

Status of Notifications to Agricultural Operations Pursuant to Section 335 of the Fiscal Year 2021 National Defense Authorization Act



July 2021

Office of the Under Secretary of Defense
for Acquisition and Sustainment

The estimated cost of this report or study for the Department of Defense is approximately \$581,000 in Fiscal Year 2021. This includes \$196,000 in expenses and \$386,000 in DoD labor.

Generated on 20210406

RefID: 7-5FB66FD

TABLE OF CONTENTS

TABLE OF CONTENTS i
APPENDIX..... i
I. INTRODUCTION..... 1
II. BACKGROUND..... 1
III. STATUS OF AGRICULTURAL OPERATION NOTIFICATIONS 1
IV. CONCLUSION..... 2

APPENDIX

Status of Agricultural Operation Notifications

I. INTRODUCTION

Section 335 of the William M. Mac Thornberry National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2021 (Public Law 116-283), requests a report on the Department of Defense's (DoD's) status of providing notifications to agricultural operations located within one mile down gradient of a Military Installation or National Guard facility where a "covered" per- and polyfluoroalkyl substances (PFAS)¹ (1) has been detected in groundwater on base; (2) has been hydrologically linked to a local agricultural or drinking water source; and (3) is known or suspected to be the result of a PFAS release at a Military Installation or National Guard facility located in the United States.

II. BACKGROUND

PFAS is a national issue that requires national solutions. DoD is proactively taking action to reduce the risks of PFAS exposure to human health. DoD's cleanup program follows the federal cleanup law (the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), also known as "Superfund") to address DoD releases of PFAS and determine the appropriate cleanup actions based on risk.

III. STATUS OF AGRICULTURAL OPERATIONS NOTIFICATIONS

The Department recently notified agricultural operations consistent with the requirement in Section 335 of the NDAA for FY 2021. DoD worked in consultation with the U.S. Department of Agriculture to obtain names and addresses of agricultural operations near Military Installations or National Guard facilities. DoD then reviewed its data from the installations where we are conducting PFAS cleanup assessments to determine if on-installation groundwater could be hydrologically connected to down gradient agricultural operations within one mile of the installation.

During the period of March 1 through March 31, 2021, the DoD Components have sent notifications to 2,143 identified agricultural operations pursuant to Section 335 of the NDAA for FY 2021. The appendix provides the number and approximate locations of agricultural operations notified; the associated Military Installation or National Guard facility; and the covered PFAS and levels detected in groundwater on base. Providing these agricultural notifications does not necessarily mean that PFAS is in the groundwater at the agricultural location or that cleanup is required.

DoD is committed to fulfilling its PFAS cleanup responsibilities, and conducts its cleanup program in coordination with state and federal environmental regulators, and provides opportunities for the local community to participate in this cleanup process. A list and map of installations where DoD is performing an assessment of PFAS use or potential release is available on [defense.gov/PFAS](https://www.defense.gov/PFAS).

¹ "Covered PFAS" is defined as perfluorooctane sulfonate (PFOS) that has been detected in groundwater above 70 parts per trillion (ppt), individually or in combination with perfluorooctanoic acid (PFOA); and/or PFOA that has been detected in groundwater above 70 ppt, individually or in combination with PFOS; and/or perfluorobutanesulfonic acid that has been detected in groundwater above 40 parts per billion.

IV. CONCLUSION

DoD is proactively taking action to reduce the risks of PFAS exposure to human health by following the CERCLA process to address releases resulting from DoD activities. The DoD Components will continue to prioritize this effort and send additional notifications as agricultural operations are identified pursuant to Section 335 of the NDAA for FY 2021.

