



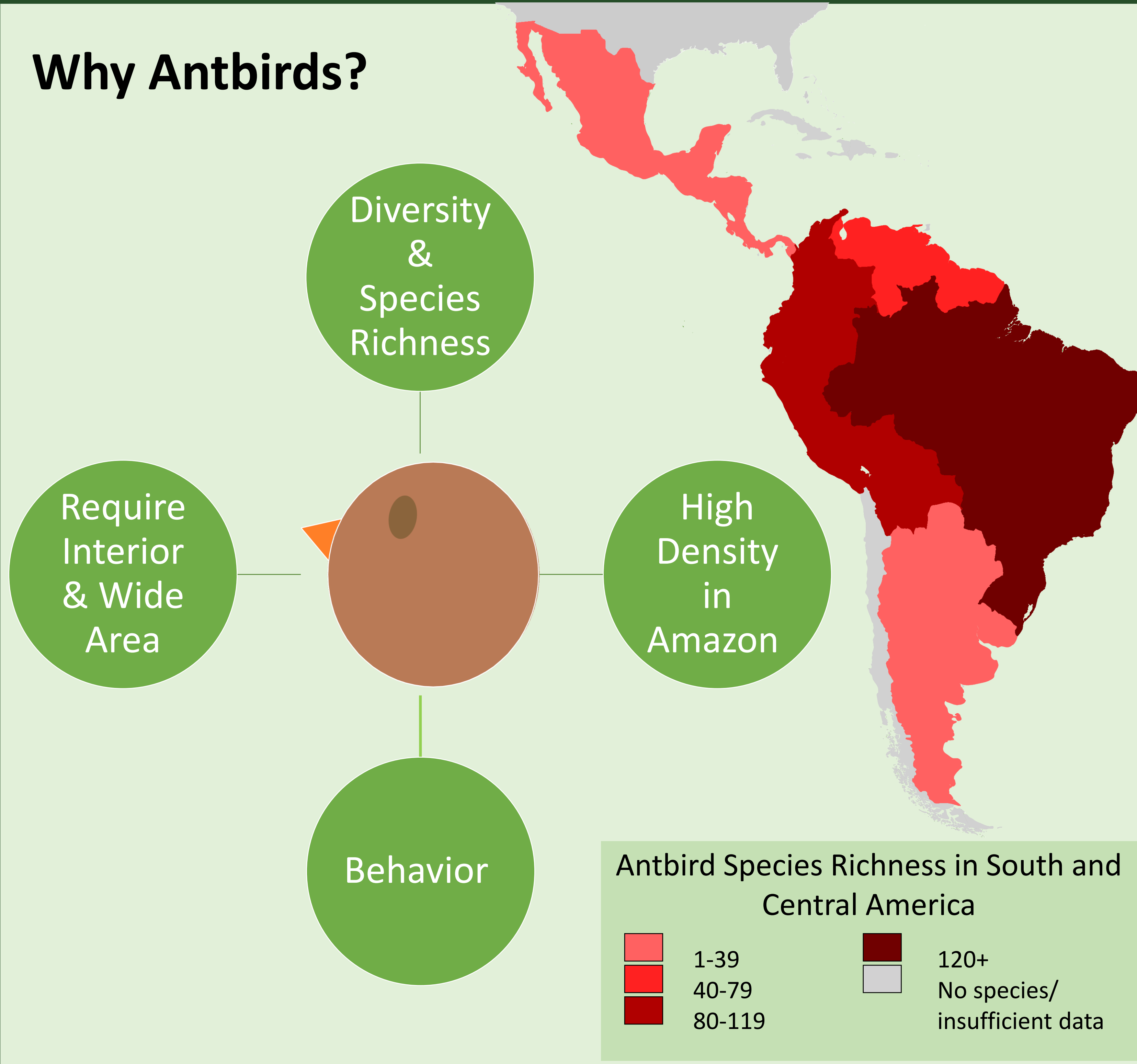
Ashli Silvera(CHE), Emily Mahoney(CS), Grace Olaya (ME), Zhifei Ma (MA)

Advisors: Professor Marja Bakermans (BBT), Professor David Spanagel (HUA) and Samantha Grillo (RBE)

## Abstract

Our project focuses on the effects of fragmentation due to deforestation in Brazil, concentrating on the antbird family. Antbirds are typically nonmigratory, insectivorous birds that reside in the understory of dense tropical forests. Fragmentation, the process through which forests are broken into pieces by deforestation, affects antbird populations more severely than others due to them being extremely specialized in terms of habitat. Through our research, we have discovered and formulated a set of solutions to help protect and conserve the biodiversity of antbird species. They include connecting forest fragments through regrowth and a continuation of incentive programs to prevent further deforestation.

## Why Antbirds?



## Concerns

Annual forest loss is 6207 km<sup>2</sup> per year within the Brazilian Amazon, encouraging continuous habitat fragmentation.

160 out of 241 antbird species have decreasing populations according to IUCN Red List.

The ratio of core area vs. edge area is about 18:7 in Brazilian Amazon.

The Rio Branco Antbird occupies 723 km<sup>2</sup> of available habitat: only 8% is protected.

## Comparison of solutions

Criteria	Regrowth	Forest Corridors	Legislation	Agroforestry
Feasibility	Depends on continued cooperation by farmers.	High possibility because 20% of Amazon is deforested.	Lower feasibility due to political climate.	Systems are already in place.
Long-term Effects	Provides the greatest recuperation for populations in an area.	Will preserve the populations of species and ensure genetic exchange. However, may provide avenue for local extinctions.	Policies currently in place have had positive results. However, legislations are always at risk of being revoked.	Though positive results have been seen for frugivores and bats, will have no positive effect on antbird species.

## Recommendation

Our team concludes that a solution of legislation compensating farmers for land used to restore continuous forests would have the most immediate impact. Additionally, connecting fragments with forest corridors, as well as natural reforestation, would be the most viable and impactful solution in renewing antbird biodiversity and reducing isolation, although on a more long-term scale.

Legislation	Forest Corridors	Reforestation
<ul style="list-style-type: none"> <li>Green scholarship to provide farmers with an incentive to not cut down trees.</li> <li>Corrections to IUCN Red List</li> <li>Create more protected lands</li> </ul>	<ul style="list-style-type: none"> <li>The National Wildlife Refuge has spent over 30 years buying private land and planting native species to create a corridor along the Rio Grande River</li> </ul>	<ul style="list-style-type: none"> <li>Since replanting in Colombia began in the 1980's, 20,000 acres of forest have been restored and rainfall has increased by 10%</li> </ul>

## Acknowledgments and References

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