## "She Blinded Me with Science" – New Technology as a Tool in Environmental Cases

**Selected Resources for Further Reading**

***Publications on strengthening citizen science partnerships***

EPA, Environmental Protection Belongs to the Public: A Vision for Citizen Science at EPA (Dec 2016)
https://www.epa.gov/sites/production/files/2018-04/documents/nacept_citizen_science_publication_eng_022318_rf508_508.pdf

EPA, Information to Action: Strengthening EPA Citizen Science Partnerships for Environmental Protection (Apr 2018)
https://www.epa.gov/sites/production/files/2018-04/documents/nacept_2018_citizen_science_publication_eng_final_v2_508_0.pdf

Wilson Center, Crowdsourcing, Citizen Science, and the Law: Legal Issues Affecting Federal Agencies (2015)
https://www.wilsoncenter.org/sites/default/files/CS_Legal_Barriers_Gellman.pdf

Wilson Center and ELI, Clearing the Path: Citizen Science and Public Decision Making in the United States (2016)
https://www.eli.org/sites/default/files/eli-pubs/clearing-path-eli-report.pdf

Annie Brett, "Putting the Public on Trial: Can Citizen Science Data be Used in Litigation and Regulation?" 28 Vill. Envtl. L.J. 163 (2017)
https://digitalcommons.law.villanova.edu/cgi/viewcontent.cgi?article=1395&context=elj

***NYSDEC Programs***

Citizens Statewide Lake Assessment Program (CSLAP)
https://www.dec.ny.gov/chemical/81576.html

Water Assessments by Volunteer Evaluators (WAVE)
https://www.dec.ny.gov/chemical/92229.html

Professional External Evaluations of Rivers and Streams (PEERS)
https://www.dec.ny.gov/chemical/105026.html

***Citizen Science Organizations in NY***

Public Lab
http://publiclab.org

Citizen Science Community Resources, western New York
https://csresources.org/

Great video introducing the work of Public Lab, HabitatMap, and UPROSE gathering and assembling data in NYC
https://www.redhat.com/en/open-source-stories/collective-discovery

The Crowd & the Cloud website including video episodes on citizen science that aired on PBS
http://crowdandcloud.org

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# "Listology"

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## ORGANICS

### VOC

**8260**
- Std 8260
- CT RCP
- CP-51 (STARS)
- TCL
- NJDEP
- Part 375
- TCLP RCRA
- Suffolk Co.
- Nassau Co.
- Site Specific

**624**
- Std 624
- TCL
- NYC DEP sewer
- NYC DEC discharge

**TO-15**
- Std TO-15
- CT RCP
- NJ DEP
- Site Specific

**524**
- Std 524.2
- Std 502.2

### SVOC

**8270**
- Std 8270
- CT RCP
- CP-51 (STARS)
- TCL
- NJDEP
- Part 375
- TCLP RCRA
- Suffolk Co.
- Nassau Co.
- Site Specific

**625**
- Std 625
- TCL
- NYC DEP sewer
- NYC DEC discharge
- Site Specific

### PEST

**8081**
- Std 8081
- CT RCP
- TCLP RCRA
- TCL
- NJ DEP
- Part 375

**8141**
- Std 8141

**608**
- Std 608

### PCB

**8082**
- Std 8082

**608**
- Std 608

**680** (Homologs)

### TPH

**8015 GRO**

**8015 DRO**

**State Specific**
- CT ETPH
- NJ EPH
- NJ QAM
- NY 310-13

### HERB

**8151**
- Std 8151
- CT RCP
- Part 375

### EMERGING CONTAMINANTS

**537.1**
- PFAS (DW)

**537m**
- PFAS (GW / S)

**8270 SIM**
- 1,4-dioxane

***Packages***

| *Disposal* | *Landfill* |
|---|---|
| - Full TCLP | - Part 360 |
| - Full RCRA Haz Waste Characterization | - Routine |
| | - Baseline |
| - Facility Specific | - Expanded |

| *Remedial Activities* | *Drinking Water Source* |
|---|---|
| - Full Part 375 | - Subpart 5 |
| - Full NJ DEP | |
| - TCL/TAL | *SPDES* |
| - Full CT RCP | - NYC DEP Discharge |
| | - NYS DEC Discharge |

