Institute for Environmental Solutions

SCIENTIFIC SOLUTIONS FOR A BETTER ENVIRONMENT

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***Volume Five, Number Four, November 2012***

**Blue Crew Water Stewards Launches at Mitchell Elementary School**

The Contaminants of Emerging Concern (CEC) team will launch the Blue Crew Water Stewards (BCWS) program on November 30 at Mitchell Elementary in Golden, CO for the entire 6th grade class. The BCWS Workshop Program will teach elementary students about water pollution by contaminants of emerging concern, and teach them ways to reduce this pollution and help others do the same. The workshop demonstration will be followed by a three-workshop series in February and March 2013. This workshop series will support the real world application of the 6th grade science unit, "Relationships: Water and the Living Environment." The BCWS workshop demonstration will introduce students to CECs and their effects on Colorado ecosystems. Students will conduct an experiment and make their own CEC-free hand sanitizer. Each student will take home a bottle of hand-sanitizer and the knowledge of how to immediately reduce their impact on environment. This hands-on workshop is a first step towards creating a generation of water stewards in Colorado. The energetic and forward-thinking teachers and parents at Mitchell Elementary are pioneers in environmental education. The Blue Crew Water Stewards Program will be an important addition to the Mitchell environmental education program. The CEC Project Team hopes to introduce this program to other Jefferson County schools in the near future. For more information contact Patrick DePriest: depriestp@i4es.org.

***Revive the Greenbelt!*** **New Life along Clear Creek in Wheat Ridge**

The IES *Revive the Greenbelt!* project is underway in the Wheat Ridge Greenbelt along Clear Creek. The Project Advisory Committee met on November 1, including City of Wheat Ridge staff members, community residents, and local business, Denver Urban Drainage and Flood Control, Colorado State Forest Service, and Xcel Energy representatives. IES is conducting a Riparian Condition Assessment (RCA) to determine the ecological opportunities and constraints in the Greenbelt. The RCA will provide the

data necessary to make sound scientific decisions during the planning, the tree selection and siting, and the planting and maintenance phases of our project. In October, the Mile High Youth Corps 12-member work crew removed invasive species from the site. The Russian Olive trees are notorious for crowding out desirable species and competing for valuable resources from the native species at the project site. This cleanup is critical for preparing our project site for next springs planting project. IES is now preparing a landscape plan to identify tree species with the most environmental benefit and best suited to survive in that area. Our goals are to increase canopy cover, help storm-water management and stabilize the banks along Clear Creek. Thanks our project partners for making this work possible: the City of Wheat Ridge, Xcel Energy, CSFS Urban Waters Program, Wells Fargo Bank, and landscape designers Kevin Lyles of Confluent Design and Brian Kelly of Bios Landscape Design Research. More information: Michael Haney, Project Manager, mhaney@i4es.org

**Know Your Water Contaminants: BPA**

Bispenol A (BPA) is used in the manufacturing of plastics and resins to strengthen and harden plastics and provide temperature resistance. Those plastics and epoxy resins are used in aluminum beverage cans, canned foods, plastic food containers, water bottles, plastic beverage containers, and plastic food wrap. BPA is also found in thermal paper, such as receipts and event tickets. A 2010 *Environmental Science & Technology* article reported that BPA is detectable in 95% of Americans, with the highest levels occurring in children and infants. There are potential human health risks associated with the consumption of BPA. Human exposure to BPA occurs primarily through consumption of food or beverages packaged in material containing BPA. The 2008 NTP-CERHR Expert Panel Report reported that BPA could interfere with human hormones. The report presented findings that laboratory animals experienced developmental and reproductive abnormalities when exposed to BPA. The FDA regulates BPA in food containers in the U.S. There are no regulations or limitations to the amount of BPA permitted in food or drink products. However, BPA is banned for use in baby bottles and children's sippy cups. Recent research findings have led the U.S. Food and Drug Administration and the European Union to re-evaluate BPA's impacts to human health.

