Roads and Wildlife

Jens Hilke, Conservation Planner

Andrea Wright, Environmental Policy Manager

Benjamin Young

The Vermont Fish & Wildlife Department

The mission of the Vermont Fish & Wildlife Department is the conservation of our fish, wildlife, plants and their habitats for the people of Vermont

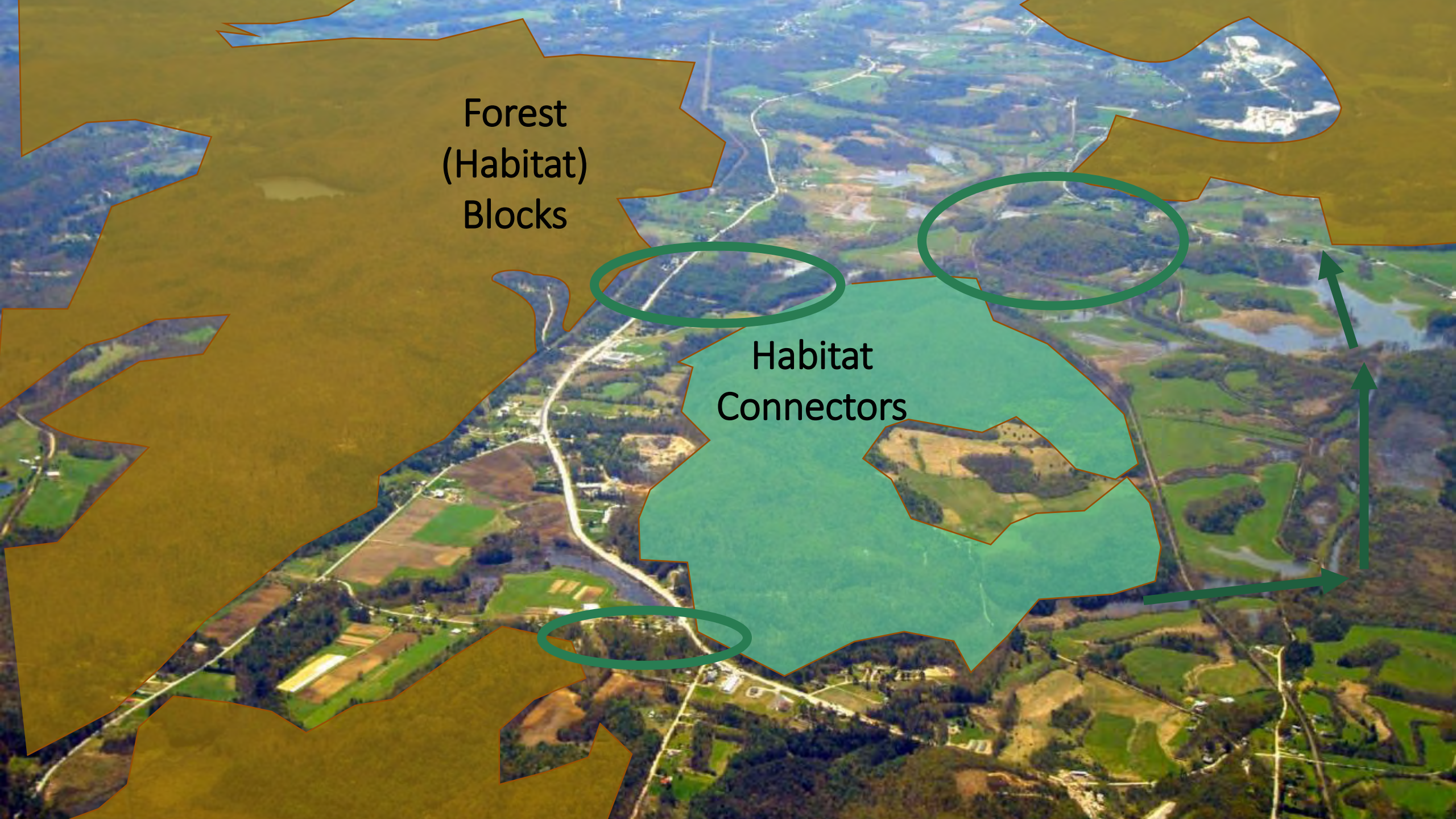
WHY SHOULD WE CARE?

Safety!

