



# Adventures in Open Data

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and Environmental Control



# The Delaware Open Data Portal

- Grew from agency responses to transparency scorecards
- Established by Executive Orders (2016 and 2018)
- Governed by an Open Data Council
- Council adopts a Strategic Plan and an Action Plan





# Open Data Strategy

- Governmental transparency
- Partnerships and spurring entrepreneurial efforts
- Public communications
- Improved internal management
- Open Data as IT Infrastructure



# data.delaware.gov

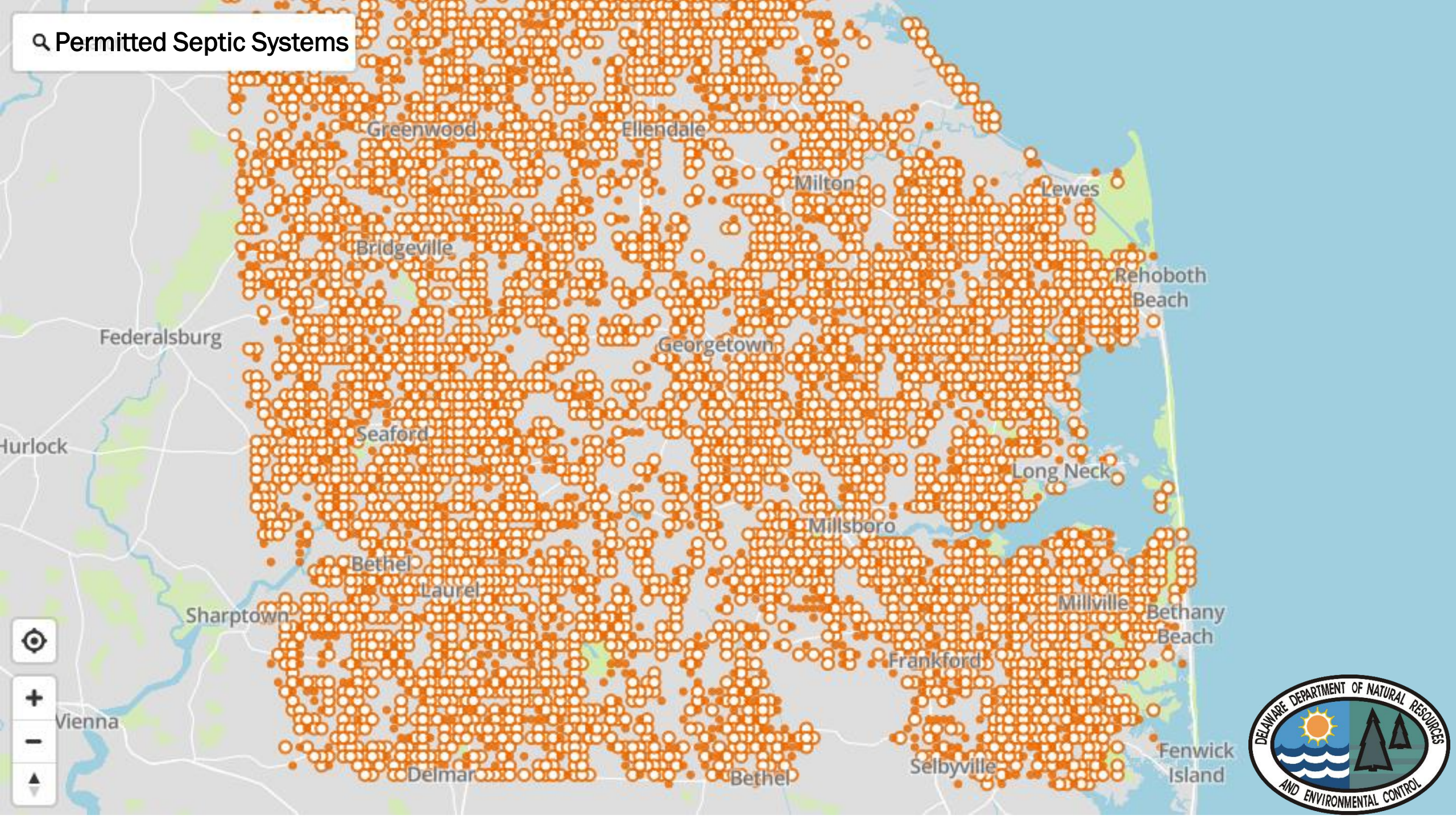


- Launched October 2016
- 64 Datasets
  - 22 Environmental
  - 50 more on deck
- 67 Charts
- 49 Maps
- 46 Data Stories
  - Integrated in web site





