

# July Construction Stormwater Quality Workshop

July 16–19, 2018



# WE ARE INTERESTED IN WHAT YOU WANT TO LEARN ABOUT!

The City is planning a Post Construction  
BMP workshop in 2019.

Please go to the website below  
to take the pre-survey.

<https://www.surveymonkey.com/r/2VFG5W2>



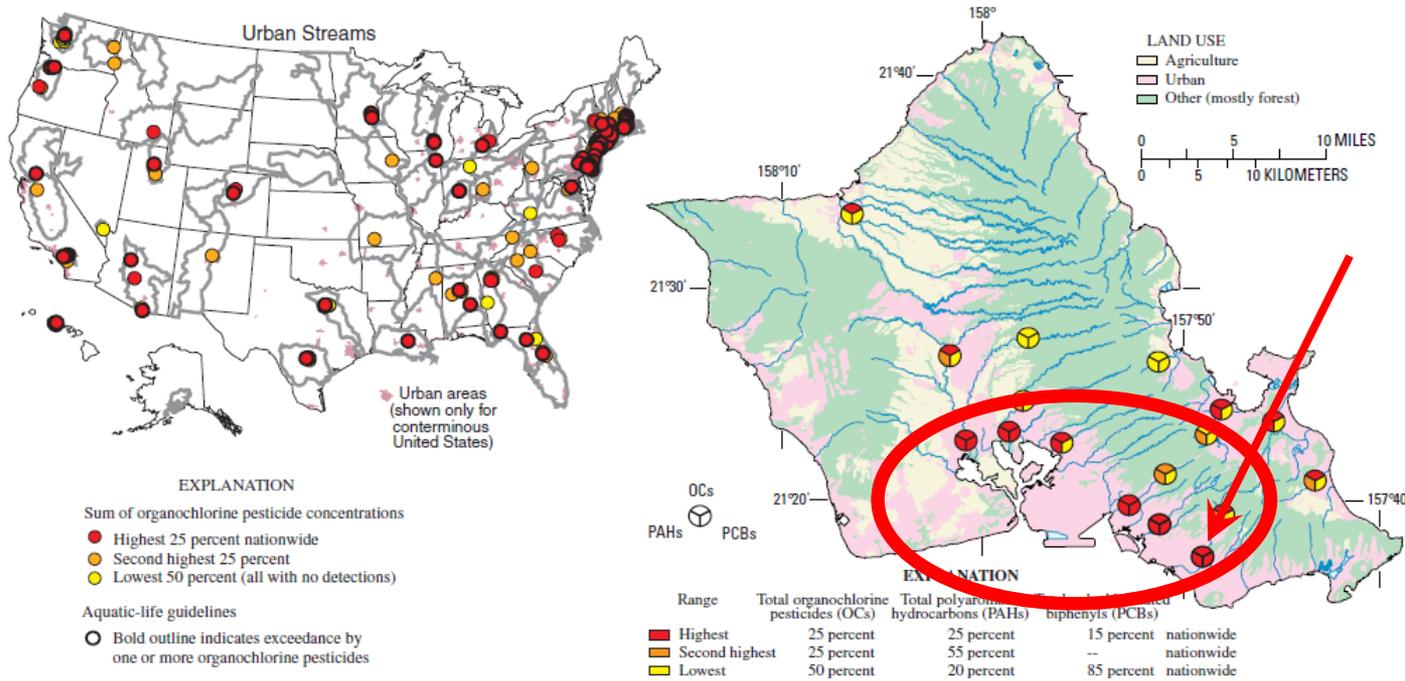
# Adaptive Management by using Cityworks & CloudCompli Platforms

Thursday; July 19, 2018

- **Why Do It?**
- Permit Requirements
- City Programs
- Adaptive Management

# WHY DO IT?

## USGS NAWQA – Oahu 1999-2001, Stream Sediment



Concentrations of organochlorine compounds in streambed sediment were high on Oahu and in other urban areas.

Organic compounds in streambed sediment at urban Oahu stream sites were in the highest 25 percent of the national range.



**Concentrations of organic compounds in sediment and fish were among the highest in the nation**

# ALA WAI WATERSHED

## WHY DO IT?

**WHAT YOU  
DO HERE**

**ENDS UP  
HERE !!!**

**Chlordane - Bids tightly to soil;  
insoluble in water; volatilizes slowly  
when exposed to sun.**

1947 Introduced in US

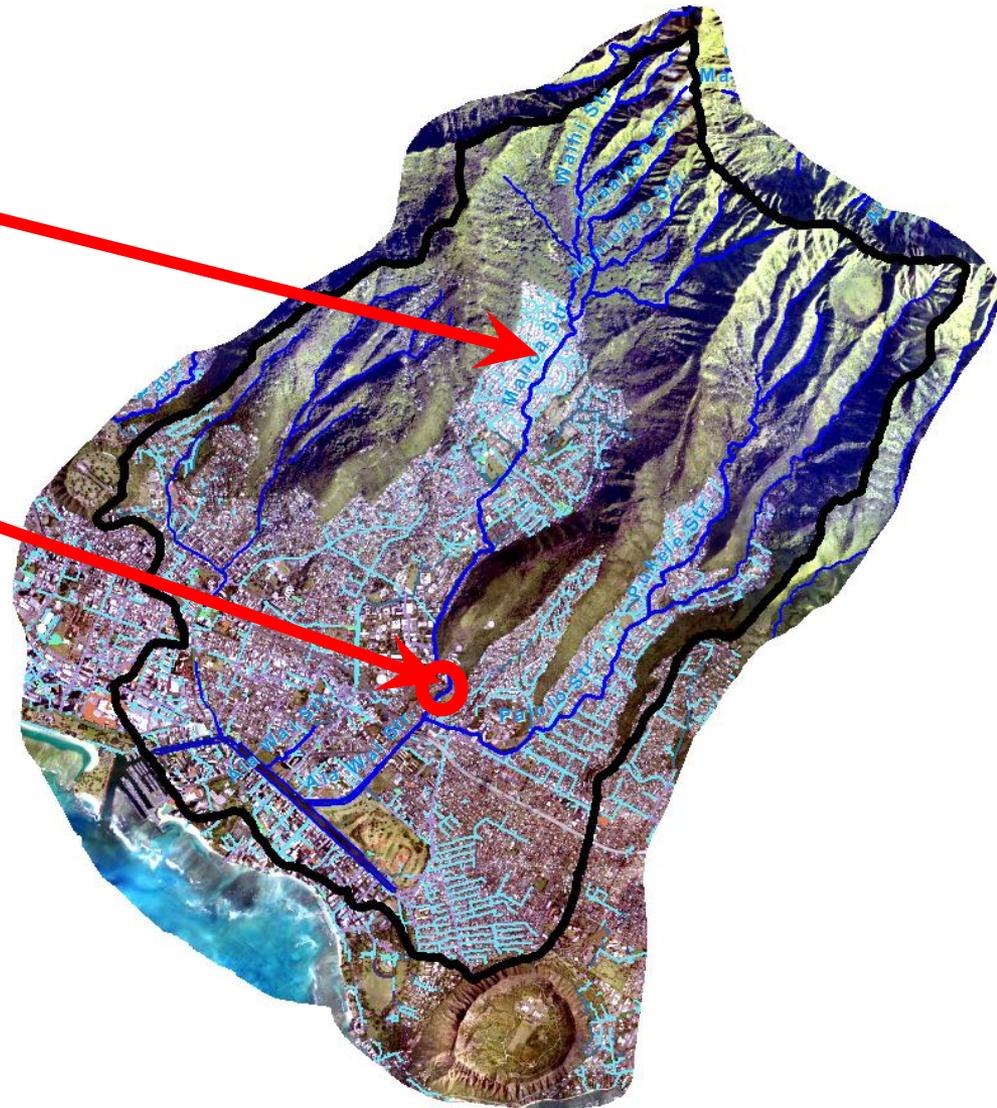
1979 EPA Imposed restrictions

1983 Banned from home, garden, ag

1988 Banned as a termiticide

2013 New York birds die for past 14  
years by eating insects tolerant to  
chlordane.

<https://blog.epa.gov/blog/2013/06/30-years-after-the-epa-ban-chlordane-still-poisons-local-birds/>



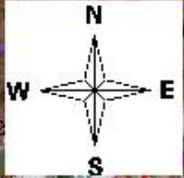
## WHY DO IT?

**NO PHASING  
NO TEMPORARY STABILIZATION  
NO SEDIMENTATION BASIN**



# CIRCA 2006

# WHY DO IT?



CAS NO.	COMPOUND	RESULT	Units
72-54-8	4,4'-DDD		ug/kg
72-55-9	4,4'-DDE	28.0	ug/kg
50-29-3	4,4'-DDT	33.3	ug/kg
309-00-2	Aldrin		ug/kg
319-84-6	alpha-BHC		ug/kg
12789-03-6	Chlordane (Technical)	1690	ug/kg
5103-71-9	alpha-Chlordane	477	ug/kg
319-85-7	beta-BHC		ug/kg
319-86-8	delta-BHC		ug/kg
60-57-1	Dieldrin	86.3	ug/kg
959-98-8	Endosulfan I		ug/kg
33213-65-9	Endosulfan II		ug/kg
1031-07-8	Endosulfan sulfate		ug/kg
72-20-8	Endrin		ug/kg
7421-93-4	Endrin aldehyde		ug/kg
53494-70-5	Endrin ketone		ug/kg
58-89-9	gamma-BHC (Lindane)		ug/kg
5103-74-2	gamma-Chlordane	256	ug/kg
76-44-8	Heptachlor	14.3	ug/kg
1024-57-3	Heptachlor epoxide		ug/kg
72-43-5	Methoxychlor		ug/kg
8001-35-2	Toxaphene		ug/kg



8/2/2006 ~ 0.95"



# Cityworks Update

Thursday; July 19, 2018

- Why Do It?
- **Permit Requirements**
- City Programs
- Adaptive Management

# CITY MS4 PROGRAMS

1. IDDE (**Cityworks**)
2. Industrial Commercial Inspections (**Cityworks**)
3. Post Construction BMP Inspections (**Cityworks**)
4. Stream Monitoring (**Cityworks**)
5. DI, CB, Outfall, Pipe Insp (**Cityworks**)
6. Retrofit Project for SD System (**Cityworks**)
7. Public Education Outreach (**Cityworks**)
8. Construction Site Runoff (**CloudCompli**)
9. Street Sweeping (**Cityworks**)
10. Good House Keeping (**CloudCompli, future**)



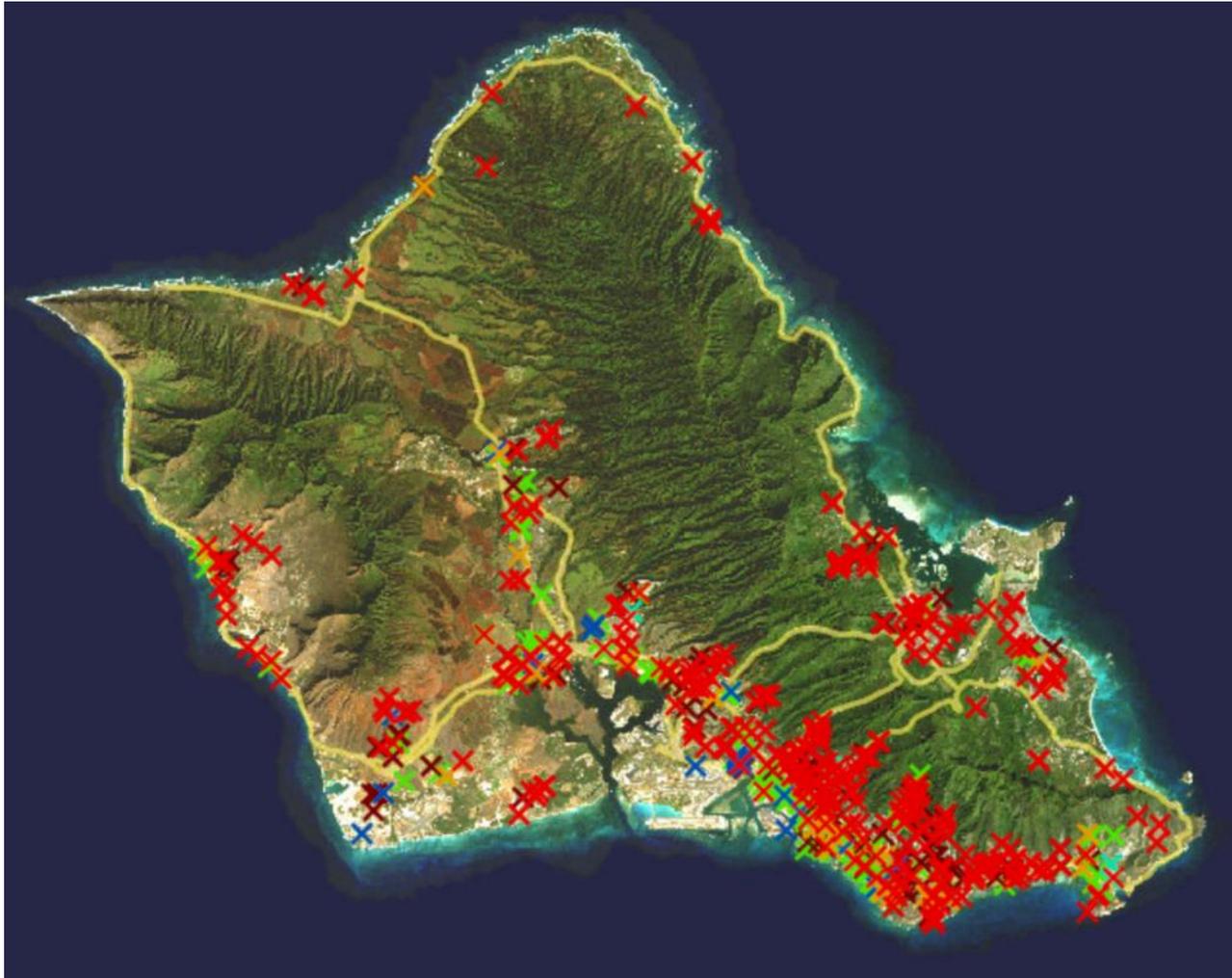


# Cityworks Update

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# IDDE – INVESTIGATION/ENFORCEMENT