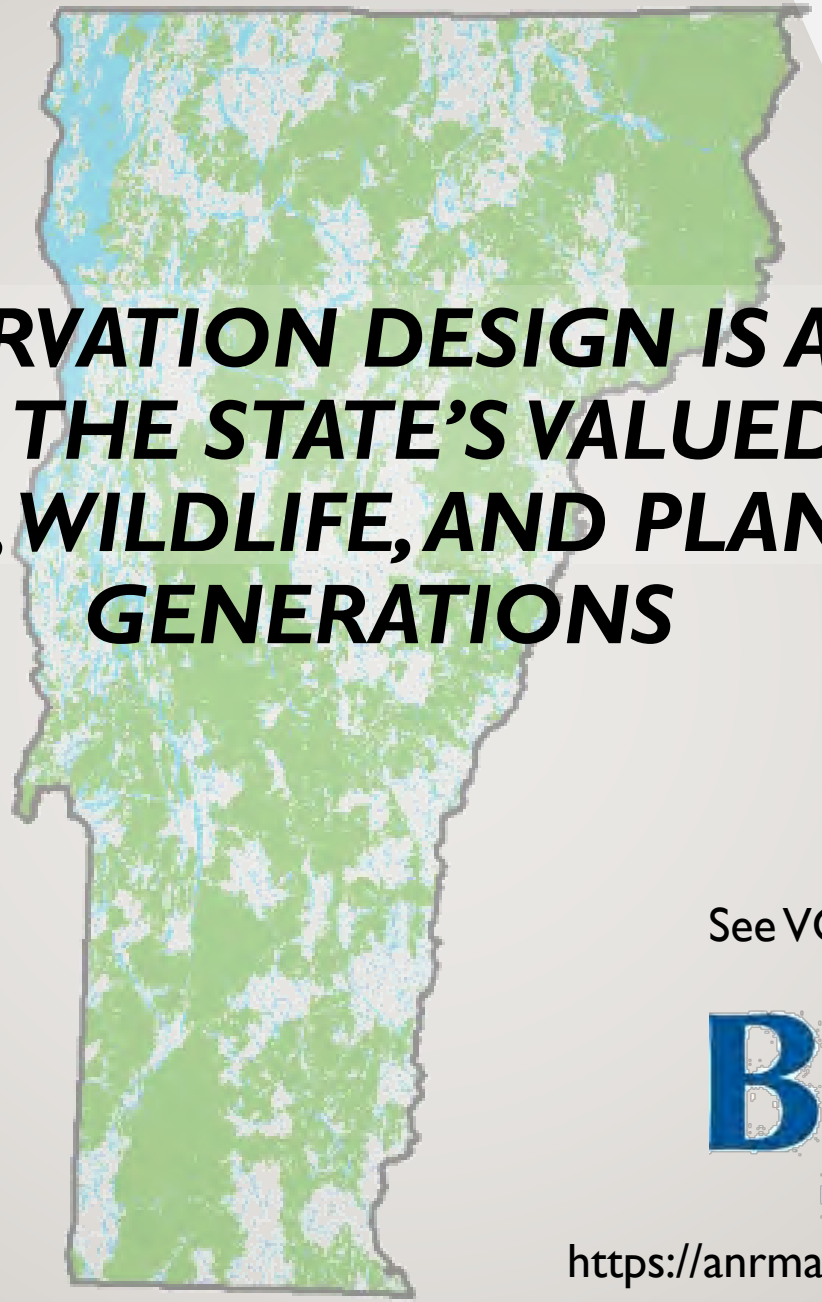
Economic

- $8 Billion/Year in Property Damages nationally
- Cost to society per collision
  - Deer $7,000
  - Moose $30,000

Stewardship – keeping common species common


Forest
(Habitat)
Blocks
Habitat
Connectors

VERMONT CONSERVATION DESIGN IS A SCIENCE-BASED VISION TO SUSTAIN THE STATE'S VALUED NATURAL AREAS, FORESTS, WATERS, WILDLIFE, AND PLANTS FOR FUTURE GENERATIONS



VERMONT
AGENCY OF NATURAL RESOURCES

VERMONT
FISH & WILDLIFE

See VCD on

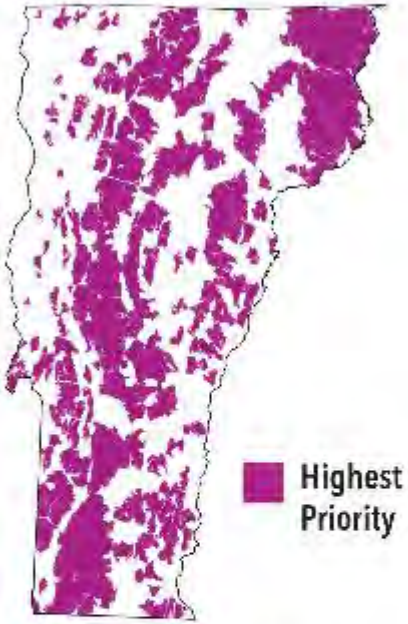
BioFinder

https://anrmaps.vermont.gov/websites/BioFinder4/

LANDSCAPE SCALE

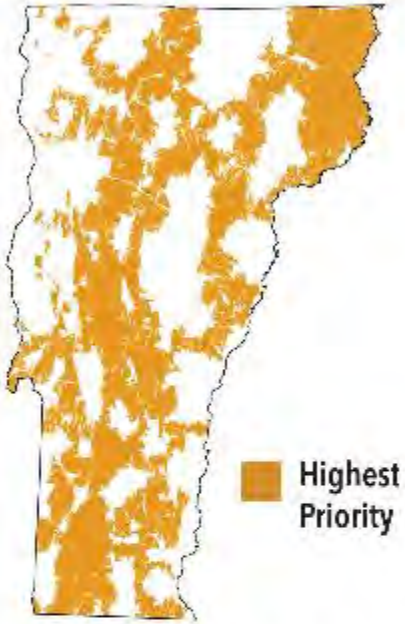
COMPONENTS

INTERIOR FOREST



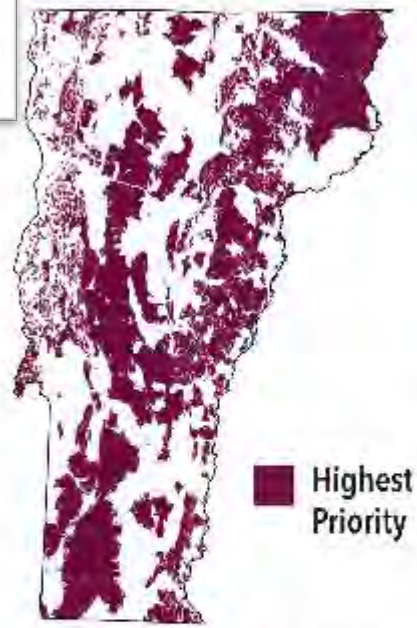
The largest forest blocks in each biophysical region. These are areas of contiguous forest and other natural communities and habitats (such as wetlands, ponds, and cliffs) that are unfragmented by roads, development, or agriculture.

CONNECTING FOREST



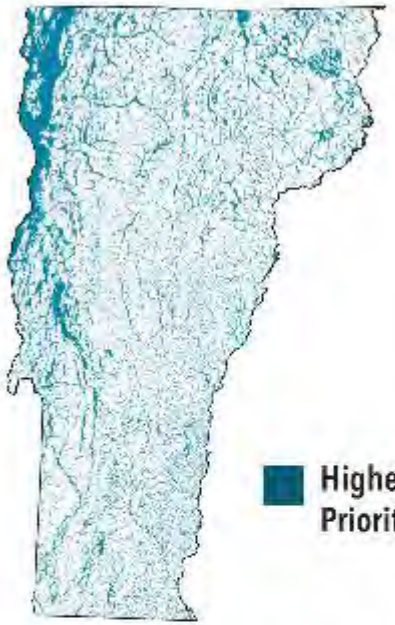
The network of forest blocks that together provide terrestrial connectivity at the regional scale (across Vermont and to adjacent states and Québec) and connectivity with surface waters and areas of geological diversity.

GEOLOGICAL DIVERSITY



A set of forest blocks that reflect the full diversity of Vermont's bedrock, soils, elevations, and landforms (features such as slopes, ridges, flats, and coves). Diversity in the physical landscape is linked to biological diversity, and places that contribute to physical diversity will be important for biological diversity even as the climate changes.