To avoid BPA exposure, choose products that are not packaged with BPA. Buy fresh foods instead of canned and packaged foods to avoid consuming BPA and use glass containers for food storage. A March 2012 *Forbes* article reported the following

companies that package all or some of their food in BPA-free containers: Muir Glen, Eden Foods, Edward & Son, Trader Joe's, Vital Choice, Wild Planet Foods, Oregon's Choice Gourmet, and Eco Fish. To avoid BPA exposure from thermal paper, opt to have receipts and tickets e-mailed. After handling receipts, you're your hands. More information: Andrea Stucky, andrea@i4es.org

**Tree Survival: Good Maintenance Required**

The success of a tree-planting project depends on sound maintenance after the initial planting. Mulching is the best thing you can do for your trees. Applied correctly, mulch will help trees grow a deeper and healthier root system. Mulch conserves soil moisture by preventing soil erosion and water evaporation. Soil fertility is usually increased with the decomposing of the mulch, while weed competition is reduced. Mulch improves soil structure and reduces compaction. Mulch also moderates soil temperature by reflecting and reducing radiation of heat. The devastating effects of mechanical damage from mowers and weed trimmers are eliminated by having that perimeter of mulch around the base of trees.

Watering is the cornerstone to good maintenance as it provides tree roots with both oxygen and moisture. A watering routine that allows for thorough moisture (to provide dissolved nutrients) followed by a brief period of dryness (to provide oxygen) is important. Watering deeply every

followed by a brief period of dryness (to provide oxygen) is important. Watering deeply every three days during the warm season is usually adequate. Check moisture levels at a depth of four inches in the soil and water only when dry at that depth. Do not stop watering in winter! Winter in Colorado means variable weather conditions. When days are warm (above 40$^{o}$ F) and dry for more than 3 days or excessively windy, it is important to water. This is critical for trees planted in the past few years. Set a garden hose to trickle water slowly around the tree for an hour or so, long before sundown. Make sure to deliver water at a depth of four inches. Hug your trees, and care for them after they are planted! More information: Brian P. Kelly, MLA, LEED® BD+C, IES Associate, bpkelly.mla@I4ES.org

**PLEASE DONATE TO IES!**

It's IES's Fall Fundraising Campaign! IES develops technically sound solutions to complex environmental and health problems through a multi-disciplinary scientific approach – always with active involvement of local residents. We bring stakeholders together to be sure that local concerns are addressed and we avoid unwanted side effects. IES is a volunteer based non-profit which depends on your financial support. **Please support our efforts to create more environmentally sound and healthy communities by donating now.**

- Mail a check to: IES, 761 Newport Street, Denver, CO 80220.
- Donate by credit card directly to IES at: www.givingfirst.org/i4es.
- Become a Tree Steward or Water Steward! Sign up at www.givingfirst.org/i4es to donate $10, $20, or $30 a month.
- Be a Giving Champion! Schedule your credit card donation at www.givingfirst.org/i4es for **Colorado Gives Day -- Tuesday, December 4, 2012.** You can schedule this Colorado Gives Day donation **right now** – and help IES win cash prizes, thanks to your donation, from the Community First Foundation.

One hundred percent of your credit card donation at www.givingfirst.org/i4es will go to IES and to improving the environment. The Community First Foundation pays all the credit card fees. Your donation at www.givingfirs.org/i4es is safe and secure. IES is a 501(c)(3) charitable organization. Your contribution is tax-deductible. *Thank you for your support!*

**Look for IES at Arapahoe Libraries in April 2013**

IES is presenting two Contaminants of Emerging Concern Workshops, "Do-It-Yourself – Clean and Green" at Arapahoe Libraries in April. Look for us at Koelbel Library on April 2 and Smoky Hill Library on April 11 in Centennial.

**IES Institute News**

IES welcomes Sophie Meredith Miller as a new intern on the Tree Project and Development teams. Sophie has a Master of Science degree in Environment and Development from the University of Reading (England). Michael Haney has been promoted to Research Associate and is the new Project Manager for *Revive the Greenbelt!*

**The IES Board of Directors has two additional openings** for energetic professionals who want to ensure the application of sound scientific solutions to our pressing environmental challenges. Please contact IES Treasurer Tiffany Joye, tiffany.joye@hoganlovells.com for a position description and application.

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IES is proud to be a member of 1% For The Planet, the Colorado Alliance for Environmental Education (CAEE), the Colorado Nonprofit Association, the Colorado Tree Coalition, the Colorado Watershed Assembly, and Giving First.

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