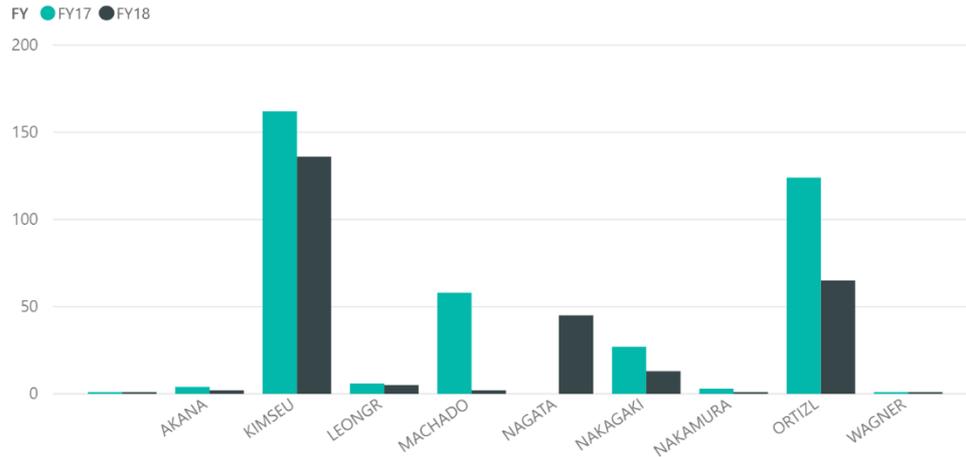
- IDDE Tracking Categories
- x Residential
  - x Municipal
  - x Institutional
  - x Industrial
  - x Construction
  - x Commercial

# IDDE – SWMPP METRICS

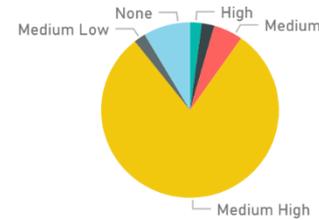


## INVESTIGATION/ENFORCEMENT PERMIT REQUIREMENTS & PRODUCTION

Total Assigned To by Fiscal Year



Investigation Priority



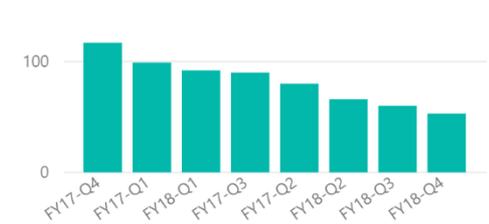
Investigation by Category



Investigation Status

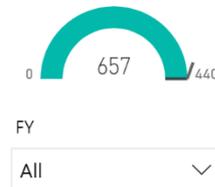


Closed Status by Fiscal Year



Assigned to	2016-07	2016-08	2016-09	2016-10	2016-11	2016-12	2017-01	2017-02	2017-03	2017-04	2017-05	2017-06	2017-07
AKANA					1								4
KIMSEU	9	11	21	12	8	15	11	12	20	8	17	18	1
LEONGR				1	1					1	1		2
MACHADO	14	14	10	8	3	2	6	1					
NAGATA													
NAKAGAKI	2	2	2	2	3	1	1	4		4		6	
NAKAMURA													3
ORTIZL	3	4	7	9	5	10	6	12	16	15	28		9
WAGNER													1
<b>Total</b>	<b>28</b>	<b>31</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>30</b>	<b>24</b>	<b>26</b>	<b>40</b>	<b>24</b>	<b>51</b>	<b>42</b>	<b>2</b>

Number of Investigations



Total Inspections

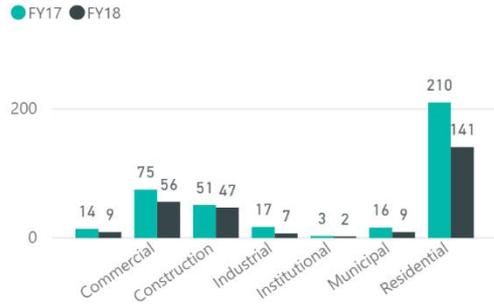


# IDDE – ENHANCED METRICS

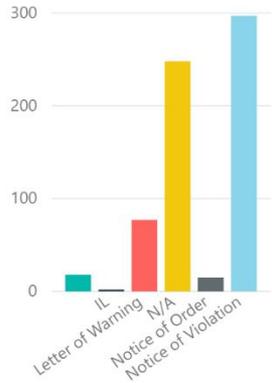


## INVESTIGATION/ENFORCEMENT SWMPP METRICS

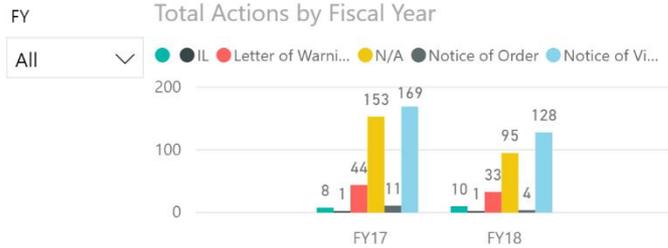
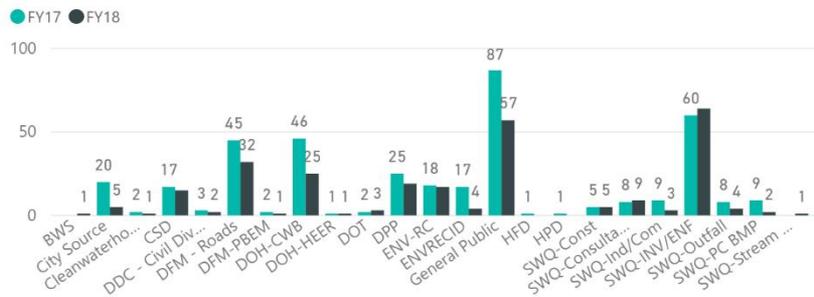
by Tracking Category



