

M. Davis^{1*}, H. L. Bateman¹, M. J. Bechtel², and K. L. Larson^{3,4}. *Human dimensions of captive Sonoran Desert Tortoises in Arizona*

The Sonoran Desert Tortoise (*Gopherus morafkai*), designated as a Species of Greatest Conservation Need in Arizona, presents increasing management challenges due to its long lifespan and growing captive population. The response of captive populations to seasonal rainfall remains unclear compared to wild populations. Historical ownership, illegal breeding, and uncertain genetic lineages have created a large, genetically mixed captive population that cannot be repatriated. Over 4,600 tortoises were adopted through Arizona Game and Fish's Tortoise Adoption Program (agency) between 1982 and 2005. Strategies are needed to reduce adoptions amid limited agency capacity. This research examines three associations: (1) how intakes—any tortoise found or surrendered—varies with rainfall, (2) if intakes and adoptions follow similar patterns, and (3) how adoptions relate to household income. Using agency records (2022–2025), rainfall data, and U.S. Census data, preliminary analyses show intakes are not correlated with rainfall but tend to increase following monsoon rains corresponding with post-monsoon hatchling emergence. Intakes and adoptions are positively correlated ($\rho = 0.489$, $p < 0.001$). Adoptions are positively correlated with household income ($\rho = 0.317$, $p < 0.001$), but most adoptions are associated with middle income ZIP codes. The positive association between intakes and adoptions highlights the importance of understanding human behavior to reduce unwanted or intentionally bred tortoises, while correlation with income suggests socioeconomic barriers to long-term stewardship. Future research will include a social survey of adopters.

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