



**FRACTRACKER**  
ALLIANCE

insights empowering action

info@fractracker.org  
www.fractracker.org



# ANNUAL REPORT 2017

## FRACTRACKER ALLIANCE

FracTracker Alliance studies, maps, and communicates the risks of oil and gas development to protect our planet and support the renewable energy transformation.

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# Executive Director Letter

The year 2017 started with a punch to the gut (perhaps a strange way to start an annual report, but it is an understatement). The election of Donald Trump represented a roadblock to climate progress and derailment of environmental safeguards. My reaction – and the reaction of many Americans – wasn't driven by party or ideology but out of shared values for a healthy planet on which we all depend.

Despite the darkness in Washington, FracTracker doubled-down on our work to support advocacy, research, and understanding of the ubiquitous harms of the hydrocarbon industrial complex. Our efforts were consistent, rigorous, and impactful.

In Pennsylvania, we helped Food and Water Watch explore opportunities to limit fracking through better zoning. In New York, we mapped the clean energy revolution being championed by E2 and other organizations. In Wisconsin, we mapped non-metallic mineral mining permits to expose the potential future fairway of frac sand mining. We collaborated with Earthworks to enhance the national Oil and Gas Threats Map – a powerful tool to ascertain the risks of extraction and associated methane pollution.

Whether exposing the omnipresent hazards of pipelines, the gluttonous water demands of drilling, or the insidious and voluminous reach of the oil and gas waste disposal network, FracTracker was there, often behind the scenes, excavating data and offering powerful visualizations to tell the stories that must be told.



**Brook Lenker, FracTracker's Executive Director, on a bike ride in California**

Our updated mobile app is documenting insights from citizen scientists and activists in communities across America, and these same local guardians were honored with the 3rd annual Community Sentinel Award program. This year, it culminated at an unforgettable reception concurrent with the People vs. Oil and Gas Summit – a gathering of more than 300 activists from across the U.S.

The amazing people at the Summit - and the organizations and supporters we engaged with throughout the year - underscore that the clean energy movement, in all its permutations, will someday prevail. One by one, the victories add up, the good energy grows. Together we're unstoppable. Thank you for another affirming year.

**- Brook Lenker  
Executive Director**

# 2017 Highlights

**FracTracker Alliance studies, maps, and communicates the risks of oil and gas development to protect our planet and support the renewable energy transformation. We hope our maps, data, stories, and photos are informative, insightful, and inspiring. If you're one of the many organizations and institutions collaborating with us to expose harms, we hope our services and partnership have been of great value in your advocacy or research aims. Here are some organizational highlights from 2017:**

## We've updated our mobile app.

The oil and gas industry – from its wells to pipelines to refineries – has a variety of ways of impacting the communities and environment that surround its infrastructure. And we want to help you document it! The FracTracker app is a free tool for reporters, residents, researchers, and groups concerned about many aspects of the oil and gas industry and its effects.

Since its May 2017 update, over 3,000 people have downloaded our app, helping to document and illuminate the harms from pipeline incidents, oil train traffic, well pad accidents, and many serious problems caused by oil and gas infrastructure in the U.S and abroad. In addition to its reporting functionality, the app includes a national map of oil and gas infrastructure (and submitted reports) plus a feed so people can see reports submitted by other users. We're adding Spanish language options to the mobile app soon and hope to do likewise with a desktop version of the app.

Learn more about the new features and give the app a try! [fractracker.org/apps](http://fractracker.org/apps)

## Earthworks Oil and Gas Threats Map

The Oil and Gas Threats map, a project of Earthworks, is a map-based suite of tools designed to inform and mobilize Americans about the health risks posed by the oil and gas industry's air pollution. In 2017, we helped revamp and update the map to include proximity to vulnerable populations - finding 2.9 million children enrolled in schools and daycares across the country are threatened by oil and gas air pollution. Learn more: [oilandgasthreatmap.com](http://oilandgasthreatmap.com)

## Tracking Mariner East 2 Spills

In 2017, we extensively tracked and mapped violations that occurred during the construction of the Mariner East 2 (ME2) pipeline in Pennsylvania, an extension of the existing Mariner East pipeline. We found construction activities associated with ME2 spilled 202,000 gallons of drilling fluids during 90 events at 42 sites. These incidents - and many others that occurred since then - have brought about several temporary stops to the pipeline's horizontal directional drilling practices. Learn more: [fractracker.org/me2-drilling-fluid-spills](http://fractracker.org/me2-drilling-fluid-spills)

Updated FracTracker mobile app features include an all-user activity feed, a profile so you can access your previous and saved reports, and a national pipeline layer.



