

An aerial photograph of a mountain valley. The foreground and middle ground are dominated by dense, dark green coniferous forests covering the slopes. In the center, a bright green meadow or valley floor is visible, with a winding river or stream cutting through it. The background shows more forested mountains under a sky with scattered white and grey clouds. The overall scene is a lush, natural landscape.

Ecosystem Services and Ecological Site Descriptions

Marcus Miller, Wildlife Biologist
NRCs West National Technical Support Center

- Define Ecosystem Services
 - History
 - Current Developments
- Relationship to Ecological Site Descriptions

Function and Value



Riverine Wetlands in the Northern Rocky Mountains

- a. Surface-Groundwater Storage and Flow*
- b. Nutrient Cycling*
- c. Retention of Organic and Inorganic Particles*
- d. Generation and Export of Organic Carbon*
- e. Characteristic Plant Community*
- f. Characteristic Aquatic Invertebrate Food Webs*
- g. Characteristic Vertebrate Habitats*
- h. Floodplain Interspersion and Connectivity*





Ecosystem Services

“the benefits for human beings that arise from Healthy functioning ecosystems”

Westman 1977 Science “How much are Nature's Services Worth”

Paul Ehrlich 1981 “Extinction: The Causes and Consequences of the Disappearance of Species”

Crisis Management

Clean Air Act – 1970

Clean Water Act – 1972

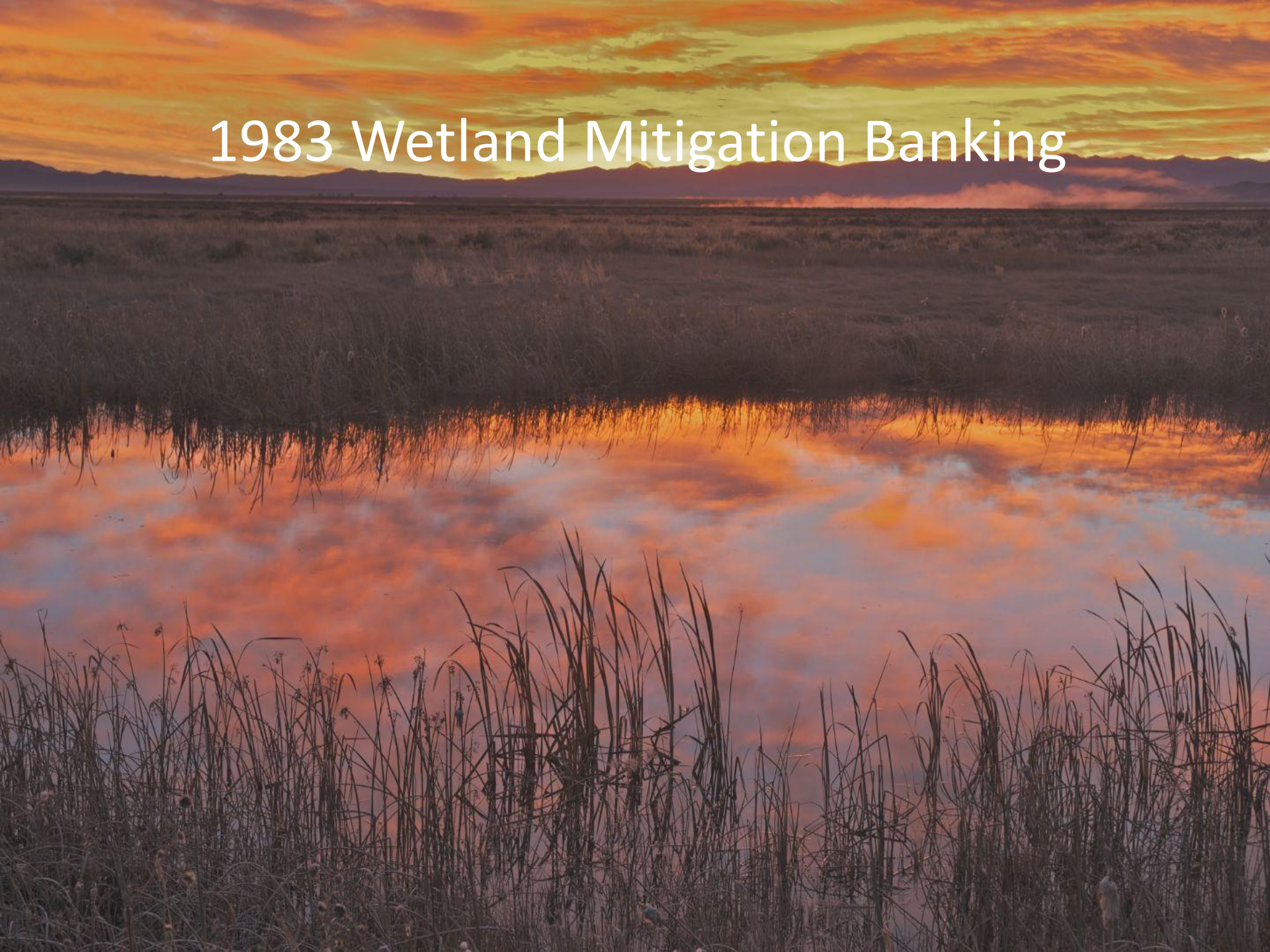
Endanger Species Act -1973

Snail Darter





1983 Wetland Mitigation Banking



1989 formation of the International Society of Ecological Economics

December 11, 1997, Kyoto Protocol was adopted. Set Targets for 37 industrial nations for Greenhouse gas emissions. 5% less than 1990 levels





