



# ANNUAL REPORT 2013

## FRACTRACKER ALLIANCE

The FracTracker Alliance shares maps, data, and analyses to communicate impacts of global oil and gas industry and inform actions that positively shape our energy future.

# Table of Contents

## Introduction

Executive Director Letter 03

## Highlights

FracTracker Goes National 04  
 Our Reach 06  
 Featured Articles 08  
 Our Collaborations 10  
 International Presence 12  
 In the Pipeline 14

## Management

Funding and Staff 16  
 Staff Biographies 18  
 2013 Interns 21  
 Financial Report 22  
 Board of Directors 23

# Executive Director Letter

Dear Friends,

In the past 18 months, the FracTracker Alliance added staff, expanded our geographic coverage, amplified our social media presence, improved the content and functionality of our website, increased opportunities to contribute photos and data, and continued to develop provocative maps and analyses – all to cultivate a better understanding of the impacts of oil and gas development.

We've reached out to volunteers, activists, academics, and concerned citizens in numerous ways, from hands-on trainings with our mapping tool to presentations to local, regional, and national audiences. Our efforts are ceaseless but always inspired by the importance of the work and the growing list of funders entrusting us with their support. This experience would be hollow without all of you, including website visitors who take the time to inquire and the partners who help us examine issues. We are grateful for your interest.

Every day, we field requests for information. They come from all corners of the country and increasingly beyond our borders. We strive to serve such community needs with comprehensiveness, credibility, and responsiveness. Confronted by the harsh realities of extractive energy, a new strategic plan powers us – building our resources, bolstering our capacity, and boldly furthering our outreach. We'll do our best and, together, we will make a positive difference.



*Brook Lenker*

**Brook Lenker**  
 EXECUTIVE DIRECTOR

# FracTracker goes National

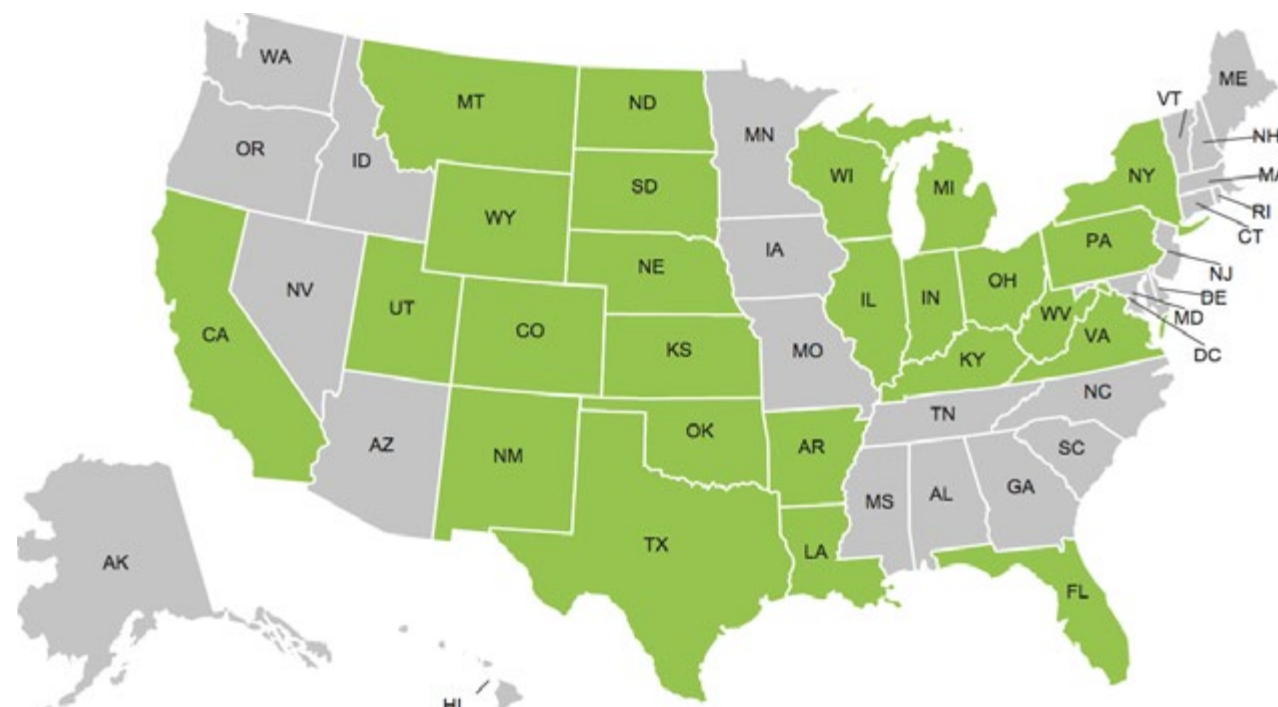
FracTracker originated in 2010 as a website focused on Southwest Pennsylvania. As of the end of 2013 we have grown into the FracTracker Alliance, a non-profit with a multi-state presence and eight staff. As our configuration has changed, so has our attention to other shale basins and regions where help is needed to address oil and gas impacts.

