Wood Turtle Movements and Road Mitigation Considerations

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THE Orianne Society

With special thanks to:

VTrans Working to Get You There
Vermont Agency of Transportation

VERMONT FISH & WILDLIFE

Relevant Biology

- Rare species that overwinters in valley streams
- Forages mostly on land up to ~1000 feet from streams
- May travel miles along river corridors
- Long-lived, 80+ years
- Slow to mature (14+ years to first nesting, then nest through old age)
- Survival and longevity of adults critical!

River Valley Specialist

Roads a Major Threat

- Valley streams often bordered by busy roads
- Movement back and forth across valleys puts Wood Turtles at greater risk of road mortality compared to most other turtles

GRAPHIC IMAGE

Perched culverts and other barriers to river corridor movements under roads force turtles to either cross highways or turn around. Replacing with box culverts or wildlife-friendly bridges is a priority.

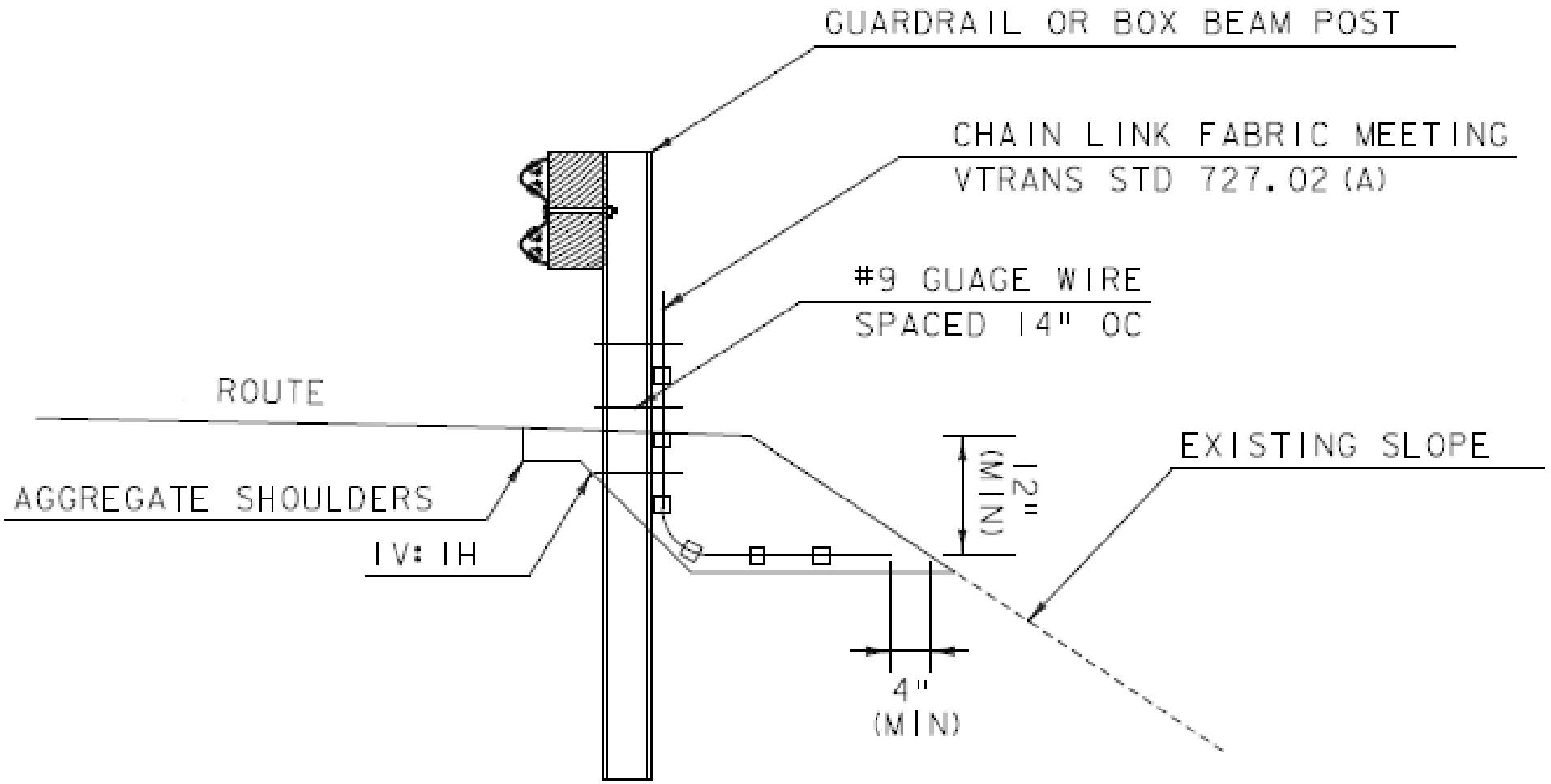
Upcoming bridge and culvert project near an important area for Wood Turtles.

