

Determining amphibian
presence in constructed
stormwater ponds
throughout Gresham, Oregon
using community science

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Why amphibians?



Why community science?



Why constructed ponds?

Species of Interest



Ambystoma macrodactylum



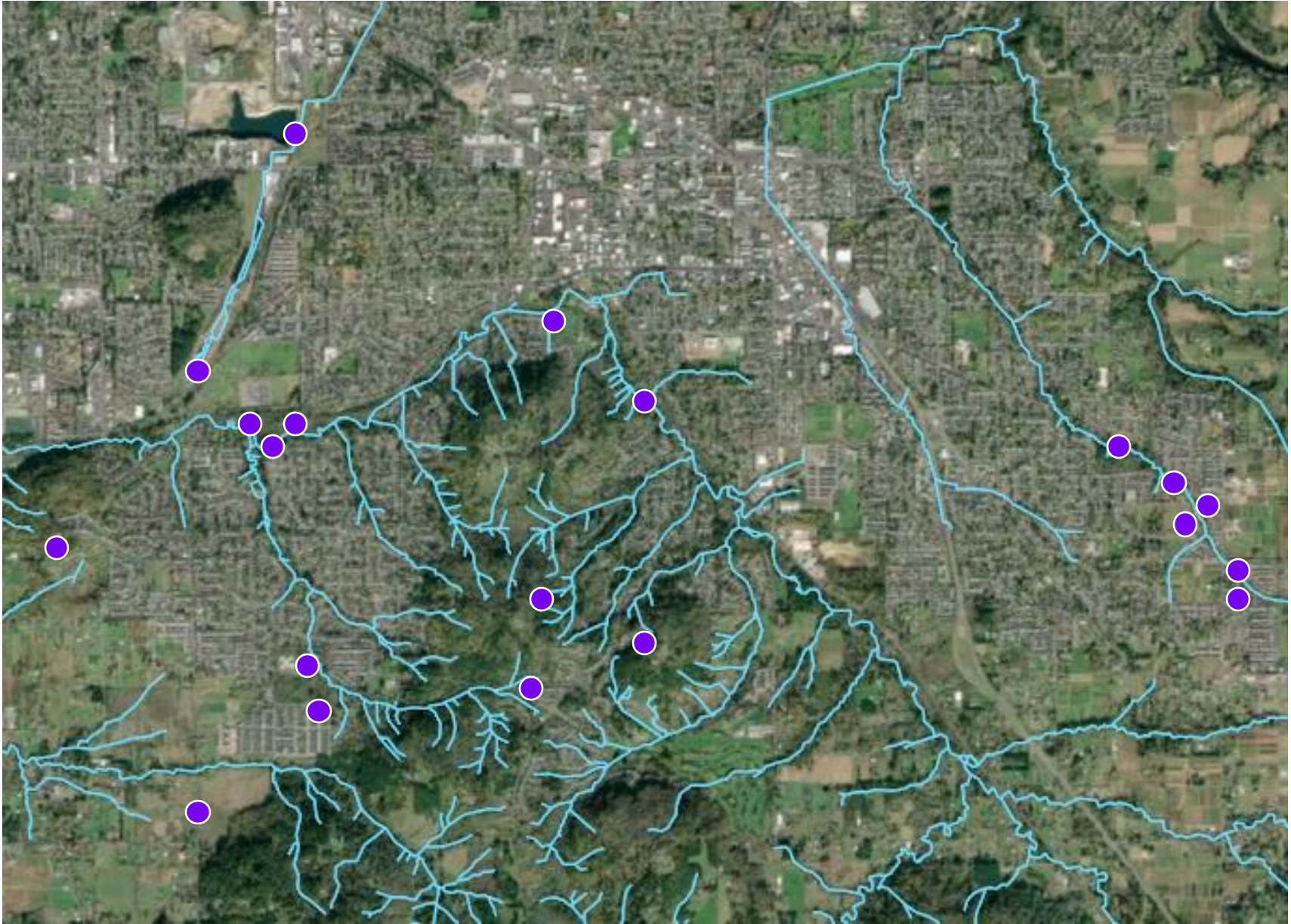
Pseudacris regilla



Ambystoma gracile



Rana aurora



2008

Pond	RAAU	PSRE	AMMA	AMGR
Border Way	X	X	X	
Wonderview	X	X		
Powell Loop	X			X
Gresham Woods	X	X	X	
Dowsett Ditch	X	X	X	X
Fairview		X	X	
Kelly Creek	X	X	X	

12 Year Changes

- Semi-rare frog species persisting in constructed stormwater ponds
- Finding more species with consistent egg mass surveys
- Constructed stormwater ponds are attractive habitat for amphibians