## FracMapper and Additional State Maps

We launched our new mapping system, "FracMapper," in the fall of 2012. Over the last year and a half, the Esri-based platform has received rave reviews. Even so, we continue to invest in ongoing enhancements to FracMapper, adding additional datasets like the horizontally-drilled wells in North Dakota (map, right) and building a parallel data downloads library.

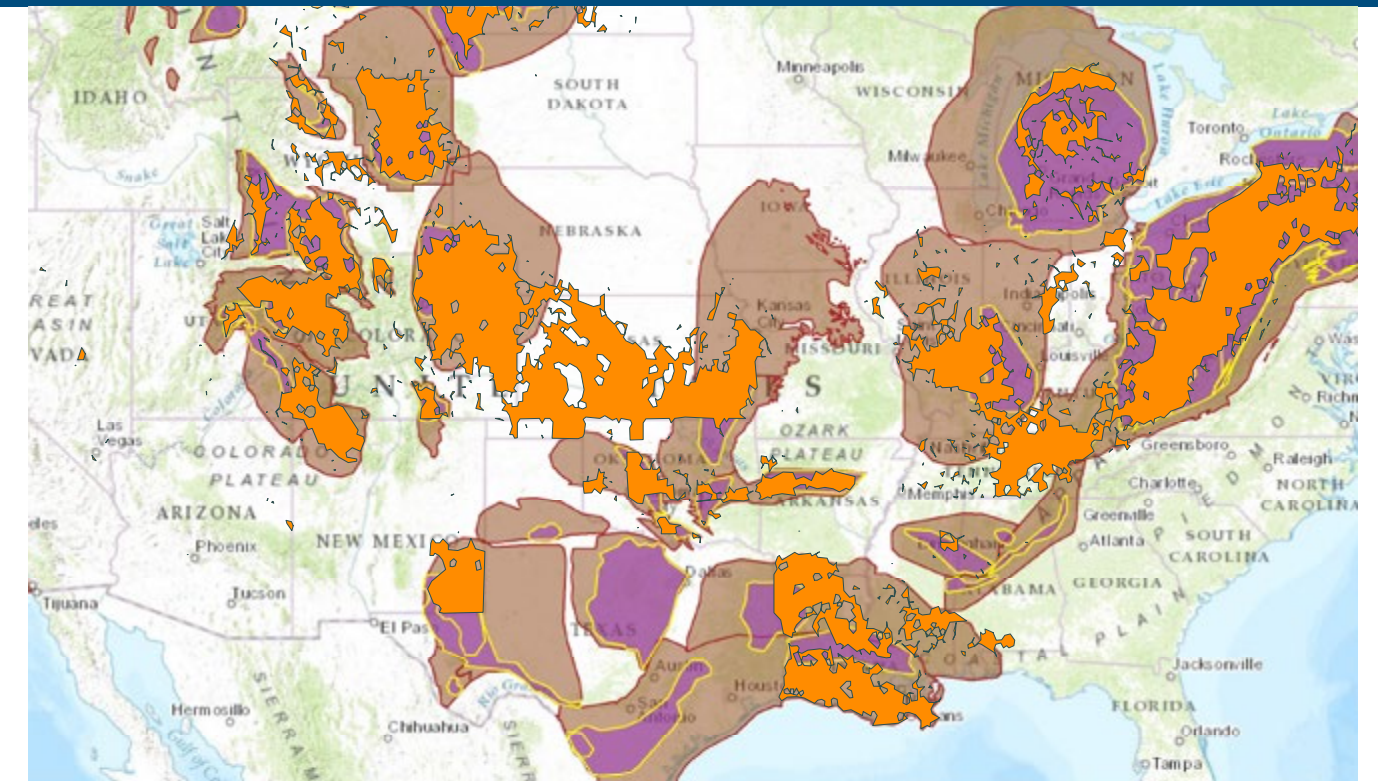


Horizontal wells in North Dakota - zoomed in



States currently covered by FracMapper shown in green

## Introducing FracMapper



There are over 1.1 million oil and gas wells in the United States.

Learn more: [fractracker.org/map](http://fractracker.org/map)



## Wisconsin Sand Mine Tour

Brook Lenker and Ted Auch spent a day in Wisconsin touring sand mines and processing facilities (photo, left). Sand is often used to "prop" open the rock after fracturing is complete. Aside from water, these uniform sand particles constitute the second largest ingredient in fracturing fluid. The northern Great Lakes Basin represents the primary stock for high quality frac sand in the world.

