

# 2010 East Asia Science and Security Meeting

*September 22-24*  
*Beijing China*

**“East Asian Ecological Security as absolute determinant for stability, security and peace: Understanding the principles and mechanism of Ecosystem Functionality, Ecosystem Restoration and Restoration Agriculture”**

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# Security Through Ecological Security

- What means peace, is it the absence of war or a vision for a certain way of life?
- Creating peace needs the understanding that all sides must take action and change
- Creating and maintaining peace must be based on a shared vision which will create the basis for collaboration and trust

# Shifting Perspectives

- Determining where currently does the largest security threat come from
- Understanding Global Climate Change
- Dealing with Extreme Weather Patterns and Catastrophes
- Building Resilient Healthy Systems

# A shared vision of the Korean Peninsula

- ...

# Where does our wealth come from?

- Today's 9 billion people only have half the earth's vegetation cover.
- Release of carbon from burning fossil fuels also uses oxygen.
- Plants are masters of keeping the equilibrium
- Growing back the earth's vegetation cover is the one and foremost mechanism to rebuild reliance of the earth's life systems

# Oxygen

- Oxygen levels 10,000 years ago were at about 25%
- Oxygen levels today are averaging 20% and as low as 15% in some urban areas
- Oxygen in the upper waters of the North Pacific, an area that accounts for about 40 percent of the world's oceans, decreased as much as 15 percent in a little less than two decades between the early 1980s and late 1990s.

The generation and maintenance of all our life processes are supported by four basic components:

carbohydrates

water

proteins

energy

oxygen + carbon + hydrogen + nitrogen = protein

oxygen + hydrogen + carbon = carbohydrates

oxygen + hydrogen = water

oxygen + carbohydrates = energy



It is possible to  
rehabilitate large-scale  
degraded ecosystems

important to establish  
the baseline

\* Biodiversity

\* Biomass

\* Accumulated

Organic Matter

\* Photosynthesis

\* Nutrient Cycling

\* Infiltration & Retention  
of Rainfall

Human Activity  
Without Ecological  
Understanding  
leads to  
Ecosystem  
Collapse



