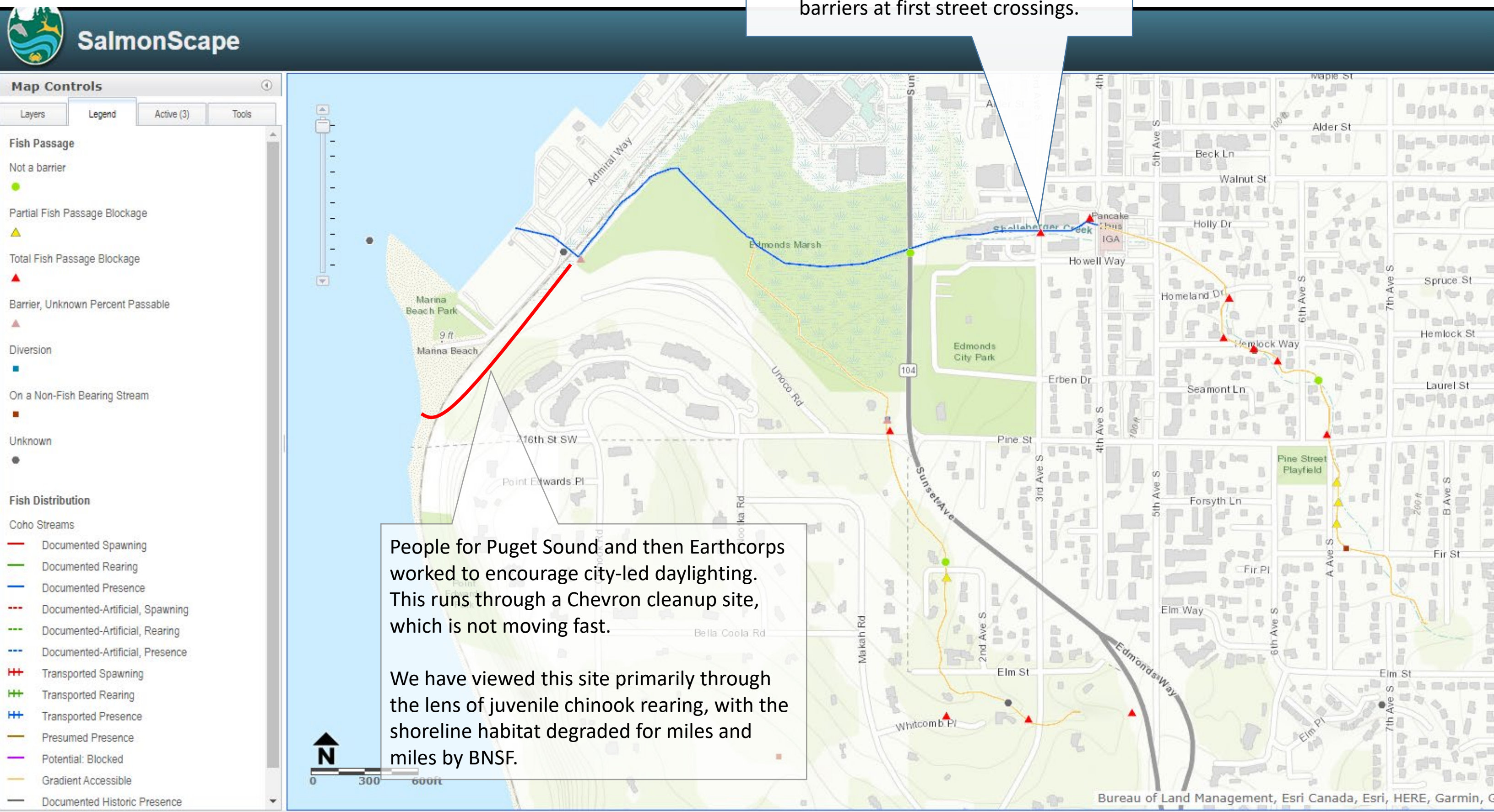
