

Stakeholder Connection

Your news source on the Institute for Environmental Solutions projects and progress



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A New Generation of Tree Stewards Sprouts in Wheat Ridge



Over two hundred new trees and shrubs were planted in the Wheat Ridge Greenbelt in April, thanks to the 4th grade students at Kullerstrand Elementary, 3rd graders at Mountain Phoenix Community School, and the Wheat Ridge High School Career Exploration Class. The tree planting was the culmination of IES's Preserve the Greenbelt Elementary Education Program. Each student planted two native saplings in areas where trees had recently died. The elementary class tree planting built on lessons the children learned in IES's classroom workshops. Teachers, students, and their families now visit the Greenbelt to take care of the saplings as Tree Stewards. Over 100 Wheat Ridge public school students learned about their local ecosystem and tree stewardship, and put their new knowledge into action.

Along with tree planting, the elementary students went on a Greenbelt nature walk led by Wheat Ridge Forestry and Open Space Supervisor Margaret Paget. They made environmental-themed crafts, led by Betty Jo Page of the Sierra Club. Students were able to see plants and animals they learned about, create mini-terrariums with radish seeds, draw pictures of the Greenbelt, and make leaf-themed bandannas.

IES provided three workshops to each of the 3rd and 4th grade classrooms, engaging the children in learning about the plants and animals of the Greenbelt, the different parts of trees and how trees grow, and tree stewardship. The workshops were supported by Kullerstrand teachers Jennifer Dalton and Ryan Deal and Kullerstrand principal Esther Valdez, and by Mountain Phoenix teachers Eric Ebert and Noa Wotton. The Wheat Ridge High School Career Exploration class, taught by Jerry DiTullio, prepared the site for tree planting and planted willow sticks and saplings.



The IES Preserve the Greenbelt project is funded by Xcel Energy, with additional support from Wells Fargo. The project was made possible by the partnership and support of the City of Wheat Ridge Parks and Recreation Department, notably Margaret Paget and her staff members.



Said teacher Jennifer Dalton of the program; "The workshops were a great kinesthetic approach of learning, while the planting reinforced [students'] learning with authenticity." Her students agreed: "They were fun activities. We were learning. while playing games."

IES's final report documenting the Preserve the Greenbelt Education Program will be available on our website, www.i4es.org, next month. A professional video produced by Jesse Johnson highlighting the project's accomplishments, classroom workshops, and planting events, will be on IES's YouTube channel. IES is proud to educate a new generation of tree stewards in caring for their local natural area, the Wheat Ridge Greenbelt, and beginning a lifetime of

environmental protection. More information: Loren Klick, IES Research Associate, loren@i4es.org.



IES Brings Contaminants of Emerging Concern to Rocky Mountain Water Quality Analysts Association Conference



The IES Contaminants of Emerging Concern (CECs) team presented an introduction to CECs at the Rocky Mountain Water Quality Analysts Association (RMWQAA) conference on April 28 in Denver. IES briefed the chemists on what CECs are and where they come from. We presented IES's innovative approach to preventing toxic contaminants in water through easy, low- and no-cost strategies. CECs are unregulated harmful chemicals, such as triclosan, BPA, and DEET, widely used in personal care and household products that pose a threat to the environment and human health. Many

CECs are endocrine disruptors, while others are toxic to wildlife. CECs enter the water system from CEC-containing products used at home or in industry. They are not targeted for removal by wastewater treatment plants. Many RMWQAA members are chemists working in water treatment and analysis. Based on the challenging questions posed to IES at the presentation, we found that water chemists are unfamiliar with the CEC problem. One chemist claimed that the historic ban on DDT pesticide resulted in millions of deaths from malaria in Africa. Blaming the ban of DDT for malaria-related deaths is incorrect and misleading because the World Health Organization never considered DDT in its plan to combat malaria in Africa due to high cost and because DDT is not banned in most African countries; it is available as a defense against malaria-carrying mosquitoes. Another chemist asked if any insect-repelling compounds worked as well as DEET to defend against ticks that cause Lyme disease. Picaridin (marketed as Cutter Advanced) is just as efficacious as DEET in repelling ticks, mosquitoes, and biting flies. IES also provides non-chemical strategies to avoid contact with possible disease-carrying insects. We appreciate the tough questions posed at the meeting and welcome the opportunity to provide sound technical information about the CEC challenge. More information: Alex Key, IES Research Associate, Alex@i4es.org.

IES CEC Project Team Invited to Speak at EmCon and Colorado Environmental Health

The 4th International Conference on Occurrence, Fate, Effects, and Analysis of Emerging Contaminants in the Environment (EmCon 2014) in Iowa City in August invited IES to provide a presentation on Blue Crew Water Stewards: Tackling the CEC Problem Through Youth Education. IES is excited to present a project update to EmCon, building on the IES talks at EmCon 2009 (Fort Collins) and EmCon 2011 (Copenhagen).