Pond	RAAU	PSRE	AMMA	AMGR
Border Way	X	X	X	
Wonderview	X	X	X	
Powell Loop	X	X		X
Gresham Woods	X	X	X	
Dowsett Ditch	X	X	X	X
Fairview		X	X	X
Kelly Creek	X	X	X	

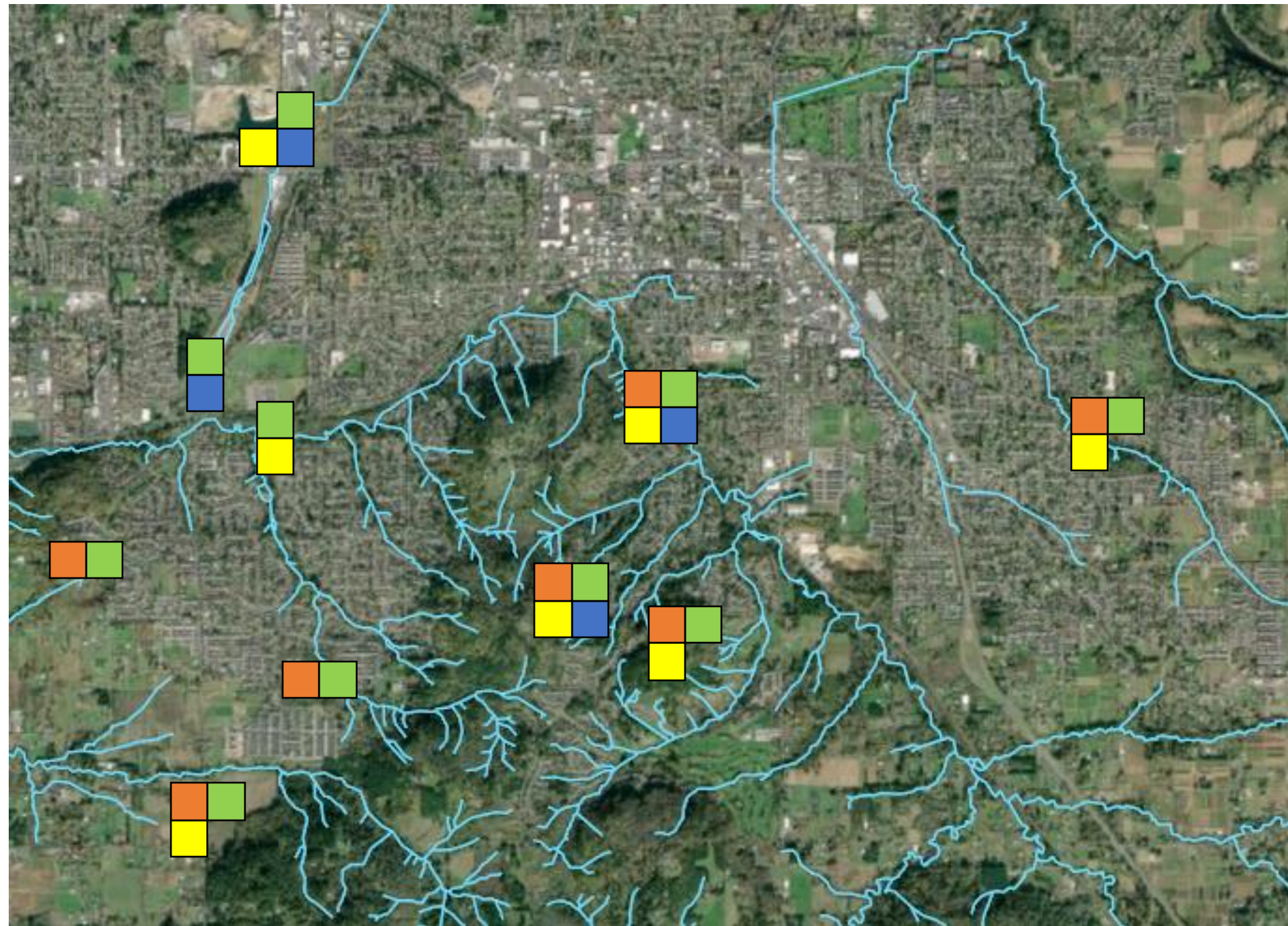
Pink – Disappearance

Black – Reduction

Blue – Colonization

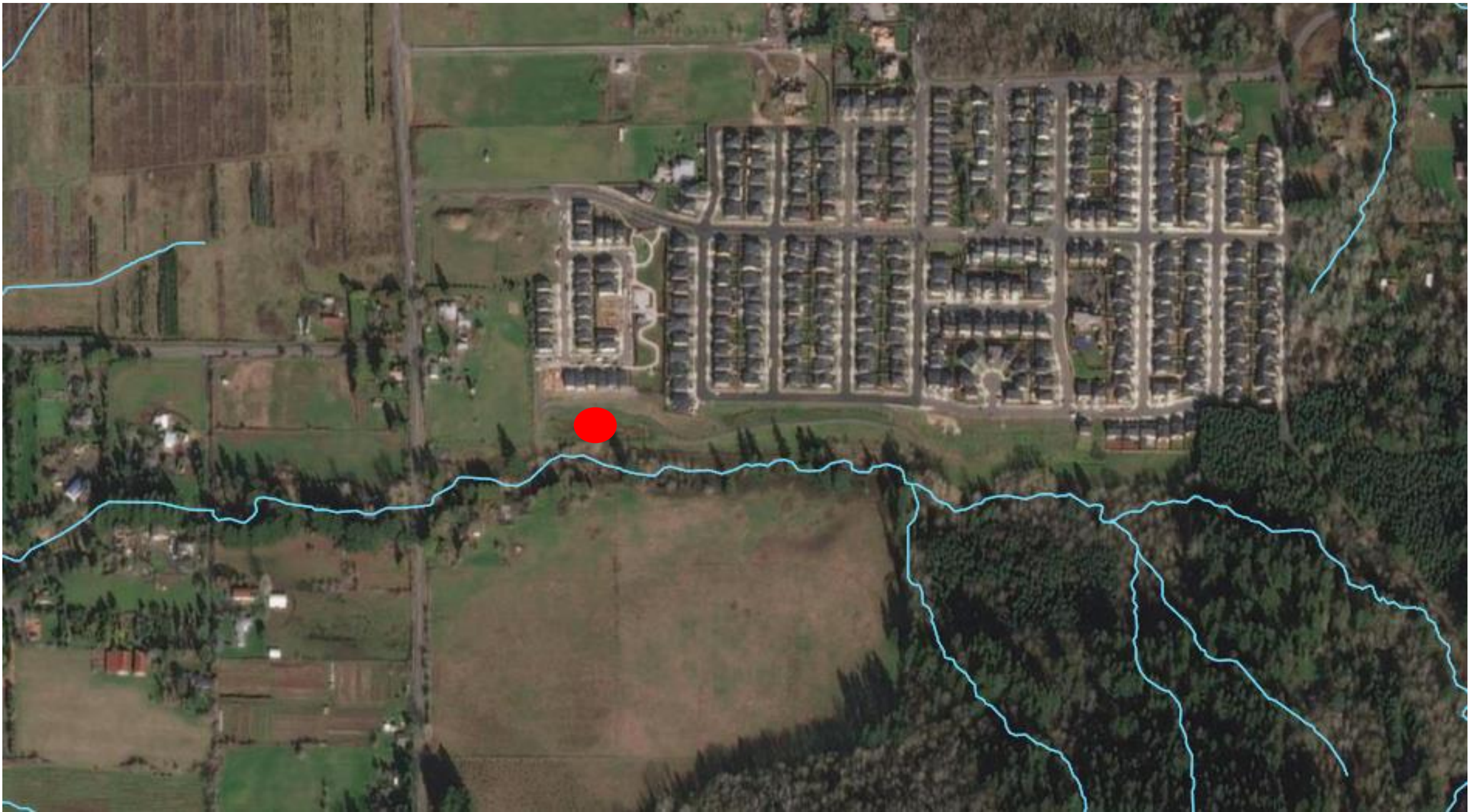
Purple - Increase

Orange – Red-legged frog
Green – Pacific tree frog
Yellow – Long-toed salamander
Blue – Northwestern salamander



New Ponds and New Surveys

Pond	RAAU	PSRE	AMMA	AMGR
Brookside (5yrs old)	X	X	X	
Gabbert Butte* (found 2yrs ago)	X	X	X	X
Hogan Butte (3yrs old)	X	X	X	





More questions...

- Why aren't we finding the same species in the same ponds 12 years later?
- Are constructed stormwater ponds providing breeding habitat out of necessity?
- Are we constructing stormwater ponds that have more attractive vegetation, connectivity to upland habitat, and depth than naturally occurring ponds?

Conclusions

- Amphibians seem to be demonstrating a metacommunity
- Populations are persisting through time although we don't know the actual effects of the ponds
- Getting volunteers involved means we get to survey more ponds and collect more data
 - And volunteers have fun!

Thank you!

Laura Guderyahn, City of Portland

Katie Holzer, City of Gresham

Natural Resources Team at the City of Gresham

All our Volunteers!

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