

Three lines of thought about Lower Shaker Lake dam

- 1) Downsizing the NEORSD design to meet local needs
- 2) Understanding the dam failure hazards and working towards a non-Class-I project
- 3) **The lake, the environment, and the 15 minute city**

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Shaker Heights
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My qualifications:

- a) Taught environmental fluid mechanics at UC Santa Barbara: Physics 120 "Physics of California
- b) Professional experience with complex regulatory systems, civil & geotechnical engineering
- c) Live near and enjoy Lower Lake and adjacent parkland

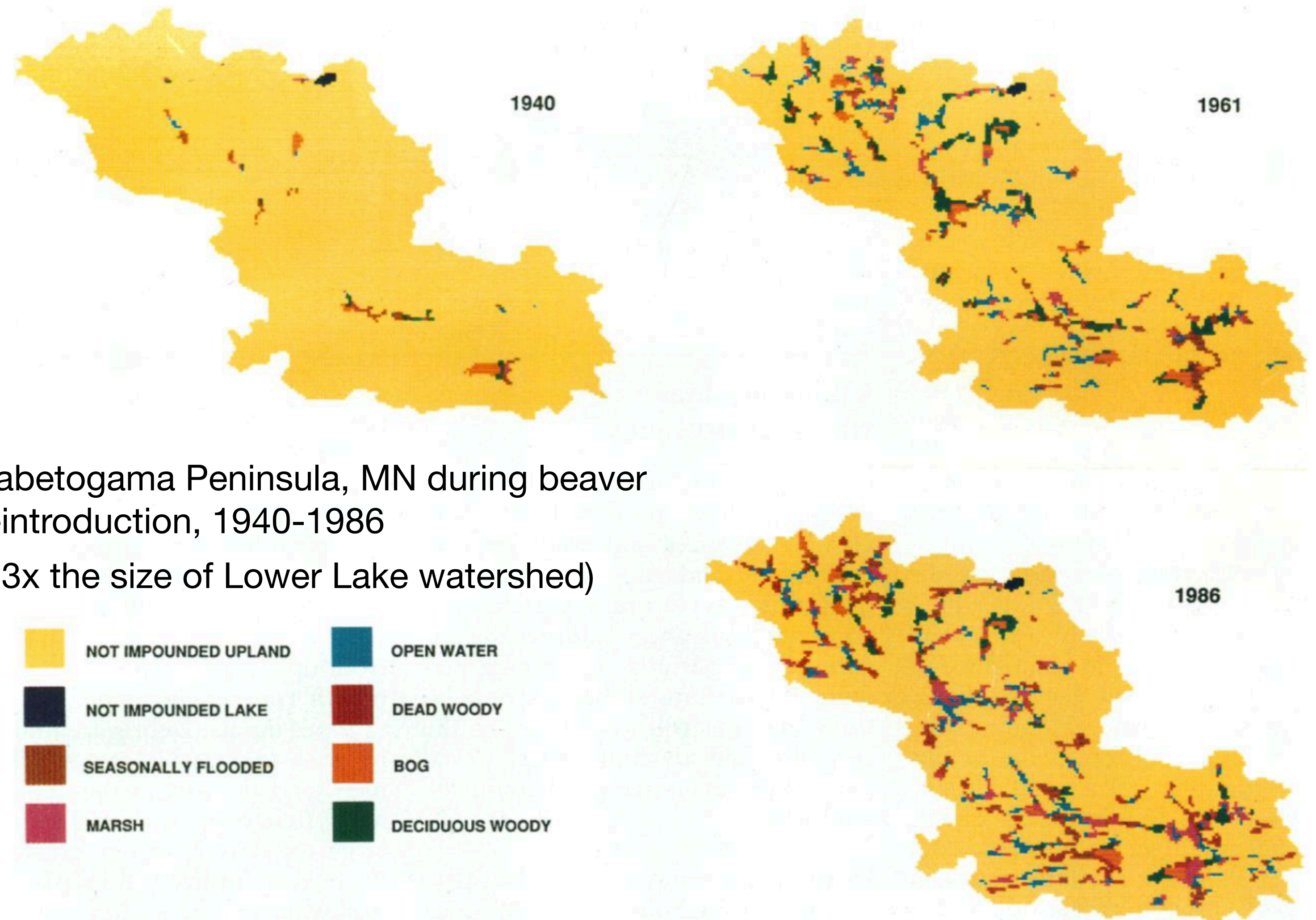
Small lakes are a normal part of North American creek ecology because of *beavers*

