Institute for Environmental Solutions

# 2012 Annual Report

The Institute for Environmental Solutions is an independent non-profit organization that engages stakeholders to deliver technically sound solutions to complex environmental and health problems — without unwanted side effects.

## FROM THE BOARD CHAIR AND EXECUTIVE DIRECTOR

In 2012, the Institute for Environmental Solutions (IES) forged new partnerships and renewed old ones to advance real-world environmental and health improvements in our community. We continued to build our expertise while training the growing contingent of young environmental professionals who are instrumental in IES's success. In doing so, IES is pushing the leading edge of practical and effective science-based strategies to implement measurable environmental improvement.

IES conducted numerous successful community-based projects in 2012. For example, IES's Tree Project team is excited about its collaboration with the City and County of Broomfield, Xcel Energy, North Metro Fire, and the Colorado State Forest Service on the Trees for a Healthy Community and Economy project in Broomfield. This community forestry project is improving environmental, social, and economic health in Broomfield's emerging civic center. The purpose of the project is to use strategic urban forestry to improve environmental health and economic vitality in Broomfield. The project represents another major step forward in our multi-year collaboration with the Colorado State Forest Service and Xcel Energy, and a significant expansion of our community outreach in building a strong partnership with the City and County of Broomfield and North Metro Fire.

In another example, the IES Contaminants of Emerging Concern (CEC) Project team continued IES's strong partnership with Mitchell Elementary School in Golden, launching the Blue Crew Water Stewards program. Through this workshop program IES teaches elementary students about water pollution, how to reduce it, and how to help others do the same. It introduces students to CECs and their effects on Colorado ecosystems and the health of humans and other animals. IES helped students conduct experiments and make their own CEC-free hand sanitizer. Such IES hands-on workshops are first steps toward creating a generation of water stewards in Colorado, in large part because the energetic and forward-thinking teachers and parents at Mitchell Elementary are pioneers in environmental education. The Mitchell students were engaged and excited, and participated energetically during the workshop.

**IES is pushing the leading edge of practical and effective science-based strategies to implement measurable environmental improvement.**

Also at Mitchell, IES and community volunteers planted 40 trees in 2011 as part of our Trees for Healthy Kids and Community project sponsored by Xcel Energy. After a year, the trees, which form a living barrier between the school and busy Highway 93, are flourishing. "These trees have done remarkably well in the first phase of establishment. The successful tree survival rate is notable, especially in light of the drought in the Front Range," says Golden City Forester Dave High, a project advisor. Trees for Healthy Kids and Community will enhance the area for generations by reducing air pollution, sequestering carbon, conserving water, calming wind, and preventing noise. IES plans to engage in similar projects in the future.

**The IES Board of Directors is proud to support the talented volunteers who put the IES mission into action. We invite you to join us in our commitment to develop and implement sound scientific solutions to reduce pollution, improve human health, and care for the environment. IES made great progress in 2012. With your continued support, there will be more good news in 2013.**

**Carol Lyons**
Executive Director
carol@i4es.org

**Andy Lillie**
Chair, Board of Directors
andrew.lillie@hoganlovells.com

**Community involvement is the cornerstone of successful environmental improvement and protection. Every generation needs to be involved for our environment to survive and thrive.**

IES works with communities, citizens, schoolchildren, scouts, teenagers, stakeholders, teachers, parents, local governments and businesses to care for our environment and protect our health.

In 2012, IES research, analysis, planning, project organization, and communication incorporated active collaboration with all community members.

- We created a Design Work Group that helps a local communities design strategic landscape plans for ecosystem restoration.
- We conducted talks and workshops to educate the public on the dangers of common contaminants to reduce pollution and improve health.
- We have made it a special priority to reach younger generations, especially those in elementary schools, and teach them about ways they can make a difference.
- We continued a multi-year partnership with parents, teachers, and students to improve school and home environments.

IES uses multidisciplinary technical approaches to find science-based solutions for complex environmental problems. Through stakeholder inclusion and education initiatives, IES strives to deliver these solutions in a way that benefits everyone in the neighborhood.

The North Metro Fire Rescue District helped plant trees during the Trees for Healthy Community and Economy in Broomfield.

