

SCMagLev - What's the Biological and Ecological Impact? (Part 2)

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The Baltimore-Washington Rapid Rail (BWRR) (the project developer) and the Northeast MagLev (TNEM) (the promotional entity) have the short-term goal of obtaining Federal Railroad Administration (FRA) approval to build a magnetic levitation (maglev) train between Baltimore and Washington, DC, with the long-term goal of extending the train operation to New York City by way of Philadelphia. Japan's Superconducting Magnetic Levitation (SCMagLev) train is the high-speed, ground-based transportation system TNEM is promoting to build in the northeast corridor of the United States.

Information about the SCMagLev and BWRR's plans to build and operate the system have raised many questions and concerns. This is one of a series of articles that identifies and discusses some of the many questions and concerns citizens and communities have identified with moving forward in building and operating the SCMagLev.

Abstract

This article takes a deeper look into the existing species and types of specimens of life that would be lost and destroyed if BWRR gains approval to build the SCMagLev train system.

Questions & Concerns

(1) What value do the Beltsville Agricultural Research Center and the Patuxent Wildlife Research Refuge bring to the state, the nation, and the world?

- The U.S. Department of Agriculture Beltsville Agricultural Research Center (BARC) and Patuxent Research Refuge (PRR) represent one of the most biologically well-studied landscapes in the world with intense research and natural history data going back over 100 years.
- Hundreds of government scientists have conducted research and continue to work in these locations, many identifying and describing new species, and most doing research related to the agriculture and natural areas retained by these properties. As part of their duties, lists of species found here were created and their status documented via physical collections. They were accessioned to the National Collection, where numerous scientific publications about them, including their biological functions and processes, were documented and monitored across the many past decades and into the present time.
- Both research centers represent the largest scientific field stations for their respective U.S. federal agencies. The region is a treasure trove of species of animals, plants, and fungi that were first described by science here, and represents one of the most important discovery locations on the North American continent and in the world.
- Building the SCMagLev as currently planned would destroy this site forever.

(2) What else could happen to the area if the SCMagLev trainyard would be built?

- If the SCMagLev train system is allowed to be built, a large block of the current preserve and refuge will be destroyed forever. Once the SCMagLev trainyard is built, there would be little that could be done to stop additional development and the loss of all remaining forested and protected land in the area.
- Research at BARC has identified over 100 species and ongoing research will undoubtedly find many more.
- The region has retained much of its original biodiversity. For example, the PRR has retained all its breeding bird species except for two—the Broad-winged Hawk and the Bachman's Sparrow. Similar results exist for all the other groups of plants, fungi, insects, and vertebrates.
- The combined protected landscapes of several government agencies have created an integrated and interconnected refuge for the region's plant, animal, fungi, and microorganisms. The extensive nature of these landscapes allows the species living in them to ebb and flow in space and time without becoming locally extinct because of small parcel sizes.
- One of the many important pieces of research in this area was conducted in the 1970s. The study looked at the impacts of forest fragmentation on woodland birds. This research was conducted by two collaborating scientists, Robert Whitcomb (BARC) and Chandler S. Robbins (PWRC). Many of the plots used in these studies are located in the SCMagLev proposed-use areas in BARC.¹
- These past and current study sites cannot be recreated elsewhere. Once the landscape is altered with anthropogenic disturbances to the soils, and the vegetation removed and replaced with man-made structures, the land is dead for all practical purposes to scientists and to all the original plant, insect, and animal inhabitants.
- In addition to studies by employees of these agencies, the work of past researchers and the existence of ongoing study plots, taxonomic experts, and extensive documentation of the flora and fauna of the region attract other researchers from states, universities, and private groups from around the world. This research and the related economic benefits for the area would be lost.
- The long-abandoned airport area of BARC/PRR has been and is particularly important for rare birds. Over the years, sightings of nationally and regionally extremely rare species have been reported. Some of these rare birds that nest or pass through this area include the Northern Shrike, the Short-eared Owl, the Whip-poor-will, the Merlin, LeConte's Sparrow, the Sandhill Crane, and the Dickcissel. The abandoned airport still retains breeding Eastern Meadowlarks and Grasshopper Sparrows, which are almost completely absent elsewhere in the area. Raptors and grassland species use this area heavily. This is one of the very few remaining transitional habitats; elsewhere, they have become rare or completely absent.²

¹ R.F. Whitcomb, C.S. Robbins, J.F. Lynch, B.L. Whitcomb, M.K. Klimkiewicz, and D. Bystrak. Edited by: Robert L. Burgess and David M. Sharpe. 1981. "Effects of forest fragmentation on avifauna of the eastern deciduous forest."

