


Grasslands and Savannahs around the World: Neglected ecosystems?

Nigel Dudley
Equilibrium Research

- 
- Least-known terrestrial biome
 - A complex picture regarding conservation
 - Subject to huge debate about history and management
 - Main focus of grassland research is on agricultural links
 - Until recently little focus on grassland quality from an ecological perspective
 - Under pressure throughout the world



In the Uruguayan *campos*, the first written records of ecosystem types are from Charles Darwin, thousands of years after human settlement and hundreds of years after European settlement



African grasslands have been heavily modified over millennia



Throughout Europe, there have been huge changes since the “Neolithic Revolution”






AUTHENTICITY IN NATURE

MAKING CHOICES ABOUT THE
NATURALNESS OF ECOSYSTEMS

NIGEL DUDLEY

Grassland and savannah protection



Biome	% in protected areas
Flooded grasslands and savannahs	30.9
Montane grasslands and shrublands	26.8
Tropical and subtropical grasslands, savannahs and shrublands	14.7
Temperate grasslands, savannahs and shrublands	4.5

Temperate grassland is the least protected terrestrial ecosystem – 4.5% in 2014



Even in protected areas grasslands are often heavily modified



In Serengeti, Tanzania, rangers regularly set fires to maintain grassland



Similarly in Guanacaste National Park, Costa Rica



Upland grasslands in the Lake District National Park,
UK, do not even provide good ecosystem services



Debates about pastoralism are heavily politicised and it is sometimes hard to separate fact from fiction







The demilitarized zone between Kuwait and Iraq is recovering after 20 years of protection...



...whereas removal of cattle from Keoladeo National Park in India resulted in spread of invasive species



Most research focuses on agriculture, rangeland,
managed grassland...



...with very little focus on grassland quality from an ecological or even a cultural perspective









Many grasslands are as much artificial crops as a wheat field



Main pressures



Land conversion, including leakage



Intensification and loss of quality

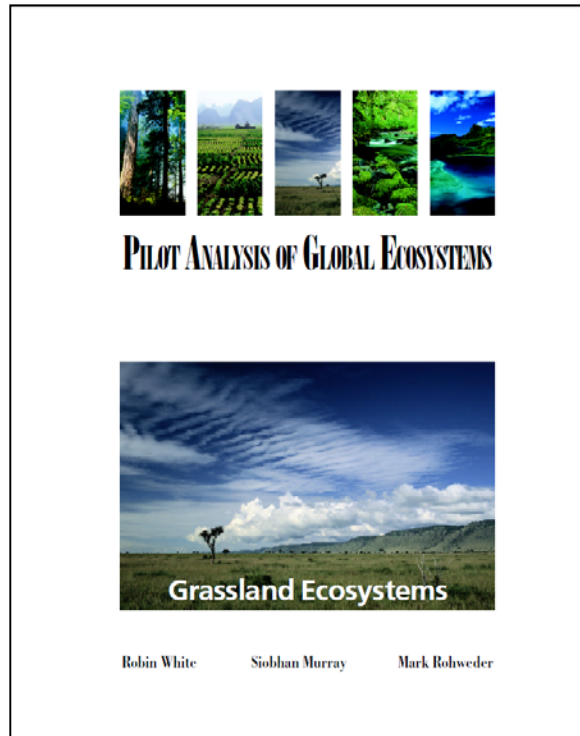


Invasive species



Status – what do we know?






- Grasslands (including savannah and shrub) cover 40% of the land surface (excluding Greenland and Antarctica)
- The five countries with the largest grassland areas are Australia, Russian Federation, China, United States and Canada
- Five countries with the highest percentage of grasslands are Benin, CAR, Botswana, Togo and Somalia
- 25 of the 145 major watersheds are at least 50% grasslands
- Commonest in semi-arid zones (28% of world's grasslands), followed by humid (23%), cold (20%) and arid (19%)



- A significant proportion of managed and natural ecosystems are degrading ... From 1998-2013, approximately 20% of the Earth's vegetated land surface showed persistent declining trends in productivity, apparent in 20% of cropland, 16% of forest land, **19% of grassland, and 27% of rangeland.**



Within the European Union, biofuels and bioliquids cannot be produced from raw material obtained from land with high biodiversity value. These lands are defined to include, among other categories, *“highly biodiverse grassland areas, including natural and non-natural grasslands.”*

