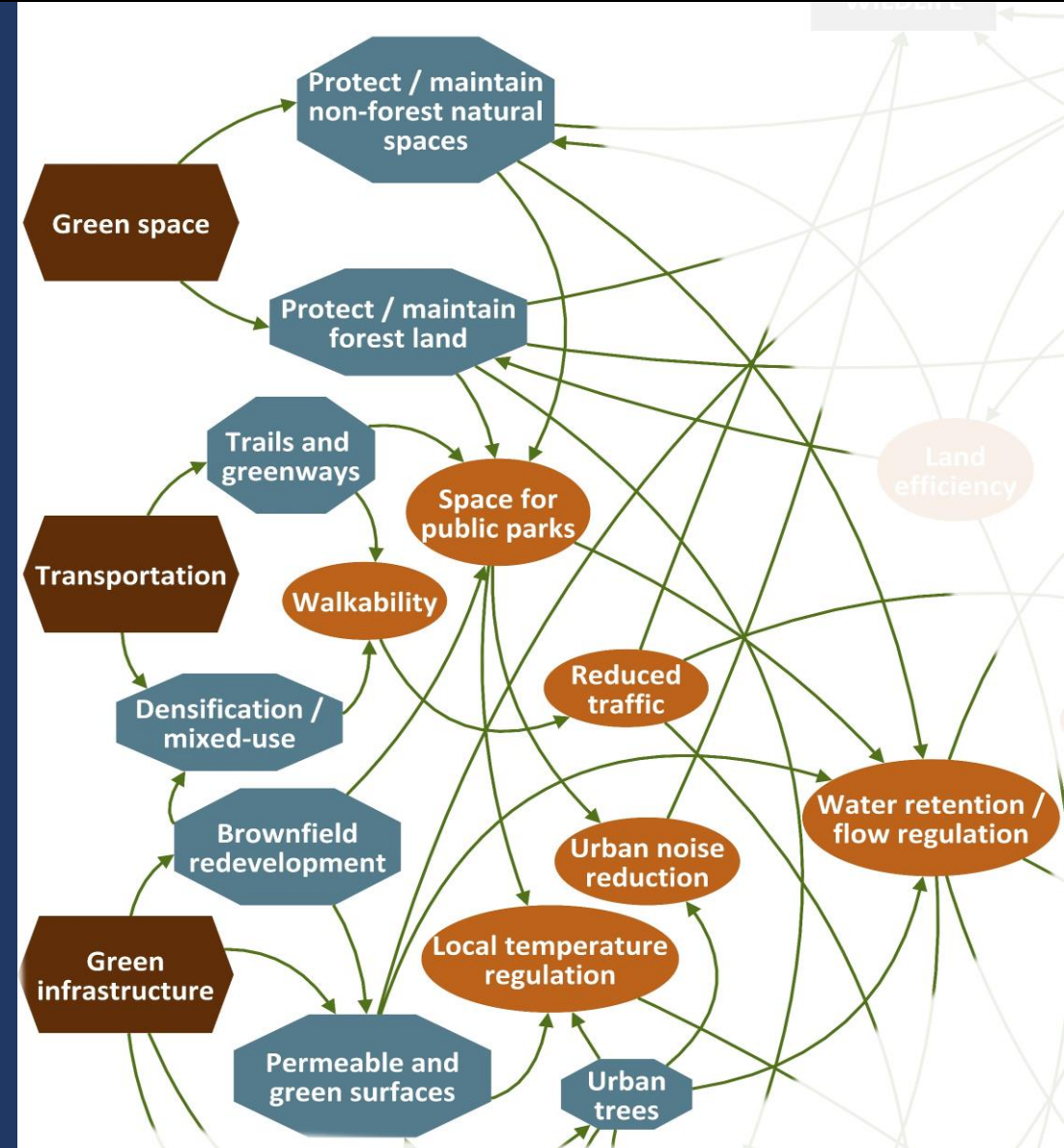


## Areas of Vulnerabilities and Integrated Strategies

### Connectivity

**VULNERABILITIES:** Challenges associated with urban densification; Urban 'crowding'

**CONSIDERATIONS:** Strategic distribution of parks and greenways; Optimizing distribution of green infrastructure and critical ecosystem services; Increase riparian buffers





## Future Research

*The climate-biodiversity-health (CBH) nexus*