Rural Quebec today: 10 dams per kilometer of creek, 3 beaver colonies per km²

Probably similar in Ohio pre-1700

Schulte, B.A., Müller-Schwarzei, D. (1999). Understanding North American Beaver Behavior as an Aid to Management. In: Busher, P.E., Dzieciolowski, R.M. (eds) Beaver Protection, Management, and Utilization in Europe and North America. Springer, Boston, MA. https://doi.org/10.1007/978-1-4615-4781-5_14

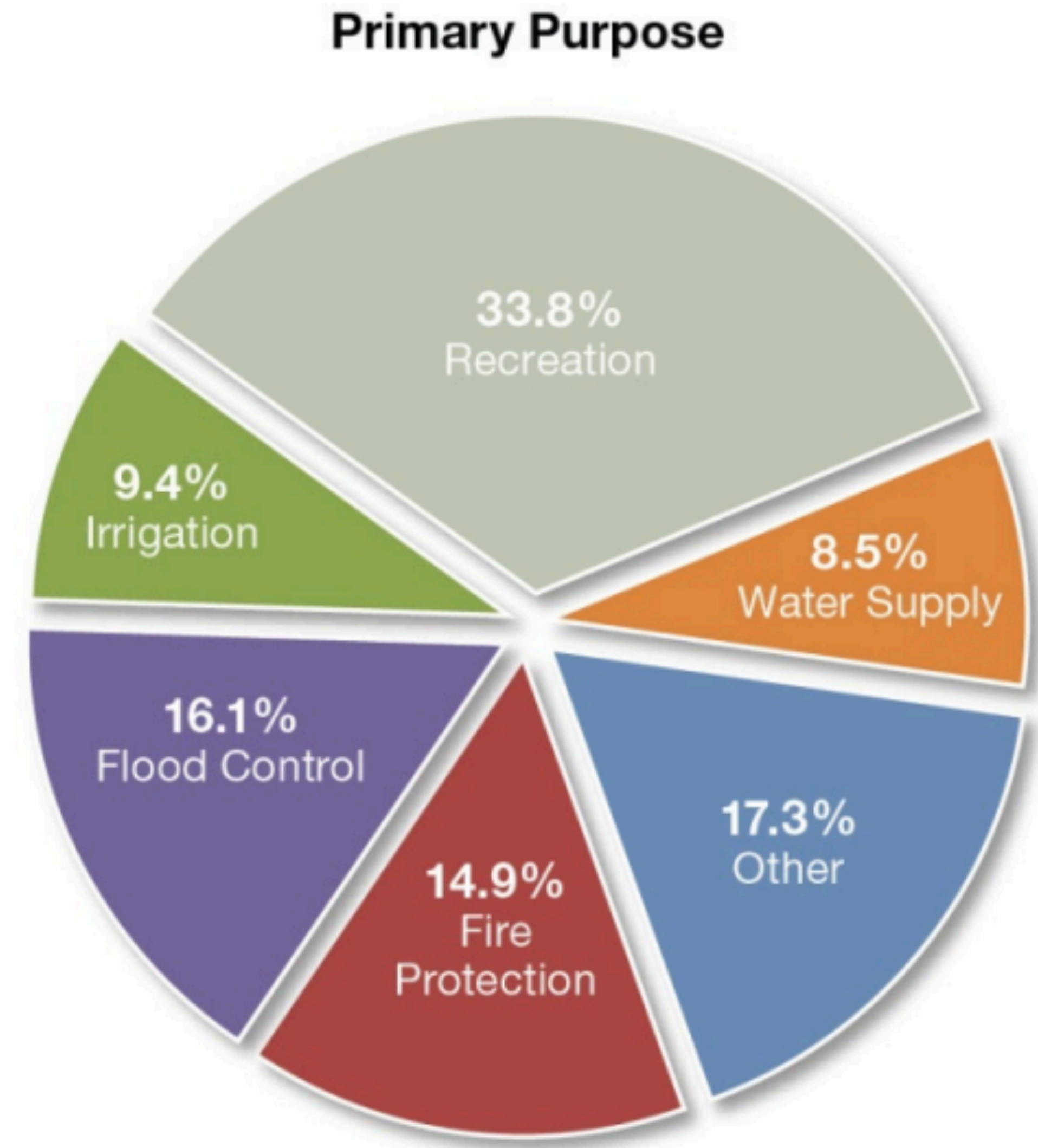
Kabetogama Peninsula, MN during beaver reintroduction, 1940-1986
(~3x the size of Lower Lake watershed)



Naiman, Robert J., et al. "Alteration of North American Streams by Beaver." *BioScience*, vol. 38, no. 11, 1988, pp. 753–62. , <https://doi.org/10.2307/1310784>.

