What Comes After “P”?

Management That Follows Preservation

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New Jersey Department of Environmental Protection

Division of Fish and Wildlife

Endangered and Nongame Species Program

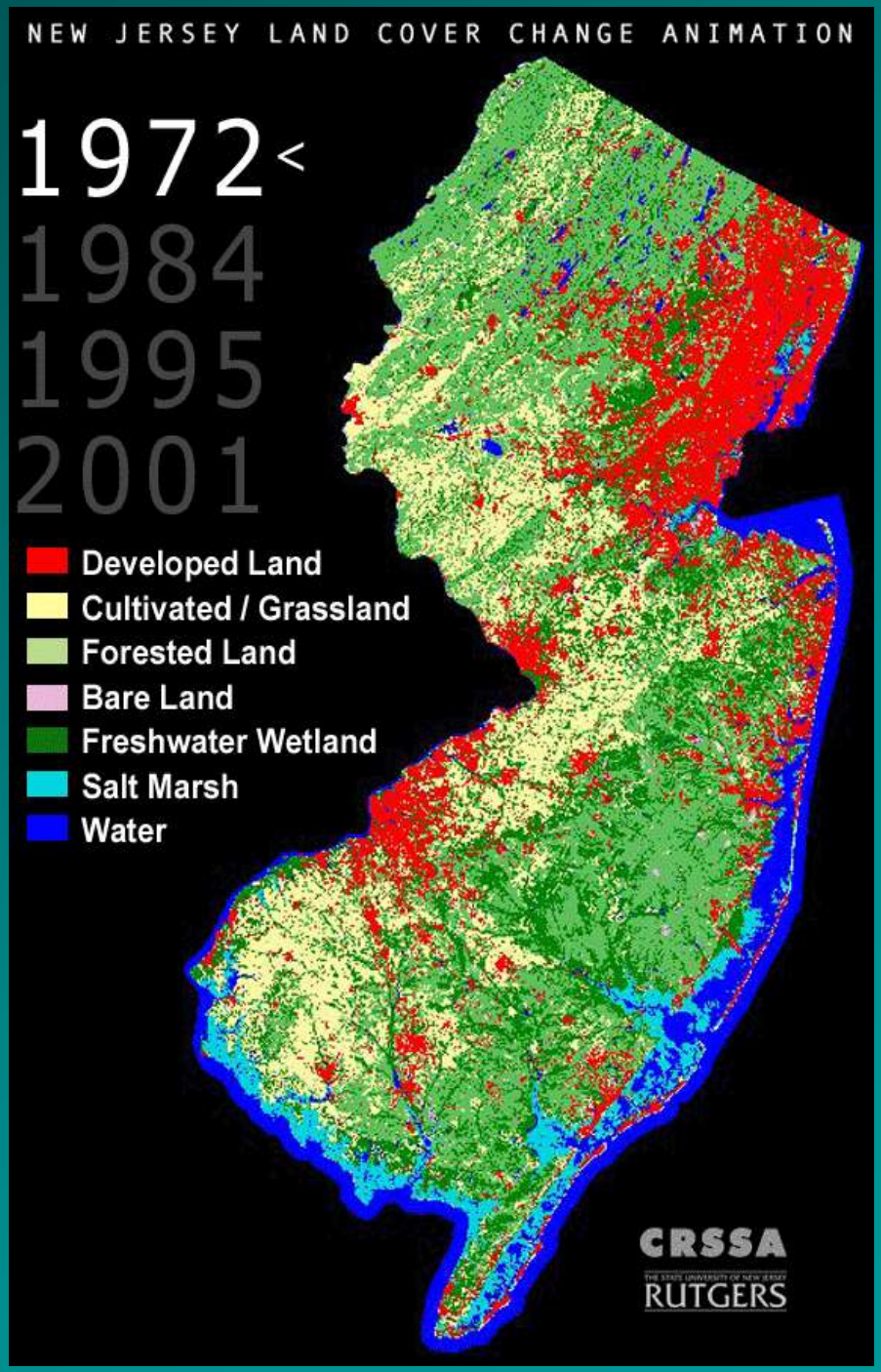
The New Jersey Division of Fish & Wildlife's

Endangered and Nongame Species Program (ENSP)