## INORGANICS

### METALS

**6010/6020**
- CT RCP 15
- TCLP RCRA
- TAL
- NJ DEP
- PP 13
- Indiv. metals
- Suffolk Co.
- Nassau Co.
- Site Specific

**200.7/8**
- PP 13
- Indiv. metals
- Site Specific

### WET CHEM

**Minerals**
- K
- Ca
- Mg
- Na
- Cl
- $SO_4$

**Nutrients**
- NO3
- NO2
- P
- NH4
- TKN

**Physical**
- Color
- Odor
- Turbidity
- pH

**Other**
- Ignitability
- Flash Point
- O+G
- BOD
- COD
- Cyanide
- Sulfide

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| ORGANICS (Soils / Solids / Oils / Solvents) | Holding Time | Volume |
|---|---|---|
| Volatiles, 8260, 524.2 Method 5035A | **48 hours to freeze, 14 days to analysis** | (2) vials DI Water<br>(1) vial w/ MeOH<br>(1) unpres. vial |
| | **48 hours to lab extrusion** | (3) 5g Encores &<br>(1) 2oz jar |
| Semi Volatiles | 14 days | 4oz jar |
| Pesticides/PCBs | 14 days | 4oz jar |
| Herbicides | 14 days | 4oz jar |
| TX or EOX | 14 days | 4oz jar |
| TPH | 14 days | 4oz jar |

| ORGANICS (Water) | Holding Time | Volume |
|---|---|---|
| Volatiles | 14 days | (3) VOA w/ HCl |
| Semi Volatiles | 7 days | (2) 1Liter Amber |
| Pesticides/PCBs | 7 days | (2) 1Liter Amber |
| Herbicides | 7 days | 1Liter Amber |
| TOC (Organic Carbon) | 28 days | (2) VOA w/ HCl |

| TCLP (Soil) |
|---|
| A Full TCLP for solid matrices can be combined into (1) 2oz & (2) 8oz jars. |

| TCLP (Water) |
|---|
| A full TCLP for aqueous matrix can be combined into (3) 1L Amber glass bottles, (1) 500mL plastic bottles, and (3) 40mL VOA w/ HCl. |

| INORGANICS (Soil) | Holding Time | Volume |
|---|---|---|
| CHROMIUM (Hex.) | 28 days | 2oz jar |
| CYANIDES | 14 days | 2oz jar |
| FLASHPOINT | 28 days | 4oz jar |
| METALS, Total | 6 months | 2oz jar |
| MERCURY | 28 days | 2oz jar |
| NITROGEN TOT-TKN | 28 days | 2oz jar |
| NITRATE | **48 hours** | 2oz jar |
| NITRITE | **48 hours** | 2oz jar |
| OIL & GREASE | 28 days | 4oz jar |
| pH | **IMMEDIATE** | 2oz jar |
| SOLIDS (Total, Volatile) | 7 days | 2oz jar |
| SULFIDE | 7 days | 2oz jar |