EmCon brings scientists from across the globe together to discuss their latest research findings on the fast changing topic of emerging contaminants. In September, IES will provide a seminar on CECs at the Colorado Environmental Health Association (CEHA) Annual Education Conference in Steamboat Springs. CEHA is an innovative, progressive organization dedicated to advancing the cause of environmental health. These conferences will be valuable opportunities to shine a light on emerging contaminants which are often left out of environmental discussions, and discuss IES's science-based strategies to prevent water pollution and protect public health. More information: Alex Key, IES Research Associate, Alex@i4es.org.

A Tree Myth Busted: Older Trees Grow More than Younger Trees

New research has debunked the assumption that older trees grow less than younger trees. Research conducted by the U.S. Geological Survey (USGS) in California shows that older, larger trees add more mass than their younger, smaller counterparts. Data suggest that larger trees add more carbon per year than smaller trees of the same species. By adopting a whole-tree growth data collection method versus more limited traditional data collection methods, researchers showed that larger trees add substantially more growth in their branches and limbs. Older trees tend to have smaller leaves, but they have more leaves. These findings held for 97% of the 403 species studied.

These findings are significant for how we understand and conduct forest management. This research will help scientists create more accurate models of forests, their carbon stocks and accumulation rates, and the role forests play in regulating the global climate. More information: Tom Dermody, IES Research Associate, tom@i4es.org.

Plastic Microbeads in the South Platte River

Plastic microbeads found in face washes, toothpastes, and soaps are heading down our drains and into our waters, like the South Platte River. According to University of Colorado Denver Professor of Biology, Greg Cronin, local wastewater treatment plants do not test for or remove microbeads, plastics that are less than 5mm in diameter. They are found in common consumer products, including toothpastes, deodorants, body washes, hand cleansers and facial exfoliants. A product uses plastic microbeads if it contains polyethylene or polypropylene.

In 2012 and 2013, scientific studies by Dr. Sherri Mason, professor at SUNY Fredonia, and the 5 Gyres Institute recorded the plastic content of Lake Huron, Lake Erie and Lake Superior and discovered microplastics in greater concentrations in Lake Erie than in any other body of water on earth, with concentrations exceeding data collected in the Great Pacific Garbage Patch. Fish and birds ingest them causing internal blockage, dehydration and death. Microplastics change the physical properties of beaches, such as heat retention and light reflection, which affects organisms dependent on land temperature, destroying the ecosystem. Microplastics absorb pollutants in the water such as DDT, PAHs and PCBs. When ingested by wildlife, the plastics contain very high concentrations of these dangerous toxins. They become more concentrated as they bioaccumulate in the food chain.

Several manufacturers have promised a voluntary phase-out of plastic beads in their products, including Colgate-Palmolive (by end of 2014) and Johnson & Johnson (by end of 2015). The State of Illinois is the first state to ban microbeads, banning the sale of cosmetics that contain them. Manufacturers have until 2019 to phase out the beads. New York, California, and Ohio are considering similar bans. The Colorado Department of Public Health and Environment considers microbeads to be an emerging issue. Local television Channel 7 sent water samples collected from the South Platte to a specialized lab in Marietta, Ga., where they confirmed polypropylene in the water.

Procter & Gamble, makers of Crest toothpaste, notes that beads are inactive and used to provide color, without a flavor or cleaning function. Face washes and soaps use microbeads for exfoliating. Biodegradable exfoliant alternatives include rice, apricot seeds, bamboo, and pecan shells. The best solution is prevention. Use less. Avoid products that contain microbeads (polyethylene or polypropylene). More information: Alani Premer, Graduate Intern, Alani@i4es.org.

IES Institute News

Andrea Stucky, IES CEC Research Associate, graduated with her Master's Degree in Environmental Policy from the University of Denver, and has joined the technical staff at the SeaCrest Group in Louisville.

Alex Key, IES CEC Research Associate, graduated with his Master's Degree in MS in Environmental Science with a focus in water quality from the University of Colorado at Denver.



Loren Klick, IES Tree Research Associate, accepted a new position as utility forester with Western ECI, and is moving to San Francisco. He will continue his graduate studies at the University of Colorado from California.

Congratulations to all of IES's outstanding team members!

IES is looking for an energetic professional who wants to ensure the application of sound scientific solutions to our pressing environmental challenges to join the **IES Board of Directors**. Please contact IES at Solutions@i4es.org for a position description and application.

IES is seeking two motivated **graduate interns** who are passionate about protecting the environment to join our project teams. We also have openings for Development / Fundraising, Social Media Marketing, and Web Development / Programming Interns. Interested candidates should submit a resume and cover letter to Solutions@i4es.org.

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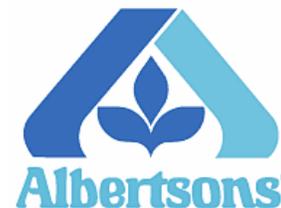


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