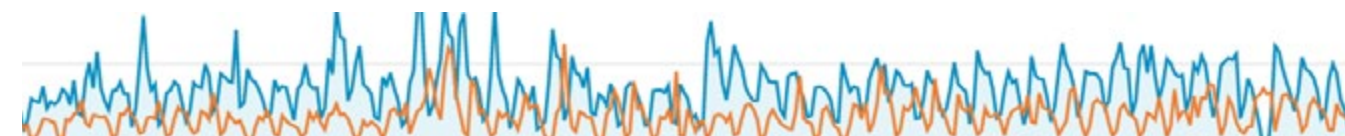
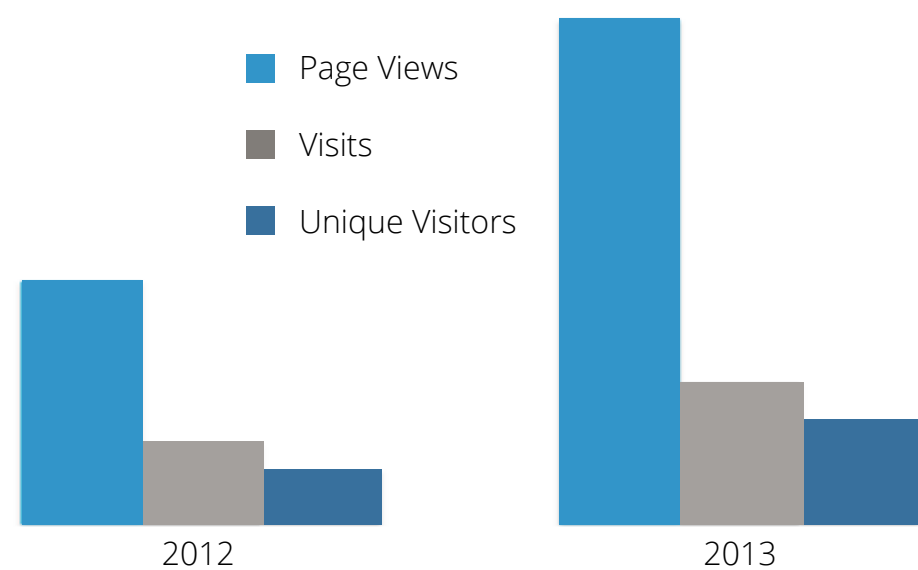
Explore tour photos: [fractracker.org/photos](http://fractracker.org/photos)

# Our Reach

These updates and our continued outreach efforts helped us to reach substantially more people in 2013 compared to 2012 - in every metric measured online.

## Web Metrics 2013 vs 2012

<p>Visits</p> <p><b>+76.81%</b></p> <p>105,854 vs 59,716</p>	<p>Unique Visitors</p> <p><b>+87.58%</b></p> <p>76,997 vs 41,048</p>	<p>Page Views</p> <p><b>+107.27%</b></p> <p>378,749 vs 182,733</p>
<p>Pages / Visit</p> <p><b>+17.23%</b></p> <p>3.59 vs 3.06</p>	<p>Avg. Visit Duration</p> <p><b>+24.71%</b></p> <p>3 min. vs 2:25 min.</p>	<p>Bounce Rate</p> <p><b>-11.58%</b></p> <p>51.49% vs 58.23% (improvement)</p>



**Media Coverage** Monthly circulation rates averaging > 10,000 readers.



**Social Media** In 2013 we managed four social media outlets: Facebook, Twitter, LinkedIn, and Google+. Facebook likes grew steadily throughout the year, ending with 896 fans compared with 386 to start. Twitter followers, by comparison, grew much faster, beginning with 589 followers and ending with 1,199. We're still working on engaging users via Google+ and LinkedIn, and in 2014 will add Instagram to our social media repertoire in order to capitalize on the visual nature of our work.



Facebook.com/FracTracker



# Featured Articles

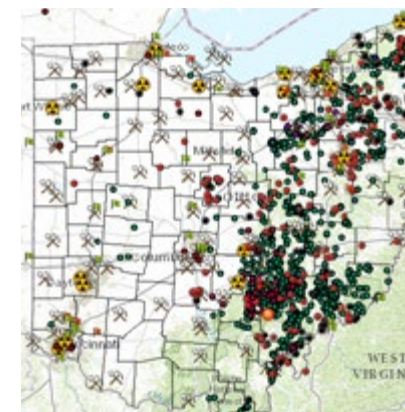
The following articles were the most visited posts on FracTracker.org in 2013. Visit the links to learn more and check out the dynamic maps that are featured online.



## US Pipelines Incidents Are a Daily Occurrence

Issues related to the transport of oil and gas via pipeline are more common than you might think. According to data downloaded from the Pipeline and Hazardous Materials Safety Administration (PHMSA), there were 1,887 incidents in the nation's gathering and transmission, distribution, and hazardous liquids pipelines between January 1, 2010 and March 29, 2013, or an average of 1.6 incidents per day. - *Matt Kelso*

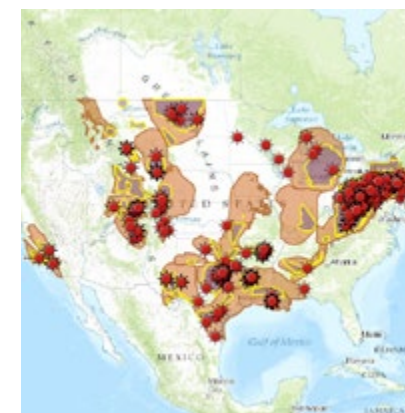
[fractracker.org/us-pipelines-average-incidents-are-a-daily-occurrence](http://fractracker.org/us-pipelines-average-incidents-are-a-daily-occurrence)



