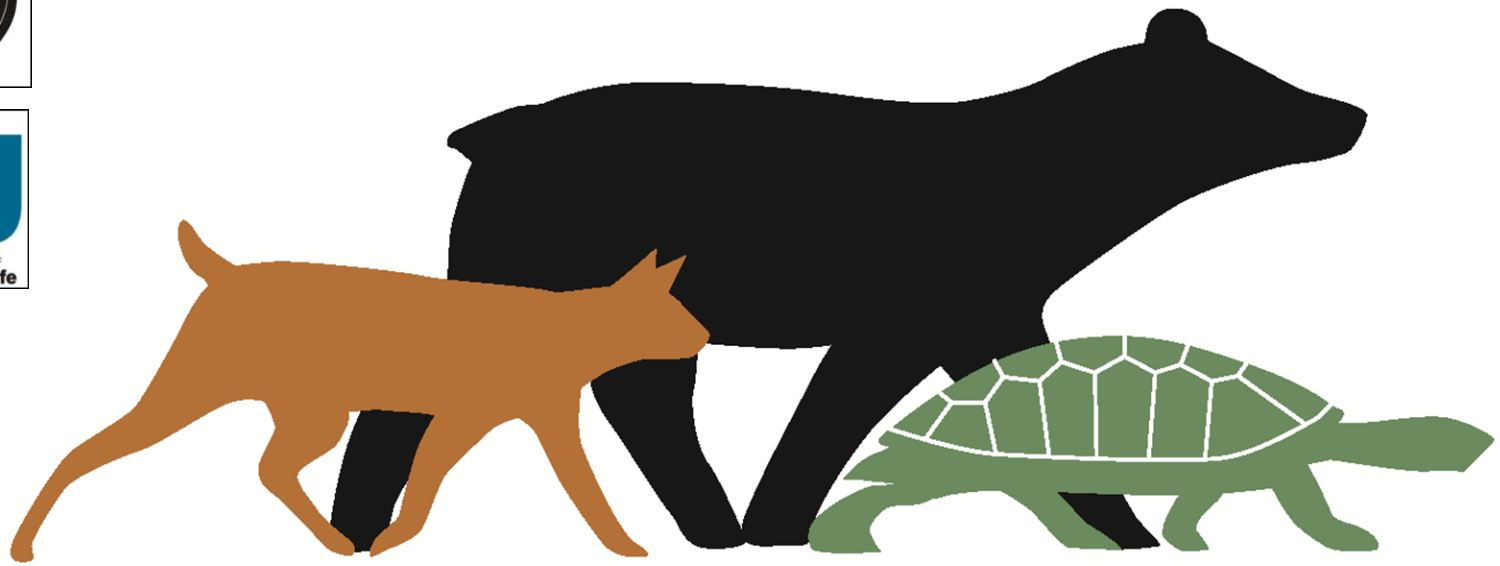


CHANJ

Connecting Habitat Across New Jersey

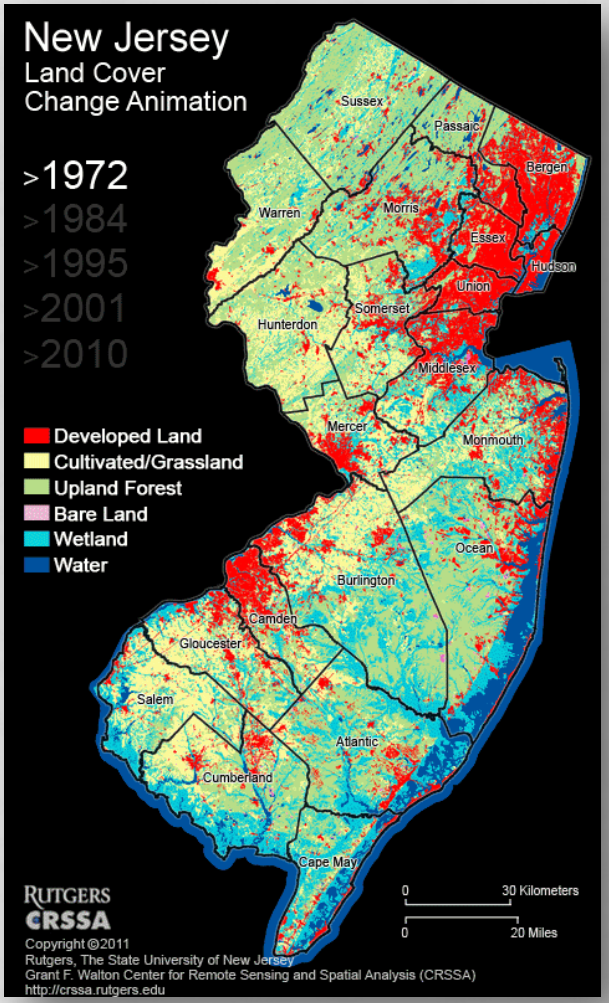
Gretchen Fowles, Brian Zarate
NJ Division of Fish & Wildlife, Endangered & Nongame Species Program