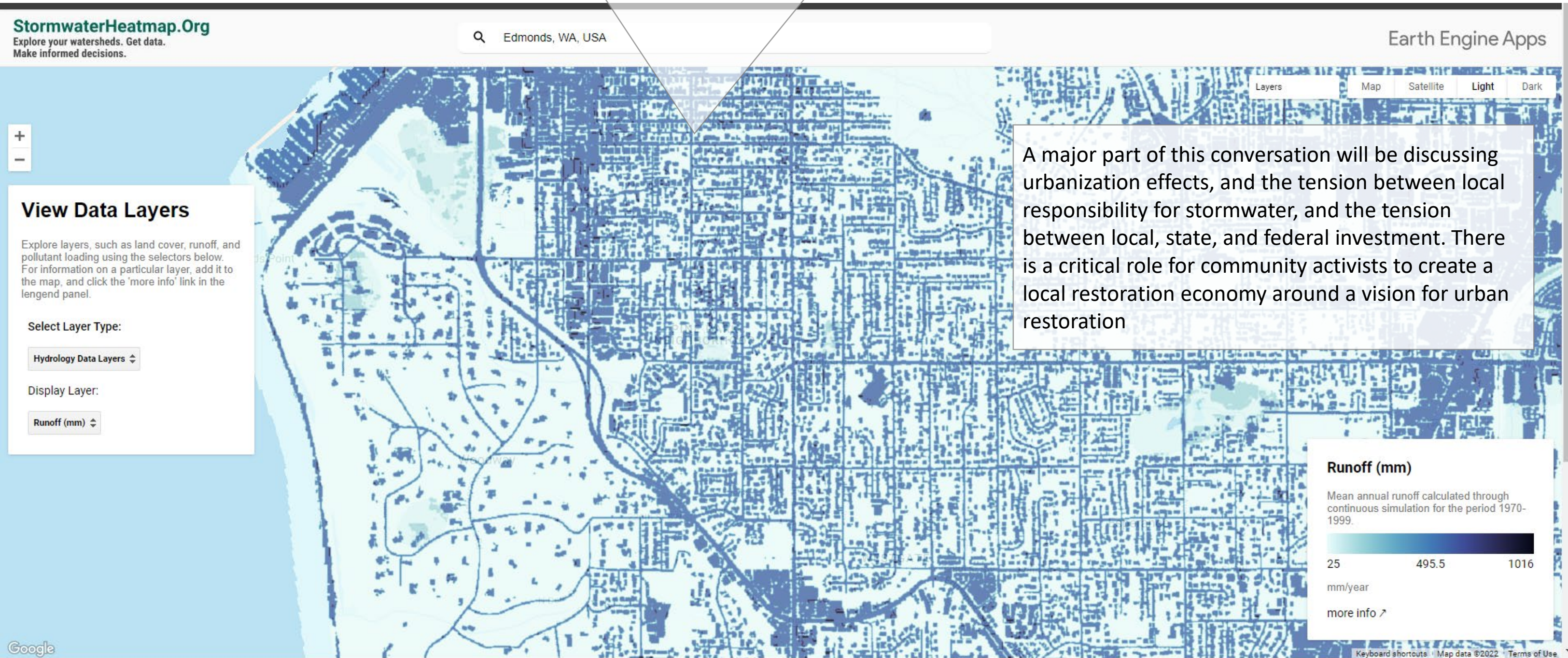