| 2012 FINANCIAL REPORT | Admin. & Mgmt. | Fundraising | Projects | Total |
|---|---|---|---|---|
| **INCOME** | | | | |
| **Fund transfer income** | $6,245 | - | - | $6,245 |
| Grants | $3,950 | - | $13,724 | $17,674 |
| Interest | $2 | - | - | $2 |
| Board contributions | $1,260 | - | - | $1,260 |
| Individual contributions | $24,612 | - | - | $24,612 |
| **Total INCOME** | $36,069 | - | $13,724 | $49,793 |
| **EXPENSE** | | | | |
| **DIRECT EXPENSE** | $69 | | $590 | $659 |
| Dues,Training, Reg.Fees | $139 | | $555 | $694 |
| Insurance | $193 | | $451 | $644 |
| **Internet and website** | **$340** | **$230** | **$613** | **$1,183** |
| Mtg./conference supplies | $95 | $226 | $1,346 | $1,667 |
| Mileage | $404 | | $325 | $729 |
| Office expenses | $13 | $1,051 | $29 | $1,093 |
| Postage, shipping | $1,447 | $400 | $2,246 | $4,093 |
| Printing and reproduction | | | $5,874 | $5,874 |
| **Technical equipment** | | | **$190** | **$190** |
| Telephone servies | | | $111 | $111 |
| **Total DIRECT EXPENSE** | $2,700 | $1,907 | $12,330 | $16,937 |
| **LABOR** | | | | |
| Executive director | | | | Pro bono |
| Attorney | | | | Pro bono |
| Administrative director | $1,255 | $70 | $1,200 | $2,525 |
| Grad student interns | $1,121 | $800 | $10,138 | $12,058 |
| Research Associates | $1,795 | $950 | $13,529 | $16,273 |
| **Total LABOR** | $4,171 | $1,820 | $24,866 | $30,856 |
| **TOTAL EXPENSE** | $6,871 | $3,726 | $37,196 | $47,793 |
| **NET** | | | | $2,000 |

| VOLUNTEER CONTRIBUTIONS | Hours | Value |
|---|---|---|
| Board Members | **170** | **$3,400** |
| Graduate Interns | **2,402** | **$48,040** |
| Institute Associates | **498** | **$9,960** |
| Staff Members | **1,316** | **$98,870** |
| **Total Volunteer In-Kind Contributions** | **4,386** | **$160,270** |

IES operates primarily with volunteer contributions and labor. Well over $160,000 in volunteer labor was contributed in 2012 by IES board members, graduate student interns, institute associates, and staff members. Financial donations from individuals are IES's greatest source of funding, with most donations $100 or less. IES devotes over 75% of its cash inflows to project work, supporting graduate interns when possible with modest stipends, and paying for project supplies, such as trees, educational materials, informational printing, and technical equipment.

# THE TREE PROJECT

**We improve environmental quality of Colorado cities using tree science. Through strategic tree selection and maintenance we also improve community health and local economies.**

THE TREE PROJECT
ENERGY • WATER • AIR • CARBON

**IES worked with the City and County of Broomfield to design and implement a plan to plant trees, improving the environment to promote social interaction, attract consumers to future business, and improve health.**

**The goal of the IES Tree Project is to improve the urban environment and health through strategic tree planting. To achieve this, we facilitate collaboration among many community groups and individuals to find optimal solutions to urban environmental challenges with trees.**

Trees can have both positive and negative impacts on our environment and health. Every tree generates oxygen, improves air quality, recycles water, and controls soil erosion. But the wrong tree in the wrong place can reduce air quality, increase energy use in buildings, or die before returning any environmental or social benefit. It is important that communities make smart decisions when investing in trees

**Trees for Healthy Community and Economy, Broomfield, CO —** IES completed its second major community forestry project, Trees for a Healthy Community and Economy, using strategic tree selection, siting, and planting to improve environmental quality and economic vitality in the City and County of Broomfield's emerging civic center. The civic center area, between the library and the North Metro Fire Administration Building has high potential for development. IES capitalized on the proposed development to cost-effectively create a natural environment that will promote social interaction, attract consumers to future businesses, and improve environmental and human health.

This project was implemented through collaboration among IES, City and County of Broomfield, Xcel Energy, North Metro Fire Rescue District, Bios-LDR, Colorado State Forest Service, Broomfield Community Foundation, and local businesses and community organizations. In-kind contributions, cash, and material donations funded the project, building on a major grant from Xcel Energy.

IES developed a strategic landscape plan to attract more people to Broomfield's city center and improve environmental and economic health. In April 2012, over 60 Broomfield community members planted 44 new trees.

To support the tree planting, IES conducted a community survey to measure the economic benefits of urban forests. The project also included an educational program focused on teaching the Broomfield Community about the environmental, social, and economic benefits of trees. The IES education booth introduced volunteers of all ages to the project design, tree selection, and tree facts. *Trees for a Healthy Community and Economy* is a replicable model for implementing community-oriented economic development programs based on integrated environmental improvement.

# "The true meaning of life is to plant trees, under whose shade you do not expect to sit." —Nelson Henderson

## Wheat Ridge Revive the Greenbelt!

IES latest Tree Project endeavor, *Revive the Greenbelt!*, is a community tree planting, research, and education program to restore and revitalize a popular recreation area along Clear Creek in the Wheat Ridge Greenbelt. We will use strategic tree selection, planting, and maintenance to restore significant canopy loss along Clear Creek. IES, the City of Wheat Ridge, and our project partners are collaborating to tackle multiple environmental challenges including low tree survival, degraded waterways, invasive species, and habitat loss in the Greenbelt. Funding is provided by Xcel Energy and the Colorado State Forest Service Urban Waters Federal Partnership. IES will host a tree-planting event in spring 2013. We will teach Wheat Ridge area community members and Greenbelt visitors about the importance of trees in a favorite recreation site. IES is planning an innovative Tree Steward Volunteer Program to adopt trees and care for them in the first critical years after planting. IES is conducting research, organizing community participation and sponsorships, and developing outreach materials to make this project a success.

