

r/GuerrillaGardening vs. r/NativePlantGardening

Different approaches to a common goal?

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Overview

Assumption: r/GuerrillaGardening and r/NativePlantGardening have shared interests in native plants and the benefits of gardening.

- However, they differ greatly in their approach.

What are the similarities and differences in the discourse of these two subreddits?

	Guerrilla Gardening	Native Plant Gardening
Objective	Social or environmental activism drives to improve urban environments to repurpose abandoned areas and promote community interaction, and sometimes provides local food (Adams & Hardman, 2014).	Promotes biodiversity, pollinators, and the natural ecosystem. It also creates sustainable, low-maintenance, climate-adapted landscapes (Champine et al., 2022).
Methodology	Choose plants based on their aesthetics, ease of care, or utility (food crops). Native species may not be prioritized (Crane et al., 2013).	Native plant gardening is allowed in private gardens, public parks, and other legal gardens (van Heezik et al., 2012).
Plants used	It involves planting on public parks, abandoned lots, or road verges (Adams & Hardman, 2014).	As the name implies, this type of gardening uses only local plants (McMahan, 2006).
Legality	This type of gardening is often done without permission and may be illegal (Adams et al., 2015).	In invasive plant regions, native plant gardening is legal and encouraged (Segar et al., 2022).
Funding	Self-funded, community donation, and informal support (Hardman et al., 2018)	Personal investment, grants and funding, institutional support, and public programs (Champine et al., 2022).

Focus

We wanted to explore:

- Connectedness to other Reddit communities
- Similarities and differences in themes, words, and topics



Richard Reynolds



shiftingroots.com/native-plant-landscaping/

Methods

- Building our dataset
 - Pulled Top 1000 posts and their comments
 - Scraped related communities for both subreddits and their related subreddits
- Data processing
- Analysis
 - Network of related communities
 - Frequency of selected words/themes
 - Keyness
 - Structural topic modeling

Subreddit Characteristics

Characteristic	r/GuerrillaGardening	r/NativePlantGardening
Year Established	2010	2020
Number of Members	54,810	54,969
Number of Comments on Top 1000 Posts	13,904	21,134
Average Number of Comments on Top 1000 Posts	13.8	21.1
Number of Related Communities	9	8