² Orr, Richard. Photos of the Wildlife and Animals living on and around the Old BARC Airport. www.flickr.com/photos/dragonflyhunter/albums/72157611555242488.

- As cited on the Friends of Patuxent³ and BARC⁴ websites, BARC has 901 documented plant species, and PRR has 282 species of birds, 217 species of bees, and 72 species of butterflies. “Thousands of insect specimens have been collected from the combined properties of BARC and PRR,” as noted by Sam Droege, an entomologist. “These specimens are published in various research papers. Several thousand, including ones I have identified, are in my database.” (personal conversation with Dan Woomeer, 2020)
- This area is also one of the most important places in the world where prehistoric fossil strata have been found. A rich strata of dinosaur bones and associated fossils and, perhaps even more rare, dinosaur trackways, have been and are being found here. These significant prehistoric life discoveries have been found on BARC at the Swampoodle Site. The region, known as “Dinosaur Alley,” was the primary source of Maryland dinosaur bones in the nineteenth century, collected by both the Yale Peabody museum and local collectors; many of the prehistoric fossils found in this area are currently residing in the Smithsonian Institution. Other well-known prehistoric fossil locations are located at NASA Goddard and in nearby Muirkirk at the Maryland-National Capital Park and Planning (M-NCPP) Dinosaur Park, which bracket the BARC sites.⁵
- To date, 16 unique type specimens of dinosaurs and fossils have been found in this area and named from these collective sites—and more are likely to be found. The specimens identified and named include the *Glyptops caelatus*, *Rogersia angustifolia*, *Argillomys marylandensis*, *Goniopholis affinis*, *Jungermannites noterocladioides*, *Rogersia angustifolia*, *Pelletixia amelguita*, *Arundelemys dardeni*, *Arundelconodon hottoni*, *Tanyoscapha sigmanae*, *Ornithomimus affinis*, *Priconodon crassus*, *Pleurocoelus altus*, *Pleurocoelus nanus*, *Allosaurus medius*, and *Coelurus gracilis*.
- Of great importance was the type specimen of *Astrodon Johnstoni* found in the 1800s, which was named as Maryland’s state dinosaur in 1998. The *Astrodon* lived in Maryland during the Early Cretaceous period, from 95 to 130 million years ago.
- It has been stated about the M-NCPPC region: “Dinosaur Park is the best place to find Cretaceous dinosaur bones in the Eastern United States, and as it happens the best place to find Cretaceous dinosaur footprints on this side of the Mississippi River.”⁶
- Avocational fossil hunter Ray Stanford first started finding dinosaur tracks near College Park, Maryland, in the early 1990s. With the help of professionals and other amateurs (including Dinosaur Park’s own David Hacker), over 300 specimens have been recovered to date. Note that these same trackways have been found at NASA Goddard and similar rock formations occur throughout the sites currently planned to be leveled and used for the SCMagLev trainyard.
- In the forested area, studies have shown that BARC Central and East Natural areas are the southernmost points in the world of the New Jersey Pine Barrens ecotype. Note that the BARC East Farm is the land to the east of and the BARC Central Farm is the area just to the west of the Baltimore-Washington Parkway. The BARC East Farm contains the National Champion Dwarf Chinquapin Oak (*Quercus prinoides*) and the State Champion Sand Hickory (*Carya pallida*).

³ See: <http://friendsofpatuxent.org/>.

⁴ See: <https://www.ars.usda.gov/northeast-area/beltsville-md-barc/beltsville-agricultural-research-center/>.

⁵ For additional information on Prince George’s County Dinosaur Park, see: www.mncppc.org/3259/Dinosaur-Park, and mncppcapps.org/pgparks/dino_blog/dino_article.aspx?articleid=17.

⁶ http://mncppcapps.org/pgparks/dino_blog/dino_article.aspx?articleid=17.

- Globally rare, federal- and state-protected wetlands crisscross both tracts. This landscape represents what is most likely the most silent and light-free landscape left in the Baltimore-Washington Corridor.
- As noted in a prior article, the proposed SCMagLev trainyard enveloping BARC East would be located next to NASA's Optical Test Site and other testing facilities that cannot tolerate vibration or light pollution from a SCMagLev's trainyard facility.

(3) How big is the proposed SCMagLev trainyard?