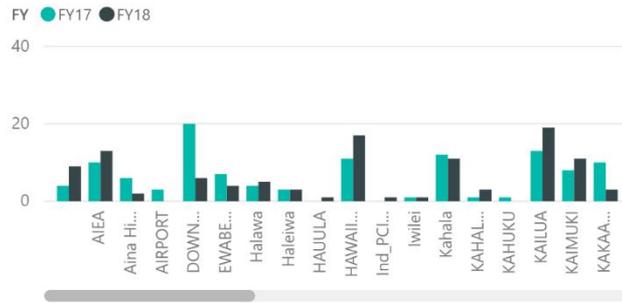
Action by Category



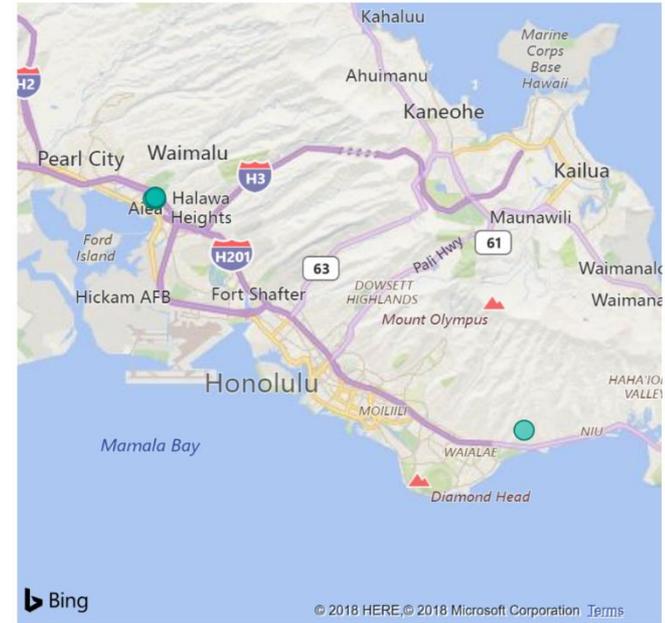
by Source Category



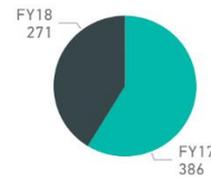
by Community



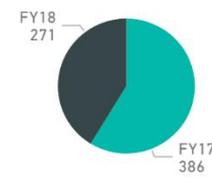
Investigation Location



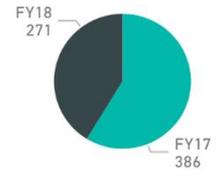
Resolved Investigations



Follow Up Actions



Illicit Investigations



# INDUSTRIAL/COMMERCIAL



▼ Industrial\_Comm  

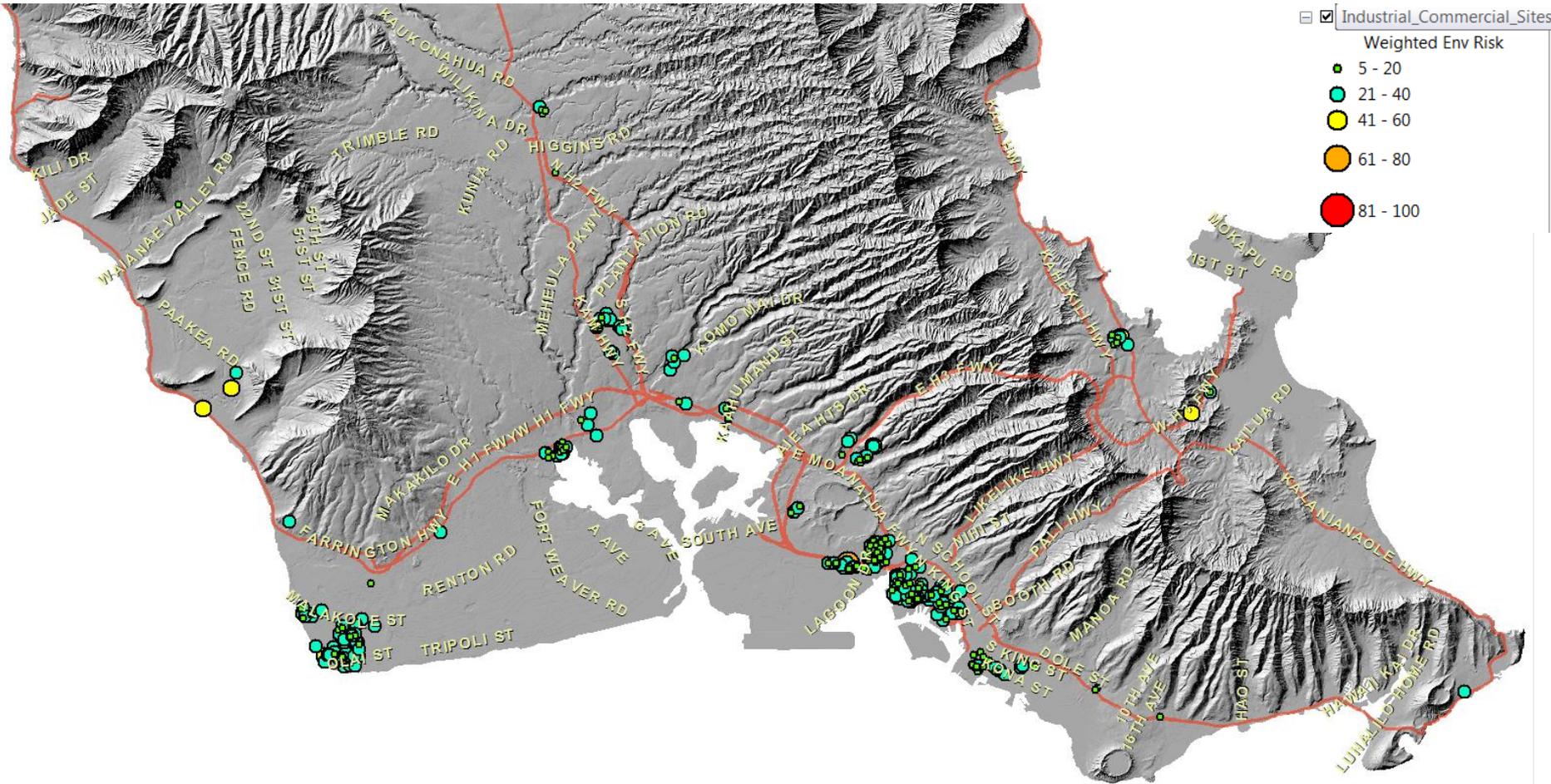
Closed

 Commercial

 Industrial



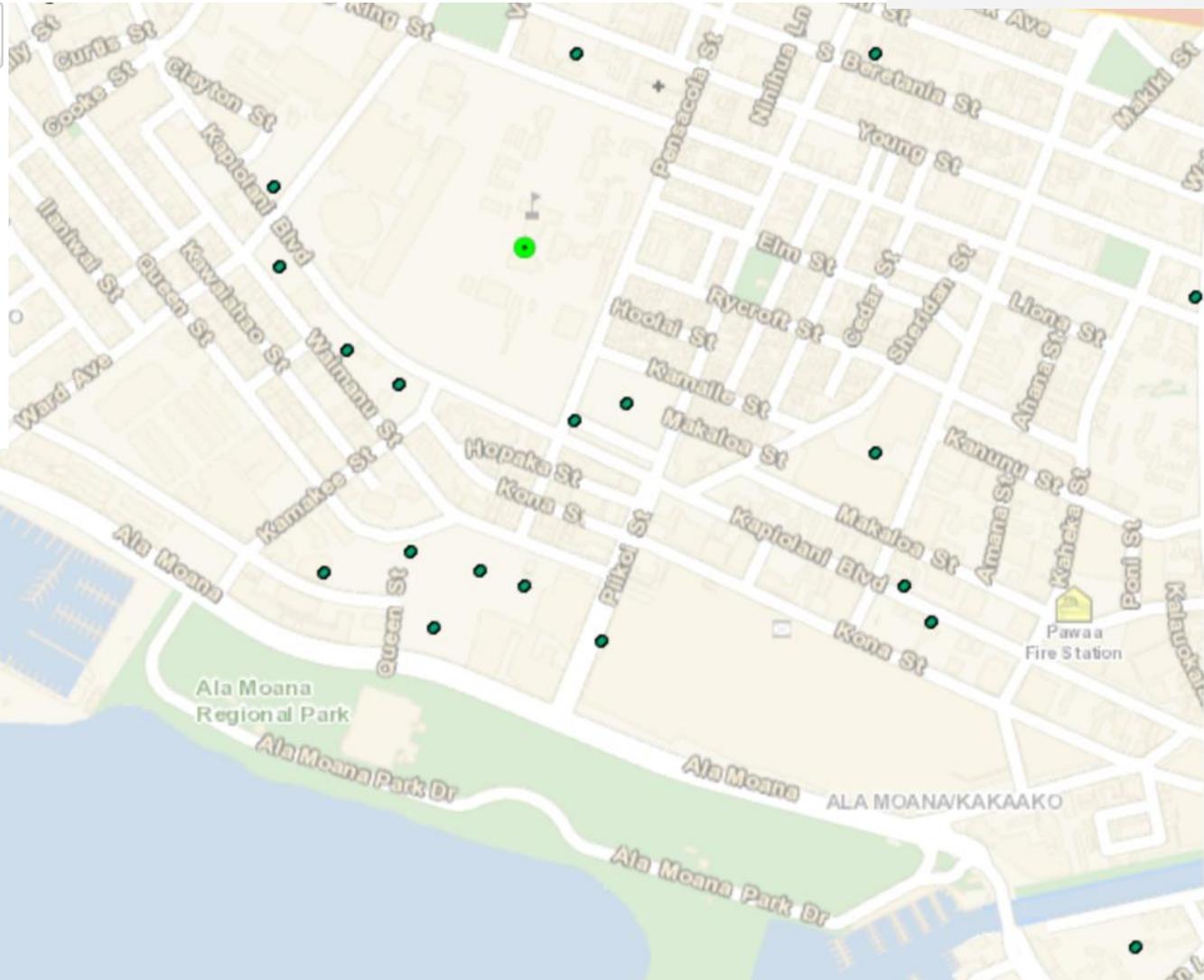
# INDUSTRIAL/COMMERCIAL



# POST CONSTRUCTION

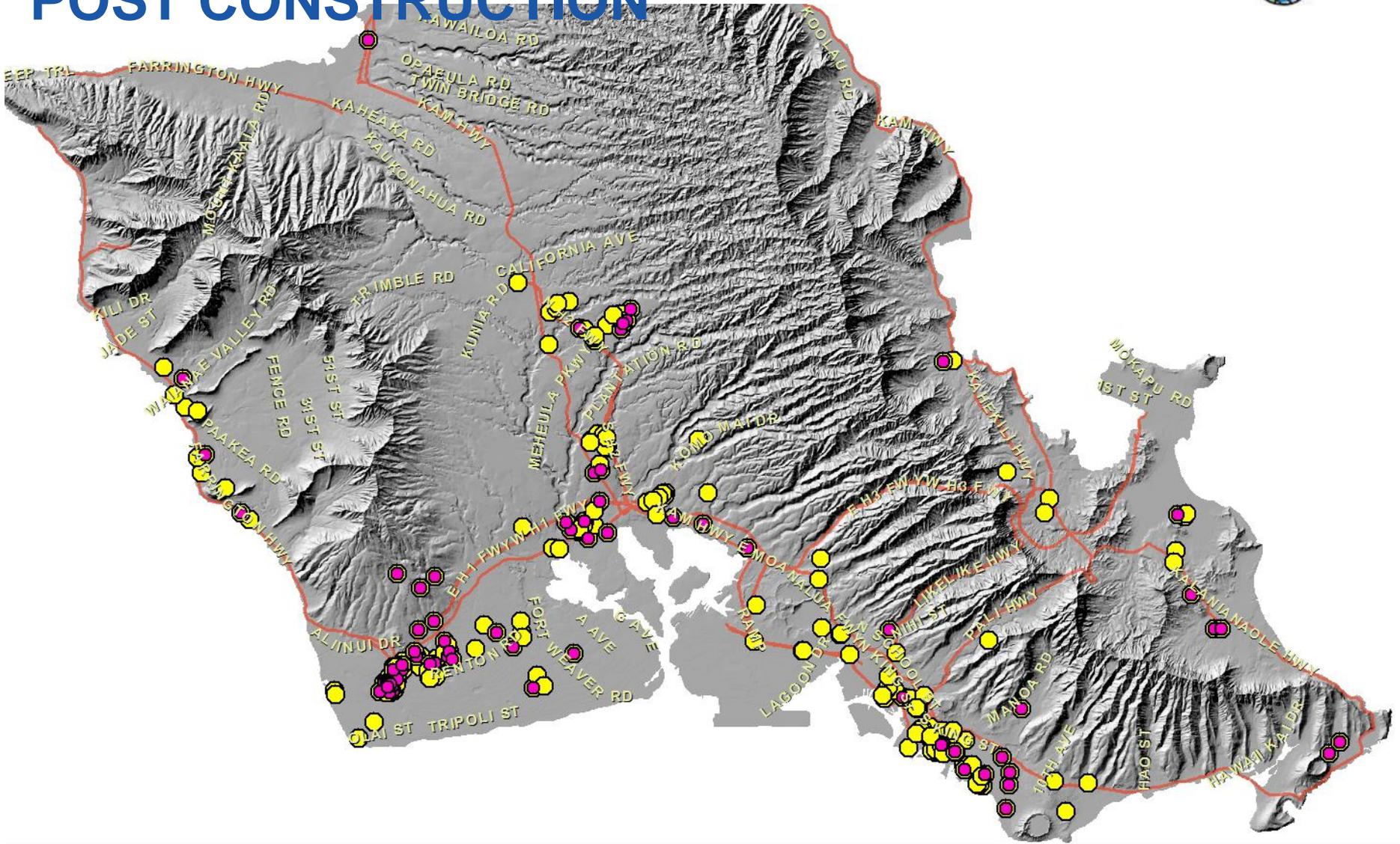
▼ Post Constructor  

-  <all other values>
-  City
-  Closed
-  DOE
-  No Connection
-  No Development
-  No Jurisdiction
-  Open





# POST CONSTRUCTION





# RETROFIT PROJECTS



DFM Hydrodynamic Separator - Needs Cleaning



DFM Hydrodynamic Separator - Needs Cleaning

DFM Drain Inlet Filter - Needs Cleaning



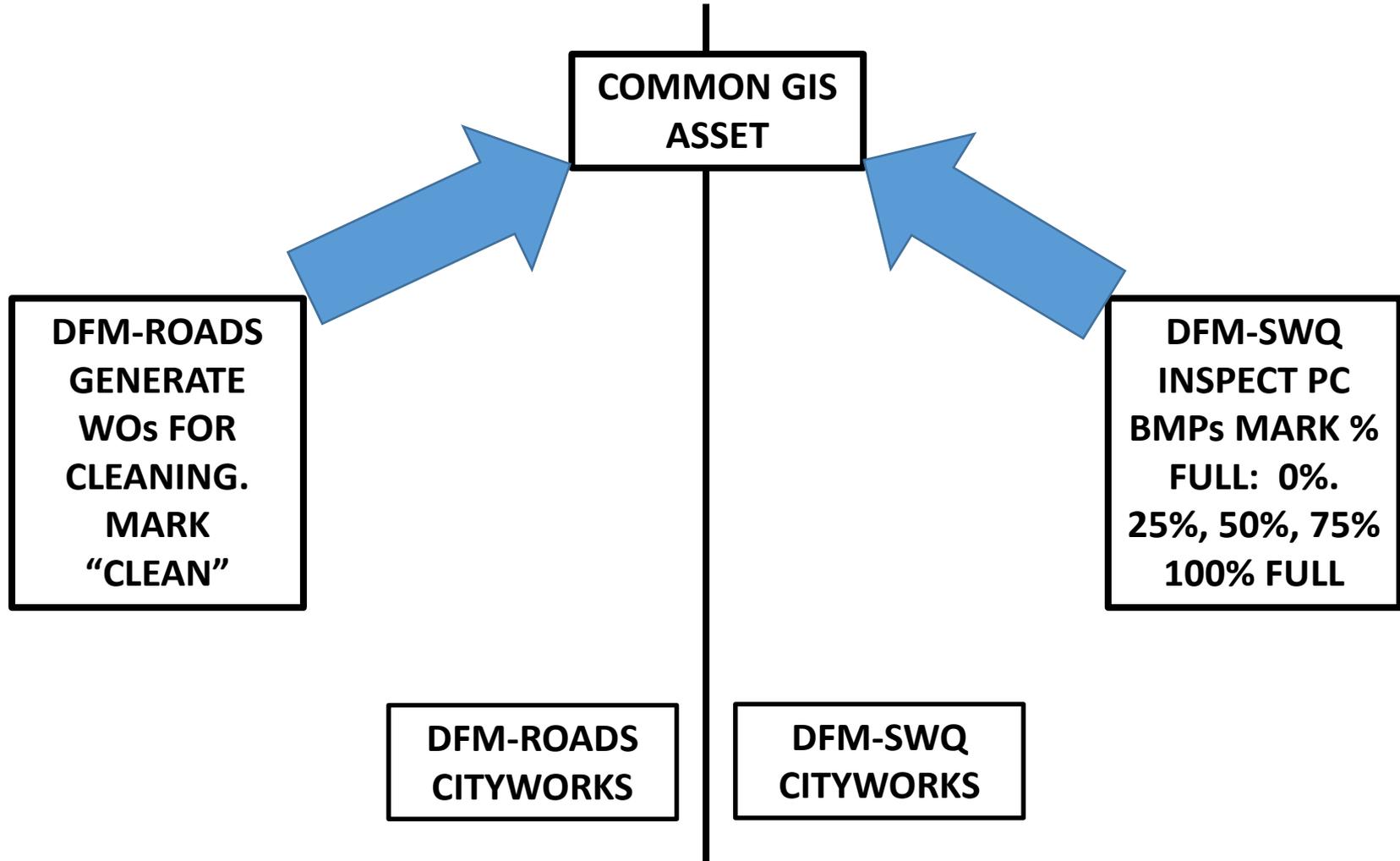
DFM Drain Inlet Filter - Needs Cleaning

DFM Catch Basin - Needs Cleaning





# RETROFIT PROJECTS





# PUBLIC EDUCATION OUTREACH



▼ **Adopt**

▼ **Adopt a Stream**

--- No

— Yes

▼ **Adopt a Block**

No

Yes



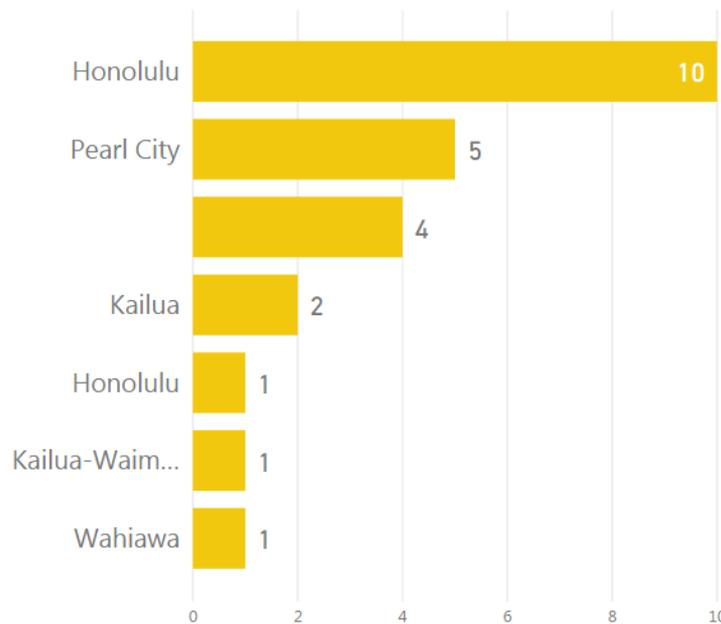
The screenshot displays an ArcGIS web application interface. On the left, a legend titled 'Street Metrics' is expanded to show 'Public Outreach - Adopta Program'. It lists four categories: 'Adoptable Streams' (represented by a blue dashed line), 'Adopted Streams' (represented by a solid blue line), 'Adoptable Street Blocks' (represented by a green hatched square), and 'Adopted Street Blocks' (represented by a solid green square). Below the legend, a summary panel shows two statistics: 'Adoptable Streams' with a count of 51 and 'Adoptable Street Blocks' with a count of 63. The main map area shows a map of Honolulu with these categories overlaid. A search bar at the top right contains the text 'Address Search'. The bottom of the interface features the text 'POWERED BY esri' and 'Esri, HERE, Garmin, NGA, ...'.

