AN INTEGRATED SOCIAL, ECONOMIC & ECOLOGICAL (ISEEC) FRAMEWORK

TYING THE BIOPHYSICAL & SOCIO-ECONOMIC WORLD TOGETHER

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ACKNOWLEDGING THE "WHOLE" SRR TEAM

WHY "ISEEC?"

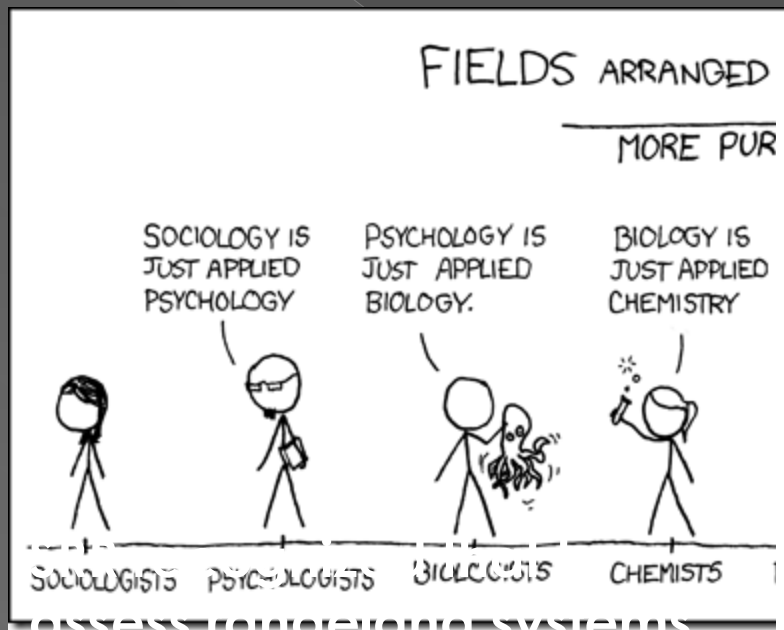
- All organisms modify their environment, and humans are no exception. As the human population has grown and the power of technology has expanded, the scope and nature of this modification has changed drastically (Vitousek, *et al. 2009)*.
- Successful assessment of ecosystems must recognize the interactions between ecological conditions and dynamics and the social and economic context in which they occur (Mitchell 2010; Maczko et al. 2004)

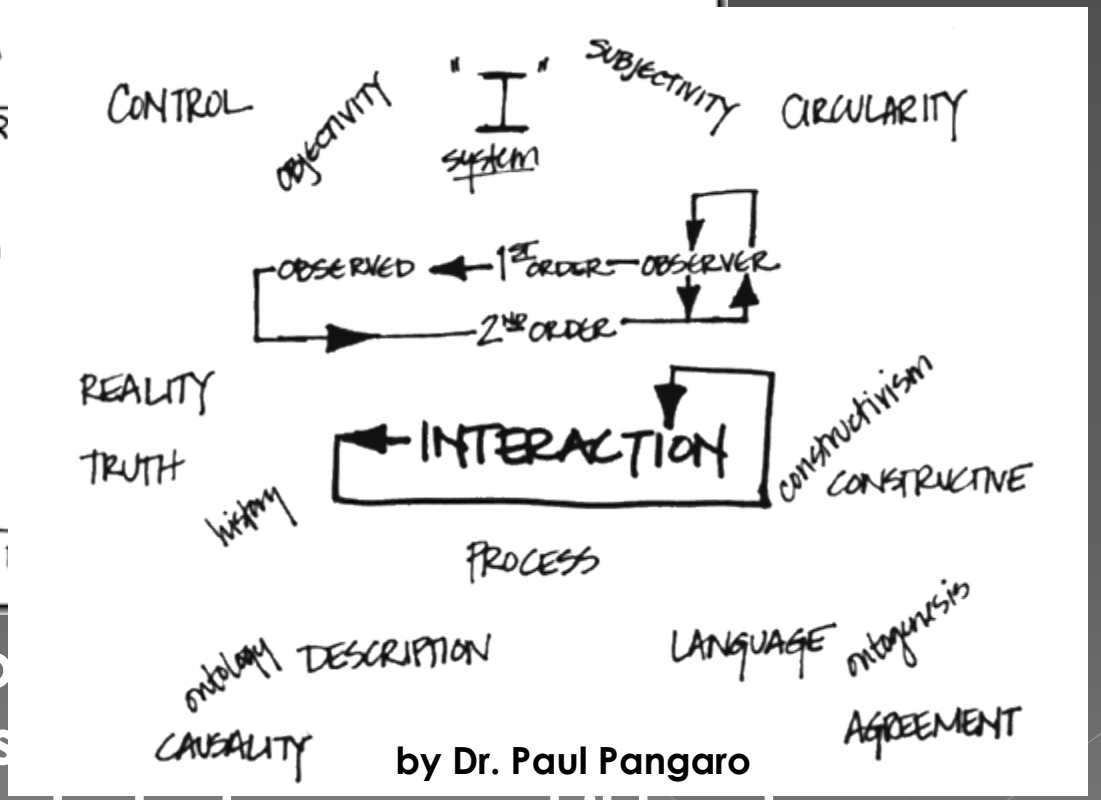
THEY CAN'T BE SEPARATED!