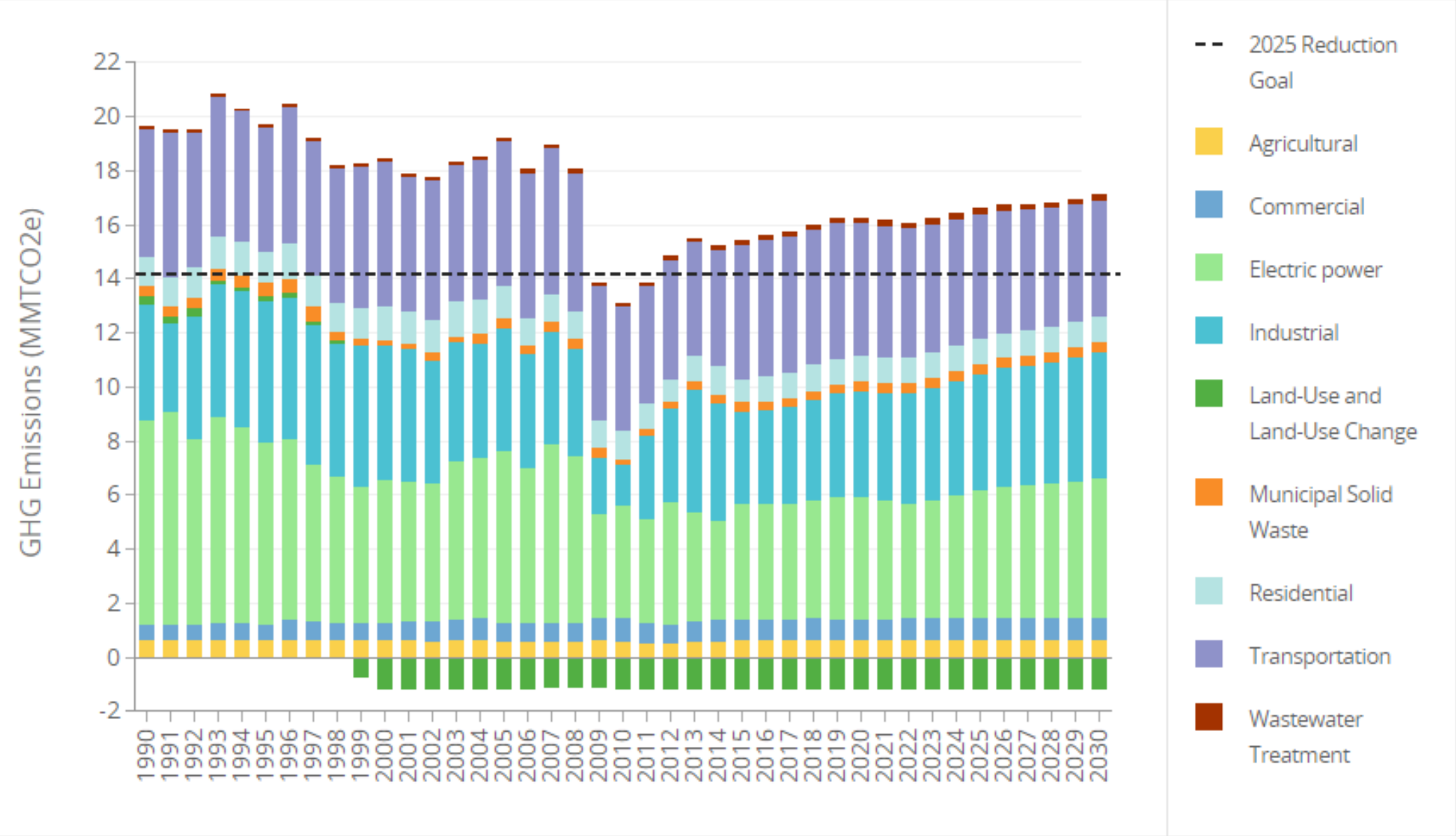
🔍 Permitted Septic Systems





# Annual Greenhouse Gas Emissions by Economic Sector

Greenhouse gas (GHG) emissions are estimated for years 1990-2014 and are projected for 2015-2030. Excludes "Indirect emissions" associated ...