Coho presence documented, but unknown barrier at mouth. Passage barriers at first street crossings.

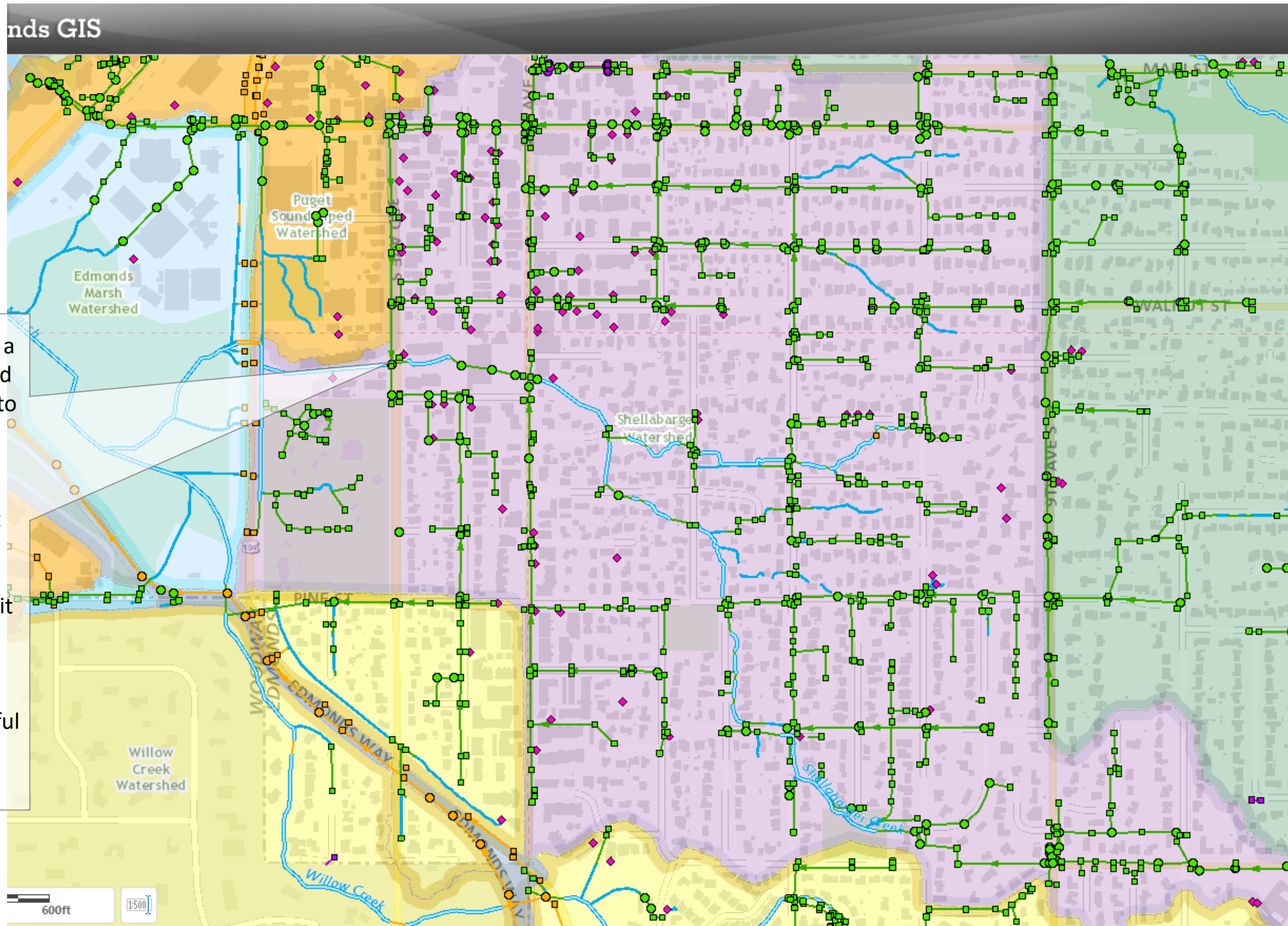


Heavily urbanized watershed. Typical syndrome involves negative feedback loop of channel incision, scouring of spawning beds, followed by a toxic mix of PAH, Copper, and now tire rubber additives. All this in exacerbated by historical wood removal and anticipated climate change. Urban Stream Syndrome is documented by Booth et al. Many small coastal streams were supported by beaver colonies on the glacial plateau, not dead and drained. Under these conditions runoff during a storm event may be 20 times historical conditions.

A major part of this conversation will be discussing urbanization effects, and the tension between local responsibility for stormwater, and the tension between local, state, and federal investment. There is a critical role for community activists to create a local restoration economy around a vision for urban restoration