- The proposed SCMagLev trainyard is approximately 1-mile long by a quarter-mile wide. As a useful comparison, that measures:
 - about one-and-one-fifth times as big as Disneyland.
 - about six times as big as the Pentagon.
 - about 50 times as big as the Kennedy Center.
 - about 150 times as big as a football field.
 - more than three times larger than the 12, 000 parking spaces at Robert F Kennedy Stadium; the proposed area could fit up to 55,000 parking spaces.

(4) Are the losses to Maryland and the United States associated with building the SCMagLev worth it?

- No. Maryland, our nation, and the world will suffer from the loss of species, biodiversity, and access to prehistoric history in this refugia if this proposed project should be approved. Building an expensive, tax-dollar-supported, high-speed transportation system for the wealthy and well-heeled, with little to no long-term value for Anne Arundel or Prince George's counties or Maryland would be of little value, in fact, a major loss on top of the other losses described.
- We would seriously weaken the last large green space between Baltimore and Washington, DC, should the SCMaglev transportation system be built. This area is well-loved by surrounding communities, and their inhabitants would lose the cooling, carbon storage, air pollution capture, calming, and spiritual aspects of this green area space. Recreational runners, walkers, and bicyclists would lose a large part of what is a relatively safe, nature-focused public road network where they can exercise in a healthy environment. Fossil sites would be permanently destroyed and/or rendered unavailable. The region would lose one of the last noise- and light-free environments found between Baltimore and Washington, DC.

(5) What are some of the types of specimens that have been found, identified, and studied in this area?

- Fungi include: *Arthrocristula hyphenata*, *Arthrocristula hyphenata*, *Cryptodiaporthe liquidambaris*, *Cryptodiaporthe liquidambaris*, *Discosporina carpinicola*, *Discosporium liquidambaris*, *Ditopellopsis clethrae*, *Endophragmiella constricta*, *Endophragmiella constricta*, *Endophragmiella constricta*, *Endophragmiella constricta*, *Hamigera insecticola*, *Hyalotia pistacina*, *Melanconiella elegans*, *Monilinia fructigena*, *Mycoleptodiscus terrestris*, *Myiocoprula gregaria*, *Ophiognomonina lenticulispora*, *Ophiognomonina micromegala*, *Ophiognomonina sassafras*, *Ovulinia azaleae*, *Pestalotia longisetula*, *Phomopsis oxyspora*, *Polyporus pseudocinnamomeus*, *Pseudocoprinus venustus*, *Sesquicillium candelabrum*, *Sphaeloma plantaginis*, *Sphaerulina rubi*, *Sporidesmium sclerotivorum*, *Trichoderma asperellum*, and *Wrightoporia cylindrospora*.

- Insects include: *Acanalonia conica*, *Aeolothrips annectans*, *Aeolothrips annectans*, *Andrena uvulariae*, *Anthrax nigripennis*, *Aulacus schiffi*, *Baldulus tripsaci*, *Brachythrips russelli*, *Brenthis selene marilandisa*, *Caryomyia aggregata*, *Caryomyia albipilosa*, *Cedusa gedusa*, *Cedusa hedusa*, *Ceratocapsus barbatus* , *Ceratocapsus decurvatus*, *Chrysops vitripennis*, *Clastoptera proteus anceps*, *Dolichopus flavilacertus*, *Forcipomyia mcateeii*, *Hammomyia marylandica*, *Heterothrips azaleae*, *Hyalomyzus pocosinus*, *Hydroporus signatus youngi*, *Lasioglossum gotham*, *Madiza nigripalpis*, *Minettia buchanani*, *Myrsidea emersoni*, *Oxythrips divisus*, *Paracalocoris colon var. amicus*, *Paracalocoris colon var. castus*, *Paracalocoris hawleyi var. fissus*, *Paracalocoris limbus suffusus*, *Paracalocoris scrupeus bidens*, *Phytocoris difficilis*, *Poanes massasoit hughii*, *Proctophyllodes pirangae*, *Prodiplosis platani*, *Psocus additus*, *Rhyacionia granti*, *Trichogramma marylandense*, *Tricyphona macateeii*, *Typhlocyba eurydice*, *Typhlocyba eurydice var. discincta*, and *Typhlocyba gillettei var. casta*.
- Invertebrates include: *Babesia mephitis*, *Babesia procyoni*, *Besnoitia akodoni*, *Besnoitia neotomofelis*, *Besnoitia tarandi*, *Capillaria pirangae*, *Cladotaenia cathartis*, *Cryptosporidium canis*, *Cryptosporidium ryanae*, *Cryptosporidium ubiquitum*, *Cryptosporidium xiaoi*, *Cysticercus setiferous*, *Dicelis nira*, *Eimeria granulosa*, *Glaphyrostomum mcintoshii*, *Haemobartonella procyoni*, *Lotmaria passim*, *Loxogenes bicolor*, *Sarcocystis lindsayi*, *Trichuris sylvilagi*, *Paratylenchus marylandicus*, *Meloidoderita polygona*, *Aorolaimus helicus*, *Criconema eurydome*, *Criconema civellae*, *Heterodera weissi*, *Xiphinema americanum*, *Meloidoderita polygona*, and *Allodiplogaster josephi*.