Many thanks to our numerous partners and beta-testers who helped us launch the updated version of FracTracker's free mobile app for tracking fracking - among many other aspects of the industry - near you! Learn more: [fractracker.org/apps](http://fractracker.org/apps)

# Featured Content

A key way that people discover FracTracker and learn about our work is through our website, [FracTracker.org](http://FracTracker.org), where we share information about energy issues via hundreds of articles, maps, analyses, and photos. In 2017 alone, we published 71 hard-hitting analyses and articles. Below is some of the most popular content on our site this year:

## Formula for Disaster

In this piece by Environmental Health Fellow, Leann Leiter, we explore how those who stand to be affected by - or make crucial decisions on - the ethane cracker proposed for western PA contemplate the potential risks and promised rewards. Specifically, we investigate the disaster risk of this massive petrochemical facility. [fractracker.org/formula-disaster-ethane-cracker](http://fractracker.org/formula-disaster-ethane-cracker)

## Bayou Bridge Pipeline

The 30-inch Bayou Bridge Pipeline began operations in April of 2016, with a short leg of pipeline that ran from Nederland, TX to refineries in Lake Charles, LA. But this 60-mile long pipeline, operated by Sunoco Logistics Partners, was just the first step in a much lengthier, and more controversial, 24-inch diameter pipeline project (jointly owned by Sunoco Logistics Partners, Phillips 66 Partners, and Energy Transfer Partners). Here, we map out the proposed path of the Bayou Bridge Pipeline and its potential impacts. [fractracker.org/pipeline-debate-louisiana-bayou](http://fractracker.org/pipeline-debate-louisiana-bayou)

## Oil & Gas 101: Pipeline Construction

The current natural gas pipeline boom gives many homeowners a first row seat to the process of pipeline construction. The rush to move natural gas to markets places pipelines too close to homes, with construction taking place in backyards, farms, pastures, and right at the mailboxes of residents throughout the country. This page walks you through the process of a natural gas pipeline currently being constructed. [fractracker.org/pipeline-construction](http://fractracker.org/pipeline-construction)

## Air Emissions in CA Refinery Corridor

Air quality in the California Bay Area has been steadily improving over the last decade, and the trend can even be seen over just the course of the last few years. The gains have not reached everyone, however. In this article we explore data from the ambient air quality monitoring networks in the Bay Area, including a look at refinery emissions. [fractracker.org/tracking-refinery-emissions-in-californias-bay-area-refinery-corridor](http://fractracker.org/tracking-refinery-emissions-in-californias-bay-area-refinery-corridor)



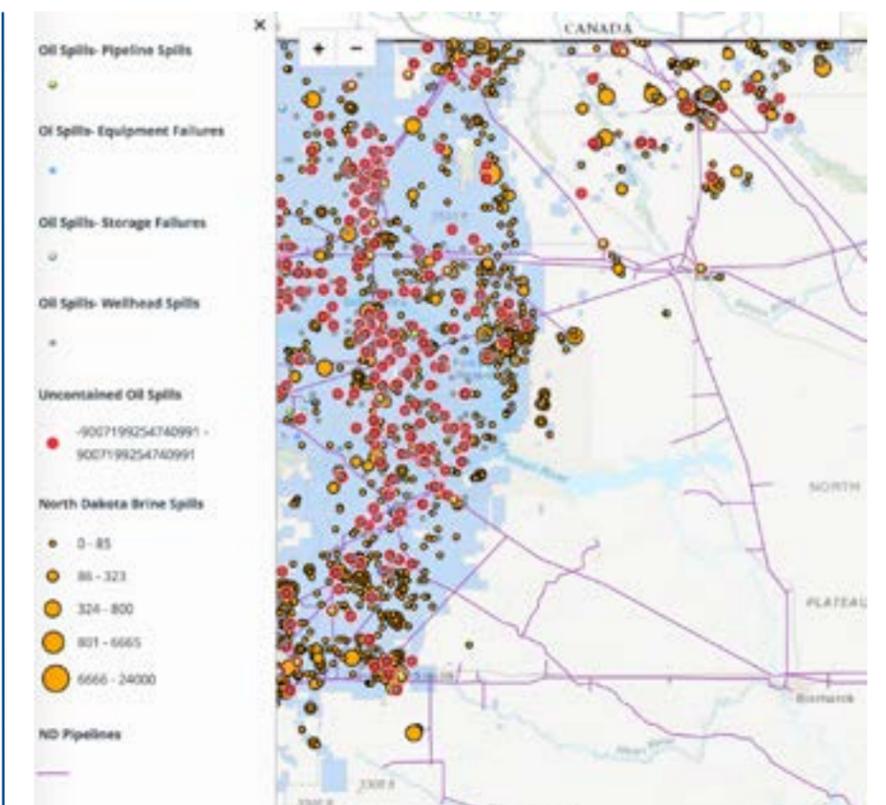
... I want to thank you for this amazing and important resource. I tell people about [your website] all the time. I've found nothing that communicates the impact of O&G on our community like maps from your site. — Dave Lotton (Erie, CO)

## Our Services

We work with concerned citizens, NGOs, the media, researchers, and a variety of other stakeholders to access and make energy-related data more accessible and actionable.