Processing

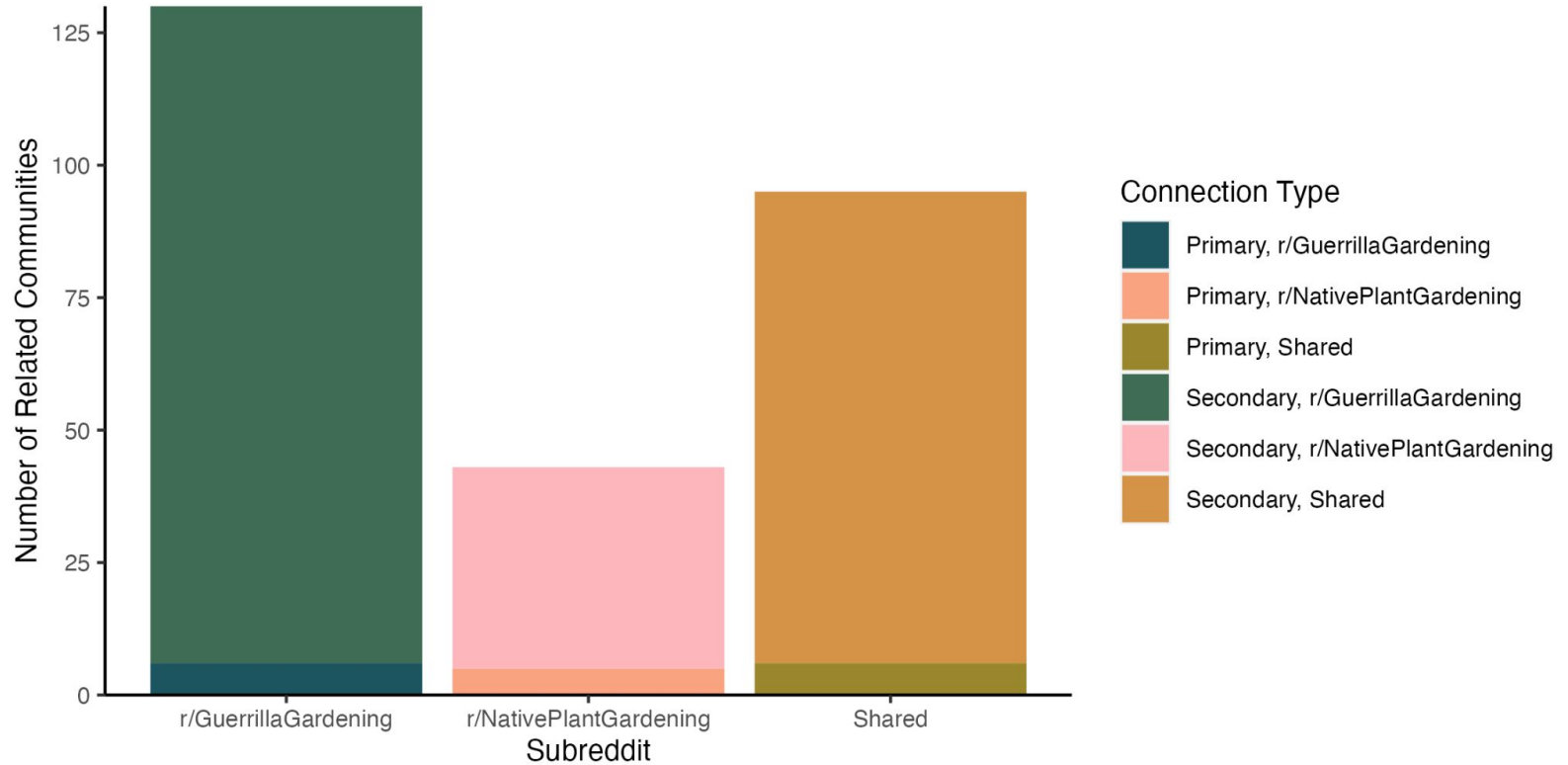
comment
Looks interesting but the price is a little off putting. ...
I've been spreading butternut trees since they're enda...
Im not sure that the apple tree from the seeds will be ...
I plant pawpaws and American persimmons, both as s...
It can be if the seeds like an acidic environment. Som...
Well...they're sunflowers and morning glories mostly. ...
Please be sure you re not planting invasive species. M...
I feel like the native plant Q should be on automod or...
The seeds also make trippy drinks
Lsa gang ?
They...they what?
Not gonna do the google research on it, but I remem...
Google said --Morning glory seeds contain the toxin ...
You make a solid point! The places I have chosen are ...
Please do not plant morning glories. They are impossi...
I will do more research before proceeding with any pl...

```
#clean the data
clean_comments <- function(x) {
  x %>%
    # Remove URLs
    str_remove_all(" ?(f|ht)(tp)(s?)(://)(.*)" ) %>%
    # Remove mentions e.g. "@my_account"
    str_remove_all("@[[:alnum:]]_{4,}") %>%
    # Replace "&" character reference with "and"
    str_replace_all("&", "and") %>%
    # Replace all non-alphanumeric characters with a space
    str_replace_all("[^[:alnum:]]", " ") %>%
    # Replace any newline characters with a space
    str_replace_all("\\\\n", " ") %>%
    # Make everything lowercase
    str_to_lower() %>%
    # Remove emoji
    str_remove_all('[:emoji:]') %>%
    # Remove any trailing whitespace around the text
    str_trim("both")
}
gg.comments.df$comment_clean <- gg.comments.df$comment %>% clean_comments
npg.comments.df$comment_clean <- npg.comments.df$comment %>% clean_comments
```