Biological/ecological systems such as these rangelands, cannot be separated from the uses humans impose on them.

Most rangelands have become part of the greater socio-economic systems where they are found.

FROM REDUCTION TO SYSTEM





by Dr. Paul Pangaro

assess rangeland systems from a sustainability perspective, it was critical that all aspects of the ecosystem were integrated into a "system" of actions and interactions; ergo the ISEEC framework.

For so
things
works, but when we put it back together, we often found that the sum of the parts was greater than the whole.

PRAXIS

- Praxis is the general art of applying conceptual frameworks to real world issues.
- This often leads scientists to employ models dependent upon less than a perfect empirical representation to describe highly complex systems.

CONCEPTUAL FRAMEWORKS

- Conceptual frameworks, based on multiple disciplines, can be built by applying disciplinary perspectives to a given subject;

OR

- By focusing on a particular issue and determining how the disciplines can define the related processes.

DEVELOPING A FRAMEWORK

- The Integrated, Social, Economic and Ecological Concept (ISEEC) framework was created by focusing on the social, economic and ecological forces that affect rangeland sustainability.

- As a part of this process, the disciplines:
  - Shed their assumptions of system equilibrium
  - Dealt with complexities of local conditions
  - Grappled with understanding uneven rates of temporal change

BASICS OF THE FRAMEWORK

- In ISEEC, rangelands are categorized into four states:
  - Current Biophysical Conditions
  - Natural Resource Capital
  - Social Capacity & Economic Capital
  - Current Human Condition

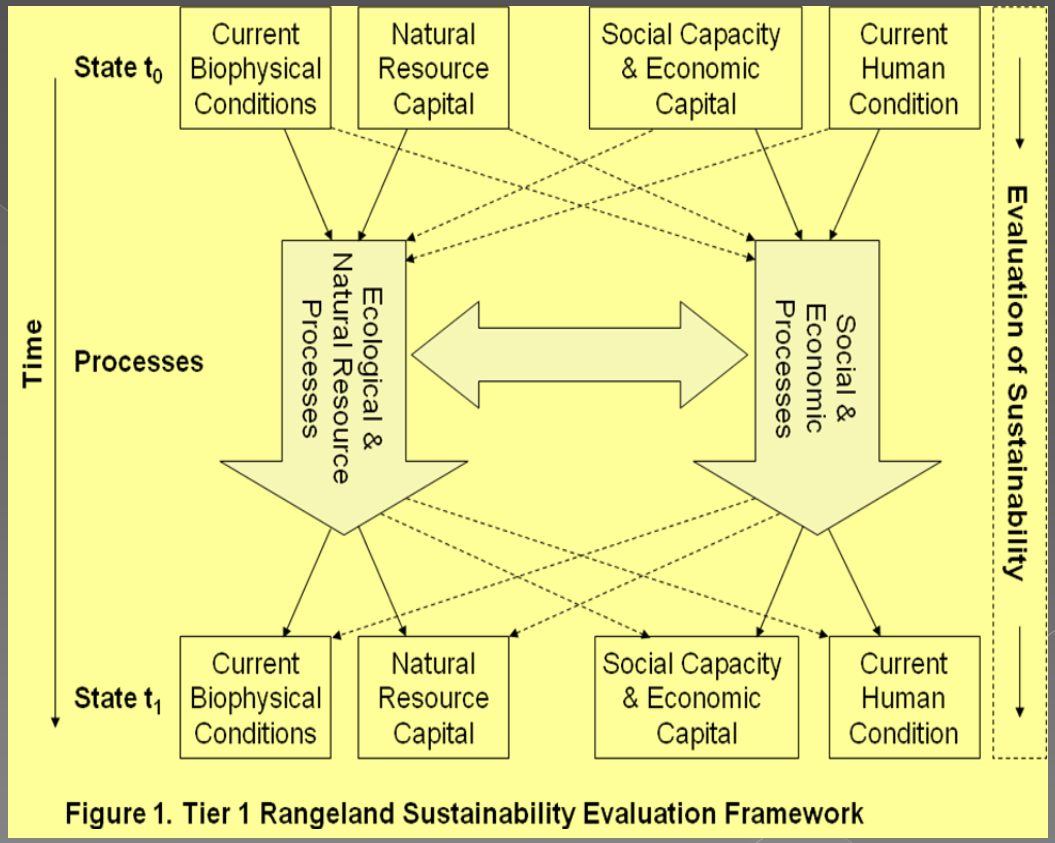


Figure 1. Tier 1 Rangeland Sustainability Evaluation Framework

DETAILING A FRAMEWORK

- The oval in the center of the framework illustrates the interactions between ecological and socio-economic subsystems.