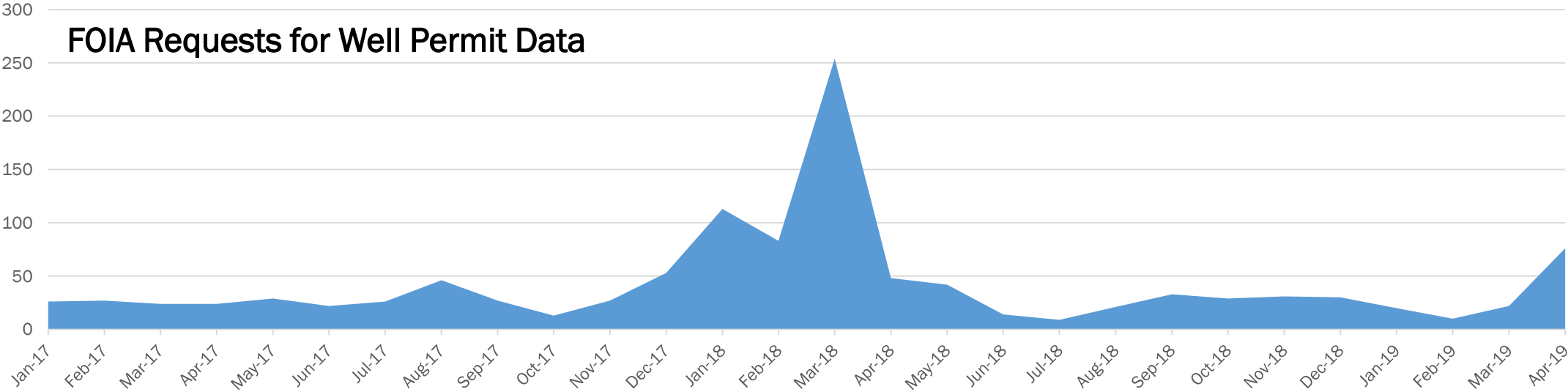




A word cloud of various acronyms. The word 'Acronyms' is the largest and most central. Other prominent acronyms include 'CAR', 'SOC', 'CRDCC', 'PAMSPAS', 'CMS', 'BIP', 'EIS', 'MSD', 'PTAC', 'HAC', 'FTA', 'DHCP', 'COP', 'PSAT', 'FSA', 'ESA', 'SAP', 'NGA', 'POCTOC', 'NSFAPA', 'TSA', 'AEDCAA', 'NASCA', 'RFA', 'SED', 'PPS', 'TRM', 'CBA', 'IPA', 'SDC', 'PMC', 'SWH', 'LTS', 'DOD', 'GIS', 'FEC', 'SES', 'COD', 'SPM', 'DPA', 'CST', 'CIC', 'SDS', 'DEN', 'MOE', 'MSW', 'PRA', 'HPV', 'EID', 'RTC', 'NCA', 'REC', 'TMS', 'ORPT', 'CMAQ', 'LBNL', 'PSC', 'CCS', 'UAS', 'STD', 'CBIPLUS', 'ACE', 'SANICT', 'NCCA', 'NSIP', 'NSDI', 'ICL', 'I/M', 'SCADA', 'OGC', 'SRS', 'SRE', 'ISO', 'PISCES', 'UELMA', 'OSHA', 'STEM', 'ASDC', 'STEW-MAP', 'LIMWA', 'APAI', 'SOMIS', 'PSN3', 'ASCE', 'NEPARC', 'SSWMCD', 'DNA', 'ACSWAR', 'IMM', 'NEAF', 'FWAS', 'SWMPG', 'DODH', 'VIPR', 'AIDS', 'GTEA', 'JEDIC', 'SDSFIE', 'SWCAP', 'DSPAC', 'TFTN', 'Cu2O', 'CYSHCN', 'USGBC', 'NRDA', 'SSIMDEPA', 'FV/F2', 'FWQILP', 'LFGTE', 'TCMS', 'DEIS', 'ITCZ', 'M', 'EURCSAC', 'MIP3', 'ORBA', 'NBBF', 'DIAA', 'IGCC', 'PDCA', 'VSQA', 'AEDG', 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# FOIA Requests for Well Permit Data