<http://www.honolulu.gov/dfmswq/get-involved/875-site-dfm-swq-cat/20891-adopt-a-block-and-adopt-a-stream-programs.html>

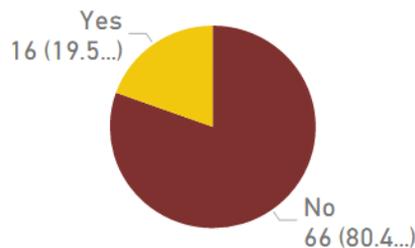
# PUBLIC EDUCATION OUTREACH



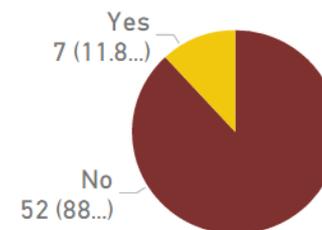
Adoptions by Community



Block Adoptions



Stream Adoptions



## Active Adoptions

SITE_UID	Adopted	Community	Organization	Contract Expiration	Location
	No				
AAB-0328	No				
AAS-0077	No	Honolulu			Ala Makani Ditch ~ 1602 Ala Makani Place to 1612
AAS-0010	No	Honolulu			Hahaione Stream ~ Hawaii Kai Drive to Boulder B
AAS-0015	No	Honolulu			Hahaione Stream ~ Hawaii Kai Drive to Boulder B
AAS-0301	No	Honolulu			Kalihi Stream ~ *****
AAS-0062	No	Honolulu			Kapalama Inc. Ditch (key) ~ 455 Kokea Street to 5
AAS-0008	No	Honolulu			Kolomona Ditch ~ Kaamalio Drive to Manoa Strea
AAS-0019	No	Honolulu			Manoa Stream ~ Kanewai Park to Waialae Avenue
AAS-0053	No	Honolulu			NBC Ditch ~ Kapiolani Boulevard to 200 ft up the
AAS-0026	No	Honolulu			Niu Stream (CTR Channel) ~ 5687 Haleola Street t
AAS-0025	No	Honolulu			Niu Stream (CTR Channel) ~ Kalaniana'ole Highwa
AAS-0024	No	Honolulu			Niu Stream (East) ~ Intersection of East & West Cl
AAS-0029	No	Honolulu			Niu Stream (East) ~ Mauka Halemaumau Place to
AAS-0022	No	Honolulu			Niu Stream (West) ~ Halemaumau Place Bridge to

## Contract Expirations in Next 6mo

Community	Category	Organization	Contract Ex
Pearl City	AAB	inspire church	10/1/20
Pearl City	AAB	USS CHAFEE (DDG 90)	10/28/2

# CONSTRUCTION SITE RUNOFF



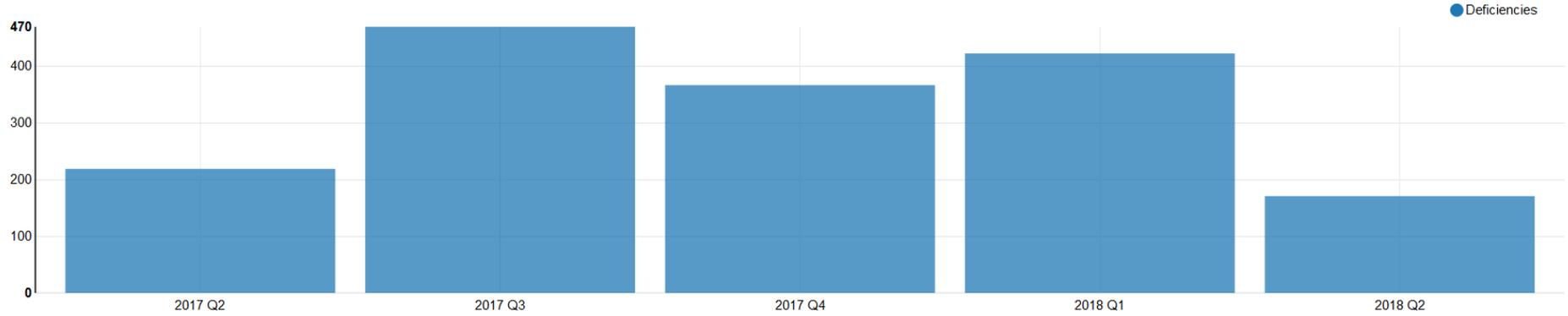
# CONSTRUCTION SITE RUNOFF



Analytics » Deficiencies by Period

## Deficiencies by Period

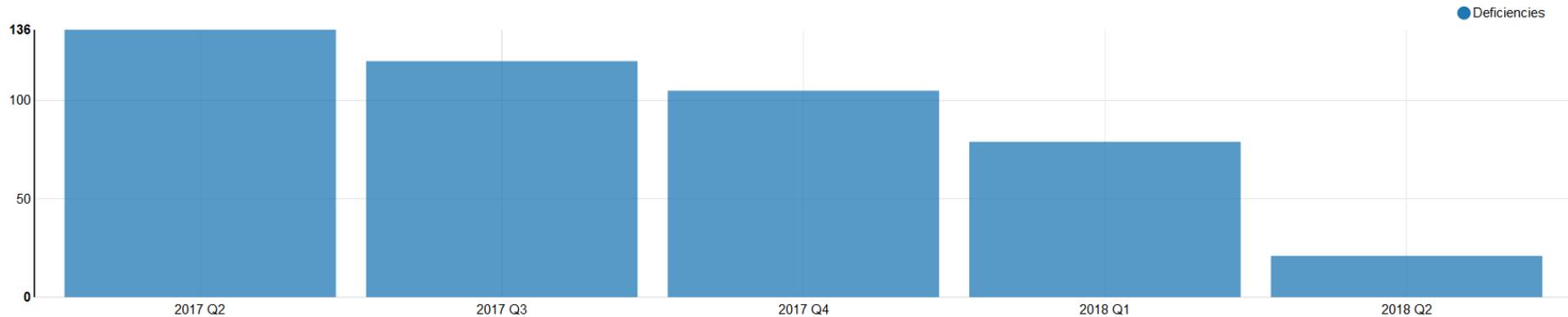
### DPP



Analytics » Deficiencies by Period

## Deficiencies by Period

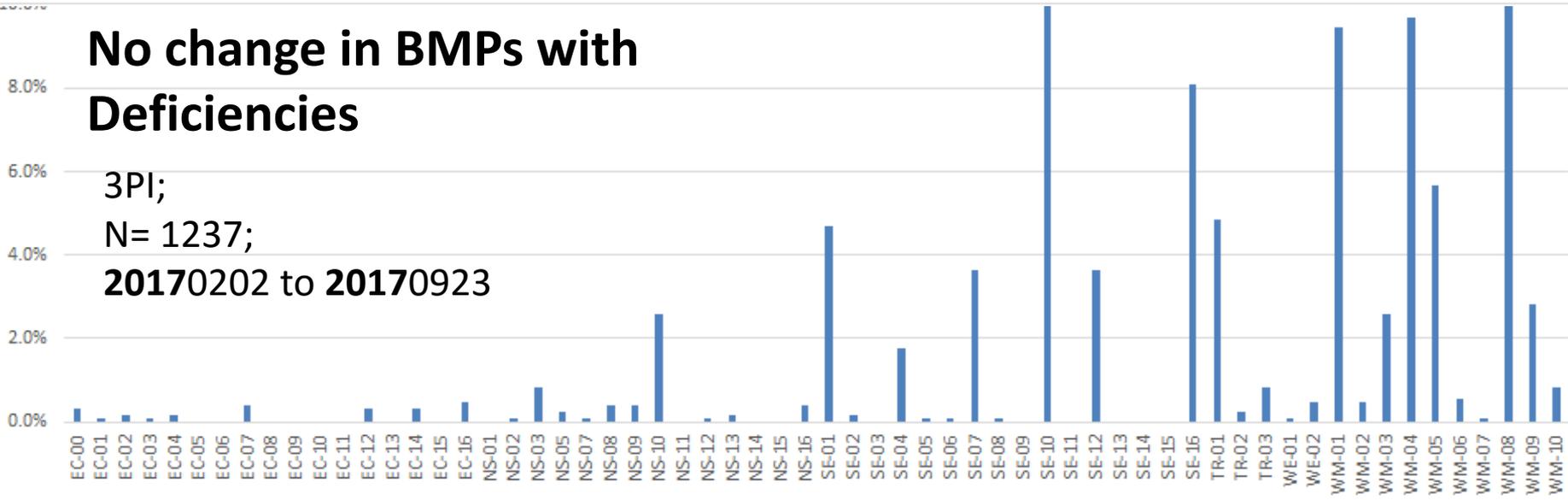
### DDC



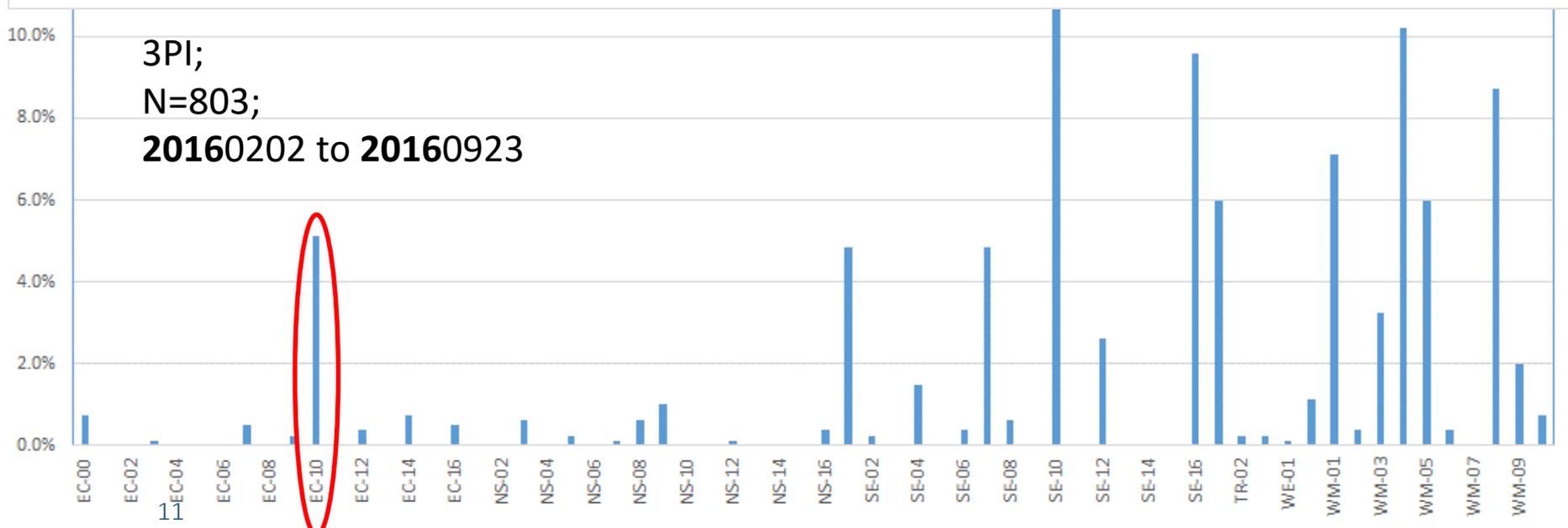
# CONSTRUCTION SITE RUNOFF

**No change in BMPs with  
Deficiencies**

**3PI;  
N= 1237;  
20170202 to 20170923**



**3PI;  
N=803;  
20160202 to 20160923**



# CONSTRUCTION SITE RUNOFF

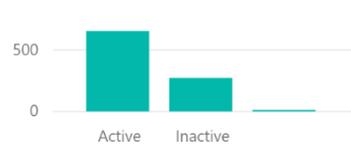


## by Location Owner

data.owner\_name

- LIN, GUANGSHENG & CAO, XIANMEI & LIN, CANG WEN
- (TPR) ON,M.T.LTD PROFIT SHARING RETIREMENT TRUST
- Hauoli Lofts LLC
- 2604 Pacific Heights LLC
- 399 Kahelu LLC
- 50TH State Investments, LLC
- 902 Investment LLC
- 98-201 Pupuoale St LLC
- A,S.N. Enterprises
- Aaron Foi
- ABE,LUCIENNE
- Action Realty, GLACS LLC
- Agliplay Residence
- AH LIN,YIM LLC
- Ahuimanu Estates, LLC
- Aina Nui Corporation