Appendix: Status of Agricultural Operation Notifications

State	Installation	City	DoD Component	Notifications sent before March 31, 2021 ¹	PFOS Range Detected ² (ppt)	PFOA Range Detected ² (ppt)	PFBS Range Detected ² (ppb)
Alabama	Maxwell Gunter AFB	Autaugaville	Air Force - Active	7	44.4	52.7	-
Arizona	Air Force Plant 44	Sells	Air Force - Active	1	260-3,400	160	-
Arizona	Williams AFB	Mesa	Air Force - BRAC	32	70 - 2,440	70 - 322	-
Arizona	YUMA AZ MCAS	Yuma	USMC - Active	8	ND - 982	ND - 571	ND - 2.54
Arkansas	Little Rock AFB	Lonoke	Air Force - Active	3	85.5-13,800	119-11,000	43
California	Castle AFB	Atwater	Air Force - BRAC	40	70 - 19,600	70 - 961	-
California	DFSP Ozol	Martinez	DLA - Active	4	19.7 - 24,700	0.852 - 489	-
California	DFSP San Pedro	San Pedro	DLA - Active	1	1.6 - 970	0.24 - 340	-
California	Edwards AFB	Bakersfield	Air Force - Active	2	70-1,700,000	77-1,200,000	56
California	El Toro MCAS	Santa Ana	USMC - BRAC	1	1.53 - 2,800	1.51 - 5,230	<40
California	Mather AFB	Sacramento	Air Force - BRAC	3	70 - 26,000	70 - 3,130	-
California	NAS PT MUGU CA NAVAIRWARC	Point Mugu	Navy - Active	34	ND - 13407957.09	ND - 1071529.99	ND - 2034.52
California	Travis AFB	Vacaville	Air Force - Active	17	72-690,000	91-88,000	-
Delaware	Dover AFB	Dover	Air Force - Active	49	77-270,000	71-20,000	45
Florida	Homestead ARB	Homestead	Air Force - Active	79	71-9,700	70-3,100	-
Florida	SAUFLEY FLD FL NAS	Pensacola	Navy - Active	3	ND - 30,598	ND - 89,409.8	ND - 1.4
Florida	WHITING FLD FL NAS	Milton	Navy - Active	10	ND - 53,600	ND - 17,400	ND - 0.579
Illinois	Greater Peoria	Peoria	Air Force - ANG	18	186 - 152,000	20 - 4480	-
Illinois	Scott AFB	Belleville	Air Force - Active	54	77-81,000	95-104,000	-
Illinois	Springfield Municipal (Capital)	Springfield	Air Force - ANG	9	67.8 - 13,100	219 - 373	-
Indiana	Grissom AFB	Grissom Arb	Air Force - BRAC	2	70.8 - 114,000	84.5 - 18,000	-
Indiana	NAVSURFWARCENDIV CRANE	Crane	Navy - Active	43	ND - 428	ND - 39.5	ND - 0.0299
Iowa	Des Moines	Des Moines	Air Force - ANG	4	47 - 13,000	16 - 1,900	-
Iowa	Sioux Gateway Municipal Airport	Sioux City	Air Force - ANG	15	12 - 7,800	2.1 - 850	-
Kansas	Fort Riley	Fort Riley	Army - Active	15	0 - 840	0 - 30,000	0 - 14
Kansas	McConnell AFB	Derby	Air Force - Active	65	77-430,000	70-26,000	-
Louisiana	Barksdale AFB	Shreveport	Air Force - Active	11	71.2 - 1,100,000	1,960 - 200,000	-
Louisiana	England AFB	Alexandria	Air Force - BRAC	2	4.9 - 7,150,000	4.01 - 3,820,000	0.00995 - 1,530
Maine	Brunswick NAS	Brunswick	Navy - BRAC	10	ND - 24,000	ND - 15,000	ND - 87.5
Maine	Loring AFB	Limestone	Air Force - BRAC	6	76 - 8,770	115 - 811	-
Maine	NCTAMSLANT DET CUTLER	East Machias	Navy - Active	3	ND - 82,501	ND - 3,956.8	ND - 20
Maryland	CHESAPEAKE BEACH MD RESLB	Chesapeake Beach	Navy - Active	5	ND - 234,000	ND - 14,900	ND - 1.22
Maryland	JB Andrews	Upper Marlboro	Air Force - Active	6	100-33,000	81-435,000	-
Maryland	White Oak- NSWC Dahlgren DIV Det	Silver Spring	Navy - BRAC	2	ND - 1,230	ND - 135	0.0023 - 0.0392
Massachusetts	Otis - JB Cape Cod	Lincoln	Air Force - Active	3	77-1000	74-100	-
Michigan	MTC-H Camp Grayling	Grayling	Army - OMNG	6	<0.74 - 30,000	<0.80 - 590	-
Mississippi	Columbus AFB	Columbus	Air Force - Active	43	83.1 - 740,000	90.6 - 70,700	-
Mississippi	GULFPORT MS NCBC	Gulfport	Navy - Active	5	ND - 68.8	ND - 718.5	ND - 0.035
Mississippi	MERIDIAN MS NAS	Meridian	Navy - Active	78	ND - 15,000	ND - 38,000	ND - 8.2
Montana	Great Falls International Airport	Great Falls	Air Force - ANG	3	1.6 - 1,100	1.4 - 39,00	-
Montana	Malmstrom AFB	Great Falls	Air Force - Active	27	190-1,900	70-5,500	-
Nebraska	Lincoln Municipal	Lincoln	Air Force - ANG	7	13 - 33,000	10 - 1,800	-
Nebraska	Offutt AFB	Bellevue	Air Force - Active	68	74-42,000	100-410,000	74
New Hampshire	DFSP Newington	Newington	DLA - Active	3	12.7 - 23,800	1.31 - 8.85	-
New Hampshire	New Boston AFS	Bedford	Air Force - Active	7	90- 520	150	-
New Hampshire	Pease AFB	Portsmouth	Air Force - BRAC	2	0.413 - 140,000	0.55 - 36,000	-
New Jersey	JB McGuire-Dix-Lakehurst	Pemberton	Air Force - Active	114	76-260,000	70-23,000 ppt	-

