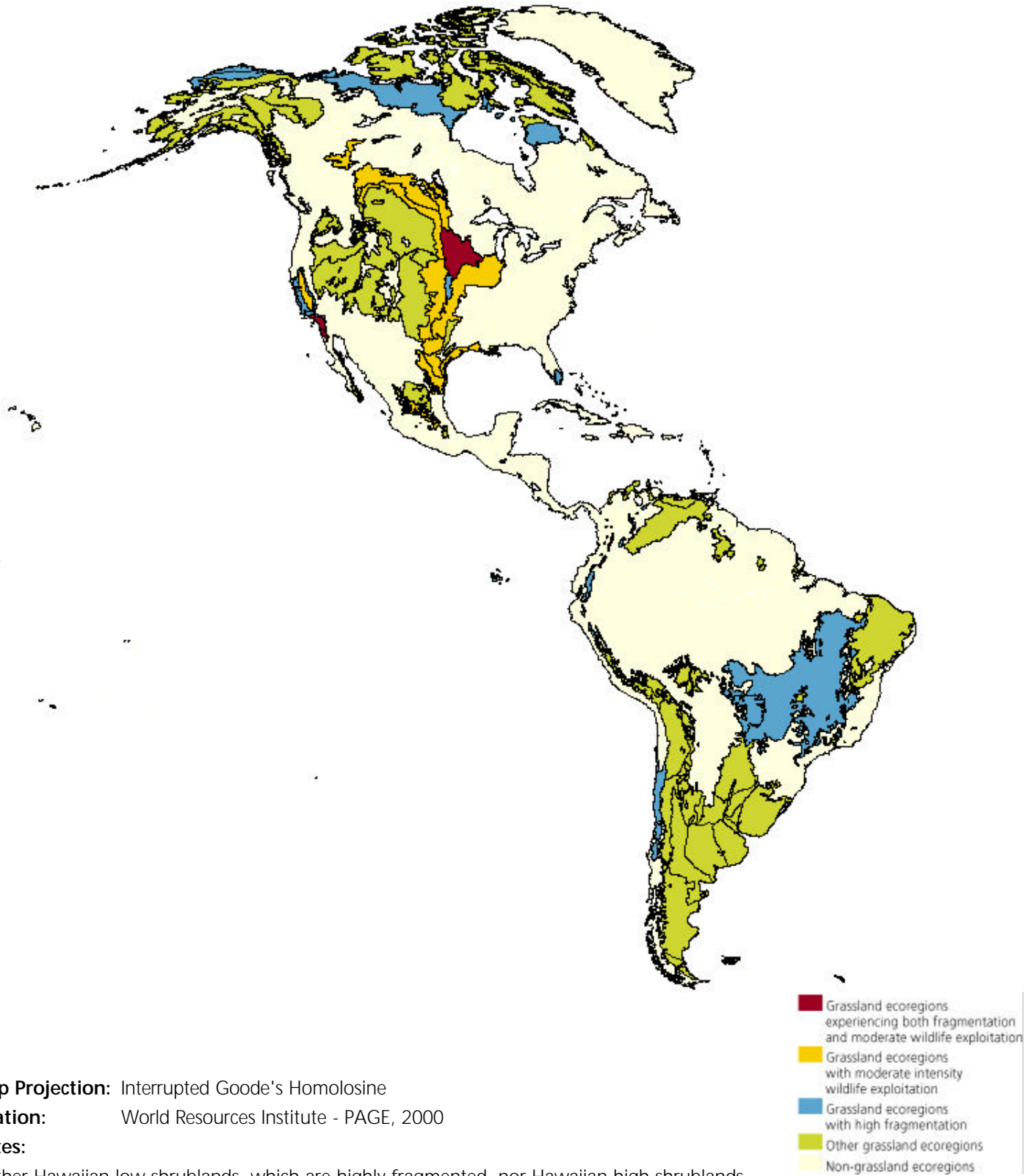


Fragmentation and Wildlife Exploitation in Central and North America



Map Projection: Interrupted Goode's Homolosine

Citation: World Resources Institute - PAGE, 2000

Notes:

Neither Hawaiian low shrublands, which are highly fragmented, nor Hawaiian high shrublands, which experience moderate wildlife exploitation, are shown on this map. Fragmentation incorporates both the WWF indices for habitat block size and fragmentation.