My opinion: statements like "the natural, healthy state of Upper Doan Brook is a creekbed meandering through wet forest" are inaccurate and drive loss of standing-water habitat.

Artificial lakes are a normal part of the US parks and recreational landscape



Source: USACE NID, 2009

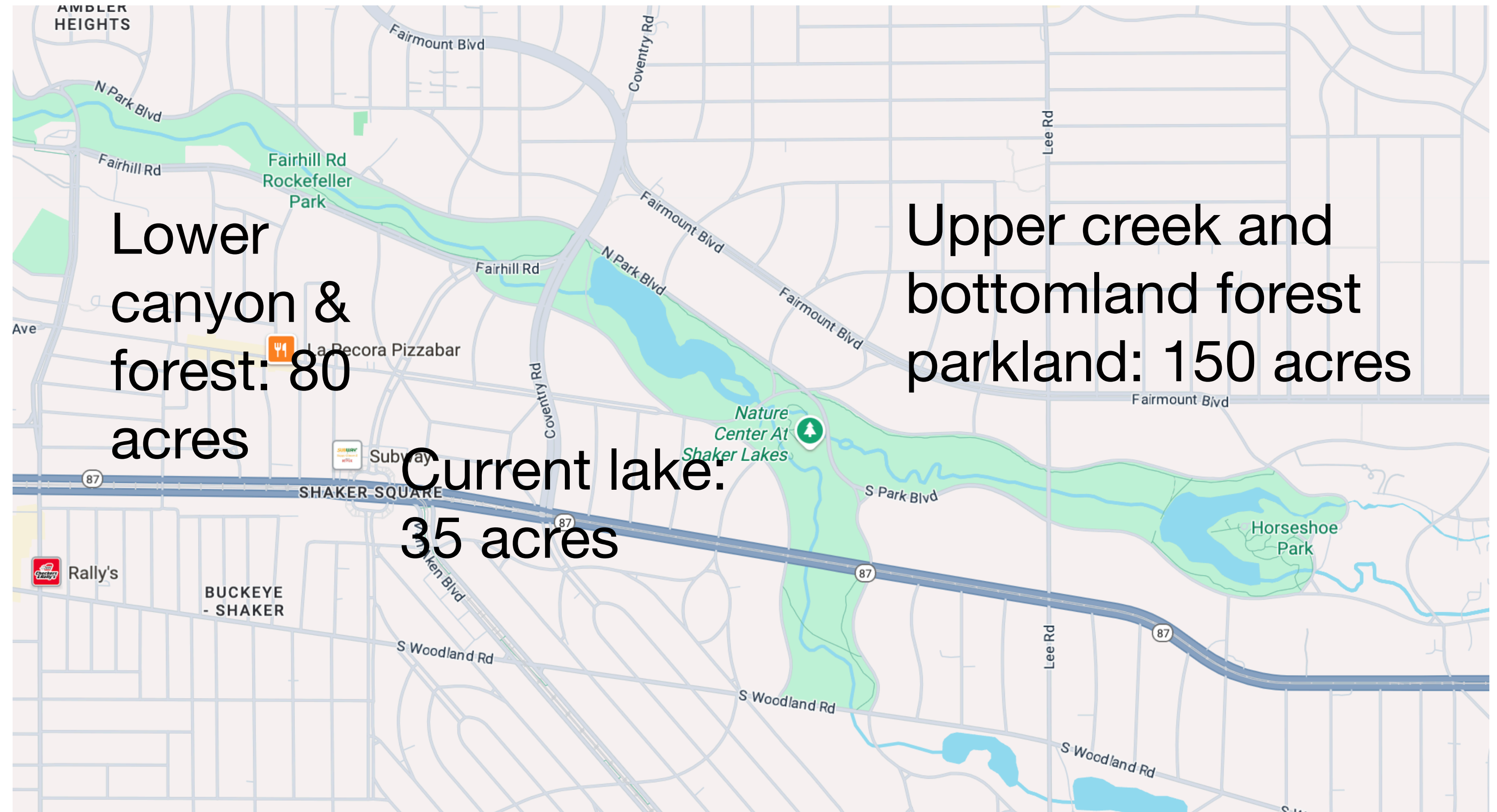
From FEMA
P-946

Figure 3-1: Percent of dams by primary purpose

**"Creek and
bottomland forest
ecology is nice too"**

**I agree! But we have 230 acres
of creek and bottomland forest to
enjoy already.**

**Bumping it up 10% acres is not
meaningfully adding new forest