## Map of Ohio's Shale Gas Waste Disposal Network

A complete inventory of Ohio's Active Class II Injection Wells, as well as Ohio Department of Natural Resources certified Underground Injection Control (UIC) certified transporters, is now available in map form. In addition to concerns regarding the spreading of waste on roads, problems with Class II Injection Wells in Youngstown are forcing the state to turn to secondary disposal options. - *Ted Auch*

[fractracker.org/oh-waste-network](http://fractracker.org/oh-waste-network)



## PACWA's List of the Harmed Now Mapped

Pennsylvania Alliance for Clean Water and Air maintains a list of people claiming to be harmed by hydraulic fracturing or related processes, called the List of the Harmed. The first version of the list has 822 people thought to be negatively impacted by the industry, with symptoms ranging from headaches and rashes to death. FracTracker has visualized these complaints in an online, dynamic map. - *Matt Kelso*

[fractracker.org/pacwas-list-of-the-harmed-now-mapped-by-fractracker](http://fractracker.org/pacwas-list-of-the-harmed-now-mapped-by-fractracker)

# Our Collaborations

**The FracTracker Alliance values the partnerships we are building with academic institutions, non-profit organizations, citizens, and regulatory bodies across the country. The following are a few highlights of the collaborative projects that we've worked on with other groups in 2013.**

## Dirty Water: Fracking Offshore California

On October 16th, the Environmental Defense Center released a report focused on the use of hydraulic fracturing by offshore oil drilling platforms off the coast of California. The full report can be found on the EDC's website. Kyle Ferrar was asked to assist in creating the report's GIS maps like the one below to show where fracking has occurred:



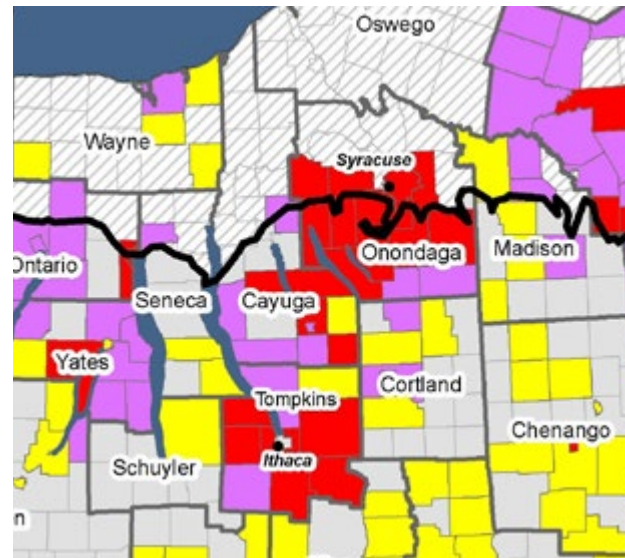
[fractracker.org/2013/10/hf-offshore-ca](http://fractracker.org/2013/10/hf-offshore-ca)

## FracMapper Trainings with MWA

In collaboration with Mountain Watershed Association (MWA), we conducted seven free, hands-on training sessions for citizens who wanted to utilize our new web-based mapping system, FracMapper, across Southwest PA in 2013.

## NY Bans and Moratoria

Many communities in New York state have banded together to limit or delay unconventional natural gas drilling. Karen Edelstein, FracTracker's NY program coordinator, has been keeping track of bans and moratoria against high volume hydraulic fracturing in NY and mapping them. Since launching this initiative in 2011, more than 150 bans and moratoria have been put in place by municipalities. Without the help of local politicians and citizens, however, tracking this ever-changing movement would be practically impossible.



[fractracker.org/map/ny-moratoria](http://fractracker.org/map/ny-moratoria)



## Understanding State Forest Impacts

Extraction activities in Pennsylvania state forest lands are causing habitat loss and fragmentation, degradation of wilderness experiences, and other impacts. Proposed drilling in parts of the Loyalsock State Forest are of particular concern. To tour, study, and visualize effects of oil and gas development in these settings, we have worked with groups such as the PA Forest Coalition, Responsible Drilling Alliance, Audubon Pennsylvania, and photographer, Pete Stern. His photos and others can be found online: [fractracker.org/photos](http://fractracker.org/photos)

## Outreach Efforts

In the past 18 months, FracTracker has reached out to volunteers, activists, academics, and concerned citizens at more than 50 events. Examples include:

- Keynote presentation, Keystone Trails Association event, Hyner, PA
- Keynote presentation, California Fracking Summit, Los Angeles, CA
- Feature, National River Rally, St. Louis, MO

- Presentation, Wellness and Water Conference, Buckhannon, WV
- Presentations, Switzerland and Germany with various groups
- Presentation, American Public Health Association conference, Boston, MA
- Presentation about Green Hunter Wastewater Treatment Plant, Wheeling, WV
- Sustainability class, Lebanon Valley College, Annville, PA



## Ohio Unconventional Drilling Conference

Many people in Ohio have been concerned that the pace of drilling in the Buckeye State has outpaced the rate of research of the potential impacts. To help fill in the gaps, a meeting of the minds, organized in part by FracTracker's Ted Auch, was held in OH this year that gathered academics, researchers, medical professionals, and attorneys from across the country to present and discuss issues associated with unconventional drilling. Topics included public health, sustainability, and energy policies.

