North Atlantic Aquatic Connectivity Collaboration (NAACC)

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What is The North Atlantic Aquatic Connectivity Collaborative (NAACC)?

- A network of individuals from universities, conservation organizations, and state and federal natural resource and transportation departments focused on improving & supporting aquatic and terrestrial connectivity across a thirteen-state region, from Maine to West Virginia.
- The project supports planning and decision-making by providing tools and information on where restoration projects are likely to have the greatest aquatic connectivity benefits and resiliency benefits.



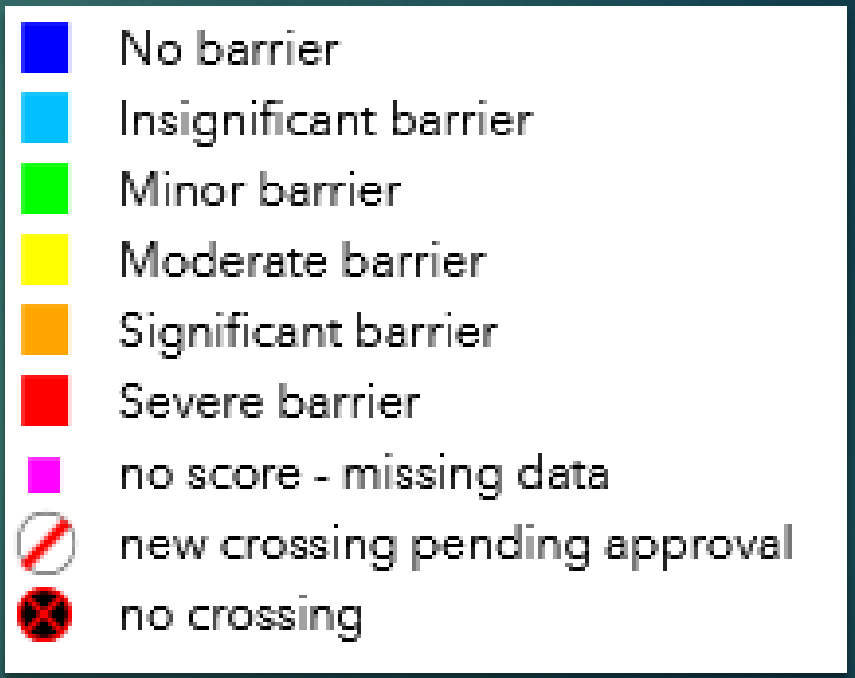

Why is NJDOT involved in an effort like this?

