Institute for Environmental Solutions

2015 Annual Report

The Institute for Environmental Solutions delivers scientific solutions to improve our health and environment.

IES in 2015

From the Executive Director

The Institute for Environmental Solutions experienced a banner year in 2015 and continued to advance its mission! The Tree Project expanded its stewardship network to Sheridan, Colorado. The Chemical Footprint Project announced the Save Our Water Initiative. IES continued to present cutting edge research and innovative workshops to improve environmental health along the Front Range.

Students in Wheat Ridge and Sheridan learned to care for their local open spaces and to improve their communities. These students participated in workshops, planted native trees and shrubs, removed invasive species, and worked with forestry experts to restore watersheds. They have the tools they need to make a difference in their communities because of IES projects.

The Chemical Footprint Project is helping individuals understand the impact small quantities of harmful chemicals have on our health and the environment. Our new Save Our Water Initiative is being organized to demonstrate that prevention of water pollution is cheaper and more effective than water treatment.

The IES Board worked very hard through the year to develop new funding, improve accounting, and plan for increased sustainability.

IES is a volunteer driven organization. IES is thriving because of the hundreds of hours donated by our amazing student interns and volunteer professionals. IES projects are successful because our dedicated community partners and environmental stewards contribute valuable time and expertise. IES is celebrating twelve years because of the enthusiastic support from IES board members, associates, and donors. **Thank you for making this organization so special.**

Carol E Lyons

Carol E. Lyons
Executive Director

2015 Accomplishments

Growing the Greenbelt engages students and community volunteers in Wheat Ridge Greenbelt restoration

Dozens of enthusiastic community volunteers and IES Tree Stewards planted 134 trees, shrubs, and grasses and removed invasive weeds in the Greenbelt. Over 20 Wheat Ridge High School students learned about tree science and explored careers in ecology in classroom workshops and planted14 cottonwoods. Details on page 4.

Sheridan leadership students improve their community in the Sheridan Quincy Tree Project.

Sheridan Fort Logan Northgate 3-8 Leadership students participated in workshops and planted trees in the fall. The 30 students planted 60 trees while learning about community engagement, project planning, local ecology, and proper tree care and management. Details on page 4.

Chemical Footprint Project Presents at the Colorado Alliance for Environment Education Conference

The March workshop in Denver, “Reduce Your Chemical Footprint: Kids Can Take Action to Prevent Pollution,” gave educators a tool to teach their students about reducing the use of harmful chemicals.

IES Presents at the Sustaining Colorado Watersheds Conference in Avon

The Tree Project presented “Improving Colorado Watersheds: IES teaches students and community members to become watershed stewards and make a real difference for Colorado’s water.” The Chemical Footprint (CFP) Project presented “Prevention: Addressing the problem at the source to reduce water contaminants that threaten human and environmental health.”

Chemical Footprint Project Kicks Off Save Our Water Initiative

The CFP team introduced the Save Our Water Initiative to demonstrate that prevention of water pollution from contaminants of emerging concern is more effective than water treatment.

IES brings communities together! Through education workshops, outreach initiatives, and community events, IES brings people together to improve their environment.

IES builds PARTNERSHIPS

We are all responsible for a healthier environment. IES expertly builds partnerships with stakeholders to share this responsibility.

IES finds SCIENTIFIC SOLUTIONS

IES uses sound science to address environmental and human health concerns and delivers practical solutions.

IES creates REPLICABLE PROGRAMS

IES creates education and ecological restoration programs that can be replicated all along the Front Range and beyond.

IES helps you REDUCE YOUR FOOTPRINT

We all have ecological footprints. IES shows people how to reduce their carbon and chemical footprints, and contribute in strengthening ecosystems.

The 2015 IES Annual Report was written by Sean Mangus.

