

Fairchild Tropical Botanic garden

## Fairchild Interview: Plants and Water Awareness

At first glance, “plant and water awareness” is as broad a phrase as any. Any search on any information database will yield a myriad of scientific journals, national awareness campaign websites, and enthusiastic, though ill-informed, student essays. Despite the incredible amount of information available to the public on plants and water, little is readily available that directly contributes to the awareness of citizens in an area about their *local* plants and water. There was also little information about the state of common plant and water awareness or lack thereof. After conducting ten interviews with middle school students, high school students, college students, and adults, it is quite conclusive that there are several repeated misconceptions and several gaps in public knowledge concerning plant and water awareness. Many of the interviewed, for example, mentioned that glaciers as an important source of potable water, but seemed unaware of the fact that in their respective regions, there were much more immediate, important sources of water.

“Can you name your most important source of local drinking water and what might threaten it?” was the first question, the answer to which varied from Lake Okeechobee to glaciers to spring water to aquifers to groundwater. In South Florida, groundwater and limestone enjoy a close relationship, and it is groundwater that creates Florida’s stunning limestone caves and is responsible for a significant amount of continental water. The threats to our groundwater resources, then, are pollution, the specifics of which were summed up nicely by a substitute teacher who answered, “Pesticides, fertilizer and pollutants—such as runoffs from factories and processing plants,” while a middle schooler answered confidently, “Pollution.” The gap in common knowledge about groundwater in Florida seems to stem from the misconception that groundwater, being located in the *ground*, is dirty, despite the fact that it is the source of most drinking water and the cleanest. If more Florida residents understood from where their water came and how, there would be more general knowledge about groundwater. One interviewee, a college student at Florida State University, after learning that groundwater was an

important source of drinking water, asked what groundwater was. It is this foggy ignorance of our own resources that leaves them vulnerable to pollution, which is what every interviewee answered might be a threat to water sources despite being unable to accurately pinpoint which resources that pollution would affect.

In the same way that the first question posed an inquiry into water awareness, the second was directed towards plant awareness. The question, “What makes a plant species invasive and how can we as South Florida residents address plant invasion?” received a more animated response. All those interviewed knew that invasive plant species were not native to the habitats into which they were introduced, though only one interviewee, the mining engineer, linked water awareness to plant awareness in proffering the Melaleuca tree as an example of an invasive species that drains large amounts of water from all over Florida and has proved difficult to remove from roadsides and empty yard lots. The tree, native to Australia, was once brought to Florida in the hopes that it would drain wetlands and marshes quickly enough that land could be developed for real estate, and although that intention has long since fallen away, every year the Melaleuca affects residents with allergies and drains vital moisture from Florida soil, according to the University of Florida’s Center for Aquatic and Invasive Plants. The Environmental News Service reported in 2004 that the Maleleuca causes as much as \$168 million in environmental losses every year and takes over 14 to 15 acres a day, while a report by the United States Department of Agriculture identifies that there are currently 56 aggressive invasive species in the United States; clearly, this is an under-advertised issue. In order to resolve this, it is imperative that local nurseries inform their customers of invasive species that will endanger their purposes and that nurseries be encouraged to carry *local* species of plants.

Lastly, the final question was a probing hand into the individual concerns of the interviewees concerning plant and water awareness. The question, although broad, turned up interesting results. Every single interviewee mentioned the word “pollution” in their responses, but only two gave even the most remote indication that they had a specific type of pollution in mind or that they knew anything about

pollution at all. Arsenic poisoning, for example, which is naturally occurring toxin regulated by the Safe Water Drinking Act—the standards for which were lowered in 2001, allowing a greater percentage of natural arsenic to exist in what is termed as “drinkable” water, and may indicate one of two things: a rise in arsenic levels in water reserves or a decrease in the amount of concern for the safety of “safe drinking water”. Perhaps more decisively important, the middle schooler, high schoolers, and an adult all vaguely named awareness without suggesting how awareness might be used or what might be done in order to spread awareness, or even what others should be made aware of. None assumed any responsibility for the pollution that they named an immediate concern. None mentioned plant invasion in their responses to this last question, although several mentioned the freshwater crisis that takes precedence over many environmental concerns today when one realizes how fundamental freshwater is to human life. One high school student answered, “I really don’t know because I haven't heard anything of plant or water issues in 2012.” Another response: “The water issue in Africa pops into my head immediately, that their water is absolutely filthy and in need of filtration to miniscule the spread of disease, but there are no plant issues that I am aware of.” The college student answered, with only a slightly more informed answer, “Fresh water is running out at an alarming rate, that kind of ties into the plant crisis.” It was the mining engineer’s answer that was most accurate, and this is not surprising, considering the proximity of miners to natural resources.

Reflecting on this interview, it is apparent that those who have had little need of environmental science in their lives have little but broad, obvious knowledge at their disposals with which to respond to this three-question survey. The substitute teacher taught science, the mining engineer works with the environment daily, and the college student is studying groundwater, or beginning to, in a course on Geology. Possible solutions to this might be through making information about plants and water more accessible and to students at early ages. The encouragement, for example, of school newspaper columns focused solely on environmental awareness, would make entire student bodies more aware of the state of plants and water in their areas, or at least provide basic knowledge, while the encouragement of the

perpetuation of native species rather than the introduction of invasive species promotes healthier environments.

Though the issues that involve a lack of plant and water awareness are substantial, they are never without remedy. The fact that they are under-advertised can hardly be understated, but in an age where information is so easily distributed through every medium of modern-day media, the solutions are as varied as they are potentially innovative. With student-produced infomercials and environmental blogs run through Tumblr or other major blogging sites, much can be achieved, and this is especially true when a local ecosystem is at stake. Already, residents of South Florida have prevented areas like what is now Big Cypress Preserve from the hands of developers and speculators. With this shining example of conservational awareness in mind, these ten interviews should not be seen as proof of ignorance, but of the potential for environmental enlightenment; there is so much room for plant and water awareness that one has the sense that there is truly nowhere to go but forward.

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