Institute for Environmental Solutions

Annual Report 2016

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

From the Executive Director

The Institute for Environmental Solutions is proud that we made it easier to be green in 2016. Whether working with stakeholders to improve urban forests in the Denver metro area or helping people understand and eliminate the harmful chemicals used daily in household products, IES continued to tackle challenging problems and improve the environment.

This is possible because of the hard work and enthusiasm of IES volunteers and stakeholders, and the support of our generous donars. IES boasts a community of dedicated associates, interns, board members, and tree stewards giving their time and talent to the organization. Our community partners in Sheridan and Wheat Ridge continue to provide indispensable support for IES projects. IES is truly volunteer and community driven.

The progress made by the IES Tree Project and IES Chemical Footprint Project is inspiring. The Tree Project implemented the fifth year of tree planting and education in Wheat Ridge and the second year of programs in Sheridan. The Chemical Footprint Project expanded the Save Our Water Initiative and the Reduce Your Chemical Footprint Handbook. We are excited to build on this momentum in 2017.

Thanks to everyone who made 2016 an incredible success and who helped grow IES's mission to deliver scientific solutions to improve our health and environment.

Carole Lyons, Executive Director

It's easy being green

Through our community programs planting trees, preventing pollution, reducing toxic chemical exposure, training tree stewards, and teaching children to protect their environment, IES demonstrates that it is always easy to be green. Children caring for trees in the Greenbelt exclaim, "It's fun!", to get their hands dirty. Tree stewards are happy to give back to the open space they rely on for walking, jogging, biking, and birding. Leadership students are wide-eyed to realize how their work has produced a forest of healthy trees to benefit their community. Community members are delighted to save money and improve their health with home-made non-toxic cleaning and personal care products. Everywhere IES works, we share the message that it IS easy being green.

IES is proud to be a member of:

1% FOR THE PLANET

CCC COLORADO COMBINED CAMPAIGN STATE EMPLOYEES Giving. Caring. Sharing.

NWN [the network]

RMWEA Elevating Water Professionals

COLORADO TREE COALITION

COLORADO WATERSHED ASSEMBLY

Colorado NONPROFIT Association

urban waters partnership

amazonsmile

COLORADOGIVES.ORG A program of Community First Foundation

It's easy being green: Two parts olive oil and one part lemon juice makes a great wood polish.

What We Do

The Institute for Environmental Solutions delivers scientific solutions to improve our health and environment. We are dedicated to reducing our ecological footprints and making it easy to be green.

IES Tree Project

The IES Tree Project teaches communities how to plant and care for trees, and helps people better understand the ecological and human health benefits of trees. We get people, young and old, outdoors and help keep their urban forests and public spaces green.

The Chemical Footprint Project

The Chemical Footprint Project engages community members to reduce their chemical footprints through research, outreach, and green living workshops and guides. Reducing the use of harmful chemicals is a simple, cost effective way to be green, protect health, and reduce pollution.

IES Key 2016 Accomplishments

- IES celebrated seven years of community tree planting, including five years of projects in the Wheat Ridge Greebelt.
- Kullerstrand Elementary School students participated in educational workshops and a planting day.
- Wheat Ridge Recreation Center Summer Sun Campers cared for Greenbelt trees (more on page 4)
- In the second year of the Sheridan Quincy Tree Project, the Fort Logan Northgate Leadership Class learned the importance of environmental stewardship and planted and cared for trees
- IES Tree Stewards donated their time and effort to care for and ensure the success of tree planting.
- The CFP team grew the Save Our Water Initiative (more on page 5)
- The CFP team hosted the Fall CREEC meeting (more on page 5)

It's easy being green: Stratgically placed shade trees (on the southwest side of your house) reduce air conditioning needs in the summer.

The Tree Project

The IES Tree Project's mission is to improve the environmental quality of Colorado using tree science. We're proud to work with Colorado Front Range communities to improve vital urban green spaces while training the next generation of environmental stewards.