## by Location Status



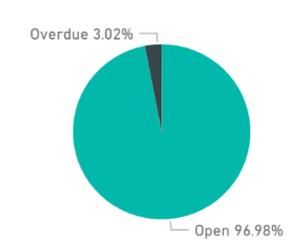
## by Community

City	Locations
Honolulu	429
Kaneohe	72
Kapolei	71
Ewa Beach	65
Kailua	59
<b>Total</b>	<b>939</b>

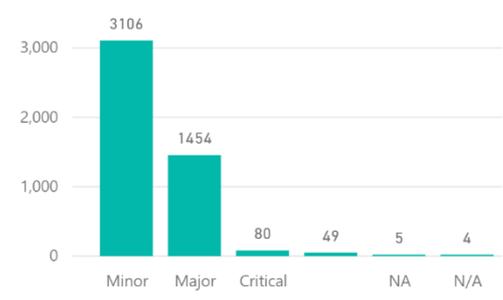
## Deficiencies FYTD

Status	Deficiencies
Closed	4003
Open	674
Overdue	21
<b>Total</b>	<b>4698</b>

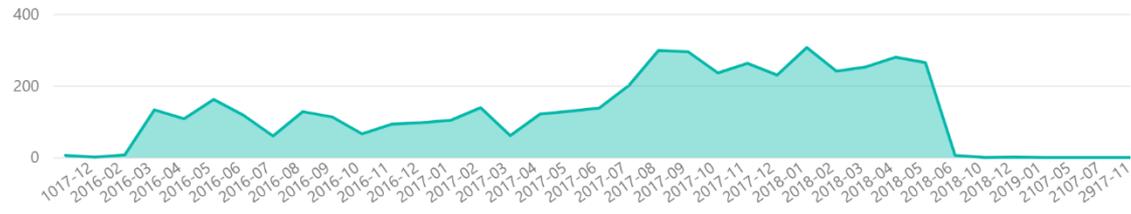
## Open vs Overdue



## by Deficiency Level

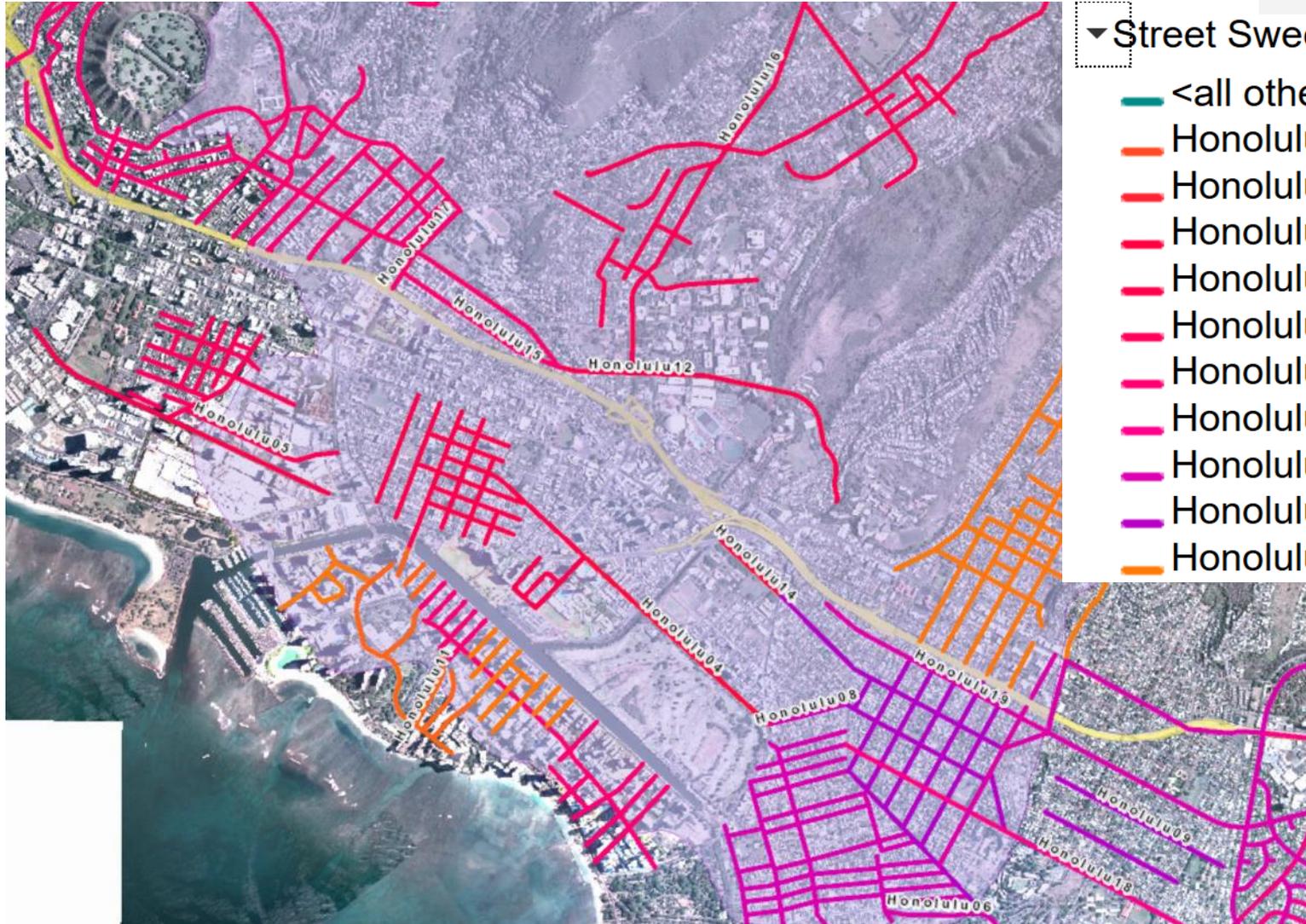


## Open Deficiencies by Date Reported



id	name	address_street	address_city	bmp_name	YM	Status	deficiency_level
4352	Pearl City Corporation Yard Master Plan Improvements for DFM Road Maintenance, Phase I	952 3rd Street	Pearl City	WM-6 Hazardous Waste Management	2917-11	Closed	Minor
4328	Kaneohe / Kailua Sewer Tunnel	95 Kaneohe Bay Dr	Kailua	WM-5 Solid Waste Management	2107-07	Closed	Minor
4600	Moanalua Hillside Apartments	1229 Ala Kapuna St	Honolulu	WM-1 Material Delivery and Storage	2107-05	Closed	Minor
10194	Honouliuli WWTP Locker Building Renovation	91-1000 Geiger Road	Ewa Beach	WM-5 Solid Waste Management	2019-01	Closed	Minor
7710	Ala Wai Golf Course Access Lot and Parking Lot Improvements	404 Kapahulu Avenue	Honolulu	WM-1 Material Delivery and Storage	2018-12	Closed	Minor

# TMDL – STREET SWEEPING

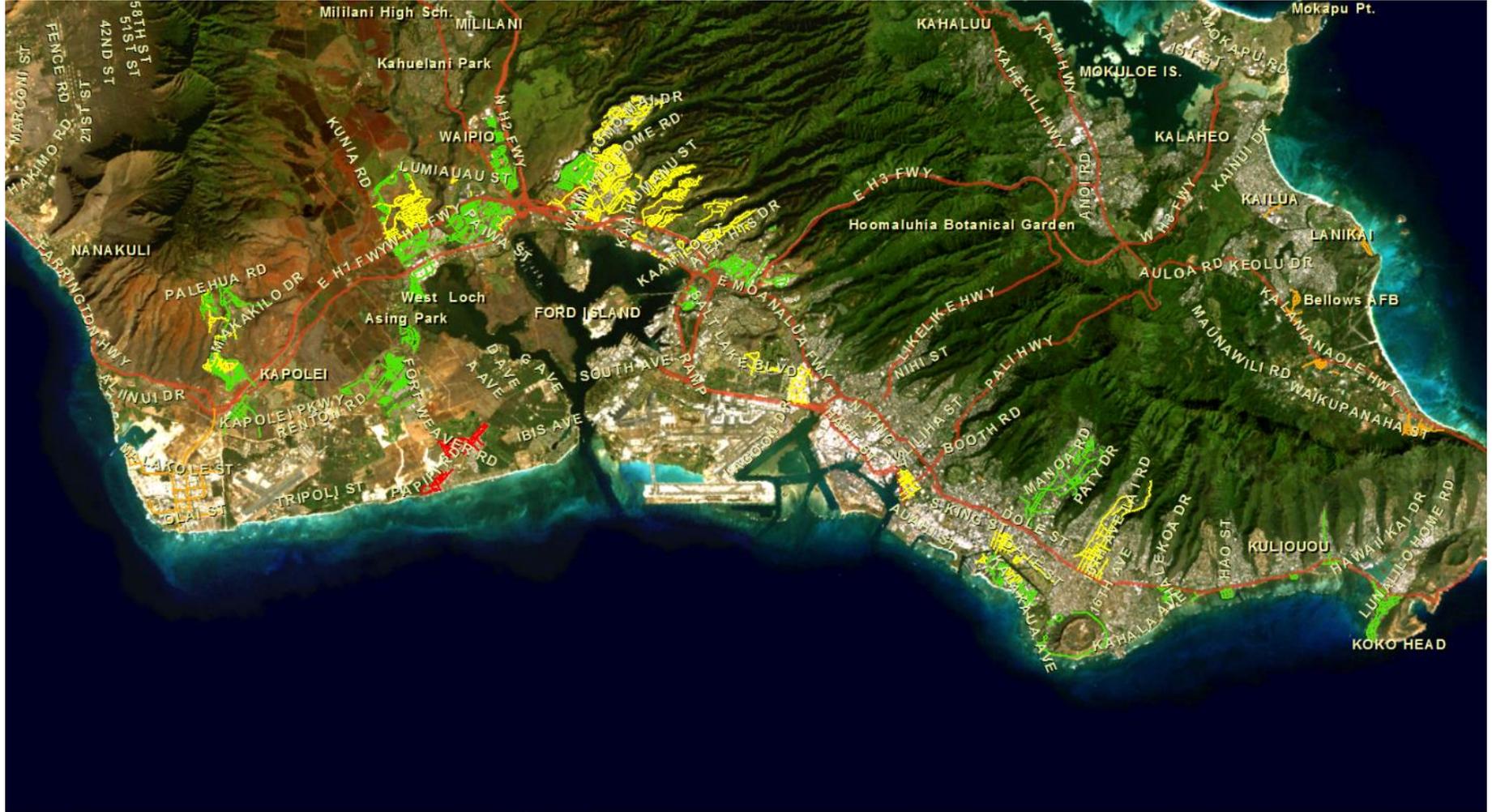


▼ Street Sweeping  

-  <all other values>
-  Honolulu, 01
-  Honolulu, 02
-  Honolulu, 03
-  Honolulu, 04
-  Honolulu, 05
-  Honolulu, 06
-  Honolulu, 07
-  Honolulu, 08
-  Honolulu, 09
-  Honolulu, 10



