

**Maps and Lists for Unnamed Tributaries to Perennial Waters and Wetlands in the Headwaters Pecos  
River Watershed**

New Mexico Environment Department, Surface Water Quality Bureau

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**I. Introduction**

The Water Quality Control Commission (“Commission” or “WQCC”) is authorized under New Mexico’s Statutes Annotated (“NMSA”) 1978, § 74-6-4(D) (2019), to adopt and amend water quality standards for surface waters of the State “based on credible scientific data and other evidence appropriate under the Water Quality Act,” in accordance with the Water Quality Act, § 74-6-1 to -17 (1967, as amended through 2019), and New Mexico’s *Standards for Interstate and Intrastate Surface Waters* (“surface water quality standards”), codified in 20.6.4 New Mexico Administrative Code (“NMAC”). The adoption of amendments to the State’s surface water quality standards must comply with the requirements of New Mexico’s Water Quality Act (NMSA 1978, § 74-6-6) (1993), the State Rules Act (NMSA 1978 § 14-4), Small Business Regulatory Relief Act (NMSA 1978 § 14-4A) and the Commission’s Rulemaking Procedures (20.1.6 NMAC).

The Outstanding National Resource Water (“ONRW”) designations within the “upper Pecos watershed” adopted by the Commission on August 10, 2022, became effective for state purposes on September 24, 2022. The designations include sixteen (16) named tributaries to the Pecos River including the Pecos River itself, ninety-six (96) unnamed tributaries, and sixteen (16) unnamed wetlands. The designation of these waterbodies as ONRW’s was adopted because it proved that they are beneficial to the State, met all the procedural requirements in 20.6.4.9(A) NMAC, and met at least one of the substantive criteria for designation under 20.6.4.9(B) NMAC (WQCC 2021).

The designation of the unnamed tributaries and wetlands in the upper Pecos watershed is only referenceable geographically, the language adopted by the WQCC in 20.6.4 NMAC references this document to delineate the locations of the designated unnamed ONRWs. The waterbodies identified in this document as extracted from the record (WQCC 2021) include:

- Bear Creek from the Rio Mora upstream to the Pecos Wilderness boundary;
- One (1) unnamed tributary to Bear Creek (Petitioners’ Exhibit 5, map identification Bear Creek 1);
- Carpenter Creek from the Pecos River upstream to the Pecos Wilderness boundary;
- Dalton Canyon Creek from the Pecos River upstream to the headwaters;
- Eleven (11) unnamed tributaries to Dalton Canyon Creek (Petitioners’ Exhibit 5, map identification Dalton Canyon Creek 1-11);
- Davis Creek from the Pecos River upstream to the headwaters;
- One (1) unnamed tributary to Davis Creek (Petitioners’ Exhibit 5, map identification Davis Creek 1);
- Doctor Creek from Holy Ghost Creek upstream to the headwaters;
- Four (4) unnamed tributaries to Doctor Creek (Petitioners’ Exhibit 5, map identification Doctor Creek 1-4);
- Holy Ghost Creek from the Pecos River upstream to the Pecos Wilderness boundary;
- Thirteen (13) unnamed tributaries to Holy Ghost Creek (Petitioners’ Exhibit 5, map identification Holy Ghost Creek 1-13);
- Indian Creek from the Pecos River upstream to the headwaters;
- Seven (7) unnamed tributaries to Indian Creek (Petitioners’ Exhibit 5, map identification Indian Creek 1-7);
- Jack’s Creek from the Pecos River upstream to the Pecos Wilderness boundary;
- Macho Canyon Creek from the Pecos River upstream to the headwaters;

- Twelve (12) unnamed tributaries to Macho Canyon Creek (Petitioners' Exhibit 5, map identification Macho Canyon Creek 1-12);
- Panchuela Creek from the Pecos River upstream to the Pecos Wilderness boundary;
- Two (2) unnamed tributaries to Panchuela Creek (Petitioners' Exhibit 5, map identification Panchuela Creek 1-2);
- Pecos River from Dalton Canyon Creek upstream to the Wilderness boundary;
- Twenty-eight (28) unnamed tributaries to the Pecos River (Petitioners' Exhibit 5, map identification Pecos River 1-28);
- Rio Mora from the Pecos River upstream to the Pecos Wilderness boundary;
- Four (4) unnamed tributaries to the Rio Mora (Petitioners' Exhibit 5, map identification Rio Mora 1-4);
- Sawyer Creek from the Pecos River upstream to the headwaters;
- One (1) unnamed tributary to Sawyer Creek (Petitioners' Exhibit 5, map identification Sawyer Creek 1);
- Wild Horse Creek from Dalton Canyon Creek upstream to the headwaters;
- Four (4) unnamed tributaries to Wild Horse Creek (Petitioners' Exhibit 5, map identification Wild Horse Creek 1-4);
- Willow Creek from the Pecos River upstream to the headwaters;
- Four (4) unnamed tributaries to Willow Creek (Petitioners' Exhibit 5, map identification Willow Creek 1-4);
- Winsor Creek from the Pecos River upstream to the Pecos Wilderness boundary;
- Four (4) unnamed tributaries to Winsor Creek (Petitioners' Exhibit 5, map identification Winsor Creek 1-4); and
- Sixteen unnamed wetlands (Petitioners' Exhibit 5, map identification 2a-c, 3, 4a-c, 5, 6, 7a-f and 7h).

Pursuant to 20.6.4.9(D)(4)(g) and (h) NMAC, this document serves to map and list all the unnamed tributaries and wetlands that are designated as ONRWs under the WQCC's docketed matter 21-51(R).

## **II. Amended Language for 20.6.4.9(D)(4) NMAC**

The following is the adopted language in 20.6.4.9(D)(4) NMAC, designating waters in the upper Pecos watershed as ONRWs. This language became effective for state purposes on September 24, 2022.

*(4) The following waters are designated in the headwaters Pecos river watershed:*

*(a) The Pecos river from Dalton Canyon creek to the Pecos wilderness boundary;*

*(b) In the Dry Gulch-Pecos river subwatershed, Dalton Canyon creek from the Pecos river upstream to the headwaters, Wild Horse creek from Dalton Canyon creek upstream to the headwaters, Macho Canyon creek from the Pecos river upstream to the headwaters and Sawyer creek from the Pecos river upstream to the headwaters;*

*(c) In the Indian creek-Pecos river subwatershed, Indian creek from the Pecos river upstream to the headwaters, Holy Ghost creek from the Pecos river upstream to the Pecos wilderness boundary, Doctor creek from Holy Ghost creek upstream to the headwaters, Davis creek from the Pecos river upstream to the headwaters and Willow creek from the Pecos river upstream to the headwaters;*

*(d) In the Rio Mora subwatershed, Rio Mora from the Pecos river upstream to the Pecos wilderness boundary and Bear creek from the Rio Mora upstream to the Pecos wilderness boundary;*

*(e) In the Rio Mora-Pecos river subwatershed, Carpenter creek from the Pecos river upstream to the Pecos wilderness boundary, Winsor creek from the Pecos river upstream to the Pecos wilderness boundary and Jack's creek from the Pecos river upstream to the Pecos wilderness boundary; and,*

*(f) In the Panchuela creek subwatershed, Panchuela creek from the Pecos river upstream to the Pecos wilderness boundary;*

*(g) Unnamed tributaries to waters in Subparagraphs (a) through (f), Paragraph (4) of this Subsection (D) as identified in the Maps and Lists for Unnamed Tributaries to Perennial Waters and Wetlands in the Headwaters Pecos River Watershed, published at the New Mexico state library and available on the department's website.*

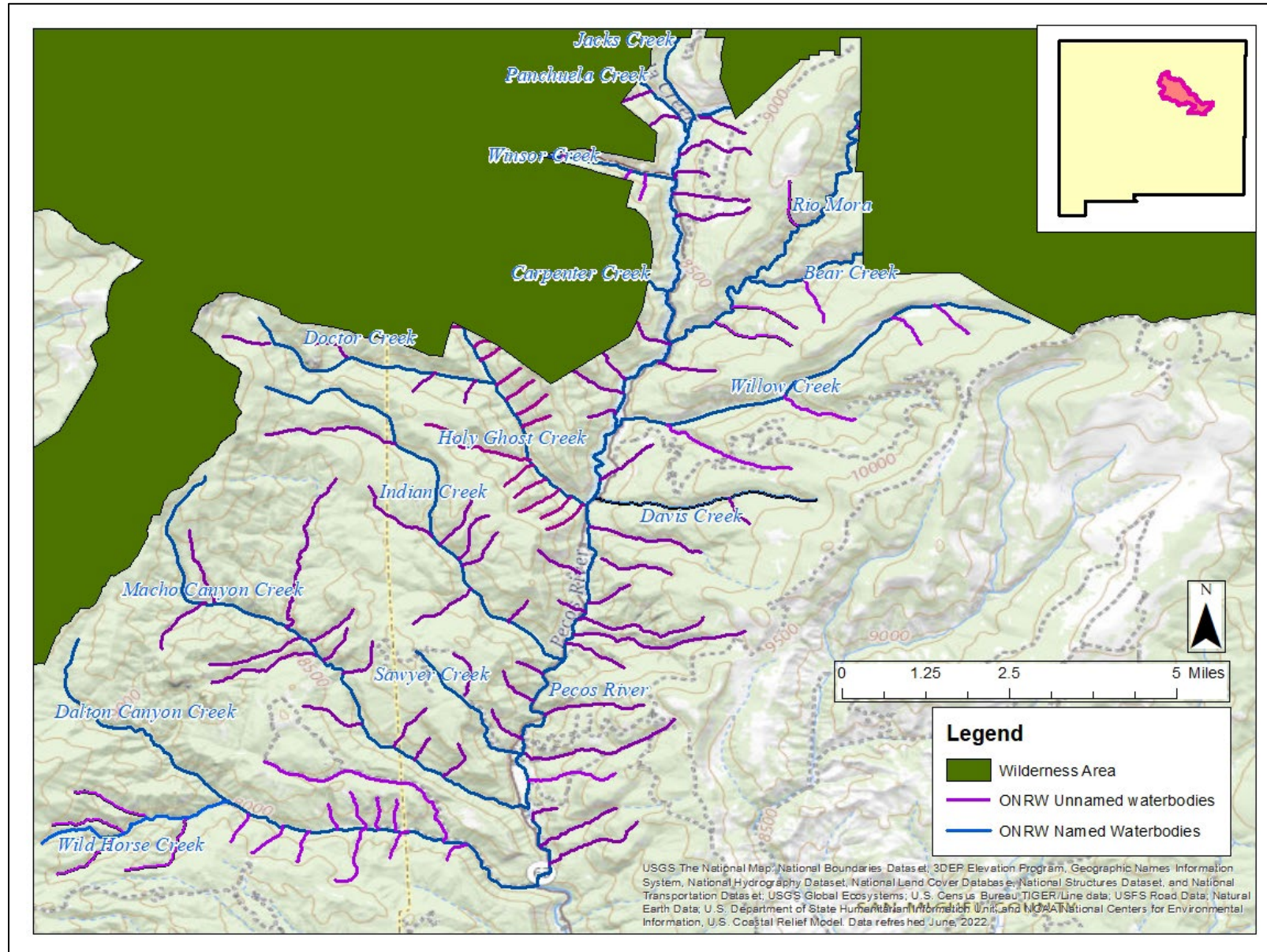
*(h) Unnamed wetlands adjacent to waters in Subparagraphs (a) through (f), Paragraph (4) of this Subsection (D) as identified in the Maps and Lists for Unnamed Tributaries to Perennial Waters and Wetlands in the Headwaters Pecos River Watershed, published at the New Mexico state library and available on the department's website.*