Findings/Conclusion

The loss of the BRAC and PRR preserves for the building of the SCMagLev transportation system would be tragic and irreversible. Major research facilities of national and world importance would be destroyed. The habitat for hundreds of rare birds, insects, and fungi would be lost forever. Suffering such losses to build a redundant, high-cost, and taxpayer-supported transportation system for the elite and well-heeled that has little to no benefit for Marylanders would be unconscionable.

Want to Help?

- (1) Share this information with your family, friends, neighbors, and community.
- (2) Join our Facebook page: www.facebook.com/groups/CitizensAgainstSCMaglev.
- (3) Contact your elected officials to express your opposition to building the SCMagLev, go to: myreps.datamade.us.
- (4) Submit multiple public comments often at www.bwmaglev.info/index.php/contact-us. State your objection(s), and always end by saying you support the "No Build Alternative."
- (4) Learn more about the concerns and impacts the SCMagLev will have on our communities, see: www.stophistrain.org/.
- (5) Make a contribution to support Citizens Against the SCMagLev (CATS) and Maryland Coalition for Responsible Transit (MCRT) at mcrt-action.org. Your donation, in any amount, is appreciated. Thanks for your support!

About the Author

Daniel E. Woomer is a community activist and technical expert. He retired after a long career that included positions with Westinghouse Defense Center, Johns Hopkins University's Applied Physics Laboratory, and the U.S. Department of Energy (DOE). During his career with the DOE, he worked in various positions with the Energy Information Administration and the Office of Congressional and Intergovernmental Affairs, and he helped set up the Office of Technology Transitions. He also served for several years as an adjunct faculty member with the University of Maryland University College, where he developed and taught mathematics, supervisory and leadership classes.

Sources:

The principal source of information for this article was from correspondence and discussion with Sam Droege. He grew up in the Prince George's County and has worked as a biologist for the past 40 years, specializing in the survey and monitoring of plants and animals.

- (1) For high-quality, public domain downloadable photos of insects and other small creatures found in 2020 from the impact sites, see: www.flickr.com/photos/usgsbiml/albums/72157715288371553.
- (2) For photos of the natural areas and agricultures areas that would be destroyed with the building of the SCMagLev transportation system, see: www.flickr.com/photos/189298652@N03/albums/72157715119662111.
- (3) To see short, low-elevation flyovers of the Maryland Route 198 trainyard site, see: www.flickr.com/photos/189298652@N03/50427339292/in/album-72157715119662111/.
- (4) To watch a flight over the Patuxent Refuge and proposed SCMAGLEV trainyard site, see: <https://www.flickr.com/photos/189298652@N03/50426482948/in/album-72157715119662111/>
- (5) To watch another flight over the Patuxent Refuge and Beltsville Agriculture Research Center and the proposed SCMagLev trainyard site, see: www.flickr.com/photos/189298652@N03/50426482948/in/album-72157715119662111/.
- (6) For an interactive GIS map showing locations of SCMagLev impact areas and overlays of wetlands and other features are found, see: dcgis.maps.arcgis.com/apps/webappviewer/index.html?id=ae88f4ed5cff435cb96b9990bc15e997.
- (7) R.F. Whitcomb, C.S. Robbins, J.F. Lynch, B.L. Whitcomb, M.K. Klimkiewicz, and D. Bystrak. Edited by: Robert L. Burgess and David M. Sharpe. 1981. "Effects of forest fragmentation on avifauna of the eastern deciduous forest." pubs.er.usgs.gov/publication/5210469.

Citizens Against the SCMagLev (CATS) is a confederation of scientists, engineers, experts, community organizations and citizens in support of transportation infrastructure improvements that benefit our communities, state, and nation. CATS opposes the construction of an expensive transportation system serving a small minority of the wealthy at the cost of taxpayer funds far better used to maintain and improve the transportation infrastructure needed and used daily by all citizens, businesses, and commerce. For up-to-date information on the SCMagLev opposition, see our Facebook page at: <https://www.facebook.com/groups/CitizensAgainstSCMaglev>.