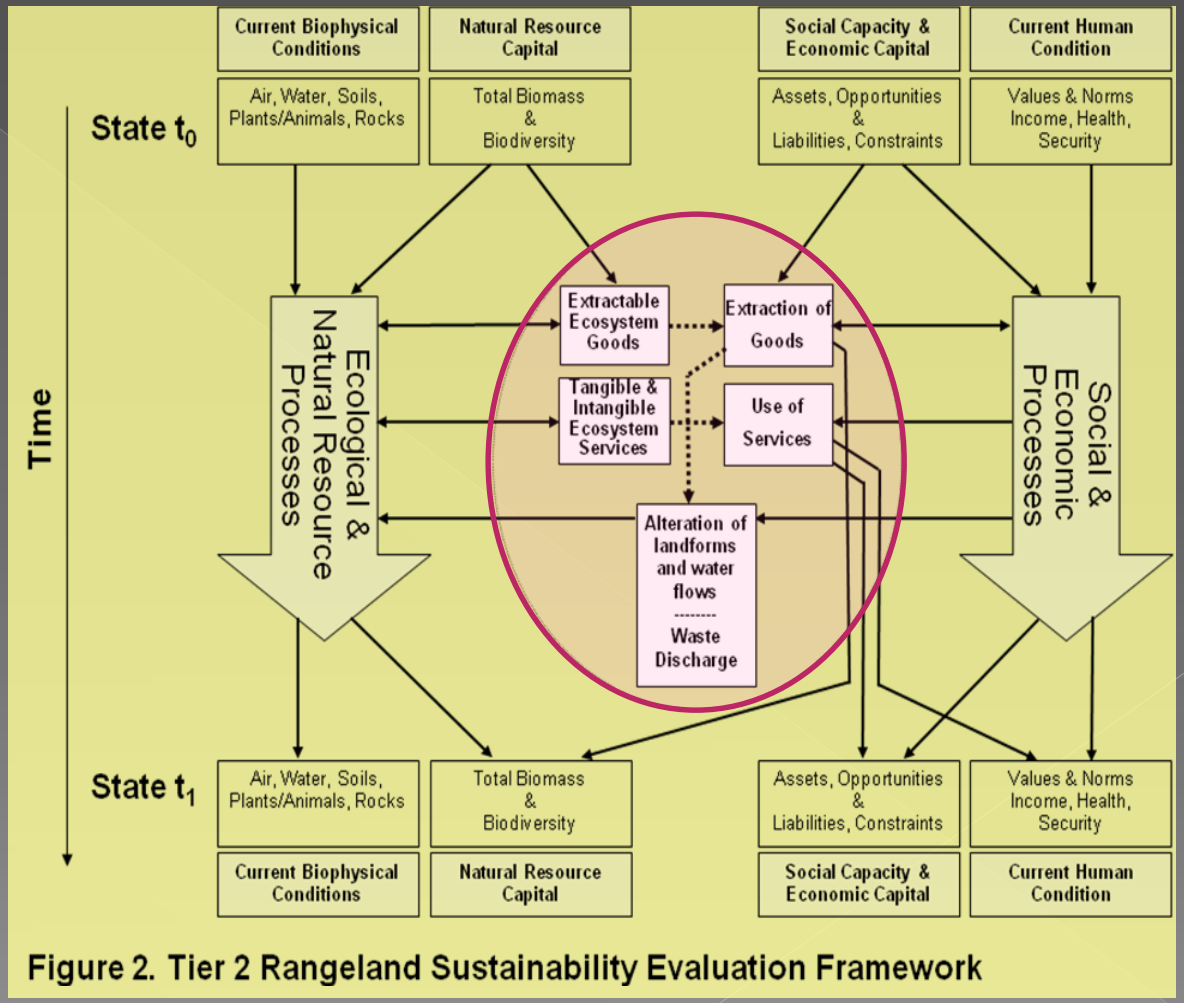
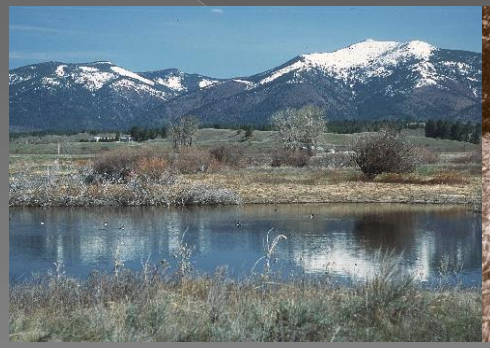


