



# Creating the Code for Change

Citizens Advisory Committee | 2.21.19

Creating the Code for Change

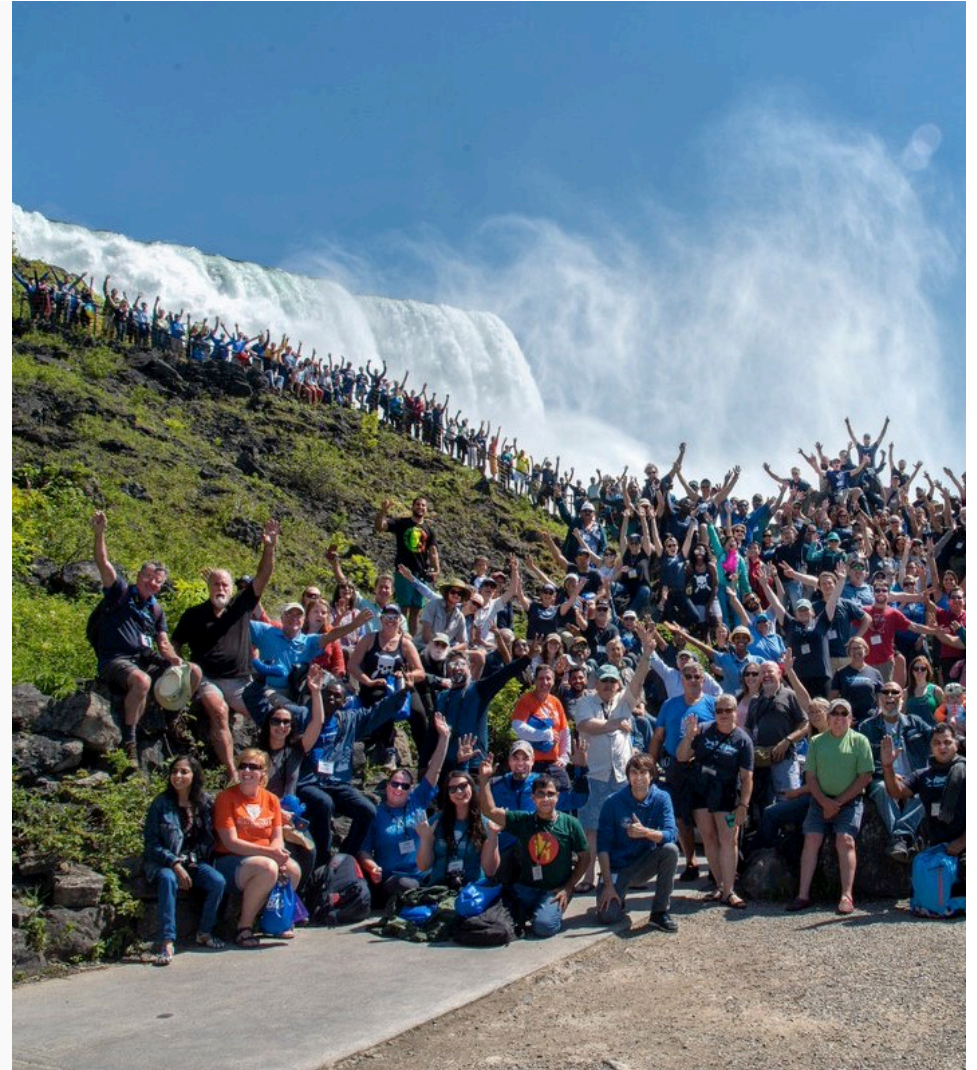
# 01 Organizational Overview

A brief walkthrough of our history  
and programs

THE COMMONS

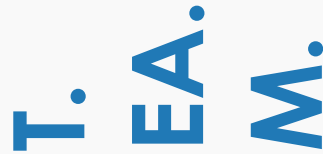
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**“Our Technology is a bridge to making environmental issues resonate with thousands inside and outside the choir”**



THE COMMONS

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**John Dawes**

Executive Director and Founder  
**Chesapeake Commons**



**Brendan McIntyre**

Lead Software Engineer and Founder  
**Chesapeake Commons**



**Erin Hofmann**

Strategy and Application Lead  
**Chesapeake Commons**

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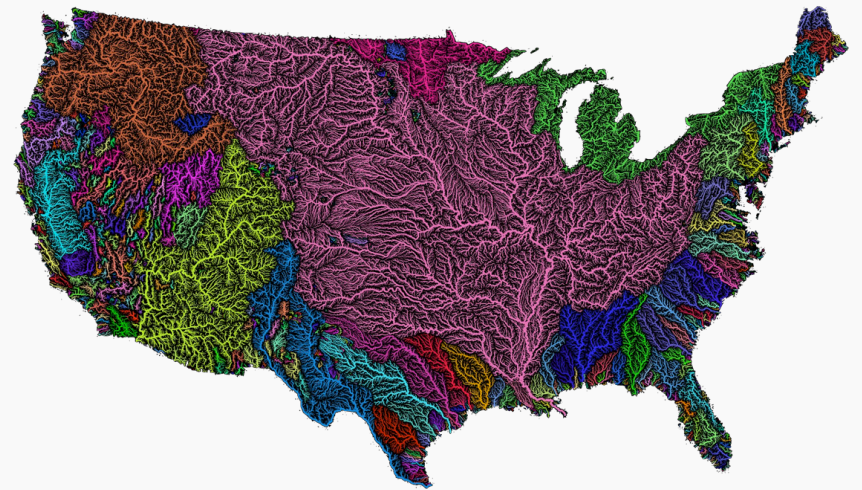
# 02 Water Reporter

