

# Crosstown Assessment and Bias on Nature Platforms

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ABS 494 Urban Wildlife Ecology

## CAP LTER and Research About Community Science

- CAP LTER is: Central Arizona Long-term ecological Research. The goal of this is to carryout research on urbanism and its impact on the environment, aiding in policy making, urban planning, and conservation.
- Our Crosstown Assessment as a class was to look into seven sites that are working with CAPLTER in the valley and figure out ebird stats, building conditions, iNatrualist uploads, Graffiti, etc. I was fortunate enough to pick iNatrualist uploads.
- With the site information gathered I was able to start comparing socio-economic situations with iNatrualist uploads, starting with Household Income and Finally age.

## Research That Matters:

- We know from class that Higher income situations tend to lead to higher amounts of biodiversity, this paper deems it the “luxury effect” meaning that higher income (2) equals more unique plants and animals.
- We are in a declining rural development and an inclining Urban development; more people are moving into cities (4)
- Some concerns about accuracy of species richness counts On and Off Trail are potentially a worry due to people sticking to the trail and uploading pictures from animals they see directly inline with where they are hiking, this is known as Trail bias, a group of researchers compared the two and found there wasn't a significant difference when looking at exotic organisms when compared to their off trail counterparts (1)
- Ecological research bias; places closer to metropolitan areas, universities, and more urban environments tend to have a higher affinity of research when proximity to location is considered, corelating that to iNaturalist Explore function you can see a similar gradient to what they noted.(3)
- Why we should consider app usage and age, this article covers the varying usage patterns amongst men and women and how the usage of differing applications changes as we age. Younger people tend to use games, social media, communication. Whereas the older you get the more you relay on your phone for information regarding your schedule and news. (5)
- We Have also seen a Shift in activity patterns due to human activity as our urban sprawl has slowly encroached on wildlands, from raccoons to deer we have seen their normal daily patterns shift to match the slow times of our species.(6)

\* (#) applies to the references down below as a condensed Citation

## Watch the posters Explanation here:

Episode 1: What is Urban Wildlife Ecology?  
Episode 2: Why Urban Wildlife Ecology Matters?  
Episode 3: What's CAPLTER?  
Episode 4: What's CAPLTER continued  
Episode 5: How does the Luxury Effect play into iNat  
Episode 6: Ecology Research Bias



Episode 7: Trail Bias Isn't a Worry  
Episode 8: Does age and Application Use Carry bias  
Episode 9: Human Activity and What That means for Animals