### **III. Small-Scale Tributary Map**

Figure 1 depicts all the ONRW's designated named and unnamed tributaries in 20.6.4.9(D)(4) NMAC. The geospatial locations for each of the tributaries were obtained from the Petitioners' Maps and Tables, filed as Exhibit 5 of their direct written testimony for WQCC's Docketed Matter 21-51(R) (WQCC 2021). The representative lines depicting the named and unnamed tributaries were created utilizing the shapefiles from National Hydrography Dataset ("NHD") (USGS 2018). Although the NHD identifies other non-perennial tributaries to the named waters, only those identified and labeled in this reference document have been adopted as designated ONRWs by the Commission, in accordance with the applicable rulemaking regulations.

The NHD is a geospatial surface water database tool developed through the collaboration of the U.S. Geological Survey ("USGS") and the U.S. Environmental Protection Agency ("EPA") (USGS 2022). The NHD was created through the compilation of many water quality databases, gaging stations, water quality monitoring sites and models that use multiple datasets to analyze upstream/downstream order classification (USGS 2022).

**Figure 1.** Small-scale map of named and unnamed tributaries designated as ONRWs in 20.6.4.9(D)(4) NMAC.



#### IV. Table for Tributaries

The following geospatial locations of the named and unnamed tributaries reference the terminus with the downstream tributary. These coordinates were obtained directly from the Petitioners' Exhibit 5 (WQCC 2021). For effective implementation and referencing of the unnamed waterbodies, the reference identification numbers (which are duplicative in the Petitioners' Exhibit 5) have been re-numbered in a hierarchical alpha-numerical manner (see waterbody listings in the Introduction section I of this document). Named tributaries, designated as ONRWs as part of this matter, were listed in alphabetical order and assigned a tributary identification number. All unnamed tributaries to the named waterbody were then assigned an alphabetical sub-reference identification. This allows each tributary, designated as an ONRW in the upper Pecos watershed, a unique reference identification (Table 1).

**Table 1.** List of designated ONRW's in the upper Pecos watershed with unique tributary identification.

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
1	Bear Creek	from the Rio Mora upstream to the Pecos Wilderness boundary	1.7	35.79033	-105.6431	Figure 7
1a	unnamed tributary to Bear Creek	from Bear Creek 0.71 miles upstream	0.71	35.790	-105.631	Figure 7
2	Carpenter Creek	from the Pecos River upstream to the Pecos Wilderness boundary	0.32	35.78719	-105.6607	Figure 7
3	Dalton Canyon Creek	from the Pecos River upstream to the headwaters	9.09	35.65884	-105.6887	Figure 2
3a	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.37 miles upstream	0.37	35.668	-105.704	Figure 2
3b	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 5.24 miles upstream	5.24	35.668	-105.709	Figure 2

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
3c	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.49 miles upstream	0.49	35.671	-105.717	Figure 2
3d	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.47 miles upstream	0.47	35.671	-105.719	Figure 2
3e	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.48 miles upstream	0.48	35.671	-105.723	Figure 2
3f	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.6 miles upstream	0.6	35.671	-105.726	Figure 2
3g	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 1.04 miles upstream	1.04	35.671	-105.726	Figure 2
3h	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.41 miles upstream	0.41	35.671	-105.732	Figure 2
3i	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.5 miles upstream	0.5	35.671	-105.738	Figure 2
3j	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 0.58 miles upstream	0.58	35.672	-105.744	Figure 2



<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
3k	unnamed tributary to Dalton Canyon Creek	from Dalton Canyon Creek 4.43 miles upstream	4.43	35.674	-105.751	Figure 2
4	Davis Creek	from the Pecos River upstream to the headwaters	2.86	35.74247	-105.6767	Figure 6
4a	unnamed tributary to Davis Creek	from Davis Creek 0.47 miles upstream	0.47	35.743	-105.647	Figure 6
5	Doctor Creek	from Holy Ghost Creek upstream to the headwaters	3.67	35.76749	-105.6979	Figure 5
5a	unnamed tributary to Doctor Creek	from Doctor Creek 0.36 miles upstream	0.36	35.768	-105.702	Figure 5
5b	unnamed tributary to Doctor Creek	from Doctor Creek 0.4 miles upstream	0.4	35.770	-105.711	Figure 5
5c	unnamed tributary to Doctor Creek	from Doctor Creek 0.51 miles upstream	0.51	35.773	-105.73	Figure 5
5d	unnamed tributary to Doctor Creek	from Doctor Creek 1.24 miles upstream	1.24	35.776	-105.746	Figure 5
6	Holy Ghost Creek	from the Pecos River upstream to the Pecos Wilderness boundary	3.3	35.7408	-105.6782	Figure 5
6a	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.61 miles upstream	0.61	35.741	-105.679	Figure 5

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6b	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.51 miles upstream	0.51	35.743	-105.682	Figure 5
6c	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.61 miles upstream	0.61	35.744	-105.684	Figure 5
6d	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.49 miles upstream	0.49	35.747	-105.687	Figure 5
6e	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.49 miles upstream	0.49	35.750	-105.690	Figure 5
6f	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 1.53 miles upstream	1.53	35.751	-105.690	Figure 5
6g	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.38 miles upstream	0.38	35.758	-105.692	Figure 5
6h	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.49 miles upstream	0.49	35.761	-105.694	Figure 5
6i	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.47 miles upstream	0.47	35.764	-105.695	Figure 5

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
6j	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.4 miles upstream	0.4	35.767	-105.698	Figure 5
6k	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.58 miles upstream	0.58	35.772	-105.701	Figure 5
6l	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.21 miles upstream	0.21	35.775	-105.703	Figure 5
6m	unnamed tributary to Holy Ghost Creek	from Holy Ghost Creek 0.12 miles upstream	0.12	35.780	-105.705	Figure 5
7	Indian Creek	from the Pecos River upstream to the headwaters	6.62	35.70763	-105.6831	Figure 4
7a	unnamed tributary to Indian Creek	from Indian Creek 0.41 miles upstream	0.41	35.716	-105.695	Figure 4
7b	unnamed tributary to Indian Creek	from Indian Creek 4.45 miles upstream	4.45	35.723	-105.703	Figure 4
7c	unnamed tributary to Indian Creek	from Indian Creek 0.72 miles upstream	0.72	35.728	-105.705	Figure 4
7d	unnamed tributary to Indian Creek	from Indian Creek 0.83 miles upstream	0.83	35.729	-105.706	Figure 4
7e	unnamed tributary to Indian Creek	from Indian Creek 0.93 miles upstream	0.93	35.732	-105.710	Figure 4

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7f	unnamed tributary to Indian Creek	from Indian Creek 1.78 miles upstream	1.78	35.735	-105.712	Figure 4
7g	unnamed tributary to Indian Creek	from Indian Creek 1.73 miles upstream	1.73	35.754	-105.720	Figure 4
8	Jack's Creek	from the Pecos River upstream to the Pecos Wilderness boundary	1.36	35.82486	-105.6548	Figure 7
9	Macho Canyon Creek	from the Pecos River upstream to the headwaters	8.11	35.6754	-105.6907	Figure 3
9a	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 0.62 miles upstream	0.62	35.683	-105.709	Figure 3
9b	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 0.38 miles upstream	0.38	35.686	-105.715	Figure 3
9c	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 0.72 miles upstream	0.72	35.689	-105.720	Figure 3
9d	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 0.82 miles upstream	0.82	35.694	-105.727	Figure 3
9e	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 0.74 miles upstream	0.74	35.705	-105.731	Figure 3