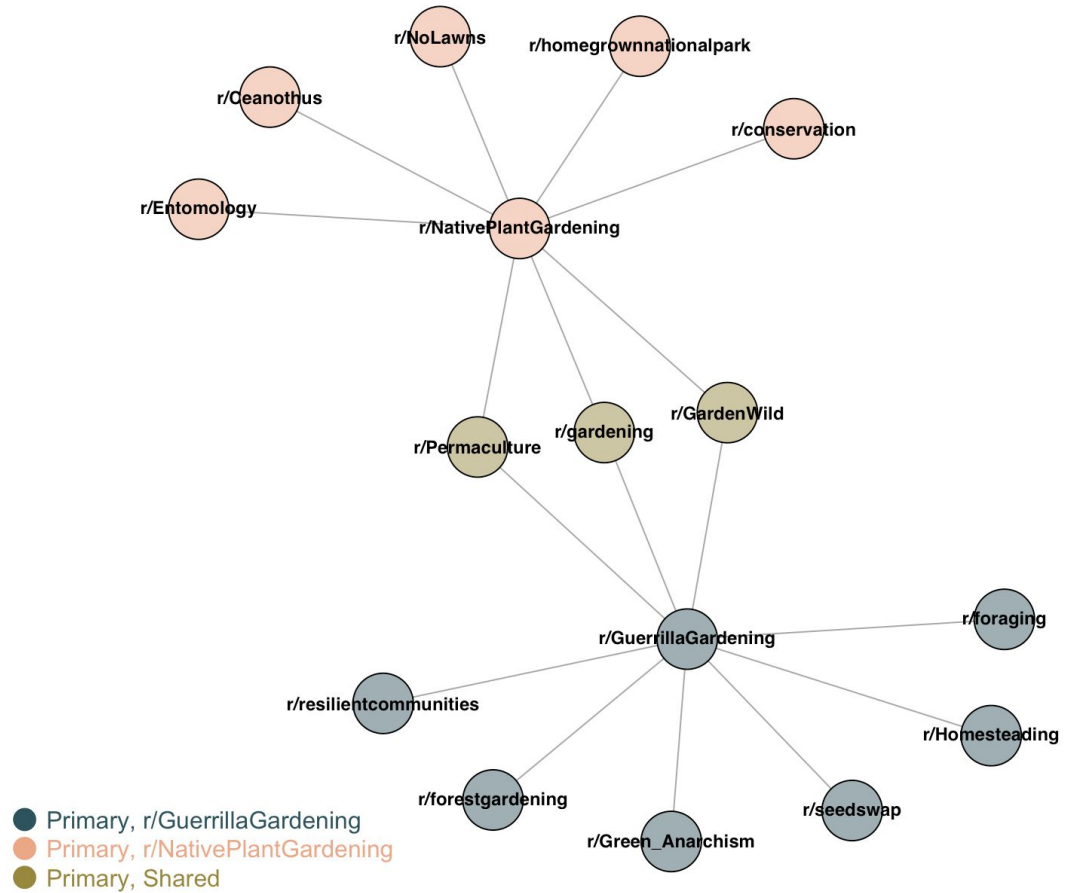
```
#remove tokens that are less than two characters in length
gg.corpus <- tokens_keep(gg.corpus, min_nchar = 2)
npg.corpus <- tokens_keep(npg.corpus, min_nchar = 2)
```

