

## Proposed High Speed Train Threatens Habitat at Patuxent Research Refuge and Other Federal Lands

By Marcia Watson, Ph.D.

Earlier versions of this article appeared in the [Winter issue of the Friends of Patuxent Newsletter](#) and in the [January-February issue of the Patuxent Bird Club newsletter](#). The version below was updated on 1/11/21.

As previously reported in the [Patuxent Bird Club newsletter \(Nov-Dec 2017\)](#), a private company is planning to build an ultra-high-speed train (reaching over 300 mph) to carry passengers between Baltimore and Washington, D.C. The train is advertised to make the trip in about 15 minutes. What you may not know is that the proposed train route would slice through the edge of Patuxent Research Refuge, and that the train's infrastructure will destroy fragile habitats that the Refuge was designed to protect.

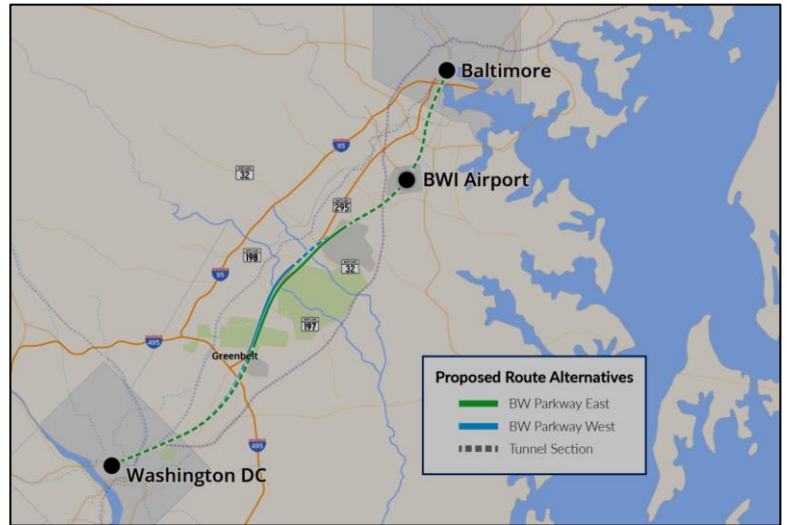
The project is known as the Baltimore-Washington Superconducting MAGLEV Project, or SCMAGLEV or MAGLEV for short. "MAGLEV" is an acronym for "Magnetic Levitation;" the train would operate by hovering above metal tracks using a levitation system powered by magnets.

Only three passenger stations would be built: in downtown Baltimore, in downtown Washington D.C., and at BWI Airport. There would be no local stops: this would not be a train to serve local commuters or communities. Eventually, the train line would be extended to Boston and New York.

The proposed SCMAGLEV train would be operated in the United States under a private company, and part of the funding would be provided by the Japanese company that operates the existing "Bullet Train" in Japan. However, the SCMAGLEV technology is NOT the same as that used by the Bullet Train; the SCMAGLEV technology is new and there is only a 27-mile section of test track in existence using this new technology. The test track is located near Osaka, Japan. That section is to be expanded to provide commercial service starting in 2027 from Tokyo to Nagoya City and in 2037 for the Tokyo to Osaka. Currently the Osaka project is experiencing financial difficulties. In other words, the proposed project here is relying on technology that is unproven, both in terms of its technical feasibility, its environmental impacts, and its commercial viability.

A definite route has not yet been chosen for the train. When the SCMAGLEV project was first announced in 2017, there were a large number of possible routes that the train might take between Baltimore and D.C. Since that time, the possibilities have been narrowed to just two possible routes, one running along the west side of the Baltimore-Washington Parkway (MD 295), and one running along the east side of the Parkway. (Note that portions of the official project website still – confusingly – refer to the routes that have been discarded.) The proposed route along the eastern side of the Parkway goes through the Refuge's North Tract, impacting the trail system there. Much of the Baltimore to D.C. route would run underground through deep tunnels, but the part running through and past Patuxent Research Refuge would be above ground. There is also a theoretical "No Build" option that has been included in project planning as a logical alternative.

The huge extent of the project makes it difficult to adequately describe its wide-reaching impacts. This article is focusing on impacts to ecosystems and habitat at Patuxent Research Refuge and other federal facilities and public lands. For a full discussion of the impacts on human communities, including environmental justice issues, see the [Stop This Train](https://www.stophisttrain.org/) website at <https://www.stophisttrain.org/>.