### Here are some of the services we provide:

- Energy data analyses and online maps
- Customized maps for campaigns, upon request
- Free mobile app for tracking fracking
- Internship opportunities for college/graduate students
- Public participation projects
- Newsletters
- Calendar of events
- Photo and video library
- Oil and Gas 101 resource
- Presentations on energy issues
- Periodic field tours and trainings hosted for the media, researchers, students, and general public

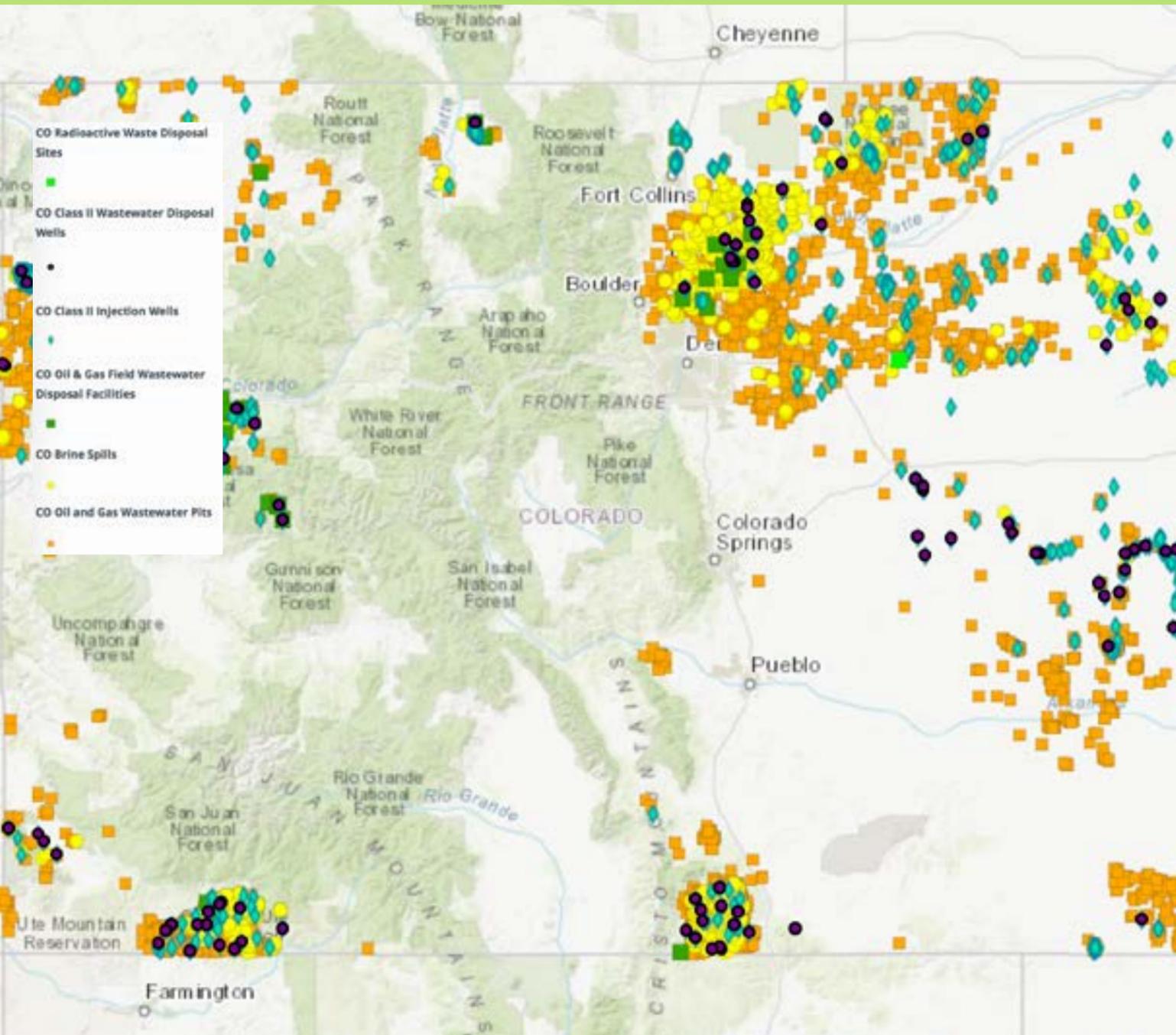


### Map of oil spills in North Dakota

Pipelines are hailed as the “safest” way to transport crude oil and other refinery products, but federal and state data show that pipeline incidents are common and present major environmental and human health hazards. Here, an example of our mapping services, we looked at the record of oil spills, particularly those resulting from pipeline incidents that have occurred in ND, to determine the risk presented by the highly contested Dakota Access Pipeline. [fractracker.org/oil-spills-ND](http://fractracker.org/oil-spills-ND)

