Nature Near Schools: A Discovery Map
Methods

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What schools did we evaluate?

Schools data

State	Data source
Maine	E911 Schools from Maine.gov open data
New Hampshire	National Center for Education Statistics data (NH does not have local data on school locations)
Vermont	K-12 Schools from VT Open Geodata portal

To create a comprehensive list of schools across the three states, we compiled data from three different sources, listed and linked to above. Data from Maine and Vermont include private schools, while the national dataset used in New Hampshire does not. If schools are within 100m of each other, they are considered to be on the same grounds and just one of the schools in that cluster is used in the analysis. Four preschools and daycares were removed.

What parks and lands did we evaluate? And how did we determine if they are open to the public to use?

Conserved lands:

Data	Source
Maine conserved lands	Maine.gov open data
NH Conservation/Public Lands	UNH GRANIT
VT Protected Lands Database	VT Open Geodata portal
ParkServe parks	TPL ParkServe
Protected Areas Dataset of the U.S.	PADUS 2.1

Publicly accessible lands: The criteria below were used to determine whether the conserved land would be considered publicly accessible or not. Only lands bigger than one acre were used in this analysis.

- VT –
  - Lands where access is described as 'Public Access' or 'privately owned easements allow limited public access'

- o If access is unknown, we consider lands to be publicly accessible if they are owned by the State or a municipality, or if the conservation type is fee ownership
- ME –
  - o Lands with attributes that specify having public access, including those that say 'guaranteed vehicle access', 'restricted to trail access only', or where the conservation type is listed as 'public access easement'
  - o For lands where public access is unknown, we consider them to publicly accessible if they are owned by the State or a municipality, or if the conservation type is fee
- NH –
  - o Where access is described in the attribute table as 'Allowed'
  - o For lands where access is unknown or 'no response to survey', we consider them publicly accessible if they:
    - ▪ Have their centroid inside NH recreation inventory layer
    - ▪ The conservation type is Fee ownership
    - ▪ Are owned by the State or a municipality
- ParkServe - parks in ParkServe places with open access
- PADUS – lands that are publicly accessible that were not already included in the lands described above

Restricted lands:

- VT –
  - o Lands where access is described as privately owned with no public access or publicly owned access limited
  - o Where access is unknown, we consider lands to have restricted access if they are not owned by the State or a municipality, or if the conservation type is not fee.
- ME:
  - o Lands where access is not allowed, restricted, or private
  - o Where access is unknown, they are considered restricted if they are not owned by the State or a municipality, or the conservation type is something other than fee.
- NH –
  - o Lands where access is 'restricted' or 'not allowed'
  - o Where access is unknown or 'no response to survey', they are considered restricted if
    - ▪ They are not owned by the State or a municipality
    - ▪ The conservation type is something other than fee
    - ▪ They do not have their centroid inside NH recreation inventory layer
- PADUS – lands that are not publicly accessible and were not already included in the lands described above

What lands did we consider to be walkable?

<u>10-minute walk service areas from the school</u>

For each school, we create a 10-minute walk service area, which is a half-mile walking distance from the street network outside of the school. The analysis identifies physical barriers such as highways, train tracks, and rivers without bridges and chooses routes without barriers.

These service areas are overlaid with the conserved lands layer described above to determine whether a school has publicly accessible land within a 10-minute walk. If the service area intersects any publicly accessible land greater than one acre, then it is considered to have publicly accessible land within a 10-minute walk. If the service area intersects only restricted access lands, then it is shown on the map as having access to restricted access land only. If the service area does not intersect any conserved lands, or the conserved lands are smaller than one acre, then the school is considered to not have access to public land at all.

How did we determine which Schools are in greatest need of nature nearby?

<u>Prioritization analysis</u>

Schools that do not have access to publicly accessible land were prioritized based on health and equity metrics.

- Health –
  - Community-level mental health is from the <u>2020 CDC PLACES</u> dataset, measured at the census tract, and represents respondents aged ≥18 years who report 14 or more days during the past 30 days during which their mental health was not good.
  - Student-level physical activity data were collected from each State's respective health department. 114 of the 1409 schools do not have a measure of student physical activity.
    - VT <u>data</u> – "Percent of adolescents in grades 9-12 who did not participate in physical activity for at least 60 minutes on any day in the past 7 days" aggregated to the county level.
    - ME <u>data</u> - "Percentage of students who were physically active for a total of at least 60 minutes per day on all of the past seven days" aggregated to the county level.
    - NH <u>data</u> – "Did not participate in at least 60 minutes of physical activity on at least 1 day (in any kind of physical activity that increased their heart rate and made them breathe hard some of the time during the 7 days before the survey)" aggregated to a regional level
- Equity –
  - Percent people of color is measured at the Census block group, based on 2020 <u>EPA EJScreen</u> data.

- Percent of students eligible for free and reduced price lunch was collected from each State's Department of Education. These data were hand-tagged to each school. 240 of the 1409 schools do not have data on free and reduced lunch.
- Prioritization methodology – because each of the four metrics listed above has a different range of values, we normalize the data to put everything on a 0 to 100 scale. After being normalized, the two equity metrics and the two health metrics are averaged to get a score for health and equity. For schools that lack free and reduced lunch data, the equity score is based only on percent people of color. The health score of schools that do not have data for student physical activity are scored only on the mental health of the census tract. These resulting health and equity scores are averaged together to get the overall score, on a 0 to 100 scale. Schools with a score closer to 100 have higher values for physical inactivity, poor mental health, people of color, and students eligible for free and reduced lunch, reflecting where there is high priority to conserve 'Nature nearby.'