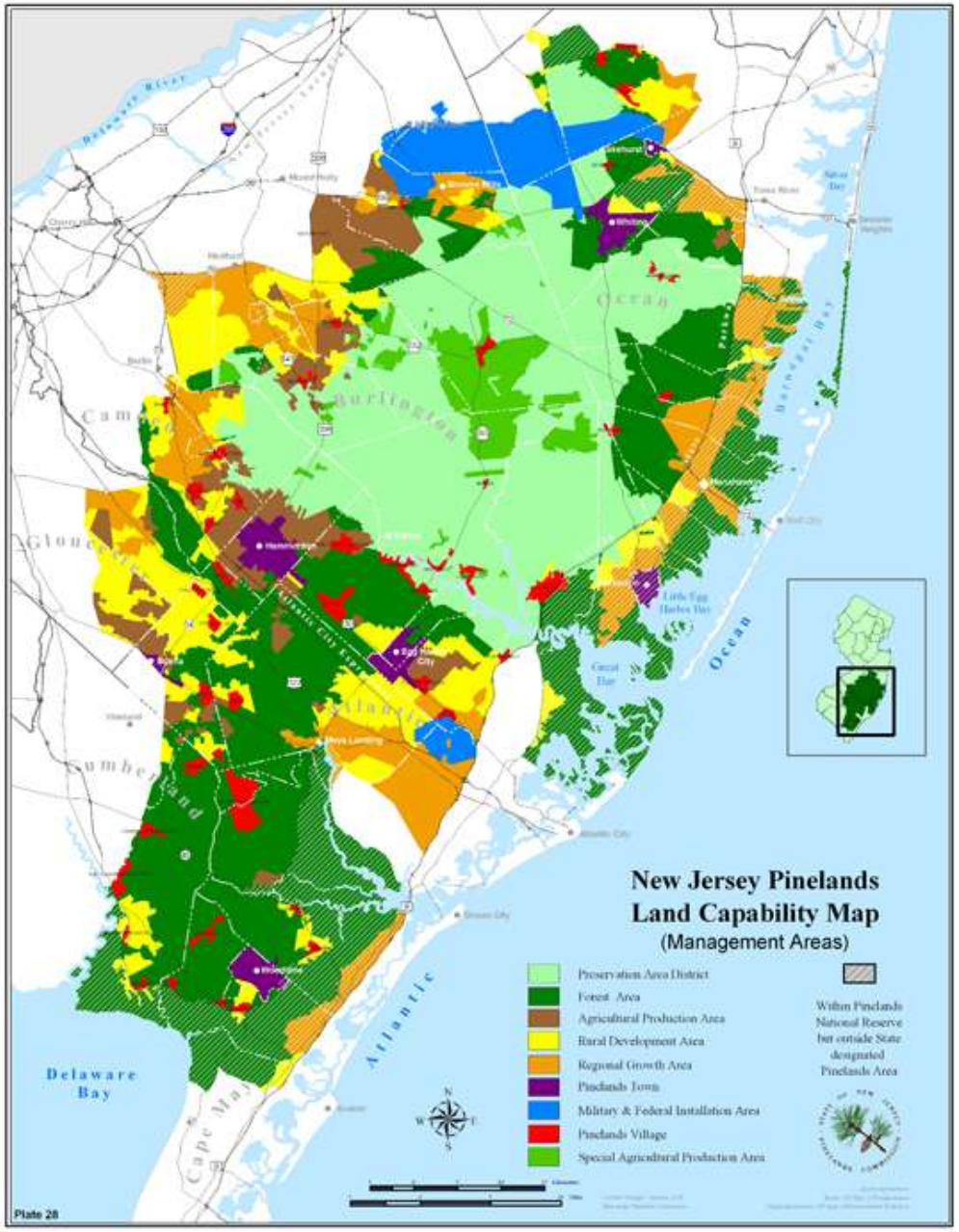
Mission Statement:

To actively conserve New Jersey's biological diversity by maintaining and enhancing endangered and nongame wildlife populations within healthy, functioning ecosystems.