comment_clean
looks interesting but the price is a little off putting ...
I've been spreading butternut trees since they re enda...
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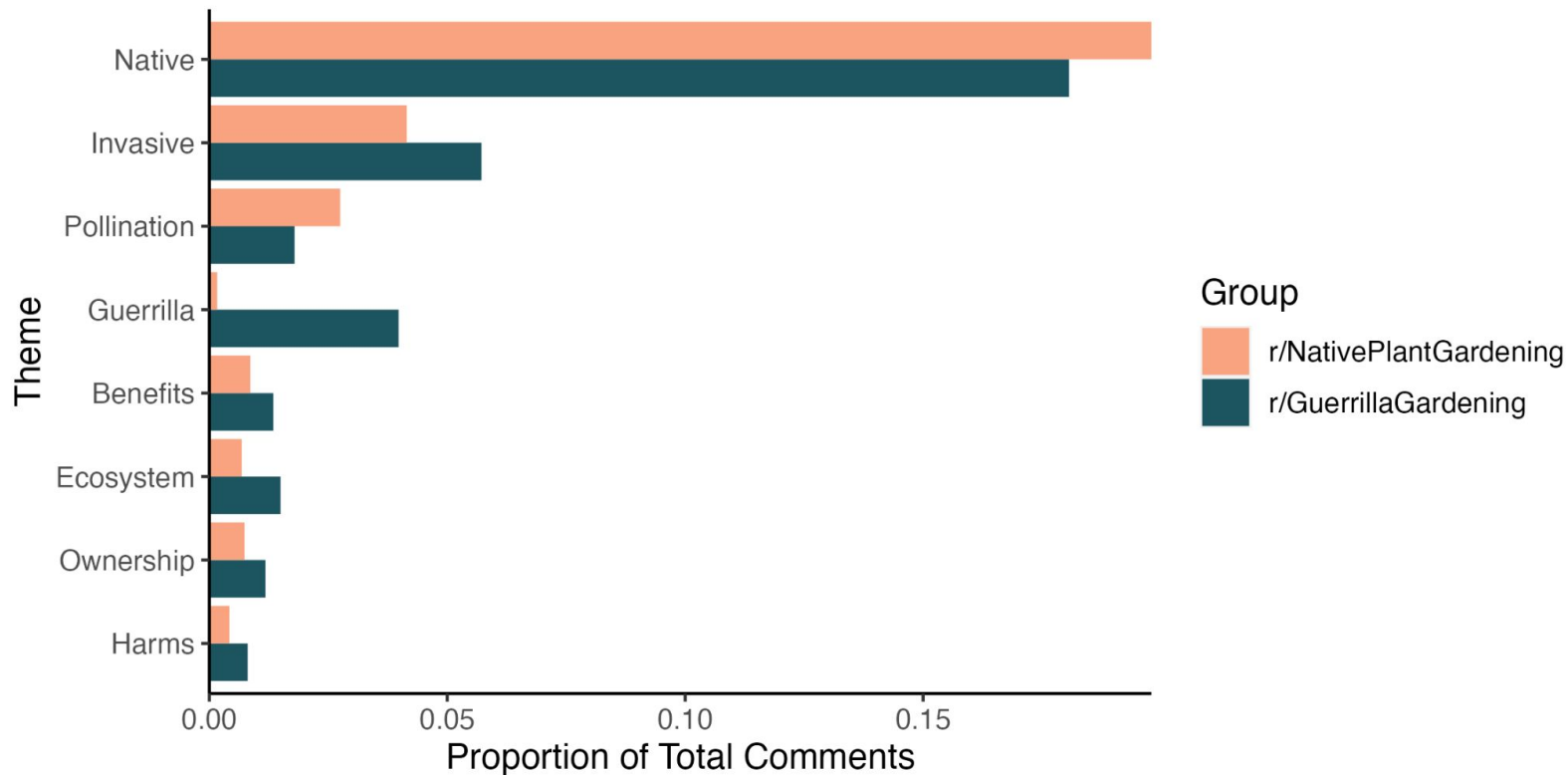
Related Communities