| INORGANICS (Water) | Holding Time | Volume |
|---|---|---|
| ACIDITY | 14 days | 250mL plastic |
| ALKALIINITY | 14 days | 250mL plastic |
| AMMONIA | 28 days | 250mL plastic H2SO4 |
| BOD | **48 hours** | 1L plastic |
| BROMIDE | 28 days | 50mL in plastic |
| COD | 28 days | 50mL plastic H2SO4 |
| CHLORIDE | 28 days | 50mL plastic |
| CHLORINE Residual | **IMMEDIATE** | 50mL plastic |
| CHROMIUM (Hex.) | **24 hours** | 100mL plastic |
| COLOR | **48 hours** | 100mL plastic |
| CYANIDES | 14 days | 250ml plastic NaOH |
| FERROUS IRON | **24 hours** | 100mL plastic |
| FLASHPOINT | 28 days | 250mL plastic |
| FLUORIDE | 28 days | 50mL plastic |
| HARDNESS | 6 months | 100mL plastic HNO3 |
| HYDROGEN ION (pH) | **IMMEDIATE** | 100mL plastic HNO3 |
| **INORGANICS (Water) Continued** | | Volume |
| IGNITABILITY | 14 days | 100mL Amber |
| METALS, Total | 6 months* | 250mL plastic HNO3 |
| METALS, Dissolved | 6 months* | 250mL plastic |
| | *28 days for Mercury | |
| NITROGEN TOT-TKN | 28 days | 500mL plastic H2SO4 |
| NITRATE/NITRITE | **48 hours** | 50mL plastic |
| OIL & GREASE | 28 days | 1L Amber H2SO4 |
| ODOR | **24 hours** | 100mL plastic |
| ORTHOPHOSPHATE | **48 hours** | 100mL plastic |
| pH | **IMMEDIATE** | 100mL plastic |
| PHENOLICS | 28 days | 1L Amber H2SO4 |
| PHOSPHOROUS | 28 days | 250mL plastic H2SO4 |
| SALINITY | 28 days | 100mL plastic |
| SOLIDS-SUSPENDED | 7 days | 100mL plastic |
| SOLIDS-TOTAL | 7 days | 100mL plastic |
| SOLIDS-VOLATILE | 7 days | 100mL plastic |
| SPECIFIC CONDUCTANCE | 28 days | 100mL plastic |
| SULFATE | 28 days | 50mL plastic |
| SULFIDE | 7 days | 500mL plastic<br>Zn Acetate + NaOH |
| SULFITE | **24 hours** | 250mL plastic |
| SURFACTANTS (MBAS) | **48 hours** | 1L plastic |
| TURBIDITY | **48 hours** | 100mL in plastic |


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## "Sample Volume & Holding Time Requirements"

| EMERGING CONTAMINANTS (Soil) | Holding Time | Volume |
|---|---|---|
| PFAS (EPA 537m) | 14 days | (1) 250 mL HDPE |
| 1,4-Dioxane | **48 hours to freeze, 14 days to analysis** | (2) vials DI Water<br>(1) vial w/ MeOH<br>(1) unpres. vial |

| EMERGING CONTAMINANTS (Water) | Holding Time | Volume |
|---|---|---|
| PFAS (EPA 537.1, 537m) | 14 days to extraction and 28 days to analysis | (2) 250 mL HDPE |
| 1,4-Dioxane (EPA 522) | 28 days to extraction | 1L Amber |
| 1,4-Dioxane (8270 SIM) | 7 days to extraction | 1L Amber |

| PETROLEUM (Soil) | Holding Time | Volume |
|---|---|---|
| TPH (HEM-SGT) | 28 days | 4oz jar |
| ETPH | 14 days | 4oz jar |
| EPH | 14 days | 4oz jar |
| VPH | 28 days | (2) Methanol VOA |
| NJ QAM025 | 14 days | 4oz jar |
| TPH GRO | 14 days | 2oz jar |
| TPH DRO | 14 days | 4oz jar |

| PETROLEUM (Water) | Holding Time | Volume |
|---|---|---|
| TPH-IR | 28 days | (2) 1L Amber w/ H2SO4 |
| ETPH | 7 days | (2) 1L Amber |
| EPH | 14 days | (2) 1L Amber w/ HCl |
| VPH | 14 days | (2) 40mL VOA w/ HCl |
| NJ QAM025 | 14 days | (2) 1L Amber w/ HCl |
| TPH GRO | 14 days | (2) 40mL VOA w/ HCl |
| TPH DRO | 7 days | (2) 1L Amber |

| AIR | Summa Can | Tedlar bag |
|---|---|---|
| Volatiles - TO-15 | 30 days | 72 hours |
| Petroleum Hydrocarbons - VP | 30 days | 3 days |
| Permanent Gasses - 3C | 30 days | 72 hours |
| Helium - GC/TCD | 30 days | 72 hours |
| Hydrogen - GC/TCD | 30 days | 72 hours |
| Methane - GC/FID | 30 days | 72 hours |

# PFAS Field Sampling Guidelines for Groundwater

***PLEASE READ THESE INSTRUCTIONS PRIOR TO CONDUCTING SAMPLING***

Sampling for PFAS for determination using EPA 537m can be challenging due to the prevalence of these compounds in consumer products. The following guidelines reflect current knowledge and are recommended when conducting sampling.