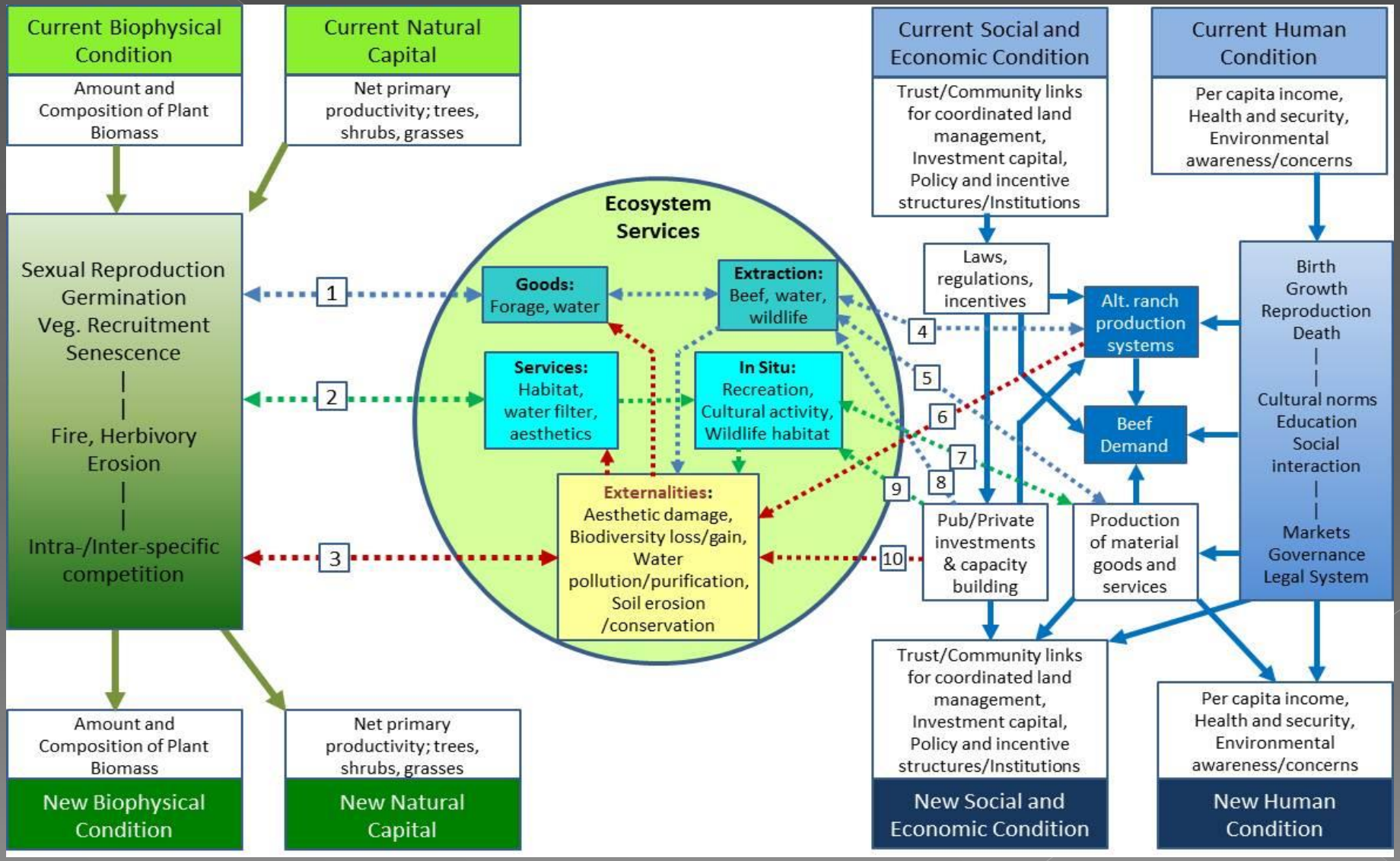
Figure 2. Tier 2 Rangeland Sustainability Evaluation Framework

ISEEC PROCESSES

- For the ISEEC framework, ecosystem services are considered the primary vehicle by which social and economic states and processes interact with ecological states and processes.



ISEEC FRAMEWORK



CONCLUSIONS

- The ISEEC framework is an attempt to rigorously integrate the ecological components of an ecosystem with the social and economic components to illustrate "rangeland sustainability."
- The framework provides a context in which to think about how criteria and indicators affect and are affected by each other.


Thank You!
Questions?