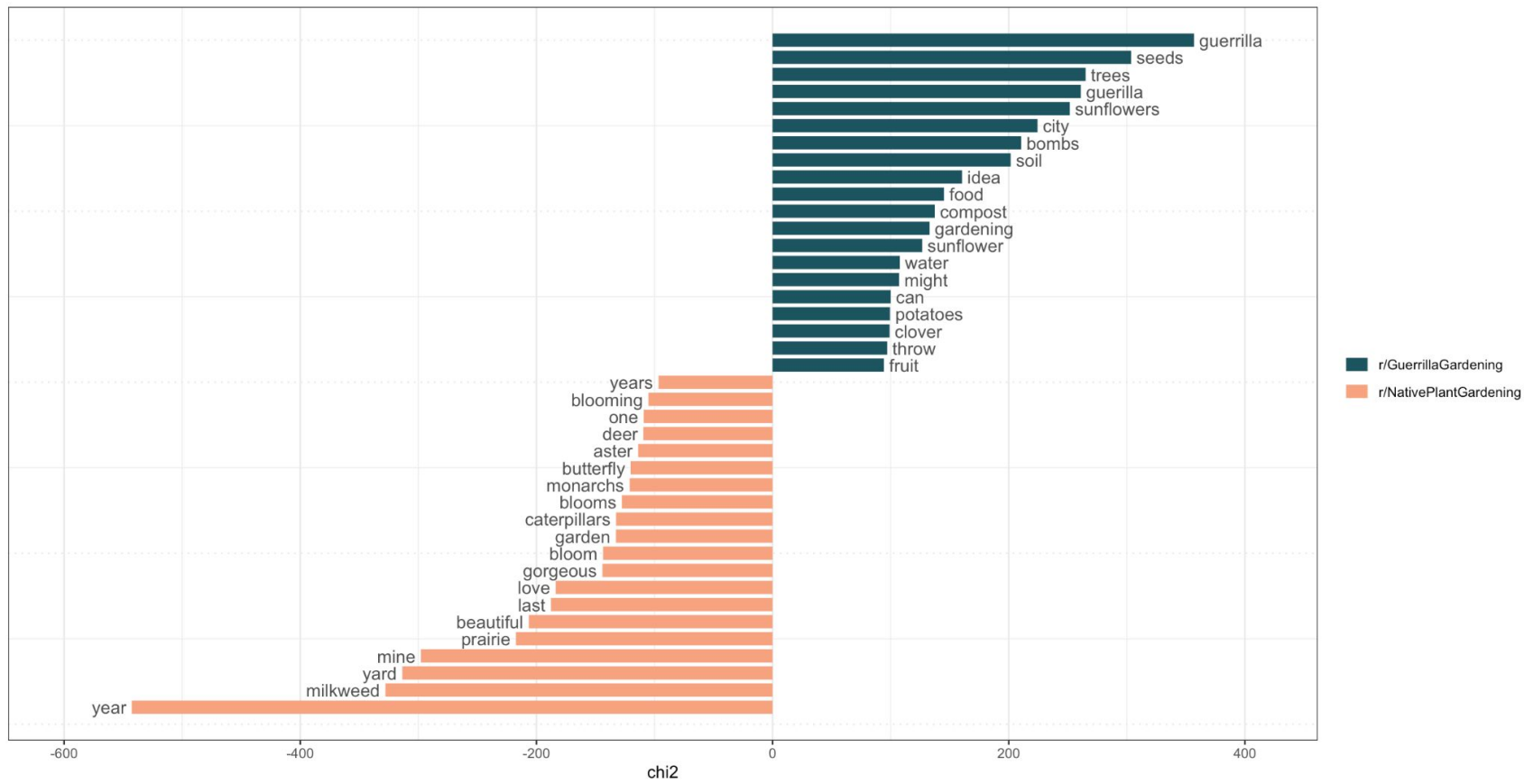
Related Communities



Frequency of Themes of Interest



Keyness



Topic Modeling

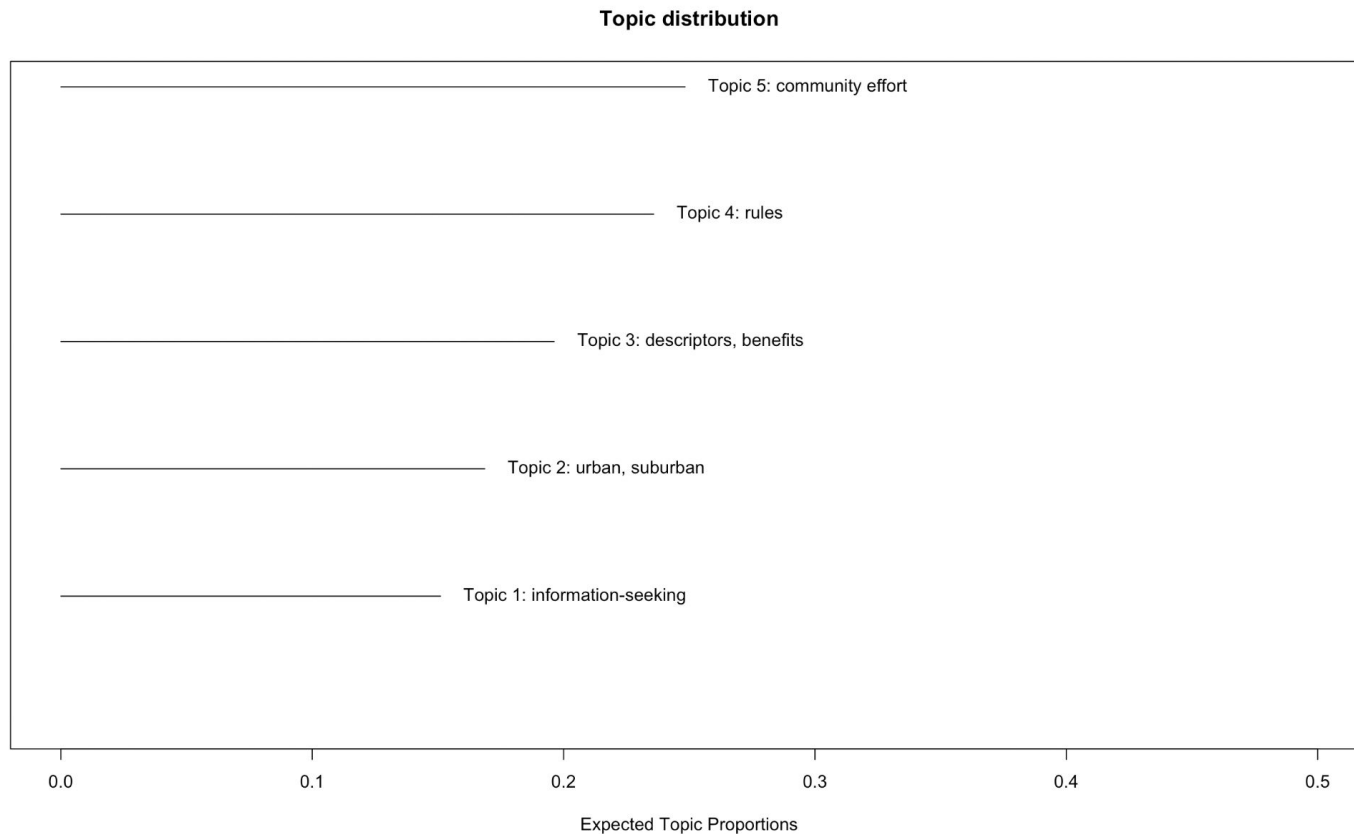
Guerrilla Gardening

Anarchy(1) objects(2) Rewards(3) Social_Variables(4)					
Winter_Seed_Bombing (5)					
1	2	3	4	5	
1	seems	around	deleted	water	native
2	else	work	see	probably	two
3	ever	things	established	live	winter
4	idea	plants	fruit	problem	nature
5	please	needs	produce	give	can
6	potatoes	nice	grows	wild	others
7	absolutely	tell	part	rather	seed
8	fuck	couple	next	less	using
9	important	seem	link	grown	wait
10	park	made	interested	guerrilla	area
11	natives	maintenance	amazing	fire	yes
12	texas	mind	issue	basically	throw
13	gardens	clover	close	money	real
14	much	moss	pollinators	interesting	take
15	together	helps	sometimes	week	neighbors
16	poppy	bot	ok	hoping	tall
17	whatever	gt	go	recently	remove
18	simple	clay	sounds	forest	sow
19	damage	earth	soil	info	group
20	spaces	works	tried	learn	clean

Native Plant Gardening

it's_the_simple_things(1) concerns(2) bragging(3)					
. hard_work(4) discussion(5)					
	1	2	3	4	5
1	growing	every	tree	definitely	lot
2	add	grew	pots	beautiful	post
3	something	care	wild	never	hope
4	flower	cut	ones	tried	tall
5	isn	better	easy	might	won
6	looked	wasn	amazing	saw	black
7	maple	month	lots	sharing	natural
8	check	help	removed	saying	coming
9	anything	taking	one	deleted	come
10	plant	smaller	established	growth	american
11	live	watch	literally	thank	likely
12	grown	haha	usually	away	cover
13	enjoy	important	bloomed	asclepias	recently
14	field	stems	couple	hard	root
15	short	monarch	within	wildflowers	prairie
16	agree	group	believe	survive	sale
17	crazy	cultivars	winter	person	volunteer
18	mind	basically	ground	population	curious
19	keeping	weed	planted	needs	added
20	since	helps	first	gone	lol