# TMDL – STREET SWEEPING; % GREEN

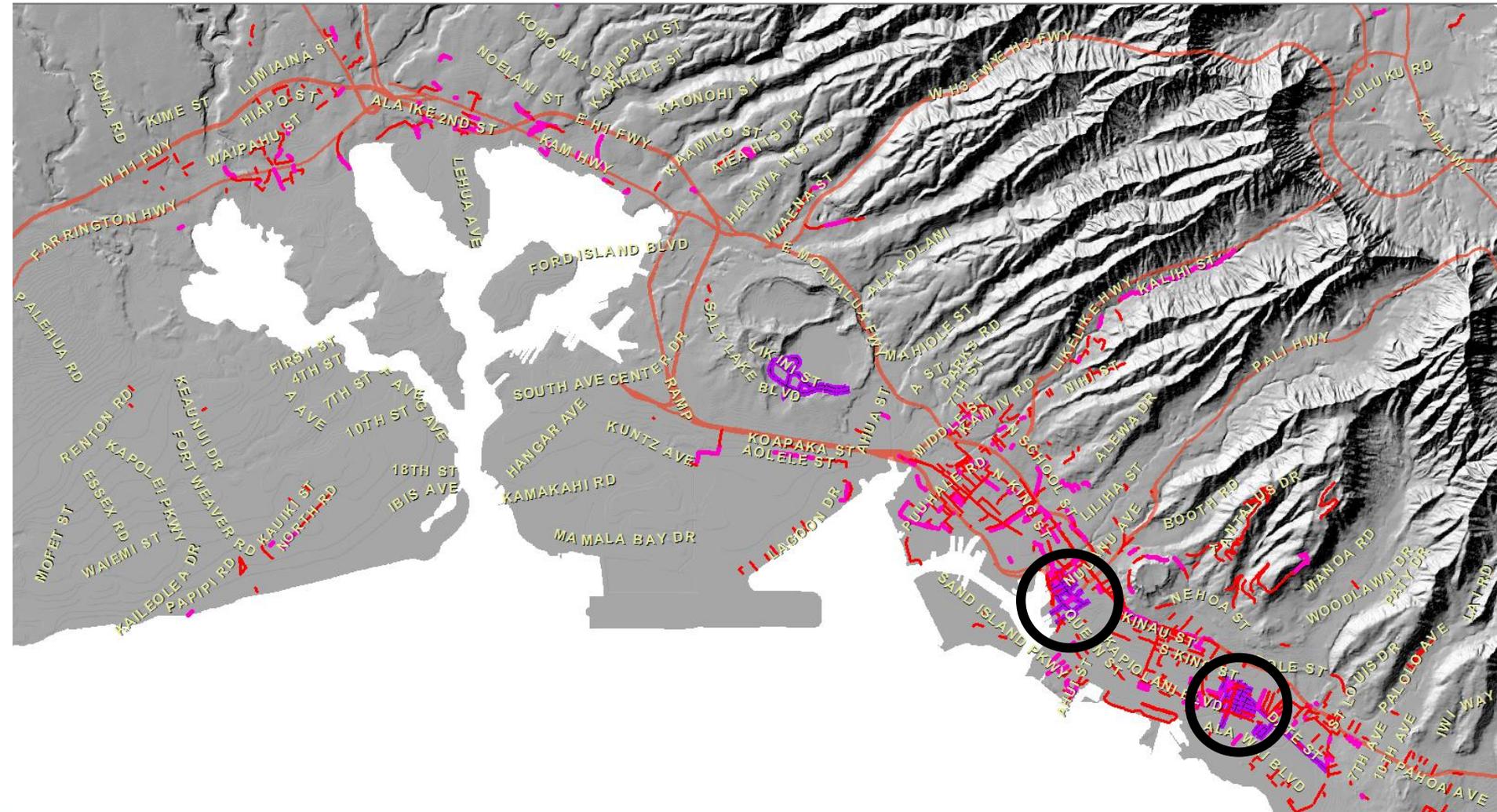




# TMDL – STREET SWEEPING; % TRASH



# STREET SWEEPING; 5% TRASH SURFACE STREET TRASH; HOT SPOT & HIGH



# STREAM MONITORING

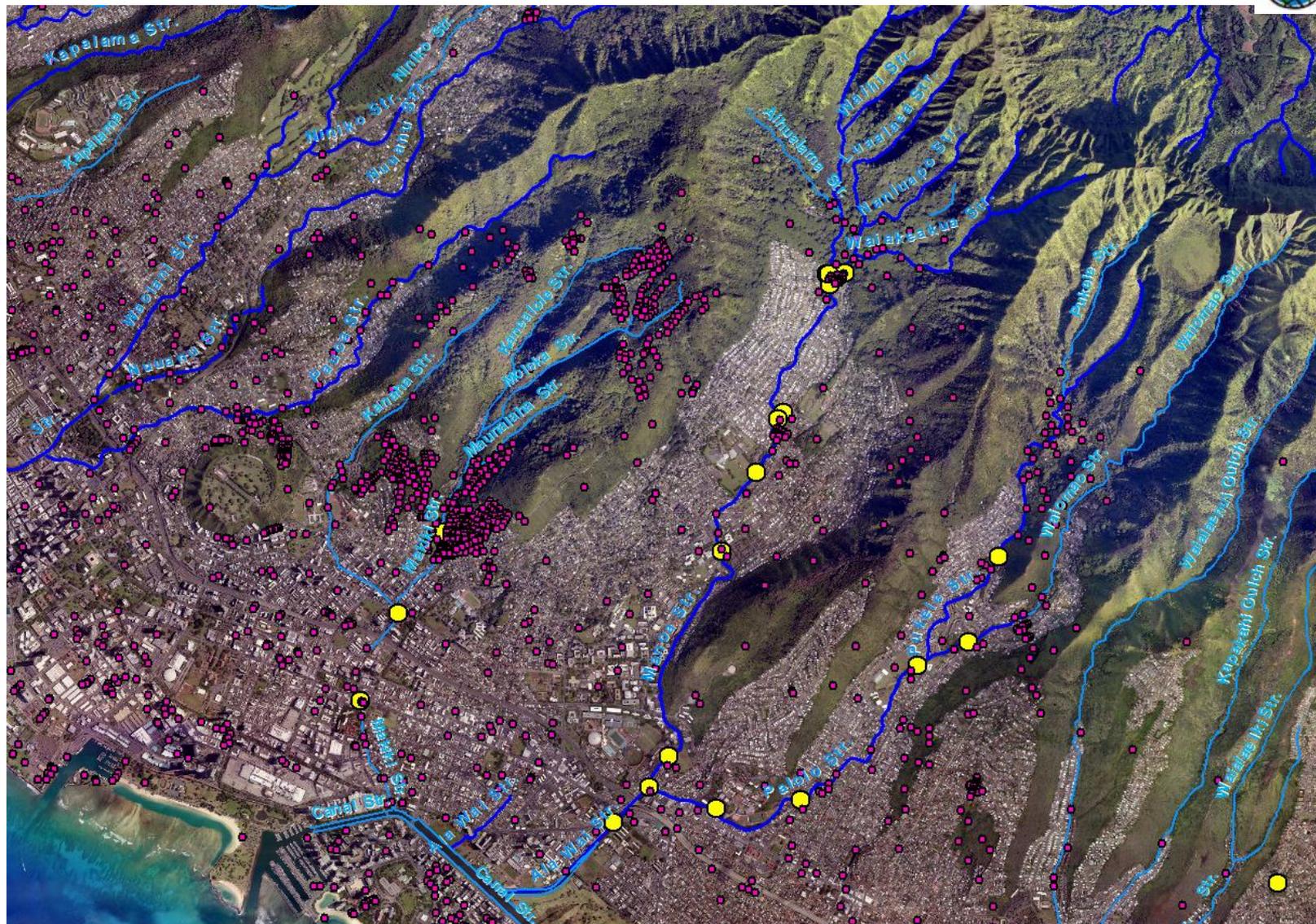


▼ Stream Monitorin

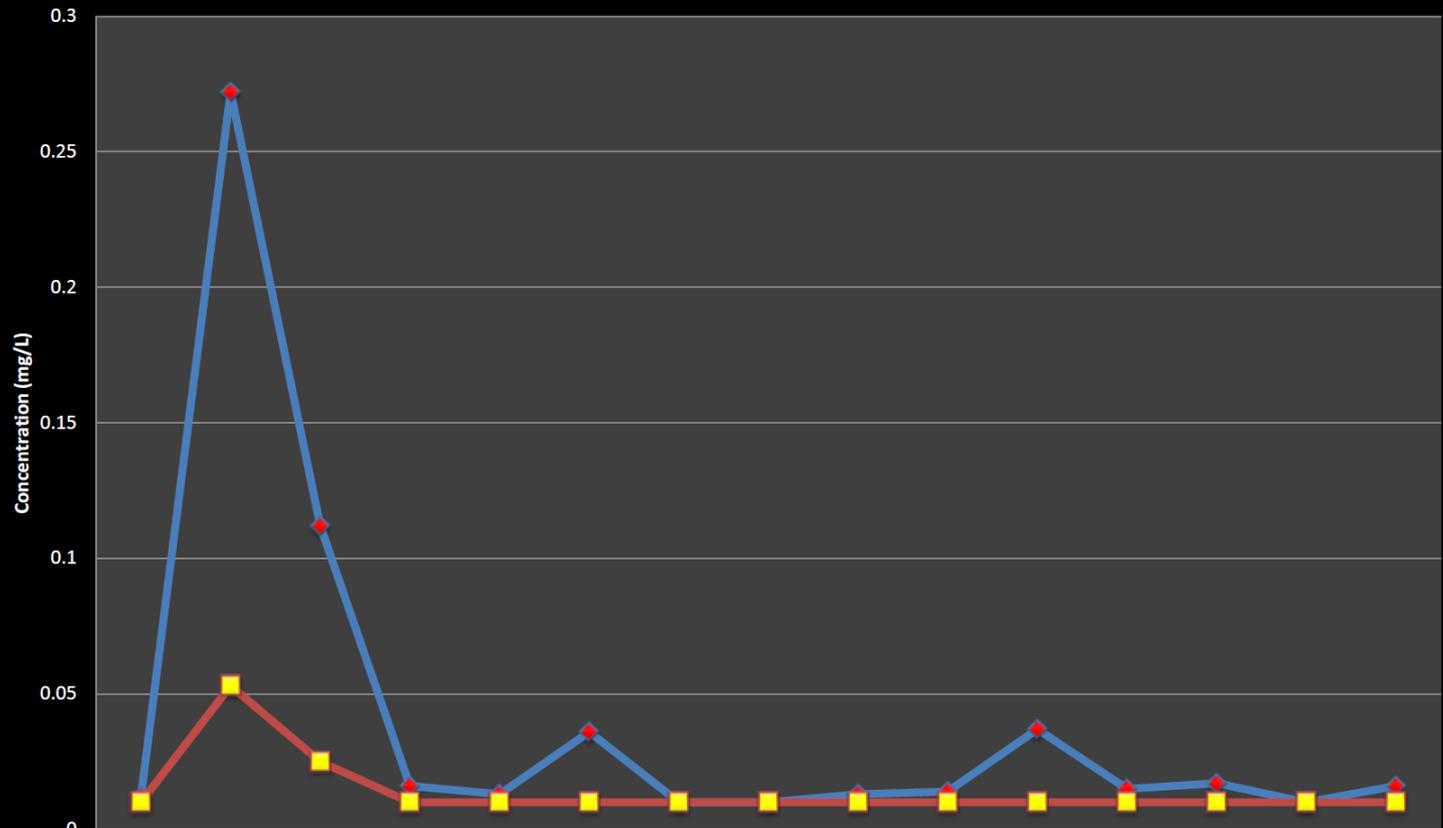
▼ Stream Monitorin



# STREAM MONITORING

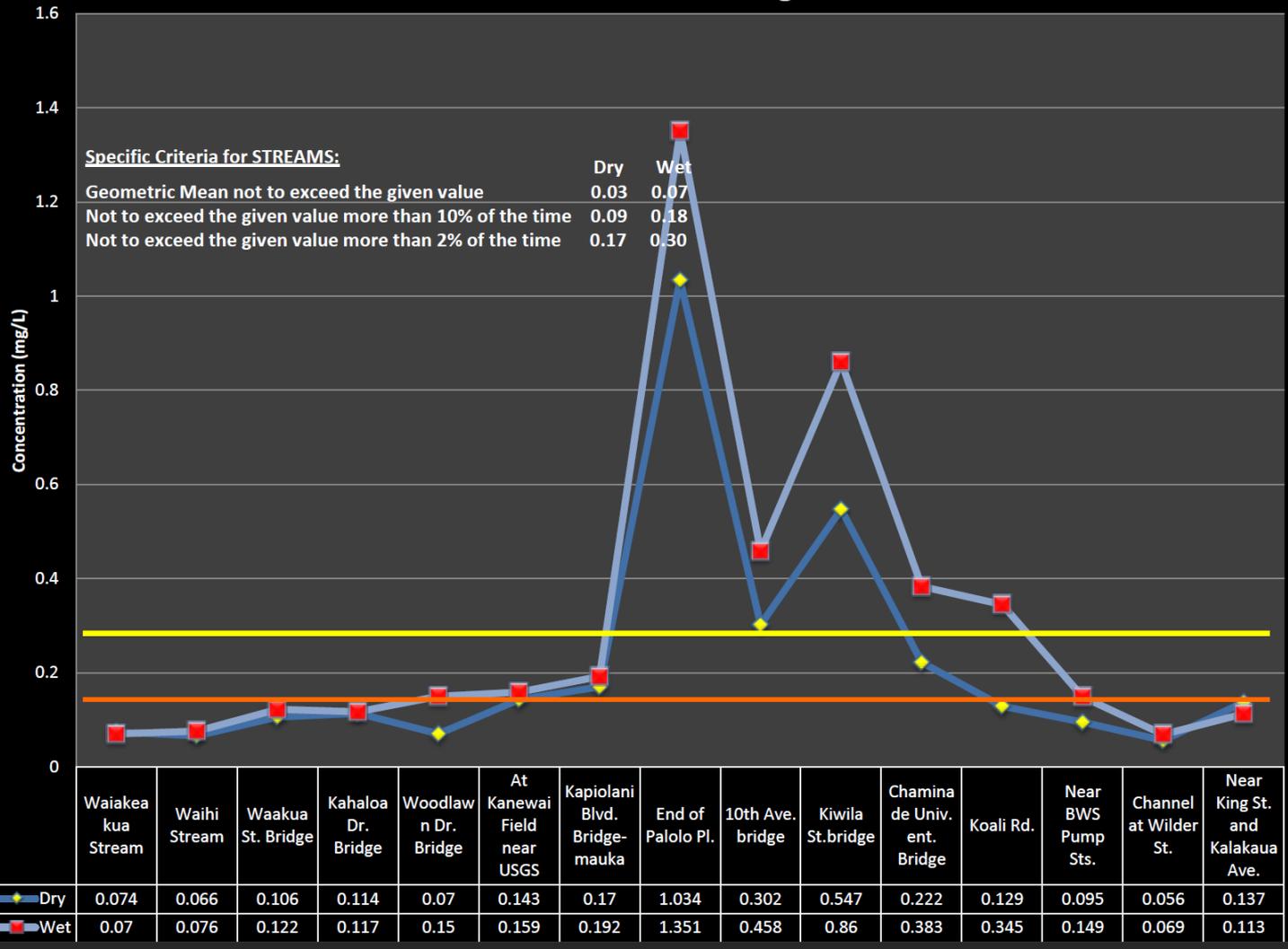


### Ammonia as Nitrogen



	Waiakea kua Stream	Waihi Stream	Waakua St. Bridge	Kahaloa Dr. Bridge	Woodlaw n Dr. Bridge	At Kanewai Field near USGS	Kapiolani Blvd. Bridge-mauka	End of Palolo Pl.	10th Ave. bridge	Kiwila St. bridge	Chamina de Univ. ent. Bridge	Koali Rd.	Near BWS Pump Sts.	Channel at Wilder St.	Near King St. and Kalakaua Ave.
—◆— Dry	0.012	0.272	0.112	0.016	0.013	0.036	0.01	0.01	0.013	0.014	0.037	0.015	0.017	0.01	0.016
—■— Wet	0.01	0.053	0.025	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

### Nitrate+Nitrite as Nitrogen



Upcountry Maui Groundwater Nitrate Investigation Report - February 2018

Page 3-15

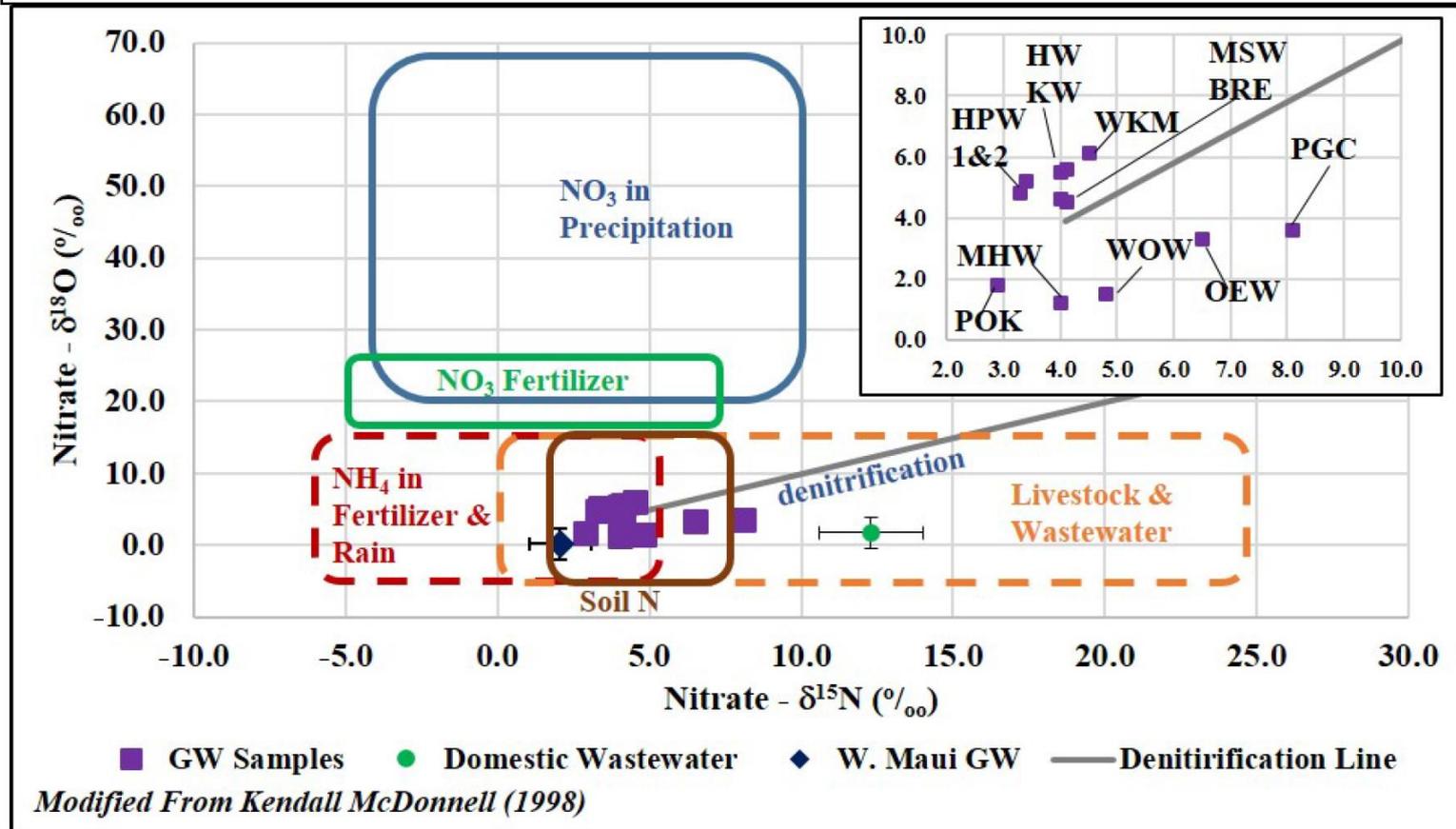


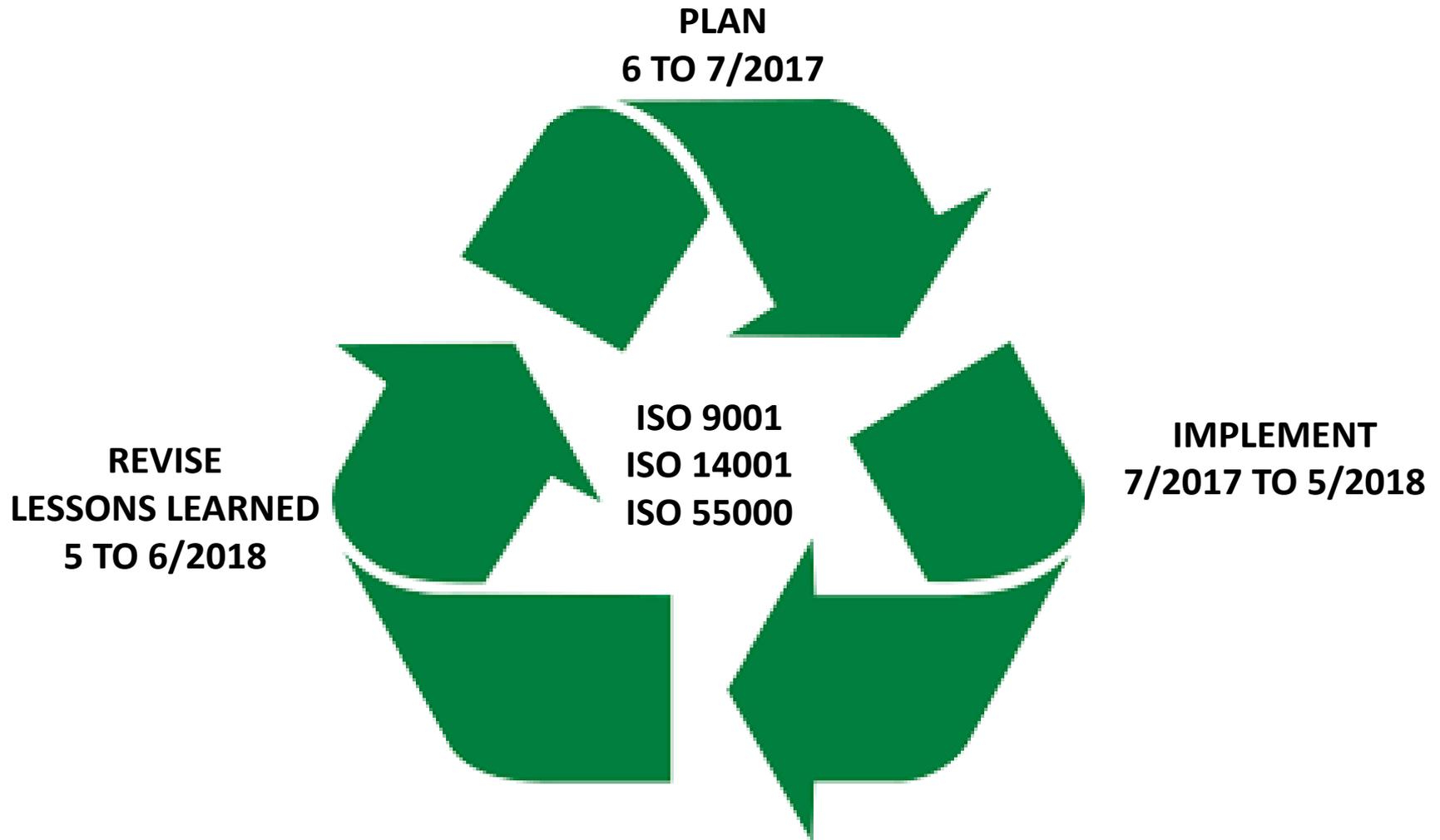