Appendix: Status of Agricultural Operation Notifications

State	Installation	City	DoD Component	Notifications sent before March 31, 2021 ¹	PFOS Range Detected ² (ppt)	PFOA Range Detected ² (ppt)	PFBS Range Detected ² (ppb)
New Jersey	NMC DET EARLE	Colts Neck	Navy - Active	26	1 - 4,800	0.5 - 421	0.00042 - 0.19
New Mexico	Holloman AFB	Alamogordo	Air Force - Active	4	241-1,040,000	115-254,000	226
New York	Air Force Research Labs Rome	Rome	Air Force - Active	3	73.9-60,700	74.5-533	-
New York	CALVERTON NY NPRO	Riverhead	Navy - Active	38	ND - 6,560	ND - 2,520	ND - 0.196
New York	DFSP Verona	Verona	DLA - Active	2	452 - 55,600	2.04 - 42.5	-
New York	Griffiss AFB	Rome	Air Force - BRAC	3	149 - 60,700	74.5 - 1,100	-
New York	Hancock Field	North Syracuse	Air Force - ANG	3	24 - 130,000	6.3 - 9,500	-
New York	Plattsburgh AFB	Plattsburgh	Air Force - BRAC	6	70.9 - 615,000	74.5 - 981,000	-
New York	Schenectady Airport	Schenectady	Air Force - ANG	3	23 - 5,300	95 - 310	-
North Carolina	CAMP LEJEUNE NC MCB	Camp Lejeune	USMC - Active	12	ND - 17,2748.8	ND - 25,100	ND - 16.2
North Carolina	CHERRY POINT NC MCAS	Atlantic	USMC - Active	1	ND - 63.7 ppt	ND - 142 ppt	ND - 0.025 J ppb
North Carolina	CHERRY POINT NC MCAS	Oak Grove	USMC - Active	49	ND - 221 ppt	ND - 18.5 ppt	ND - 0.0075 ppb
Ohio	Newark AFB	Heath	Air Force - BRAC	3	90 - 1,160	80 - 249	-
Ohio	Rickenbacker	Columbus	Air Force - BRAC	1	135 - 14,400	114 - 45,800	-
Ohio	Toledo Express	Swanton	Air Force - ANG	11	5.4 - 47,000	14 - 690	-
Ohio	Wright Patterson AFB	Dayton	Air Force - Active	7	77-6,600	76-610	-
Ohio	Youngstown ARS	Vienna	Air Force - Active	17	220-54,000	100-11,000	-
Oklahoma	Air Force Plant 3	Tulsa	Air Force - Active	6	Not Applicable	130-410	-
Oklahoma	Air Force Plant 4	Altus	Air Force - Active	3	82-80,000	450-200,000	52
Oklahoma	Altus AFB	Altus	Air Force - Active	45	100-900,000	100-250,000	-
Oklahoma	Tinker AFB	Oklahoma City	Air Force - Active	11	71-460,000	83-97,000	45-69
Oregon	Klamath Falls	Klamath Falls	Air Force - ANG	15	100 - 380,000	20 - 21,000	-
Pennsylvania	BIDDLE ANGB (HORSHAM AGS (WILLOW GROVE))	Hatboro	Air Force - ANG	5	8 - 290,000	31 - 7,200	-