**Consider Sampling for PFAS First...**

**Sample containers for other methods may have PFAS present on their sampling containers which could cross-contaminate your sample(s). We are analyzing down to the low parts-per-trillion (ppt) range so cross-contamination prevention is an important consideration.**

## SAMPLING

All Sampling done with Nitrile Gloves, provided by YORK

## SAMPLE CONTAINERS

All sample containers - HDPE ONLY (Target list of 21 PFAS)

Caps are unlined and made of HDPE (no Teflon® lined caps)

Bottles are Batch Certified to be Target PFAS-free (< Reporting Limit)

## FIELD EQUIPMENT

-Must not contain Teflon® (aka PTFE) or LDPE materials

-All sampling materials must be made from stainless steel, HDPE, acetate, silicone, or polypropylene

-No waterproof field notebooks can be used

-No plastic clipboards, binders, or the like

-No adhesives (e.g.Post-It® Notes, Duct tape) can be used

-Sharpies and permanent markers not allowed; regular ball point pens are acceptable

-Aluminum foil must not be used

-Keep PFAS samples in separate cooler, away from sampling containers that may contain PFAS

-Coolers filled with regular ice only - Do not use chemical (blue) ice packs

## EQUIPMENT DECON

-"PFAS-free" water (e.g. Poland Spring*)-on-site for decontamination

-Only Alconox and Liquinox can be used for decontamination

* *Poland Spring has been demonstrated to be PFAS -free when freshly opened*

## FIELD SAMPLING CLOTHING CONSIDERATIONS

Do not use fabric softener on clothing to be worn in field

Do not used cosmetics, moisturizers, hand cream, or other related products the morning of sampling

Do not use sunscreen or insect repellants

No materials containing Tyvek®

All safety boots made from polyurethane and PVC

No clothing or boots containing Gore-Tex®

Wet weather gear made of polyurethane and PVC only

## FOOD CONSIDERATIONS

No food or drink when PFAS Sampling with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area.

## SAMPLE CONTAINER HANDLING

-Each sample set contains 2 x 250 mL containers. Fill to neck

-No preservative is necessary for this appliction at this time.

-Place closed, labeled Sample bottles into ZipLock bag.

-Dispose of Nitrile gloves in provided waste bag.

-Place in separate cooler from other samples, WET ICE only

-Follow instructions on next page for more detail.

-If you have a Quality Assurance Project Plan follow that guidance

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Rev 1.0 3/19

# PFAS -Recommended Field Sampling Guidelines

**PLEASE READ INSTRUCTIONS ENTIRELY PRIOR TO SAMPLING EVENT**

Sampler should wash hands before wearing nitrile gloves in order to limit contamination during sampling. Each sample set* requires a set of containers to comply with the method as indicated below. **Sample set is composed of samples collected from the same sample site and at the same time.* **A pair of Nitrile gloves is included with each sample Zip-lock bag/bottle set. One Field Blank set per day is provided.**

| Sample Containers | Bottle Type | Preservation |
|---|---|---|
| 2 Sampling Containers - Empty- per sample | 250 mL HDPE container | None, Cool <6C |
| 1 HDPE Bottle with PFAS-free Water for Field Blank | 250 mL HDPE container | None, Cool <6C |
| 1 Field Blank (FRB) - Empty-per sampling day | 250 mL HDPE container | None, Cool <6C |
| 2 - Empty HDPE bottles for MS/DUP where needed | 250 mL HDPE container | None, Cool <6C |

NOTE: Sampling containers must be filled to the neck.

**FIELD BLANK and MS/DUP Bottles are labeled with NEON GREEN LABELS**

***Field blanks are required per sampling event day and the containers have been provided. Follow the instructions below.***

## Field Blank Instructions:

1. Locate the PFAS Field Blank bottle (empty, labeled) supplied The PFAS Field Blank Water container is pre-filled at YORK with PFAS-free water to transfer to the empty PFAS Field Blank bottle.
2. Locate the empty container labeled "Field Blank" with Neon green labels
3. Open both containers and proceed to transfer contents of the "PFAS FIELD BLANK WATER" container into the "PFAS FIELD BLANK" Bottle
4. Field Blanks to be analyzed must be listed on the Chain-of-Custody.
5. Both the empty Field Blank water container and the filled Field Blank container must be returned to YORK along with the samples taken.