Unifying volunteer monitoring programs across the nation

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Bloodlines  
of our  
nation

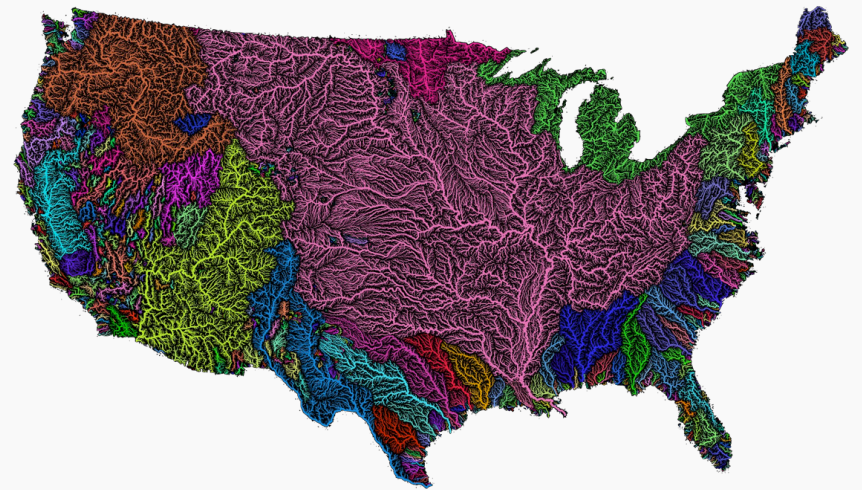


THE COMMONS

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3.5

million  
miles of  
streams  
across the  
U.S.