recreation opportunities or
habitat.**



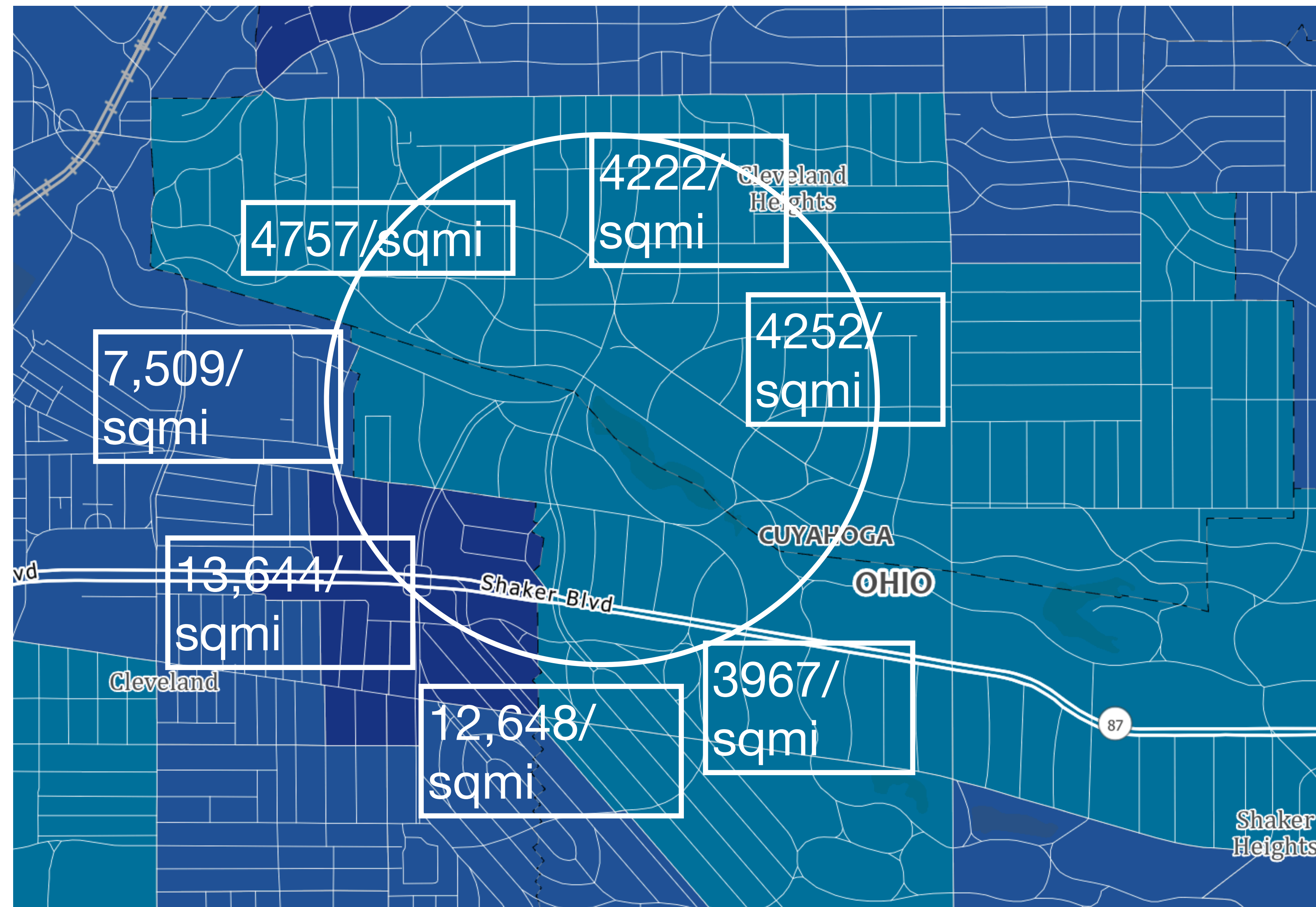
**My opinion: if you want to add to Northeast Ohio's healthy-creekside-forest habitat
inventory, you can buy land in rural Portage County for under \$20,000/acre**

Density of census tracts within 15m (1km) walk of Lower Dam

**Walkable parks
and recreation are
critical to how we
live together in
cities.**

These Shaker Square tracts are
*the most densely-populated
census tracts* between Ohio City
and Pittsburgh.

Lower Lake is not a luxury
amenity for the 1%.