Greenbelt Restoration and Environmental Education Network (GREEN)

The Tree Project successfully implemented the first year of the three-year pilot Greenbelt Restoration and Environmental Education Network (GREEN) program in Wheat Ridge. The project restored areas of the Wheat Ridge Greenbelt along the newly constructed path at the Kipling Trailhead. IES worked with students from Kullerstrand Elementary enrolled in the Teaching Responsibility and Independence with Learning Supports program (TRAILS) along with General Education students, teachers, and parents. The students learned about local ecology in classroom workshops and participated in a spring planting day. The students planted over 120 trees and shrubs, and removed weeds along Clear Creek. IES partnered with the Wheat Ridge Recreation Center Summer Sun Camp program where campers watered trees at the site bi-weekly through the summer.

Project partners included Wheat Ridge Parks and Recreation, Kullerstrand Elementary School, the City of Wheat Ridge, Wheat Ridge Recreation Center Summer Sun Camp, First Unitarian Church Denver, Infinitus Pie Wheat Ridge, and the IES Tree Stewards.

Sheridan Quincy Trail Project

IES expanded and strengthened partnerships in the City of Sheridan during the Sheridan Quincy Trail Project. Leadership class students at Fort Logan Northgate 3-8 School learned about environmental stewardship and community action in two workshops. The students helped plan and implement the community planting day at the Sheridan Quincy Trail in the fall. The students, armed with their own stewardship contract, helped care for the 2015 trees that they planted and the 2016 shrubs and grasses through the school year. At the planting site IES and our project partners installed the Cube, a water tank encased in a bilingual educational visual display of Colorado's ecology inspired by the Leadership students and designed by DesignWorkshop Denver. The site received further attention when IES was selected to host an Xcel Energy Day of Service volunteer event in September. Over 20 Xcel employees and community volunteers removed invasive species, and tilled and graded the planting site, preparing it for the student planting day. They also watered and mulched trees from the 2015 planting day.

Project partners included the Fort Logan Northgate 3-8 School, Sheridan School District No. 2, South Suburban Parks and Recreation District, DesignWorkshop Foundation, City of Sheridan, Xcel Energy, Colorado Garden Foundation, and Patagonia Denver.

It's easy being green: Evergreen trees can block winter winds, keeping cold drafts out of your home in the winter.

The Chemical Footprint Project

Chemical Footprints

Your chemical footprint is a combination of all the chemicals you use in personal care, beauty care, household cleaning products, garden products, and pharmaceuticals. The chemicals found in many of these products contribute to water pollution, harm our environment, and pose serious risks to our health.