# Our Partnerships

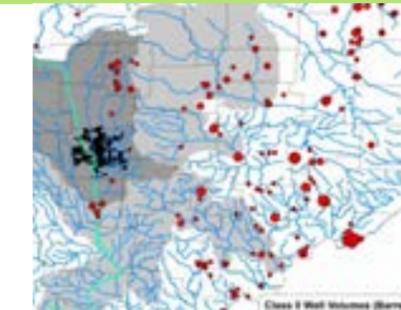
With Western Organization of Resources Councils we mapped where radioactive oil and wastes are being dumped, stored, and injected into the ground for disposal, shown below.



Susquehanna River Basin  
Impacts Project



Water at Risk of Radium  
Pollution in Ohio



Mapping Clean Energy  
Opportunities in U.S.



FracTracker is honored to work with a number of incredible organizations and grassroots groups to highlight the impacts from oil and gas drilling that are of concern to them and their constituents. A list of this work can be found here: [fractracker.org/projects](http://fractracker.org/projects)

Through the Susquehanna River Basin Impacts Project, FracTracker, in partnership with the Sierra Club Pennsylvania Chapter and Clean Water Action, took a closer look at the Susquehanna River Watershed and its many challenges related to oil and gas development - including deforestation and sedimentation issues in the watershed: [fractracker.org/susquehanna-river-basin-impacts-project](http://fractracker.org/susquehanna-river-basin-impacts-project)

Together with Greg Pace of Columbus Community Bill of Rights, and Julie Weatherington-Rice - Environmental Consultant, we explored the research and data associated with disposing of oil and gas waste in Ohio. Given the concentration of radium in the wastewater and likelihood of incidents, the state's watersheds are at risk of radium pollution: [fractracker.org/radium-watersheds-a-risk](http://fractracker.org/radium-watersheds-a-risk)

In collaboration with Environmental Entrepreneurs (E2) and several other organizations, we mapped clean energy opportunities in New York State in 2017. We are also working on maps for Illinois, Michigan, Missouri, Ohio, and Pennsylvania. These maps show the location of clean energy businesses, as well as sites where renewable energy is generated by each state. The purpose of this project is to help policymakers, press, and individuals better understand the scope of states' clean energy economy - and how much room the industry has to grow. Visit New York's clean energy map here: [e2.org/mappingcleanenergyny](http://e2.org/mappingcleanenergyny)

# Outreach Events

## Our Reach

Even though FracTracker's work is often digital or online, our staff make it a point to conduct community outreach, attend partner events, and conduct technical trainings where possible. Participating in a total of 57 events in 2017, we reached 3,000 people directly, with thousands more indirectly in the form of online webinars and recordings of our outreach.

Below are just a few examples of these presentations.

## Frack Sand Webinar

Among those familiar with fracking, many are not as familiar with frac sand mining - the process by which

industry removes, excavates, and processes silica sand for hydraulic fracturing across the country. In July of 2017, the Halt the Harm Network hosted a webinar about the frac sand industry with Pat Popple of Frac Sand Sentinel, dairy farmer and impacted landowner Ken Schmitt, and FracTracker's Ted Auch.

Watch the recorded webinar: [tinyurl.com/ybx4qhn2](http://tinyurl.com/ybx4qhn2)

## Injection Wells Forum

Are you curious about the purpose of Class II injection wells and their potential risks?

If so, you might be interested in checking out a recorded public forum on this topic, featuring

several speakers including FracTracker's own Matt Kelso.

Watch the forum: [youtube.com/watch?v=wX9frQvPhSw](https://www.youtube.com/watch?v=wX9frQvPhSw)

## Public Health Concerns

The fifth annual Shale and Public Health Conference was held in November of 2017 and again presented by the League of Women Voters of Pennsylvania. This year's conference highlighted recent health studies, as well as the resources needed to identify potential health impacts of the incoming petrochemical industry in Western PA - with FracTracker's Sam Rubright as moderator.

Watch the videos: [shalepalwv.org/2017-conference-videos](http://shalepalwv.org/2017-conference-videos)

## Mobile App Training and Information

We've been working with groups across the country to identify ways they can utilize our updated mobile app for tracking fracking impacts. We are also very interested in obtaining feedback about how our new app is helping you with your efforts. The Maryland Environmental Health Network, for example, has been utilizing our app to both raise awareness about the health consequences of natural gas infrastructure and build a supportive narrative around the usefulness and legitimacy of citizen science. Please email us to request a formal training with one of our FracTracker staff, or to discuss collaboration opportunities: [info@fractracker.org](mailto:info@fractracker.org).



