

Helping your neighbor is the key to tackling conservation issues.

Research suggests that community-based collective action strategies can be used to address environmental issues.

Field Peterson | Fort Collins, Colorado

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You might lend your neighbor some sugar, but would you team-up with them to defend your community? New research suggests that teamwork might be exactly what we need to help solve a growing number of climate-related issues.

Communities can come together to set goals and fix problems. Known as collective action, this idea falls at the intersect of social psychology and science communication.



Dr. Rebecca Niemiec

Colorado State University researcher Dr. Rebecca Niemiec and her colleagues have spent the last several years studying how landowners can work together to address invasive species in Hawaii. Niemiec has extensively studied community outreach and engagement applications in conservation issues.

The Moluccan albizia tree has been rapidly spreading in Hawaii since it was introduced in the early 1900s. Niemiec says that humans can spread invasive species through accidental or purposeful dispersal. In Hawaii, the albizia can outcompete and choke out native species (Hughes 2013).

Local landowners bear the responsibility to combat this tree.

Niemiec explains that government entities can't control invasive species on private properties and control methods can be expensive.

Albizia trees grow rapidly and often fall in high winds, posing liabilities to people and buildings. Niemiec explains, "Even just getting rid of one of these trees is kind of a collective action issue, and it will affect multiple people across multiple properties. So, you really need everyone controlling their albizia trees throughout an entire community."



Albizia trees (Hawaii Invasive Species Council).

Getting on the same page

Landowner cooperation is vital to controlling invasive species. But for that to happen, community-based collective action must be fostered.

Niemiec and her team found that property owners often don't know if their neighbors care about invasive species. This can usually be fixed with a conversation in the right context.

Niemiec says that "one of the key barriers to working with neighbors is there's perception that everyone assumes that their neighbors don't care about invasive species because they see the invasive species around them." Bringing neighbors together can allow them to discuss their perspectives and show that everyone really does care about the issue.

Niemiec also notes that collective goal setting is vital to getting a community on the same page and on-track for combating invasive species over time.

Alone, the issue can be overwhelming. As a group, it becomes more manageable. Otherwise, it wouldn't be possible to reclaim the land. Niemiec says "there's what's called a spillover effect. One person controlling or not controlling on their property influences their neighbor's ability to control on their property." This work requires coordination in control methods so actions can be effective.

Niemiec still plans to explore this process. Does everyone need to participate for large changes to be seen, or is it some combination of groups? How do socioeconomic factors come into play? It seems that these answers may be very dependent on the invasive species and the locations of the communities or areas that they impact.

Unique situations require different approaches

The little fire ant (*Wasmannia auropunctata*) poses an entirely different collective action situation than albizia and was another invasive species that Niemiec and her team studied in Hawaii.

Niemiec says that the little fire ant will only move within a roughly six-meter area, impacting mainly one property at a



Little fire ants (Hawaii Invasive Species Council).

time. "It can hitchhike on people, so if you're moving plants, you can move it around. But generally, if it's on your property, it doesn't spread very far, maybe it'll spread to your

adjacent neighbors.” The ants have a nasty sting and can impact crops. Neighbors need to trust each other, knowing that the other will do their part to ensure the ants don’t spread. This poses a smaller scale situation where neighbors can work together directly on the issue, but communication is still critical.

Absentee landowners who aren’t around to manage their properties can’t control invasive species on their land. Yet data suggests that abandoned properties need the most help. People should be encouraged to help their neighbors even when the help isn’t reciprocated. Recent changes to local regulations have helped altruism to happen. Niemiec says “this has helped lead to some ordinances that have allowed neighbors to actually go into absentee lands and control the species without having to worry about liability, or trespassing.” The promotion of collective action is working.

Low-income properties seem to be most vulnerable to invasive species exposure, data suggests. Species like albizia are likely to damage property structures when they fall in high winds. Niemiec says that there are major implications to this issue. “We have a kind of an environmental justice issue, where we have these invasive species that are more likely to affect people who can't afford to manage them. So that's another kind of key call to action.”

Gardening for common good

Colorado State University researcher Dr. Megan Jones, who has collaborated with Dr. Niemiec on collective action research, is focusing on a local collective action case study among residents of Fort Collins, Colorado.

Wildscape gardening is a practice that promotes homeowners to plant native plant species in their yards. A variable approach, wildscaping can come in different forms, and can be

simplified for those new to the idea. Organizations like [Audubon Rockies](#) have created frameworks to help guide property owners. Native plants can promote pollinator and insect habitat, which can then provide food for other animals. Essentially, it helps to bolster the native environment in a way that non-native plants can't.

The collective action challenge comes in message spreading. While some may be motivated to do their part in helping the environment, and others motivated by the garden aesthetic, others might not care at all.

A homeowner interested in conservation issues who has just started to consider wildscape gardening might be hesitant to reach out to their neighbors, potentially due to feeling unqualified or unable to support their decisions, especially if they're one of the first to try it in their neighborhood. But with the help of institutional messaging on wildscaping from organizations like Audubon Rockies, homeowners can feel supported in spreading the message. This can lead to crucial conversations among neighbors that can begin to spread the practice. Jones says, "individuals can drive community change, they can organize, they can mobilize and be really powerful. But it's even better if they're supported by institutions."



Dr. Megan Jones

There can be social pressure, as well. If half your neighborhood starts to plant native plants in their lawns, you'll probably feel left out or compelled to learn more about it.

Incentives are also an option. Cities like Fort Collins are [offering rebates](#) on properties looking to convert to xeriscape lawns, the practice of using native drought-tolerant plants in place of grass

lawns to reduce water consumption. This conversion saves water, reduces utilities costs, and helps the homeowner by lowering water bills. Once homeowners start seeing these benefits, they're likely to spread the word.



An example of a xeriscape lawn (City of Fort Collins).

For the actions of an individual, feedback for wildscape gardening isn't always obvious. Sure, there might be monetary savings or more pollinator activity, but the larger benefits are more on a climate scale that you might not see.

Yet the process is key- residents can take simple steps that have larger scale impacts, and this type of behavior can be applied to other situations. Even simple conversations are a huge start. Jones is excited about the prospects that this case study poses for further research.

Continuous collective action

The spread of invasive species and the planting of native plants are a small part of the vast issue of climate change. Dr. Niemiec describes collective action in the context of climate change as *continuous*, where the action of individuals is helpful to the ongoing issue, "every action helps a little bit towards a broader goal." This approach isn't geographically dependent and doesn't require people to necessarily work with their neighbors but help society instead.

Niemiec's team's research explores information that can help the public approach climate change issues. To further understand these implications, she's looking to do more research on the motivating factors that promote coordination on climate change issues. "Are there different kinds of social psychological drivers of people's willingness to coordinate with

their neighbors, reach out to their neighbors, when the environmental problem that you're dealing with is so different in terms of the collective action context that it poses?"

Climate change issues can be overwhelming. But if we focus on small steps we can take on our own, start having conversations with those around us, and foster community, we can begin to see how we might take back the reins on the future of our planet.

Links to Learn More

[Fort Collins Utilities Xeriscape Incentive Program](#)

[Audubon Rockies Wildscape Principles](#)

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