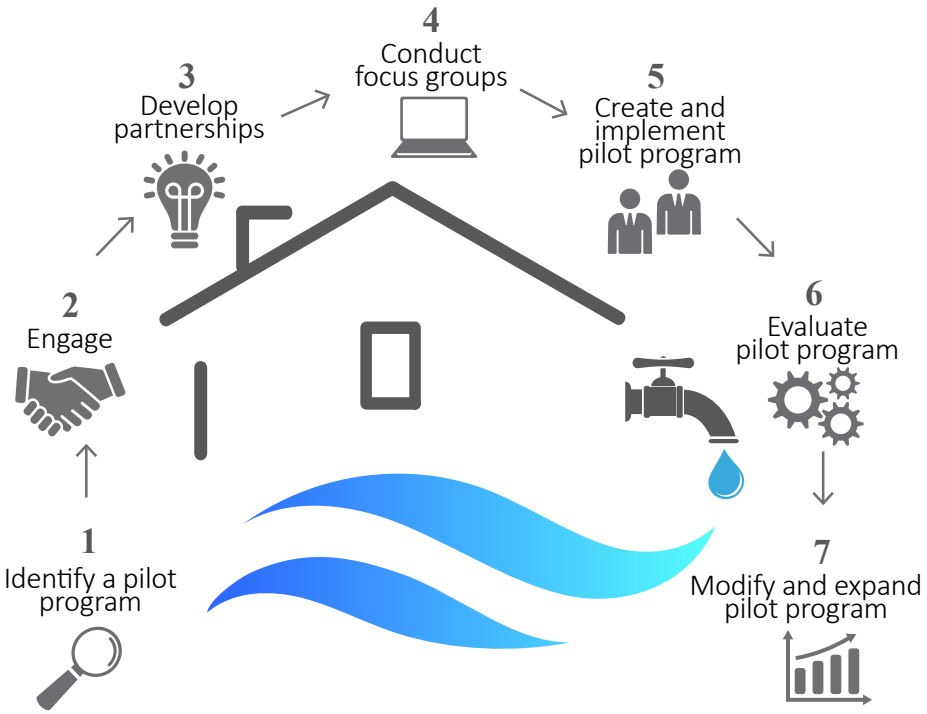
Our Mission

The IES Chemical Footprint Project (CFP) mission is to prevent water pollution and protect human and environmental health by reducing household and commercial chemical footprints.

Our Goals

- Demonstrate how to shop smart, use less, and make your own products to reduce your chemical footprint.
- Educate kids and adults that prevention of contaminants in water is more effective and cheaper than treatment.
- Foster commitment to reduce use of personal care, food, and household products that contain harmful contaminants.
- Demonstrate that prevention of trace contaminants in water is cheaper, more effective and more sustainable than treatment.
- Identify safe and effective alternatives to products containing chemicals of concern.

Communities for Clean Water Initiative



The IES Chemical Footprint Project is researching Denver metro communities to find a pilot city to launch our Communities for Clean Water Initiative and begin reducing chemical footprints.

Spreading the Word About Communities for Clean Water

In 2016, the Chemical Footprint Project team hosted the Fall Consortium for Research and Education on Emerging Concern (CREEC) meeting in Denver. Instead of the typical CREEC presentation describing the effects of, treatments, and analytical methods for CECs, IES focused the entire meeting on fostering sustainable behavior to prevent CEC water pollution. IES highlighted the Communities for Clean Water Initiative, which uses community-based social marketing methods to prevent pollution, cheaper and more effective than treatment. Ms. Krystal Hermann from the University of Nebraska discussed the Nebraska Watershed Network community-based citizen science atrazine monitoring program. Dr. Erica Hartmann, Northwestern University, described how household products might be creating drug-resistant microbes.

Shop smart, use less, and make your own products to reduce your chemical footprint!

It's easy being green: Avoid artificial fragrances; buy unscented products or ones that are scented with plant-based essential oils.

Education, Action, Community: IES Tree Stewards

IES has now planted hundreds of trees, shrubs, and grasses across the Denver metropolitan area over eight years to improve open spaces, reduce pollution, and enhance community health. The biggest challenge to the success of community planting programs is providing care for the new plants over the first critical three years of their lives. Without water, mulch, weed removal, and disease prevention, most of the new plants would die.
IES's dedicated band of volunteer community Tree Stewards is responsible for our stunning success in the survival of the trees. IES Tree Stewards contribute hundreds of hours each year, lugging tens of thousands of gallons of water and tons of mulch to care for the new plants. The IES Tree Stewards flourish under the inspired leadership of Don Mangus.

IES Tree Stewards

"My dogs and I use the Greenbelt trails every day. I see the impact of storms and wear and tear on the plants, and know that this high-use area can't recover and maintain its natural beauty without our help. Volunteering means more than watering trees and shrubs: it also means working with community youth and teaching them about plant care and community stewardship."

- Susan Crisfield

"I use the Greenbelt a lot and feel like I ought to give some payback to maintain it. I have two granddaughters who use the Greenbelt. I like that it's as natural as it can be in the middle of the urban area."