Pennsylvania	N Penn	Worcester	Army - BRAC	4	390	-	-
Pennsylvania	Warminster NAWC AD	Warminster Township	Navy - BRAC	10	ND - 16,000	ND - 4,600	ND - 0.280
Pennsylvania	Willow Grove NASJRB	Willow Grove	Navy - BRAC	14	ND - 150,479	ND - 37,700	ND - 0.428
Puerto Rico	ROOSEVELT ROADS RQ CGARCA	Vieques	Navy - Active	1	ND - 491,401	ND - 351,375	ND - 24.75
Rhode Island	DAVISVILLE_NCBC	North Kingstown	Navy - BRAC	3	ND - 15	ND - 970	ND - 0.0026
South Carolina	Myrtle Beach AFB	Myrtle Beach	Air Force - BRAC	1	4.85 - 2,490,000	6.2 - 150,000	0.0095 - 51.9
Tennessee	Arnold AFB	Manchester	Air Force - Active	375	1,020-159,000	81.1 - 16,000	-
Tennessee	Memphis NAS (Millington)	Millington	Navy - BRAC	21	12.1 - 5,700	11.5 - 731	0.0104 - 0.782
Texas	Chase Field NAS	Beeville	Navy - BRAC	19	2.29 - 1,470	134 - 9,330	.00586 - 0.19
Texas	CORPUS CHRISTI TX NAS	Corpus Christi	Navy - Active	2	ND - 155,000	0.4 - 358,000	ND - 12
Texas	Dallas NAS	Dallas	Navy - BRAC	2	ND - 1,200,000	ND - 124,331	ND - 26
Texas	Dyess AFB	Abilene	Air Force - Active	42	82.5 - 171,000	85.8 - 384,000	69.5 - 76.7
Texas	Laughlin AFB	Del Rio	Air Force - Active	11	460-20,000	70-7,300	-
Texas	Reese AFB	Lubbock	Air Force - BRAC	55	70 - 1,820	70 - 5,460	-
Texas	Sheppard AFB	Wichita Falls	Air Force - Active	41	72-550,000	120-140,000	54-230 ppb
Utah	Hill AFB	Ogden	Air Force - Active	71	140-54,000	91-11,000	-
Vermont	Burlington	South Burlington	Air Force - ANG	1	240 - 66,000	54 - 50,000	-
Virginia	CHESAPEAKE VA NSGA NW	Chesapeake	Navy - Active	11	0.18 - 15,221	0.18 - 230	0.00018 - 0.207
Virginia	JB Langley-Eustis	Poquoson	Air Force - Active	2	110-2,100,000	91-26,000	43-49
Virginia	NMC DET YORKTOWN	Yorktown	Navy - Active	1	ND - 132	ND - 6.66	ND - 0.0216
Virginia	NORFOLK VA FISC	Norfolk	Navy - Active	4	1.7 - 332	3.57 - 69	0.00089 - 0.039
Virginia	OCEANA VA NAS	Virginia Beach	Navy - Active	10	ND - 574,061.82	ND - 82,432.45	ND - 16.026
Washington	Fairchild AFB	Spokane	Air Force - Active	108	92 - 98,000	72 - 22,000	-
Washington	WHIDBEY IS WA NAS	Oak Harbor	Navy - Active	50	ND - 43,100	ND - 58,500	ND - 2.09