Lower Lake may be the #1 most transit-accessible nature area in Cleveland

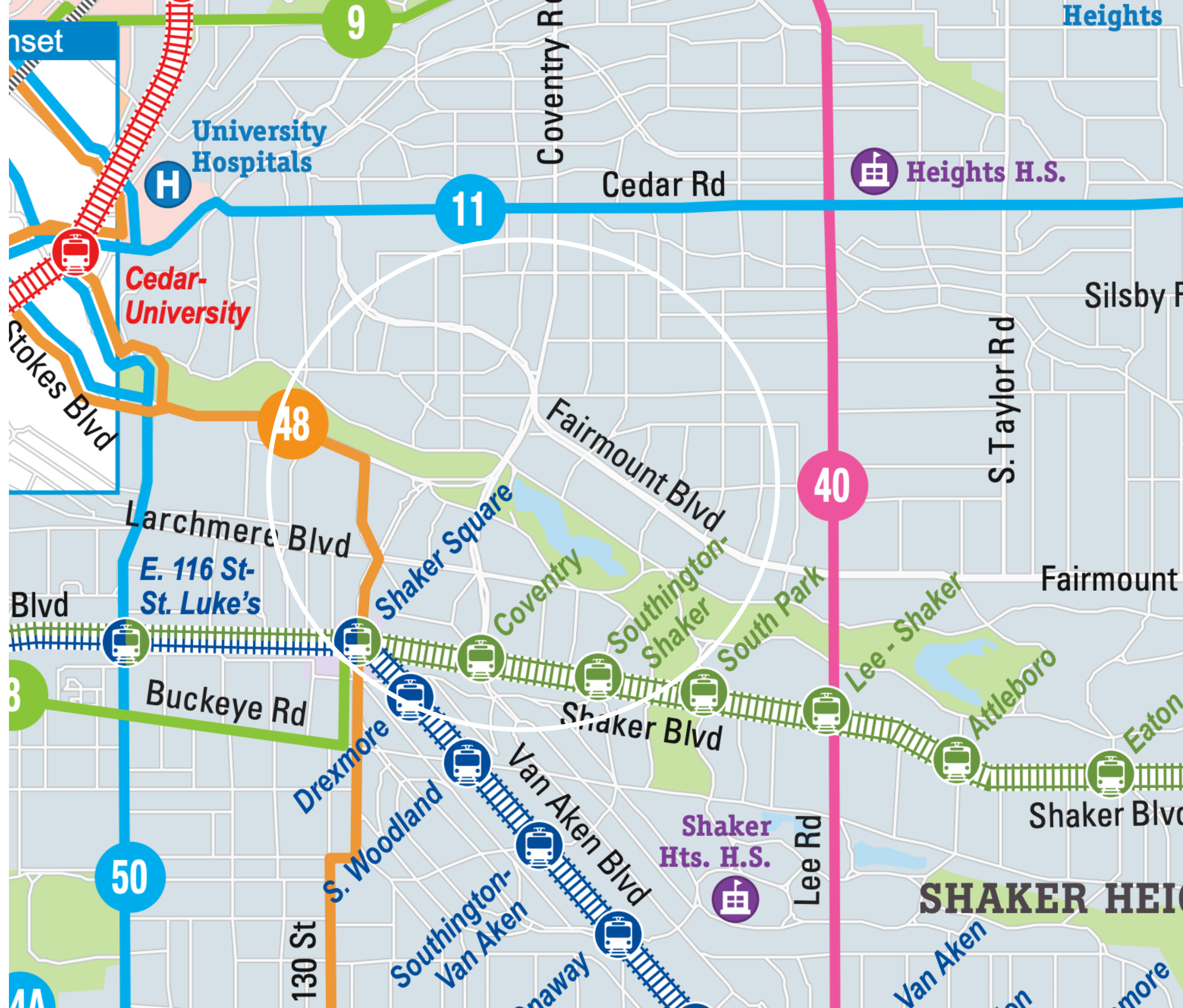
... and I bet would be on a top-50 list for the USA

Cleveland's 15-Minute City Planning Introduction

Walkable neighborhoods and development in Cleveland

By Cleveland City Planning
April 20, 2022

<https://storymaps.arcgis.com/stories/6d5563926ef3449fbcba73d00eeac66>



Private vs public

- Public works can do things for the public.
- It can do both small everyday things and big expensive things.
- Saying "we can't do *that*, we're on an austerity budget" over and over can add up to world where public parks, schools, governments, etc., are viewed as failures.
- Meanwhile, every wealthy golf-course-side HOA in Geauga County seems to have the wherewithal to put *private* money towards for a little dam and lake for their gated-community enjoyment.
- It would be sad to watch our community's appetite for public works fail. Are we proving the lakeside-HOA exurbanites right? "There are no nice things in the public sphere. The only nice things you can enjoy are the ones you can afford to buy yourself."

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My opinion: I think the lake is worth spending public funds on because of its benefits to the huge park-enjoying public.