Undersized/perched culverts → Bridges or Box Culverts

Fencing with J-hooks where needed

Bridge built over falls widened with a turtle path constructed around ledges

New structures will all have natural substrates



SPECIAL PROVISION (RARE SPECIES EXLUSIONARY FENCE)

VTrans funded 5-year study to learn:

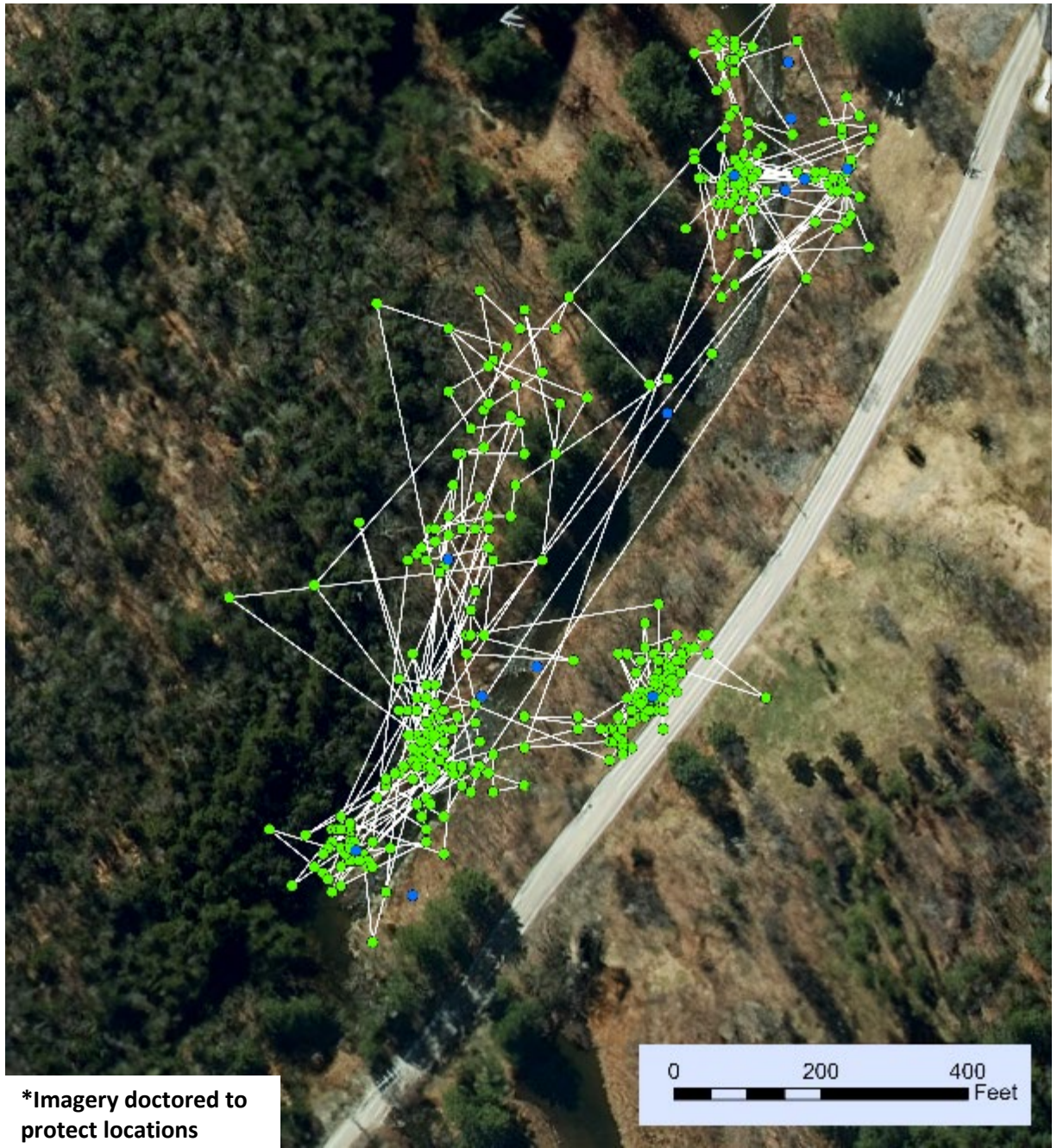
- How does the highway impact Wood Turtles today?
- Where else might Wood Turtles cross the highway?
- How will Wood Turtles respond to the infrastructure upgrades?
- Are there other approaches needed to keep turtles off the roads near project locations?