Appendix: Status of Agricultural Operation Notifications

State	Installation	City	DoD Component	Notifications sent before March 31, 2021 ¹	PFOS Range Detected ² (ppt)	PFOA Range Detected ² (ppt)	PFBS Range Detected ² (ppb)
West Virginia	EWVRA Shepherd Field (Martinsburg)	Martinsburg	Air Force - ANG	19	2.3 -46,000	2.1 - 18,900	-
Wisconsin	Truax Field	Madison	Air Force - ANG	1	40.4 - 39,000	5.3 - 841	-
Wisconsin	Volk Field	Camp Douglas	Air Force - ANG	60	3.8 - 20,000	0.72 - 5,800	-
Total Notifications Sent:				2143			

ND = Non-detect

Footnotes:

- 1: The agricultural operations notified are located within one mile down gradient of a Military Installation or National Guard facility where covered per- and polyfluoroalkyl substances (PFAS) (1) has been detected in groundwater on base; (2) has been hydrologically linked to a local agricultural or drinking water source; and (3) is known or suspected to be the result of a PFAS release at a Military Installation or National Guard facility located in the United States.
- 2: Section 335 of the NDAA for FY 2021 defines "covered PFAS" as perfluorooctane sulfonate (PFOS) that has been detected in groundwater above 70 parts per trillion (ppt), individually or in combination with perfluorooctanoic acid (PFOA); and/or PFOA that has been detected in groundwater above 70 ppt, individually or in combination with PFOS; and/or perfluorobutanesulfonic acid (PFBS) that has been detected in groundwater above 40 parts per billion.

[Date]

[Agricultural Operation Owner/Operator]

[Agricultural Operation Owner/Operator Address Line 1]

[Agricultural Operation Owner/Operator Address Line 2]

Dear [Agricultural Operation Owner/Operator],

I am contacting you, in accordance with the requirements of Section 335 of the 2021 National Defense Authorization Act provided in Attachment 1. The [DoD Component] sampled groundwater at [Military Installation or National Guard Facility] where [Military Installation or National Guard Facility] activities may have released per- and polyfluoroalkyl substances (PFAS). Our sampling detected [perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), and/or perfluorobutane sulfonic acid (PFBS)] above the notification levels which can be found in Attachment 2. Your agricultural operation is located within one mile downgradient of [Military Installation or National Guard Facility]. I obtained your name and address from the U.S. Department of Agriculture as part of our consultation with them in providing this notice.

[DoD Component] is committed to proactively addressing [PFOS/PFOA/PFBS] and follows the federal cleanup law, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), for all chemicals in our cleanup program. [DoD Component] follows the CERCLA process to fully investigate a potential release of these chemicals and determine the appropriate cleanup actions based on risk. [DoD Component] is first addressing sites that pose the greatest potential risk to human health, such as PFOS and PFOA in drinking water. The [Military Installation or National Guard Facility] will coordinate its investigation with the appropriate state regulators and provide opportunities for public participation. [Military Installation or National Guard Facility] will also incorporate any relevant federal or state standards into the cleanup process as final cleanup standards as required by federal law. We encourage you to visit [Military Installation or National Guard Facility website, Administrative Record location, Restoration Advisory Board contact, and/or number to call] to learn more about the ongoing cleanup actions at [Military Installation or National Guard Facility]. [Military Installation or National Guard Facility] will seek your approval prior to conducting response activities on your property, including an investigation, if determined necessary.

[PFOS, PFOA, and/or PFBS are/is] part of a larger class of man-made chemicals known as per- and polyfluoroalkyl substances (PFAS). Scientists are still studying the health effects of exposure to PFAS and they are the subject of increasing regulation worldwide. At this time, there are no established federal standards for PFAS in groundwater, livestock, food commodities, and drinking water, or known federal restrictions for the sale of agricultural products that have been irrigated or watered with water containing PFAS. Relevant governmental information regarding the health and safety of the covered PFAS detected, including relevant State standards for PFAS in groundwater, livestock, food commodities and drinking water, and any known restrictions for sale of agricultural products that have been irrigated or watered with water containing PFAS is found in Attachment 3.