# The United States



Civilian Conservation Corps  
1933 - 1942

The CCC planted  
between 3 and 5  
billion trees

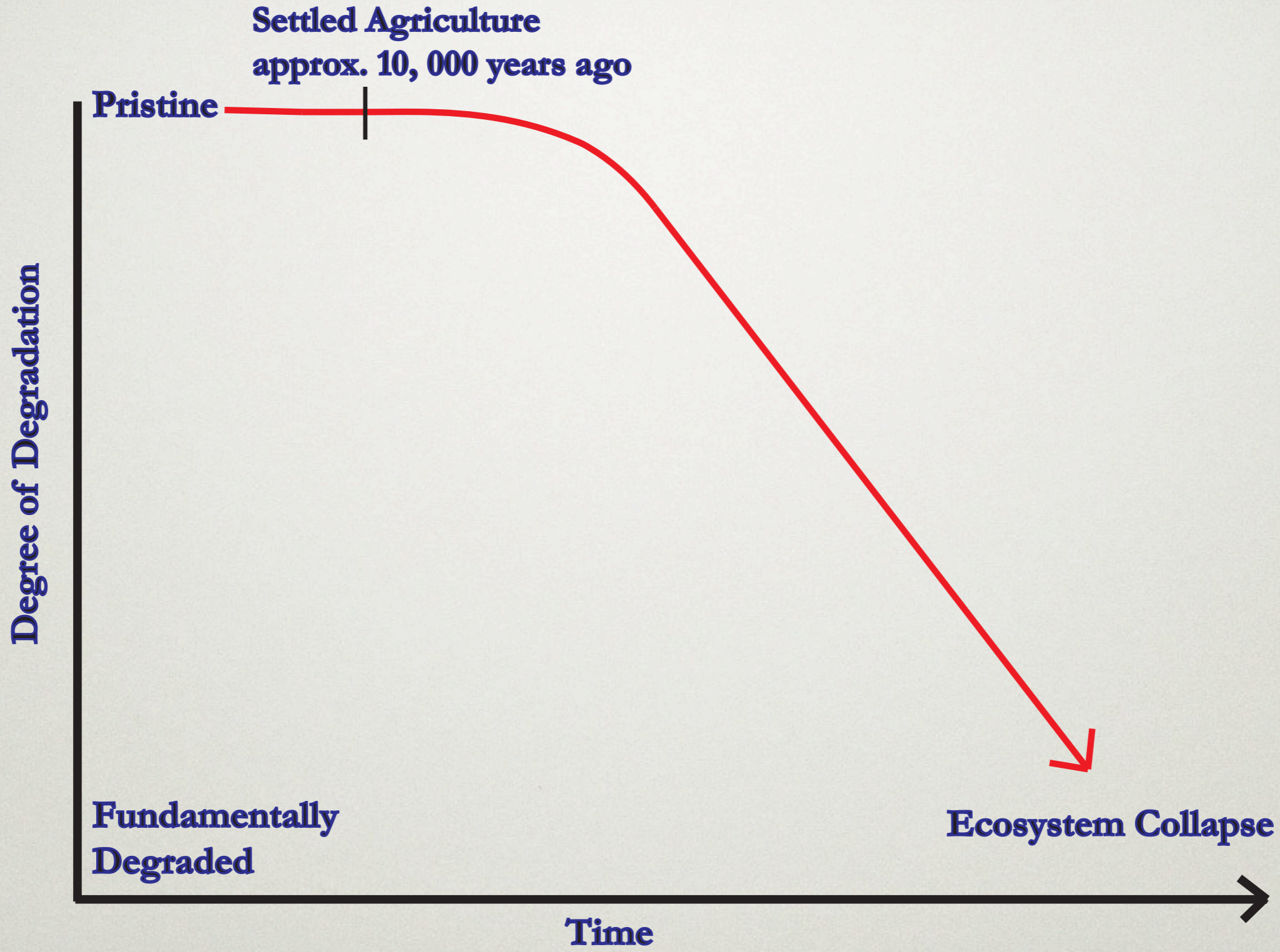


CCC Tent Camp

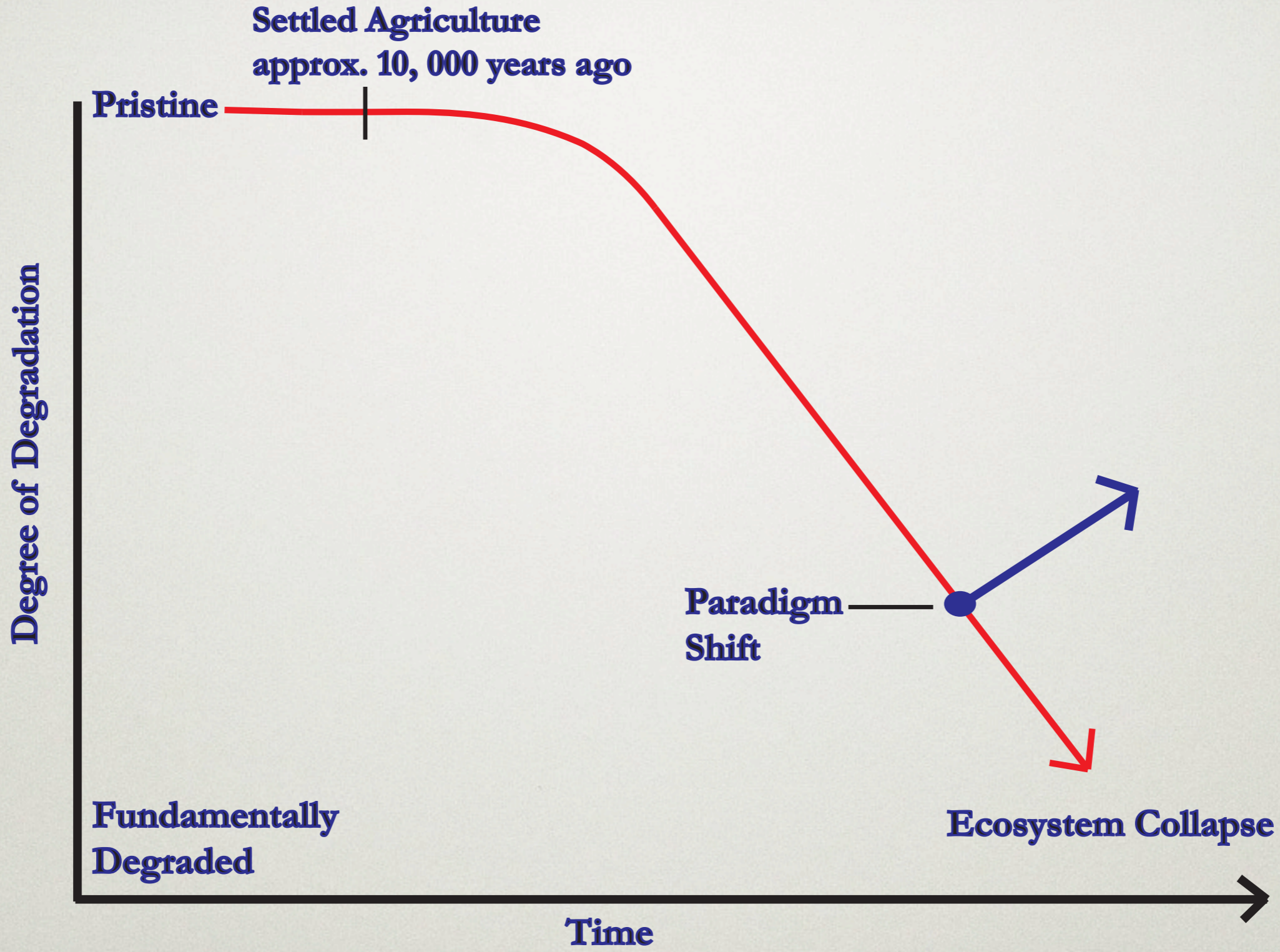


Civilian Conservation Corps workers

The CCC helped  
build 700 Parks







*Findings from “Earth’s Hope”*

*“It is possible to rehabilitate  
large-scale degraded ecosystems  
including returning ecosystem function  
that had been lost over large areas.”*

What do we know about:

\* the atmosphere

\* the hydrological cycle

\* soil fertility and productivity

Where do these functions  
and processes come from?

- Human beings have physically disrupted ecosystem function over vast areas. In order to achieve equilibrium and sustainability we must physically restore them.

- Unless we intervene to change the trajectory of these trends then we are committed to increasingly catastrophic outcomes.

- *It is possible to rehabilitate large-scale damaged ecosystems including restoring ecosystem function that was lost over large areas and long-time horizons.*

- *Biodiversity*
- *Biomass*
- *Carbon Capture*
- *Soil Moisture*
- *Soil Fertility*
- *Infiltration and Retention of Rainfall*
- *Temperature Differentials*

- *Increases in Carbon Capture*
- *Reduction in Temperature*
- *Increases in Hydrological Function*
- *Increases in Fertility & Productivity*
- *Moderation of Extreme Weather Events*



# BY RESTORING ECOSYSTEM FUNCTION WE CAN ADDRESS:

- Poverty
- Disparity
- Food Insecurity
- Desertification
- Climate Change
- Temperature Differentials

# BY RESTORING ECOSYSTEM FUNCTION

## WE CAN ADDRESS:

- Unchecked Population Growth
- Right Historical Wrongs
- Ensure Women's Rights
- Engage those most vulnerable to being recruited by terrorists
- Migration
- Conflict

- Designating Ecological Land and allowing nature to determine the species can ensure that biodiversity survives into future generations.

- In highly degraded land it is possible to increase productivity by decreasing the area in cultivation because ecological land provides increased soil moisture and fertility.

- Revaluing ecosystem function will immediately end poverty for 100's of millions of the poorest people in the world. We need to do this not simply to help them but to help ourselves.

- This seems to be the knowledge that determines whether civilizations survive or fail. But we face this as a species on a planetary scale.

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