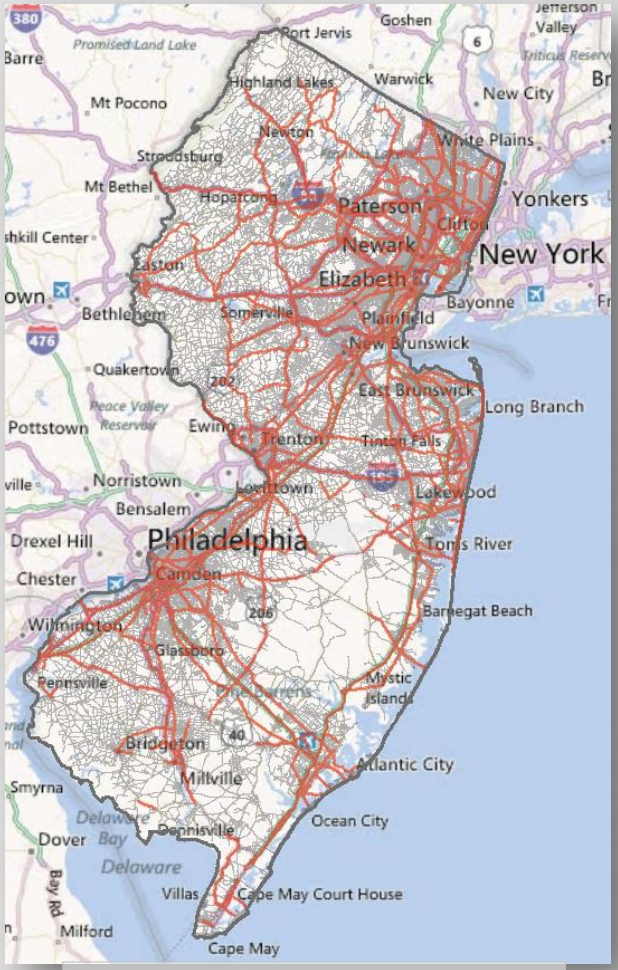
CHANJ Goal

Develop tools and resources to focus efforts on improving size, distribution, and quality of terrestrial wildlife habitat cores and corridors in New Jersey in order to increase the functional connectivity of the landscape