IES is proud to be a member of:

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Colorado Nonprofit Association

Colorado Tree Coalition

Colorado Watershed Assembly

urban waters partnership

#36573 CFC Combined Federal Campaign

NWN (the network)

The Tree Project

We improve Colorado cities using tree science.
Our goals are to:

- I**mprove the urban environment**, community health and economy by applying scientific methods in tree planting.
- **Initiate and facilitate collaboration** among community groups and individuals to find solutions to urban environmental challenges using trees.
- **Increase community awareness** and understanding of the value of urban trees.

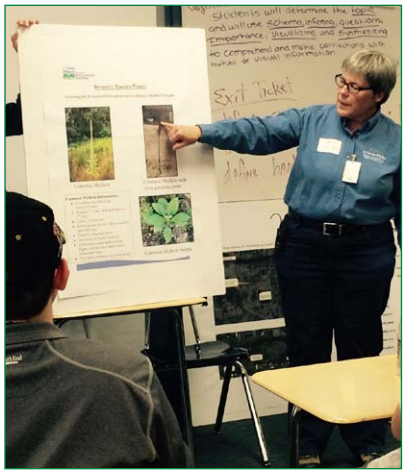
THE TREE PROJECT
ENERGY • WATER • AIR • CARBON

Our 2015 projects have engaged public school students and community members in improving their environment through hands-on ecological restoration and education.

Growing the Greenbelt Education and Ecological Restoration Project

IES partnered with the City of Wheat Ridge for the third year to plan and implement the Growing the Greenbelt Education and Ecological Restoration Project, funded by the Colorado Tree Coalition, with professional support from DesignWorkshop. The project team was challenged by below normal temperatures and above normal precipitation along with flooding at the Greenbelt planting site. Thirty Wheat Ridge community members including young children, Girl Scouts, and veteran Tree Stewards participated, removing invasive species and planting over 130 trees, shrubs, and native grasses on the riparian site. Tree Stewards cared for the trees during the dry and hot summer months and the site is thriving!

IES provided two workshops and two planting days for Wheat Ridge High School's Career Exploration students to explore careers, learn about ecology, and plant trees.



Margaret Paget and Wheat Ridge High School students

GTG volunteer planting day.

Sheridan Quincy Tree Project

IES created the Sheridan Quincy Tree Project to improve the Quincy Trail corridor between Federal Boulevard and Irving Street in Sheridan, just south of Denver. The Quincy Trail is a commuting path for students and Sheridan residents. Steep gradients contribute to erosion and flooding along the trail. The trees will help absorb excess water, mitigate erosion, and reduce pollution. Project partners include the City of Sheridan, Sheridan School District No. 2, South Suburban Parks and Recreation District, Fort Logan Northgate 3-8 School (FLN), DesignWorkshop Foundation, Xcel Energy, Colorado Garden Foundation, and Patagonia Denver.

IES provided three workshops for students in FLN's Leadership Class where they learned about community improvement, project planning, stewardship, and ecology. On the fall planting day students and volunteers planted 60 native trees on school property next to the Quincy Trail. The students visit and care for the site and have established a stewardship plan to ensure the trees receive proper care.

The leadership students responded to activities with great enthusiasm and hard work. Their passion to learn about tree science and to work on community improvement projects has inspired IES to expand the program into future years.

The FLN Leadership students at the planting location in Sheridan

Sheridan school workshop

FLN Leadership students plant trees

REDUCE YOUR
CHEMICAL FOOTPRINT

The mission of the Chemical Footprint Project is to prevent water pollution and protect human and environmental health by reducing household and commercial chemical footprints.

Save Our Water Initiative

IES's Chemical Footprint Project team created the Save Our Water Initiative to reduce water pollution from contaminants of emerging concern (CECs). We will use social and behavioral science methods to demonstrate to communities and businesses that it is better to prevent the use of personal care and household cleaning products that contain trace amounts of harmful chemicals than to treat water that has been polluted with these chemicals.