2003 Millenium Ecosystem Assessment

Stressed human dependency not only on ecosystem services but the underlying ecosystem functioning. This contributed to making visible the role of biodiversity in human well being

2008 Food, Conservation and Energy Act (the Farm Bill)

Contains new conservation provisions that seek to
Facilitate the participation of farmers and
Landowners in environmental services markets

- **Carbon storage**
- **Water quality trading**
- **Wildlife Habitat Trading**



Dune Sagebrush Lizard

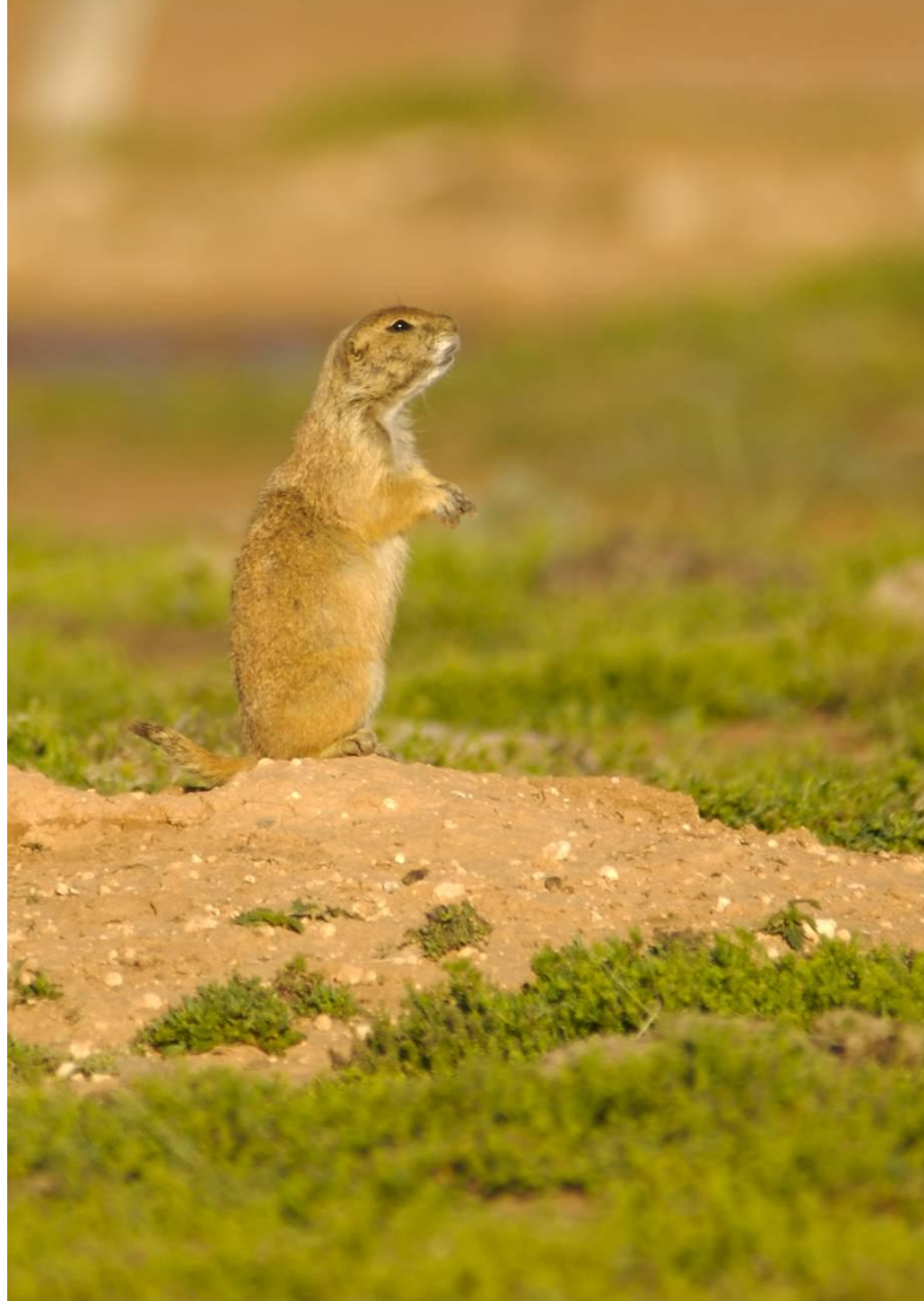


















QUESTIONS