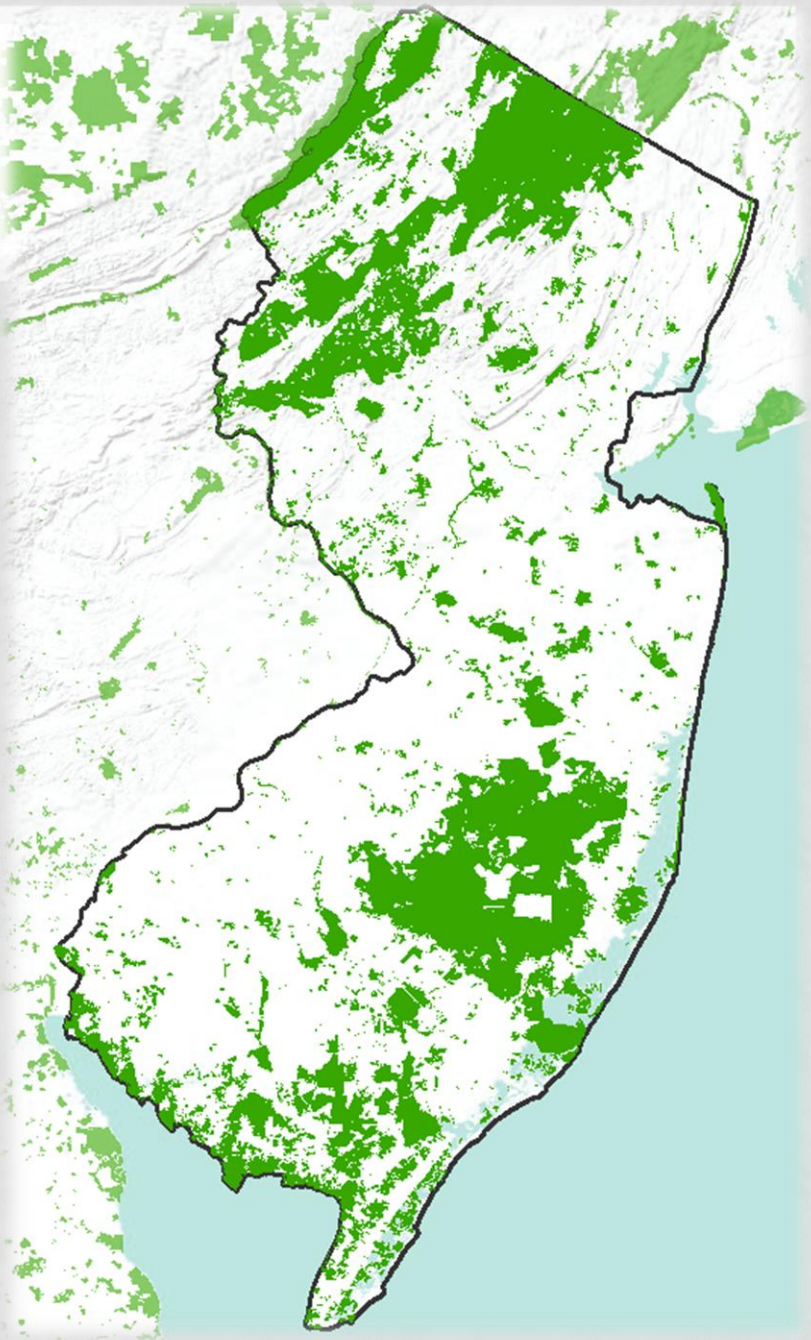

Habitat Loss & Fragmentation





NJ: A Leader In Open Space Preservation

Nearly one-third of state is preserved
(NJDEP Green Acres 2016)



