



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Critical Thinking:
The Best Risk Management Tool- Holistic Decision
Making

Shannon Horst

Photo by Dominic Sheehan

Critical Thinking: The Best Risk Management Tool

Holistic Decision Making
Agricultural Outlook 2011



Critical Thinking

“Purposeful, reflective judgment concerning what to believe or what **to do.**”

But, can be *very* difficult
given a world of
complexity.

“The world is not only more complex than we can imagine, it’s more complex than we can *possibly* imagine.” - Jim Crofoot.

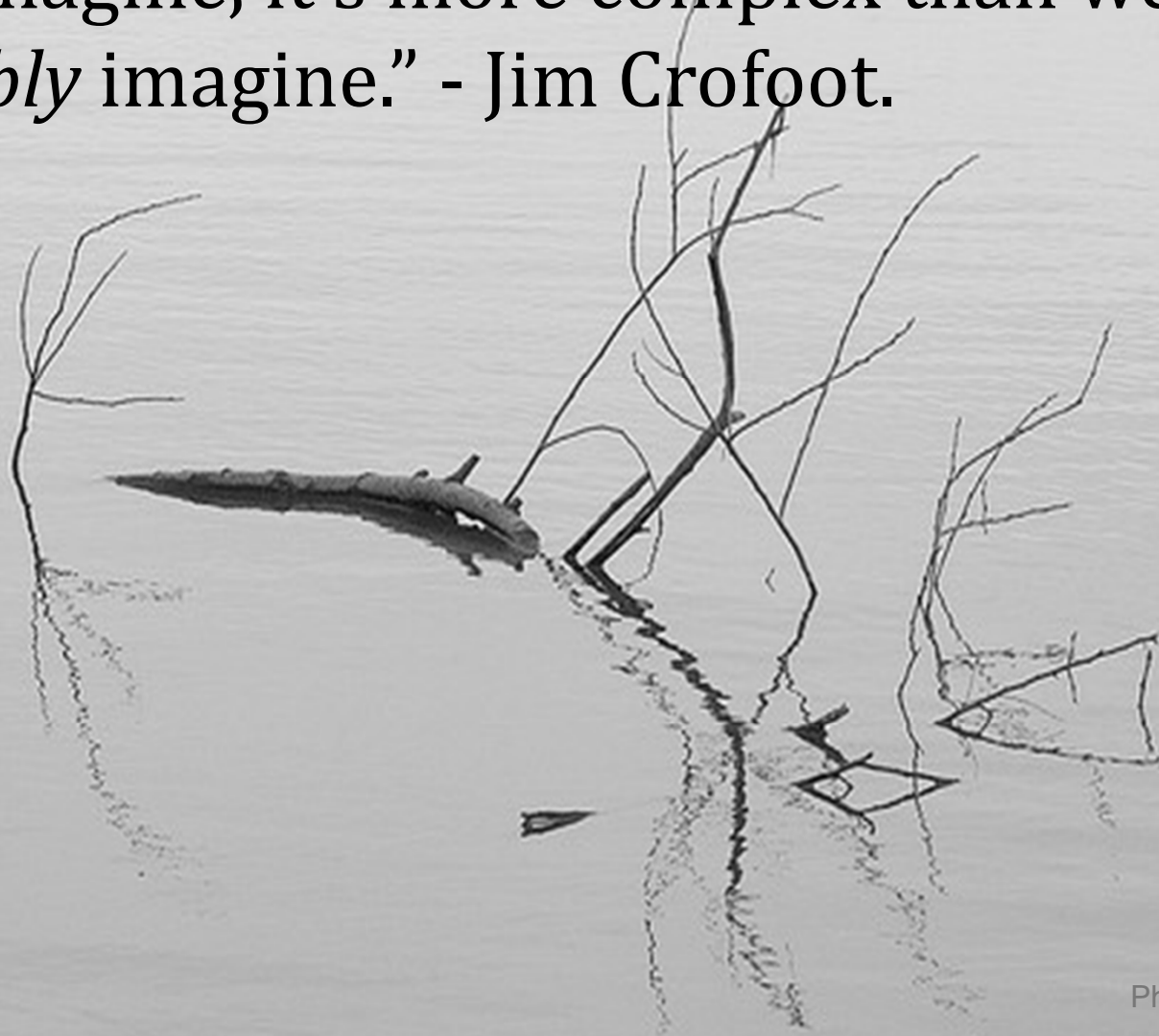


Photo by scot63us

Critical Risks



Drought, Flooding, Pests, Etc



Failing Rural Economies



Families Leaving the Land



Mechanical vs Complex

Things We Make

- Transport: Air, Land, Water
- Space Exploration
- Weaponry
- Radios, TVs, Satellites
- Computers, Robotics
- Medical Technology, Genetic Engineering

Things We Manage

- Economies
- Societies
- Rangelands
- Oceans, Rivers
- Fisheries
- Forests
- Wetlands



Holistic Decision Making

Managing Complexity toward a balance of:

Social
Financial
Environmental

Short and Long Term

Core Decision-Making

General idea of where we are going on our farm, family, or business

Objectives/Problem Solving

Possible Actions

Considerations

Implement Action

Monitor to “see what happens”

Holistic Decision-Making

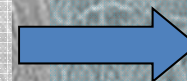
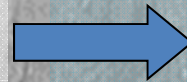
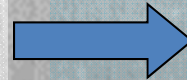
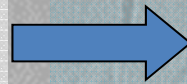
Define All Resources

Define where you are going

Ground decisions in biological foundation

Test Decisions

Monitor to produce results



Creating Context

Whole Farm Goal

- Where are we going/what's important to us?
- What do we have to produce/create?
- How *must* our resources function – 1000 years?



Testing Decisions

- Root Cause
- Weak Link – Bio, Socio, \$\$
- Gross Profit
- Marginal Reaction
- Energy/Money – Source and Use
- Sustainability
- Society & Culture

Monitoring to Produce Results

Early Warning
Biological Monitoring



Producer Example

- 13,000 acres in Eastern NM
- Snakeweed = 11%
- Recommended Action—spray Tordon 22 (DOW Chemical)



Results

Temporary:

Reduction/setback of snakeweed

Increase/loss in production

Followed by:

Return of snakeweed

Fall in production



Two treatments - \$26,000

No long-term financial return



An Alternative Approach that Deals with Complexity

For a Sound Decision:

- Consider ‘the Whole’
- Work toward Holistic goal, not objective (i.e. eradication)
- Functioning of Four Ecosystem processes
- Cause and Effect - what is the *Underlying Cause*?
- Monitor to produce results

Results after Holistic Decision-Making



The Original Situation...

- 11 % snakeweed**
- 6 species perennial grass**
- 300 animals avg (12lbs/acre meat)**
- 1 family earning a living**
- Springs dried up (early 1900's)**



Four Years Later...

- 1 % snakeweed**
- 19 species perennial grass**
- 900 animals avg (25 lbs/acre meat)**
- 3 families earning a living**
- Springs re-appeared mid-1990s**
- Family vacations and golf**



Allan Savory's Work

Originator of Holistic Management

Working for 50 Years to penetrate policy and institutional thinking

2003 Winner of Australia's Banksia Award

2010 Winner Buckminster Fuller Challenge

Worldwide results...



Presented by:
Shannon Horst
Shorst@SavoryInstitute.com
www.SavoryInstitute.com