Analytical Overview:

In its assessments of grasslands in North America and Latin America, WWF-US developed the index for the size and fragmentation of habitat blocks based on expert opinion (not actual measurements of block size or degree of fragmentation). The block size index ranges from 2 (large and numerous habitat blocks) to 25 (small and few blocks). The index varies with the size of the ecoregion, which WWF-US has divided into two categories for North America (greater than 10,000 km² and less than 10,000 km²), and three categories for Latin America (greater than 3,000 km², 1-3,000 km², and less than 1,000 km²) as well as with the size of blocks within each ecoregion. The broad fragmentation categories range from 0 (relatively contiguous regions where long-distance dispersal along elevational and climatic gradients is still possible) to 20/25 (highly fragmented regions where habitat blocks are small, noncircular, or both, and where edge effects have altered most core habitat).

The wildlife exploitation index assesses each ecoregion according to three exploitation categories: hunting and poaching; unsustainable extraction of wildlife as commercial products; and harassment and displacement of wildlife by commercial and recreational users. These categories are ranked according to three levels of exploitation: high (elimination of local populations of most target species is imminent or complete; 20 points); moderate (populations of game and trade species persist but in reduced numbers; 10 points); and non-existent (0 points). These data are based on expert opinion from regional workshops.

Map Description:

This map combines two grassland indicators for North America and Latin America developed by the World Wildlife Fund-US: an index for the size and fragmentation of habitat blocks and an index of wildlife exploitation.

Of the 27 ecoregions within North American grasslands (excluding deserts), 6 have either small and few blocks or high fragmentation. Twelve additional ecoregions have both small and few habitat blocks and high fragmentation: the California Central Valley Grasslands, the Canadian Aspen Forest and Parklands, the Northern Mixed Grasslands, the Northern Tall Grasslands, the Central Tall Grasslands, the Central and Southern Mixed Grasslands, the Central Forest/Grassland Transition Zone, the Edwards Plateau Savannas, the Western Gulf Coastal Grasslands, the California Coastal Sage and Chaparral, the Hawaiian Low Shrublands, and the Tamaulipan Mezquiteal in Texas and Mexico.

Of the 63 ecoregions within Latin American grasslands (excluding deserts), 11 have either small and few blocks or high fragmentation. Four additional ecoregions have both small and few habitat blocks and high fragmentation: the Leeward Islands Xeric Scrub, the Central Mexican Mezquiteal, the Pueblan Xeric Scrub in Mexico, and the Motagua Valley Thornscrub in Guatemala.

The index of wildlife exploitation ranges from 0 to 10 (none to moderate) for the 43 grassland ecoregions in North America. Twelve grassland ecoregions have moderate wildlife exploitation: Palouse Grasslands; Canadian Aspen Forest and Parklands; Edwards Plateau Savannas; Western Gulf Coastal Grasslands; California Montane Chaparral and Woodlands; California Coastal Sage and Chaparral; Hawaiian High Shrublands; Tamaulipan Mezquiteal; Aleutian Islands Tundra; Interior Yukon/Alaska Alpine Tundra; Olgive/MacKenzie Alpine Tundra; and Torngat Mountain Tundra. The wildlife populations in these regions are exploited by activities such as pesticide use, predator control, urban sprawl, introduction of invasive species, overgrazing, and high-impact recreational activities (for example, off-road vehicle use).

Source:

1. World Wildlife Fund. 1999, Ecoregions Database. Washington, DC: WWF-US. 2. Ricketts, T.E., Dinerstein, D. Olson, C. Loucks, W. Eichbaum, K. Kavanaugh, P. Hedao, P. Hurley, K. Carney, R. Abell, and S. Walters. 1997. A Conservation Assessment of the Terrestrial Ecoregions of North America Volume I: The United States and Canada. World Wildlife Fund - United States and World Wildlife Fund Canada. Prepublication Draft. 547 pp. Title - Global 200 Forest Ecoregions