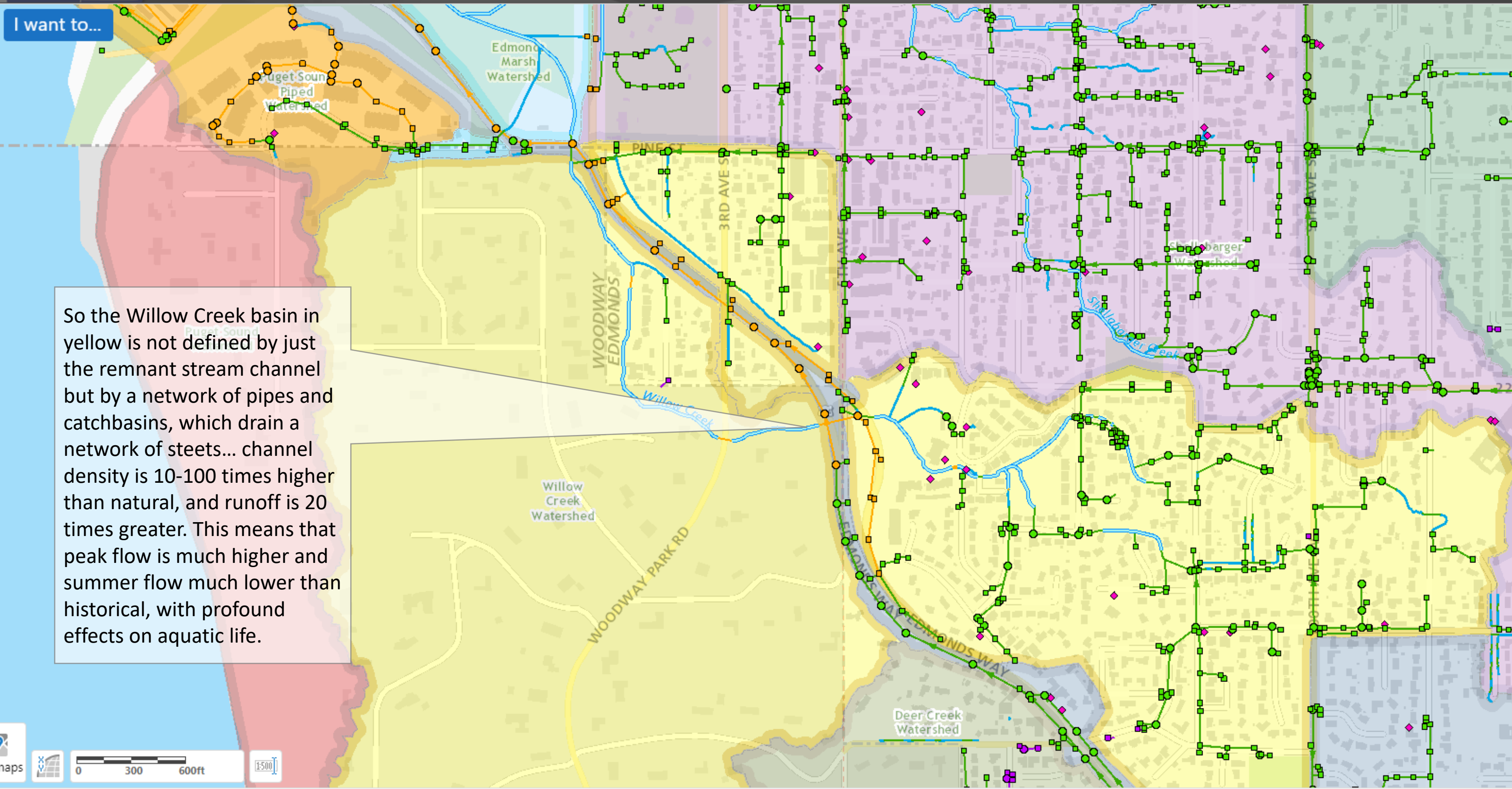


The stream channel is fed by a network of pipes in green, fed by streets that are designed to deliver runoff to catchbasins (squares). The whole system rapidly flushes a mix of road runoff and rainwater straight to the stream channel. A critical strategy is capturing and infiltrating water before it enters a catchbasin. End of pipe treatment is trickling in, but retrofit of stormwater is not happening at a meaningful pace, and most cities are not geared up for that work.