Topic Distribution - Full Corpus

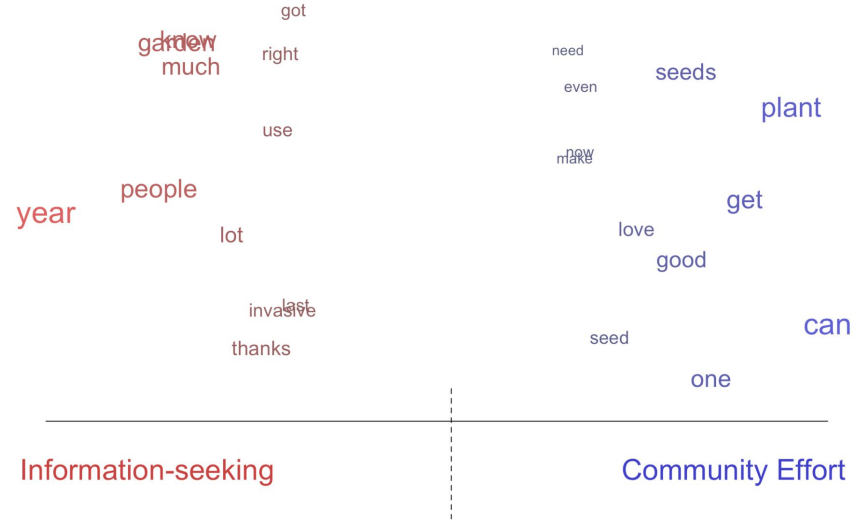


Example Comparison of Topics by Subreddit

r/GuerrillaGardening



r/NativePlantGardening



References

- Adams, D., & Hardman, M. (2014). Observing Guerrillas in the Wild: Reinterpreting Practices of Urban Guerrilla Gardening. *Urban Studies*, 51(6), 1103–1119. <https://doi.org/10.1177/0042098013497410>
- Adams, D., Hardman, M., & Larkham, P. (2015). Exploring guerrilla gardening: Gauging public views on the grassroots activity. *Local Environment*, 20(10), 1231–1246. <https://doi.org/10.1080/13549839.2014.980227>
- Champine, V. M., Jones, M. S., Lischka, S., Vaske, J. J., & Niemiec, R. M. (2022). Understanding individual and diffusion behaviors related to native plant gardening. *Journal of Environmental Psychology*, 81, 101798. <https://doi.org/10.1016/j.jenvp.2022.101798>
- Crane, A., Viswanathan, L., & Whitelaw, G. (2013). Sustainability through intervention: A case study of guerrilla gardening in Kingston, Ontario. *Local Environment*, 18(1), 71–90. <https://doi.org/10.1080/13549839.2012.716413>
- Hardman, M., Chipungu, L., Magidimisha, H., Larkham, P. J., Scott, A. J., & Armitage, R. P. (2018). Guerrilla gardening and green activism: Rethinking the informal urban growing movement. *Landscape and Urban Planning*, 170, 6–14. <https://doi.org/10.1016/j.landurbplan.2017.08.015>
- McMahan, L. (2006). Understanding cultural reasons for the increase in both restoration efforts and gardening with native plants. *Native Plants Journal*, 7(1), 31–34. <https://doi.org/10.1353/npj.2006.0013>
- Millie, A. (2023). Guerrilla gardening as normalised law-breaking: Challenges to land ownership and aesthetic order. *Crime, Media, Culture: An International Journal*, 19(2), 191–208. <https://doi.org/10.1177/17416590221088792>
- Segar, J., Callaghan, C., Ladouceur, E., Meya, J., Pereira, H., Perino, A., & Staude, I. (2022). Urban conservation gardening in the decade of restoration. *Nature Sustainability*, 1–8. <https://doi.org/10.1038/s41893-022-00882-z>