SURFACE WATERS & RIPARIAN AREAS

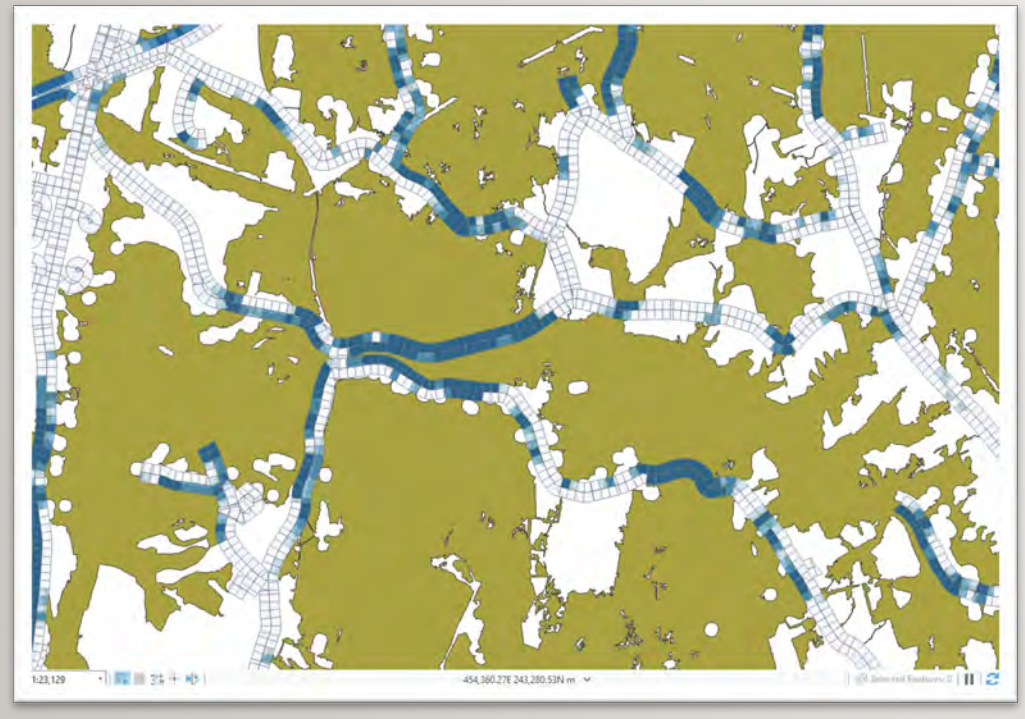


The network of all lakes, ponds, rivers, and streams, their associated riparian zones, valley bottoms, and river corridors in which geophysical processes occur.

WILDLIFE ROAD CROSSINGS

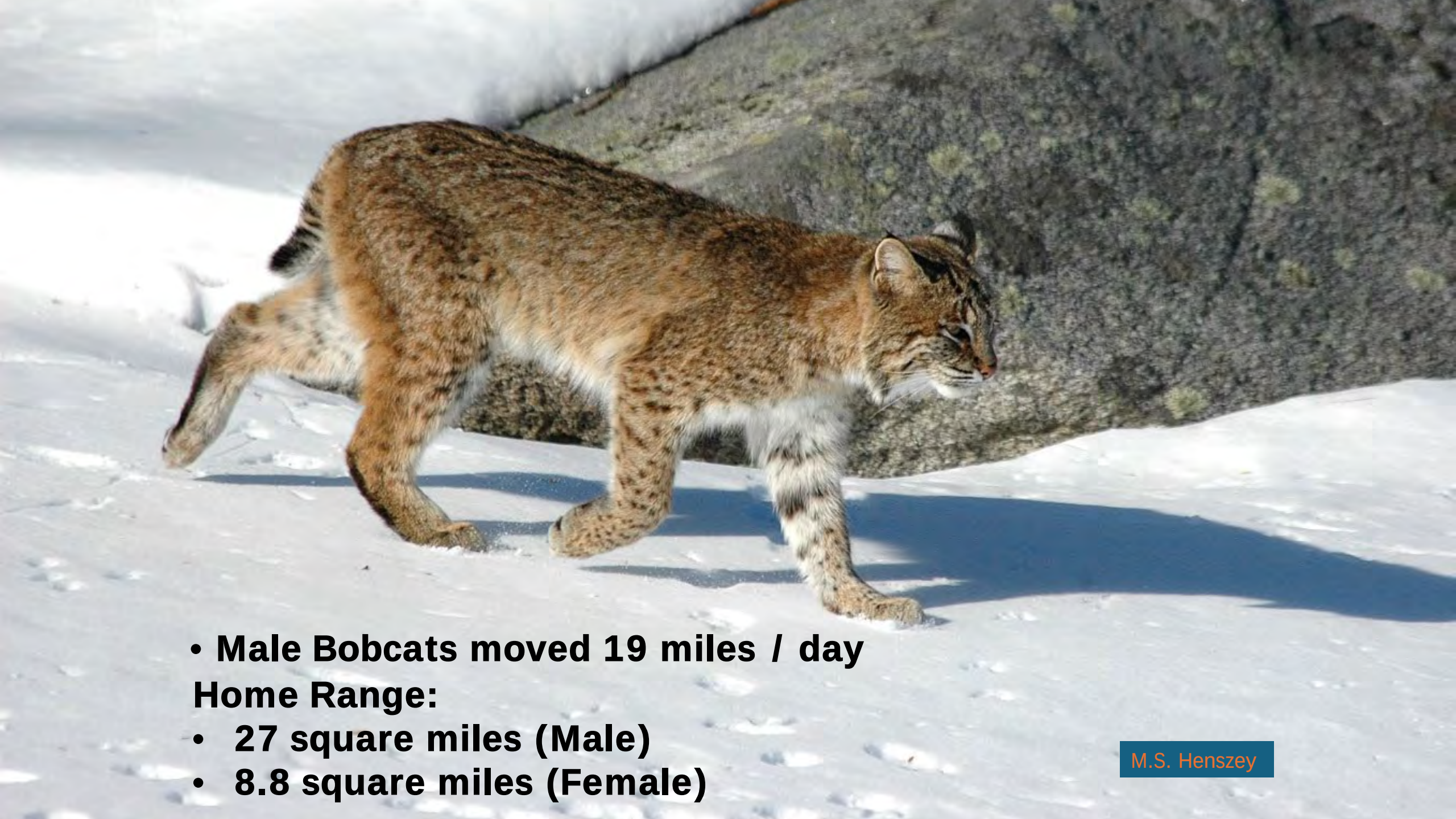
- >75% = Highest Priority
- >50% = Priority
- >5% = Potential Wildlife Road Crossing

percent habitat block of each plot



Georgia

Georgia



- **Male Bobcats moved 19 miles / day**

Home Range:

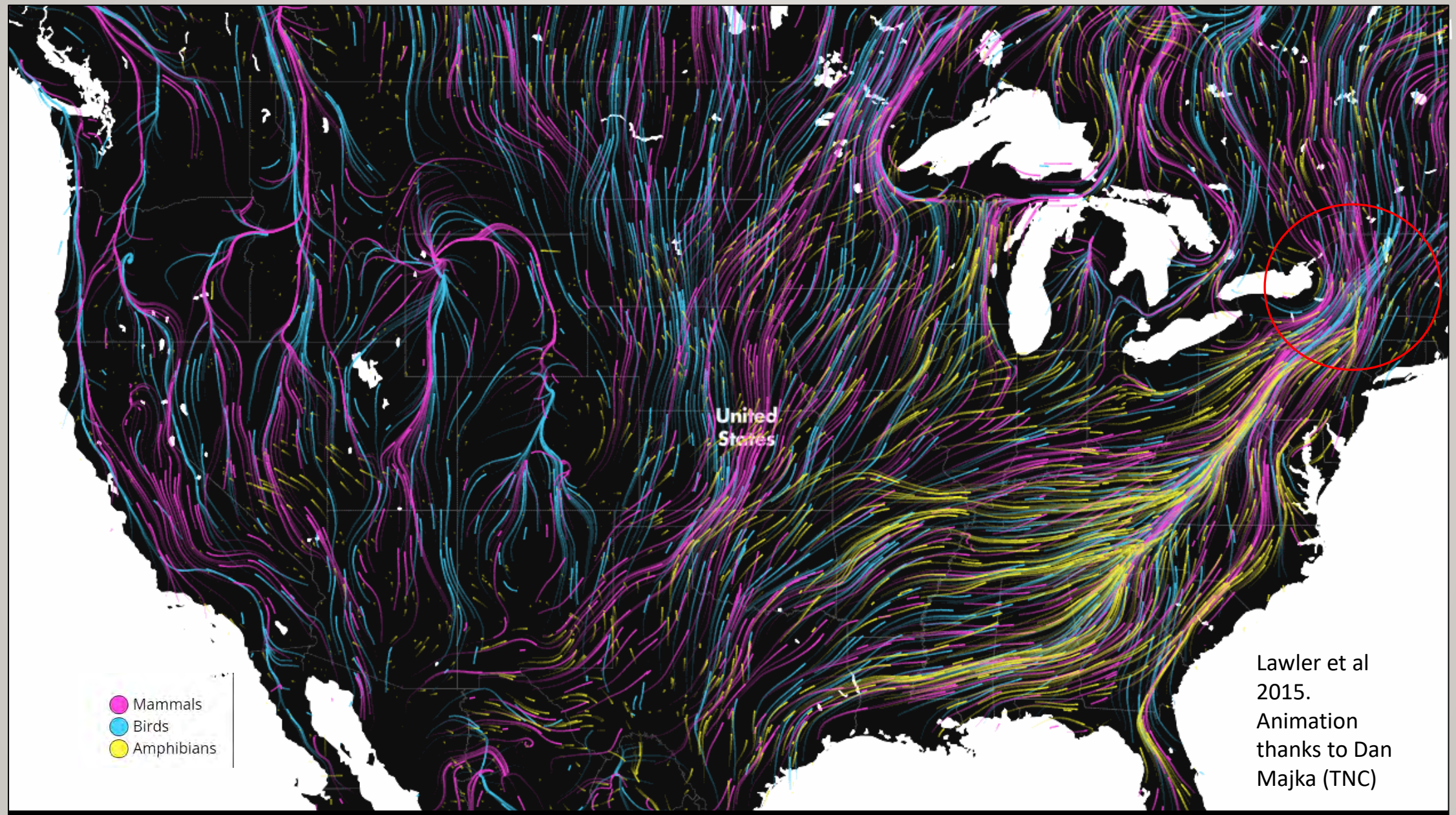
- **27 square miles (Male)**
- **8.8 square miles (Female)**

M.S. Henszey

Male Bear M0063

October 11 2017 – November 11 2017

Approximately 140 km.



The gradual movement of populations across the landscape in response to climate change
Current Rates: 11 mile per decade North **36 feet** per decade Upslope

Culvert Replacement
Rt 15 Bridge 42
Hyde Park

Old Culvert in 2008

Replaced in 2014

5 Replacements along Rt 12 (“Moose Alley”)

- Construction 2024 - 2025
- VT’s Hydrologic standards for sizing yield great results for wildlife
- Huge investments in adjacent land protection and land use planning

Bridge 89
Existing is 15’ wide
Replacement: 77’ span bridge

See Storymap

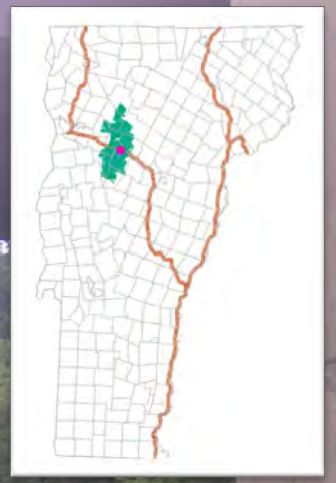
WILDLIFE SHELF – RT 12 IN WORCESTER

VT 9 IN SEARSBURG

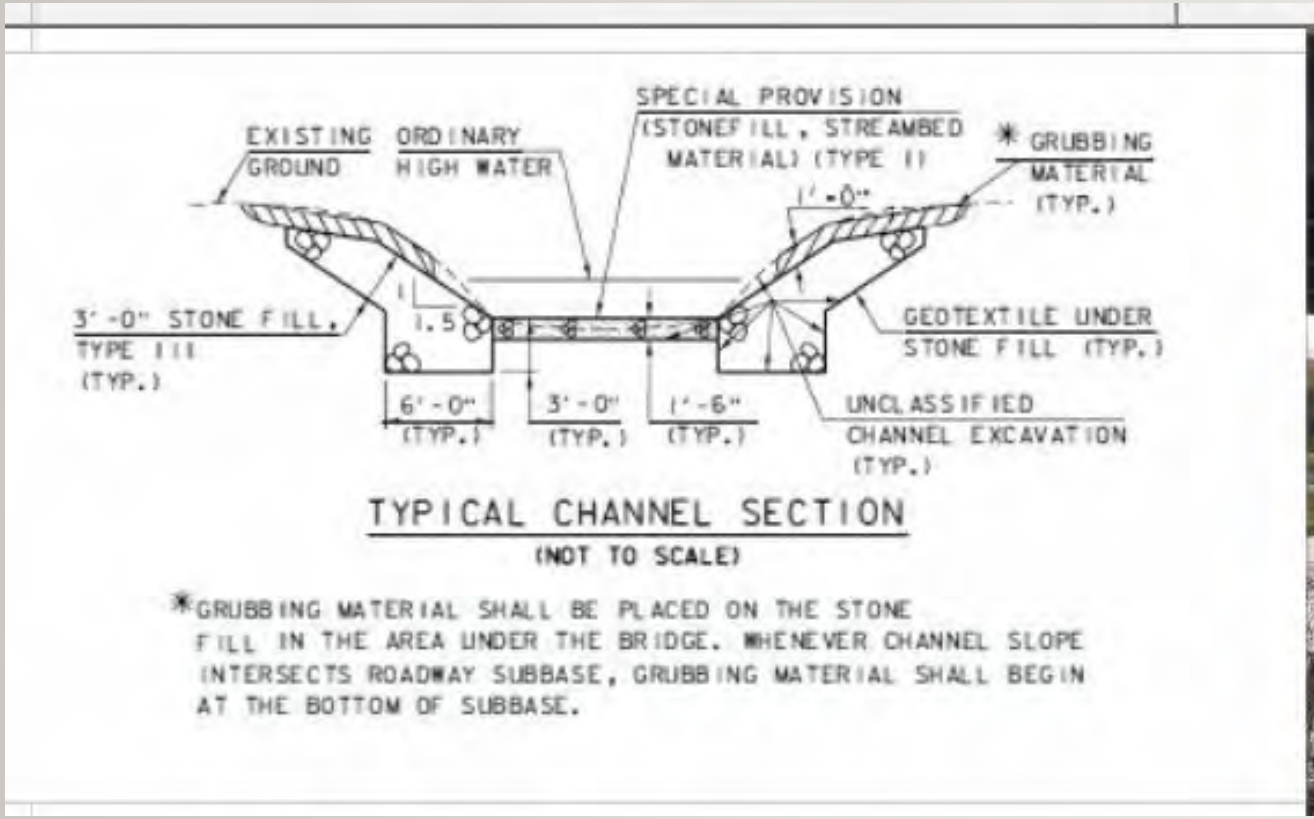
Constructed in 2004
Extended span
Allows for floodwaters, Aquatic & terrestrial wildlife movement