## iNatrualist Uploads vs Age and Income:

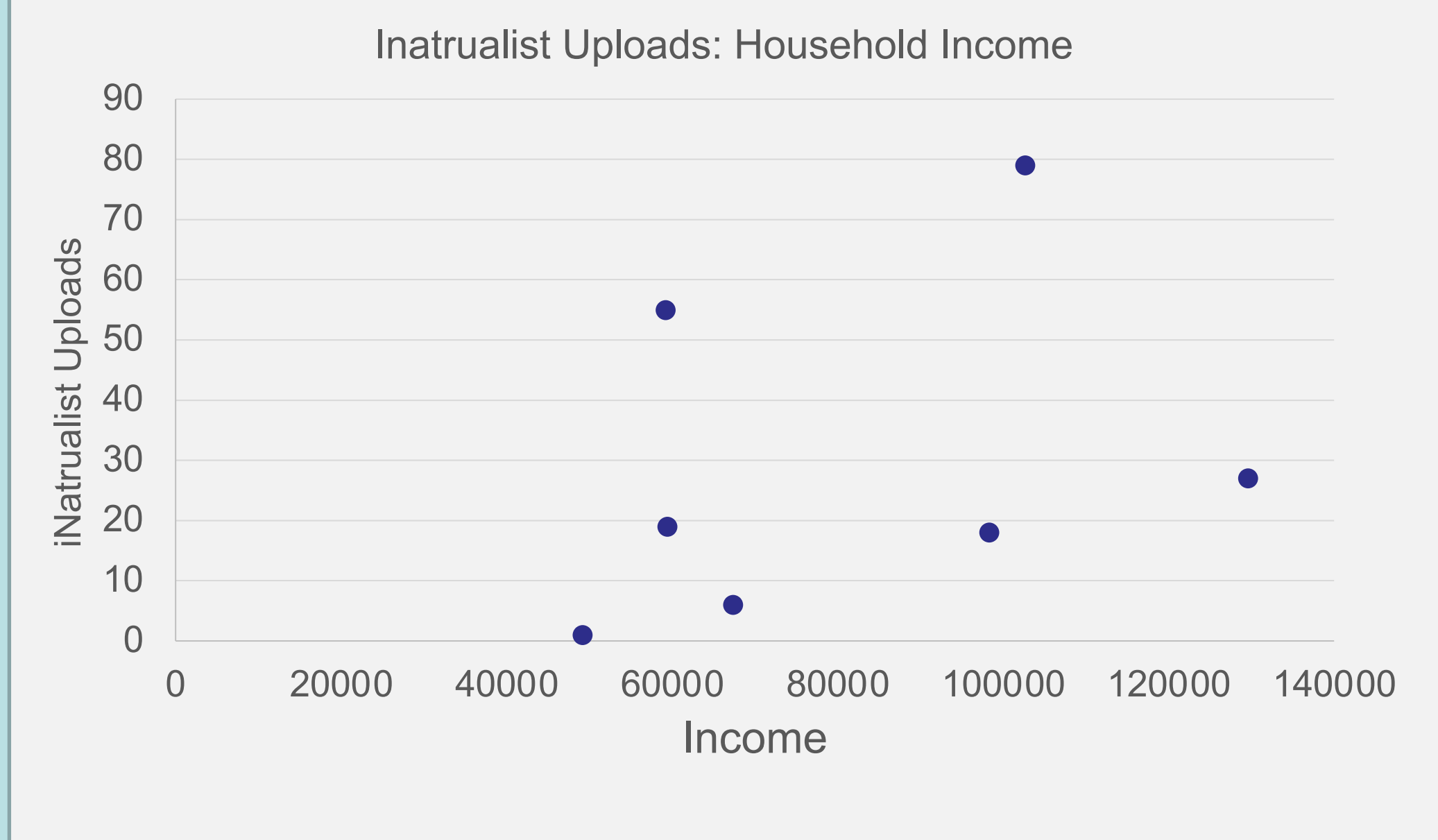


Fig 1: this shows the Income plotted against iNatrualist Uploads

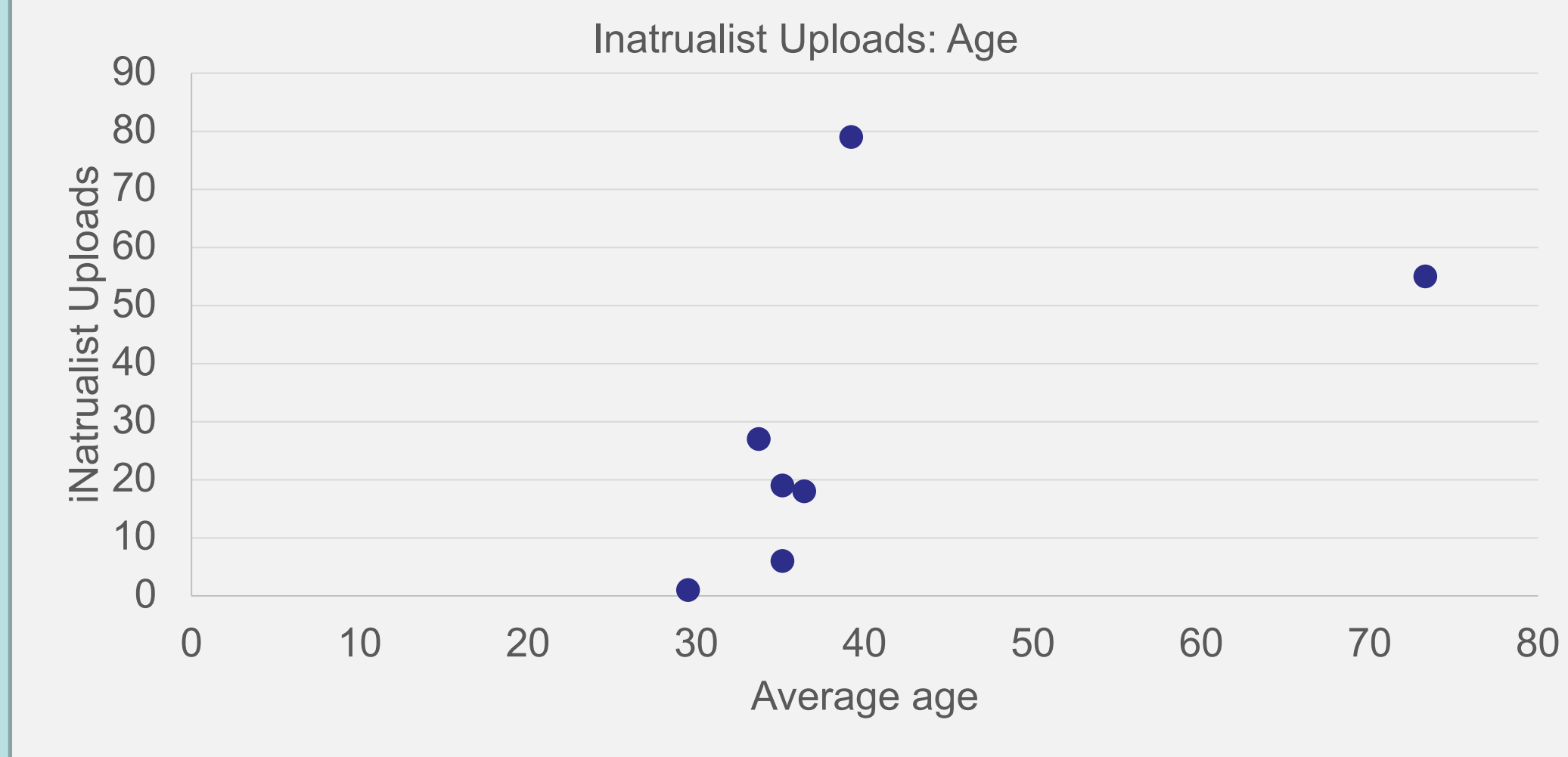


Fig 2: This shows the Age plotted against iNatrualist Uploads

## Special Thanks:

I want to thank Heather Bateman for an intriguing fun topic to learn about, also all the guest speakers that she brought in to teach us about urban planning and bio diverse planting systems, Kelli Larson. Content creation, Isley Frazier. Which resources to use when doing this project Laura Steger. Human and Bird interactions, Lauren Granger. Finally good advice for education, showing us the inside of CAPLTER research and just interesting tidbits about animals around the valley that I had no clue existed in this state, like otters! Jeff Haight.

## References:

1. Trail Bias: Geurts EM, Reynolds JD, Starzomski BM (2023) PLOS ONE 18(6): e0287150.
2. Luxury Bias: Chamberlain, D, Reynolds, C, Amar, A, Henry, D, Caprio, E, Batáry, P. Global Ecol Biogeogr. 2020; 29: 1595–1605
3. Ecological Research Bias: Piccolo, R.L., Warnken, J., Chauvenet, A.L.M. et al. *Sci Rep* 10, 9691 (2020).
4. Shifting to Urbanism: <https://ourworldindata.org/urbanization>
5. Age and App Usage: Andone, Ionut and Bł{\a}szkiewicz, Konrad and Eibes, Mark and Trendafilov, Boris and Montag, Christian and Markowetz, Alexander. (2016) isbn: 9781450344623
6. Animal Behavior Shifts: AU - Gilbert, Neil A., Stenglein, Jennifer L. Pauli, Jonathan N., Zuckerberg, Benjamin. (2022) 10.1073/pnas.2206339119, e2206339119