- Rob Robinson

"We live in this area and love the Greenbelt, the trees, and nature. When we are watering, we are helping to preserve the environment."

- Kelly Stiponovich

"We love volunteering for the Tree Project because it's so much fun to enhance the beauty and environment of our surroundings through care and patience for the betterment of our community. We enjoy being outside, helping a good cause, and watching the transformation of the planting sites take place."

- Heather Johnson and Dan Shannon

"Being a Tree Steward gives me a good outlet to be outdoors and contribute to the environment. It gets an old man out the house! When I am watering trees, kids and adults stop by and want to know what I'm doing, so I get to talk to them about the Greenbelt and how the trees benefit the environment."

- Art Hertel

"I"m a Wheat Ridge resident, so I'm really committed to having many healthy happy trees everywhere in our city. When I'm out caring for trees, I get a chance to see the Greenbelt in depth. I enjoy sharing the experience with all the other stewards."

- Lloyd Levy

"I like plants and helping nature."

- Sierra Ward

Thanks to all IES Tree Stewards!
Lisa and Jon Berquist, Andrew Bingham, Lois and John Brooks, Susan Crisfield, Catherine Dougherty, Joann Freedman, Art Hertel, Heather Johnson and Dan Shannon, Lloyd Levy, Lynnea Ossello, Betty Jo Page, Rob Robinson, Kelli Stiponovich, Sierra Ward, Judy Ward

It's easy being green: Remember your canvas grocery bag when you go to the store, and use it!

IES Contibutors / Financial Report

IES Board of Directors

Kristen Bertuglia, Environmental Sustainability Coord., Town of Vail Community Development
Floyd Boyard, *Secretary* Manager, Analytical Department, Marathon Oil Co. (retired)
Lisa Cavanaugh, V.P. Organizational Effectiveness & Business Strategy, Magna Energy Services
Jennifer Schick, Attorney
Jacob Schlesinger (2017) Partner, Keyes & Fox LLP
Lindsey Stegall, *President* Policy & Regulatory Analyst, CO Energy Office
Kathleen Thaxton, *Vice President* Senior Sales Professional
Michael Verdone, Ph.D. (2017) Associate, BBC Research & Consulting
Elizabeth Woodruff, *Treasurer* Process Engagement Manager, DaVita

IES Staff Members

Lynn David Bird, Attorney, Caplan & Earnest LLC (pro bono)
Alana Burrow, Administrative Director
Danielle Granquist, Graphic & Website Designer, Golden Marketing LLC
Shannon Herstein, CFP Project Associate (pro bono)
John Kelly, Tree Project Manager
Carol E. Lyons, Executive Director (pro bono)
Don Mangus, Tree Steward Coordinator (pro bono)
Sean Mangus, Tree Project Associate
Michael Smith, CFP Project Associate
Patti Venneman, Tree Project Coordinator

IES Graduate Interns

Elizabeth Angell, Texas Tech Univ.
Kirstin Blanzy, Univ. of FL Gainesville
Lee Brann, Univ. of CO Boulder
Kate Brayton, Univ. of Illinois (2017)
Brianne Eby, Univ. of CO Boulder
Kevin Gallagher, CO State Univ.
Alexandra Gougeon, Univ. of Denver
Amy Maxey, Univ. of Iowa
Alexandra McHenry, CO State Univ.
Maggie Michael, Univ. of CO Denver
Elizabeth Morgan, Univ. of CO Denver
Marie Mutryn, Univ. of Delaware
Lindsay Nerad, CO State Univ.
Du Nguyen, Univ. of the Philippines (2017)
Olivia Tracy, Regis Univ.