**Ranjana Bhandari during her acceptance speech at the 2017 Community Sentinel award ceremony held during the People vs. Oil and Gas Infrastructure Summit in Pittsburgh, PA**

## Community Sentinels

The Community Sentinel Award for Environmental Stewardship is awarded each year to three people who work to guard their communities from the harms of oil and gas development.

The third annual Sentinel Award ceremony was held on November 18, 2017 in Pittsburgh, Pennsylvania.

With the help of Earthworks, the Halt the Harm Network, Stop the Frack Attack, and Americans Against Fracking, we presented

the 2017 Community Sentinel award to: Ranjana Bhandari of Texas (shown above), and Frank Finan and Ray Kemble (both of Pennsylvania).

The award ceremony, attended by approximately 300 people, was graciously emceed by David Braun of Rootskeeper. Recipients were introduced by Jennifer Krill of Earthworks, Ryan Clover-Owens of Halt the Harm, and Doug Shields of Food and Water Watch. After giving their acceptance speeches, Ranjana, Frank, and Ray were then

presented with their awards by acclaimed author and ecologist, Sandra Steingraber.

In addition to the Community Sentinels, a special Legacy of Heroes presentation recognized the efforts of four people who valiantly fought against the harms of dirty energy but passed away in the last year: Walter Brasch of Pennsylvania, Rosemarie Braz of California, Jackie Dill of Oklahoma, and Kaye Fissinger of Colorado.

Read more: [fractracker.org/thanks-community-sentinels](http://fractracker.org/thanks-community-sentinels)

# Future Work

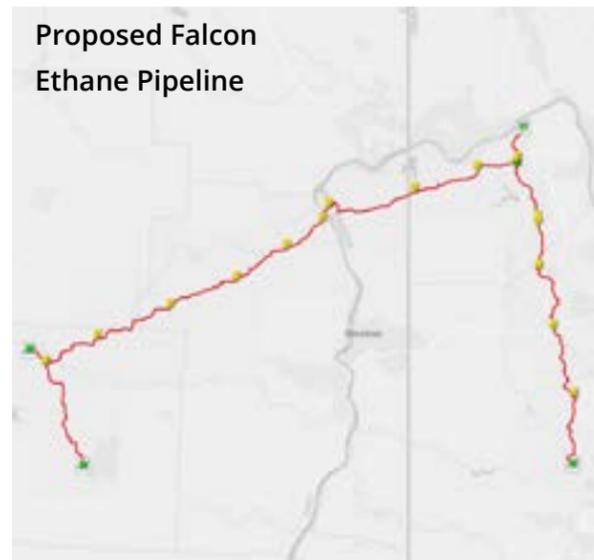
**FracTracker has big plans for 2018 - including the release of a project that identifies risks associated with a proposed ethane pipeline, and a new technology resource for our mobile app users.**

In December of 2016, FracTracker discovered a vast archive of publicly visible GIS (or mappable) data pertaining to the Falcon pipeline - a proposed ethane pipeline that will carry more than 107,000 barrels of ethane per day to feed Shell's ethane cracker plant under construction in Southwest Pennsylvania.