Many common personal care and household products contain environmentally persistent toxic chemicals, such as triclosan, parabens, surfactants, synthetic fragrance, and BPA, that can lead to harmful human health and environmental impacts. These chemicals have toxic effects on human health, wildlife and the environment; are unnecessary in consumer products; and are unregulated in waste and drinking water. These chemicals may lead to reproductive health issues, certain types of cancer, and diabetes in humans. They are linked to a wide variety of negative impacts in other species and the environment. The U.S. government does not regulate many of these chemicals and water treatment plants do not normally remove them, underscoring the need for alternative strategies to prevent these negative consequences.

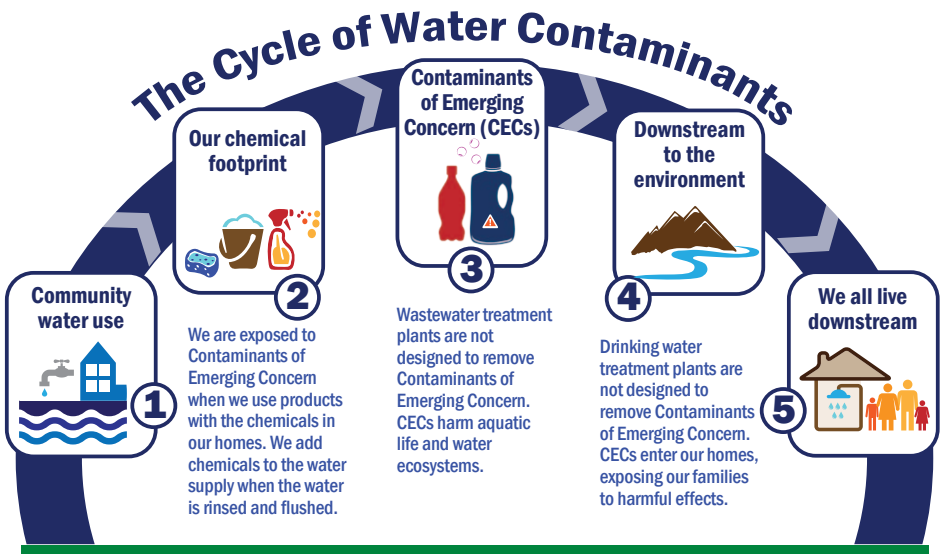
In 2014, IES researched how CECs move through the water cycle from stores to homes to wastewater to rivers and the environment. We will work with community members to identify strategies that encourage the use of alternative products that do not contain contaminants. Through a pilot project, the team will compare strategies and water quality before and after the community implements prevention measures. One targeted contaminant is nonylphenol, a synthetic surfactant used in laundry detergent. Our goal is to develop a program that can be expanded to other communities and contaminants.

IES is looking for community partners, including local cities, community groups, and wastewater treatment facilities, who are interesting in reducing contaminants of emerging concern (CECs) through effective community-based prevention strategies.

CFP Handbook

The IES team, led by Dr. Nancy Billica, completed writing The Chemical Footprint Handbook designed to provide a clear and succinct overview of the chemical exposure challenge – detailing both the nature of the problem and the options for responding. The handbook focuses on unregulated chemicals in common consumer products. It will be published in 2016.

Prevention Addressing the problem at the source to reduce water contaminants that threaten human and environmental health



Why Prevention is More Effective Than Treatment

Prevention:
+ Save money through reduced consumption and use of cheaper alternatives to harmful chemicals
+ Reduce water contaminants that cause illness
+ More effective than water treatment processes
+ Improve ecological and environmental health

The Solution is Less Pollution!

Treatment:
- Costly for wastewater and drinking water treatment
- Limited effectiveness

Young Stewards Fuel the Future

IES has worked with public school students since 2011 to improve the environment. Students have made their own personal care products to reduce their chemical footprint. They have planted trees, shrubs, and grasses to make their schools, open spaces, and communities healthier. The most important knowledge these students gained is that they are environmental stewards who can make a meaningful difference and improve their communities.

"In my Girl Scout law it says to help others, and I think planting trees is a great way to help others, and it's a lot of fun!"