Assessing the impact of the highway on Wood Turtles and how the upgrades benefit the species will help justify and inform future passage projects.

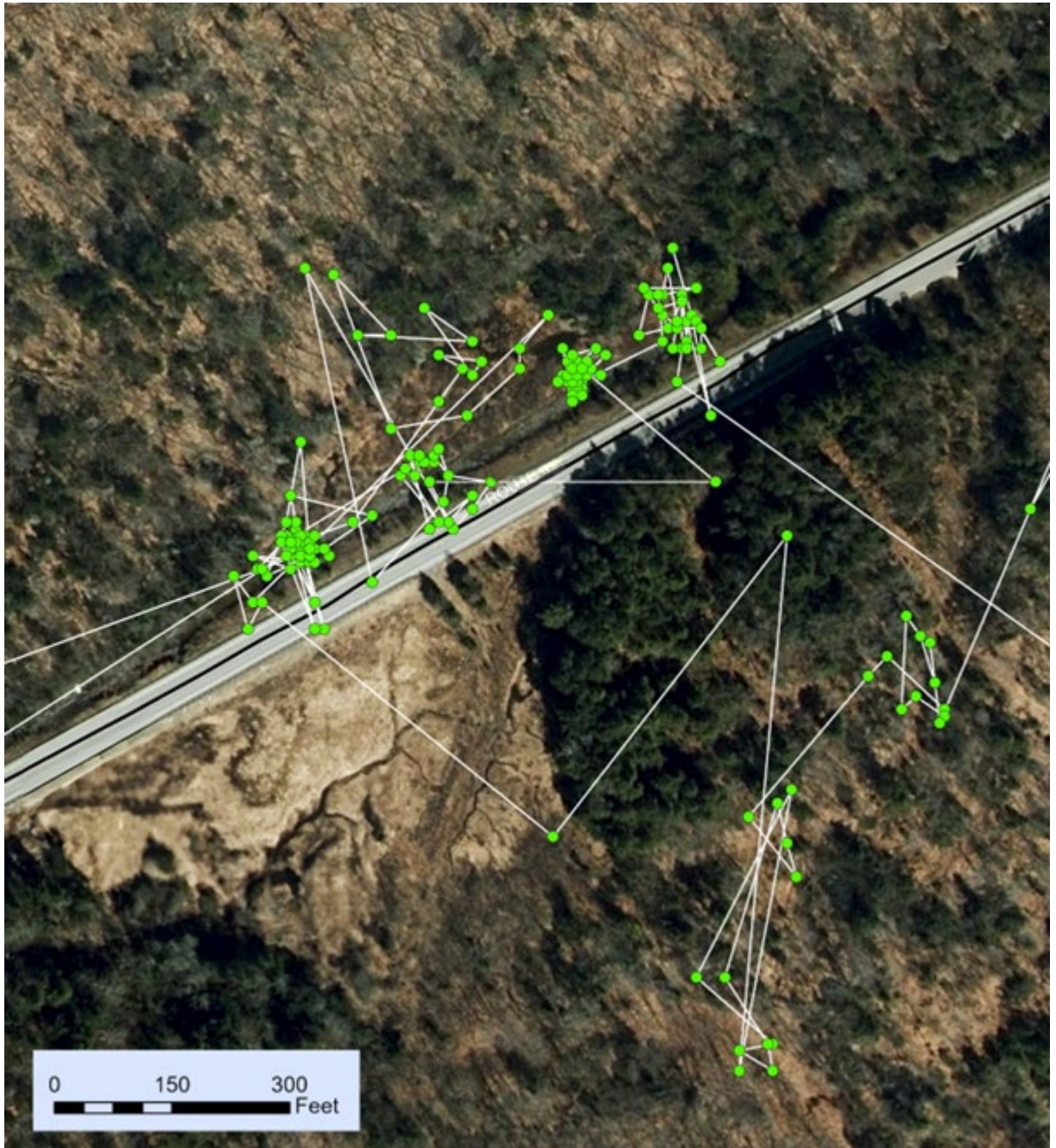
GPS monitoring

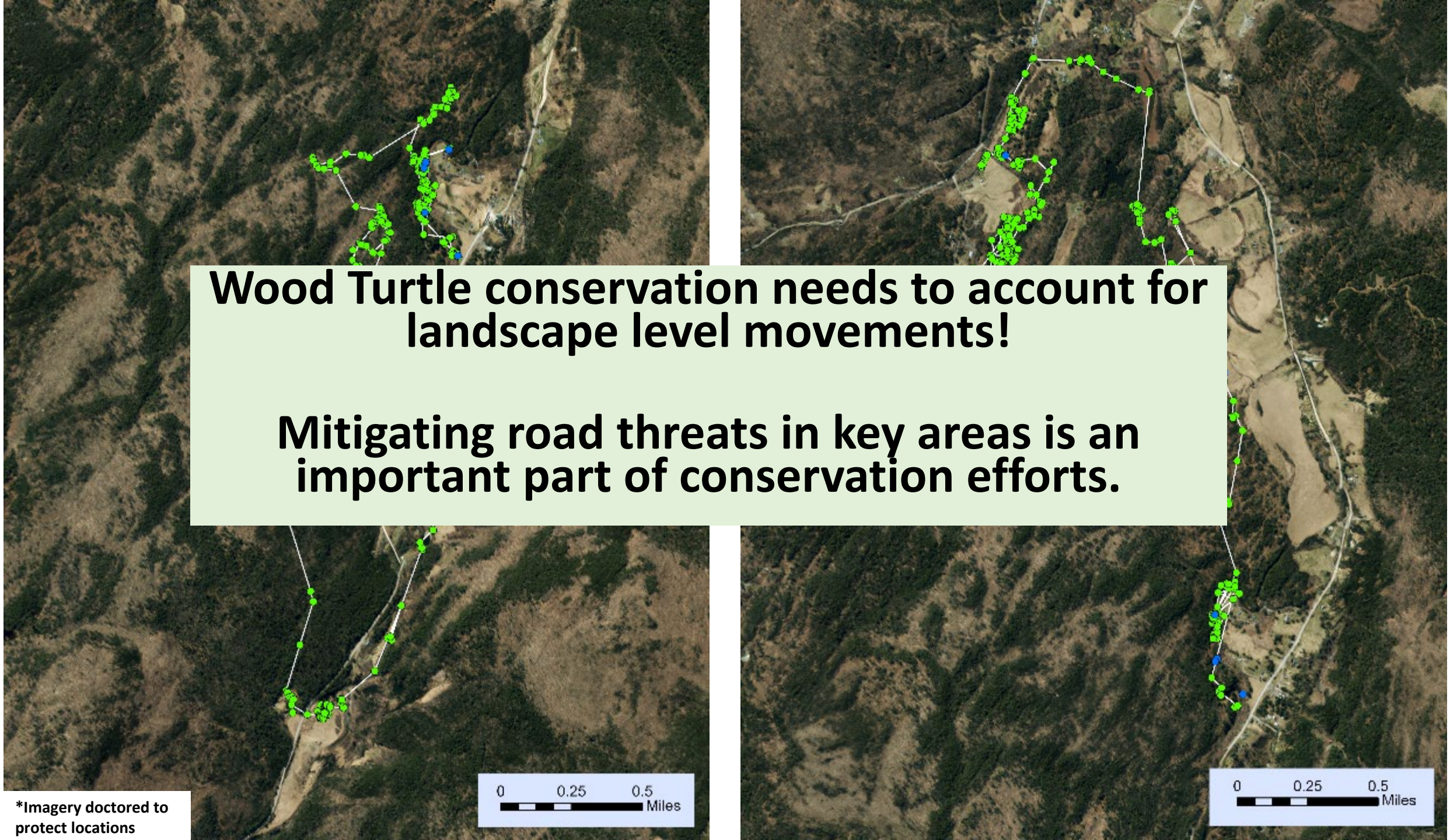
Preliminary findings using GPS clearly demonstrate the need to think of Wood Turtles on the landscape scale…

Example Wood Turtle Movement Patterns



*Imagery doctored to protect locations





Wood Turtle conservation needs to account for landscape level movements!