Reconnect New Jersey's Landscape

CHANJ

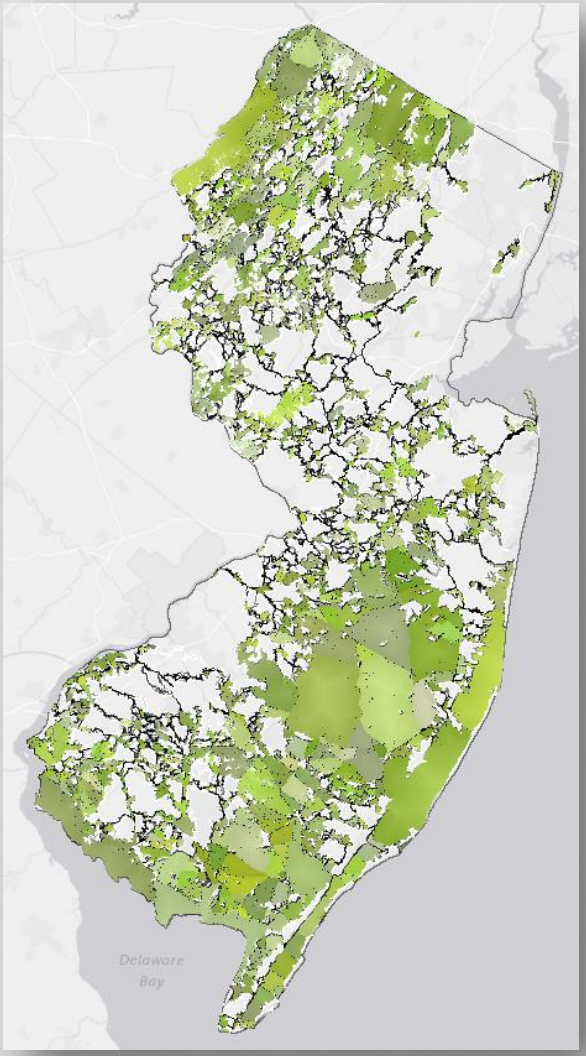
Connecting Habitat Across New Jersey

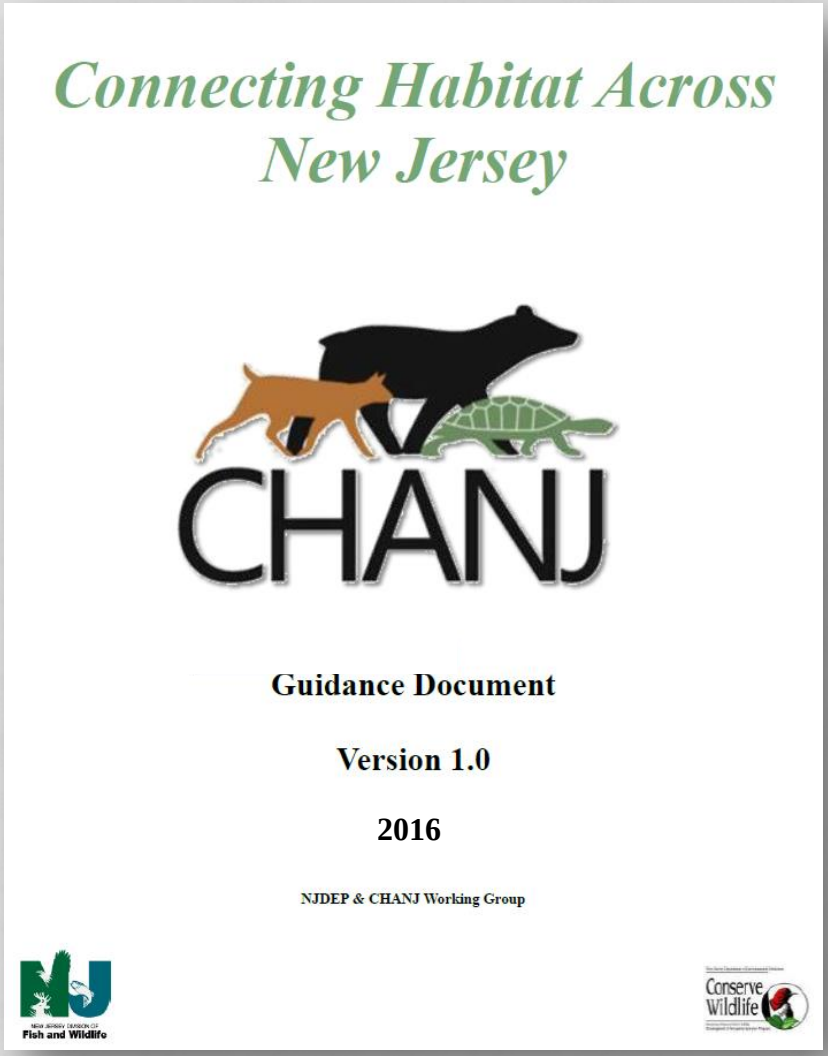
Tools to Guide:

- Land protection
- Habitat restoration and management
- Mitigation of road barriers

CHANJ Products

Mapping Tool & Guidance Document





CHANJ Road/Wildlife Toolkit

CHANJ Mapping

CHANJ Road/Wildlife Toolkit

Road Segment Assessment

Chapter 1. Location Description

At a Glance: Culver's Gap, Sussex County
General
Highway Segment: U.S. Route 206 (MP 119-122)
Land Ownership: State: Stokes State Forest
Municipality: Sandyston and Frankford

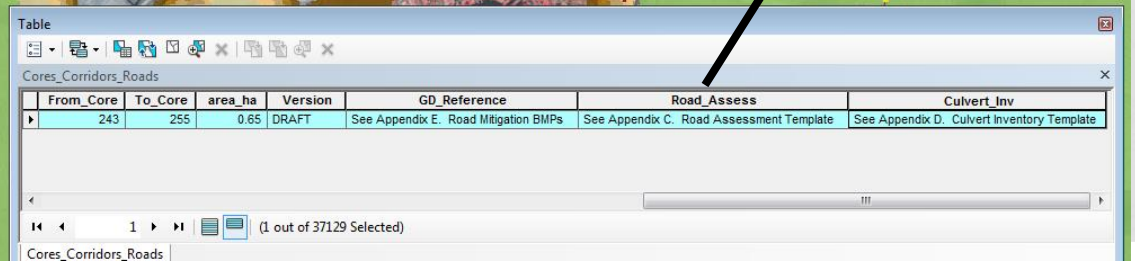
Roadway
Two lane County Road, undivided
Speed Limit: 40
Road Ownership: U.S. County, Sussex
AADT 2- way (2008): 8,391-16,014

Species of Concern
Target Species: State Endangered Mammal

Species	Wildlife Roadkills 1990-2014
State endangered reptile	3
State endangered mammal	4
Black Bear	7
White-tailed Deer	15