Trinity, Fourth Grade Student,
Kullerstrand Elementary

"Trees are the lungs of the Earth. If we didn't have these trees, no one would be able to breathe!"

Laura, Girl Scout Cadette Troop #3955
Wheat Ridge

"We learned to work together and that responsibility is needed to help care for trees. Trees help us, we need to help them!"

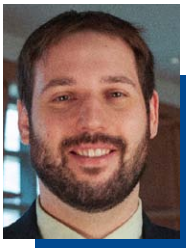
Sheridan Fort Logan Northgate
Leadership Students

Training Environmental Leaders

IES's Young Environmentalist Professional Training program helps graduates gain the skills, knowledge, and confidence they need to make meaningful change and advance their careers. IES has launched over 80 dedicated Millenials (or Gen Yers) into successful work.

"As a graduate intern at IES, I learned how to design and implement stakeholder-based environmental education programs in a collaborative and focused environment. My work with the Tree Project reaffirmed my commitment to teaching, improved my environmental stewardship, and helped me more effectively consider the needs, beliefs and values of multiple stakeholders, skills that I continue to use in my work as an educator."

Olivia Tracy, Affiliate Faculty,
Regis University



"My time with IES proved to be a great experience. It gave me the opportunity to apply knowledge I learned in graduate school in a strong team-oriented atmosphere. IES and its Chemical Footprint team tackles difficult questions regarding environmental issues while promoting collaboration among bright young environmental professionals. I am grateful to have been a part of the team."

Derek Ager
Physical Scientist
USEPA Great Lakes Natl. Program Office

"I developed real professional experience that helped prepare me for my career in city planning. The quality of professionalism to which IES conducts its business provided an unmatched opportunity to work on a team that was diligent, thorough, and promptly available to team members and stakeholders. I honed my skills in project management, research and data collection, record keeping, stakeholder engagement and facilitation, and general business etiquette."

Greg Colucci, Associate Planner
City of Lakewood

IES Contributors / Financial Report

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Kristen Bertuglia, Environmental Sustainability Coordinator, Town of Vail Community Development

Vivian Bonham, President, Accounting and Finance Professional, Denver

Floyd Boyard, Secretary, Manager, Analytical Department, Marathon Oil Co., retired

Laurie Manderino, Environmental Policy Analyst, Tetra Tech, PhD Candidate School of Public Affairs UC Denver

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Kathleen A. Thaxton (2016), Senior Sales Manager, Arvada

Lindsey Wedewer, Policy and Regulatory Analyst, Colorado Energy Office, Denver

Elizabeth Woodruff, Treasurer, Education Coordinator, Assistive Technology Partners, Denver

IES Staff Members

Lynn David Bird, Attorney, Caplan and Earnest LLC (pro bono)

Alana Burrow, Administrative Director

Danielle Granquist, Website Designer, Golden Marketing LLC

John Kelly, Tree Program Coordinator

Carol E. Lyons, Executive Director (pro bono)

Don Mangus, Tree Steward Coordinator (pro bono)

Heather Schneider, Graphic Design, Golden Marketing LLC

IES Graduate Interns

Derek Ager, Univ. of Michigan Public Health

Emily Alvarez, Univ. of Colorado Denver

Kirstin Blanzy, Univ. of Florida Gainesville

Ross Calhoun, Colorado College

Gregory Colucci, Univ. of Colorado Denver

Celine Davis, Univ. of Colorado Boulder

Brianne Eby, Univ. of Colorado Boulder

Alexandra (Alex) Gougeon, Univ. of Denver

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Sofia Ponte, Univ. of Colorado Boulder

Andrew Rasmussen, Univ. of Colorado Denver

Leiloni Nichols Shine, Univ. of Wisconsin Stevens Point

Olivia Tracy, Regis Univ.

