

# Citizen scientists making a difference in Tahoe

By Kathryn Reed

More data and faster results. That's what happens when volunteers are used as citizen scientists.

The League to Save Lake Tahoe in the last few years has been embracing this approach involving projects dealing with water quality and lake clarity.

Jesse Patterson, deputy director of the League, on March 18 gave a presentation about the effectiveness of volunteer monitoring as part of Tahoe Talks Spring Brown Bag Lunch Series at Lake Tahoe Community College.



Laminated cards provided by the League help volunteer scientists identify invasive and native plants. Photo/LTN

If people don't know what an agency is doing, then it is hard to recruit more volunteers. And if people don't know about a problem, they can't volunteer to help fix it.

Patterson illustrated this point by explaining how beaches in the Lake Tahoe Basin are often littered with trash after July 4. But until the League used numbers to fully illustrate the

extent of the problem, people were ho-hum about the issue, and solutions were not sought.

In 2014, from 5 percent of the shoreline, the following were collected July 5:

- 2,260 pounds of trash
- 3,000 cigarette butts
- 1,200 cans
- 800 bottles.

“We identified a significant issue. We need cigarette disposal canisters,” Patterson said. “We hope to get the message out before July 4 so we have a different outcome this year.”

While citizen science or volunteer monitoring has been around for more than a century, it hasn't always been widely used in the basin. The League only three years ago started the Tahoe Pipe Keepers and two years ago began Eyes on the Lake. Patterson said citizen scientists are important for “gathering quality data to answer questions to make a change as a community.”

It all starts with observing a problem or situation and then asking questions. This evolves into doing research, then setting goals and objectives – figuring out potential outcomes, getting buy-in from others, setting up quality assurances, getting volunteers, sharing results, constantly tweaking things to stay relevant and engaged, and then taking action to solve the original problem. This is the process the League went through in establishing its programs.

With 45 pipe keepers trained, 20 of the more than 100 pipes in the basin being monitored, 1,191 samples collected and analyzed, and more than 1,000 photos-videos taken, Patterson calls the program a success.

On top of that the Desert Research Institute and Tahoe Resource Conservation District have come on as partners. The agencies have looked at the League's data, compared it to its own and see relevance in what the League is doing – so much so that the League is sharing its findings for the real scientists to incorporate the data into their work.

Patterson said the key to maintaining success and interest for the volunteers is to provide different levels of participation. In the Pipe Keepers case this meant not having everyone have to go out to a drain in the middle of the night in the middle of a downpour. It also means providing tools so volunteers don't have out-of-pocket expenses, making reporting easy – aka, available online, and always feeding the workers.

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#### **Notes:**

Future brown bag lunches at Lake Tahoe Community College's board room:

- April 15, noon-1:30pm – Dealing with Drought: Stewardship Practices at Sierra-at-Tahoe
- May 20, noon-1:30pm – The Bike's Impact on Tahoe's Economy
- June 17, noon-1:30pm – Legal Rights and Issues for Pedestrians and Bicyclists
- June 24, noon-1:30pm – Law Enforcement Strategies to Improve Pedestrian and Cyclist Safety.