IES is working with community members and the City of Wheat Ridge to restore and revitalize the Clear Creek waterway through the Greenbelt.

## THE MILLENNIAL GENERATION – NAVIGATING ENVIRONMENTAL AND ECONOMIC CHALLENGES

Graduate student interns from a wide range of academic backgrounds provide the lifeblood of IES projects, contributing enthusiastic time and energy to implement the IES mission. IES values the contributions and hard work of our many interns. We take our role in providing real world experience to the next generation of environmental professionals seriously, devoting significant resources to training and coaching. Over 70 people have served as IES interns to advance the goals of IES projects and to advance their careers in protecting the environment.

IES interns are entrusted with significant responsibilities on projects and in development. In 2012, interns created lesson plans to teach grade-school students about water pollution, organized all aspects of a community tree planting event, researched why a riparian area has a declining tree population, conducted meetings with City Council members and other local officials, met with IES donors, and designed and wrote technical information material for community members. With their diverse backgrounds and willingness to tackle challenges, our interns see problems and solutions from creative and different perspectives. Their contributions enrich IES and make IES stronger just as IES helps them train to lead in the future.

After serving as IES interns from three months to three years, graduate volunteers often become IES Institute Associates, and continue to contribute to the IES mission.

IES graduate interns educated Mitchell Elementary's sixth graders about the dangers of common contaminants and how to reduce pollution and improve health.

# CONTAMINANTS OF EMERGING CONCERN (CEC) PROJECT

CONTAMINANTS OF EMERGING CONCERN

**IES's Contaminant of Emerging Concern (CEC) Project aims to reduce and prevent contaminants entering water and the environment. CECs are unregulated harmful chemicals 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. We use community-based social marketing to reduce CEC concentrations entering wastewater and reduce human exposure to contaminants. We show adults and children how to make sound, science based decisions to reduce their use of personal care, food, and household products containing CECs.**

## Blue Crew Water Stewards Elementary Education Program

The CEC Team launched the Blue Crew Water Stewards Elementary Education Program at Mitchell Elementary School in Golden, CO. IES held three successful workshop demonstrations on November 30 for three 6th grade classes with enthusiastic involvement from each class. Students learned about CECs and water contamination. The workshop design was centered on hands-on activities and interactive presentations to get the students excited about water stewardship. The kids created CEC-free hand sanitizer to take home with a handout to share with their families. Student and adult evaluations strengthened the design of more CEC-related workshops to be provided at Mitchell in 2013.

The November workshop demonstration advanced IES's environmental education relationship with Mitchell Elementary. IES collaborated with the PTA, principal, and 6th grade science teachers to create an enjoyable, effective workshop. Mitchell PTA members donated time and supplies. The 6th grade teachers were excited to include IES in their curriculum, increasing the impact of the demonstration.

In 2012, IES launched the Blue Crew Water Stewards at Mitchell Elementary School in Golden, CO. With hands-on activities, the students learned about water pollution, how to reduce it, and how to help others do the same.

This pilot workshop led to inquiries to expand the program to other schools in Jefferson County and to collaborate with the Environmental Research Center at the Colorado School of Mines for future student workshops.

The CEC Project Team is will deliver a three-workshop series at Mitchell in April 2013 to build on the workshop demonstration. Students will learn about specific contaminants and how to make contaminant-free products, such as insect repellent and healthy snacks.

## CEC Contaminant Guidebook

The CEC Contaminant Guidebook identifies target CECs and provides a comprehensive overview about each CEC. The CEC Guidebook is designed for interested readers looking for current scientific information about where each contaminant is found, how it is regulated, and its human and environmental health effects. This document is being created for internal, professional, and public use. The CEC Project Team added several contaminants to the guidebook in 2012 and has compiled each contaminant article into a working document that now contains seven contaminants. It will be published in 2013.

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Shannon Phelps, SeaCrest Group

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## SUPPORT GOOD HEALTH AND A HEALTHY ENVIRONMENT

IES is tackling some of our community's most intractable environmental problems, such as toxic contaminants in water, ozone air pollution, community health and climate change. Today, through our two major projects, the Contaminants of Emerging Concern Project and The Tree Project, IES continues to deliver scientific solutions for a better environment. Your support is needed to continue this important work.

### Help Keep The 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. And reduce pollution! IES welcomes community groups, businesses, and citizen participation. For more information, please email Solutions@i4es.org.

### Donate Now

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

To support IES, please send donations to: IES, 761 Newport Street, Denver, CO 80220.

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

100% of your credit card donation at ColoradoGives.org/i4es.org/ goes directly to IES!

### Get Involved

IES welcomes participation in our projects by all individuals and organizations that support our mission and goals.

- Professionals interested in environmental solutions may join IES as Institute Associates or apply to serve on the Board of Directors. Visit our web site or contact us directly for more information.
- Students at a graduate school or advanced level can apply for intern positions listed on the web site.

Please call or e-mail with your questions, comments, and requests for more information.

### IES is proud to be a member of:

ColoradoGives.org — A program of Community First Foundation
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Albertsons
Colorado Watershed Assembly
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NWN [the network]

## THANK YOU, 2012 DONORS!

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