Existing Culverts: 1

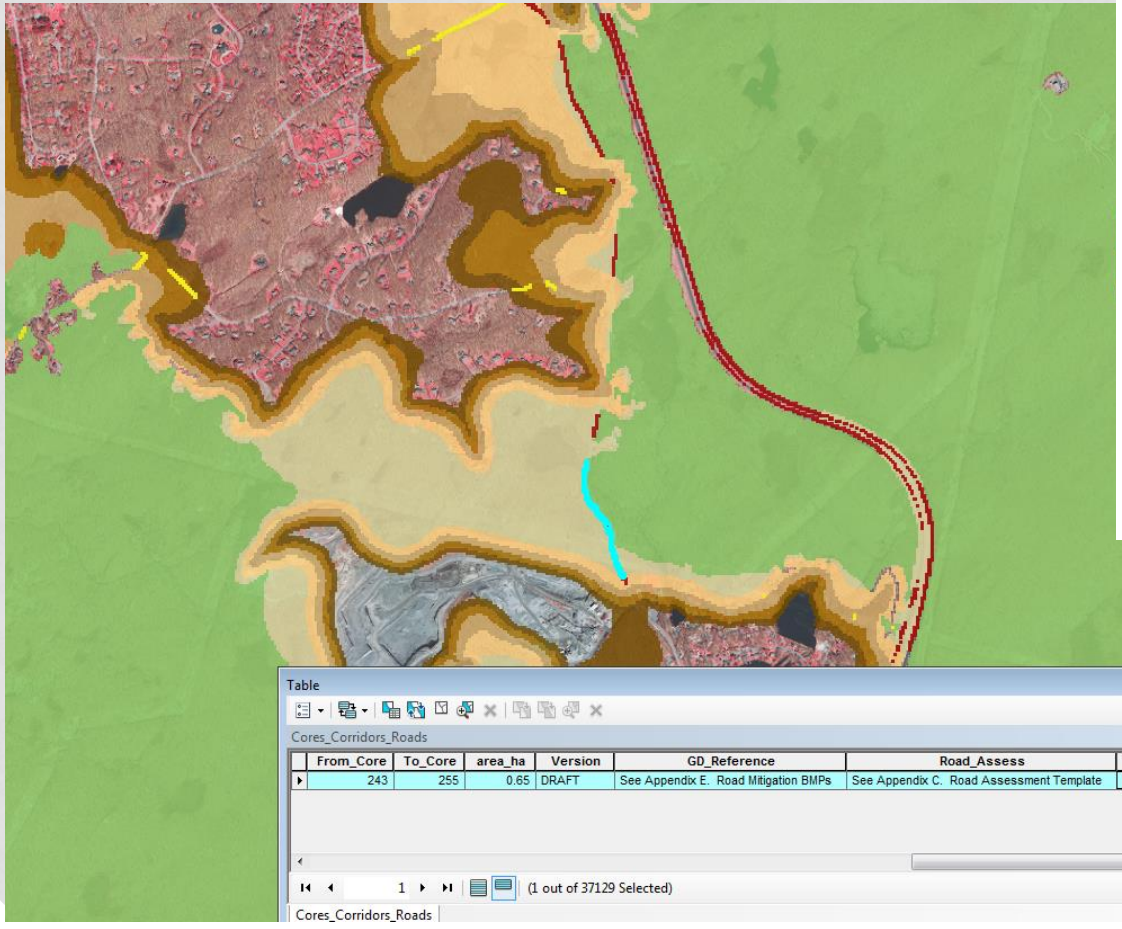
Pedestrian Safety Concern: Appalachian Trail Crosses Roadway



- Traffic volume
- Regulatory context
- Tran. Improvement Plan
- Protected land adjacency
- State and regional connectivity context
- Observation, survey, collar data
- Roadkill data

CHANJ Road/Wildlife Toolkit

Culvert Inventory (NAACC)



Table

Cores_Corridors_Roads

From_Core	To_Core	area_ha	Version	GD_Reference	Road_Assess	Culvert_Inv
243	255	0.65	DRAFT	See Appendix E. Road Mitigation BMPs	See Appendix C. Road Assessment Template	See Appendix D. Culvert Inventory Template

1 (1 out of 37129 Selected)

Cores_Corridors_Roads

Crossing Location

Stream/River: Tuttles Corner Brook
Town/County: Sandyston, Sussex County
GPS: Lat: 41.17854, Long: -74.79350
GPS to crossing distance (meters): 9
Road: Rt. 206
Location: Rt. 206 next Gyp's Tavern
NHD-HUC8 Watershed:
Road Type: Multilane

Crossing Data

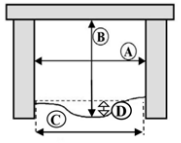
Crossing type: Bridge
Crossing Condition: OK
Alignment: Flow-Aligned
Flow condition: Typical low-flow
Number of Culverts/Bridge Cells: 1
Road Fill Height (feet): 0
Tailwater Scour Pool: None
Tidal Site: No

Structure Data

Total Number of Culverts: 1
Structure Material: Concrete
Inlet Shape: Box/Bridge with Abutments
Inlet Type: Headwall and Wingwall
Inlet dimensions (feet): A = 10.5; B = 5.2; C= 10.5; D = 0.04; E = 0;
Structure Length: L = 49.6 Feet
Inlet Grade: At Stream Grade

Outlet Shape: Box/Bridge with Abutments
Outlet dimensions (feet): A = 10.2; B = 5.6; C= 10.2; D = 0.04;
Outlet Armoring: None
Outlet Grade: At Stream Grade
Outlet drop to water surface: 0.0
Outlet drop to streambed: 0.0
Slope Percent: 0.3

Inlet Shape



Box/Bridge with Abutments

CHANJ Road/Wildlife Toolkit

Wildlife Passage BMPs

CROSSING STRUCTURE DESIGN CONSIDERATIONS

A. Box or 3-sided culvert (prefabricated concrete).

B. Open bottom structures preferred to maintain continuity of substrate.

1. In non-aquatic environments, four-sided, circular, or elliptical culverts should be backfilled with native substrate (>6 inches deep), while maintaining minimum height. Polymer culverts and some plastic surfaces may be suitable for wildlife passage without backfill. If the structure is located in an aquatic environment, evaluate whether substrate will be stable.