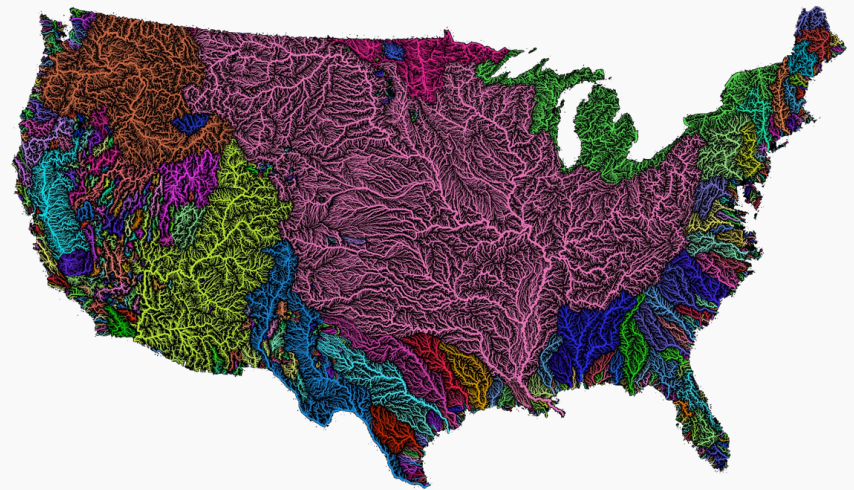


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1 in 3

of us get drinking water from streams affected by the Clean Water Rule



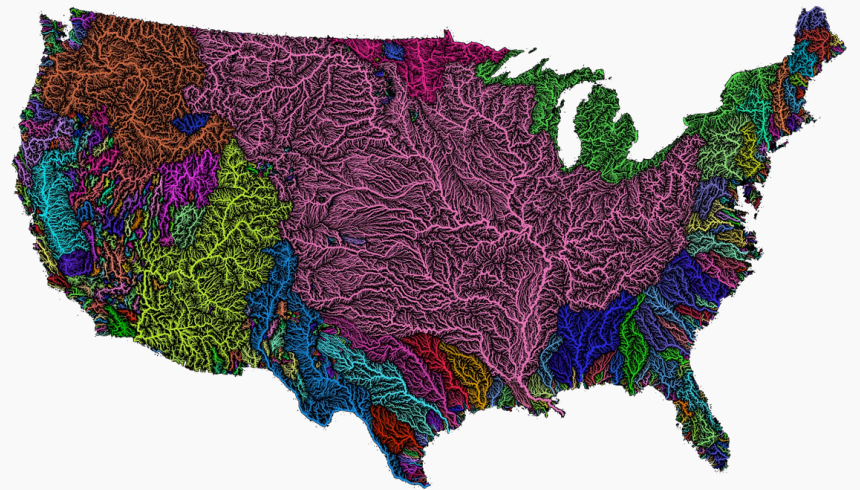


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**357**

thousand  
miles of  
streams  
are public  
water  
systems

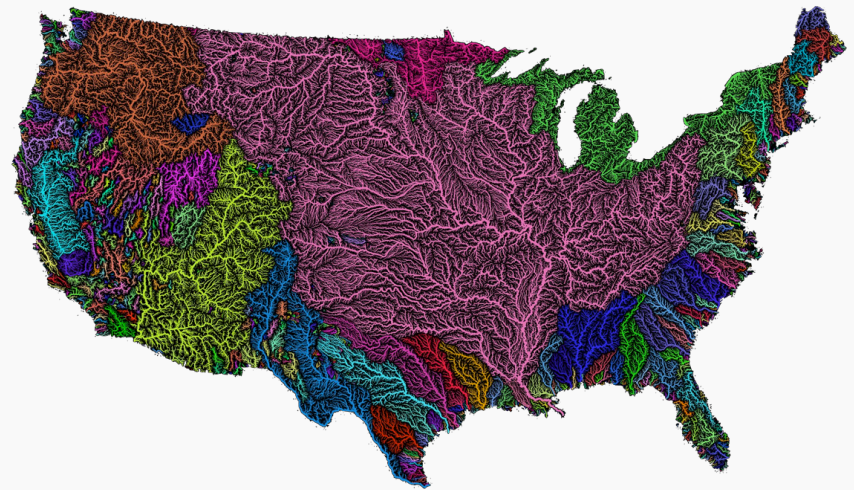


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60

percent of  
stream  
miles only  
flow  
seasonally  
after storms



A stylized map of the United States and parts of Canada and Mexico. The landmasses are white, and the surrounding areas are dark grey. Numerous small blue dots are scattered across the map, representing a monitoring network. The dots are more densely clustered in the eastern half of the United States and along the West Coast.

This is our monitoring  
network

**120**

**Organizations**

A stylized map of the United States and parts of Canada and Mexico. The landmasses are white, and the surrounding areas are dark grey. Numerous small blue dots are scattered across the map, representing a monitoring network. The dots are more densely clustered in the eastern half of the United States and along the West Coast.

This is our monitoring  
network

**47**

States

A stylized map of the United States where the landmass is white and the surrounding areas are black. Numerous small blue dots are scattered across the map, representing a monitoring network. The dots are most densely clustered in the eastern half of the country, particularly in the Northeast and Southeast, and are more sparsely distributed in the West and Mountain regions.

This is our monitoring  
network

**5k**

Posts

A stylized map of the United States where the landmass is white and the surrounding areas are black. Numerous small blue dots are scattered across the map, representing a monitoring network. The dots are most densely clustered in the eastern half of the country, particularly in the Northeast and Southeast, and are more sparsely distributed in the West and Mountain regions.

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**5k**

Posts

A stylized map of the United States and parts of Canada and Mexico. The landmasses are white, and the surrounding areas are dark grey. Numerous small blue dots are scattered across the map, representing a monitoring network. The dots are more densely clustered in the eastern half of the United States and along the West Coast.

This is our monitoring  
network

**3k**

Users

A map of the United States with a dark background. The landmasses are white. Numerous small blue dots are scattered across the map, representing a monitoring network. The dots are more densely clustered in the eastern half of the country and along the West Coast.

This is our monitoring network



Use Cases



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Water Clarity = Good



Water Clarity = Nope!



PRKN Training



Taking action



**Locals on the Monocacy River document their monitoring efforts to use in a future court case against illicit discharge.**

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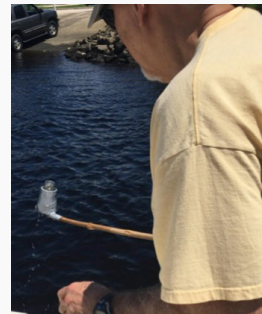
Beach Cleanups



Monitoring for benthic



Monitoring for bacteria



Documenting plastics



Education and outreach



Documenting a restoration project



**Broad use  
cases and  
support**

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Tracking the  
impact of HABs  
and using citizen  
collected data to  
inform local media  
outlets and  
government.