# International Presence

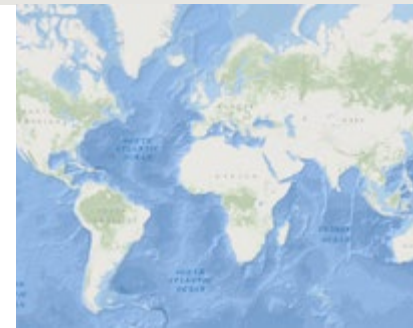
## British Columbia Extractive Activities



## Inquiries from Argentina



## International Visitors to FracTracker.org



While the U.S. has been our geographic focus to-date, our work and media reach have extended internationally over the last year in response to growing concerns and requests.

### British Columbia Extractive Activities

Increasingly, FracTracker has been receiving requests to map oil and gas data from a variety of locations. The map above, left, is focused on the extractive – and midstream – activities in British Columbia, Canada. This map also shows pipeline-rights-of-way, a publicly available dataset in B.C.

### Inquiries from Argentina

While the U.S. has led the unconventional oil and gas extraction movement, there are significant interests in the industry to explore other reserves worldwide. In recent months we have received several inquiries from groups concerned about the potential consequences of drilling in Argentina. With some of our partners, we are working to obtain and allocate funds to map activity and lead community workshops for those grassroots groups.

### International Visitors to FracTracker.org

Perhaps as a reflection of the expansion of shale gas worldwide, or because more people are becoming interested in what is involved, we have seen a major increase in international visitors to our website. Compared to 2012, 2013 saw twice as many residents visiting FracTracker.org from countries outside of the U.S., primarily from Canada, the UK, Germany, and Australia.



The American experience of “fracking” has been of significant interest to a wide variety of communities and decision makers across the globe.

### A European Perspective

Europe is keeping a close eye on unconventional oil and gas drilling in the U.S. - and for good reason. With the promise of cheaper and more reliable gas coming out of the U.S. (or producing it in-house), Europe hopes to reduce natural gas prices as well as its dependency on less secure energy sources, such as Russia. Many countries worry that the environmental impacts of this form of drilling will negate the potential benefits, however. The risks are particularly

important for regulators to assess because Europe boasts a dense population close to where drilling could occur. In August 2013, Samantha Malone, FracTracker’s Manager of Science and Communications, was asked to speak on the American experience of drilling for several groups and regulatory bodies in Europe. Sam began her tour in Basel, Switzerland, speaking at an international environmental health conference, and then moved to Berlin, Germany to meet with regulators and organizations such as:

- JF&C,
- Agora Energiewende,
- Federal Ministry of Economics and Technology’s Raw Materials Policy department,
- Ecologic Institute,
- Federal Environment Agency,
- BDEW,
- The Nature Conservancy,
- Polish Embassy,
- Wintershall,
- BASF,
- Niedersachsen,
- Baden-Württemberg, and
- BMU Water Management

Read more about the trip here: [fractracker.org/post-europe](http://fractracker.org/post-europe)

# In the Pipeline

**In concordance with our new strategic plan, be on the lookout for these exciting updates to FracTracker in 2014.**

### Presentation and Pending Publication

Data inconsistencies from states with unconventional oil and gas activity

In November of 2013, Sam Malone helped to coordinate a foundation-funded conference held at Duquesne University in Pittsburgh, PA: Facing the Challenges: Research on Shale Gas Extraction Symposium. Matt Kelso and Samantha Malone also presented their review of oil and gas data from 10 states in the U.S. A peer-reviewed publication on this research will soon make its way into the Journal of Environmental Science and Health, Part A – due out in the fall of 2014.

### Fundraisers and Crowdfunding

Diversifying our funding sources

2014 promises to be an interesting year of growth and exploration for FracTracker's funding sources. We will be launching our first ever fundraisers in California, Ohio, and Pennsylvania this spring (see opposite spread). In January 2014 we launched our online donation system with much preliminary success. In order to obtain adequate funding for the community workshops being planned in Argentina (page 12), we will be launching a July 2014 Indiegogo crowdfunding campaign in collaboration with our travel project partners Earthworks and Ecologic Institute.

### Mobile App

We believe that oil and gas data should be accessible to the public and that individuals can contribute meaningful insight into potential impacts of the industry through crowdsourcing. In December 2013 we soft launched the first version of a mobile app to tap into crowdsourced data and are working with partners this spring to beta test it. The app allows users to submit photos, videos, and other observations directly from their iPhones to the following projects:

1. The Trail Logbook
2. US Map of Suspected Well Water Impacts
3. Online Oil and Gas Photo Album

With partners' feedback, in June 2014 we plan to launch the official version of the app for iPhones first, and then Android platforms later in the year. In addition to the features currently available, the new rendition will include a map of wells near the app's users - across the United States!

**Learn More:**

[fractracker.org/apps](http://fractracker.org/apps)



# Fundraisers For FRACTRACKER

**3**  
DAYS

**3**  
STATES

**Endless**  
OPPORTUNITIES

Tracking the impacts of oil and gas development is downright sobering. Sometimes recharge is needed for the work ahead, so as the FracTracker Alliance approaches its two-year organizational anniversary, it is due time to make time for fun and mixing with friends, partners, and supporters. Coming soon in 2014 are FracTracker's first attempt at fundraising events in three great American cities.