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
9f	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 0.6 miles upstream	0.6	35.707	-105.735	Figure 3
9g	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 1.94 miles upstream	1.94	35.709	-105.737	Figure 3
9h	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 1.31 miles upstream	1.31	35.711	-105.738	Figure 3
9i	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 1.23 miles upstream	1.23	35.712	-105.740	Figure 3
9j	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 10.07 miles upstream	10.07	35.715	-105.743	Figure 3
9k	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 1.18 miles upstream	1.18	35.720	-105.759	Figure 3
9l	unnamed tributary to Macho Canyon Creek	from Macho Canyon Creek 1.59 miles upstream	1.59	35.720	-105.761	Figure 3
10	Panchuela Creek	from the Pecos River upstream to the Pecos Wilderness boundary	1.07	35.82156	-105.6562	Figure 7

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
10a	unnamed tributary to Panchuela Creek	from Panchuela Creek 0.43 miles upstream	0.43	35.825	-105.658	Figure 7
10b	unnamed tributary to Panchuela Creek	from Panchuela Creek 0.39 miles upstream	0.39	35.831	-105.664	Figure 7
11	Pecos River	from Dalton Canyon Creek upstream to the Wilderness boundary	14.11	35.65884	-105.6887	Figure 7,8,9
11a	unnamed tributary to the Pecos River	from Pecos River 1.37 miles upstream	1.37	35.663	-105.686	Figure 9
11b	unnamed tributary to the Pecos River	from Pecos River 3.19 miles upstream	3.19	35.667	-105.688	Figure 9
11c	unnamed tributary to the Pecos River	from Pecos River 0.4 miles upstream	0.4	35.673	-105.690	Figure 9
11d	unnamed tributary to the Pecos River	from Pecos River 1.16 miles upstream	1.16	35.681	-105.691	Figure 9
11e	unnamed tributary to the Pecos River	from Pecos River 2.08 miles upstream	2.08	35.687	-105.692	Figure 9

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
11f	unnamed tributary to the Pecos River	from Pecos River 0.62 miles upstream	0.62	35.690	-105.692	Figure 9
11g	unnamed tributary to the Pecos River	from Pecos River 1.28 miles upstream	1.28	35.696	-105.687	Figure 9
11h	unnamed tributary to the Pecos River	from Pecos River 0.62 miles upstream	0.62	35.699	-105.690	Figure 8,9
11i	unnamed tributary to the Pecos River	from Pecos River 0.37 miles upstream	0.37	35.705	-105.688	Figure 8,9
11j	unnamed tributary to the Pecos River	from Pecos River 0.84 miles upstream	0.84	35.711	-105.683	Figure 8,9
11k	unnamed tributary to the Pecos River	from Pecos River 3.33 miles upstream	3.33	35.713	-105.681	Figure 8,9
11l	unnamed tributary to the Pecos River	from Pecos River 3.24 miles upstream	3.24	35.716	-105.680	Figure 8,9
11m	unnamed tributary to the Pecos River	from Pecos River 0.38 miles upstream	0.38	35.718	-105.678	Figure 8,9

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
11n	unnamed tributary to the Pecos River	from Pecos River 0.61 miles upstream	0.61	35.720	-105.678	Figure 8
11o	unnamed tributary to the Pecos River	from Pecos River 0.62 miles upstream	0.62	35.726	-105.680	Figure 8
11p	unnamed tributary to the Pecos River	from Pecos River 1.56 miles upstream	1.56	35.730	-105.677	Figure 8
11q	unnamed tributary to the Pecos River	from Pecos River 3.46 miles upstream	3.46	35.737	-105.678	Figure 8
11r	unnamed tributary to the Pecos River	from Pecos River 0.84 miles upstream	0.84	35.747	-105.675	Figure 8
11s	unnamed tributary to the Pecos River	from Pecos River 0.4 miles upstream	0.4	35.761	-105.672	Figure 8
11t	unnamed tributary to the Pecos River	from Pecos River 1.09 miles upstream	1.09	35.765	-105.670	Figure 8
11u	unnamed tributary to the Pecos River	from Pecos River 0.51 miles upstream	0.51	35.768	-105.670	Figure 8



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11v	unnamed tributary to the Pecos River	from Pecos River 0.73 miles upstream	0.73	35.772	-105.663	Figure 7
11w	unnamed tributary to the Pecos River	from Pecos River 0.59 miles upstream	0.59	35.776	-105.660	Figure 7
11x	unnamed tributary to the Pecos River	from Pecos River 0.95 miles upstream	0.95	35.804	-105.659	Figure 7
11y	unnamed tributary to the Pecos River	from Pecos River 0.96 miles upstream	0.96	35.809	-105.660	Figure 7
11z	unnamed tributary to the Pecos River	from Pecos River 0.5 miles upstream	0.5	35.812	-105.659	Figure 7
11z1	unnamed tributary to the Pecos River	from Pecos River 1.06 miles upstream	1.06	35.817	-105.658	Figure 7
11z2	unnamed tributary to the Pecos River	from Pecos River 0.64 miles upstream	0.64	35.825	-105.654	Figure 7
12	Rio Mora	from the Pecos River upstream to the Pecos Wilderness boundary	5.41	35.77625	-105.6599	Figure 7

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
12a	unnamed tributary to Rio Mora	from Rio Mora 1.46 miles upstream	1.46	35.781	-105.650	Figure 7
12b	unnamed tributary to Rio Mora	from Rio Mora 0.93 miles upstream	0.93	35.783	-105.647	Figure 7
12c	unnamed tributary to Rio Mora	from Rio Mora 0.74 miles upstream	0.74	35.801	-105.632	Figure 7
12d	unnamed tributary to Rio Mora	from Rio Mora 0.04 miles upstream	0.04	35.823	-105.62	Figure 7
13	Sawyer Creek	from the Pecos River upstream to the headwaters	2.21	35.6871	-105.6922	Figure 3
13a	unnamed tributary to Sawyer Creek	from Sawyer Creek 1.28 miles upstream	1.28	35.699	-105.705	Figure 3
14	Wild Horse Creek	from Dalton Canyon Creek upstream to the headwaters	2.69	35.67709	-105.7556	Figure 2
14a	unnamed tributary to Wild Horse Creek	from Wild Horse Creek 1.33 miles upstream	1.33	35.673	-105.764	Figure 2
14b	unnamed tributary to Wild Horse Creek	from Wild Horse Creek 1.03 miles upstream	1.03	35.674	-105.773	Figure 2
14c	unnamed tributary to Wild Horse Creek	from Wild Horse Creek 1.02 miles upstream	1.02	35.67	-105.778	Figure 2

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
14d	unnamed tributary to Wild Horse Creek	from Wild Horse Creek 0.98 miles upstream	0.98	35.669	-105.781	Figure 2
15	Willow Creek	from the Pecos River upstream to the headwaters	5.92	35.75803	-105.6718	Figure 6
15a	unnamed tributary to Willow Creek	from Willow Creek 1.75 miles upstream	1.75	35.759	-105.661	Figure 6
15b	unnamed tributary to Willow Creek	from Willow Creek 5.6 miles upstream	5.6	35.765	-105.635	Figure 6
15c	unnamed tributary to Willow Creek	from Willow Creek 0.59 miles upstream	0.59	35.782	-105.612	Figure 6
15d	unnamed tributary to Willow Creek	from Willow Creek 0.6 miles upstream	0.6	35.784	-105.603	Figure 6
16	Winsor Creek	from the Pecos River upstream to the Pecos Wilderness boundary	1.77	35.81165	-105.659	Figure 7
16a	unnamed tributary to Winsor Creek	from Winsor Creek 0.41 miles upstream	0.41	35.813	-105.665	Figure 7
16b	unnamed tributary to Winsor Creek	from Winsor Creek 0.17 miles upstream	0.17	35.814	-105.668	Figure 7
16c	unnamed tributary to Winsor Creek	from Winsor Creek 0.19 miles upstream	0.19	35.815	-105.677	Figure 7

<b>Tributary # ID</b>	<b>Tributary Name</b>	<b>Tributary Boundaries</b>	<b>*Designated ONRW Stream Miles</b>	<b>**Latitude</b>	<b>**Longitude</b>	<b>Figure Reference</b>
16d	unnamed tributary to Winsor Creek	from Winsor Creek 0.11 miles upstream	0.11	35.817	-105.683	Figure 7