2/25/2021

[DoD Component] will work with you, [State Regulatory Agency and if applicable add EPA Region] to share information on our ongoing efforts to ensure the protection of human health and the environment. If you have any questions or concerns about this matter, please contact [Military Installation/National Guard Facility POC] at [phone] or by email at [email].

Sincerely,

[POC], [Military Installation/National Guard Facility]

Attachments: as stated

SEC. 335. NOTIFICATION TO AGRICULTURAL OPERATIONS LOCATED IN AREAS EXPOSED TO DEPARTMENT OF DEFENSE PFAS USE.

(a) NOTIFICATION REQUIRED.—Not later than 60 days after the date of the enactment of this Act, the Secretary of Defense, in consultation with the Secretary of Agriculture, shall provide a notification described in subsection (b) to any agricultural operation located within one mile down gradient of a military installation or National Guard facility where covered PFAS—

- (1) has been detected in groundwater;
- (2) has been hydrologically linked to a local agricultural or drinking water source, including a water well; and
- (3) is suspected to be, or known to be, the result of the use of PFAS at an installation of the Department of Defense located in the United States or State-owned facility of the National Guard.

(b) NOTIFICATION REQUIREMENTS.—The notification required under subsection (a) shall include the following information:

- (1) The name of the Department of Defense installation or National Guard facility from which the covered PFAS in groundwater originated.
- (2) The specific covered PFAS detected in groundwater.
- (3) The levels of the covered PFAS detected.
- (4) Relevant governmental information regarding the health and safety of the covered PFAS detected, including relevant Federal or State standards for PFAS in groundwater, livestock, food commodities and drinking water, and any known restrictions for sale of agricultural products that have been irrigated or watered with water containing PFAS.

(c) ADDITIONAL TESTING RESULTS.—The Secretary of Defense shall provide to an agricultural operation that receives a notice under subsection (a) any pertinent updated information, including any results of new elevated testing, by not later than 15 days after receiving validated test results.

(d) REPORT TO CONGRESS.—Not later than 90 days after the date of the enactment of this Act, and annually thereafter, the Secretary of Defense shall submit to the Committee on Agriculture, Nutrition, and Forestry of the Senate and the Committee on Agriculture of the House of Representatives a report on the status of providing notice under subsection (a). Such report shall include, for the period covered by the report—

- (1) the approximate locations of such operations relative to installations of the Department of Defense located in the United States and State-owned facilities of the National Guard;
- (2) the covered PFAS detected in groundwater; and
- (3) the levels of covered PFAS detected.

(e) DEFINITIONS. —In this section:

(1) The term “covered PFAS” means each of the following:

(A) Perfluorooctanoic acid (commonly referred to as “PFOA”) (Chemical Abstracts Service No. 335–67–1) detected in groundwater above 70 parts per trillion, individually or in combination with PFOS.

(B) Perfluorooctane sulfonic acid (commonly referred to as “PFOS”) (Chemical Abstracts Service No. 1763–23– 1) detected in groundwater above 70 parts per trillion, individually or in combination with PFOA.

(C) Perfluorobutanesulfonic acid (commonly referred to as “PFBS”) (Chemical Abstracts Service No. 375–73– 5) detected in groundwater above 40 parts per billion.

(2) The term “PFAS” means a perfluoroalkyl or polyfluoroalkyl substance with at least one fully fluorinated carbon atom, including the chemical GenX.

[Military Installation/National Guard Facility]
 Groundwater Detection Sampling Range

Attachment 2

	PFOS	PFOA	PFBS
Notification Level	70 ppt	70 ppt	40 ppb
Range Detected	[if > 70ppt]	[if > 70 ppt]	[if > 40 ppb]

PFAS=per- and polyfluoroalkyl substances

PFBS = perfluorobutane sulfonic acid

PFOA = perfluorooctanoic acid

PFOS = perfluorooctane sulfonate

ppt = parts per trillion

ppb = parts per billion

Relevant Federal Information

The following references include relevant governmental information regarding the health and safety of the covered per- and polyfluoroalkyl substances (PFAS) (i.e., PFOS, PFOA, PFBS) detected.