View: Views Loaded

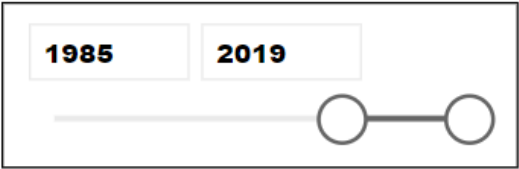
View Granularity: Monthly

# Open Data Portal Views: Well Permit Data





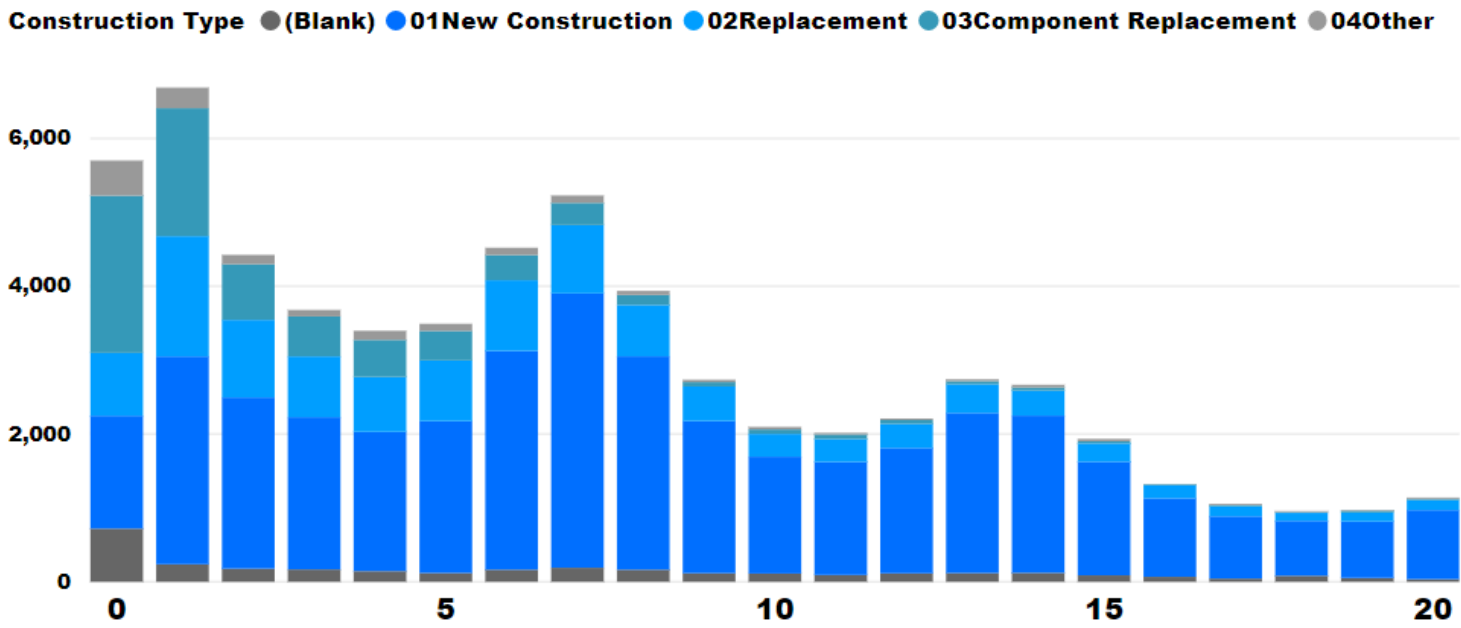
90 Percentile	80 Percentile	70 Percentile	60 Percentile	50 Percentile	40 Percentile	30 Percentile	20 Percentile	10 Percentile
15.00	13.00	10.00	8.00	6.00	5.00	3.00	1.00	1.00