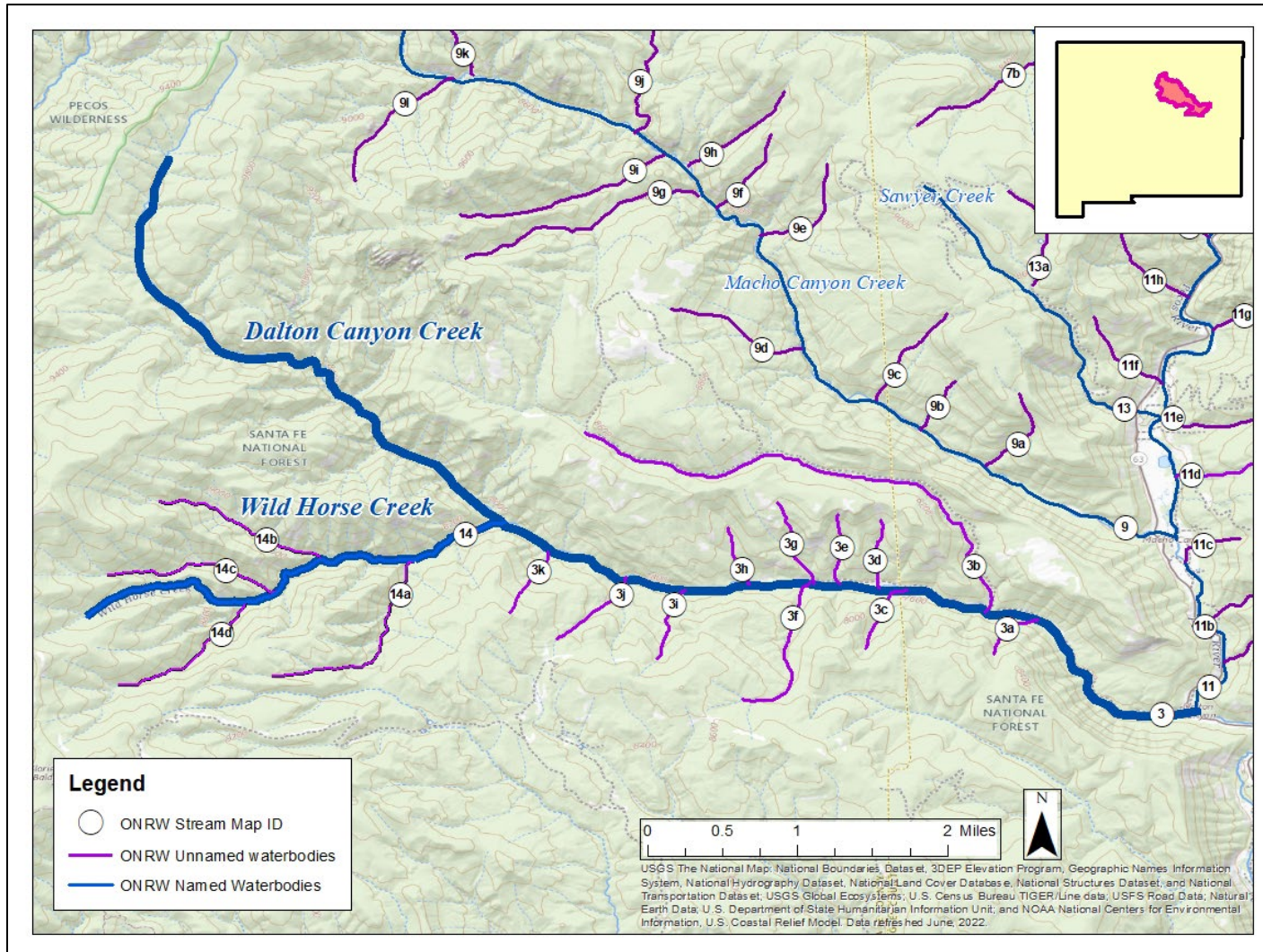
\* The designated ONRW begins at the provided latitude and longitude and extends to the described length upstream.

\*\* Latitude and longitude data come from the terminus with the downstream tributary, referenced from Petitioners Exhibit 5 (WQCC 2022).

## V. Large-Scale Tributary Maps

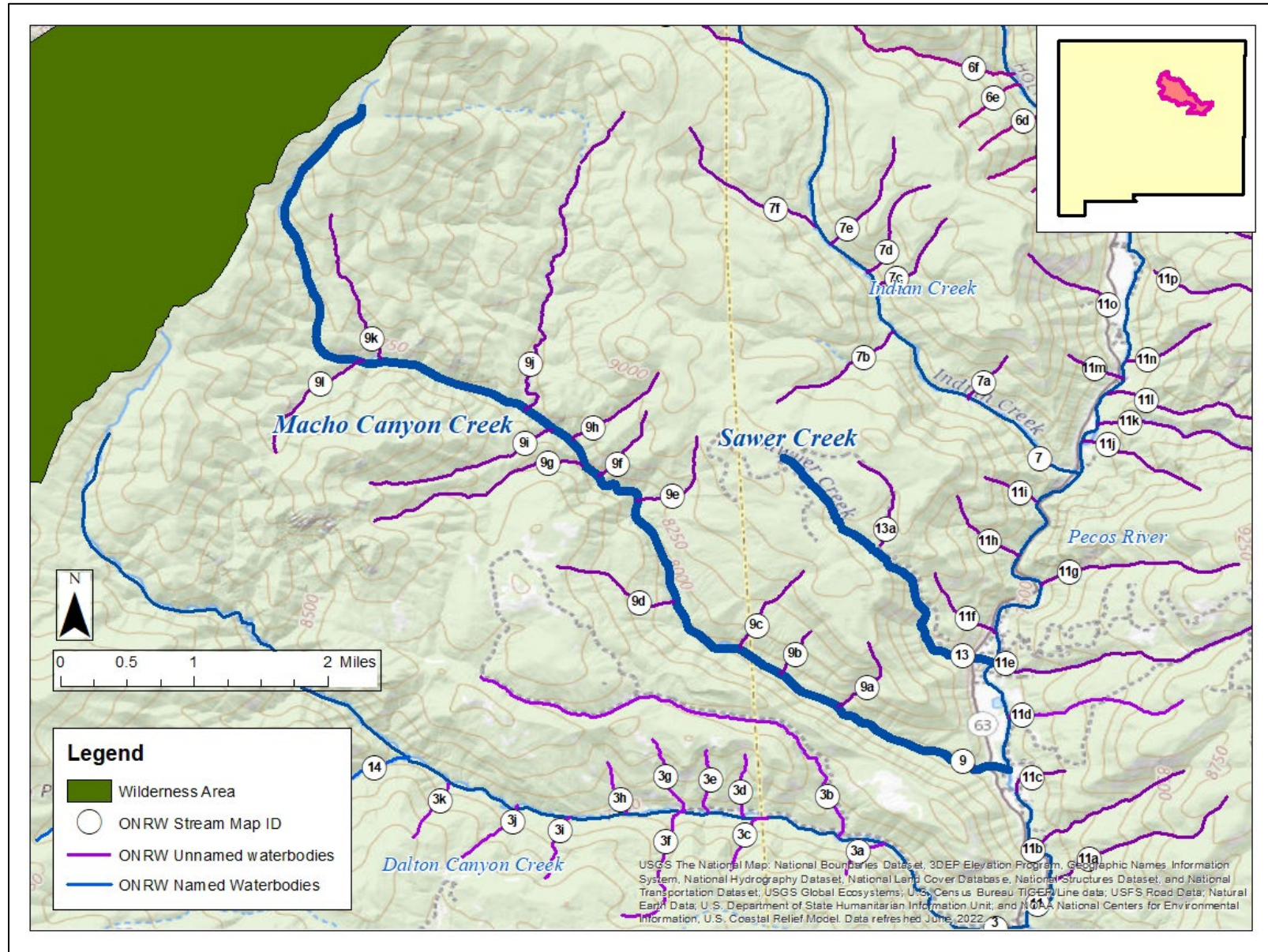
Figures(2-9) depict large-scale maps of the tributaries designated as ONRWs in 20.6.4.9(D)(4) NMAC.

**Figure 2.** Map identifying unnamed designated ONRWs to Wild Horse Creek and Dalton Canyon Creek (see Figure 3 for Macho Canyon Creek and Sawyer Creek).



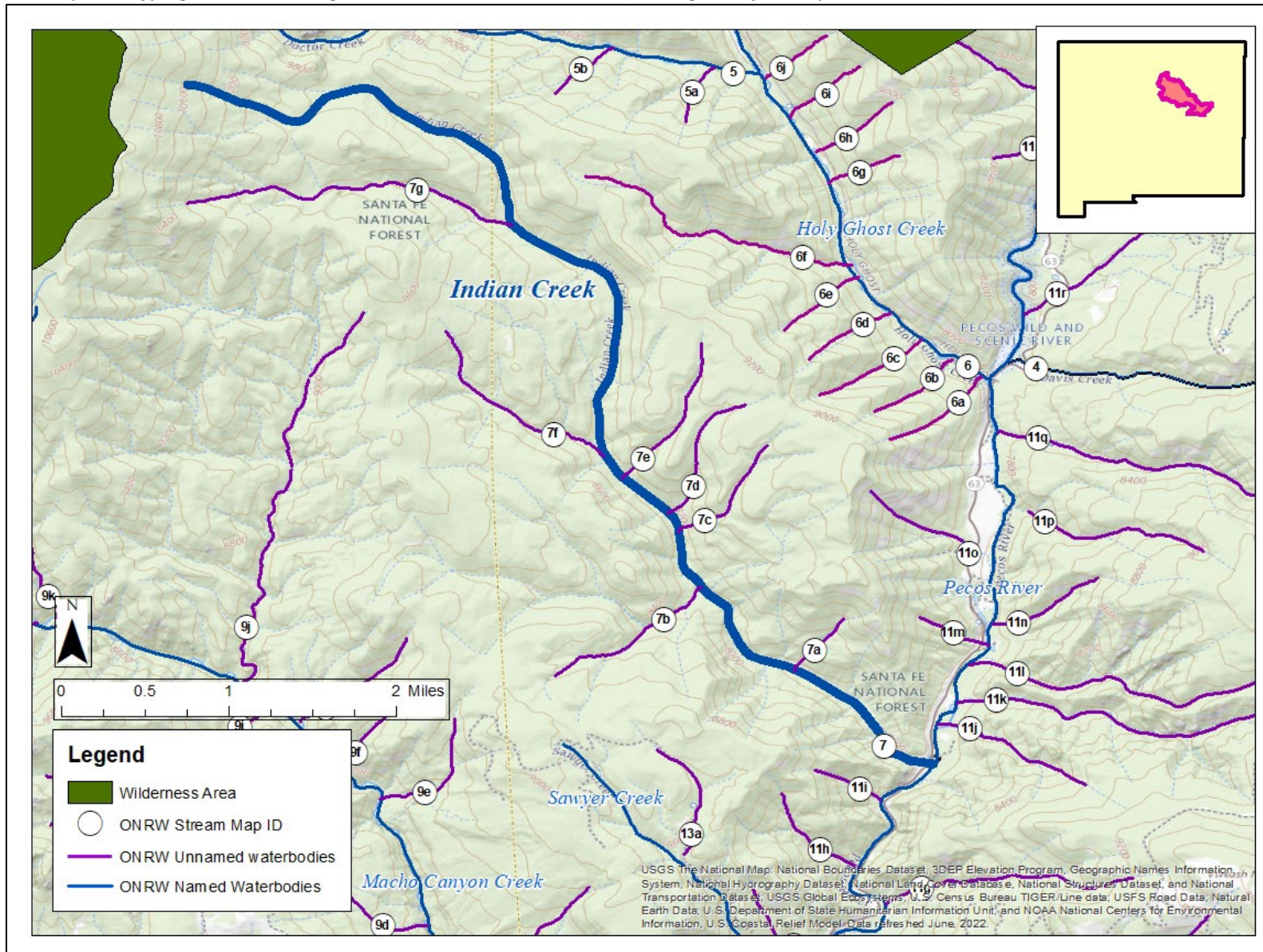


**Figure 3.** Map identifying unnamed designated ONRWs to Macho Canyon Creek and Sawyer Creek (see Figure 4 for Indian Creek).