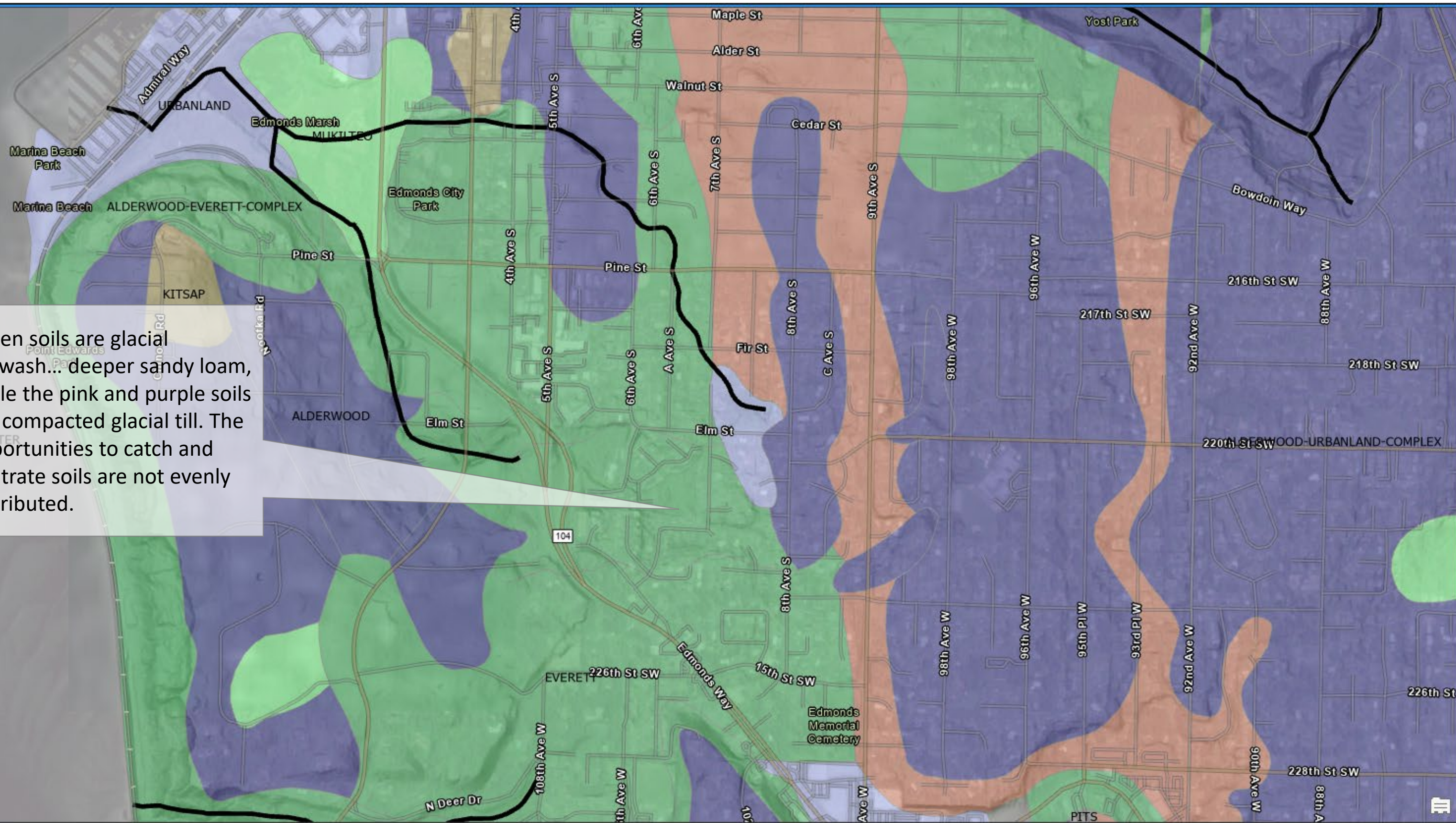


I want to...

So the Willow Creek basin in yellow is not defined by just the remnant stream channel but by a network of pipes and catchbasins, which drain a network of streets... channel density is 10-100 times higher than natural, and runoff is 20 times greater. This means that peak flow is much higher and summer flow much lower than historical, with profound effects on aquatic life.



Green soils are glacial outwash... deeper sandy loam, while the pink and purple soils are compacted glacial till. The opportunities to catch and infiltrate soils are not evenly distributed.