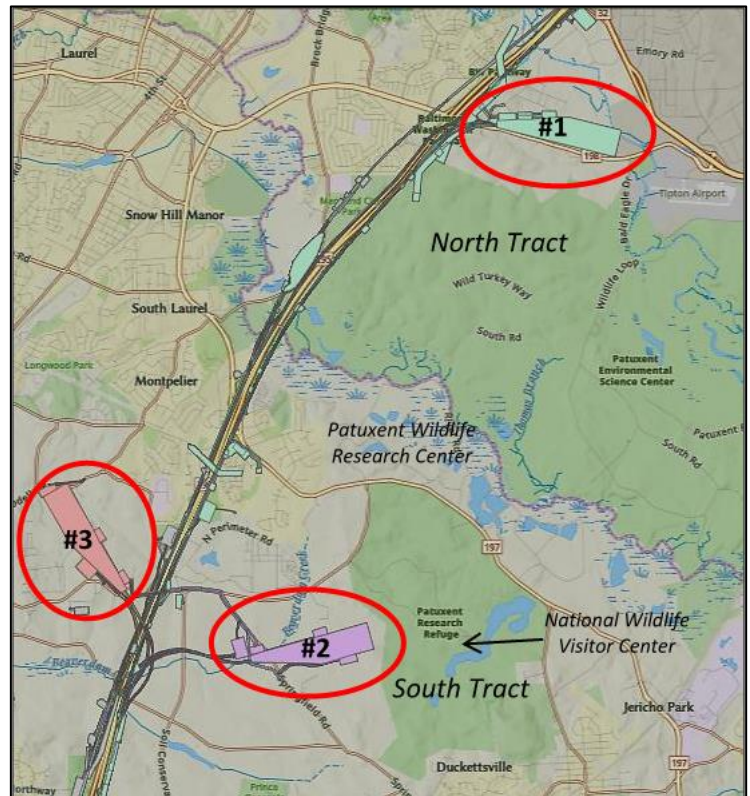
Current proposed SCMAGLEV Routes. Source: Presentation by Ian Rainey of the MAGLEV project for the Patuxent River Commission, September 9, 2020.

The proposed train route and its associated structures would require use of federal lands including pieces of Patuxent Research Refuge (both North and South Tracts), the Beltsville Agricultural Research Center (BARC), NASA-Goddard Space Flight Center, the Baltimore-Washington Parkway (operated as a scenic parkway by the National Park Service), and lands of other agencies. In addition, county parks and open spaces operated by the Maryland-National Capital Parks and Planning Commission (MNCPPC), by Anne Arundel County Parks and Recreation, and by towns such as Greenbelt and Maryland City would be impacted, for example, Bladensburg Waterfront Park, Northway Fields Park/North Woods in Greenbelt, and Maryland City Park.

The project would involve the construction not only of rails (known in SCMAGLEV parlance as guideways), but also of underground tunnels, tunnel exits, air shafts, emergency exits, a maintenance yard, and associated service structures, parking lots, entry ramps, and roads. The maintenance yard, where trains will undergo routine service, washing, and repairs, would be very large, about 200 acres.

As shown in the map at right, currently there are three possible sites for the 200-acre maintenance yard, only one of which would be built:

1. On the north side of MD Route 198, east of the interchange with the Baltimore-Washington Parkway. This yard would be sited primarily on land owned by the U.S. Government adjacent to the northwest corner of the North Tract of Patuxent Research Refuge. This parcel houses the Maya Angelou Academy at New Beginnings and the Maryland Job Corps' Woodland Job Corps Center. The supporting roads and other infrastructure would use Patuxent Research Refuge land, as would the track alignment on the east side of the Baltimore-Washington Parkway. The yard, as drawn on the SCMAGLEV maps, extends across the Little Patuxent River.
2. Along Springfield Road south of Powder Mill Road. This yard would use the old airstrip at the Beltsville Agricultural Research Center and would overlie Beaverdam Creek, which is part of the Anacostia-Potomac watershed. The yard would extend into South Tract of Patuxent Research Refuge, coming within 1500 yards of the National Wildlife Visitor Center and within 450 yards of the entrance drive. New roads accessing the facility would be built across BARC lands west of Springfield Road.
3. Along the west side of the Baltimore-Washington Parkway, extending from Powder Mill Road north to Odell Road. This facility would be built on BARC and other USDA lands.



