



# PLANETARY HEALING

Buckminster Fuller's Comprehensive  
& Participatory Design

John Todd, Ph.D. NESEA Conference,  
March 5, 2015









An aerial photograph of a vast mountain range in Appalachia. The terrain is covered in dense green forest, with rolling hills and valleys. The sky is overcast with soft, grey clouds, and the overall atmosphere is hazy and somewhat somber. The text is overlaid in a bright yellow color, providing a stark contrast to the muted background.

# The Crisis in Appalachia

Mountain Top Removal, Valley Fill  
Coal Mining & Massive Soil Loss





# On top of the mountain



# Conventional Reclamation: No Soil Building

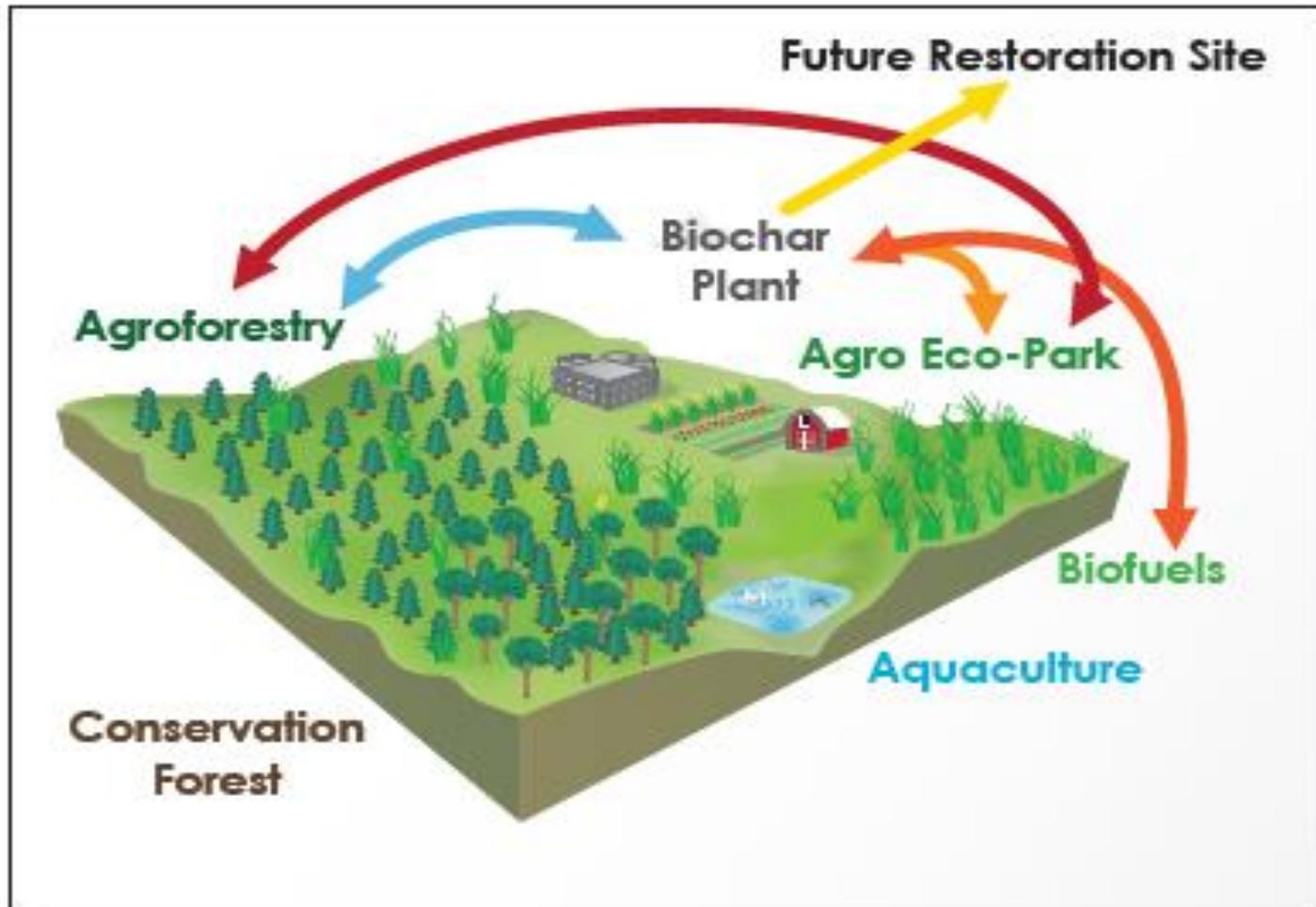


# Ecological Soil Creation With Fungi, Charcoal & Native Perennial Grasses

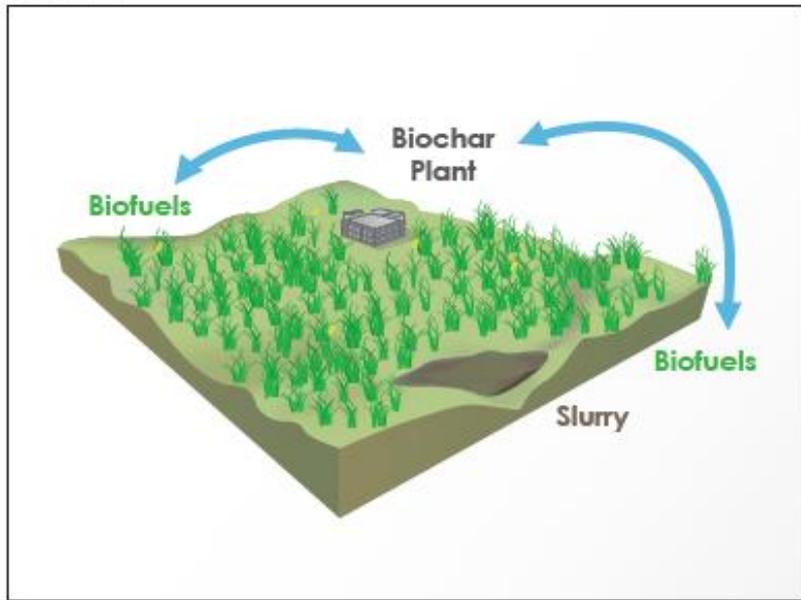


# A New Regenerative Economy

Year 16



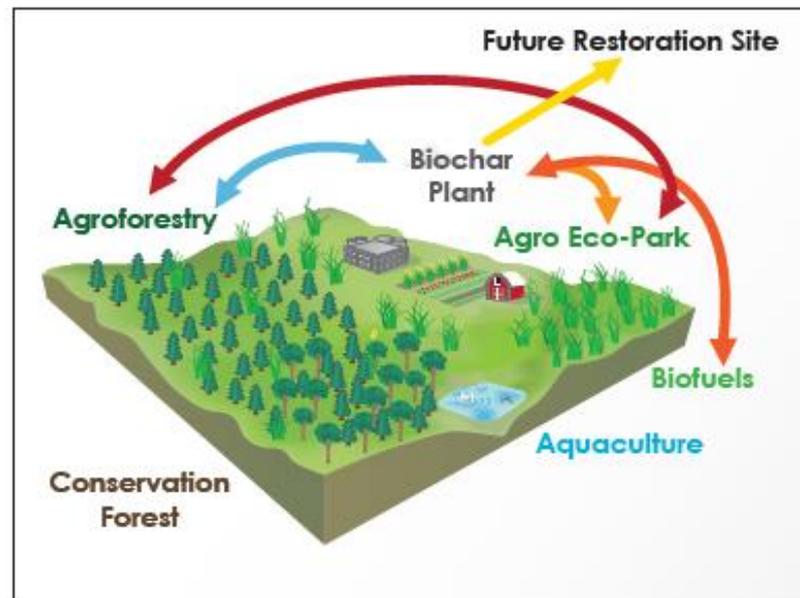
Year 1



Year 8



Year 16











## Grafton Water Resources Demonstration Project

The Town of Grafton, MA, The Town received a grant from the United States Environmental Protection Agency (EPA) for reducing non-point runoff associated with an historic mill race/direct canal. A key component of this project was to demonstrate and document the effectiveness of certain specific vegetative technologies to mitigate and reduce the concentrations of sediment, nutrients, pesticides, herbicides, and other pollutants and water volume of Blackstone River and historic Blackstone Canal. John Todd Ecology of Design was selected to install a Canal Restorer™ and demonstrate its effectiveness in reducing concentrations of sediment, herbicides, and other pollutants and sediment present in precipitation hydrocarbon to such groundwater and sediment present and directly adjacent to the historic Blackstone Canal. The Canal Restorer™ affords a unique opportunity to treat contamination while preserving the site's fragile historic infrastructure.

### Acknowledgments

This project was funded by the US Environmental Protection Agency with contributions and in-kind donations from the following organizations:

Town of Grafton  
The Massachusetts Audubon Society  
Blackstone Fishwaters Coalition  
Clark University  
Clark University's Muskolowski Institute  
Clark University's Superfund Research Program  
Brown University  
National Park Service  
Fishery & Boat Development Corporation  
Eugene Barton