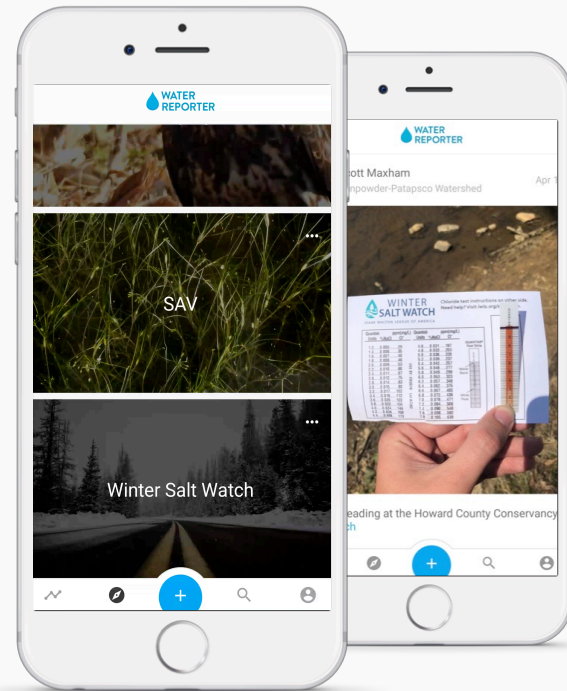
THE COMMONS

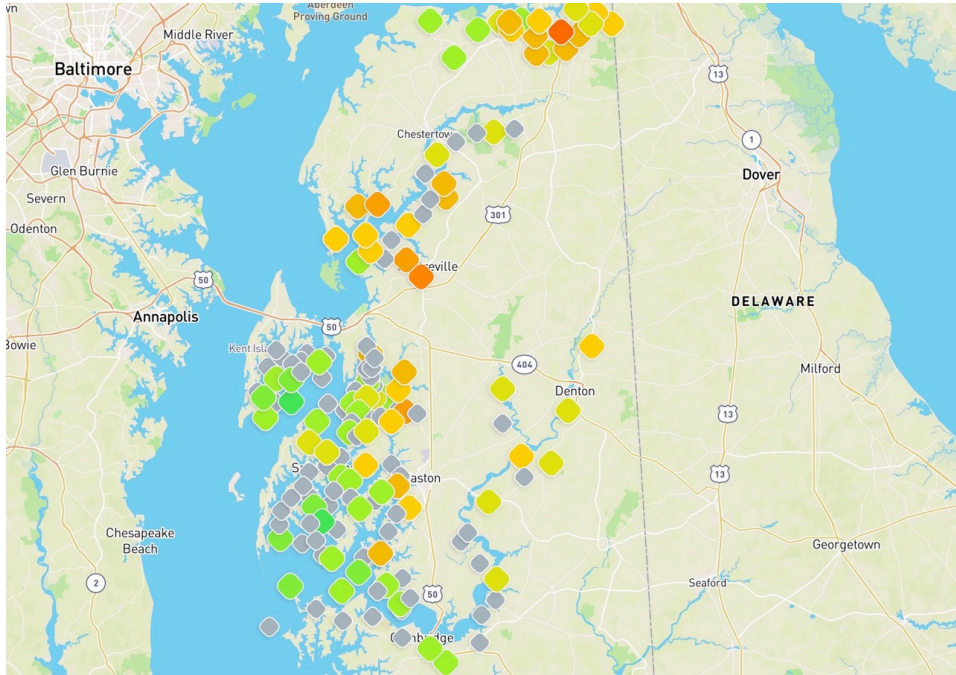
#03

Campaigns on  
Water  
Reporter

Water Reporter on the Commons

Collaborative data to provide  
specific data to help guide  
and support initiatives





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**54 volunteers, 154 sites, six months.  
Every year. Tracking MTAC with  
Water Reporter Data Sources**



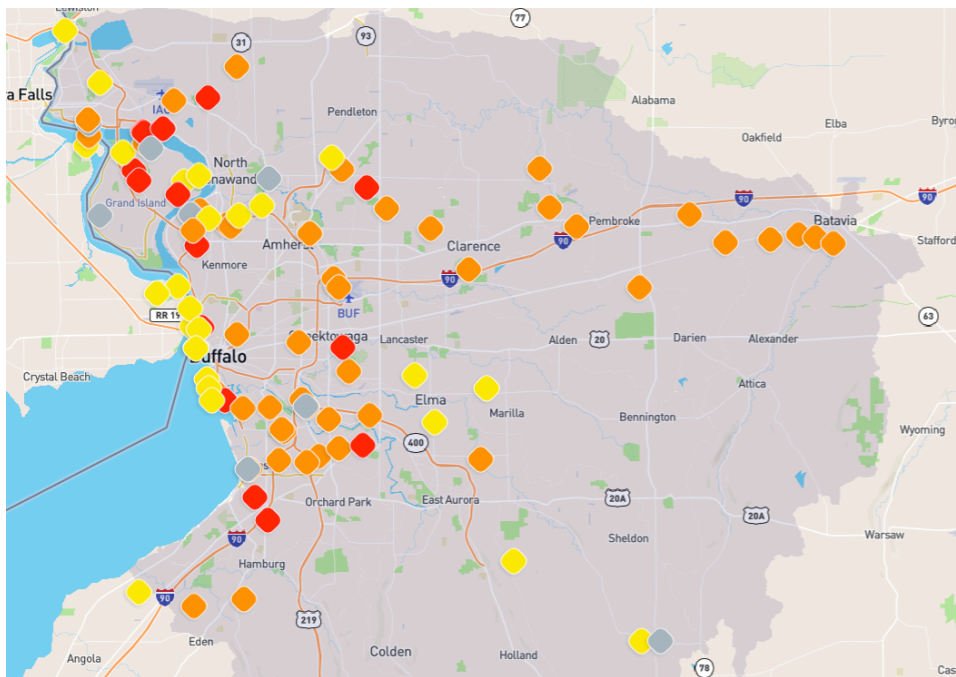
Data Sources



Maps




Monitoring Data




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50 volunteers, 88 sites, six months.  
 Every year. Tracking Water Quality  
 Index with Water Reporter Data  
 Sources