Figure 3-3. A Graph of  $\delta^{15}\text{N}$  versus  $\delta^{18}\text{O}$  composition of different nitrate sources compared to the sample results



# Cityworks Update

Thursday; July 19, 2018

- Why Do It?
- Permit Requirements
- City Programs
- **Adaptive Management**



# **ADAPTIVE MANAGEMENT**



United States  
Environmental Protection  
Agency, Region 9

December 2014

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# ASSET MANAGEMENT

Incorporating Asset Management Planning  
Provisions into NPDES Permits

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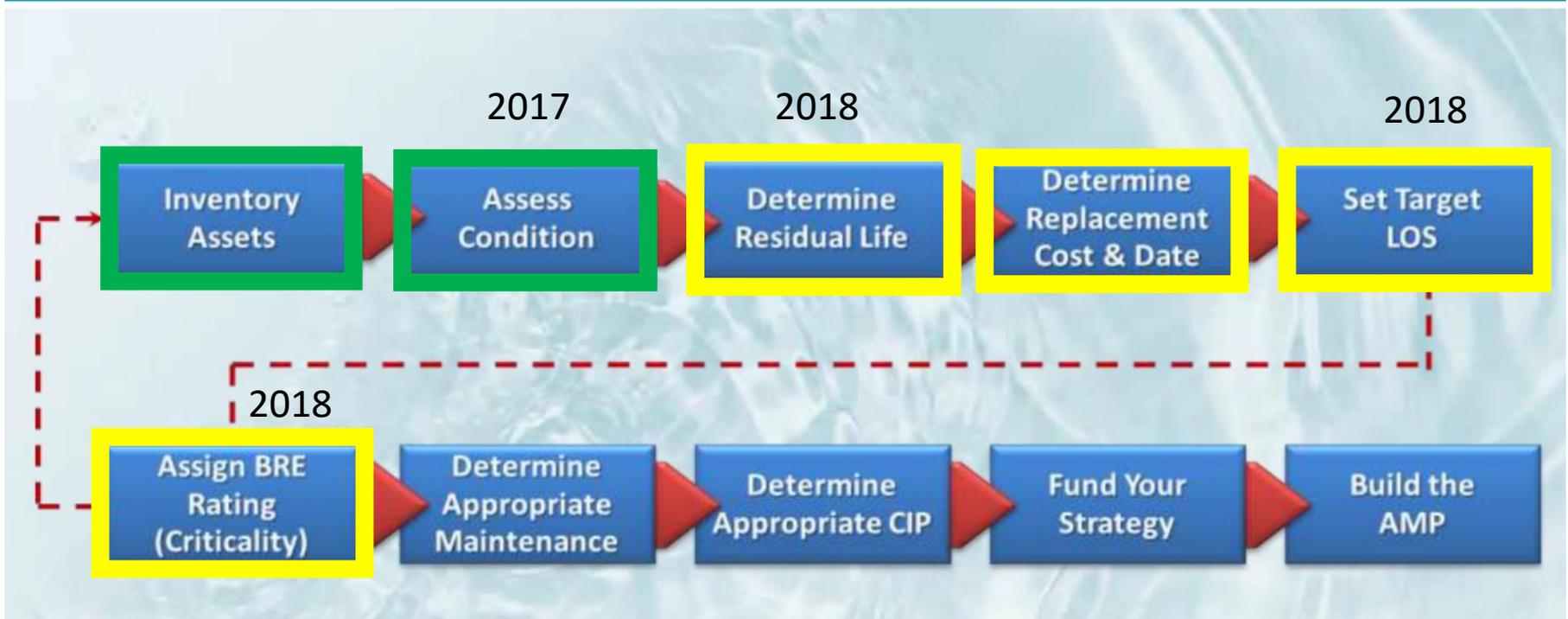
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**40 CFR 122.41(e)** *Proper operation and maintenance.* The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

**EPA  
EXAMPLE  
WORDING**

The permittee shall develop an asset management plan (“AMP”) in order to establish intended levels of service for their stormwater system consistent with the conditions of this permit. The AMP shall inventory and assess the condition of all critical hard and natural assets and evaluate costs required to achieve intended levels of service, linking those costs to funding sources.