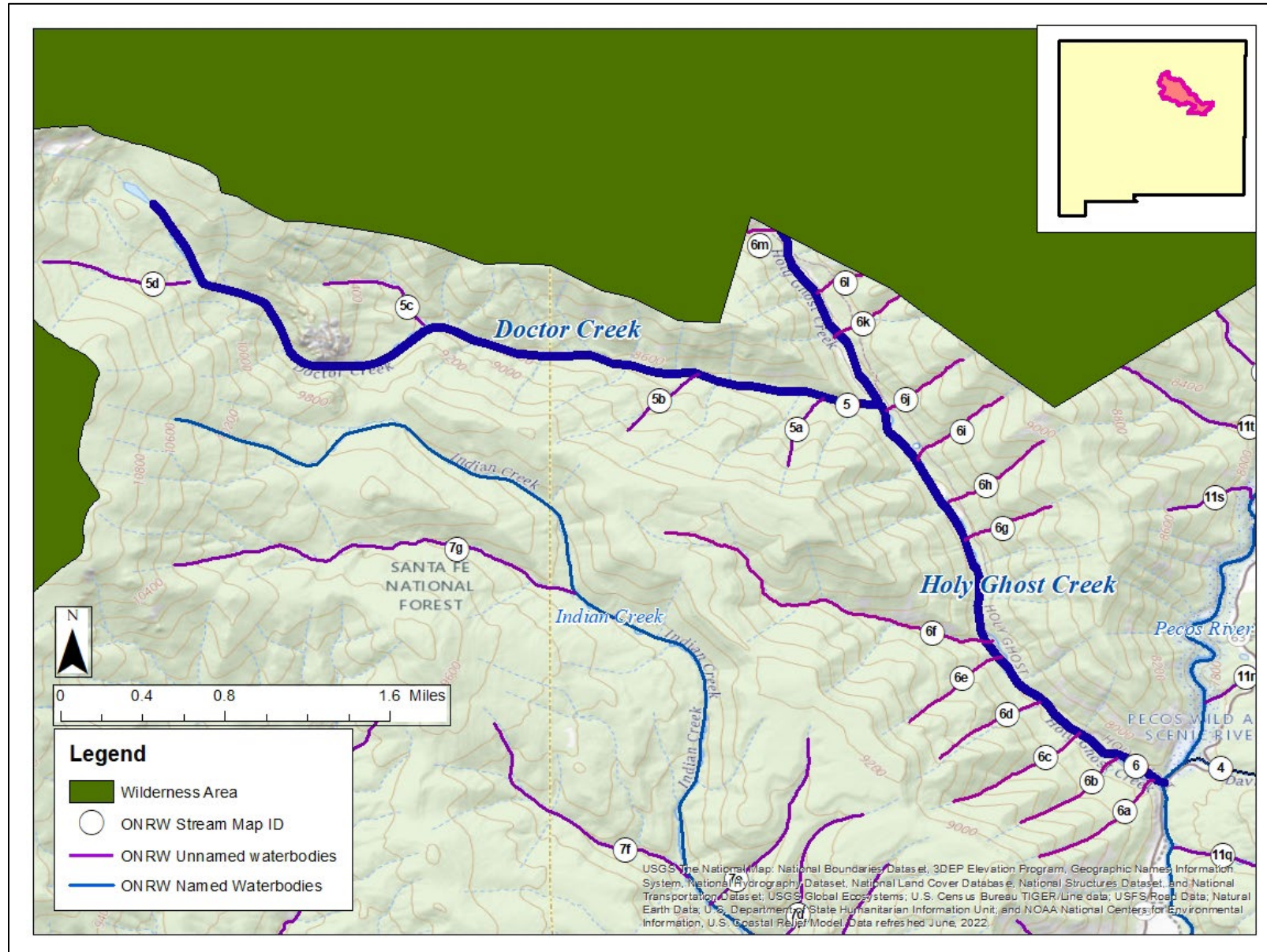


**Figure 4.** Map identifying unnamed designated ONRWs to Indian Creek (see Figure 5 for Holy Ghost Creek).



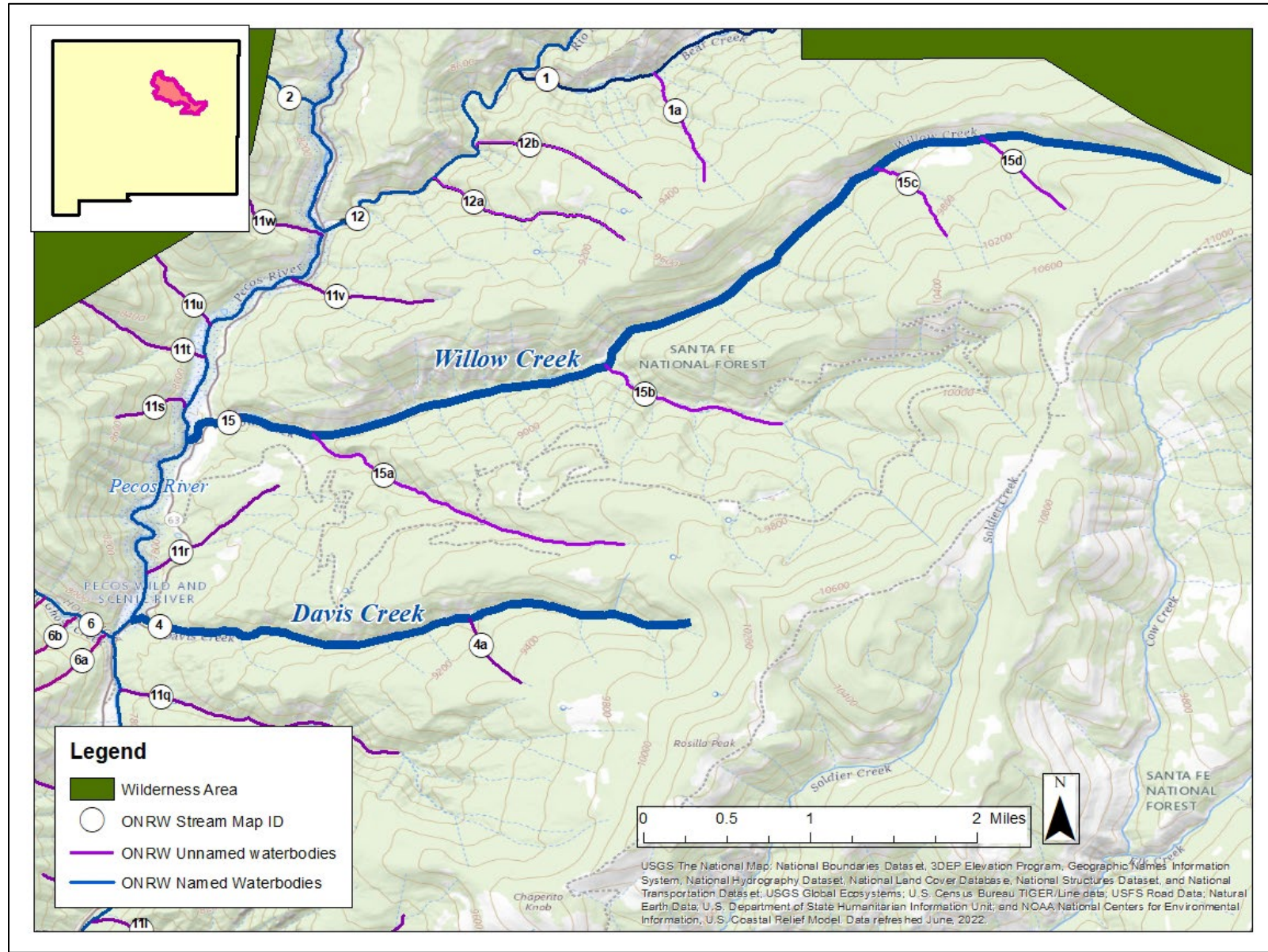


**Figure 5.** Map identifying unnamed tributaries to Doctor Creek and Holy Ghost Creek. (see Figure 4 for Indian Creek).

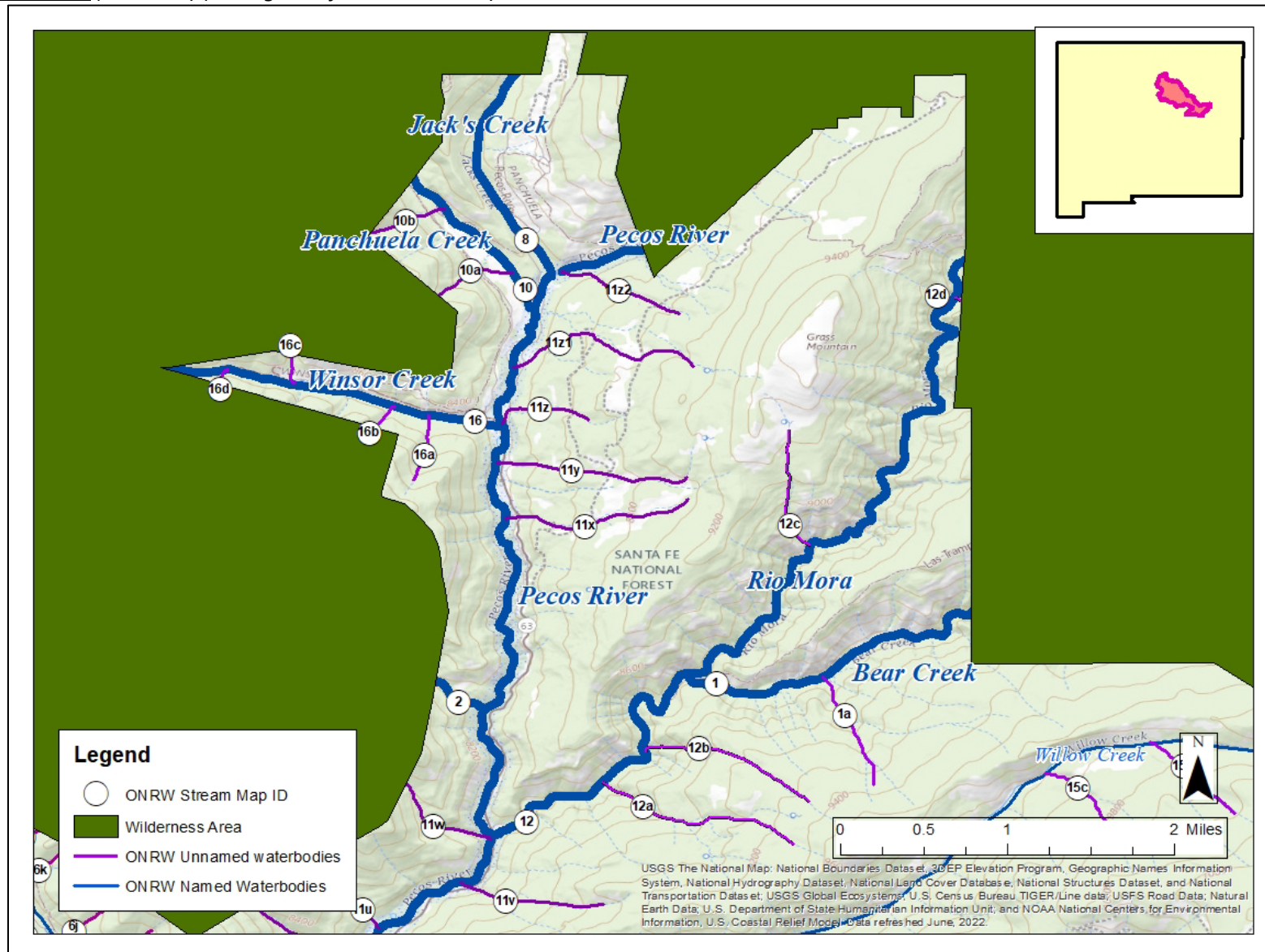