IES Institute Associates

W. Gale Biggs, Ph.D.
Nancy Billica, Ph.D.
Thomas Borch, Ph.D.
Caroline Byus
Desirée E. Cunningham
Danielle DiMauro
Ann Frazier
Ken Fucik
Ruth Gaulke
Ed Harvey
Shannon Herstein
Douglas L. Jeavons
Brian P. Kelly
Sabrina Kleinman (2017)
Alan Kolok, Ph.D.
Anatole (Tony) Konowal
Paul W. Lander, Ph.D.
Lloyd Levy
Karen J. Lewis
Ann J. Lockhart
Yves Parent, Ph.D.
Shannon D. Phelps
John S. Sanderson, Ph.D.
Heather Schneider
Susan K. Sherrod, Ph.D.
Jake Smith (1949-2011)
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, DaVita Kidney Care
Judith Ward, Critical Habitats, Inc.
Keith Wood, Colorado State Forest Service

Chemical Footprint Project Steering Committee

Nancy Billica, University of Colorado Boulder
Caroline Byus, Leonard Rice Engineers
Greg Fabisiak, Colorado Department of Public Health and Environment
Shannon Phelps, SeaCrest Group
Susan Sherrod, Ecologist
Michael Sherry, Colorado Department of Public Health and Environment

2016 Financial Report

In 2016 our volunteers, board members, interns, committee members and associates contributed over $144,000 in in-kind contributions. IES's primary source of monetary support comes from individual donors. Over 83% of contributions and funding directly supports projects which 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	$2,420	$7,760	$10,180
	Interest	12	0	12
	Unrestricted Board Contribution	1500	0	1,500
	Unrestricted Contribution	13,341	0	13,341
	Fund transfer from 2015	7,163	21,489	28,652
	Total Income	**$24,436**	**$29,249**	**$53,684**
EXPENSE – DIRECT EXPENSE	Insurance	231	463	694
	Administration, meeting & travel, internet, operations	921	5,128	6,048
	Office supplies	880	1,419	2,300
	Printing and reproduction	1,066	3,761	4,827
	Technical supplies	0	4,953	4,953
	Total Direct Expense	**$3,099**	**$15,723**	**$18,823**
EXPENSE – LABOR	Executive Director			pro bono
	Attorney			pro bono
	Administrative expense	1,255	1,675	2,930
	Grad student interns	428	14,858	15,286
	Research Associates	0	1,467	1,467
	Total Labor	**$1,683**	**$18,000**	**$19,683**
	Total Expense	**$4,783**	**$33,723**	**$38,506**
	Fund transfer to 2017			**$15,179**

Get involved. IES loves volunteers!

You can use your expertise and help IES. We welcome volunteers with a variety of backgrounds to join our teams or committees, and support IES. IES projects and leadership boards provide many opportunities to engage in rewarding and fulfilling community improvement.

IES volunteer opportunities include:

- IES Chemical Footprint Project Team or Tree Project Teams
- IES Project Steering Committee (Chemical Footprint Project & Tree Project)
- IES Board of Directors
- Stakeholder Advisory Committees
- Tree Stewards

It's easy being green: Clean up after your dog to avoid waste going into the water system; and use compostable poop bags.

It's easy being green: An apricot body scrub is better for water than a body scrub with microbeads.

Donate Now

Your 100% tax deductible contribution directly supports programs that improve the environment and human health. When you donate to IES, you're helping grow a community of environmental stewards that will continue to make a difference for years to come.

Please send donations to: IES, 761 Newport Street, Denver, CO 80220

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

Thank You 2016 Donors!

We are grateful for your support.

Forest Defender ($2,500 to $4,999)

Yves Parent, Ph.D., Golden

River Warrior ($1,000 to $2,499)

Betty Jo Page, Wheat Ridge

Alpine Advocates ($500 – $999)

Anonymous
Suzanne and Gale Biggs, Boulder
Liz Gardener, Denver
Magna Energy Services, LaSalle
Susan Sherrod and Andrew Lillie, Golden
James Williams, Denver

Tree Hugger ($250 – $499)