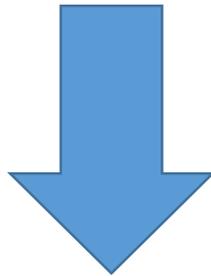
# USEPA's 10 Step Asset Management Process Provides a Framework for Integrated Planning



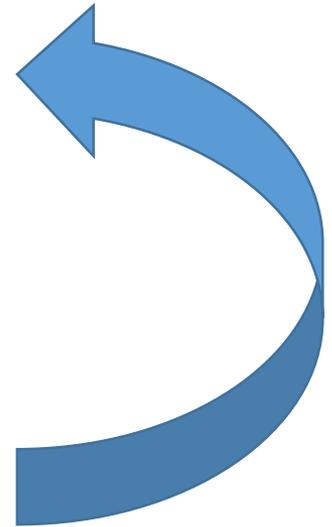
END OF CY2018 IMPLEMENT CITYWORKS **INSIGHTS** AND BEGIN TO LEARN ABOUT THIS MODULE. AZTECA HAS ENDORSE ISO 55000 AND DEVELOPED INSIGHTS TO GENERALLY FOLLOW ISO 55000 GUIDELINES.

# Adaptive Management

- ❑ Cityworks – Investigation/Enforcement Data
  - Construction Contractors
- ❑ CloudCompli – 3 Party Inspection Data
  - Construction Contractors with BMP Effectiveness < 50%

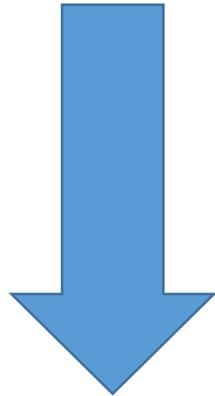


- ❑ **Email Invitation** to this Workshop
- ❑ Cityworks – Investigation/Enforcement Data
  - Collect contact information on Contractor; email
- ❑ CloudCompli – 3 Party Inspection Data
  - Collect contact information on Contractor; email

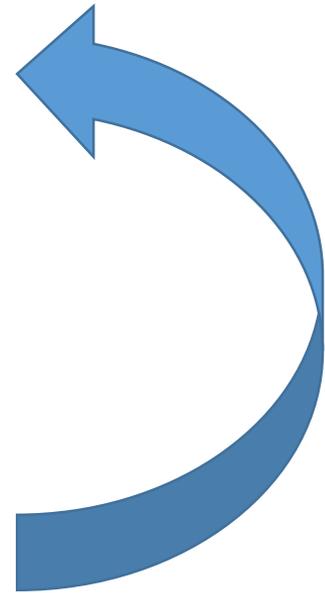


# Adaptive Management

- Survey
  - Ask Contractors what topics do they need help in?

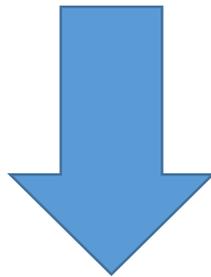


- Select topics based on survey results
- Invite industry speakers
- Provide hands on exercises
- Take post survey

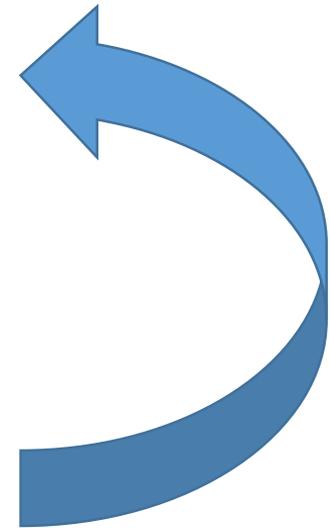


# Adaptive Management

- ❑ Cityworks – Investigation/Enforcement Data
  - Reason for Discharge??
- ❑ CloudCompli – 3 Party Inspection Data
  - Most frequent BMP deficiencies



- ❑ Web based “FREE” construction training
  - Adjust back end training to cover most frequent BMP deficiencies
- ❑ Individual contractor training sheets
  - Address the top 11 BMP deficiencies
  - Make available as a download in web-based training

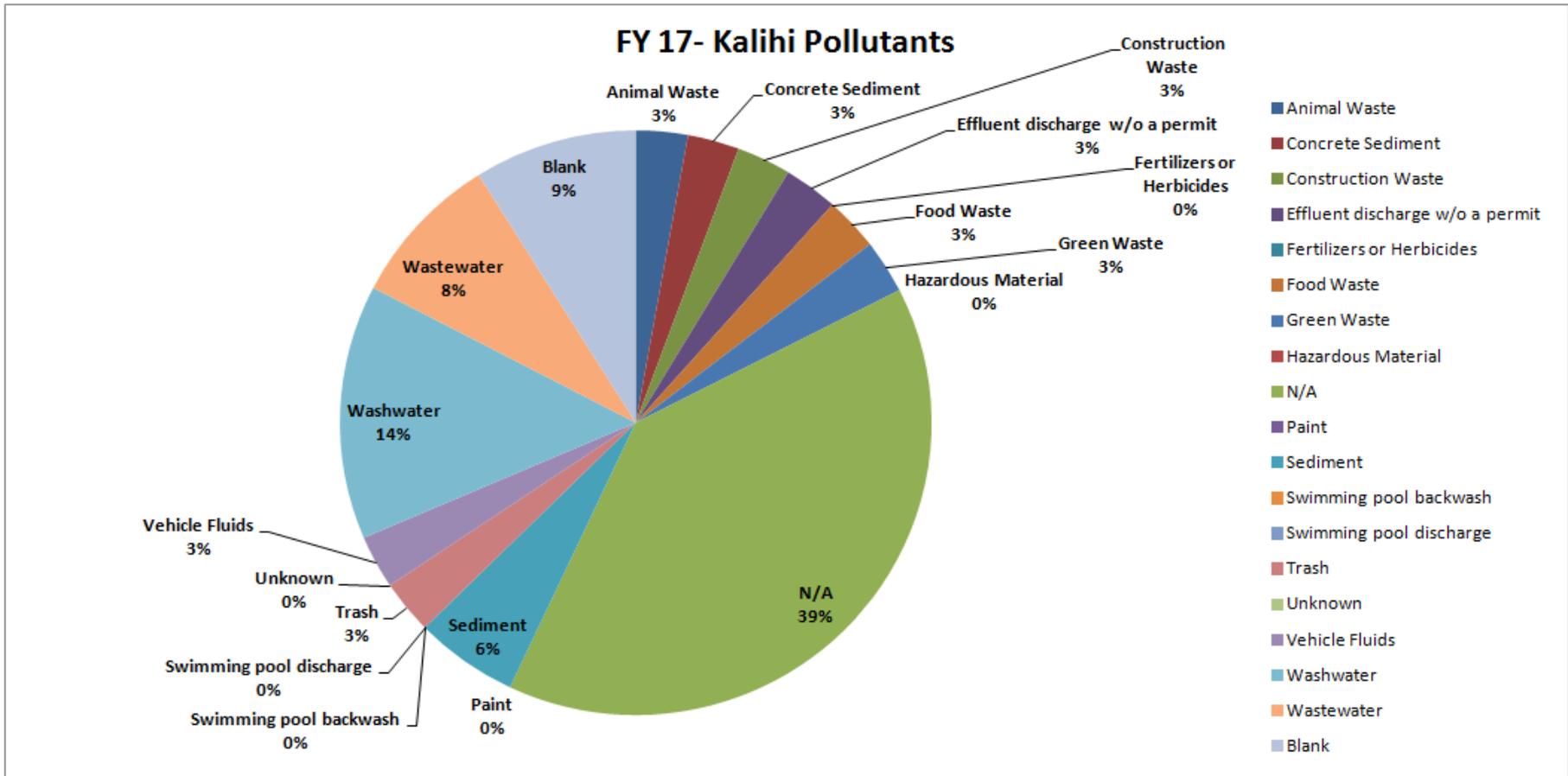


## Leveraging Existing Data Maximize Program Resources

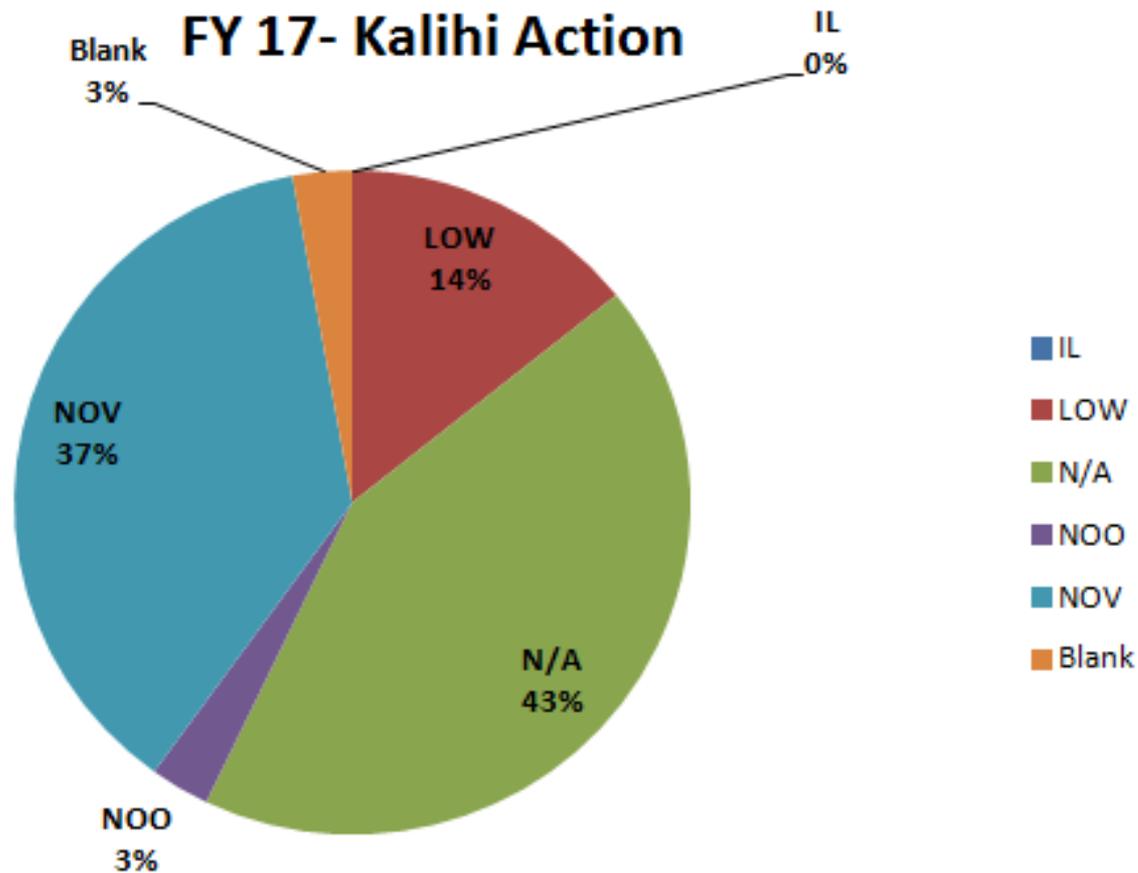
9. The City has not leveraged its existing datasets to help assess program effectiveness or to inform program implementation. The City should evaluate its existing data and make or suggest programmatic changes in an effort maximize program resources.



# Leveraging Existing Data Maximize Program Resources



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# QUESTIONS?

# WE ARE INTERESTED IN WHAT YOU WANT TO LEARN ABOUT!

The City is planning a Post Construction  
BMP workshop in 2019.

Please go to the website below  
to take the pre-survey.

<https://www.surveymonkey.com/r/2VFG5W2>