C. A grated top or similar design will allow natural light to enter the tunnel from above, as well as help keep humidity and temperature consistent with ambient conditions. If grated top not feasible for the entire length, consider grating at tunnels ends.

CROSSING STRUCTURE DESIGN CONSIDERATIONS – DIAGRAMS

(Examples – End product will feature schematics most likely)

Table

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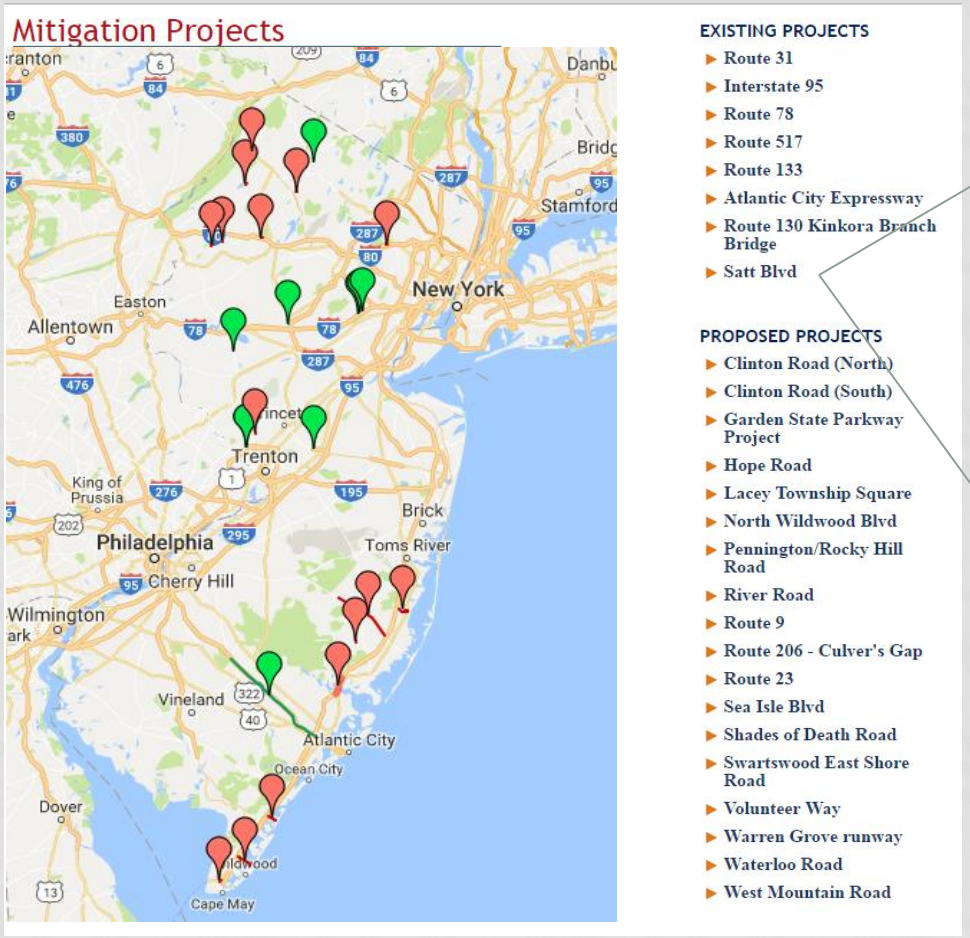
Cores_Corridors_Roads