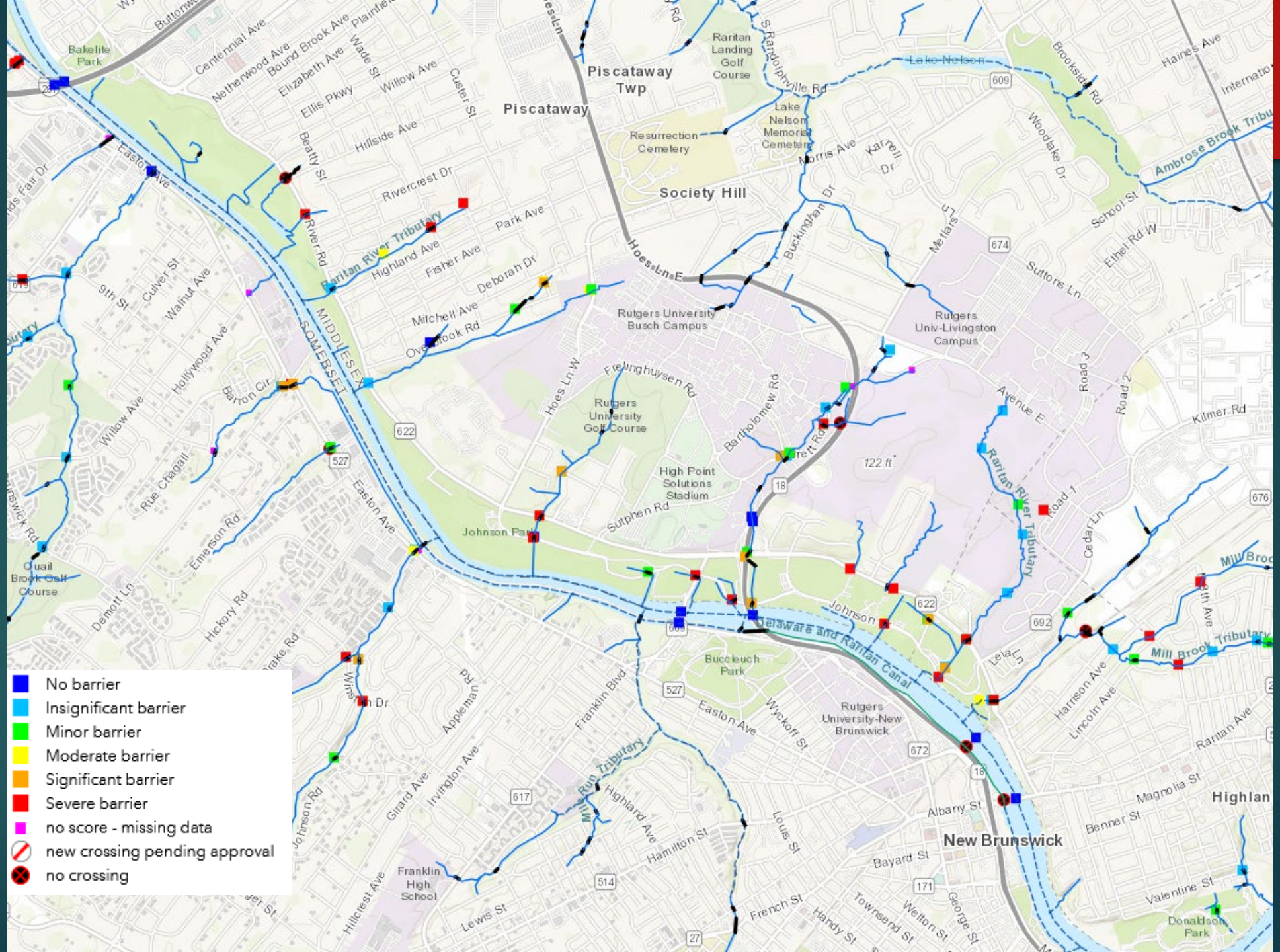
- Federal funding authorized under the Infrastructure Investment and Jobs Act (IIJA) infuses billions of dollars into federal grant programs that must be obligated over 5 years to improve wildlife crossing infrastructure, reduce wildlife-vehicle collisions, and mitigate habitat fragmentation resulting from transportation infrastructure.
- Changes to the New Jersey Flood Hazard Control Act* require the NJDOT to evaluate new and existing bridges/culverts or roadways they serve for fragmentation of habitat for threatened and endangered species and/or any species of special concern. If a project is determined to cause fragmentation of habitat, a species passage must be incorporated under the regulation.
- The New Jersey Freshwater Wetlands Protection Act Rules has requirements within its regulations to ensure fish passage is unimpeded through crossings with roadways/structures for many types of permits.
- Increased interest by local non-profit organizations to implement suitable connectivity for remaining habitats within NJ, with transportation corridors being the major hinderance to wildlife movement.
- Wildlife-related collisions are on the rise in NJ. With the densest roadway network in the US, vehicle collisions with wildlife are inevitable but can be lessened by providing crossings with appropriate wildlife fencing.

*FHA 7:13-12.7(d)3 and (e)3

What was the purpose of this training?

- To obtain guided instruction on survey protocols to evaluate bridges and culverts for "passability" of local species
- To collect site specific data necessary to complete NAACC connectivity forms to determine if there is a barrier and the severity
- To understand the different types of barriers or obstacles that exist for aquatic and/or terrestrial species
- To enter the completed data forms into the NAACC online database where they are scored by barrier severity