- U.S. Environmental Protection Agency Interim Recommendations to Address Groundwater Contaminated with Perfluorooctanoic Acid and Perfluorooctanesulfonate, Office of Land and Emergency Management Directive No. 9283.1-47 (December 19, 2019)
- U.S. Environmental Protection Agency: epa.gov/PFAS
- Agency for Toxic Substances and Disease Registry: <https://www.atsdr.cdc.gov/pfas/index.html>
- Food and Drug Administration: <https://www.fda.gov/food/chemicals/and-polyfluoroalkyl-substances-pfas>
- DoD PFAS website: defense.gov/PFAS
- [DoD Component] PFAS website: [DoD Component] PFAS website]

Relevant State Standard [*Installation says “At this time, there are no established state standards for the covered PFAS (i.e., PFOS, PFOA, or PFBS) in groundwater, livestock, food commodities, and drinking water or known restrictions for the sale of agricultural products that have been irrigated or watered with water containing PFAS” OR includes the pertinent State standard from the table below.*]

State	Citation	Relevant PFAS Standard
Alaska groundwater (as drinking water) human health cleanup level	18 Alaska Admin. Code 75.345(b) Table C	PFOS: 400 ppt PFOA: 400 ppt
Massachusetts MCLs	310 Code of Massachusetts Regulations (CMR) 22.07G: Drinking Water	PFOA, PFOS, PFHxS, PFNA, PFHpA, and PFDA: 20 ppt (combined)
Michigan MCLs	Michigan Administrative Code 325.1005, Supplying Water to the Public	PFOS: 16 ppt PFOA: 8 ppt PFBS: 420 ppt
Michigan cleanup (drinking water) criteria	MI Rule 299, Table 1	Drinking Water: PFOS: 16 ppt PFOA: 8 ppt PFBS: 420 ppt Groundwater Surface Water Interface (GSI): PFOA: 12000 ppt PFOS: 12 ppt
Michigan Toxic Substances	Rule 323.1057, Water Quality Values	PFOS: 11 ppt PFOA: 420 ppt

State	Citation	Relevant PFAS Standard
Minnesota health risk limits for groundwater (used as drinking water)	MN Admin Rules, Part 4717.7860	PFOA: 35 ppt PFOS: 300 ppt PFBS: 7000 ppt
New Hampshire MCLs	N.H. Code Admin. R. Env-Dw 705.06	PFOA: 12 ppt PFOS: 15 ppt
New Hampshire groundwater (suitable for drinking water) contaminated site management rule	NH Code of Admin. Rules, Chapter Env-Or 603.03, Table 600-1	PFOS: 15 ppt PFOA: 12 ppt
New Jersey MCLs	N.J.A.C. 7:10-5	PFOS: 13 ppt PFOA: 14 ppt
New Mexico		May need to reference State restrictions on sale of milk and cattle for dairy near Cannon AFB
New York MCLs	Subpart 5-1 of Title 10 of the Official Compilation of Codes, Rules and Regulations of the State of New York	PFOA: 10 ppt PFOS: 10 ppt
North Carolina groundwater (used for drinking water) classification rule	NC Admin. Code 02L.0202	PFOA: 2,000 ppt
Rhode Island Groundwater Quality Standards and Preventive Action Limits	250-RICR-150-05-3	PFOA: 70 ppt PFOS: 70 ppt
Texas Protective Concentration Limits (PCLs)	30 TAC §350	PFOA: 290 ppt PFOS: 560 ppt PFBS: 34,000 ppt
Vermont Hazardous Waste Management Regulations	VT DEC Chapter 7	PFOS and PFOA: 20 ppt (separately and combined)
Vermont groundwater protection (as high quality drinking water) rule	VT DEC Chapter 12, Appendix 1	PFOS and PFOA: 20 ppt (combined)
Vermont MCLs	VT DEC Chapter 21, Table 6-1	PFHxS, PFHpA, PFNA, PFOS, and PFOA: 20 ppt (combined)

PFBS=perfluorobutanesulfonic acid

PFOS= perfluorooctane sulfonate

PFDA=perfluorodecanoic acid

PFHpA=perfluoroheptanoic acid

PFHxS=perfluorohexane sulfonic acid

PFNA=perfluorononanoic acid

PFOA=perfluorooctanoic acid