New Jersey's Changing Landscape



Over **20,000** acres/year of wildlife habitat has been lost between 1972-1995



Pinelands Nation Reserve

- CMP
- State, County, Munic.
- Federal Properties
- Non-profit Land
- PDCs

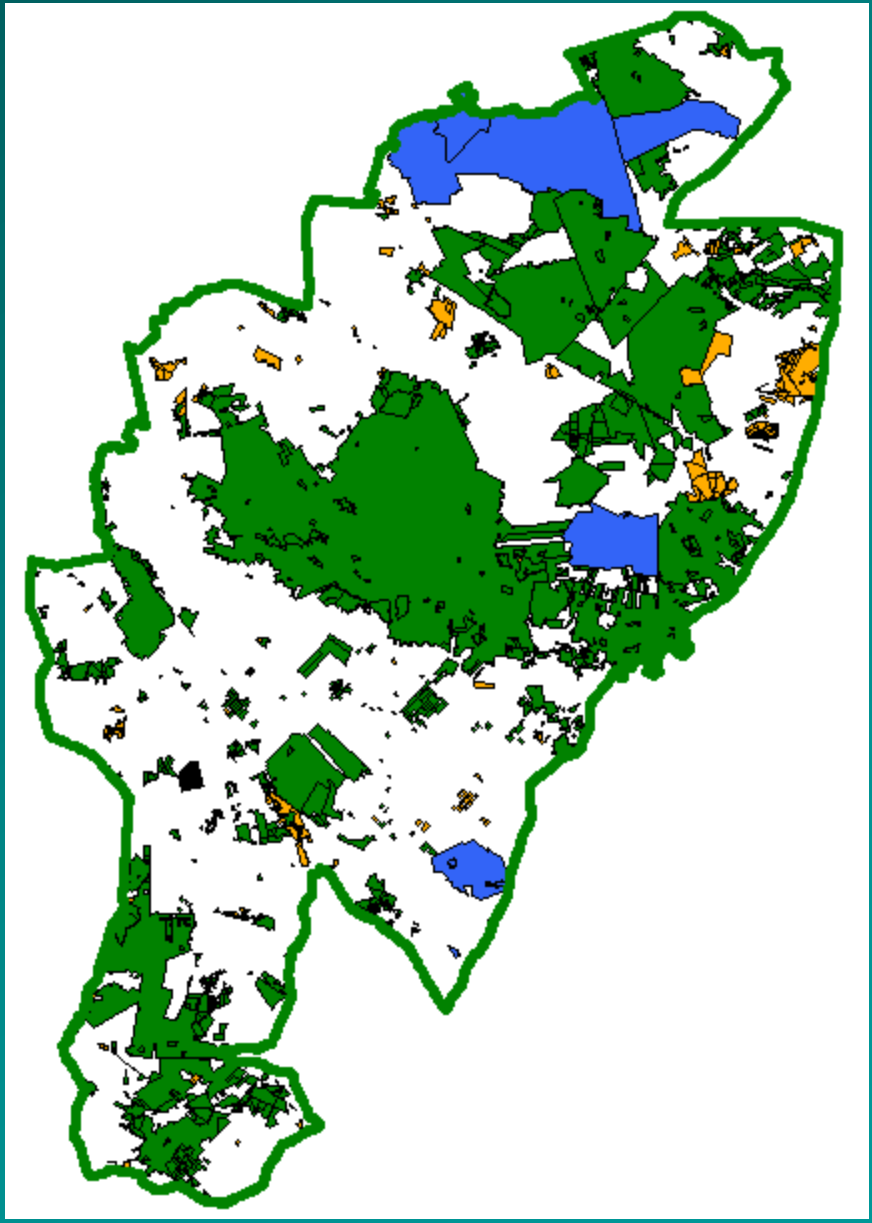
Land Preservation

State 34%

Federal 6%

C/M,NP 3%

Total = 43%



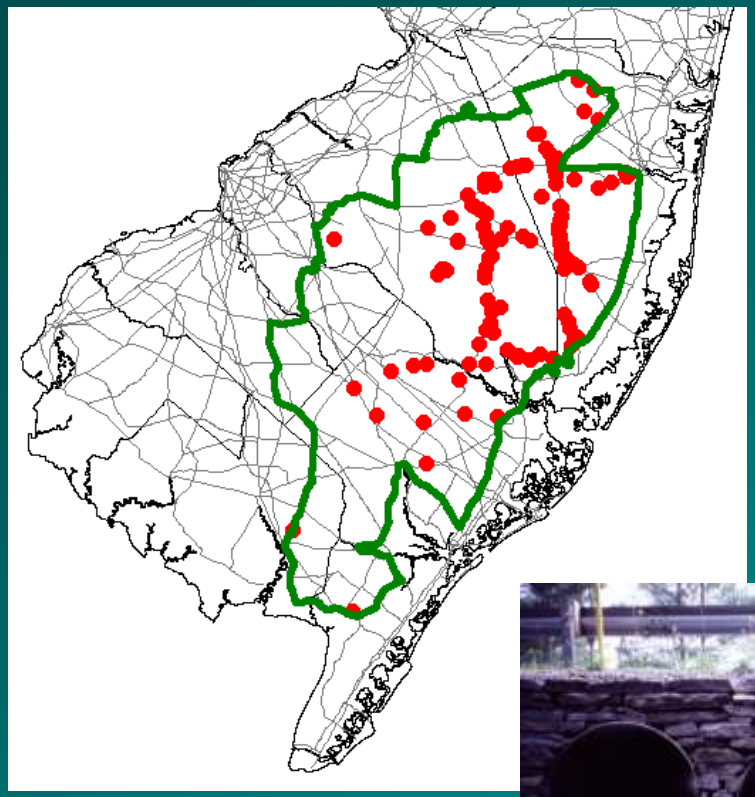
Ongoing Challenges To Pinelands Communities

- Impacts of roads
- Changes in natural fire regime
- Changes in water chemistry
- Illegal collecting of wildlife
- ORV use in sensitive areas

ROADS

Impacts, Solutions, Policy and Planning

Are Roads A Problem?