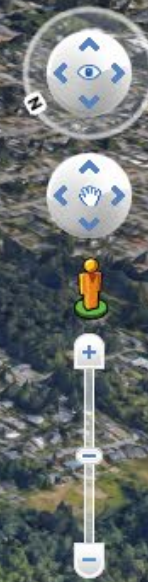


Image Landsat / Copernicus

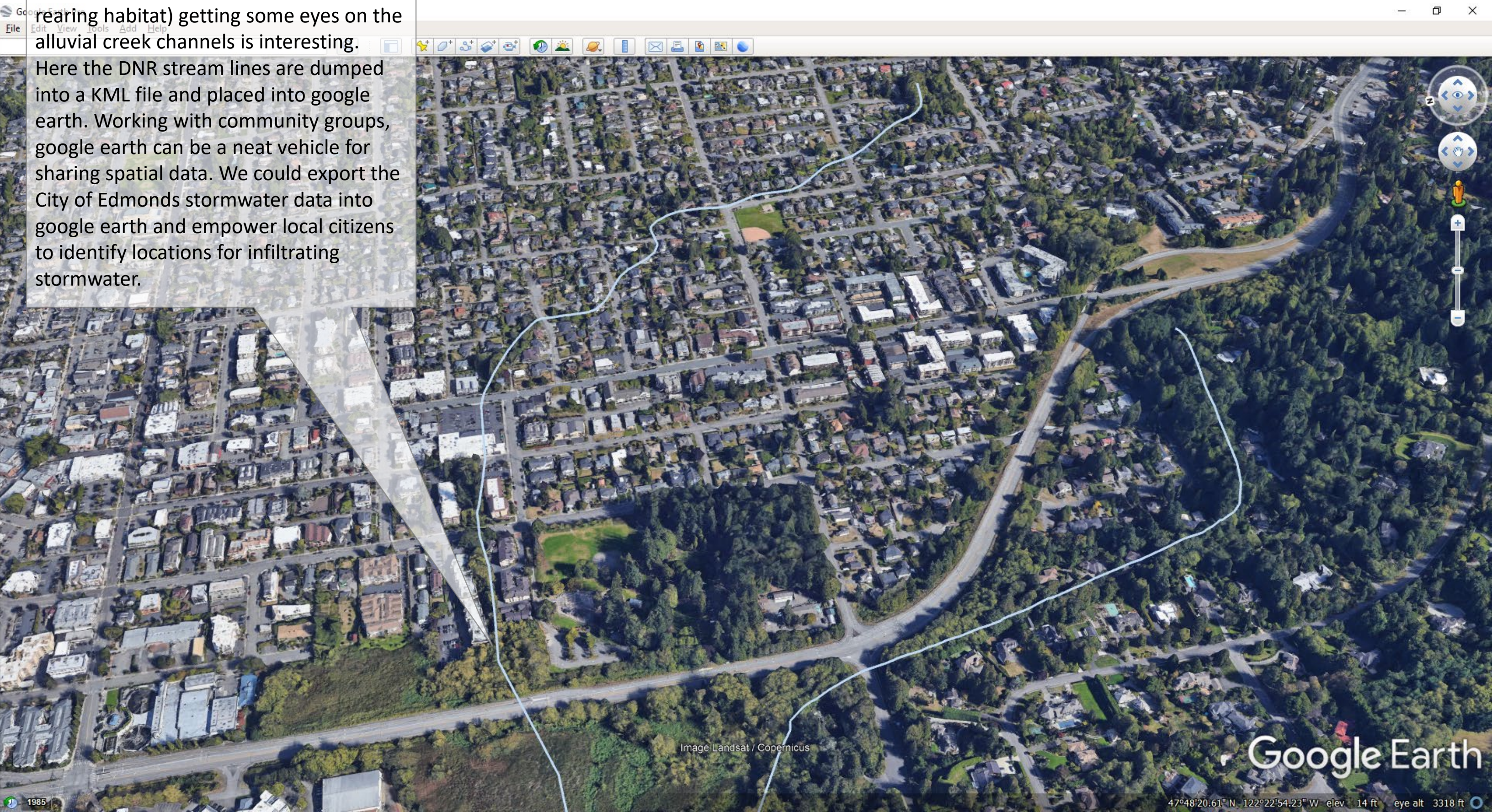