Mitigating road threats in key areas is an important part of conservation efforts.

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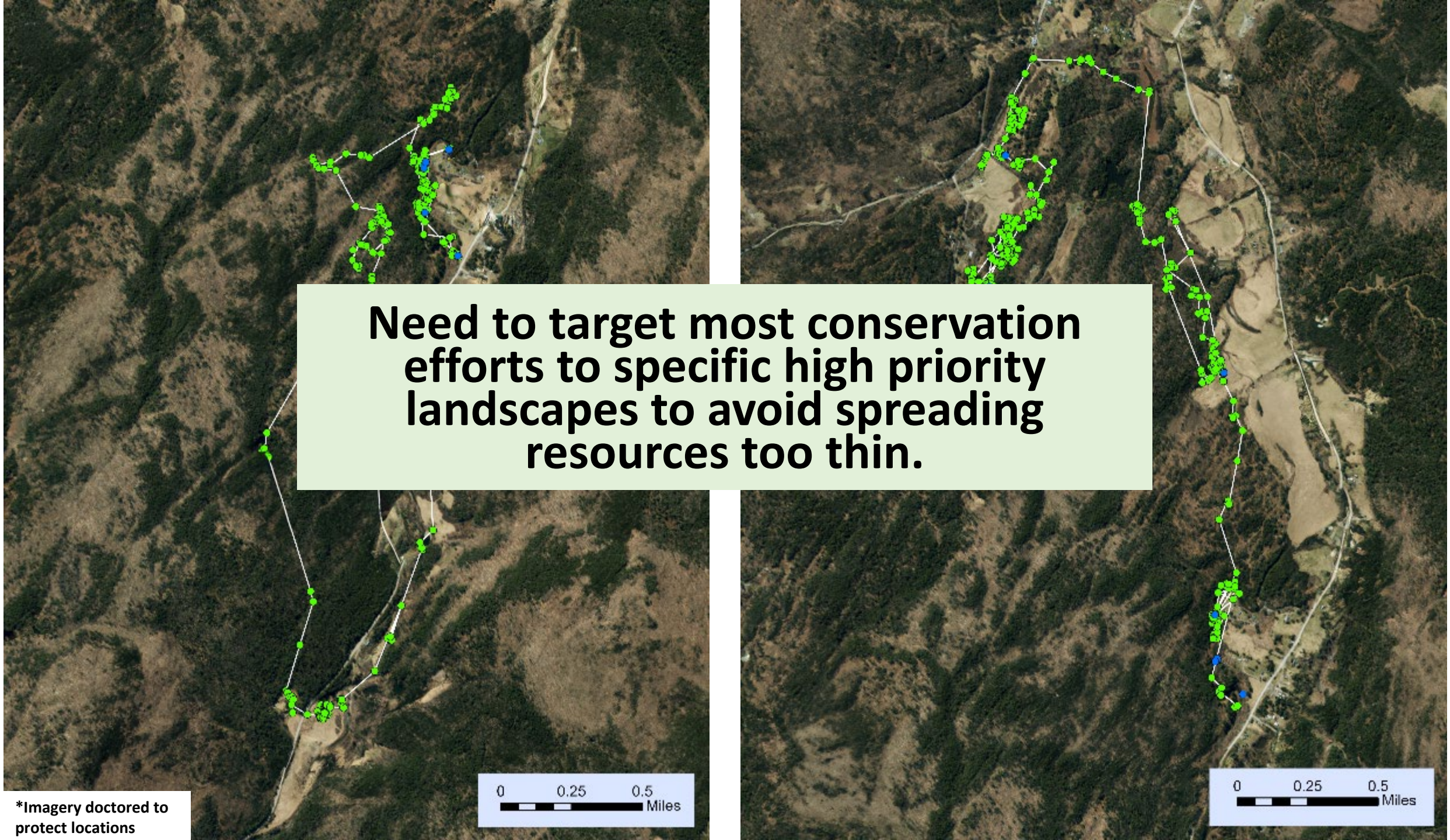

Need to target most conservation efforts to specific high priority landscapes to avoid spreading resources too thin.