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Thomas Borch, Ph.D.
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Jake Smith (1949-2011)
Jeannette Sutton
Kara Swanson
William M. Vaughan, Ph.D.
Janice R. Ward
Andrea Watson
James M. Williams
Keith Wood

The Tree Project Steering Committee

Desirée Cunningham, U.S. General Accountability Office
Danielle DiMauro, U.S. Department of the Interior
Lloyd Levy, Lloyd Levy Consulting
Sean Mangus, University of Colorado Leeds
Judith Ward, Critical Habitats, Inc.
Andrea Watson, National Renewable Energy Laboratory
Keith Wood, Colorado State Forest Service

Chemical Footprint Project Steering Committee

Nancy Billica, University of Colorado Boulder
Thomas Borch, Colorado State University
Caroline Byus, Leonard Rice Engineers
Greg Fabisiak, CO Dept. of Public Health and Environment
Shannon Phelps, SeaCrest Group
Susan Sherrod, Ecologist
Michael Sherry, CO Dept. of Public Health and Environment
Andrea Stucky, CO Dept. of Public Health and Environment
Janice Ward, USGS, retired

2015 Financial Report

IES is driven by volunteer staff members, interns, associates, pro-bono professionals, and community members donating their time, energy, resources, and expertise. In 2015, these individuals contributed over $126,000 in in-kind contributions. Individual contributions of $100 or less constitute the majority of IES's monetary support. IES dedicates over 80% of its funds directly to project planning and implementation. Project work includes project materials, trees, shrubs, grasses, outreach materials, technical equipment, educational and workshop materials, and, when possible, modest stipends to graduate interns.

		Administration and Fundraising	Projects	TOTAL
INCOME	Grants	$4,419	$14,256	$18,675
	Interest	16		16
	Unrestricted Board Contribution	950		950
	Unrestricted Contribution	11,753	236	11,989
	Fund transfer from 2014			31,750
	Total Income	**17,137**	**14,492**	**63,379**
EXPENSE – DIRECT EXPENSE	Insurance	$231	$463	$694
	Administration, meeting & travel, internet, operations	1,186	5,427	6,613
	Office supplies	550	1,494	2,044
	Printing and reproduction	1,075	1,703	2,778
	Technical Supplies		1,817	1,817
	Total DIRECT EXPENSE	**3,042**	**10,904**	**13,946**
EXPENSE – LABOR	Executive Director			pro bono
	Attorney			pro bono
	Administrative expense	1,320	1,850	3,170
	Interns and Associates	936	16,675	17,611
	Total LABOR	**2,256**	**18,525**	**20,781**
	Total Expense	**$5,299**	**$29,429**	**$34,728**
	Fund transfer to 2016			**$28,652**

Donate Now

PLEASE DONATE TO IES!

Ten out of 10 doctors recommend clean air and water. Follow your doctor's orders and support IES today!

Your tax-deductible charitable contributions to IES benefit your health and your environment.

PLEASE SEND DONATIONS TO: IES, 761 Newport Street, Denver, CO 80220.

Credit card donations are welcome at www.ColoradoGives.org/i4es/.

Help Keep Our Air and Water Clean!

Sponsor or host a workshop, display, or presentation on reducing exposure to contaminants in household and personal care products or planting the right tree in the right place. IES welcomes community groups, businesses, and citizen participation. **For more information, please email Solutions@i4es.org.**

Get involved! Volunteer!

IES Volunteer Opportunities:

- IES Chemical Footprint Project Team or Tree Project Team
- Liaison with your community or organization
- IES Project Steering Committees
- IES Board of Directors
- Stakeholder Advisory Committee
- Tree Steward

Institute for Environmental Solutions

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Denver, CO 80220-5554
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www.i4es.org
Solutions@i4es.org

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In support of the Tree Project:
City of Wheat Ridge
Colorado Garden Show
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Patagonia Denver
Xcel Energy Foundation *Thank you for your continued support!*

IES In-Kind Donors

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Sheridan School District No. 2
South Suburban Parks and Recreation District
Design Workshop, Denver
Lynn David Bird, Caplan & Earnest, LLC, Boulder
Heather Schneider, Golden Marketing, LLC, Golden
Abner's Garden Center, Wheat Ridge

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