Impacts

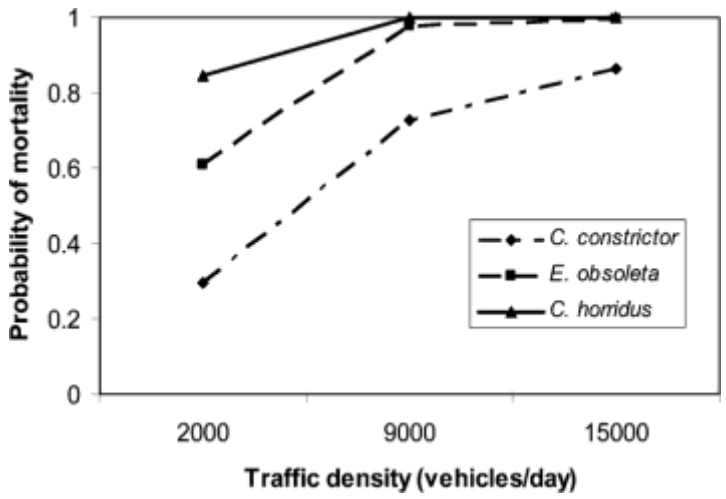
NJDEP Biotics Data (1980 – Current)

Pine Snakes (81), Timber Rattlesnakes (25), Corn Snakes (3)

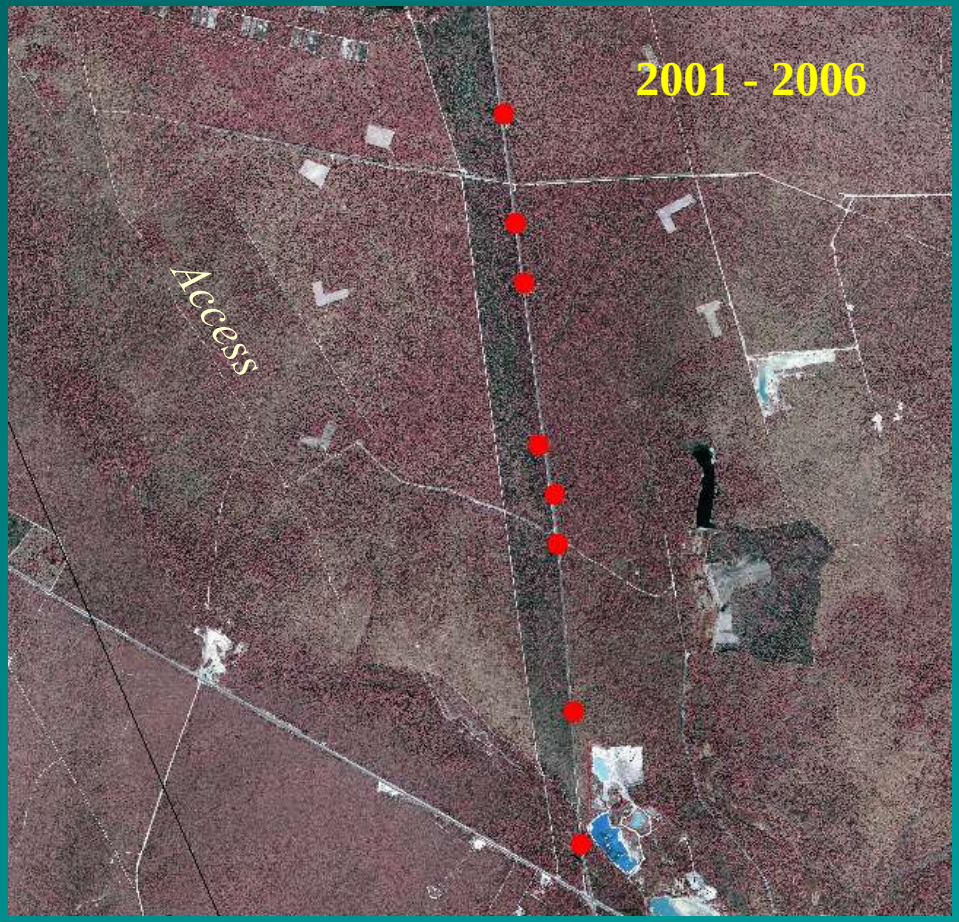
Incidental Road Survey Data (source Bob Zappalorti 1977-2006)

	Pine Snake	Corn Snake	Rattlesnake
Ocean County	25	13	25
Burlington County	20	16	12
Cumberland County	4	1	1
	49	30	38