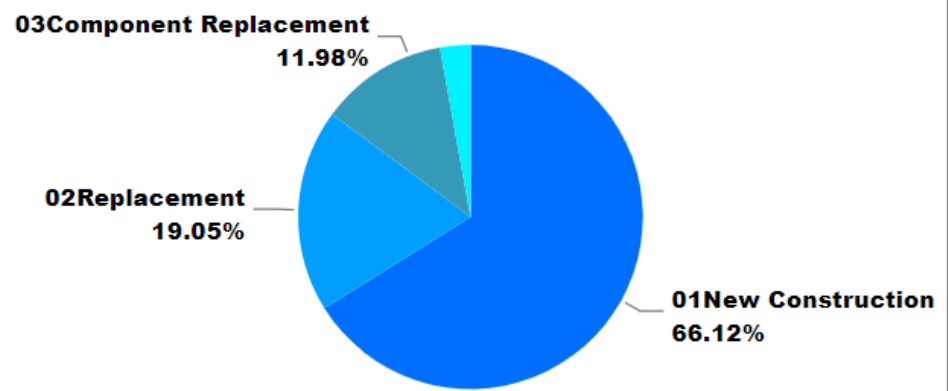
Number of Permit Issued

65358

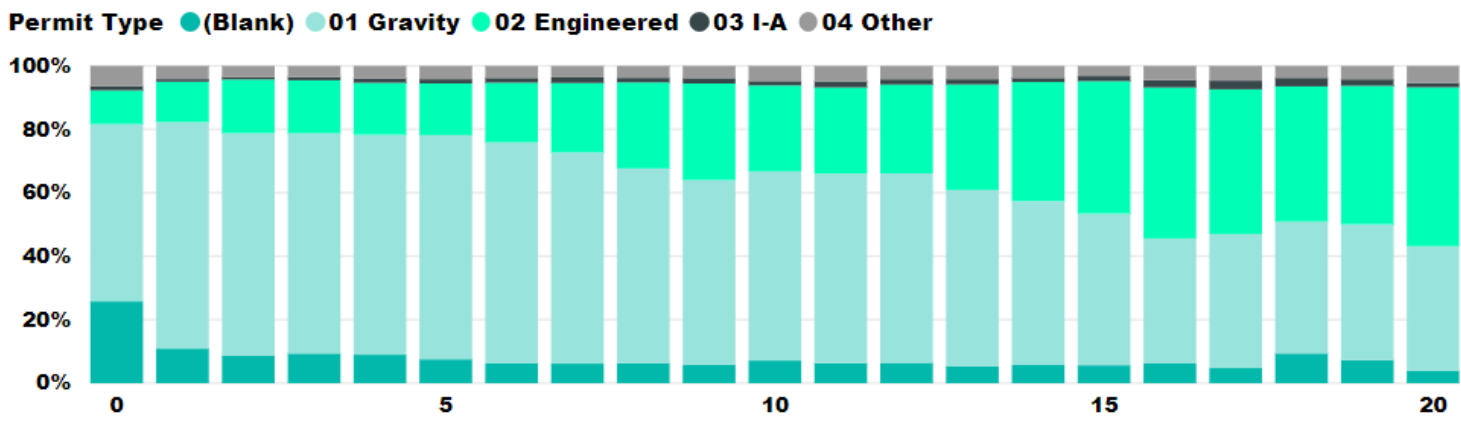
Turnaround by Days and ConstructionType



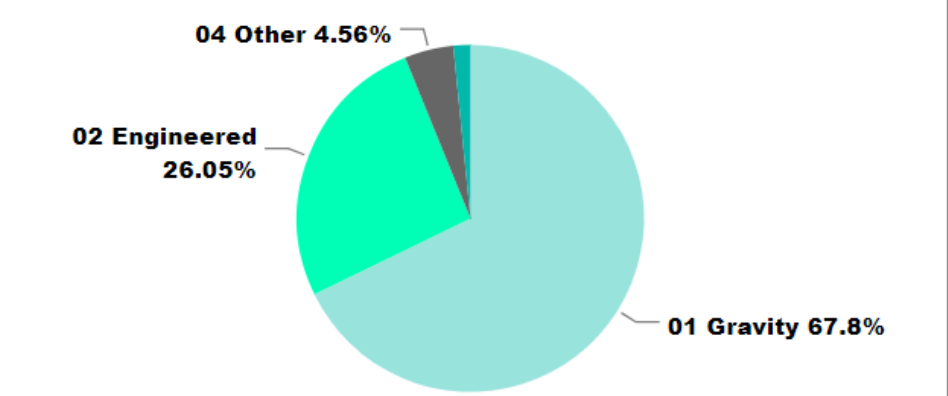
Construction Type



Turnaround and Permit Type (%)