## Matrix Spike/ Matrix Dup Instructions:

1. Locate the PFAS MS and DUP bottles (empty, labeled-NEON GREEN) supplied -normally 1 set per 20 field samples
2. Transfer chosen Field MS /Dup as a normal sample and indicate sample ID on container and on Chain-of-Custody

## Sampling Instructions: ALL SAMPLE BOTTLES HAVE NEON YELLOW LABELS

1. Do not overfill or rinse the container. Any sample(s) for Matrix Spike and Matrix Duplicates are treated similarly.
2. Close containers securely. Label legibly and place containers in ZipLoc® bags, and in a separate cooler (no other container types).
3. Ensure Chain-of-Custody and all sample labels contain required information. Place all samples in separate coolers (separate from other samples for different parameters). Place wet ice (bagged) on samples for return to YORK. Samples should be kept at 4°C ±2. Samples must not exceed 10°C during first 48 hours after collection. **Hold time is 14 days.**

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# 15 USCS § 3724

Current through Public Law 116-39, approved August 6, 2019.

***United States Code Service > TITLE 15. COMMERCE AND TRADE (Chs. 1 — 114) > CHAPTER 63. TECHNOLOGY INNOVATION (§§ 3701 — 3724)***

## § 3724. Crowdsourcing and citizen science

**(a) Short title.** This section may be cited as the "**Crowdsourcing and Citizen Science Act**".

**(b) Sense of Congress.** It is the sense of Congress that—

**(1)**the authority granted to Federal agencies under the America COMPETES Reauthorization **Act** of 2010 (Public Law 111-358; 124 Stat. 3982) to pursue the use of incentive prizes and challenges has yielded numerous benefits;

**(2)crowdsourcing** and **citizen science** projects have a number of additional unique benefits, including accelerating scientific research, increasing cost effectiveness to maximize the return on taxpayer dollars, addressing societal needs, providing hands-on learning in STEM, and connecting members of the public directly to Federal **science** agency missions and to each other; and

**(3)**granting Federal **science** agencies the direct, explicit authority to use **crowdsourcing** and **citizen science** will encourage its appropriate use to advance Federal **science** agency missions and stimulate and facilitate broader public participation in the innovation process, yielding numerous benefits to the Federal Government and **citizens** who participate in such projects.

**(c) Definitions.** In this section:

**(1)Citizen science**. The term "**citizen science**" means a form of open collaboration in which individuals or organizations participate voluntarily in the scientific process in various ways, including—

**(A)**enabling the formulation of research questions;

**(B)**creating and refining project design;

**(C)**conducting scientific experiments;

**(D)**collecting and analyzing data;

**(E)**interpreting the results of data;

**(F)**developing technologies and applications;

**(G)**making discoveries; and

**(H)**solving problems.

**(2)Crowdsourcing**. The term "**crowdsourcing**" means a method to obtain needed services, ideas, or content by soliciting voluntary contributions from a group of individuals or organizations, especially from an online community.

**(3)**Participant. The term "participant" means any individual or other entity that has volunteered in a **crowdsourcing** or **citizen science** project under this section.

**(d) Crowdsourcing and citizen science.**

**(1)**In general. The head of each Federal **science** agency, or the heads of multiple Federal **science** agencies working cooperatively, may utilize **crowdsourcing** and **citizen science** to conduct projects

designed to advance the mission of the respective Federal **science** agency or the joint mission of Federal **science** agencies, as applicable.

**(2)**Voluntary services. Notwithstanding section 1342 of title 31, United States Code, the head of a Federal **science** agency may accept, subject to regulations issued by the Director of the Office of Personnel Management, in coordination with the Director of the Office of **Science** and Technology Policy, services from participants under this section if such services—

**(A)**are performed voluntarily as a part of a **crowdsourcing** or **citizen science** project authorized under paragraph (1);

**(B)**are not financially compensated for their time; and

**(C)**will not be used to displace any employee of the Federal Government.

**(3)**Outreach. The head of each Federal **science** agency engaged in a **crowdsourcing** or **citizen science** project under this section shall make public and promote such project to encourage broad participation.