 Data Sources

 Maps

 Monitoring Data

## THE COMMONS

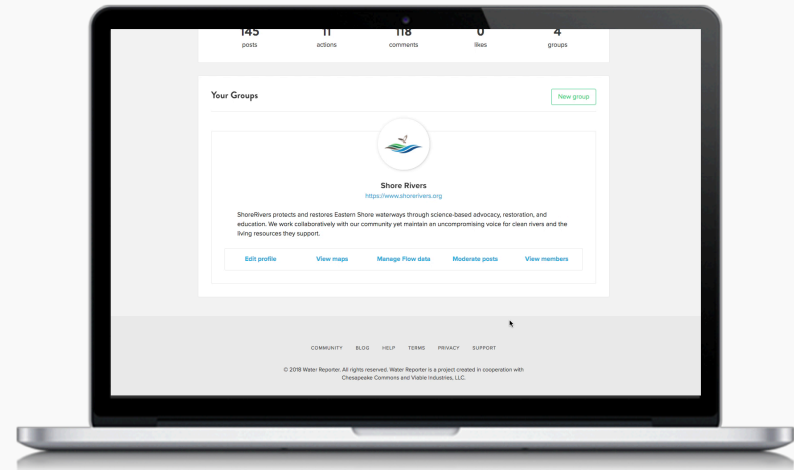
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# #03

## Water Reporter Data Sources

Add Images to your observations

Share the results of your monitoring to the public, social media, and other interested parties. This helps to build a community around the waterway.



Creating the Code for Change

# 03

## FieldDoc

Redefining how we verify water  
quality improvement



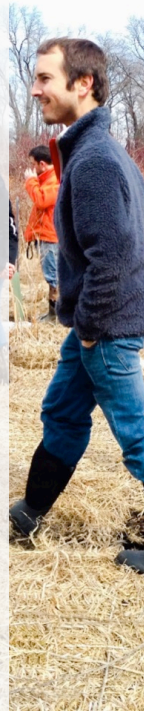
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**“A thing is right when it tends to preserve the integrity, the stability, and beauty of the biotic community. It is wrong when it tends otherwise.”**

**-Aldo Leopold**



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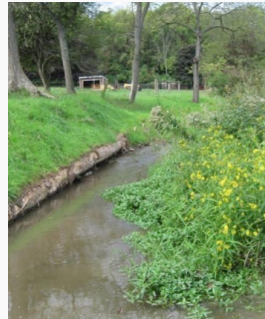
**“No matter how intently one studies the hundred little dramas of the woods and meadows, one can never learn all the salient facts about any one of them.”**

**-Aldo Leopold**



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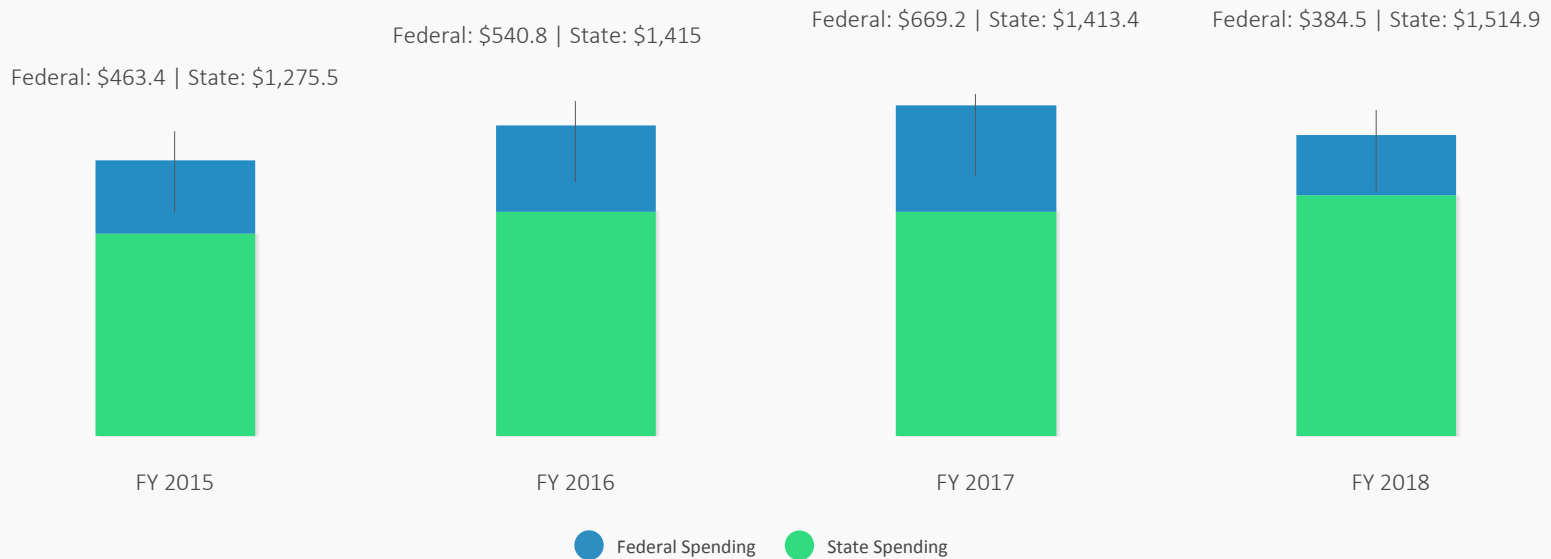