Floyd and Jackie Boyard, Denver
Buffalo Exchange, Denver
Lisa Cavanaugh, Golden
Anne Farrell, Santa Fe, NM
Ed and Steph Harvey, Denver
Jagged Mountain Craft Brewery, Denver
John and Denise Kelly, Evergreen
Mark and Nina Kuhl, Denver
Karen and Bob Lewis, Chicago, IL
Mark and Diana Stucky, Silverthorne

IES Partner ($100 – $249)

Kristen Gray Bertuglia, Vail
Nancy Billica and Brian Vickers, Boulder
Chubb and Son, Warren, NJ
Desiree Cunningham, Denver
Michael DeSeguin, Lakewood
FirstBank Incentive Fund, Denver
Al Gerace, Denver
Gertrude Grant, Denver
Mara and Arthur Hertel, Wheat Ridge
Carl Howard, Ph.D., Boulder
Joyce Jay, Wheat Ridge
Doug Jeavons, Denver
Charles and BJ Kelly, Roseville, CA
Marjorie W. Kelly, Roselle, NJ
Dave Knapp, Los Gatos, CA
Tony Konowal, Denver
Ann J. Lockhart, Denver
S. Ron Oliver, Guffey
Orbio Technologies, St. Louis Park, MN
Shannon Phelps, Louisville
George Pond, Wheat Ridge
Jennifer Schick, Glendale
Alex Stegall, Arvada
Bernice and Anschel Tarlie, Centennial
Kathleen Thaxton, Arvada
John Thornton, Littleton
William Vaughan, East Orleans, MA
The Waltermire Family Charitable Fund, Castle Rock

IES Friend ($10 – $99)

Albertsons, Albertsons.com
AmazonSmile, smile.Amazon.com
Anonymous
Susan Bardwell, Denver
Bill Battaglin, Ph.D., Golden
Jennifer Bracy
Greg Colucci, Denver
Hannah Julaine Clark, Laramie, WY
Susan Cuthbert-Peck, Littleton
Ann G. Frazier, Morrison
Mary Kvamme, Arvada
Amory Ledyard, Brooklyn, NY
Lloyd E. & Patricia Barry Levy, Wheat Ridge
Sean Mangus, Denver
Bill McKee, Golden
Patrick DePriest
Elizabeth Fay, Buena Vista
Ruth and Jim Gaulke, Parker
Phil Russell, Englewood
Betty Stegall, Pretty Prairie, KS
Lindsey Stegall, Arvada
Andrea Stucky, Denver
Janice Ward, Windsor
Elizabeth Woodruff, Denver
Rosemary Wormington, Westminster

Grants and Sponsors

IES thanks our generous sponsors and grant providers!

FirstBank "Why Colorado Gives" Prize
White Waves Food Company

In support of the Tree Project:

Colorado Garden Show
First Unitarian Society Denver
Patagonia Denver
Wheat Ridge Outside Agency Contribution Program
Xcel Energy Day of Service

IES In-Kind Donors

IES partners and stakeholders make our programs possible and successful!

City of Sheridan, CO
Design Workshop, Denver
Fort Logan Northgate 3-8 School, Sheridan
Kullerstrand Elementary School, Wheat Ridge
Lynn David Bird, Caplan & Earnest, LLC, Boulder
Sheridan School District No. 2
South Suburban Parks and Recreation District
Wheat Ridge Parks and Recreation Department
Wheat Ridge Recreation Center Sun Camp

Thanks to the **Daniels Fund** *(***Patrick Kennedy** *and colleagues) for providing wonderful meeting space for all IES Board and Committee meetings!*

The 2016 IES Annual Report was written by Sean Mangus, IES Associate, and designed by Julia Smith, Propel Marketing and Design Inc.

You can support your community through education!

Sponsor or host a workshop! IES will show you how to reduce exposure to harmful chemicals contaminants or how to plant the right tree in the right place and properly care for it. IES welcomes community groups, businesses, and other community participation. For more information, please email Solutions@i4es.org.

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