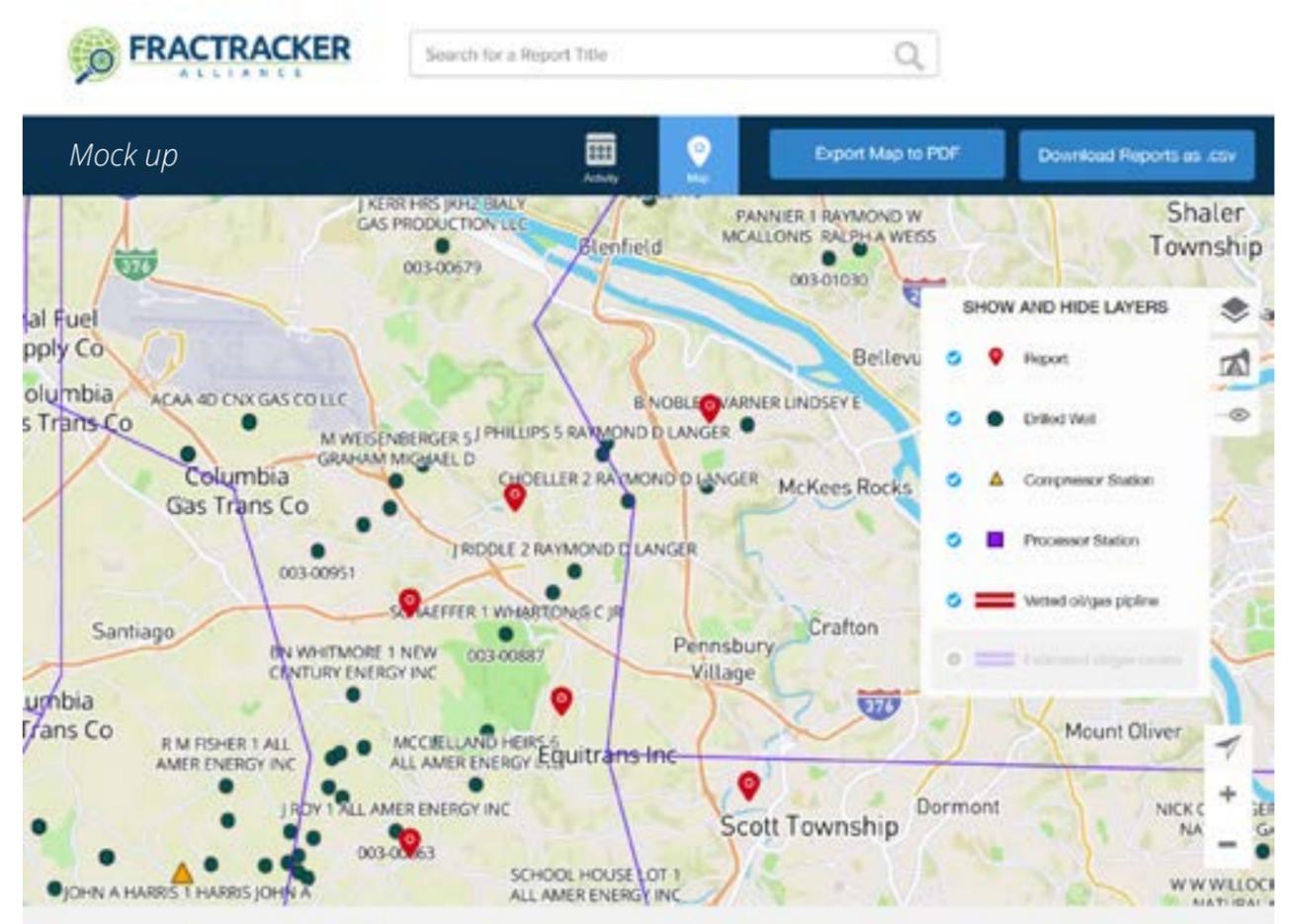
The Falcon pipeline will cross through some 25 municipalities in three states. One of the unfortunate aspects of how pipelines come into being is that, in many instances, communities don't realize they may be affected by a project until after pipeline operators have acquired the easements they need for a right-of-way and construction plans are well underway. While concerned citizens can stitch together paper maps provided by companies in their permit applications, that process can be complex and very labor intensive. FracTracker strongly believes people living in those communities deserve an opportunity to participate in shaping the pipeline's development - as these projects have significant environmental, social, and public health implications. We spent a year manually extracting the data from the open server and working with communities to identify their key concerns.

**The Falcon Public EIA Project is due out in January of 2018**

Our Falcon Public EIA Project represents the first time residents will have access to the exact location of a proposed pipeline and its potential impacts so far in advance of permitting approval. Our project will include contextual articles assessing the data, as well as dynamic and clickable maps.



- Shutoff valves
- Proposed pipeline route
- Meter pads
- Separator plants & cracker



**Coming soon: Web app and Spanish language version of mobile app**

FracTracker will soon offer a web-based version of our mobile app. It will still have key features of the mobile app, such as an activity feed and dynamic map, with the added benefit of being able to export maps to PDF files and sharing reports on social media. You can also download user reports in an area as a .csv file for more efficient aggregation and analysis. The addition of a Spanish language version of the mobile app is also underway, with groups like Redeemer Community Partnership in California assisting with translation of screen text.

# Growth Statistics

FracTracker's home base is our website and other online outlets such as social media. In 2017, we posted 68 articles on FracTracker.org. These articles addressed a plethora of oil and gas or other energy issues, and nearly all included topical maps accessed by our website visitors. Here is a snapshot of our reach online in the last year:

We are at a very exciting point in our website's history, as FracTracker.org's all-time site traffic is about to reach 1 million sessions. Since we started to measure site traffic in December of 2011, we have seen 963,086 sessions from 729,276 users. Looking back at the last 12 months, we have continued to see steady growth in website visits.