### Design and Construction Team

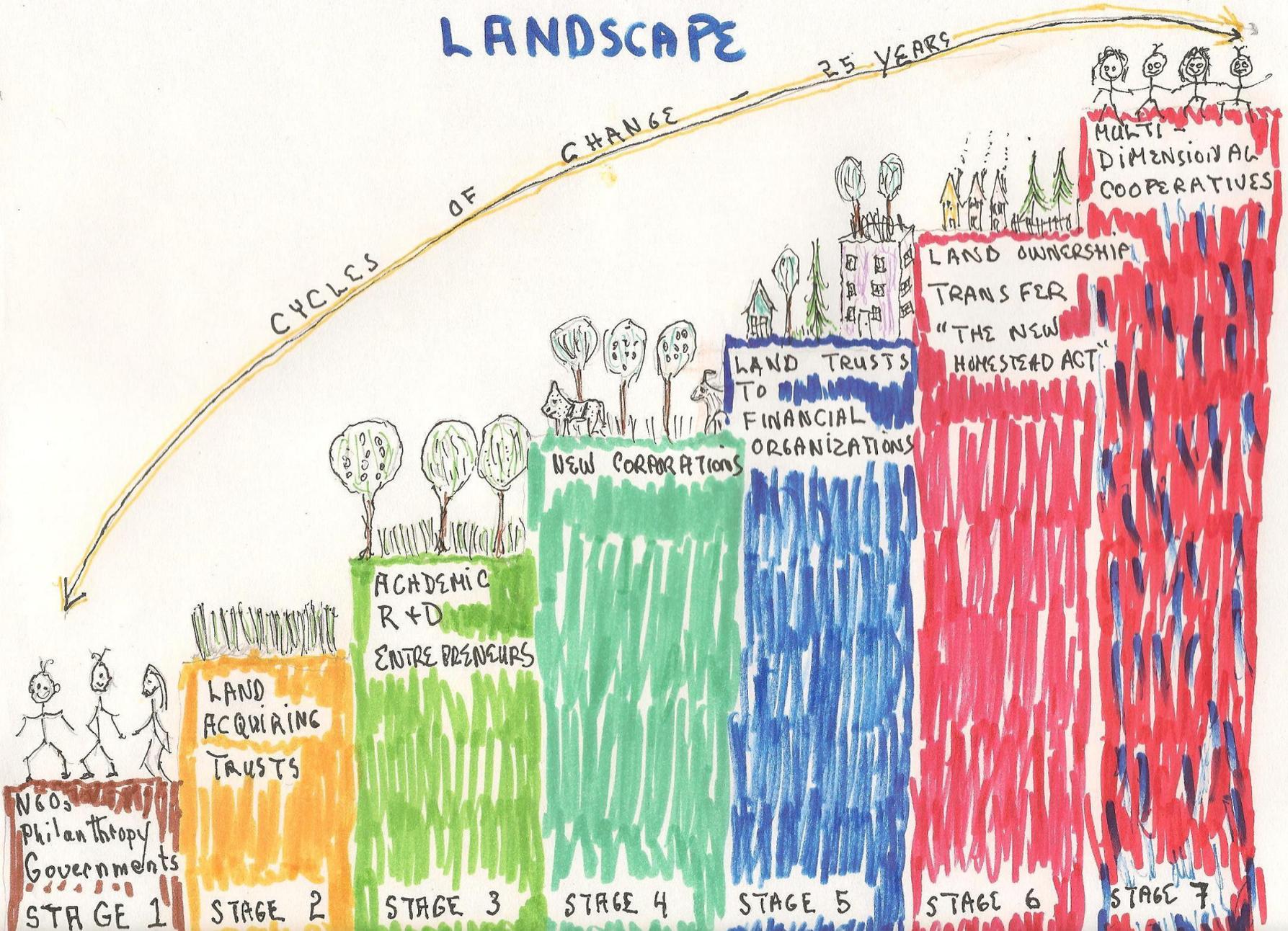
Scuba Construction  
Craig Norwalk Construction  
Paul Sargent and Peter Perfect LLC  
John Todd Ecology of Design



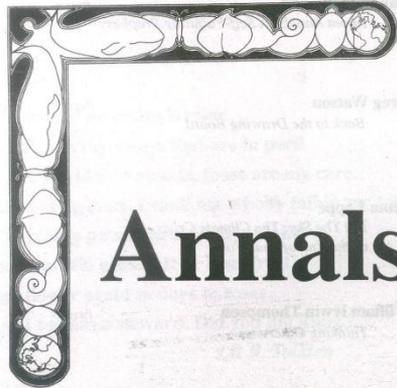
# Institutional Ecology & Succession: Change as an Underlying Force



# INSTITUTIONAL SUCCESSION ON THE COEVOLVING LANDSCAPE

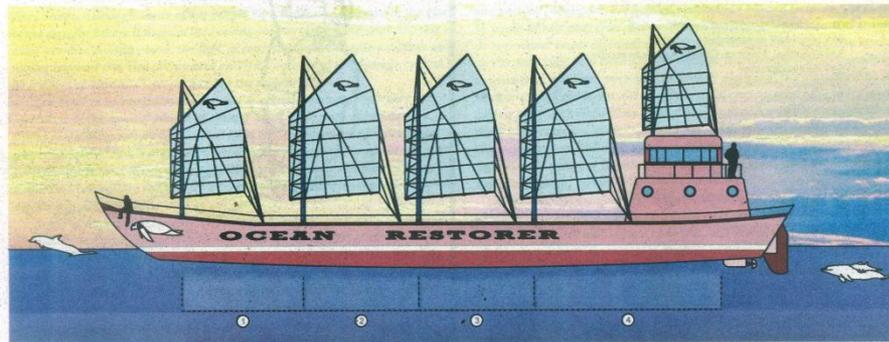


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*To Protect The Seas  
And Inform The Earth's Stewards*



*The Ocean Restorer*

*Matthew Martin Beam*

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