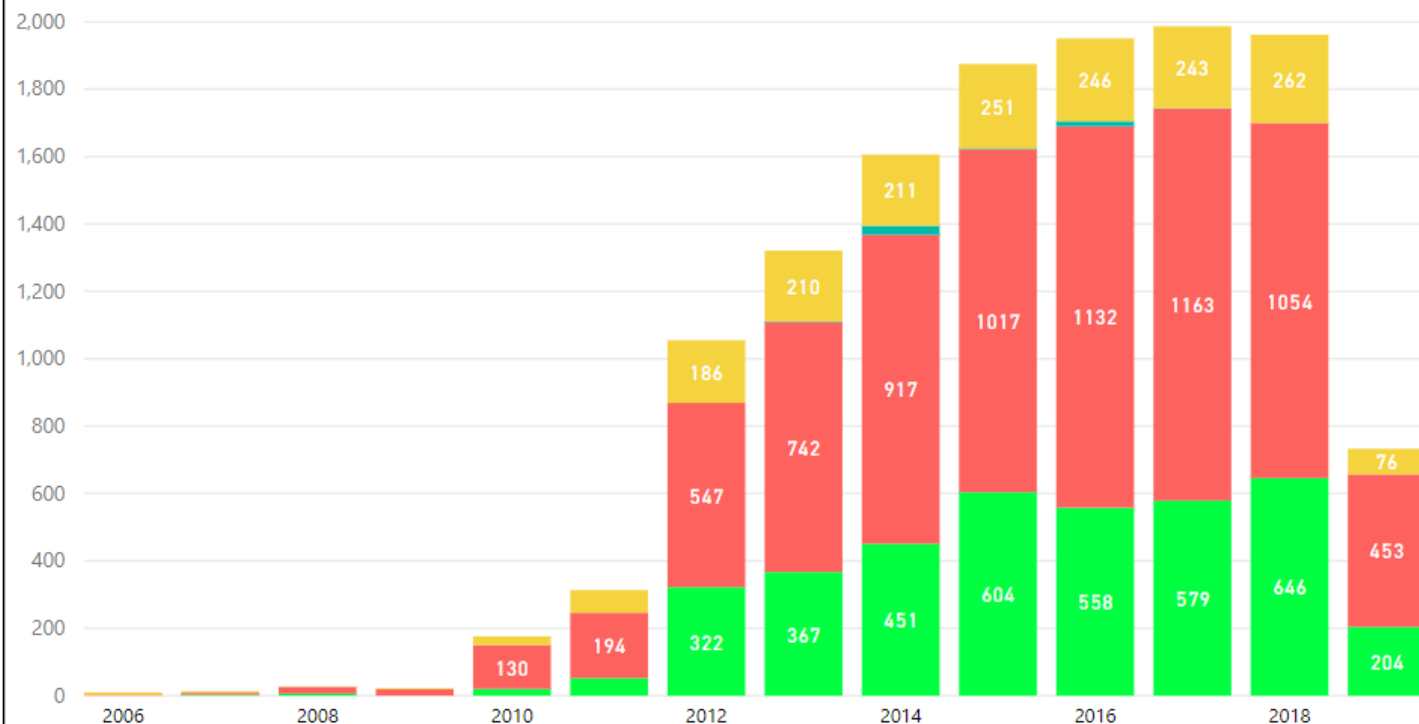
Permit Type



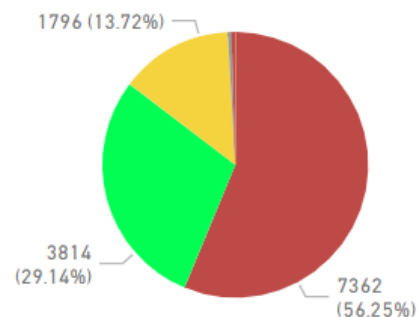


## Inspections by Year

Inspection Outcome ● 1 Satisfactory ● 2 Unsatisfactory ● Action Not Achieved ● Satisfactory w/concerns



### Inspection Outcome



### Total Number of Inspections

13088

Inspection\_Year

2006

2019

Inspector	Count of Decision
McMullen, Michael P	1364
Ryan, Thomas P	1175
Dee, Edward M	1143
Cleary, Daniel J	1048
Passwaters, Tommy A.	762
McMullen, Brian J	644
Norman, Mark D	581
Brunner, M. Shane	388
Hufschmidt, Paul A	355
Mitchell, Ralph J	293
Austin, David	253
Hignutt Jr, Paul L.	248
Bower, Robert	232
Dustin, Robert	219
Williams, Jacob D	206
Parsons, Lee E	182
Evangelista, Rachel C	176
Vieau, James C	171
Law, Henrietta	166
Fox IV, S James Jim	165
Dolby, Andrew J	159
Rickards, Sharon A.	157
<b>Total</b>	<b>13088</b>

### Number of Inspectors

142



# Telling Stories

- Using data from the portal
- Combining data visualization with photography and text
- Using a story format to present data and information





# Telling Stories

- Using data from the portal
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## A Keystone Species



The Atlantic horseshoe crab is a keystone species supporting multiple important ecosystems and industries.

