Finding Firefaces: A Slow Loris Poaching Risk Assessment

Social Media's Favorite Primate

The Slow Loris (*Nycticebus spp.*) is one of the least understood primates in terms of ecology and taxonomy. This lack of knowledge poses a problem because these species are listed as either endangered or critically endangered. While habitat destruction is a contributing factor to declining populations, the major threat to the slow loris is the illegal pet trade. These animals are openly traded in Asia for their perceived traditional medicine properties, and they are sold all around the world to be kept as pets. This trade has boomed since the slow loris went "viral" in 2009 after a video was posted to YouTube. There have been thousands of videos since this initial post. Due to their high presence on social media the have become well known for being "cute" and desirable. High demand has increased poaching of wild slow lorises.

The specific species of this risk analysis is the Javan slow loris (*Nycticebus javanicus*). The Javan slow loris is endemic to Java, Indonesia. The island of Java is one of the most densely populated areas on earth. This has caused continuous habitat destruction and fragmentation, but the lorises have been able to adapt. Slow lorises have been found in a variety of habitats including distributed agroforests and suburban gardens. Because they are so heavily hunted for traditional medicine and the pet trade, their habitat adaptability has left them vulnerable to poaching. As they are so widely distributed across the island, it is important to understand where they are at greatest risk for poaching in order to better their conservation efforts.

Final Risk Assessment

Safe Place to Hide

A weighted risk assessment for possible Javan slow loris poaching locations was conducted by analyzing various factors that are displayed in the final map above. Each factor was ranked on a scale of 1 to 5 with the highest risk elements being assigned a 5, and the lowest risk elements assigned a 1. After reclassification factors were weighted and added, the highest risk area scored a 5 and the lowest risk area scored a 1.45. These rankings are now able be used to obtain GPS coordinates for areas in which lorises are the most vulnerable to poaching incidents. This would allow for increased monitoring of these areas.

Final Map

The following weights were assigned to each factor:

Distance from major city	20%	Distance from major road	25%
Distance to port	15%	Distance from protected area	15%
Land Use	15%	Elevation	10%

Future of Conservation

Once a slow loris is rescued or confiscated from the pet trade, they are taken to a rehabilitation center to assess any injuries they may have sustained. Most have some form of severe dental damage. The reason teeth are so commonly broken or removed is because the slow loris is venomous. This is a regular practice in order to prevent injuries to tourists/ buyers. These injuries usually result in death or lives spent in captivity. Reintroduction is not an option because lorises rely on their teeth to obtain their main food sources which include sap from trees they gouge. This incredibly important primate species is in desperate need of efficient and successful conservation intervention. The first step in this is being able to approximate where they are being taken from the wild. This tool allows conservationists and politicians to better adapt strategies and management plans to ensure this critically endangered species stays wild.

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MCM 591 GIS for Conservation Medicine
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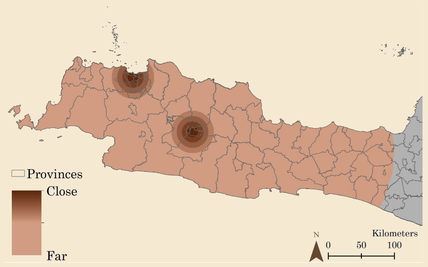
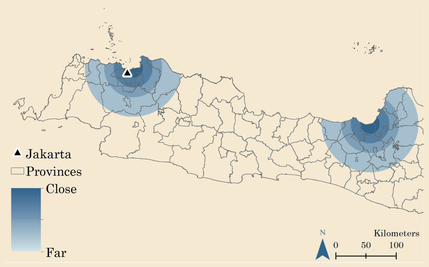
Projection: Indonesian 1974 UTM Zone 49N
Data Sources: GADM, ESRI, Humanitarian Data Exchange, IUCN

Tourist Lookout



Animals are both used as tourist photo ops and sold for traditional medicine in outdoor markets in major cities, so **distance to major cities** is an important factor affecting poaching convenience. Euclidian distance was run on major cities of Java.

Shipping Out

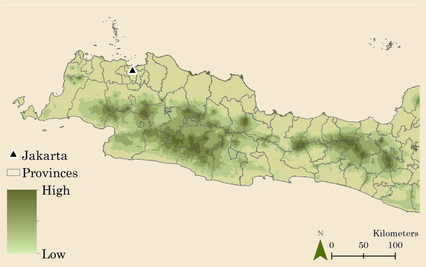


The international pet trade plays a large role in the overall threat to slow loris populations. **Distance to ports** also plays a role in poaching risk. Point data was determined from a major shipping route data set, then Euclidian distance was run on these points.

On the Road Again

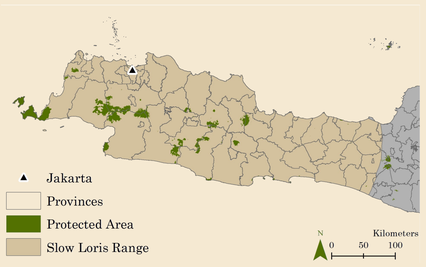
Forest accessibility is determined by **distance to roads.** The more accessible a potential habitat is, the more likely a poaching event will occur, especially since these animals do well in edges. Euclidian distance was run on major roads of Java.

Birds Eye View



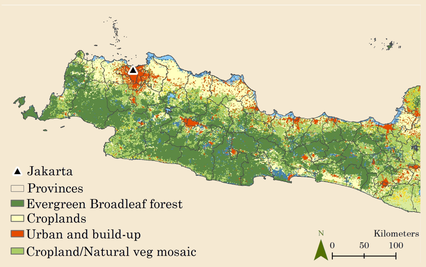
Lorises are generally spotted at a variety of elevations from 479mdpl to 900mdpl. Thus, elevation will factor into where they are at greatest poaching risk. **Elevation** was reclassified to rank this critical elevation range.

Home on the Range



Slow lorises can be found all over the western half of Java, sadly only a small portion of their **range** is also classified as a "**protected area**". Euclidian distance was run on protected areas when completing the risk assessment, and almost all tools were masked to slow loris range.

Breaking it Up



As lorises are found in several different types of **land use** habitats, it is critical to consider which may lend them most vulnerable to poachers. Land use was reclassified to categorize which types of land use were the highest in risk factor. They were classified based on literature.

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