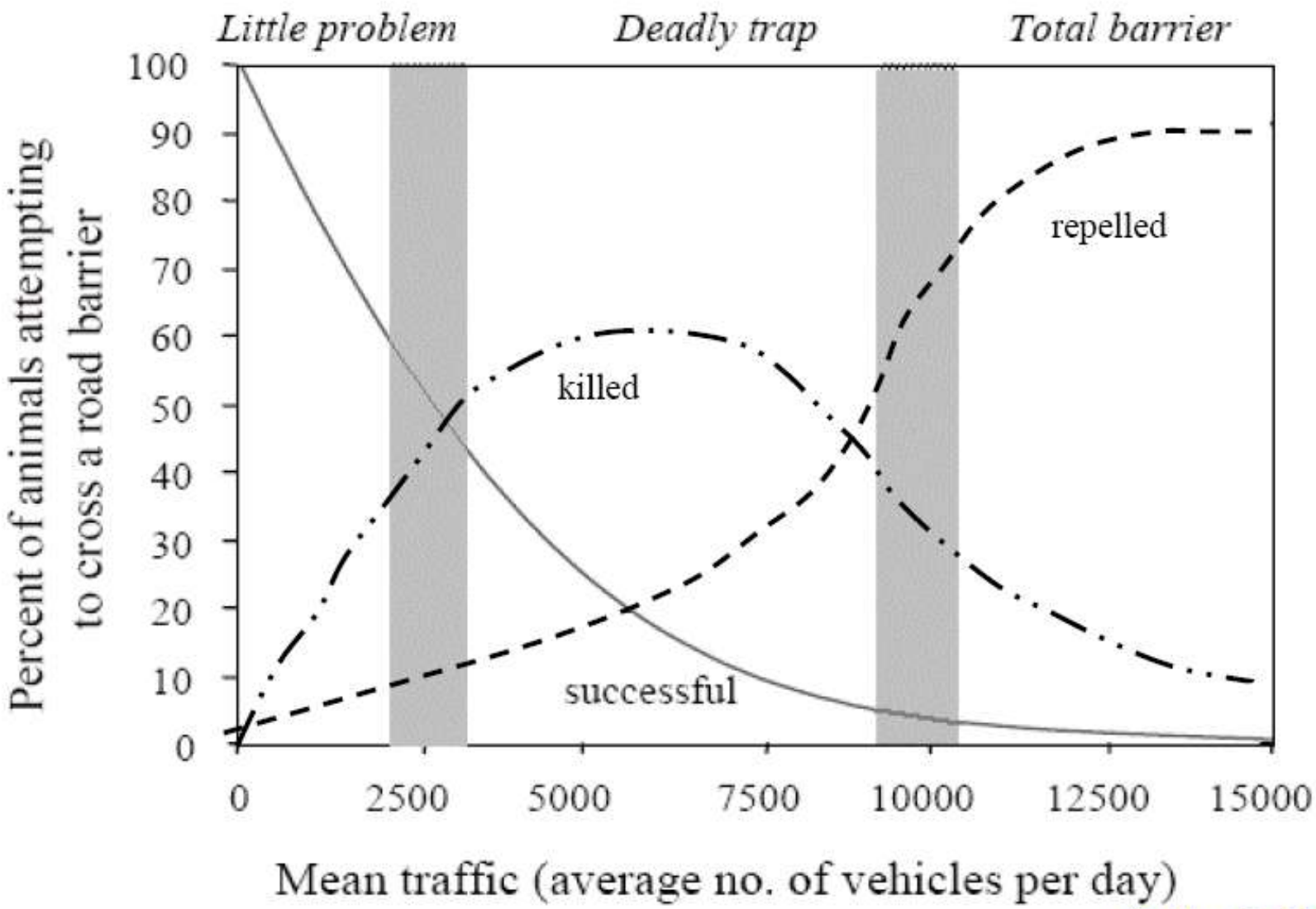
Are Roads *THE* Problem?



Andrews KM and Gibbons JW. 2005 How do highways influence snake movement? Behavioral responses to roads and vehicles. Copeia 2005(4) 772-782.



Impacts

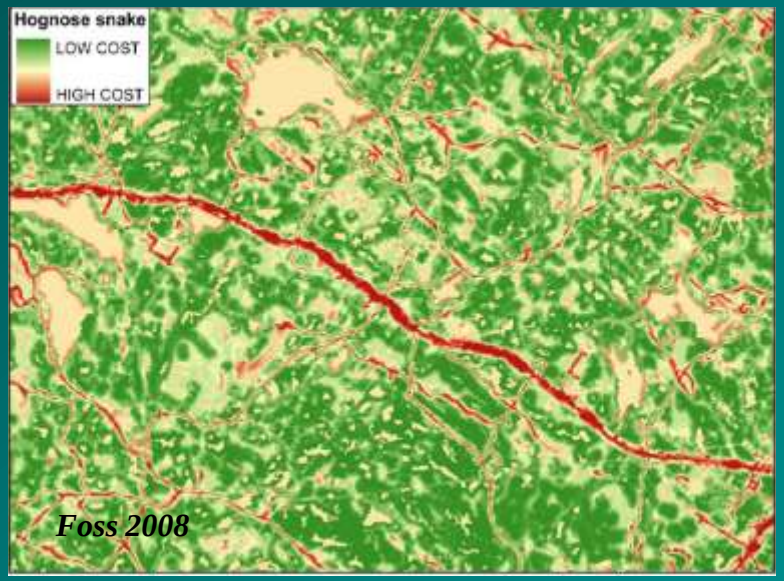


Seiler 2003

Solutions

Can We Solve the Road Problem?