[View Story](#)

## Cleaner Air Delaware



DNREC has made significant progress in adopting effective methods to reduce emissions at the lowest costs.

[View Story](#)

## Working Together: WATAR



The Watershed Approach to Toxics Assessment and Restoration (WATAR) uses cutting edge science.

[View Story](#)

## Go Green, Save Green



DNREC provides grants, services, and support for renewable energy, improved efficiency, and sustainability.

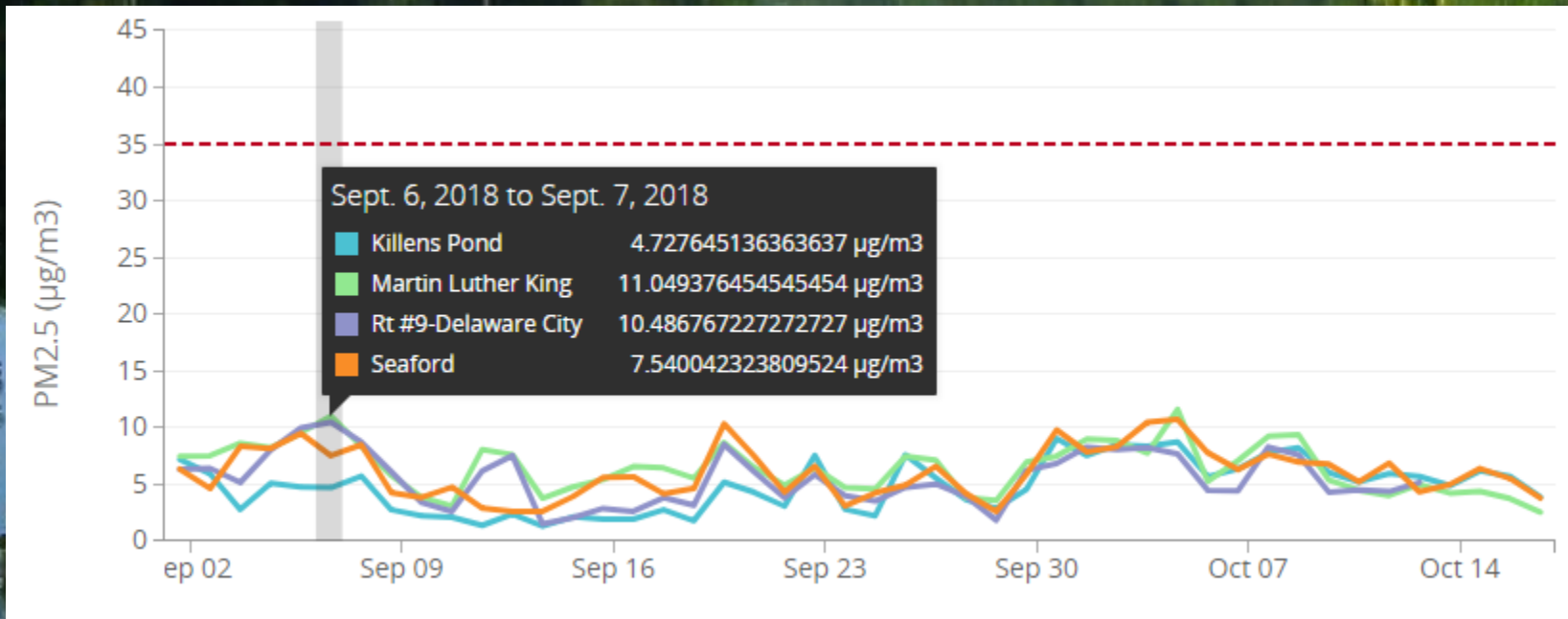
[View Story](#)