Google Earth

1985

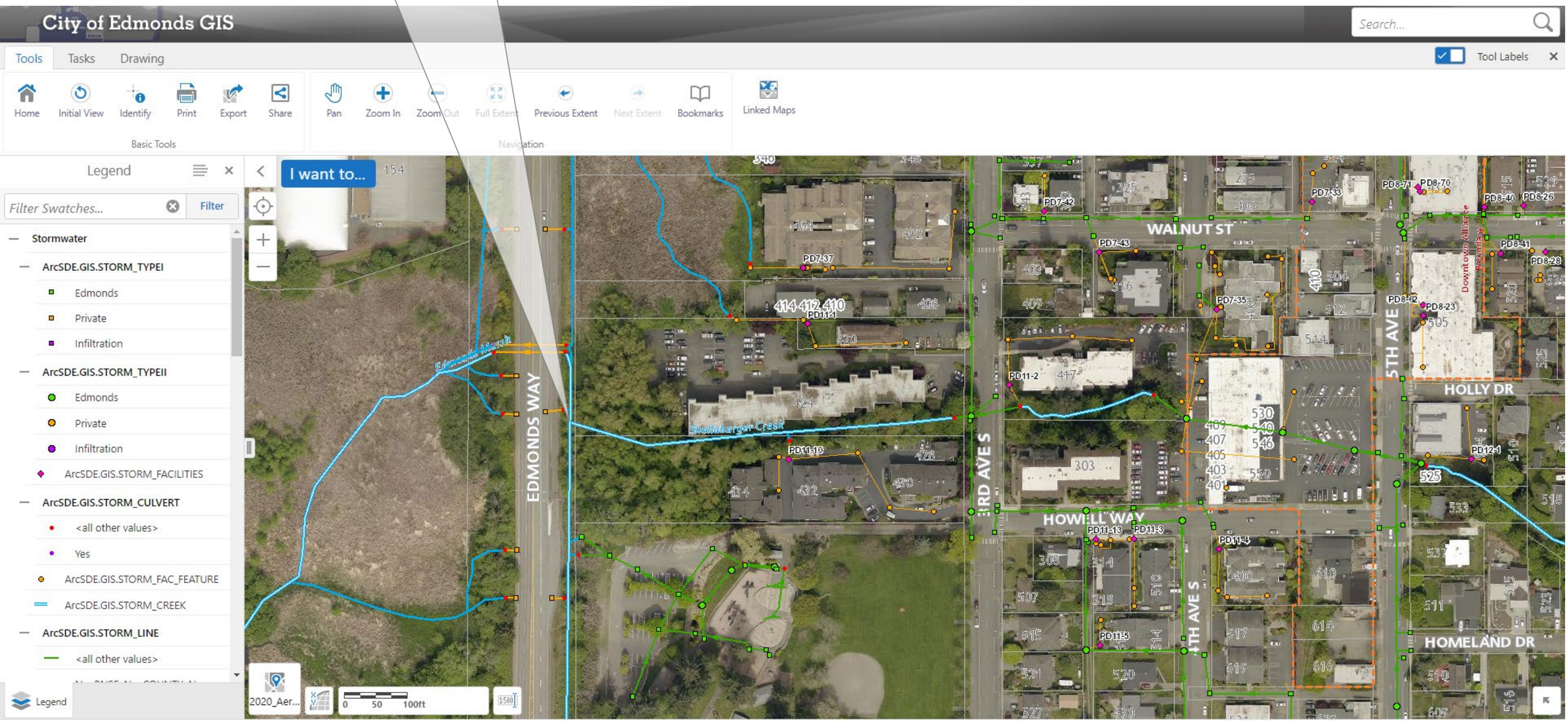
47°48'19.62" N 122°22'22.51" W elev 160 ft eye alt 5727 ft