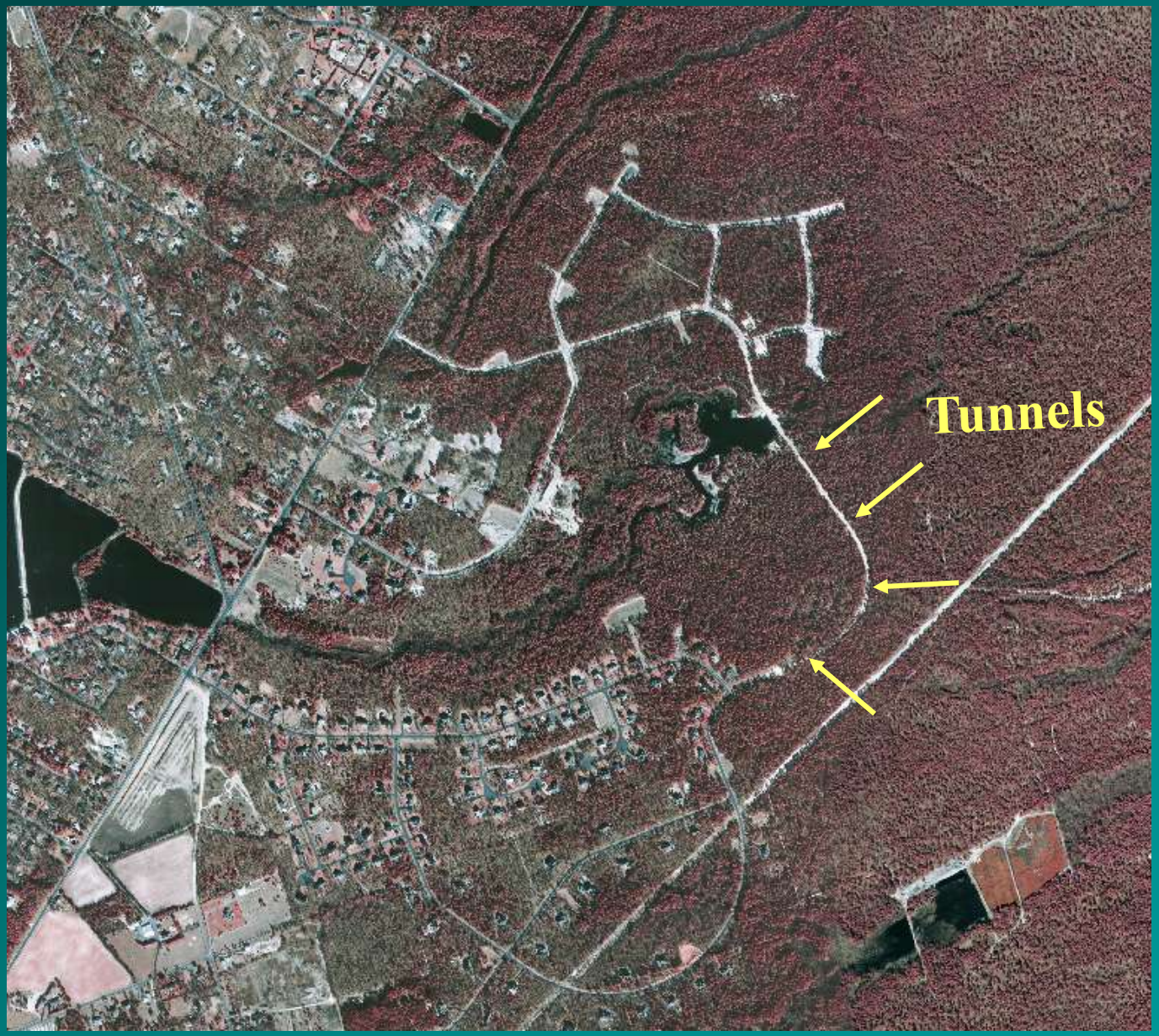
NORTHEASTERN TRANSPORTATION AND WILDLIFE CONFERENCE



Foss 2008

"The problems that exist in the world today cannot be solved by the same level of thinking that created them" *Albert Einstein*

Sanctuary Subdivision – Evesham Twp, NJ



Tunnel Number

4 locations, 4 tunnels

Barrier Material

Mesh fence

Barrier Length

0.6 mi.