**(4)**Consent, registration, and terms of use.

**(A)**In general. Each Federal **science** agency shall determine the appropriate level of consent, registration, or acknowledgment of the terms of use that are required from participants in **crowdsourcing** or **citizen science** projects under this section on a per-project basis.

**(B)**Disclosures. In seeking consent, conducting registration, or developing terms of use for a project under this subsection, a Federal **science** agency shall disclose the privacy, intellectual property, data ownership, compensation, service, program, and other terms of use to the participant in a clear and reasonable manner.

**(C)**Mode of consent. A Federal agency or Federal **science** agencies, as applicable, may obtain consent electronically or in written form from participants under this section.

**(5)**Protections for human subjects. Any **crowdsourcing** or **citizen science** project under this section that involves research involving human subjects shall be subject to part 46 of title 28, Code of Federal Regulations (or any successor regulation).

**(6)**Data.

**(A)**In general. A Federal **science** agency shall, where appropriate and to the extent practicable, make data collected through a **crowdsourcing** or **citizen science** project under this section available to the public, in a machine readable format, unless prohibited by law.

**(B)**Notice. As part of the consent process, the Federal **science** agency shall notify all participants—

**(i)**of the expected uses of the data compiled through the project;

**(ii)**if the Federal **science** agency will retain ownership of such data;

**(iii)**if and how the data and results from the project would be made available for public or third party use; and

**(iv)**if participants are authorized to publish such data.

**(7)**Technologies and applications. Federal **science** agencies shall endeavor to make technologies, applications, code, and derivations of such intellectual property developed through a **crowdsourcing** or **citizen science** project under this section available to the public.

**(8)**Liability. Each participant in a **crowdsourcing** or **citizen science** project under this section shall agree—

**(A)**to assume any and all risks associated with such participation; and

**(B)**to waive all claims against the Federal Government and its related entities, except for claims based on willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits (whether direct, indirect, or consequential) arising from participation in the project.

**(9)**Research misconduct. Federal **science** agencies coordinating **crowdsourcing** or **citizen science** projects under this section shall make all practicable efforts to ensure that participants adhere to all relevant Federal research misconduct policies and other applicable ethics policies.

**(10)**Multi-sector partnerships. The head of each Federal **science** agency engaged in **crowdsourcing** or **citizen science** under this section, or the heads of multiple Federal **science** agencies working cooperatively, may enter into a contract or other agreement to share administrative duties for such projects with—

**(A)**a for profit or nonprofit private sector entity, including a private institution of higher education;

**(B)**a State, tribal, local, or foreign government agency, including a public institution of higher education; or

**(C)**a public-private partnership.

**(11)**Funding. In carrying out **crowdsourcing** and **citizen science** projects under this section, the head of a Federal **science** agency, or the heads of multiple Federal **science** agencies working cooperatively—

**(A)**may use funds appropriated by Congress;

**(B)**may publicize projects and solicit and accept funds or in-kind support for such projects, to be available to the extent provided by appropriations **Acts**, from—

**(i)**other Federal agencies;

**(ii)**for profit or nonprofit private sector entities, including private institutions of higher education; or

**(iii)**State, tribal, local, or foreign government agencies, including public institutions of higher education; and

**(C)**may not give any special consideration to any entity described in subparagraph (B) in return for such funds or in-kind support.

**(12)**Facilitation.

**(A)**General Services Administration assistance. The Administrator of the General Services Administration, in coordination with the Director of the Office of Personnel Management and the Director of the Office of **Science** and Technology Policy, shall, at no cost to Federal **science** agencies, identify and develop relevant products, training, and services to facilitate the use of **crowdsourcing** and **citizen science** projects under this section, including by specifying the appropriate contract vehicles and technology and organizational platforms to enhance the ability of Federal **science** agencies to carry out the projects under this section.