**Proposed sites of train maintenance yards.** One of these three sites will be selected. Gray lines on either side of Rte 295 indicate the two possible train routes. Source: Interactive map provided by SCMAGLEV <https://maryland.maps.arcgis.com/apps/opsdashboard/index.html#/3126ba14ebf54d3887e95f257ca5d054> with labels added by the author. Note that the green shaded areas do not accurately depict the boundaries of the Refuge; the green shading merely shows wooded areas.



This large maintenance yard would consist entirely of an unbroken swath of pavement, metal, and gravel. There would be no habitat supporting any type of wildlife. The appearance will likely be similar to that shown in the photo at left of a maintenance yard for the Bullet Train in Japan.

**Maintenance yard for the Bullet Train in Japan.**  
Photo from Wikipedia.

Currently, Patuxent Research Refuge, BARC, and other adjacent federal lands occupy over 20,000 acres and constitute the largest block of undeveloped land in the Baltimore-Washington corridor. Numerous research studies have established that fragmentation of habitat by roads and buildings reduces nesting success of breeding birds, and disrupts migration and dispersal corridors used by terrestrial mammals, amphibians, and reptiles.

The green spaces in the Patuxent Research Refuge vicinity provide ecosystem services that directly benefit the health of the environment and of humans. These services include carbon monoxide removal, nitrogen dioxide removal, sulfur dioxide removal, ozone removal, particulate matter removal, carbon sequestration, groundwater recharge, nitrogen uptake stormwater mitigation, and surface water protection. According to analyses that are publically available through the Maryland Department of Natural Resource's GreenPrint mapping service (<https://geodata.md.gov/greenprint/>), the monetary value of the ecosystem services provided by the lands at Patuxent Research Refuge and BARC is far in excess of \$35 million dollars per year. Note that there is no way to mitigate the loss of these services, as there is no other green space of comparable size in the region.

The lands that would be impacted by the train maintenance yard and other supporting structures contain habitats rare for our region, such as sand barrens and bogs. Patuxent Research Refuge and BARC are studded with freshwater wetlands that protect the water quality of the Little Patuxent and Patuxent Rivers. These habitats support native plants that are rare for our region, along with unique insect and wildlife communities that depend on them. Every one of the three possible sites for the train maintenance yards would impact such habitats. The proposed placement of these maintenance yards could not be worse from an environmental perspective. It is not known why the project leadership has not instead planned for use of available industrial-zoned spaces in Baltimore or Washington.

The impacts of the SCMAGLEV project on habitats at Patuxent Research Refuge and BARC were extensively reviewed by biologist Sam Droege in a presentation hosted by the Maryland Native Plant Society on October 27, 2020. A recorded session of Droege's presentation is available courtesy of the Native Plant Society at <https://www.youtube.com/watch?v=fCXM3FiXoY8>. In addition, a more detailed written description of the impacts to habitat at Patuxent Research Refuge and at BARC is provided on the *Stop This Train* website at <https://www.stophistrain.org/biological-and-ecological-concerns>.

Given the unproven nature of the SCMAGLEV technology, there are many unanswered questions about other possible ecological and environmental impacts of the project, including

- Impacts of runoff of chemicals used in train washing and maintenance on water quality of streams and rivers;
- Disruption of underground aquifers by the tunneling process;
- Effects of magnetic fields on wildlife and on humans: it is known that some bird species rely on the earth's magnetic fields for navigation during migration, and the effects of the train's magnetic fields have simply not been studied.

Significantly, the proposed taking of federal lands for use by a private, for-profit company is apparently unprecedented. It is unclear what process would be needed to authorize such a taking, but it likely would require an act of Congress.

The SCMAGLEV project is receiving support from some business and political leaders in Baltimore and Washington, DC. However, a large number of community groups are opposed to the project, citing the negative impacts on their communities in the absence of any benefits to local citizens. These citizen groups question the economic benefits cited by the train project. Moreover, the economic projections for the train have not been revised to account for the massive changes in commuter use of roadways and public transit in the face of the COVID-19 pandemic. Please see the website <https://stophistrain.org/> or the Facebook page <https://www.facebook.com/groups/CitizensAgainstSCMaglev/> for further details of the impacts on human communities.