Tunnel Length

50 ft.

Tunnel Diameter

20 in. oval pipe

Sanctuary Subdivision – Evesham Twp, NJ

Sanctuary Subdivision – Evesham Twp.

Survey period: June 2 – June 28, 2003

Number of passages in 2 culverts = 45

Paynes Prairie Ecopass, Gainsville, Fl

Tunnel Number

8 locations, 8 tunnels

Barrier Material

Concrete barrier

Barrier Length

1.8 mi.

Tunnel Length:

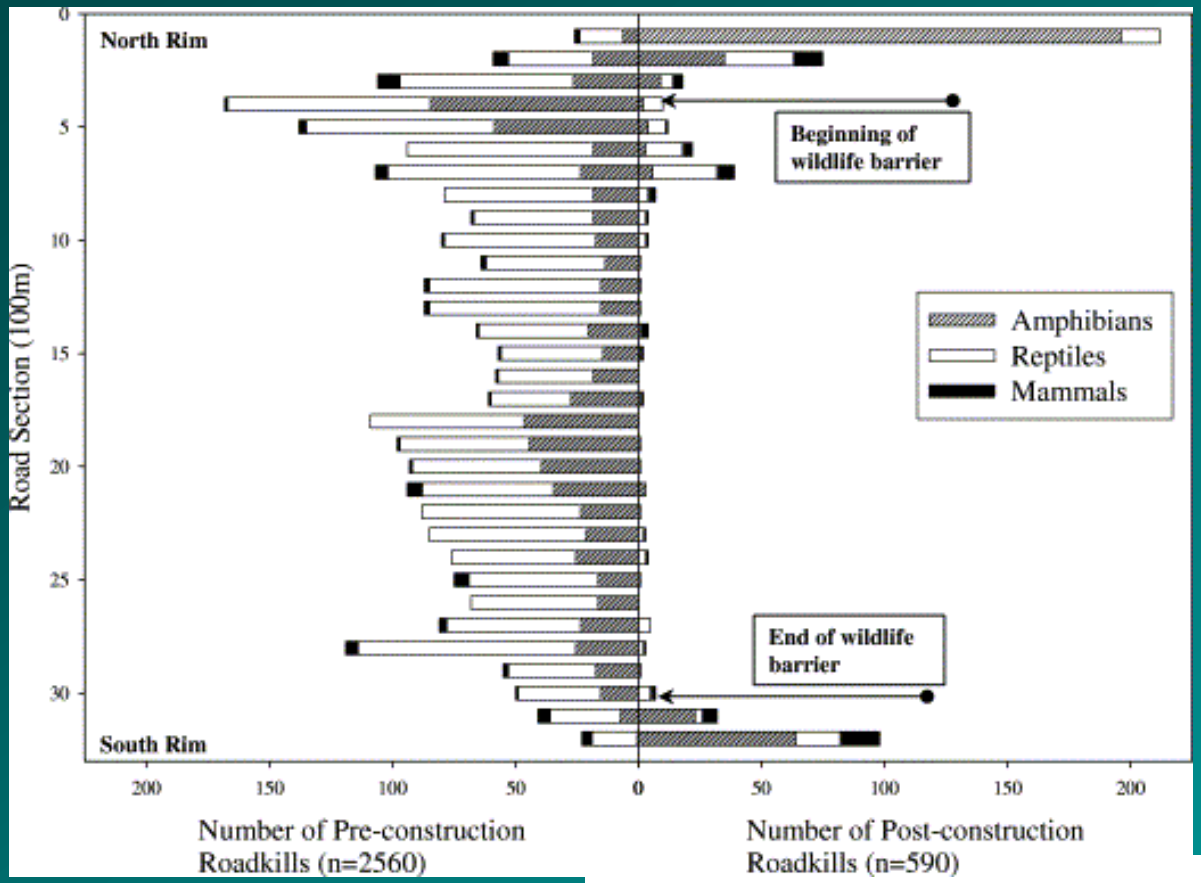
144 ft.

Tunnel Diameters

36 in. oval pipe (4)
6 foot box (2)
8 foot box (2)

* Constructed in 2001

Paynes Prairie Ecopass, Gainsville, Fl



Span with tunnels

Sections	Pre-construction mortality w/o hylids	Post-construction mortality w/o hylids
1 and 2	85	302
3–30	2411	158
31 and 32	64	130
Total	2560	590

Dodd CK, Barichivich WJ, and Smith LL. 2004 Effectiveniss of a barrier wall and culverts in reducing wildlife mortality on a heavily traveled highway in Florida. Biological Conservation 118: 619-631.