**Figure 6.** Map identifying unnamed designated ONRWs to Davis Creek and Willow Creek (see Figure 7 for Bear Creek and Rio Mora).

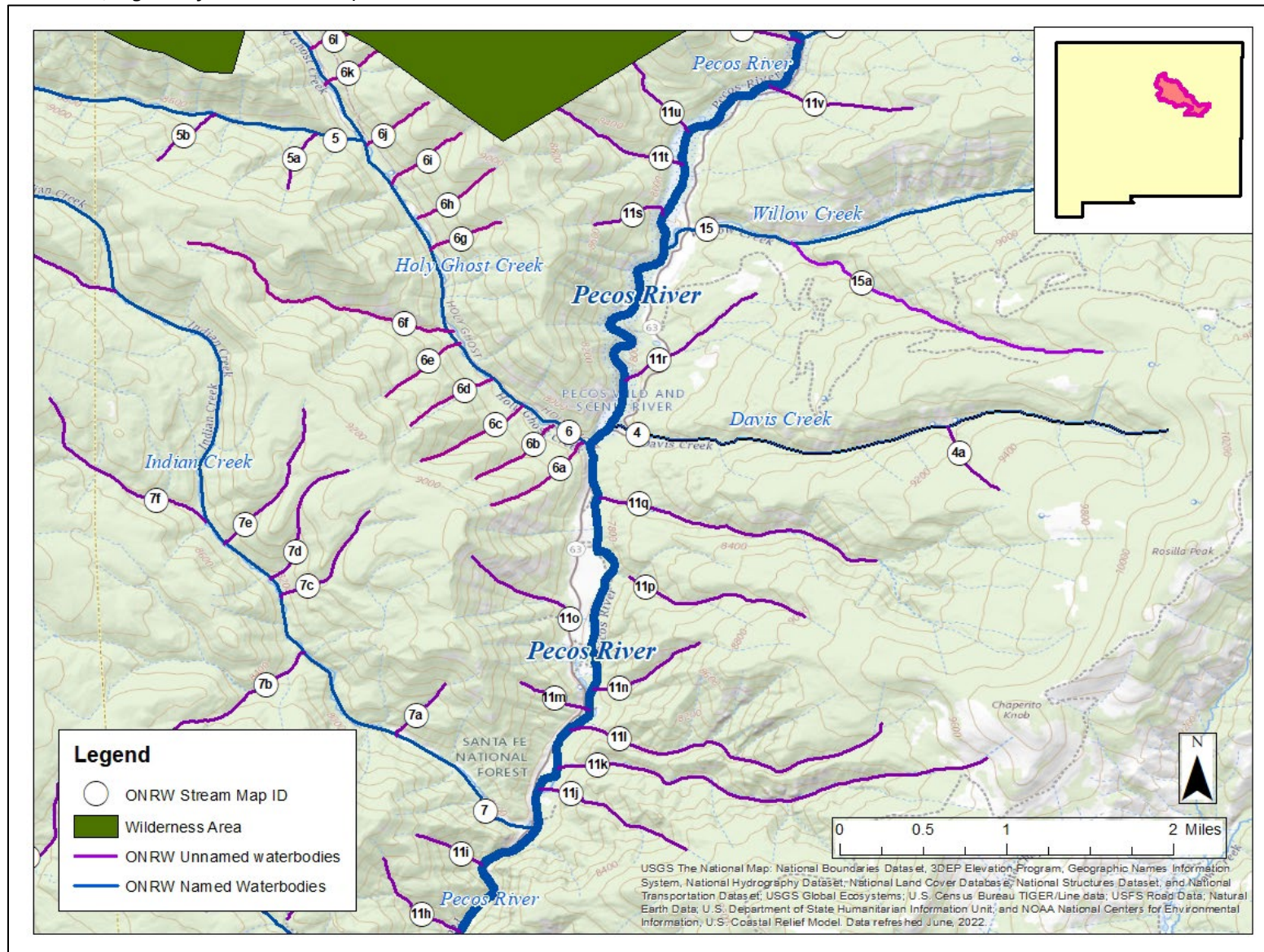


**Figure 7.** Map identifying unnamed designated ONRWs to Jack's Creek, Panchuela Creek, Winsor Creek, Carpenter Creek, Bear Creek, Rio Mora, and Pecos River (11v-11z2) (see Figure 6 for Willow Creek).



