

Scaling Impact Through Partnerships: Minnesota Zoo's Freshwater Turtle Conservation Program

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The **Minnesota Zoo** is **uniquely positioned** to partner with other government agencies to **increase the effectiveness** of local conservation efforts.



Devon Matthews



Background

- As outlined by the SAFE American Turtle Program, turtles face numerous threats including habitat loss, road mortality, poaching, climate change, and emerging disease.
- Conservation funding to research and address these threats is in short supply.
- As one of only two state agency AZA accredited Zoos, the Minnesota Zoo is uniquely positioned to partner with other government agencies to increase the effectiveness of local conservation efforts.



Objectives

- Leverage partnerships with other state agencies to complement expertise, share resources, and scale impacts.
- Work on multiple initiatives to address declines in imperiled wood and Blanding's turtle populations.

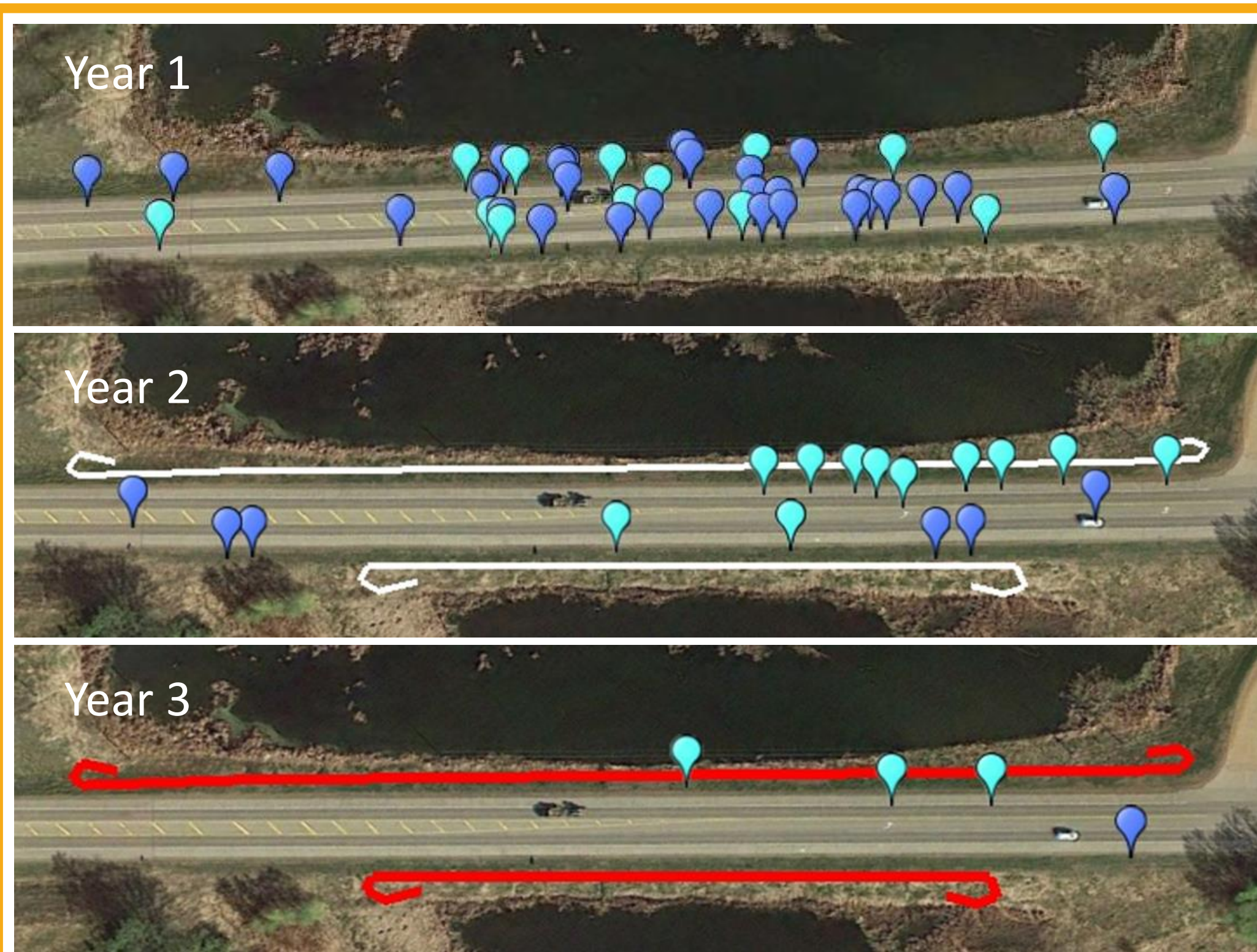


Project Successes

- Partnered with the Minnesota Department of Natural Resources (MN DNR) to annually track ~20 state-threatened juvenile and adult wood turtles. Spatial data being analyzed to understand critical habitat, movements, and nest site preference.
- Protected nests and collected eggs from wild wood turtles. Initiated headstarting program to increase juvenile survival, while implementing long-term strategies for recovery. Over 100 hatchlings and 130 headstarts released to date.
- Collaborated with the Minnesota Department of Transportation on before-after study to research and mitigate turtle road mortality. Modified barriers guided turtles to safe passages and reduced turtle road mortality by over 90%.
- Worked with MN DNR nongame to conduct mark-recapture study of Blanding's turtles for abundance estimate of integral population.



Top: Tracking wood turtles via radio telemetry
Bottom: Hatchling headstart wood turtles (left), Modified turtle fence along road (right)



Road Mortality Mitigation Study
Top: Turtle mortality no treatment (dark blue = adult, light blue = juvenile turtles)
Middle: Initial fencing reduced mortality by 60%
Bottom: Modified turtle fence reduced mortality by 90%



References

- Markle, T. M. and S. Stapleton. 2022. MnDOT Final Report. Reduce Vehicle-Animal Collisions with Installation of Small Animal Exclusion Fencing. <https://hdl.handle.net/20.500.14153/mndot.35872>
- Mallinger et al. 2023. Understanding how the unique context of the Minnesota Zoo shapes our local conservation initiatives. J. Zool. Bot. Gard., 4(2), 427-444.

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