No barrier
Insignificant barrier
Minor barrier
Moderate barrier
Significant barrier
Severe barrier
no score - missing data
new crossing pending approval
no crossing
Piscataway Twp
Piscataway
Society Hill
New Brunswick
Rutgers University Busch Campus
Rutgers Univ-Livingston Campus
Rutgers University Golf Course
Rutgers University-New Brunswick
Raritan River Tributary
Middle Brook
Lake Nelson
Delaware and Raritan Canal
Mill Brook Tributary
Ambrose Brook Tributary
Franklin High School
High Point Solutions Stadium
Buccleuch Park
Johnson Park
Bakelite Park
Quail Brook Golf Course
Raritan Landing Golf Course
Resurrection Cemetery
Lake Nelson Memorial Cemetery
Hoes Ln E
Hoes Ln W
Easton Ave
Somerset
Highland Ave
Park Ave
Fisher Ave
Mitchell Ave
Deborah Dr
Rivercrest Dr
Hillside Ave
Willow Ave
Hollywood Ave
Walnut Ave
Culver St
9th St
Barron Cir
Rue Chagall
Emerson Rd
Demott Ln
Hickory Rd
Wade St
Custer St
Beatty St
Ellis Pkwy
Elizabeth Ave
Bound Brook Ave
Netherwood Ave
Centennial Ave
Plainfield Ave
Buttonwood Dr
Easton Ave
River Rd
Overlook Rd
Freylinghuysen Rd
Bartholomew Rd
Sutphen Rd
Johnson Park
Franklin Blvd
Appleman Rd
Girard Ave
Irvington Ave
Hillcrest Ave
Lewis St
Hamilton St
Highland Ave
Mill Run Tributary
Wyckoff St
Easton Ave
Johnson
Albany St
Bayard St
French St
Handy St
Townsend St
Welton St
George St
Louis St
Benner St
Magnolia St
Harrison Ave
Lincoln Ave
Raritan Ave
Valentine St
Donaldson Park
Lela Ln
Cedar Ln
Road 1
Road 2
Road 3
Avenue E
Kilmer Rd
Suttons Ln
Ethel Rd W
School St
Woodlake Dr
Brookside Rd
Haines Ave
Morris Ave
Karnell Dr
Buckingham Dr
Metlars Ln
S Randolphville Rd
Lake Nelson
Mill Brook
122 ft
609
674
676
692
672
622
527
617
514
171
27
18

What is an obstacle for aquatic species?

Depending on the species the following could be considered obstacles for aquatic passage:

- Dimensions or shape of culvert/bridge
- Outlet or inlet armoring/Riprap
- Inlet/Outlet grade
- Outlet drop to water surface
- Clogged/collapsed/submerged inlets/outlets
- Internal structure (baffles/weirs/supports)
- Structure substrate
- Debris/sediment/rocks

What is an obstacle for terrestrial species?

Depending on the species the following could be considered obstacles for terrestrial passage:

- Dimensions or shape of culvert/bridge
- Outlet or inlet armoring/Riprap
- Steep embankments
- Large scour pools
- Fencing that isn't designed to guide animals to a crossing
- Retaining walls
- Vertical faces of road cut
- Lack of continuous dry passage
- Dry passage substrate

Physical Barrier Severity

	Inlet and outlet grade and free fall	Debris/sediment/rock	Fencing	Scour pool (depth, width)
Small mammals and squamates	OK: cascades, but not freefalls	Large debris or rocks can be a barrier	4x4 mesh or larger OK	Necessary: No scour pool that completely obstructs access or scour pool that can be jumped over
Medium mammals and turtles	Ideal: no inlet or outlet drop OK: drop < 12 inches (mammals)	Large rocks a barrier for turtles	Standard barbed wire fencing OK if bottom strand > 6" above ground; Other fencing OK if > 6" gaps underneath	Necessary: No scour pool that completely obstructs access or scour pool that can be jumped over
Bobcat, lynx	Ideal: no inlet or outlet drop OK: drop < 12 inches	Not important	Standard barbed wire fencing OK if bottom strand > 12" above ground; Other fencing OK if < 2 feet tall	Ideal: no scour pool OK: depth < 6 inches and distance < 4 feet
Bear, coyote, cougar, wolf	Ideal: no inlet or outlet drop OK: drop < 12 inches	Not important	Standard barbed wire fencing OK if bottom strand > 12" above ground; Other fencing OK if < 3 feet tall	Ideal: no scour pool OK: depth < 6 inches and distance < 6 feet
Deer	Ideal: no inlet or outlet drop OK: drop < 12 inches	Large rocks can impede movement	Standard barbed wire fencing OK if bottom strand > 12" above ground; Other fencing OK if < 3 ft tall; marginally OK if 3-6 ft tall	Ideal: no scour pool OK: depth < 18 inches
Moose	Ideal: no inlet or outlet drop OK: drop < 12 inches	Large rocks can impede movement	Fencing OK if < 3 feet tall; marginally OK between 3-6 feet tall	Ideal: no scour pool OK: depth < 30 inches

Whether they’re small like a salamander or big and wide-roaming like a bear, 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 will not persist over the long term.

We can deliver safe transportation systems that meet and exceed the needs of the residents of New Jersey while not unduly hindering wildlife's ability to exist.

Questions?