Currently, the project is moving through the federally-mandated National Environmental Policy Act (NEPA) process which requires preparation and public review of a Draft Environmental Impact Statement (DEIS). A version of that statement was delivered in fall 2020 to agencies whose lands will be directly impacted by the project, including Patuxent Research Refuge, and such agencies had the opportunity to provide comments on the Draft Environmental Impact

Statement. A revised version of the Draft Environmental Impact Statement will be available for **public review, with a 45-day public comment period from January 15, 2021 through March 1, 2021**<sup>1</sup>.

Here are some steps citizens can take prior to and during the public comment period for the Draft Environmental Impact Statement:

1. **Sign an online petition** against SCMAGLEV at <https://www.change.org/p/larry-hogan-stop-the-train-support-the-no-build-alternative>. The petition is sponsored by a citizens' group in Greenbelt.
2. **Study the information available** at the official project website <http://www.bwmaglev.info/> and especially the interactive project map at <https://maryland.maps.arcgis.com/apps/opsdashboard/index.html#/3126ba14ebf54d3887e95f257ca5d054>. Note that at the top right of the interactive map, there are two tiny icons that allow the user to change the layers shown in the map as well as the base map, so that you can better visualize different aspects of the project. Also note that if you click on any color-shaded overlay that shows a component of the project, a small pop-up window will appear near the upper left of the map, identifying that component.
3. Also **study the materials available** at the website <https://stopthistrain.org/> or the Facebook page <https://www.facebook.com/groups/CitizensAgainstSCMaglev/>. Note the following sections of the website:
  - a. "About the MAGLEV" (<https://www.stopthistrain.org/abouthttps://www.stopthistrain.org/about>) contains background about the project and about Citizens against SCMAGLEV.
  - b. The page at <https://www.stopthistrain.org/questions> shows a list of unanswered questions and concerns, including discussion of the impacts on human communities.
  - c. The page <https://www.stopthistrain.org/biological-and-ecological-concerns> goes into more depth than this article on the ecological concerns surrounding the project.
  - d. A page with contact information for elected officials and government agencies is at <https://www.stopthistrain.org/take-action>.
  - e. A wide variety of resources for citizens are at <https://www.stopthistrain.org/downloads-and-resources>. This page includes downloadable documents on how to prepare comments on the Draft Environmental Impact Statement.
4. Please **contact your local legislators** (town, county, state) with your questions, comments, and concerns.
5. It is also important to **submit your comments** to the Maryland Transit Administration (MTA) official project website by email, letter, or web form, using instructions at [bwmaglev.info/index.php/contact-us](http://bwmaglev.info/index.php/contact-us).
6. We believe it will be of prime importance to **contact your representatives in the U.S. House of Representatives and the U.S. Senate**. It is likely that an act of Congress will be needed to authorize the taking of federal lands for this private project. Your elected representatives in Congress can be reached using contact information available at <https://msa.maryland.gov/msa/mdmanual/39fed/06ushse/html/rep.html#rep> and <https://msa.maryland.gov/msa/mdmanual/39fed/05ussen/html/sen.html>.

We hope that members of the public will step up to protect the Refuge that we all cherish. It is irreplaceable.

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**About the author.** Dr. Marcia Watson is the President of the Patuxent Bird Club, a chapter of the Maryland Ornithological Society. She serves on the Board of Directors of the Maryland Ornithological Society and also on the Board of the Friends of Patuxent Research Refuge/Patuxent Wildlife Research Center. Dr. Watson earned a doctoral degree in Biological Sciences from the University of Delaware. She served on the faculty at Delaware, teaching biology and conducting research in the area of environmental physiology, and later served as an academic administrator at the University of Delaware. She moved to the University of Maryland University College (now University of Maryland Global Campus) and served there as an academic administrator and professor. Now retired, she lives with her husband Gene Scarpulla in Bowie.

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<sup>1</sup> The date on which the Draft Environmental Impact Statement will become available for public review has changed several times. The date of January 15, 2021, is current as of January 4, 2021, as displayed at the official federal permitting website at <https://www.permits.performance.gov/permitting-projects/baltimore-washington-superconducting-maglev-project>.