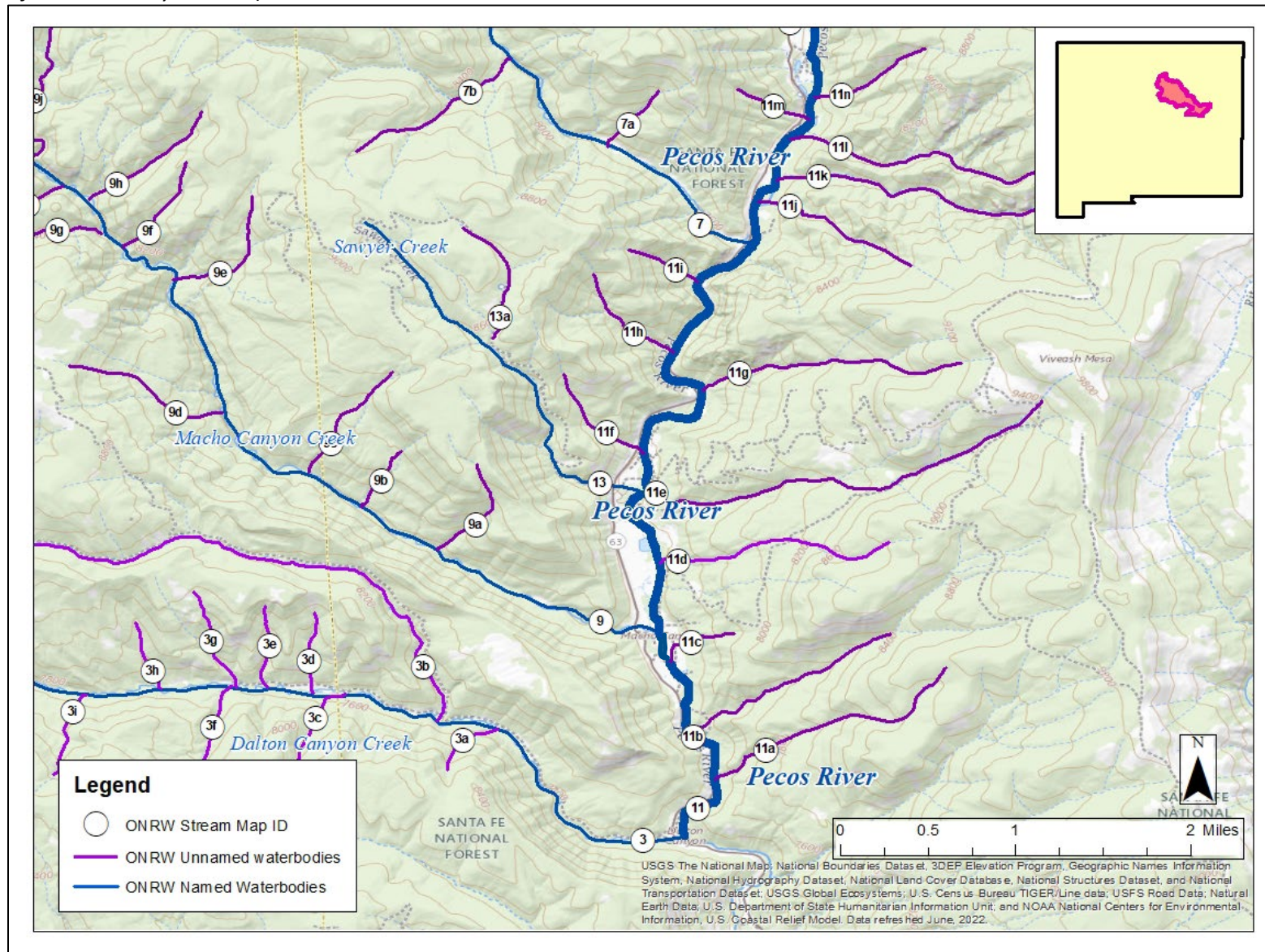


**Figure 8.** Map identifying unnamed designated ONRWs to Pecos River (11h-11u) (see Figure 6 for Willow and Davis Creek, Figure 3 for Holy Ghost and Doctor Creek, Figure 4 for Indian Creek).





**Figure 9.** Map identifying unnamed designated ONRWs to the Pecos River (11a-11n) (see Figure 3 for Macho Canyon and Sawyer Creek, and Figure 2 for Dalton Canyon Creek).



## **VI. Small-Scale Wetlands Map**

Figures 10 through 17 of this section, depict all wetlands designated as ONRWs in 20.6.4.9(D)(4) NMAC. The adopted depicted wetlands in these maps were obtained from the Petitioners' Exhibit 5 and the U.S. Fish and Wildlife Service ("USFWS") National Wetlands Inventory ("NWI").

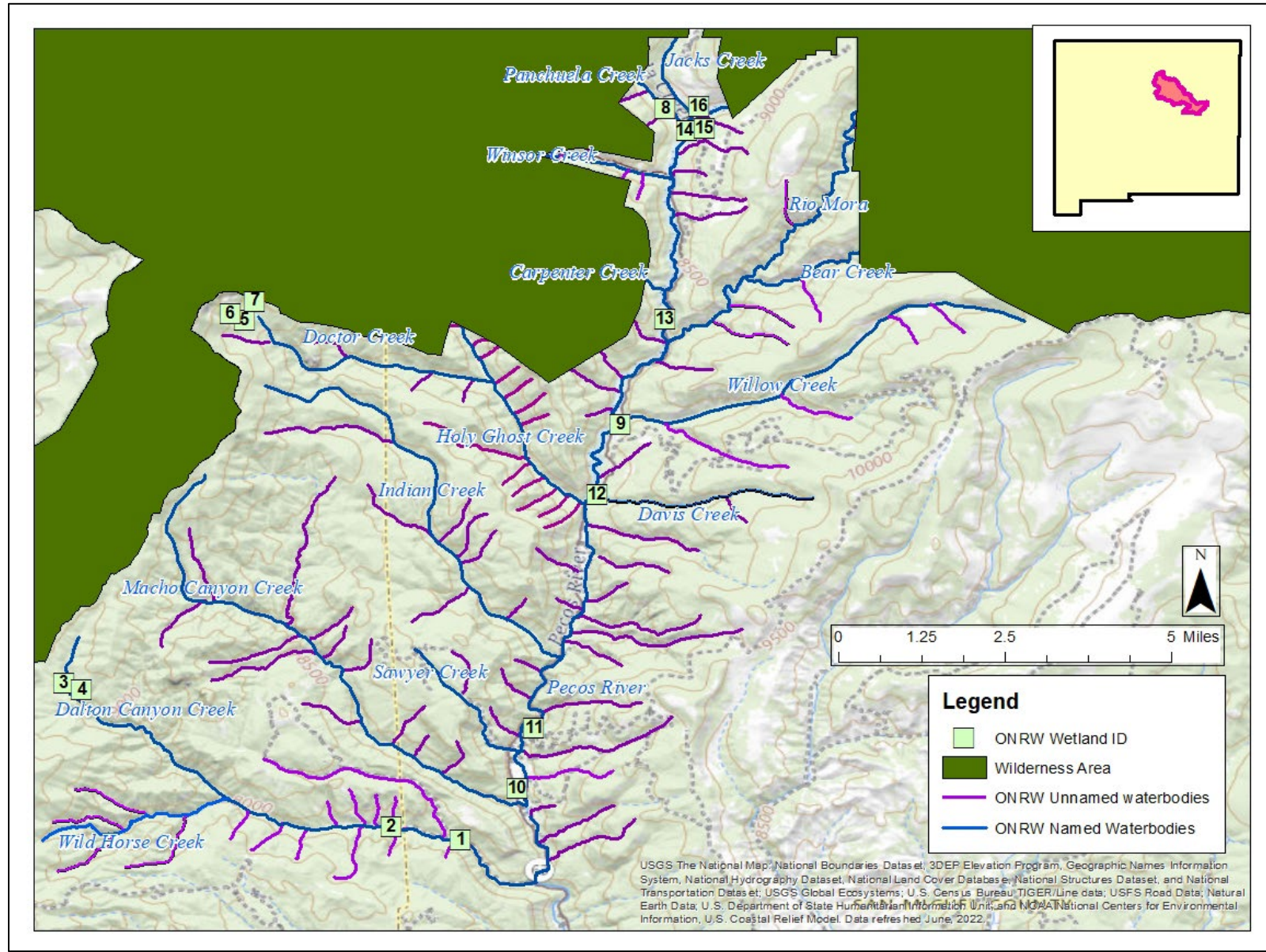
The NWI provides the geospatial wetlands data through their public access data repository (USFWS 2022). The NWI project's metadata describes its mapping tools as follows:

*"The Service's topical wetland and riparian data are graphic representations of the type, size, and location of the wetlands, deepwater or riparian habitats in the United States. These data have been prepared from the analysis of high-altitude imagery in conjunction with collateral data sources and field work. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any site, may result in revision of the wetland boundaries or classification established through image analysis. The Service uses the Cowardin et al. 2nd Edition (2013) definition of wetland. This definition is the standard for the agency and is the National Standard for wetland mapping, monitoring, and data reporting as determined by the Federal Geographic Data Committee in 2013. For the purposes of adapting the wetland classification system to map form, a series of letter and number codes has been developed. These alpha-numeric codes are used in the Wetlands Mapper and correspond to the classification nomenclature that best describes the habitat. The Wetlands Mapper integrates a wetland code interpreter that translates the wetland code to the Cowardin wetland types with full descriptions."* (USFWS 2019).

The following wetland maps utilized the geospatial locations as provided in Petitioners' Exhibit 5 (WQCC 2021) and were cross-referenced with the geospatial data provided by the USFWS NWI mapping tools website (USFWS 2022): <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.



**Figure 10.** Small-scale map of unnamed wetlands designated as ONRWs in 20.6.4.9(D)(4) NMAC.



## VII. Table for wetlands

The following table references geospatial locations of all unnamed wetlands referenced from the ONRW petition to designate the listed waterbodies (WQCC 2021). This table contains a re-numbered map ID that is different from the ONRW petition's referenced number (see waterbody listings in the Introduction section of this document).

**Table 2.** *List of designated ONRW's in the upper Pecos watershed with unique wetland identification.*

Wetland ID #	Description	Wetland Type*	Size (acres)	Latitude	Longitude	Figure Reference
1	unnamed wetland adjacent to Dalton Canyon Creek	PEM1/SS1A	11.95	35.668	-105.705	Figure 11
2	unnamed wetland adjacent to Dalton Canyon Creek	PEM1/SS1A	8.80	35.671	-105.720	Figure 11
3	unnamed wetland adjacent to Dalton Canyon Creek	PEM1C	0.16	35.702	-105.791	Figure 12
4	unnamed wetland adjacent to Dalton Canyon Creek	PSS1C	0.66	35.701	-105.790	Figure 12
5	unnamed wetland adjacent to Doctor Creek	PEM1B	0.15	35.781	-105.752	Figure 13
6	unnamed wetland adjacent to Doctor Creek	PEM1C	0.93	35.782	-105.754	Figure 13
7	unnamed wetland adjacent to Doctor Creek	PEM1C/PEM1F	0.92	35.783	-105.751	Figure 13
8	unnamed wetland adjacent to Panchuela Creek	PSS1A	0.64	35.827	-105.660	Figure 14
9	unnamed wetland adjacent to Pecos River	PEM1/SS1A	6.25	35.759	-105.671	Figure 16
10	unnamed wetland adjacent to Pecos River	PSS1A	4.52	35.679	-105.692	Figure 17
11	unnamed wetland adjacent to Pecos River	PSS1A	1.69	35.693	-105.689	Figure 17
12	unnamed wetland adjacent to Pecos River	PSS1A	0.29	35.743	-105.676	Figure 16

Wetland ID #	Description	Wetland Type*	Size (acres)	Latitude	Longitude	Figure Reference
13	unnamed wetland adjacent to Pecos River	PSS1A	0.00	35.781	-105.660	Figure 15
14	unnamed wetland adjacent to Pecos River	PSS1A	1.25	35.822	-105.656	Figure 14
15	unnamed wetland adjacent to Pecos River	PSS1A	0.28	35.824	-105.655	Figure 14
16	unnamed wetland adjacent to Pecos River	PSS1A	0.31	35.825	-105.653	Figure 14

\* Wetland type USFWS classification code

USFWS classification code

The following is the USFWS's language for the wetland type classification code descriptions from the U.S. Fish and Wildlife Service National Wetlands mapping tool website (USFWS 2022):

<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.