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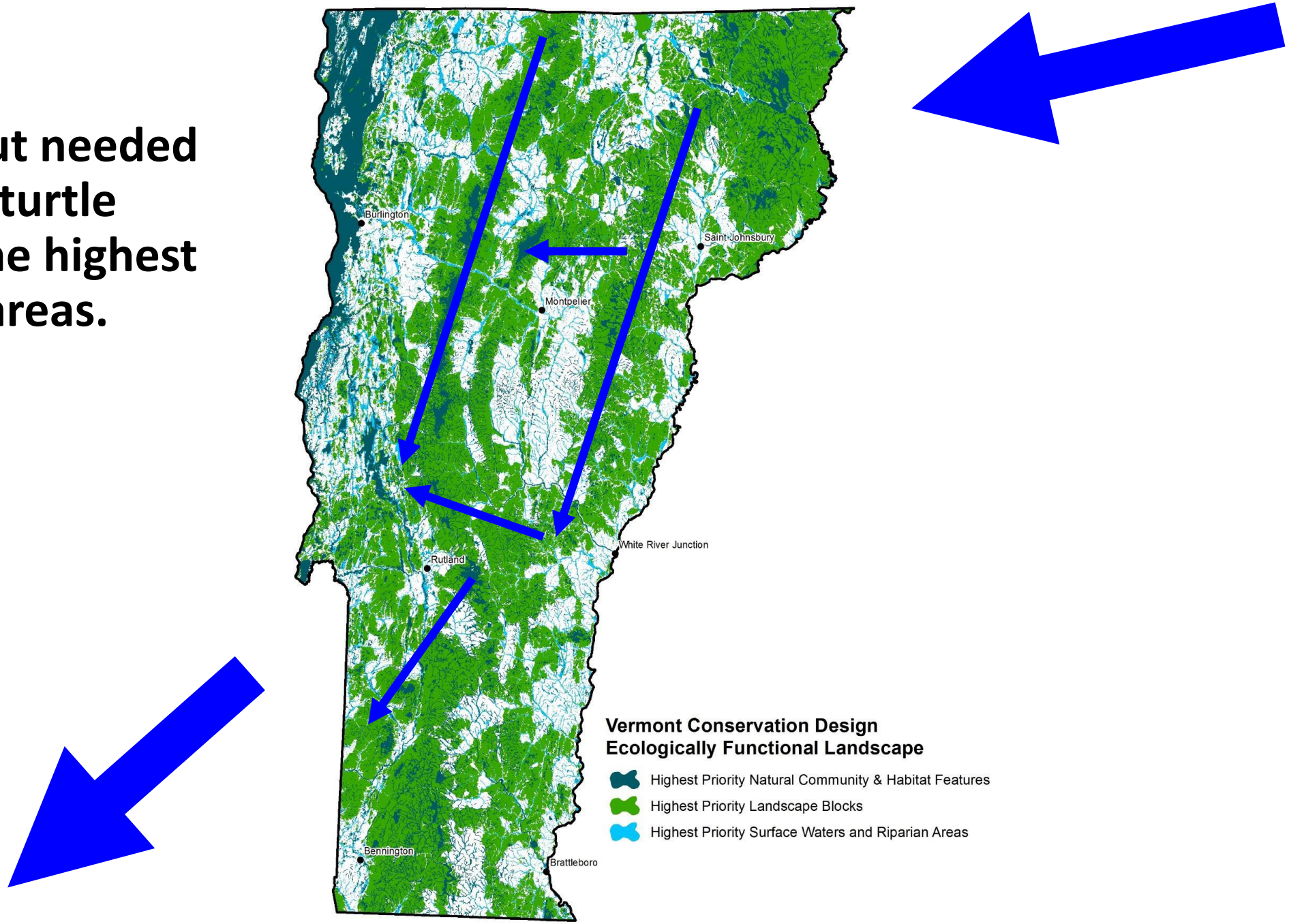
Biologist input needed to target turtle projects to the highest priority areas.



The Turtle Timescale

- Wood Turtle populations do not bounce back quickly due to their slow growth and low reproduction levels
- Adults may not discover the turtle-friendly bridges and culverts if their set crossing locations are not blocked by fencing (reluctant to change movement patterns)
- Younger turtles more likely to discover new bridges/culverts when exploring new territory
- Follow-up study would be very valuable in ~10 years