**(B)**Additional guidance. The head of each Federal **science** agency engaged in **crowdsourcing** or **citizen science** under this section may—

**(i)**consult any guidance provided by the Director of the Office of **Science** and Technology Policy, including the Federal **Crowdsourcing** and **Citizen Science** Toolkit;

**(ii)**designate a coordinator for that Federal **science** agency's **crowdsourcing** and **citizen science** projects; and

**(iii)**share best practices with other Federal agencies, including participation of staff in the Federal Community of Practice for **Crowdsourcing** and **Citizen Science**.

**(e) Report.**

**(1)**In general. Not later than 2 years after the date of the enactment of this **Act** [enacted Jan. 6, 2017], the Director of the Office of **Science** and Technology Policy shall include, as a component of an annual report required under section 24(p) of the Stevenson-Wydler Technology Innovation **Act** of 1980 (15 U.S.C. 3719(p)), a report on the projects and activities carried out under this section.

**(2)**Information included. The report required under paragraph (1) shall include—

**(A)**a summary of each **crowdsourcing** and **citizen science** project conducted by a Federal **science** agency during the most recently completed 2 fiscal years, including a description of the proposed goals of each **crowdsourcing** and **citizen science** project;

**(B)**an analysis of why the utilization of a **crowdsourcing** or **citizen science** project summarized in subparagraph (A) was the preferable method of achieving the goals described in subparagraph (A) as opposed to other authorities available to the Federal **science** agency, such as contracts, grants, cooperative agreements, and prize competitions;

**(C)**the participation rates, submission levels, number of consents, and any other statistic that might be considered relevant in each **crowdsourcing** and **citizen science** project;

**(D)**a detailed description of—

**(i)**the resources, including personnel and funding, that were used in the execution of each **crowdsourcing** and **citizen science** project;

**(ii)**the project activities for which such resources were used; and

**(iii)**how the obligations and expenditures relating to the project's execution were allocated among the accounts of the Federal **science** agency, including a description of the amount and source of all funds, private, public, and in-kind, contributed to each **crowdsourcing** and **citizen science** project;

**(E)**a summary of the use of **crowdsourcing** and **citizen science** by all Federal **science** agencies, including interagency and multi-sector partnerships;

**(F)**a description of how each **crowdsourcing** and **citizen science** project advanced the mission of each participating Federal **science** agency;

**(G)**an identification of each **crowdsourcing** or **citizen science** project where data collected through such project was not made available to the public, including the reasons for such action; and

**(H)**any other information that the Director of the Office of **Science** and Technology Policy considers relevant.

**(f) Savings provision.** Nothing in this section may be construed—

**(1)**to affect the authority to conduct **crowdsourcing** and **citizen science** authorized by any other provision of law; or

**(2)**to displace Federal Government resources allocated to the Federal **science** agencies that use **crowdsourcing** or **citizen science** authorized under this section to carry out a project.

## History

**HISTORY:**

**Act** Jan. 6, 2017, P. L. 114-329, Title IV, § 402, 130 Stat. 3019.

Annotations

# Notes

**HISTORY; ANCILLARY LAWS AND DIRECTIVES**

**References in text:**

**Explanatory notes:**

**References in text:**

“The America COMPETES Reauthorization **Act** of 2010”, referred to in this section, is **Act** Jan. 4, 2011, P. L. 111-358. For full classification of such **Act**, consult USCS Tables volumes.

The “annual report required under section 24(p) of the Stevenson-Wydler Technology Innovation **Act** of 1980”, referred to in subsec. (e)(1) and appearing in 15 USCS § 3719(p), was changed to a biennial report by **Act** Jan. 6, 2017, P.L. 114-329, Title IV, § 401(b), 130 Stat. 3016.

**Explanatory notes:**

For definitions of terms used in this section, see **Act** Jan. 6, 2017, P.L. 114-329, § 2, 130 Stat. 2970, which appears as 42 USCS § 1862s.

This section was enacted as part of **Act** Jan. 6, 2017, P. L. 114-329, and not as part of **Act** Oct. 21, 1980, P.L. 96-480, which generally comprises this chapter.

# Research References & Practice Aids

**Code of Federal Regulations:**

Economic Development Administration, Department of Commerce—Regional innovation program, 13 CFR 312.1 et seq.

**Hierarchy Notes:**

15 USCS, Ch. 63