Little River Wildlife Shelf under I 89 (2014)

- ~ $20,000 retrofit on a $8mill project
- Now a standard specification on all bridges with sufficient space
- Has allowed for movement of almost every VT mammal species



WILDLIFE SHELF STANDARD



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

*GRUBBING MATERIAL SHALL BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

Rt 15 in Wolcott, wildlife shelf constructed in 2022

Reconnecting The Green Mountains

Mansfield to Camel's Hump Wildlife Corridor

- Current investments in adjacent land protection and land use planning

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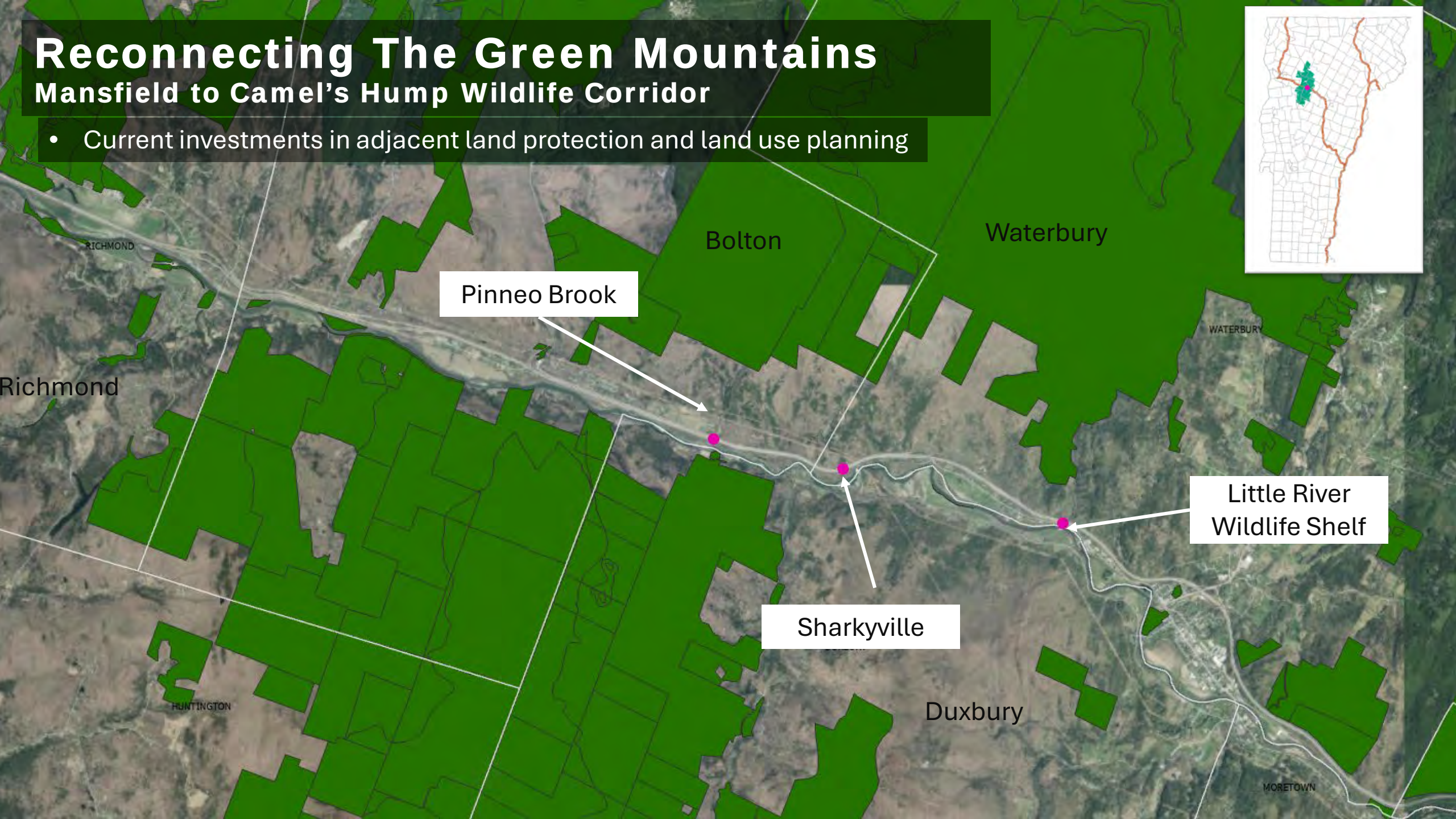
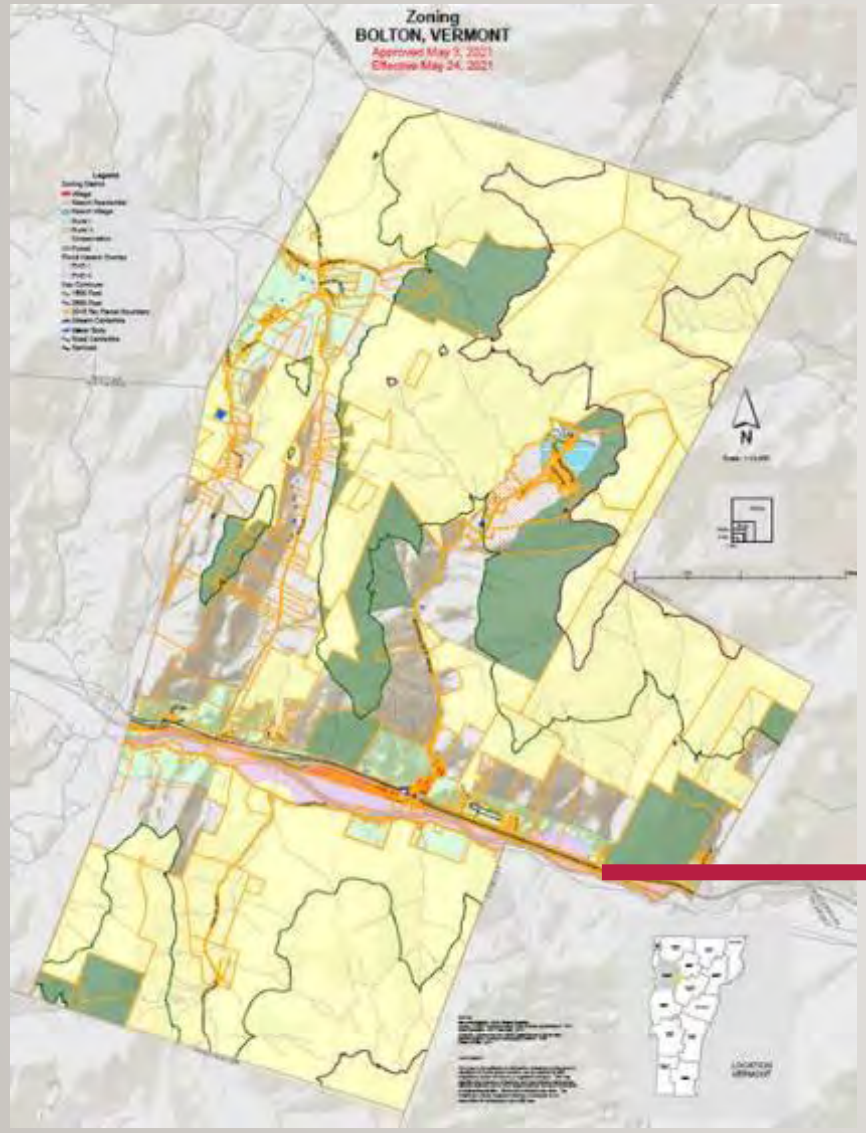
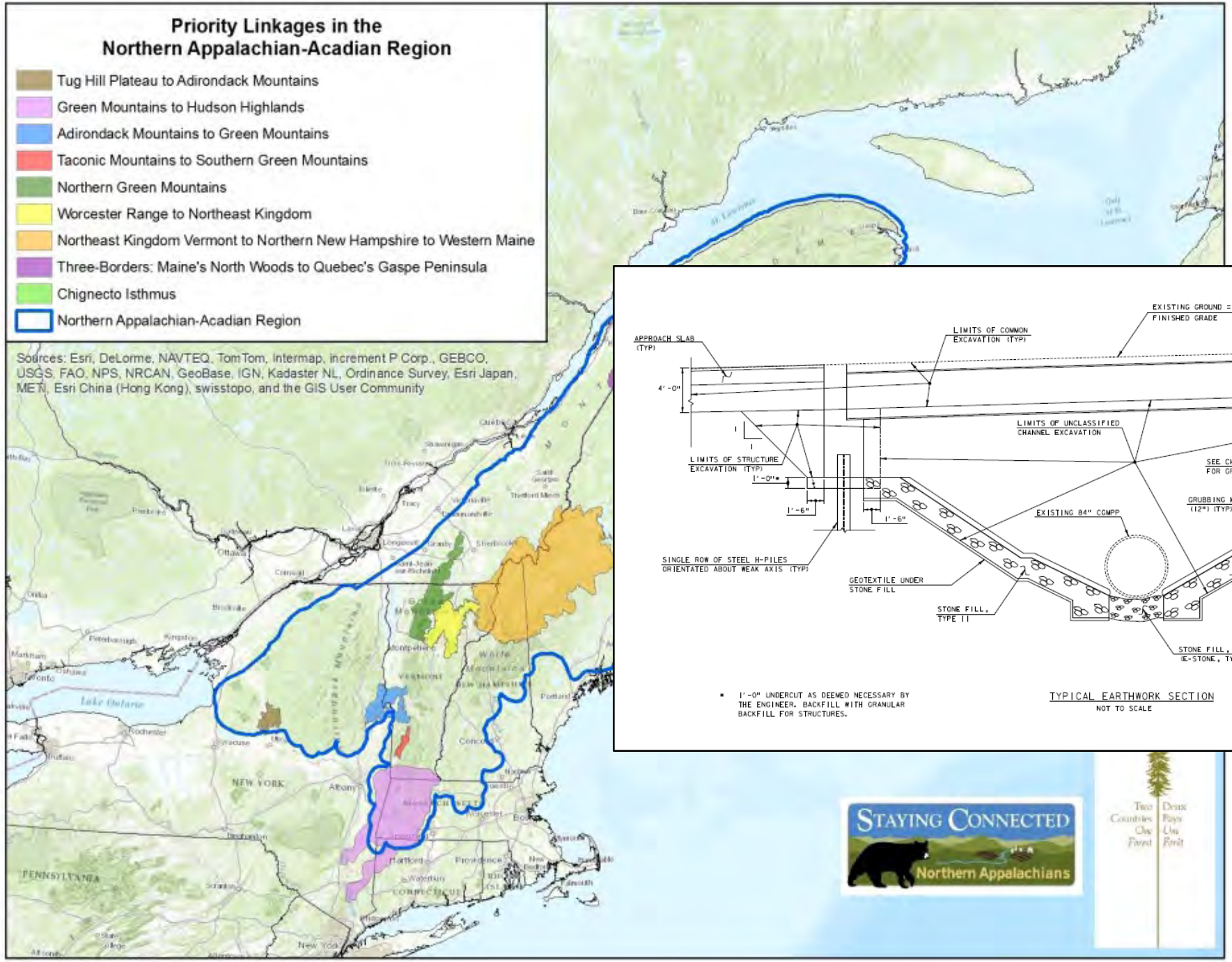