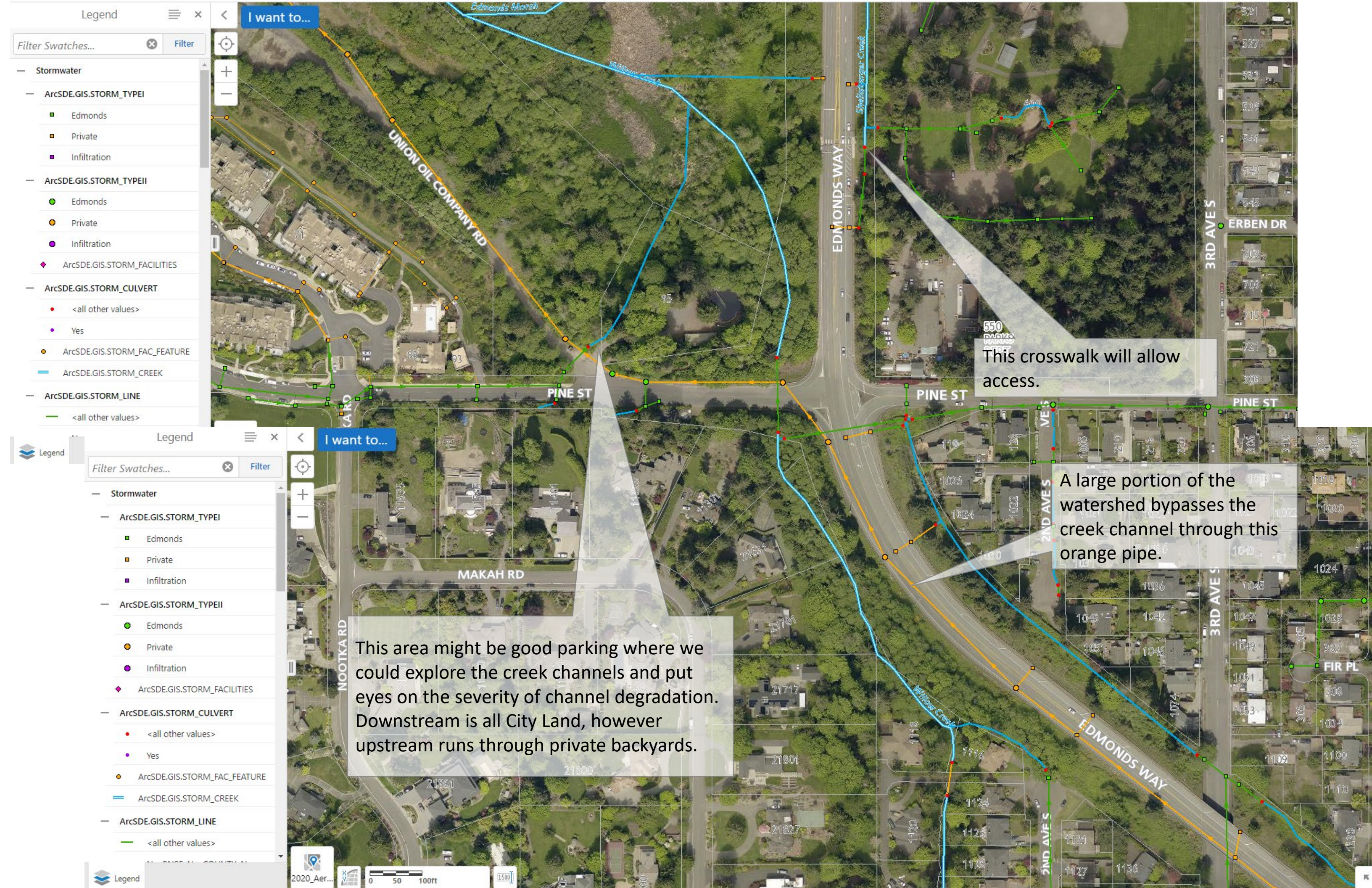
While it is interesting to look at the marsh, if we are talking about fishery restoration (rather than just coastal rearing habitat) getting some eyes on the alluvial creek channels is interesting.

Here the DNR stream lines are dumped into a KML file and placed into google earth. Working with community groups, google earth can be a neat vehicle for sharing spatial data. We could export the City of Edmonds stormwater data into google earth and empower local citizens to identify locations for infiltrating stormwater.



In urban areas streams are often neglected zones used as dump sites. This lowest reach of Shellabarger Creek runs between two multifamily complexes. But we can get a view of the creek from the road right of way. It would likely require a machete.





This crosswalk will allow access.

A large portion of the watershed bypasses the creek channel through this orange pipe.

This area might be good parking where we could explore the creek channels and put eyes on the severity of channel degradation. Downstream is all City Land, however upstream runs through private backyards.