**Documenting  
Restoration is  
Difficult**

**(BUT WORTH IT!)**



# Bay Restoration Spending

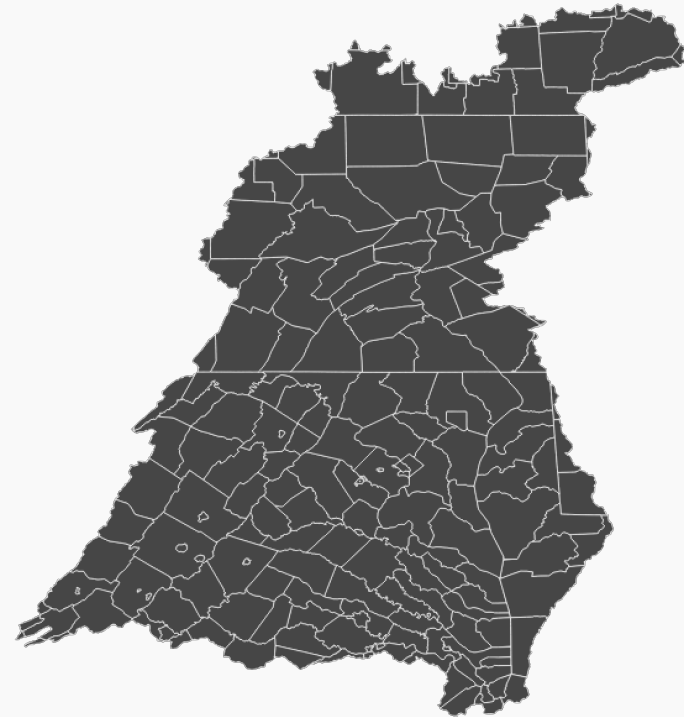


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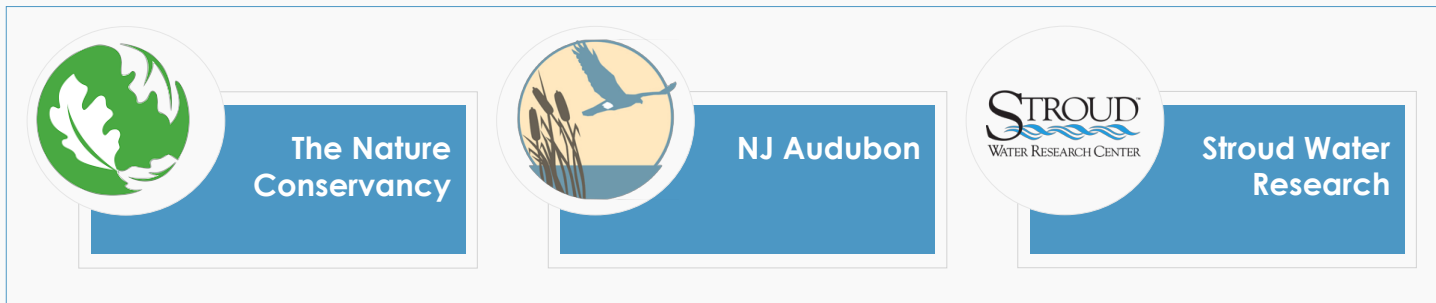
Over \$7,500 MM in Bay restoration spending and we...

~~sidekick centralized~~  
~~the long as to political~~  
~~goals to help in for~~  
tomorrow's decisions.



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## THE COMMONS

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# THE COMMONS

## EZG #53363: Restoring Paulins Kill Floodplain Forests and Functions - Phase 2

Last modified by John Cassin on Feb 8, 2019 10:08:12 PM

Program: Delaware River Restoration Fund

-Recreate degraded riparian buffers and stabilize eroding streambanks by planting trees to re-establish native floodplain forest—expanding active restoration in the largest stretch of restorable riparian corridor in the Upper Paulins Kill. -Reforested areas will reconnect native riparian habitat, cool water temperatures and reduce erosion and runoff to improve water quality, and will restore floodplain function, opened during Phase 1 and closed during Phase 2.

TAGS  
OPEN CLOSED  
Phase 1 Phase 2



### Metrics

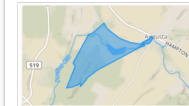
	Installed To Date	% Installed	
\$ of public and private funds leveraged by DRW within focus areas	77,909.94 dollars of \$83,910.00	92.8%	○
Dollars of Federal Farm Bill and state funding leveraged by DRW within focus areas	28,213.30 dollars of 10,000.00	188.1%	○
# of volunteers	150.00 of 100.00	300.0%	○
Miles of forested buffer restored within focus areas	1.12 miles of 1.12	100.0%	○



NJDEP-Augusta

No description

Last updated on Jan 25, 2019



NJDEP-Bain

No description

Last updated on Jan 25, 2019



SCMUA

No description

Last updated on Jan 25, 2019



Forest Buffer

Forest buffers are linear wooded areas that help filter nutrients, sediments and...

Created on Jan 25, 2019



Forest buffer

Forest buffers are linear wooded areas that help filter nutrients, sediments and...

Created on Jan 24, 2019



Forest buffer

Forest buffers are linear wooded areas that help filter nutrients, sediments and...

