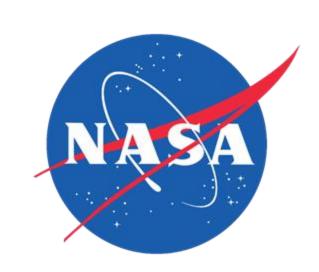
Zimbabwe Ecological Conservation



Assessing Effects of Urban Development and Drought on Tree Health to Protect White-Backed Vulture Nesting Sites in Zimbabwe

Earth Observations Community Concerns The white-backed vulture is vital to the sub-Saharan African ecosystem as they play a pivotal Landsat 9 OLI-2 Landsat 8 OLI role in the decomposition process. However, this species faces extinction due to the nesting tree mortality rate which is linked to human activities, like urban expansion and climateinduced drought. During droughts, African elephants gather around waterholes, leading to Landsat 5 TM more aggressive behavior towards the surrounding nesting trees. Vegetation health and landcover change assessments are important to understand how vulture nesting sites have responded to this dynamic environment. Landsat 7 ETM+ Sentinel-2 MS **Optimal Nesting Sites:** 2024 Landcover Map Trees 16 - 17 m Tree-dense Within 3 km areas bordering tall of water open space 53% nested in Bushlands_ 16% prefer the Woodlands Not only is the tree cover reduced with 43% of woodlands converted to sparser landscapes, but since 2020, the health of nesting trees also declined. Landcover Type Change from 1994 to 2024 +102%100 +55%Change Vulture Nests +37%+29%Grassland Woodland Percent +16% Bare Area Bushland 30 km Cropland Shrubland Water $-8^{\circ}/_{0}$ -25 -43%-50 Shrubland Bushland Woodland Grassland Bare Area Water Cropland

Team Members



Brenna Bruffey





Project Partners

- Connected Conservation Trust
- Victoria Falls Wildlife Trust

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