Are We Addressing the Road Problem?

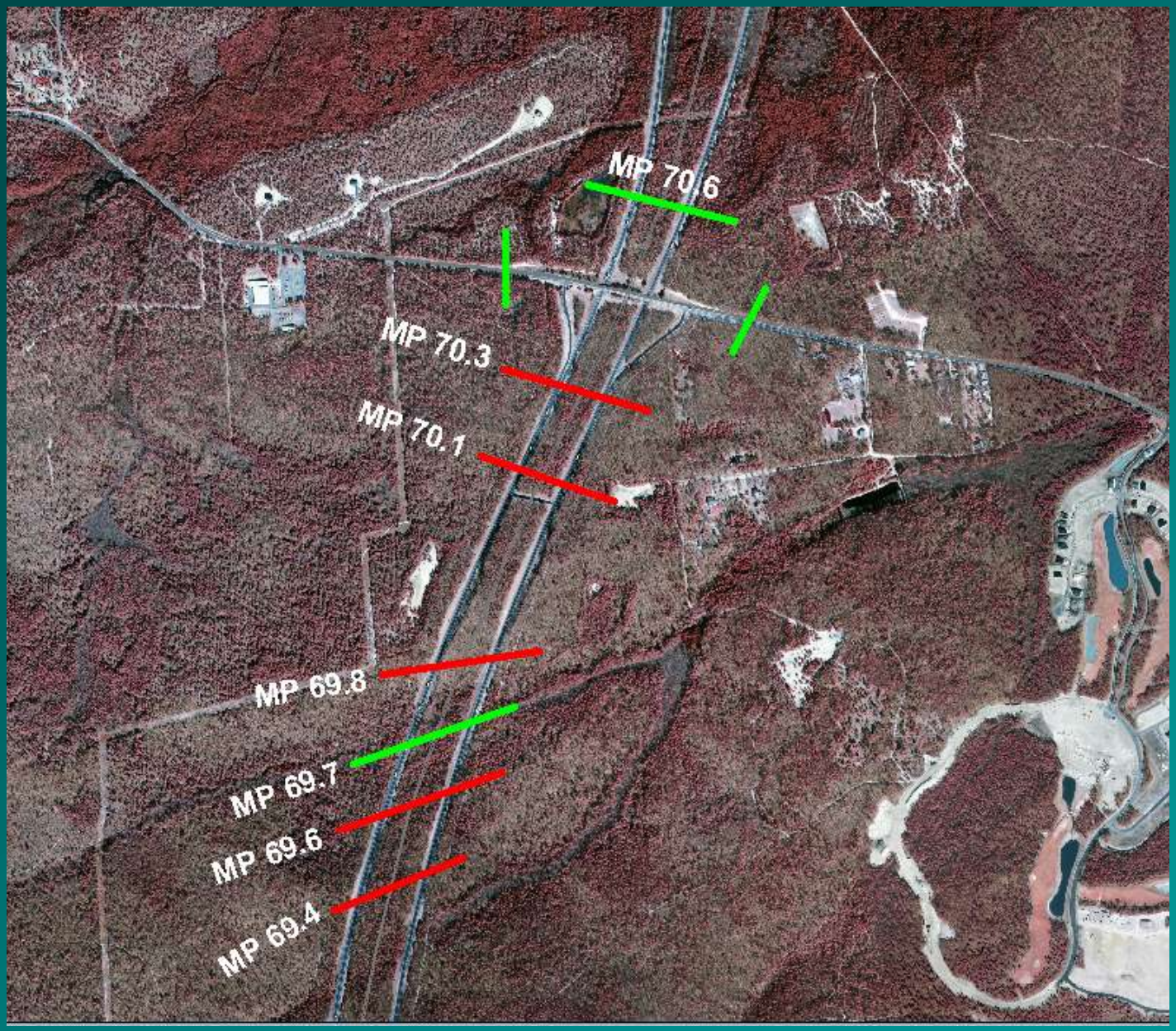
Planning

- Identifying Key Connectors
- Identifying Mortality Hotspots
- Designing Permeable Roads

Policy?

- Road Closures on State Lands
- New Construction
- Road Maintenance and Repair

Northern Span GSP



Tunnel Number

9 locations, 30 tunnels

Barrier Material

Concrete wall

Barrier Length

1.2 mi.

Tunnel Length

80 ft.

Tunnel Diameter:

20 in. rccp (4)
36 in. rccp (20)
4’ 6” rccp (2)
5 foot box (2)

New
Existing

Southern Span GSP

Tunnel Number

5 locations, 18 tunnels

Barrier Material

Concrete wall

Barrier Length

1.4 mi.

Tunnel Length

80 ft.

Tunnel Diameter

36 in. rccp (16)
3’ 6” rccp (2)

New
Existing