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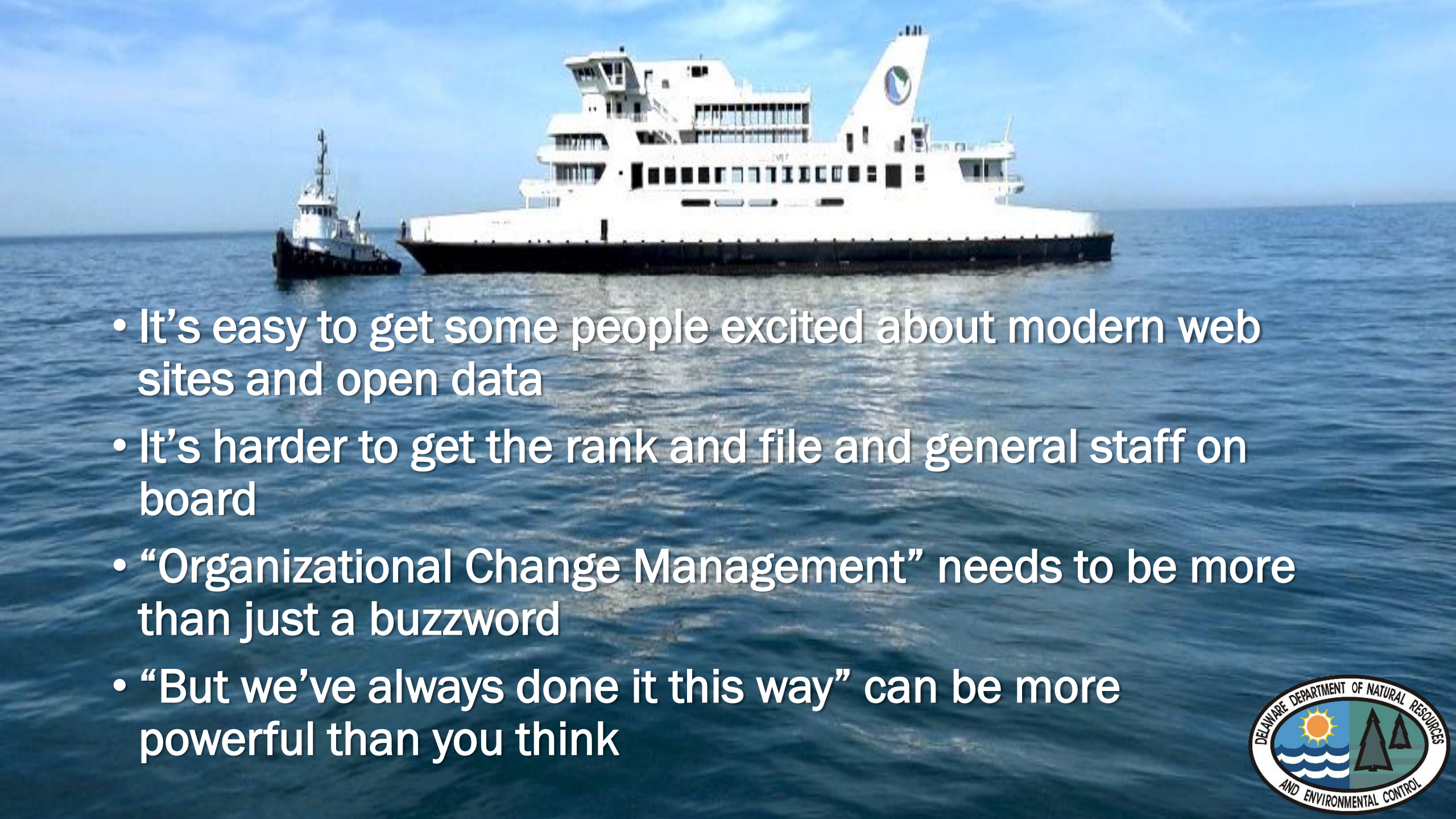


# Open Data as IT Infrastructure

- Open-first data management (data-sharing by default)
- Simple database structures
- Clear data classification
- Integrated APIs
- Automatic ETL or API connections
  - To Open Data Portal
  - To federal and state partners







- It's easy to get some people excited about modern web sites and open data
- It's harder to get the rank and file and general staff on board
- “Organizational Change Management” needs to be more than just a buzzword
- “But we’ve always done it this way” can be more powerful than you think





**“I’m interested in somehow sharing our data but am hesitant to what extent we share it as we still like to have some control over what data we share. For instance we don’t necessarily want the raw data set out there for anyone to grab without our consent and/or knowledge.”**





- **Open Data needs to be a fundamental part of our data infrastructure**
- **Open Data needs to be a fundamental part of our organizational culture**
- **We need to integrate data and information into our websites and applications**
- **We can use the same data to help guide agency management**





We'll keep trying