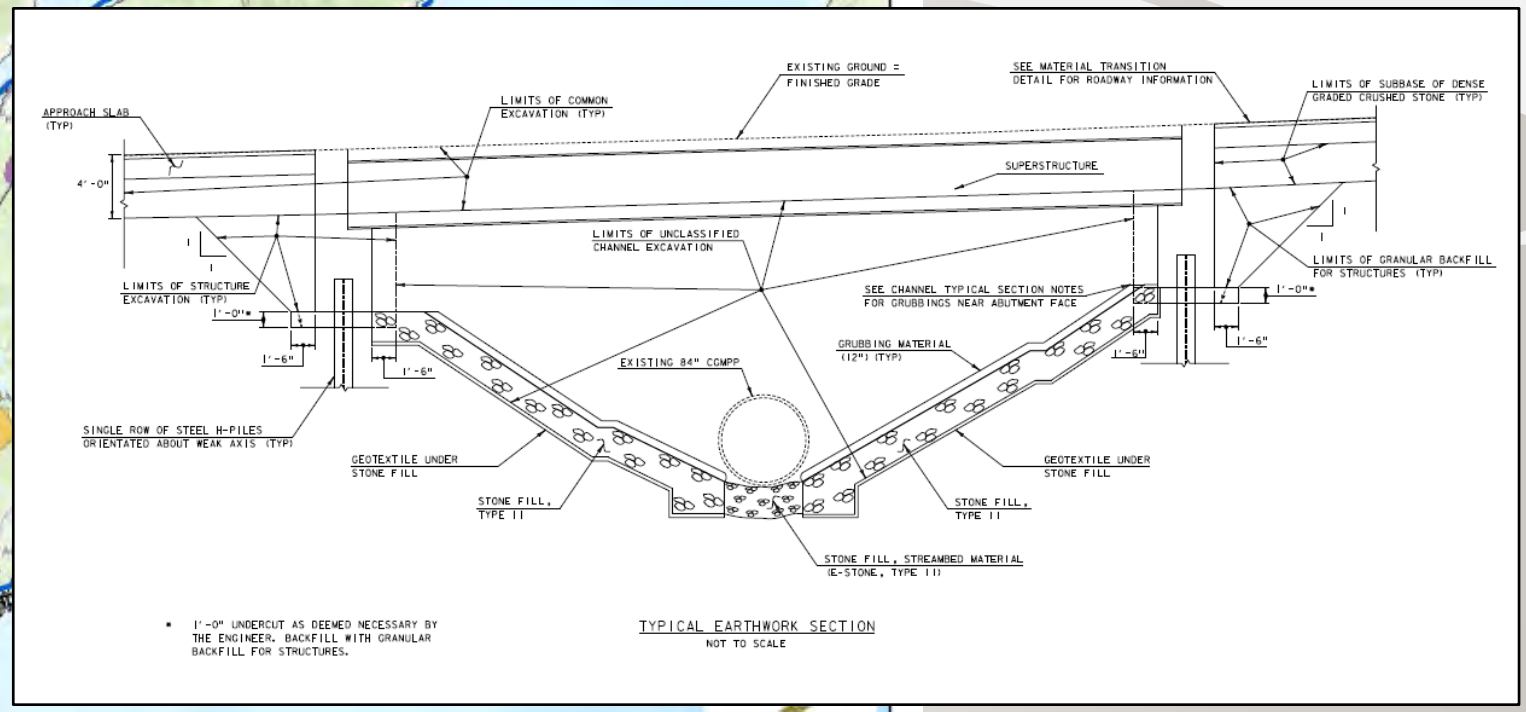
BOLTON ZONING SUCCESS



Pinneo Brook Culvert

Reconnecting the Green Mountains to Hudson Highlands





STAYING CONNECTED
Northern Appalachians

Two Countries One Forest
Deux Pays Une Forêt

Route 9
Searsburg

Amphibian Mortality

Monkton Amphibian Crossing

Exclusionary Fencing Funnels Wildlife to the crossing

Culvert / Wildlife Passage

MONKTON AMPHIBIAN CROSSING

HIGHWAYS & HABITATS TRAININGS

- Three-tiered training for VTrans staff
- Offered since 2004
- FHWA Environmental Excellence Award

ROAD CROSSING DATA COLLECTION

Intro | Map | Downloading the app | Instructions | Downloading the data | Credits & Contact

Why care about roadkill data?

Why did the bear cross the road? To get to the other side is the common answer. But as we dig into that, we realize there is more to it than that. All animals need food, water, shelter and access to mates. Some movement across the road, particularly among species with big home ranges, is to meet these basic needs. Different food sources are available in different spots at different times of year. So, some species move around a lot to get what they need. A black bear might utilize lower elevation wetlands in the spring, as they are home to some of the first plants to green up. In the summer they might eat berries in open meadows and in the fall gorge on beech nuts and acorns up on the ridges. That might take them across many roads over the course of a year and they'll use several forest blocks. A single black bear can have a home range of 10,000 to 20,000 ac. Similarly, radio tracking data from the Champlain Valley shows male bobcats have a 27mi home range, moving approximately 19 miles each day.

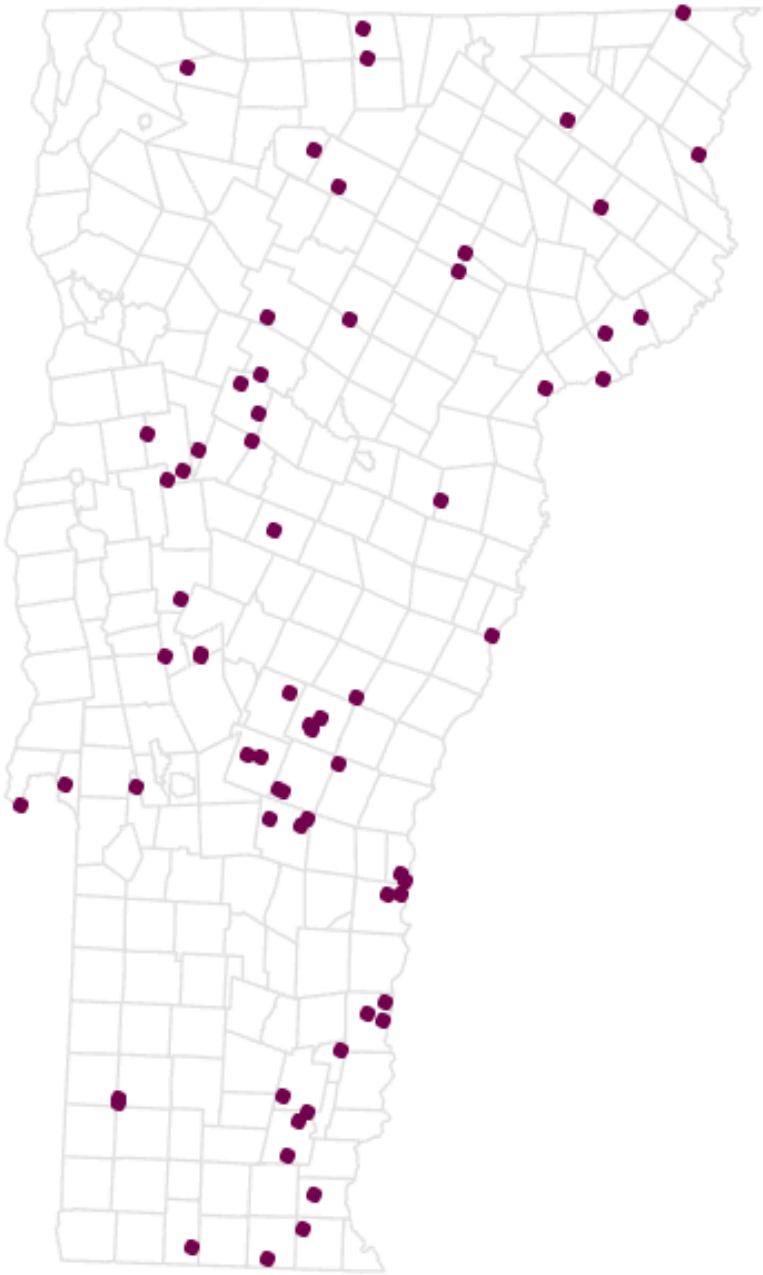
Some movement is annual migration. Each spring salamanders emerge from underground in forested uplands and move downslope (often across a road) to wetlands where they breed and then head back up the hill. This is a movement of perhaps only 600', but in places where this happens, thousands of animals might cross a road in a single night in the spring.