Created on Jan 24, 2019

Last modified by John Cassin on Feb 8, 2019 10:08:12 PM



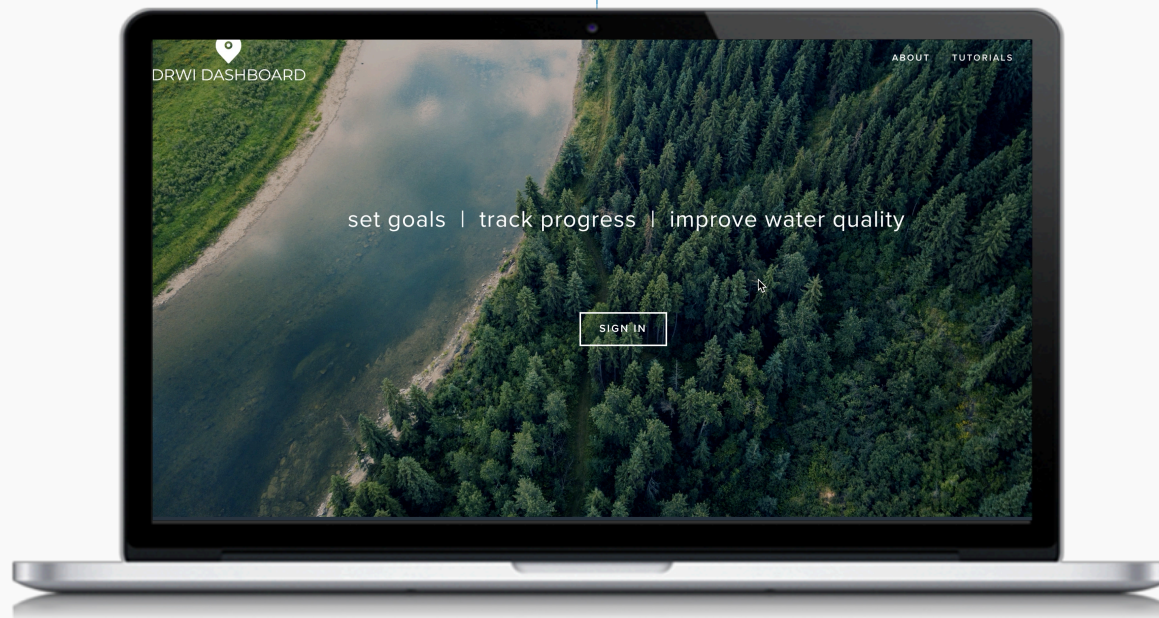
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## THE COMMONS

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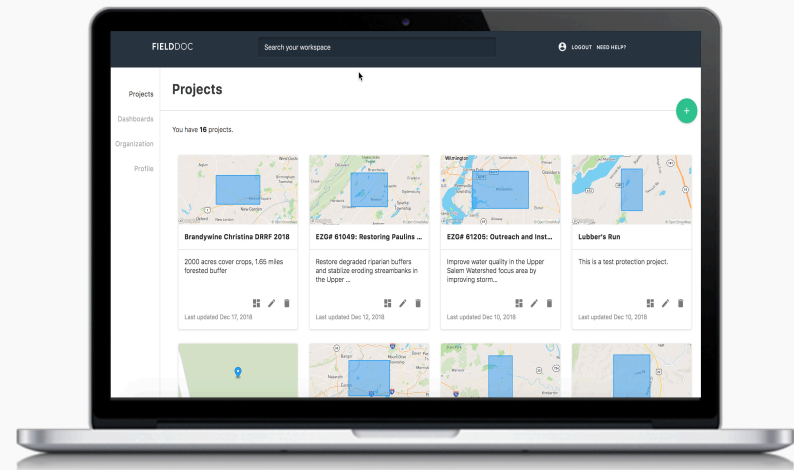
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# #03

## Tracking Restoration with FieldDoc

Set goals for your organization's projects

Establish and track the progress of individual projects to ensure that restoration projects have a positive impact toward restoration goals



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FieldDoc will support in-field data collection for restoration practitioners

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# Live Demo

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# Expanding the **We**

Foundation Partners

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# Expanding the **We**

Technical Partners

Creating the Code for Change

# 04 Building for the Future

Where we are headed in 2019



## THE COMMONS



We are developing two products that support two complimentary workflows.

# Documenting restoration projects

### Birch Run-Birchrun Hills Farm (1)

Last modified by John Dawes on Dec 7, 2018 3:04:42 PM

**Project:** EZG# 61133: Providing Technical Assistance for Small Agricultural Operations in the French Creek Watershed (PA)

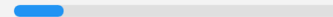
**Area:** 4.55 acres

No description

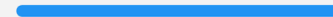


### Metrics

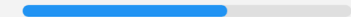
0.75 of 5.00 lbs/yr  
Nitrogen



8.00 of 7.00 lbs/yr  
Phosphorus



5.00 of 8.00 tons/yr  
Sediment

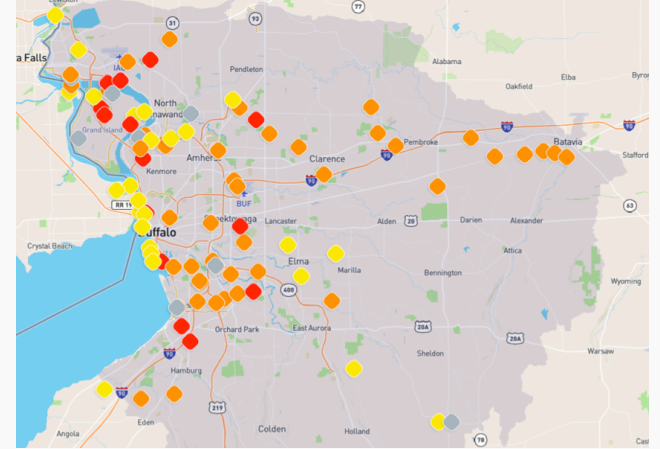


## THE COMMONS



We are developing two products that support two vital workflows.