**Learn more: [fractracker.org/fractracker-fundraisers](http://fractracker.org/fractracker-fundraisers)**

### San Francisco, CA

May 16, 2014  
7:00 - 10:00 PM  
\$40 Per Person

On May 16, the Beach Chalet in San Francisco refreshes with house beer, bites, and Pacific views.

### Cleveland Heights, OH

May 22, 2014  
6:30 - 9:30 PM  
\$25 Per Person

The Wine Spot in Cleveland indulges attendees with sumptuous wines and cheeses on May 22.

### Pittsburgh, PA

June 10, 2014  
6:00 - 9:00 PM  
Free: Pay Per Drink

Wigle Whiskey serves it by sips and slurps, June 10, in Pittsburgh's first distillery since prohibition.



# Funding and Staff

One of the major strengths of the FracTracker Alliance is the strength and dedication of our staff. In 2013, with additional foundation support, we added three more staff members and expanded our offices into West Virginia and California.

## 2013 Funders

- 11th Hour Project
- Foundation for Pennsylvania Watersheds
- The George Gund Foundation
- The Heinz Endowments
- Herbert W. Hoover Foundation
- Park Foundation
- William Penn Foundation

serve as Manager of Operations in the Camp Hill office. And finally, for the last several months we have had the pleasure of hosting Kirk Jalbert, a PhD student who is doing field work on the dynamic network of water monitoring groups in the region.

ITHACA, NY  
Karen Edelstein:  
[edelstein@fractracker.org](mailto:edelstein@fractracker.org)  
Ithaca, NY  
(607) 592-4131

PITTSBURGH, PA  
Sam Malone:  
[malone@fractracker.org](mailto:malone@fractracker.org)  
Matt Kelso:  
[kelso@fractracker.org](mailto:kelso@fractracker.org)  
Pittsburgh, PA  
(412) 802-0273

## Contact Us

CAMP HILL, PA  
Brook Lenker:  
[lenker@fractracker.org](mailto:lenker@fractracker.org)  
Gwen Lehman:  
[lehman@fractracker.org](mailto:lehman@fractracker.org)  
Camp Hill, PA  
(717) 303-0403

OAKLAND, CA  
Kyle Ferrar:  
[ferrar@fractracker.org](mailto:ferrar@fractracker.org)  
Oakland, CA  
(415) 890-3722

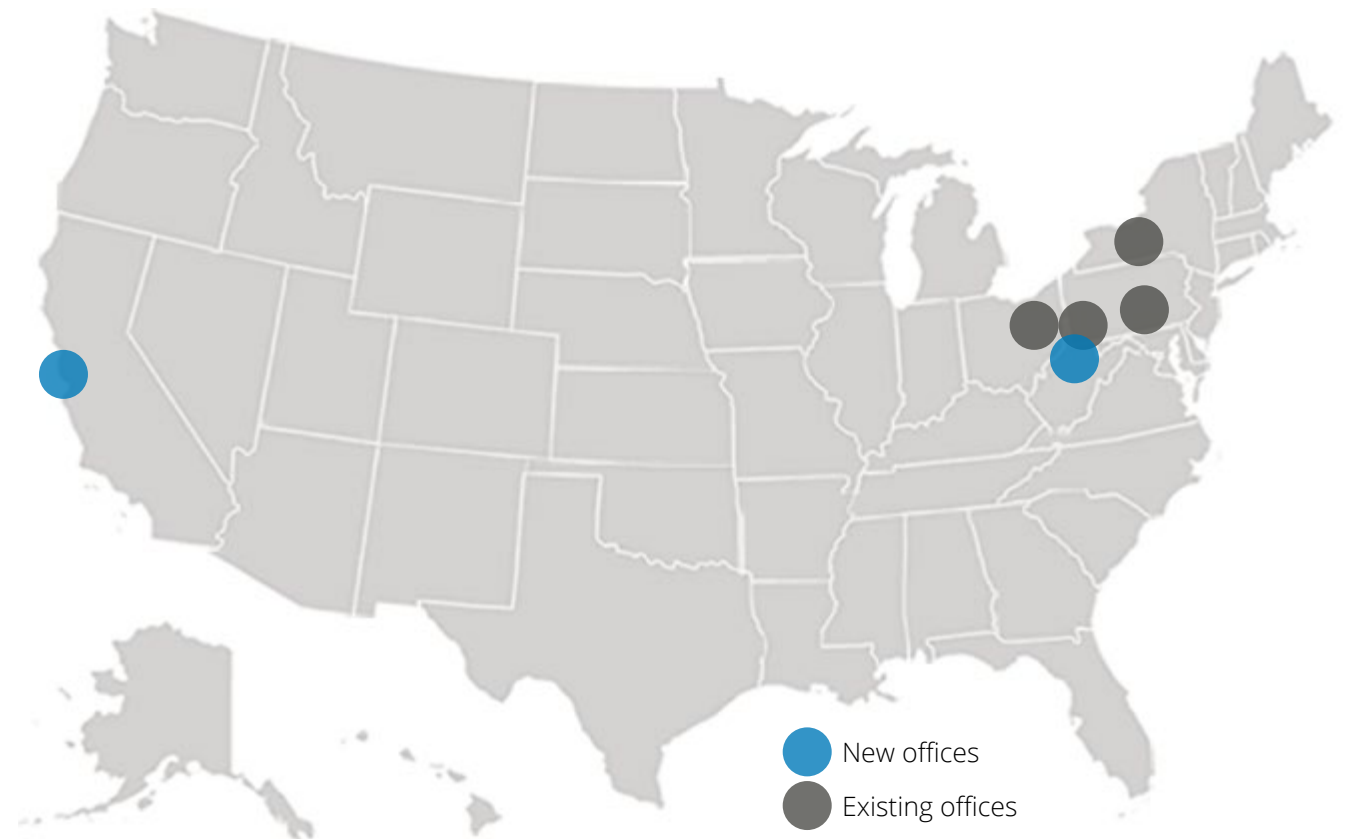
CLEVELAND HEIGHTS, OH  
Ted Auch:  
[auch@fractracker.org](mailto:auch@fractracker.org)  
Cleveland Heights, OH  
(802) 343-6771