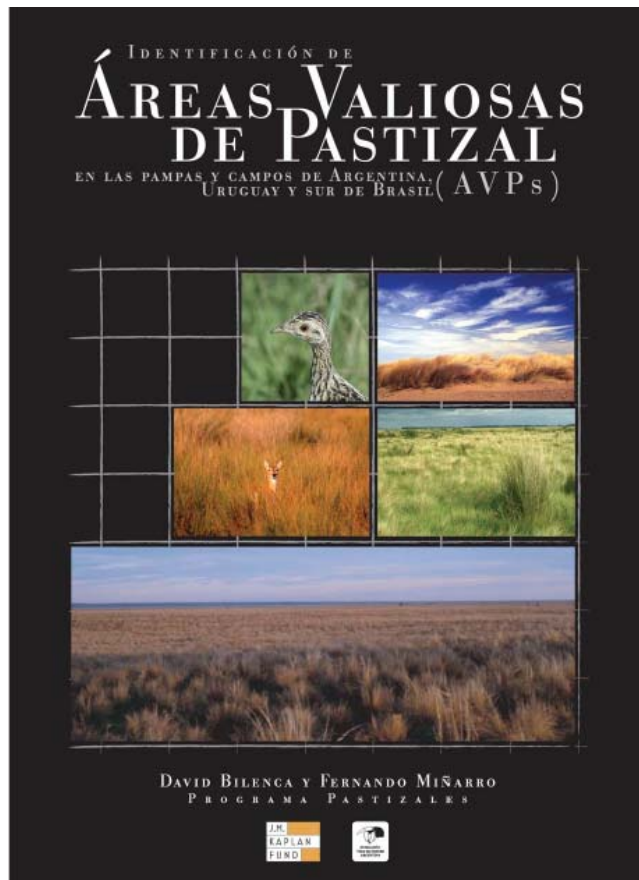
WORLD GRASSLANDS AND BIODIVERSITY PATTERNS



A Report to IUCN Ecosystem Management Programme



- Defined by ecosystem rather than use (e.g. “grazing land”)
- Natural grasslands are dominated by native species and are largely controlled by natural processes, even if some human management occurs. These native grasslands may have been grazed for many hundreds of years, such that their historical naturalness is not easily defined (e.g., Mideast USA, African, Asian meadows), or they may be largely maintained by natural process of fire, native grazers, etc



- Identified 68 Valuable Grassland Areas, mainly through expert consultation
- Focused on the southern part of South America

WWF made a start 6 years ago
with a workshop on high
conservation value grassland



Distribution mapping of world grassland types

A. P. Dixon^{1*}, D. Faber-Langendoen², C. Josse², J. Morrison¹ and
C. J. Londo¹

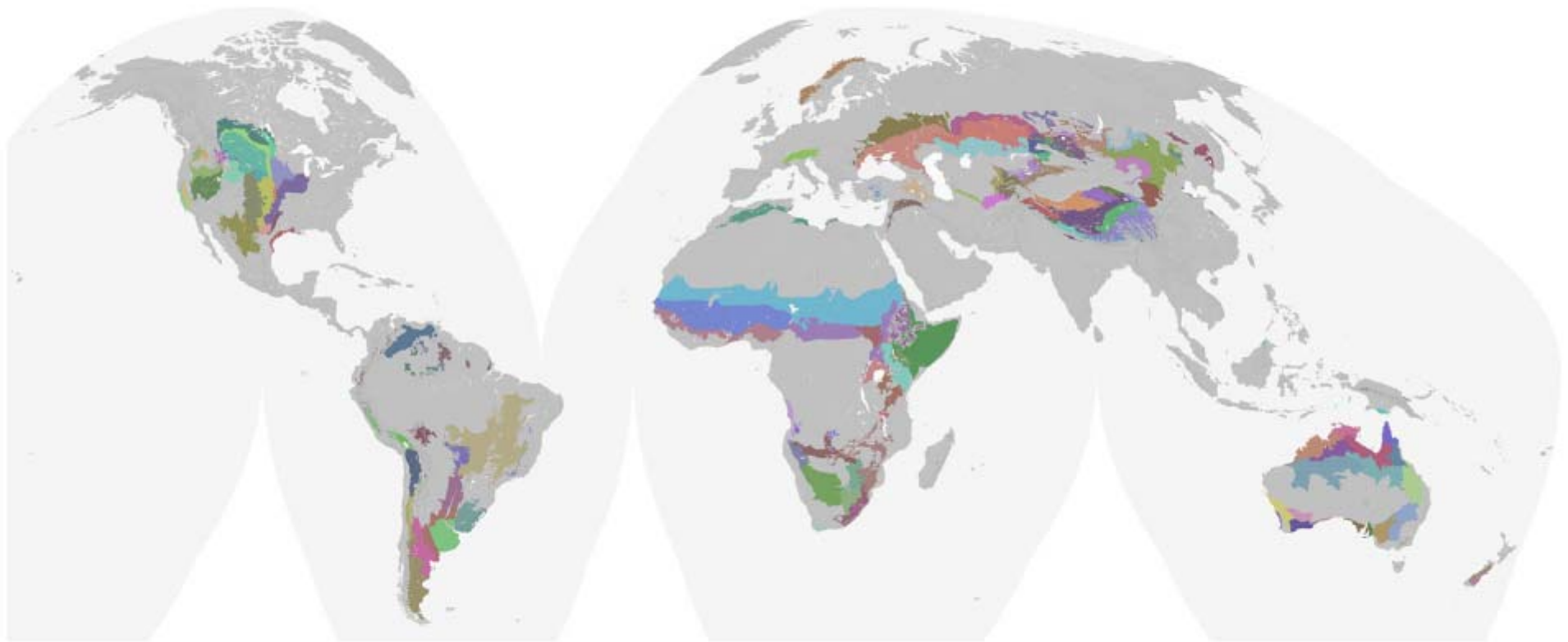



Figure 3 Terrestrial Ecoregions of the World (TEOW) containing at least 10% of the total area dominated by grassland types. A total of 145 ecoregions were determined to contain dominant grassland types described by the International Vegetation Classification (IVC).

- 
- An aerial photograph of a savanna landscape. A river flows through a valley, surrounded by dry, yellowish-brown grass and scattered green trees. The terrain is hilly and rocky, with a clear view of the river's course and the surrounding vegetation.
- Global state of grasslands and savannahs overview
 - Clear picture of what constitutes a high quality grassland biome
 - Global strategy