The Size of Savanna Africa: A Lion’s View

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Data Compilation

* Three baseline studies
  * Chardonnet 2002
  * Bauer and van der Merwe 2004
  * IUCN Cat Specialist Group 2006

* 40+ assessments published after 2006
Lion Distribution Mapping

* But what about areas with no updated information?
* Use mapping and land use change to identify extent of lion distribution
Datasets

Many datasets to choose from:

- Human population density:
  - CIESEIN – GRUMP v.1 and GPW v.3
  - UNEP/GRID Sioux Falls 2000
- Amount of pasture & agriculture from Global Agricultural Lands 2000 (SEDAC)
- Land use datasets:
  - ESA Globcover 2009 v2.3,
  - USGS Global Land Cover 2000, USGS Global Land Cover Characterization v.2
- Combinations:
  - Anthropogenic biomes of the world (CIESIN),
  - Human Impact,
  - Human Footprint,
  - Last of the Wild v.2
Comparision of Worldwide Land Cover Datasets: Cropland and Development in West Africa

Map and data produced by: Jason Riggio and the Duke BCI Team; Duke University NSOE, December 2010

* Colored areas included lands classified as croplands, a mosaic of cropland and natural vegetation, and developed lands (urban areas).
Go to Video
Comparision of Worldwide Land Cover Datasets: Cropland and Development in West Africa

Legend
- Country Boundaries
- Major Lakes
- Lion Conservation Unit
- IUCN Protected Areas with Lions
- Lions Possible, Temporary, or Recently Extirpated

Cropland and Development
- ESA GLOBCOVER 2004 - 2006 Only
- USGS Global Land Cover 2000 Only
- Overlap of GLOBCOVER and Global Land Cover

Projection: GCS WGS 1984

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Correlation to population density
Conclusions

- Novel technique to identify anthropogenic land uses
  - Indicated much greater conversion than suspected

- The state of the African lion...
  - 30,000 lions in sub-Saharan Africa
  - >60% of lions in well protected, viable populations
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