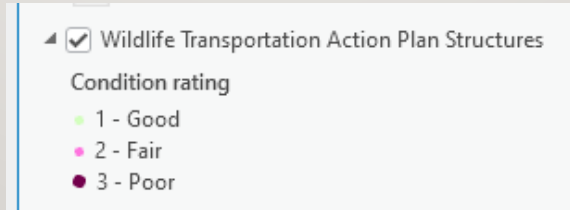
Lastly, many species are adjusting their home ranges in response to a warming climate. The Nature Conservancy estimates entire populations are moving north and south away from the equator at about 1 mile per year. That's entire populations adjusting their ranges! In Vermont, that movement is not just south to north. Wildlife crossing usually happens where wetlands and forests are close to both sides of the road. Where streams and rivers go under the road can be an excellent spot for wildlife crossing and many of our bridges and culverts do facilitate that kind of movement. Some structures, particularly older ones often do not.

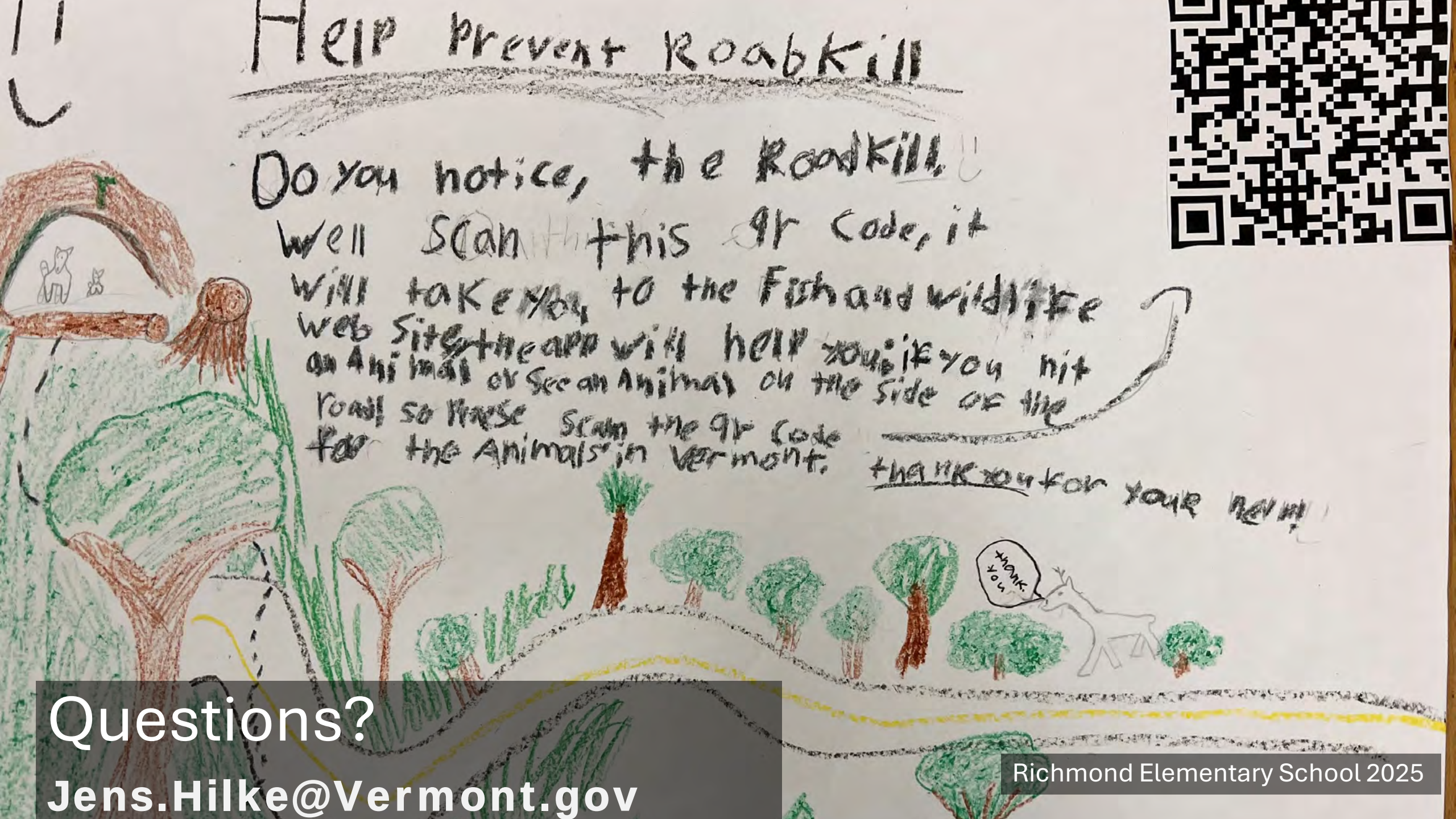
Wildlife Transportation Action Plan

Structure Prioritization

- 1,285 Structures
- Statewide distribution
- Prioritized to facilitate statewide connectivity
  - Highest Priority Connectivity Blocks
  - Highest Priority Wildlife Road Crossings
  - Staying Connected Initiative Linkage Areas
  - Connectivity Focus Areas







Questions?

Jens.Hilke@Vermont.gov

Richmond Elementary School 2025