WHEELING, WV  
Mary Ellen Cassidy:  
[cassidy@fractracker.org](mailto:cassidy@fractracker.org)  
Wheeling, WV  
(304) 312-2063

**When people go to work, they shouldn't need to leave their hearts at home.** - Betty Bender

## Updates

Many thanks go out to the 11th Hour Project in California who provided new funding for us to establish an office and staff presence in CA. Kyle Ferrar was hired in June 2013 as our CA Program Coordinator. In the fall of 2013, Mary Ellen Cassidy joined our staff as Community Outreach Coordinator and is based in Wheeling, WV. We brought on Gwen Lehman to



**6**  
OFFICES

Our newly-established California and West Virginia offices expand our staff's ability to reach out to communities who are or may be affected by unconventional oil and gas drilling in the U.S.

**7**  
FUNDERS

Additional funding support in 2013 from The Heinz Endowments and the 11th Hour Project were pivotal to expanding the geographic scope of our research and outreach.

**8**  
EMPLOYEES

The diverse skills and expertise of our diligent staff are crucial to the success of FracTracker and to advancing a dialogue that considers the potential impacts of unconventional drilling.

# Staff Bios



**Brook Lenker, Executive Director**

Brook focuses on improving the capabilities of the FracTracker website; creating partnerships that increase the data and information available on the site; encouraging use of FracTracker by various stakeholders and the public; and building a strong organizational structure that services the expanding geographies impacted by oil and gas activity. He holds MA and BS degrees in geography and environmental planning from Towson University.



**Matt Kelso, Manager of Data and Technology**

Matt believes that if we ask the right questions, data can tell us a lot about situations that we are not able to observe directly. In the past, he has used this skill as a casino auditor and an archaeologist, reconstructing events based on a few scraps of data. With FracTracker he uses these processes to examine the oil and gas industry. Matt earned his BA degree in Anthropology in 2003 from Humboldt State University in Arcata, CA.



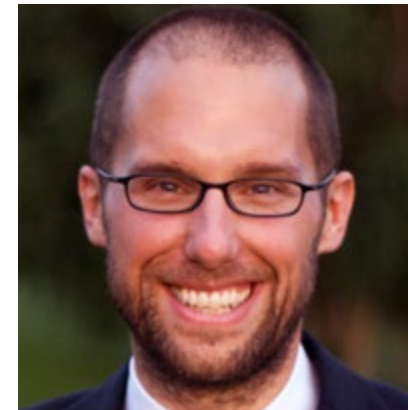
**Kyle Ferrar, CA Program Coordinator**

Kyle is an environmental health scientist and Program Coordinator of the FracTracker's newly-established California office. In Pittsburgh, he spent five years conducting exposure and risk assessments using community based participatory research methods at the University of Pittsburgh Graduate School of Public Health, where he is also currently pursuing a doctorate in public health.



**Sam Malone, Manager of Science and Communications**

Sam has worked with FracTracker since its inception in 2010 as a project of CHEC at the University of Pittsburgh. With FracTracker, she provides user and partner support, coordinates internal and external communications, and conducts and translates environmental health research for the website. Additionally, Sam is working on a doctorate from the University of Pittsburgh Graduate School of Public Health.



**Ted Auch, OH Program Coordinator**

Ted is a scientist with a passionate interest in policy and how the former shapes the latter to the extent that it can/does. Ted has always wanted to use his ecosystem biogeochemistry background to work on advocacy issues, and he feels that the opportunity to work with the FracTracker team has given him an ideal opportunity to do just that. Ted has a PhD from the University of Vermont in Ecosystem Biogeochemistry.



**Karen Edelstein, NY Program Coordinator**

Since the late 1980s, Karen has worked as a science educator, and has authored several curriculum guides on natural history and water quality. For the past 12 years, she has also been using GIS as a tool for land conservation. With FracTracker Karen provides technical assistance and training to community groups and organizations around New York State as they prepare for the possibility of unconventional oil and gas drilling.

