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The Evolution of Conservation Plans in South Arizona Wilderness Areas vs Ranchers' Working Landscapes

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INTRODUCTION

South Arizona, a semi-arid area of land use conflicts
Mining activities, urban growth, agroindustry, grazing,

Ranching, an ecological issue in a historical perspective

- **The Conquest of the « Frontier »:** over-grazing, erosion, contamination of rivers (cf. A. Leopold, F.E. Clements)
- **Social and scientific mobilizations against grazing : sectorial and environmental measures**
  Sectorial: Taylor grazing act (1934) defining carrying capacity on public (federal, state) land
  Environmental: wilderness areas promotion (1964)
  and the National Environmental Protection Act (1969)
- **Ranch transformation** in « wilderness areas (Research Ranch, wildlife centers, etc.)

Since the 90's, conservation plans co-produced with ranchers in working landscapes => towards a « rancher ecology » ?

WILDERNESS AREA
An area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" (H. Zahniser)

"Area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions" (Wilderness Act)

A controversial notion : an obstacle to sustainable development (W. Cronon)

CASE STUDIES: Cienega Corridor and Sonoita Valley

Cienegas National Conservation Area

Cienega Creek: a specific socio-ecological system

- a 45.000 acres territory including a corridor of vulnerable vegetation wildlife in wetlands, extended to Mexico, and a space of native grassland
- declared « National Conservation Area » in 2000

➢ **Protection of the lowest and wetter lands from human activity and maintenance of grazing in appropriate areas**

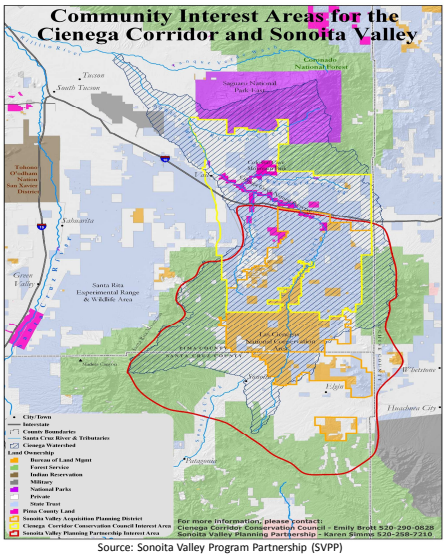
➢ **Empire ranch** (cf. western movies): **co-production of activities dedicated to the protection of nature the rehabilitation of native species** (prairies dogs, etc.) **and grazing**

Actors involved

- 1995: The Donaldson rancher family signed a contract with the Bureau of Land Management (BLM) for a co-gestion of the Empire ranch
- 1996: The BLM launched the « Sonoita Valley Program Partnership » to implement a « collaborative planning of the uses of land and of resources in the valley »
- 2003: Publication of a « Resources Management Plan » dedicated to the restoration of nature with ranchers whose mission is among others to control invasive species (**mesquite trees,** etc.)

Pima County Ranch Land Management

- **Buying back private lands from ranchers and grazing rights on public land**
  Development right: a legally binding agreement that **limits uses of land for grazing and conservation easement** (real estate and mining prohibited)
- **Payment of ecosystem services** (public and private financing from environmentalists organization)



Source: Sonoita Valley Program Partnership (SVPP)

Canelo Hills Coalition
When ranchers, engineers and scientists work together to manage wetlands

Red Rock Canyon is a perennial intermittent stream draining a watershed of 20,000 acres in the Canelo Hills of the Coronado National Forest (CNF).

2001: ranchers become stakeholders of the basin management whereas they were previously entitled to limited allocations.

Grazing bans in some areas have been replaced by a seasonal rotation (continuous grazing in winter and bans during the summer monsoons), while vegetation and land quality have improved.

Ranchers observe that livestock bans, in some rivers supported by environmentalists, are not helping to protect river biodiversity. Since the fences were installed, an endangered fish (the **Gila Topminow**) has disappeared.

RESEARCH QUESTIONS ON A PARADOXICAL COLLABORATION

➢ Why do **environmentalist** collaborate with **ranchers?**

➢ **How can they build common interests and practices?**

➢ **How do ranchers' participation contribute to change environmental conservation practices?**

METHODS

- Interviews with environmental activists, federal and local administration agents, ranchers
- Content analysis of conservation plans
- A mix approach between sociology and public policy analysis

RESULTS

THE CAUSES OF THE ECOLOGICAL VALUATION OF RANCHING: BETWEEN PRAGMATISM AND KNOWLEDGE

- Ecological revaluation of ranching in order to face the environmental risks of urban development and the promotion of "sustainable mining" (T.E. Sheridan).
- The involvement of ranchers in conservation plans comes not only from rational reasons (preserving their activity) but also from a collective will to assert a "knowledge of nature" distinct from a standardized "state ecology" (A.Leopold).
- Revision of the ecological theory of rangeland areas: ranching may not be the main cause of land erosion and native species disappearance, especially in semi-arid areas. This theorical shift might be a result of experiments in southern Arizona (Santa Rita Experimental Range).
  Cf: N.F. Sayre (2017) *The Politics of Scale: A History of Rangeland Science*, London et Chicago, The University of Chicago Press.

AN ECOLOGICAL PERSPECTIVE

- Wilderness vs adaptation to local system and « sustainable communities »: towards conservation plan on working landscape (D.M. Waller, N.F. Sayre)
- (Re) valorization of the **perception knowledge** (savoir de perception, Leopold) that offers solutions for a preservation of biodiversity more adjusted to environmental constraints than the technical skills of engineers or environmentalists.
- Next Steps: is the co-production of knowledge with ranchers a real contribution to conservation knowledge?

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