# Proving impact on water quality



DO | 57 %

DO | 64 %

DO | 60 %

DO | 68 %

DO | 59 %

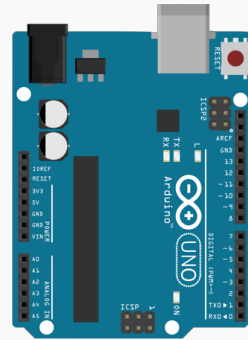
DO | 57 %

## THE COMMONS

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Grow our regional network of partners



Combine education and outreach with all products and Common initiatives

# Simple, Interoperable, and Pervasive

Modern software supporting these efforts should be built to enhance specific use cases, have a clear value proposition, and be accessible anywhere there is a network connection



```
    long currentTime;
    long lastTime = 0UL;
    TS;

class Welcome : public HttpResponse {
protected:
//Formatage page accueil -----
Stream& printBody(Stream& aStream) const {
    aStream.print("<html> \
<head> \
<title> \
Sparkcore \
</title> \
</head> \
<body bgcolor='#A9D300'>\
    <p><a href='/json/dig'>Json Digital</a></p> \
    <p><a href='/json/ana'>Json Analog</a></p> \
</body>\n \
</html>\n");
    return aStream;
}
public:
};

class Help : public HttpResponse {
protected:
//Formatage page aide -----
Stream& printBody(Stream& aStream) const {
    aStream.print("<html> \
<head> \
<title> \
Sparkcore \
</title> \
</head> \
    \
    le paramètre doit-être 'ana' ou 'dig' pour
    le paramètre doit-être 'on' ou 'off' pour
};
};
```

## THE COMMONS



Support deeper  
levels of  
configurability  
among products

## THE COMMONS

Free / forever BASIC	\$ 20 /mo. PREMIUM	\$ 40 /mo PRO
<ul style="list-style-type: none"><li>Share geo-located reports</li><li>Manage profile</li><li>Share reports with groups</li><li>Access comment threads</li><li>Share to social media outlets</li><li>Contribute to campaigns</li></ul>	<ul style="list-style-type: none"><li>Track report status</li><li>Resolve reports</li><li>Manage a campaign</li><li>Campaign data download</li><li>Embedable report maps</li><li>Branding assistance</li></ul>	<ul style="list-style-type: none"><li>All premium features</li><li>Water quality monitoring maps</li><li>Light-weight data management</li><li>Water quality protocol implementation</li><li>Embedable water quality maps</li><li>Access volunteer info</li></ul>
<a href="#">Create Account</a>	<a href="#">Create Account</a>	<a href="#">Create Account</a>

# Diversify Revenue

Ensure software produces clear value to users and the Commons

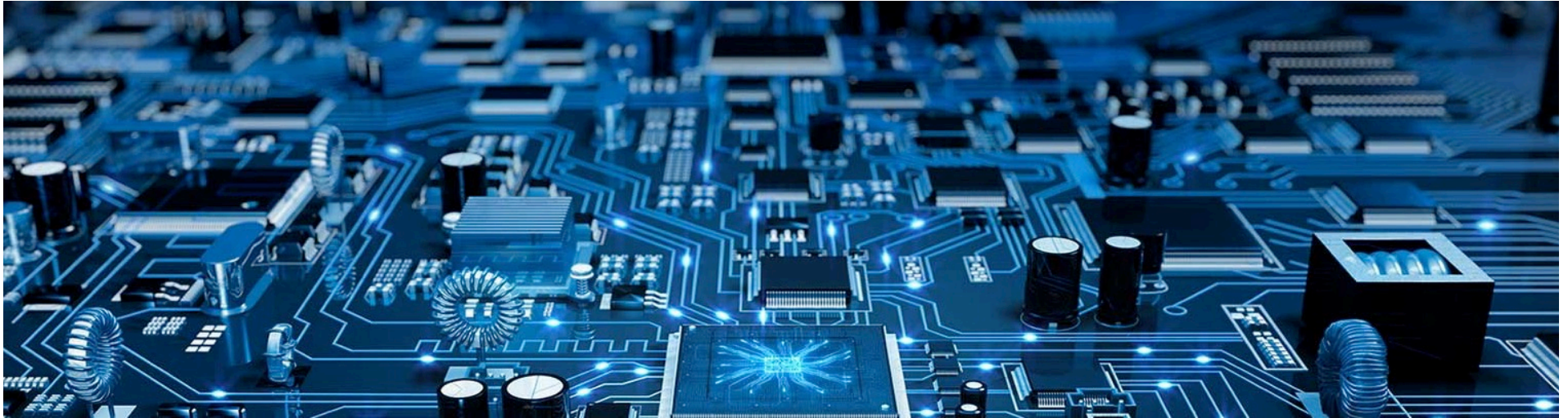
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# Sensor Integration

Increasing the  
quantity and quality of  
our monitoring  
network.





**Empower our users  
to share data with  
federal data stores**





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Thank  You!

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## Creating the Code for Change

  @ourcommoncode