## Cont: Staff Bios



### Mary Ellen Cassidy, Community Outreach Coordinator

Mary Ellen joined the FracTracker Alliance in November 2013. As the Community Outreach Coordinator, she develops, coordinates, and promotes FracTracker's national outreach and education initiatives. Her academic background includes a Bachelor in Science in Chemistry and Mathematics and a Masters in Science and Mathematics Education, along with a Woodrow Wilson Fellowship.



### Gwen Lehman, Manager of Operations

Before serving as FracTracker's Manager of Operations, Gwen was active in the conservation field, having worked for Chesapeake Bay Foundation as a grassroots organizer and then with Audubon PA in project development and management. She is currently pursuing a degree in Health Sciences at Harrisburg Area Community College.



### Kirk Jalbert, Visiting Researcher

Kirk is a PhD student in Science and Technology Studies at Rensselaer Polytechnic Institute. He joined FracTracker in 2013 as a visiting researcher for one year as he investigates the dynamics of how data produced by citizen science groups becomes mobilized through public data sharing projects – particularly in the social, community, and organizational contexts of volunteer water monitoring groups dealing with shale gas issues in PA and NY.

## 2013 Interns

There is always more work to do than FracTracker has staff. If it wasn't for our awesome interns, we would not have accomplished as much as we have to date. This special thank you goes out to all of our hard-working 2013 interns:

### Daniel Berghoff, OH GIS Intern

Ohio State University  
GIS & Spatial Analysis Program

Danny worked with Ted Auch in Ohio for several months, helping with a variety of data and GIS projects - from land use change to pipeline proposals.

### Thomas Di Paolo, Remote GIS Intern

North Eastern University  
Environmental Science

Thomas worked remotely with FracTracker in the fall 2013, helping us to collect and analyze community impacts data.

### Oluwaseun Jewoola, PA

Communications Intern  
University of Pittsburgh  
Graduate School of Public Health,  
Infectious Diseases & Microbiology

Seun used her health background to translate science research for the website.

### Samir Lakhani, PA GIS Intern

University of Pittsburgh  
Environmental Studies

Samir used his environmental science interests to help map natural gas flaring activities in North Dakota with our partner in data transparency, SkyTruth.

### Stephen Paddock, PA GIS Intern

University of Pittsburgh  
Environmental Studies

Data collection and aggregation are not glamorous responsibilities, but they are absolutely necessary for our work. Steve spent many hours fulfilling this pivotal role.

### Jill Terner

Columbia University  
Mailman School of Public Health  
Environmental Health Sciences &  
Environmental Health Policy

Jill researched and wrote articles on our website about the discourse of sustainability.

# Financial Report

## FracTracker Alliance funds for FY2013

<b>NET ASSETS, BEGINNING OF YEAR</b>	<b>(\$6874.52)</b>
<b>SUPPORT AND REVENUE</b>	
Contributions, Pledges, and Grants Income	\$117,010.89
Deferred Gifts/Grants Released	\$357,181.94
<b>Total Support and Revenue</b>	<b>\$474,192.83</b>
<b>EXPENSES</b>	
Salaries and Benefits	\$277,097.23
Special Projects Expenses	\$42,243.14
Other Expenses	\$144,517.65
<b>Total Liabilities</b>	<b>\$463,858.02</b>
<b>NET CHANGE IN ASSETS</b>	<b>\$10,334.81</b>
<b>NET ASSETS, END OF YEAR</b>	<b>\$3,460.29</b>



TOTAL SUPPORT AND REVENUE  
**\$474,192**

# Board of Directors

The incredible insight and contributions from our board members cannot be overstated. Thank you for all of your hard work in guiding FracTracker's vision for the future.

**R. John Dawes, President**

Executive Director, Foundation for Pennsylvania Watersheds, Alexandria, PA

As Executive Director of the FPW since 1994, Dawes has supervised small grants to over 150 environmental and watershed associations throughout Pennsylvania.

**Benjamin M. Stout III, PhD, Secretary**

Professor of Biology, Wheeling Jesuit University, Wheeling, WV

A practicing stream ecologist with 30 years of experience, Stout's current fieldwork focuses on impacts from valley fills, longwall mining subsidence, and Marcellus Shale extraction.

**Mike Kane, Treasurer**

President and Executive Director, Community Foundation for the Alleghenies, Johnstown, PA

Kane is responsible for the oversight of all operations at CFA, including managing a portfolio of loans and investments in excess of \$8 million.

**Brian Segee, JD, Member**

Staff Attorney, Environmental Defense Center, Ventura, CA

Segee has lobbied on conservation policy and legislative matters before the U.S. Congress, and coordinates EDC's monitoring and advocacy efforts in the California legislature.

**Sara Wylie, PhD, Member**

Sr. Research Scientist, Northeastern University, Boston, MA

Wylie is well-known for her work in the development and application of tools for community-based science. Wylie completed her PhD in 2011 at MIT.



P.O. Box 1576,  
Camp Hill, Pennsylvania,  
17001, United States

+1 717 303 0403

[info@fractracker.org](mailto:info@fractracker.org)  
[fractracker.org](http://fractracker.org)