CHANJ Road/Wildlife Toolkit

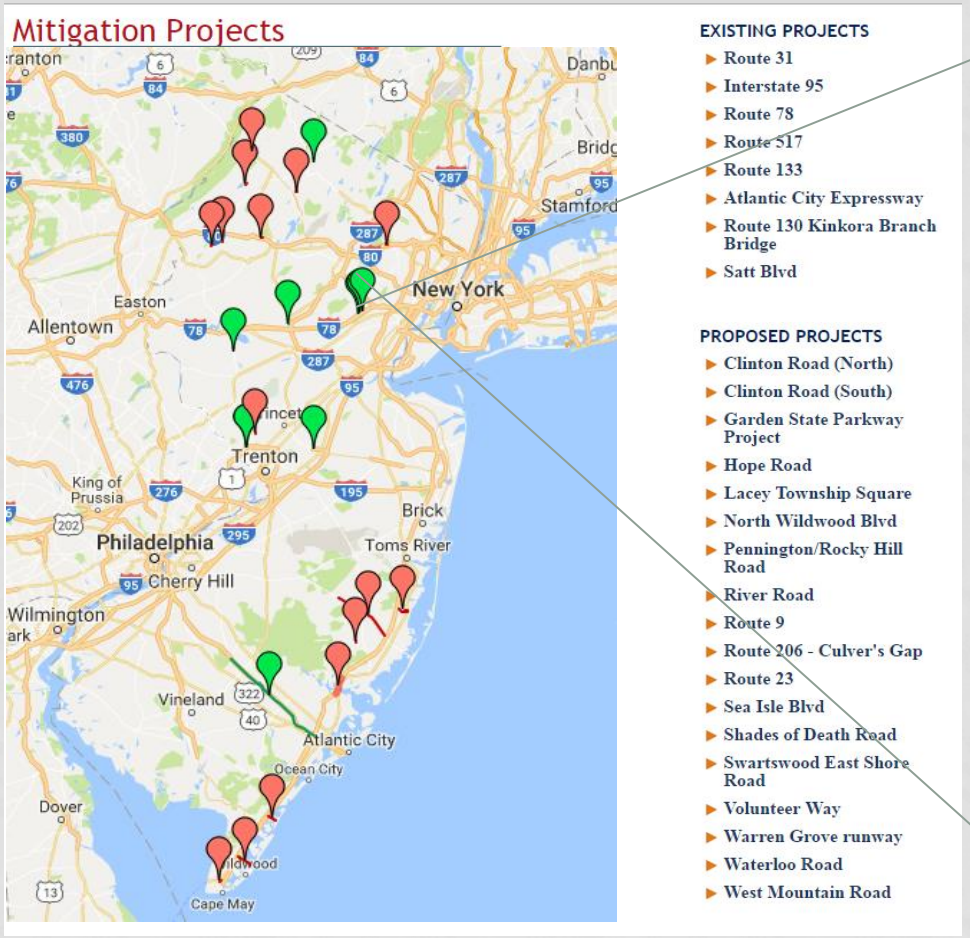
Road/Wildlife Projects Database



- Project description
- Funding source
- Photos
- Permits
- Itemized budget
- Vendors
- Maintenance plan
- Monitoring data

CHANJ Road/Wildlife Toolkit

Road/Wildlife Projects Database



EXISTING PROJECTS

- Route 31
- Interstate 95
- Route 78
- Route 517
- Route 133
- Atlantic City Expressway
- Route 130 Kinkora Branch Bridge
- Satt Blvd

PROPOSED PROJECTS

- Clinton Road (North)
- Clinton Road (South)
- Garden State Parkway Project
- Hope Road
- Lacey Township Square
- North Wildwood Blvd
- Pennington/Rocky Hill Road
- River Road
- Route 9
- Route 206 - Culver's Gap
- Route 23
- Sea Isle Blvd
- Shades of Death Road
- Swartswood East Shore Road
- Volunteer Way
- Warren Grove runway
- Waterloo Road
- West Mountain Road

Overpasses built in 1985

Transportation Project Delivery Process

DOT

Local Concept Development	Local Preliminary Engineering	Final Design / Right of Way Acquisition	Construction
Purpose and Need Statement	Approved Design Exception Report	Construction Contract Documents and PS&E package	Completed Construction
Data Collection and Environmental Screening Report	Cost Estimates (Final Design, ROW and Construction)	Environmental Reevaluations	As-Builts
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NEPA Classification	Approved Project Plan	Acquisition of ROW	Close-Out Documentation
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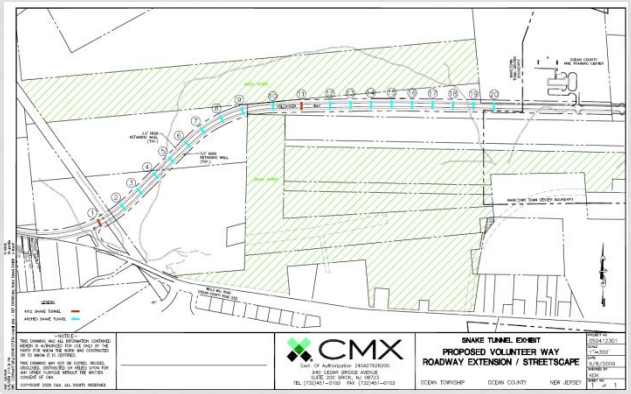
Create Design Communications Report	Update Design Communications Report		

DEP

Land Use Permit Review
Application Receipt
Land Use Review
Interagency Review → Div. Fish & Wildlife
Comment Compilation ← Div. Fish & Wildlife
Project Modification
Permit Decision

DEP Permitted Projects

Project Name	Regulated Activity	Wildlife Structure	DEP Trigger	Mitigation Type	Funding Source
Volunteer Way	New road construct	Tunnels and fencing	State-threatened species	New structures	Applicant
AC Expressway	Lane widening	Bridge shelf and fencing	State-threatened species	Modify existing structure	Applicant
River Road	Project resulting in habitat loss	Tunnels and fencing	State-threatened species	Existing road, new structures	~~TE grant~~ Applicant



High Conservation Need

Project Name	Regulated Activity	Wildlife Structure	DEP Trigger	Mitigation Type	Funding Source
Assunpink	N/A	Tunnels and fencing	Federally threatened species	Existing road, new structures	DFW, USFWS
Waterloo Rd.	N/A	Tunnels and fencing	Special concern species	Existing road, new structures	TAP funding; crowd sourcing?

