Ecosystem Health

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Module 2.1 Ecosystem Analysis
Ecosystem Definition

‘Any area of nature that includes living organisms and non-living substances that interact to produce an exchange of materials between the living and non-living parts is an ecological system or ecosystem.’
Refers to the capacity of a system to perform normal functions

The term „health“ implies value judgement
Ecosystem Distress syndrom (EDS)

a group of signs commonly observed in an ecosystem under stress

e.g.: - loss of biodiversity
- altered pr. productivity or nutrient cycle
- increased dominance of biotic communities by exotic (non-native) species
- characteristics of retrogression
Components/Indicators of healthy systems

Early stages of colonization set the stage for later stages, characterized by increasing biocomplexity.
Ecosystem Health

= integrative concept

- Understanding of the social/cultural determinants of human health and
- Of evolving systems of governance, ethics and *environmental management*
What is Ecosystem Health about..

.. State of a community of organisms that interact with their environment

.. Human health

.. Sustainability

.. Health of urban systems and interrelations with other ecosystems

.. Relationship between health of ecosystems and their integrity
Ecosystem Health vs. Ecosystem Integrity

**Ecosystem Health**
is oriented toward preserving the functions of ecosystems, even though the system may be considerably altered as a result of human domination.

**Ecosystem Integrity**
is oriented toward the preservation of imfettered nature.
Human values

- As a basis for Ecosystem Health, to make the broader public understand

- Human values: e.g. care, compassion, acknowledgement of the value of life…

leads to problems/criticism!
Problems of the concept of Ecosystem Health

„The notion of ecosystem health is often criticized because of its tacitly derived value and preference character.“

- value certain things on the expense of other things
- drawing boundaries
Ecosystem Health and Political Power

"Ecosystem health has the same emotional and intuitive appeal as words like justice, equality and freedom."

Positive:
- Might link up democratic institutions and processes with economic and environmental quality

Negative:
- Problems with defining it
Problems with defining Ecosystem Health

- 1970‘s and 1980‘s Ecosystem Health was defined in nebulous terms
- Since the 1990‘s more precise definitions; concept became a serious topic of discussion conflicts!
  e.g.: health and integrity are different words for the same general concept
The Prairie Ecosystem Study (PECOS)

Historical Land Use and Health of the Canadian Semiarid Prairie Ecosystem
The Prairie Ecosystem Study (PECOS)

- Sustainability (health of the land and well-being of the people)
- Agriculture [Summer fallow (-); Conservation tillage (+)]
  
  maintain or enhance soil and ecosystem health
Schau, die Fichten dort! Sie verlieren ihre Nadeln!
Jaja, der Winter naht mit riesenschritten!