Since 2011, total sessions to-date

963,086

Since 2011, total users to-date

729,276



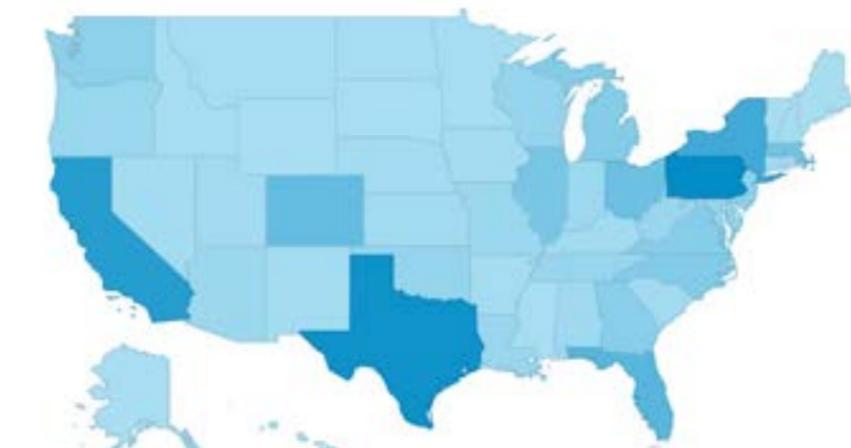
New (green) vs. Returning (blue) users

### Top Countries by Visitor

- United States
- Canada
- United Kingdom
- India
- Russia

### Top States by Visitor:

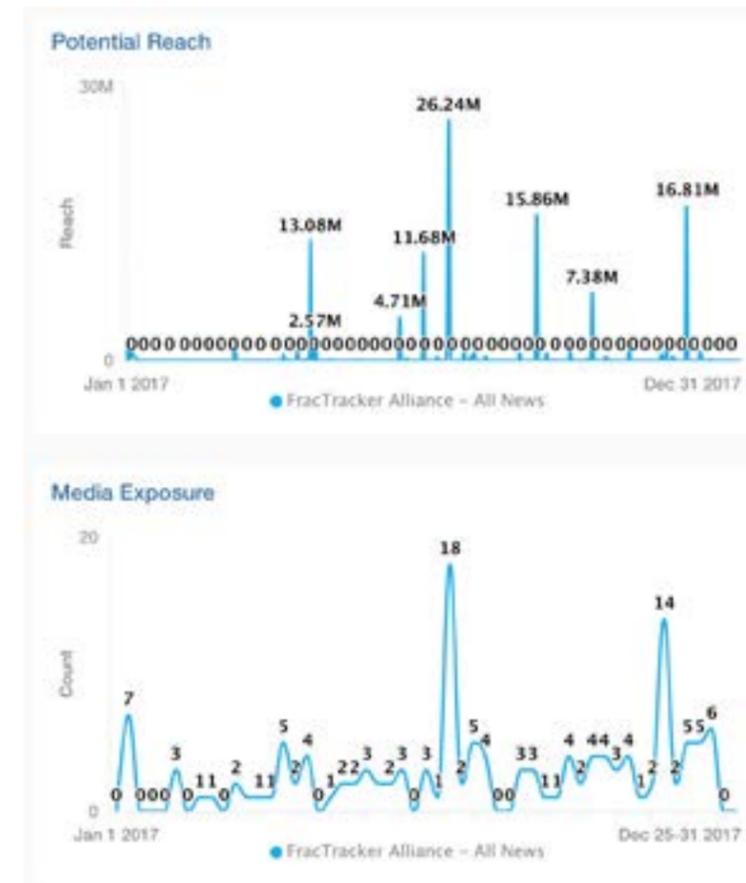
- Pennsylvania
- Texas
- California
- New York
- Florida



FracTracker.org visitors by state, 2016-17

480 34,537

## MEDIA COVERAGE



Over the last year, we have seen a substantial increase in FracTracker's ability to reach out to news media, and also in their utilization of our work and resources.

Often, coverage reflects the release of a new project or resource available on FracTracker.org - such as a hard-hitting analysis or photos of a drilling incident from the sky. We were mentioned in 140 press articles across the globe, amounting to a total reach of over 121 million people in 2017. Our media coverage ranged from the Los Angeles Times, Gizmodo, and Scientific American, to the Associated Press (AP), as well as some international outlets.

See where else FracTracker appears in the news by visiting our website: [fractracker.org/about-us/in-the-news](http://fractracker.org/about-us/in-the-news)

## SOCIAL MEDIA

We maintain accounts on Facebook, Twitter, Instagram, and LinkedIn - with the greatest reach coming from Facebook and Twitter.

Facebook Followers

2,441



Twitter Followers

2,700



# Meet the Staff

**FracTracker Alliance has some very dedicated and passionate staff. Get to know them!**  
View their biographies and recent articles online: [fractracker.org/about-us/staffbios](http://fractracker.org/about-us/staffbios)



**Ted Auch, PhD**  
Great Lakes Program Coordinator  
Cleveland, OH



**Karen Edelstein, MPS**  
Eastern Program Coordinator  
Ithaca, NY



**Kyle Ferrar, MPH**  
Western Program Coordinator  
Oakland, CA



**Kirk Jalbert, PhD, MFA**  
Manager of Community-Based  
Research & Engagement  
Pittsburgh, PA



**Matt Kelso**  
Manager of Data & Technology  
Pittsburgh, PA



**Gwen Lehman, AHS**  
Manager of Operations  
Camp Hill, PA



**Brook Lenker, MA**  
Executive Director  
Camp Hill, PA



**Sam Rubright, DrPH, CPH**  
Manager of Communications &  
Partnerships  
Washington, DC



**Rebecca Vollmer, PhD**  
Manager of Development  
Camp Hill, PA

# Intern Support

FracTracker Alliance would not be what it is today without the support of dedicated interns who have worked with us over the years. The year 2017 was no different, as our budget stretched to cover issues such as pipeline proposals, infrastructure buildout, and air quality issues related to the oil and gas industry. Thank you so much to the following interns and fellow for contributing your time and personal energy to this important work:

2017 Interns	Academic Institution	FracTracker Position	Office
Jian Chen	Auburn University, Department of Geosciences	Spring Data and GIS Intern	Remote
Adeel Johri	University of Maryland, School of Public Health	Fall Communications Intern	Washington, DC
Leann Leiter	Northern Arizona University, School of Social and Behavioral Sciences	Collaborative Environmental Health Fellow	Pittsburgh, PA
Sarah Ponte Cabral	Rochester Institute of Technology, Environmental Science	Spring Data and GIS Intern	Cleveland, OH
Brandon Sekoski	Pennsylvania State University, Geography and GIS	Fall Data and GIS Intern	Pittsburgh, PA
Katelijan van Munster	Rochester Institute of Technology, College of Science	Spring Data and GIS Intern	Oakland, CA

**Internships with FracTracker offer students invaluable resume-building work experience and networking opportunities. Not only do interns work closely with members of our team, but they also have the opportunity to learn about and contribute to many aspects of our work. Learn more about our upcoming paid and unpaid internship opportunities: [fractracker.org/about-us/internships](http://fractracker.org/about-us/internships)**

# Financial Report

## Financial Activity

<b>NET ASSETS, BEGINNING OF YEAR</b>	<b>\$356,646.21</b>
SUPPORT & REVENUE	
Contributions, Pledges & Grants Income	\$668,858.75
Miscellaneous Income	--
Deferred Gifts / Grants Released	\$166,883.89
Total Support & Revenue	\$835,742.64
EXPENSES	
Salaries & Benefits	\$603,798.00
Special Projects Expense	\$193,903.58
Other Expenses	\$ 32,674.40
Total Expenses	\$830,375.98
NET CHANGE IN ASSETS	5,366.66
<b>NET ASSETS, END OF YEAR</b>	<b>\$362,012.87</b>

## Balance Sheet

ASSETS	
Cash Accounts	\$403,033.84
Interfund Receivable	\$237.94
Office Equipment & Software (net of dep)	\$1,780.98
Total Assets	\$405,052.76
LIABILITIES & NET ASSETS	
Accounts Payable & Accrued Liab.	\$24,602.91
Deferred Revenue	--
Other Liabilities	\$18,436.98
Total Liabilities	\$43,039.89
NET ASSETS	\$362,012.87
<b>TOTAL LIABILITIES &amp; NET ASSETS</b>	<b>\$405,052.76</b>

# Board of Directors

The insights and contributions from our board members are invaluable. Thank you for all of your hard work guiding FracTracker's vision for the future.

## R. John Dawes, President

Executive Director, Foundation for Pennsylvania Watersheds, Alexandria, PA

## Benjamin M. Stout III, PhD, Secretary

Professor of Biology, Wheeling Jesuit University, Wheeling, WV

## Mike Kane, Treasurer

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

## David Braun, Member

Project Director, Rootskeeper California

## Julia Trigg Crawford, Member

Farm Manager, Red'Arc Farm Sumner, TX

## Amy Mall, Member

Senior Policy Analyst, Natural Resources Defense Council, Washington, DC

## Phil Pritchard, Member

Retired Environmental Professional Asheville, NC

## 2017 Funding Sources

FracTracker is honored to have received financial support from the following sources this year:

- 11th Hour Project
- Ceres Trust
- Colcom Foundation
- Foundation for Pennsylvania Watersheds
- Neall Charitable Family Foundation
- Park Foundation
- Save The Hills Alliance
- The George Gund Foundation
- The Heinz Endowments
- *Anonymous*
- *Donations*
- *Fee-For-Service Mapping & Data Analysis*



Help us grow  
[fractracker.org/donate](https://fractracker.org/donate)

We appreciate the many brave people and bold organizations fighting for a better energy future. They need your support, and so does FracTracker. Please consider making a donation to our Annual Fund. To sustain our meaningful, empowering work, we need you!  
[fractracker.org/donate](http://fractracker.org/donate)



Above photo: Drilling rig with a California high school in background. Photo by Brook Lenker  
Cover photo: Class II injection well, Ohio. Photo by Ted Auch

**FracTracker Alliance**

2017 Annual Report

1845 Market St, Ste 204  
Camp Hill, PA 17011  
+1 717 303 0403  
info@fractracker.org  
www.fractracker.org



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