NEW

FHA Rule

N.J.A.C. 7:13 FLOOD HAZARD AREA CONTROL ACT RULES
Date last amended: June 20, 2016

7:13-12.7 Requirements for a bridge or culvert

3. Where a new (or existing) bridge or culvert and/or the railroad or roadway it serves would cause fragmentation of habitat for terrestrial threatened or endangered species and/or any terrestrial species of special concern, the bridge or culvert incorporates a preserved or restored natural bank of sufficient width to allow the species to pass through the structure. Where a natural bank is not present or feasible to preserve or restore, the applicant shall create an artificial bank or shelf of sufficient width to allow the species to pass through the structure. The applicant shall additionally adopt appropriate measures where necessary to encourage the species to pass through the structure.

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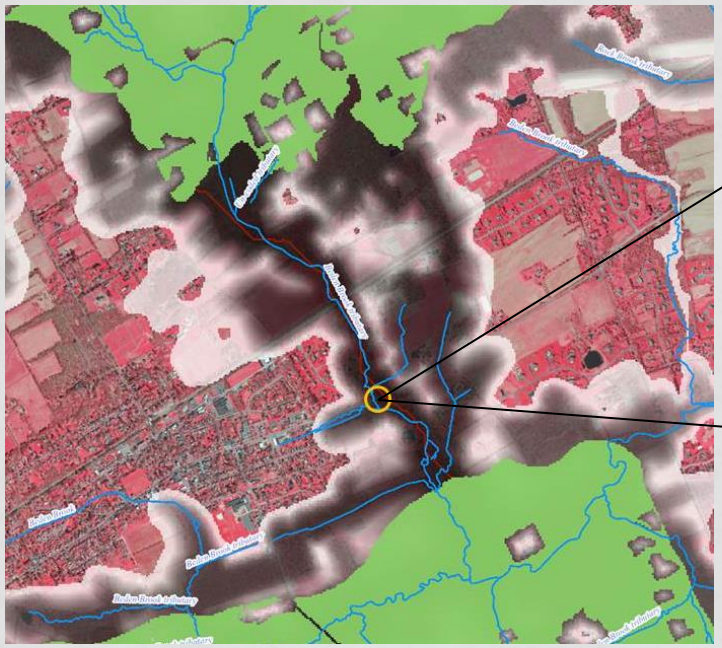
DEP Permitted Projects

Project Name	Regulated activity	Wildlife Structure	DEP Trigger	Mitigation Type	Funding Source
Hopewell	Bridge replacement	Bridge - dry passage	State endangered terrestrial species	Replacement, modified structure	Applicant



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CHANJ
Flood Hazard Area Regulations

The Road Ahead . . .

- Finalize statewide mapping and guidance document in 2016
- Soft working group release then public release
- Transition to refinement and implementation
- Outreach
  - Newsletter
  - Video
  - Website: CHANJ.nj.gov
  - Roadkill app

CHANJ

CONNECTING HABITAT ACROSS NEW JERSEY

April 2016

#CHANJiscoming:

Inside This Issue:

Animals need to be able to move through the landscape to find food, shelter, mates, and other resources. Without that ability to move, healthy populations simply cannot persist over the long term. Here in New Jersey, habitats have been whittled away and wedged apart by urbanization, and a dense network of roads makes it difficult for wildlife to get to the things they need.

From these challenges, CHANJ was born. Connecting Habitat Across New Jersey (CHANJ) was formed in late 2012 with the vision of making our landscape and roadways more permeable to wildlife movement. More than 120 species stand to benefit from this initiative, from the wide-ranging bobcat and black bear to the smallest frogs and butterflies. Though their lives occur at different scales, each needs sufficient room to roam. The working group is guided by the NJ Division of Fish and Wildlife and is made up of natural resource managers, transportation planners, conservationists, and university researchers whose combined interest and expertise give this project legs.

Over the last two years, the group has been working hard on two major products: a statewide interactive mapping system that identifies critical habitat areas and linkages, and a guidance document (or "menu") of actions to enhance those areas through land preservation, habitat management, and road mitigation. We're excited that these tools are now in the final stages of development and almost ready to share with the wider world.

In the meantime, enjoy our bulletin! Visit our website! CHANJ.NJ.Gov and please reach out if you'd like to be part of the CHANJ.

For more information contact Gretchen Fowles at: Gretchen.Fowles@dep.nj.gov

Thank You!

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