**System *Palustrine (P)*** : The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.

**Class *Emergent (EM)*** : Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

**Subclass *Persistent (1)*** : Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

**Split Class *Scrub-Shrub (SS)*** : Includes areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions.

**Split Subclass *Broad-Leaved Deciduous (1)*** : Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (*Fraxinus nigra*).

**Water Regime *Temporary Flooded (A)*** : Surface water is present for brief periods (from a few days to a few weeks) during the growing season, but the water table usually lies well below the ground surface for most of the season.

**Water Regime *Seasonally Flooded (C)*** : Surface water is present for extended periods especially early in the growing season but is absent by the end of the growing season in most years. The water table after



*flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.*

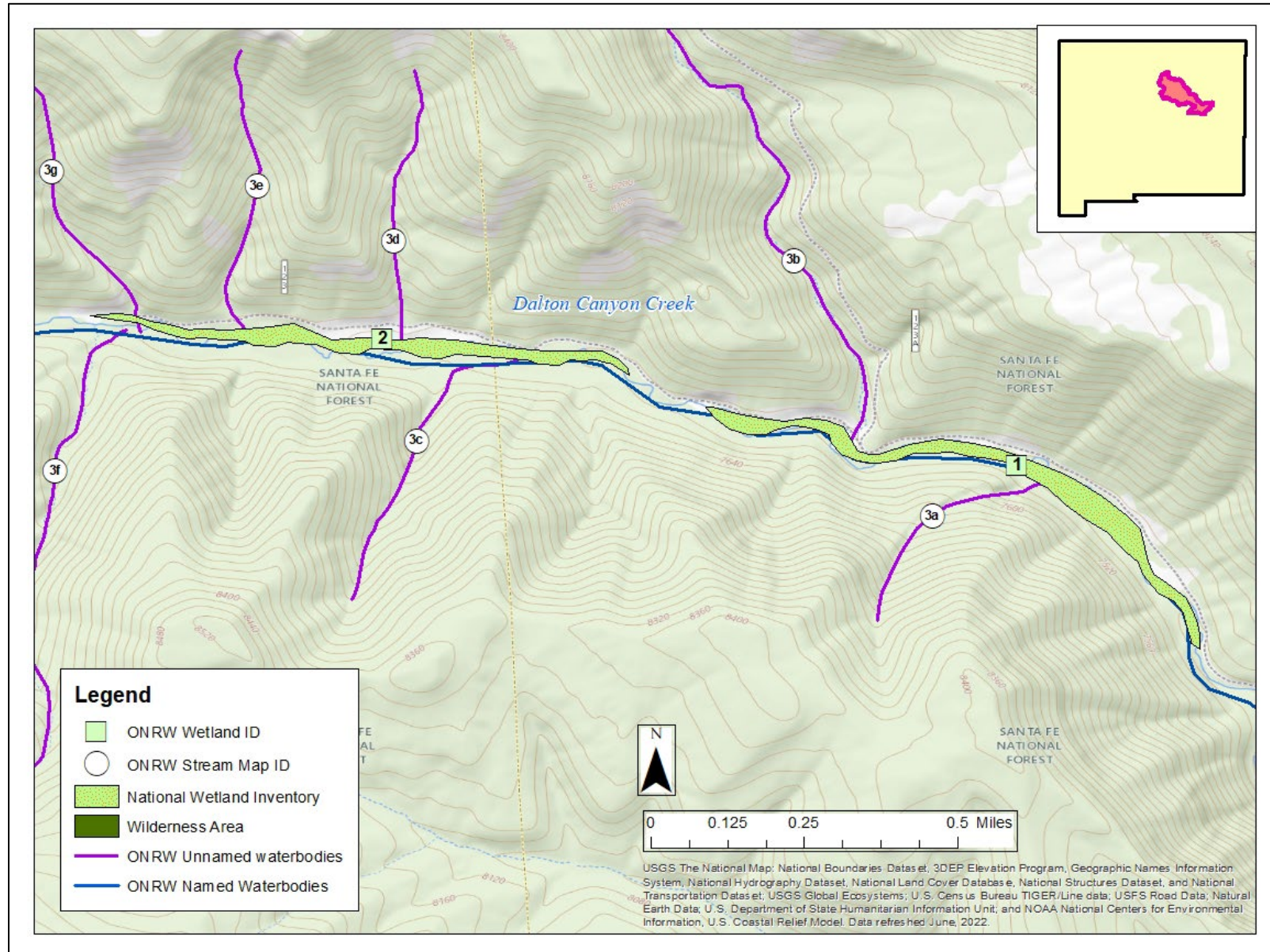
*Water Regime **Seasonally Saturated (B)** : The substrate is saturated at or adjacent to the surface for extended periods during the growing season, but unsaturated conditions prevail by the end of the season in most years. Surface water is typically absent but may occur for a few days after heavy rain and upland runoff.*

*Water Regime **Semi permanently Flooded (F)** : Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very adjacent to the land surface.*

#### **VIII. Large-Scale Wetlands Maps**

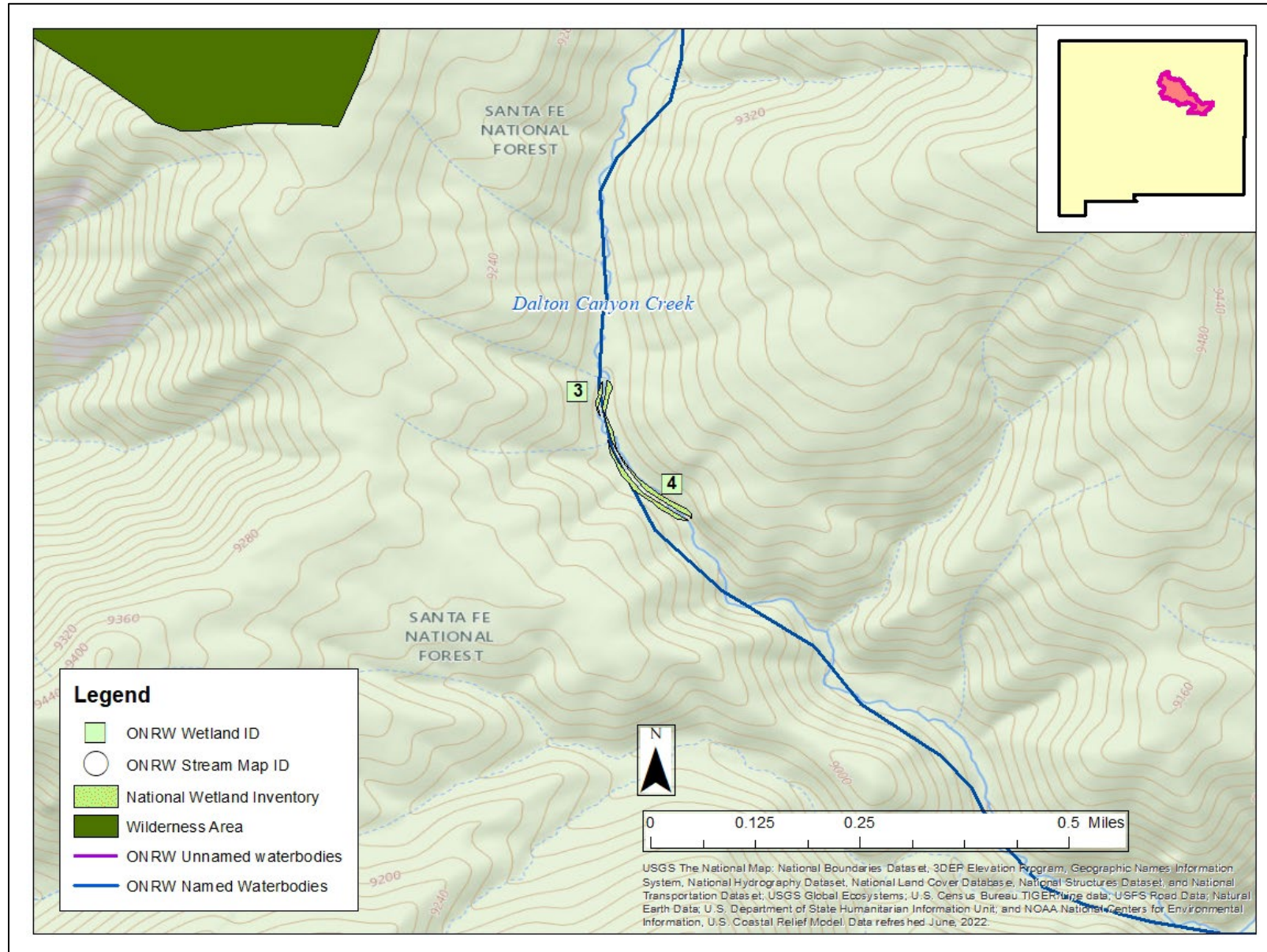
Figures 11 through 17 depict large-scale maps of the wetlands designated as ONRWs in 20.6.4.9(D)(4) NMAC.

**Figure 11.** Map identifying unnamed wetlands 1 and 2, adjacent to Dalton Canyon Creek.

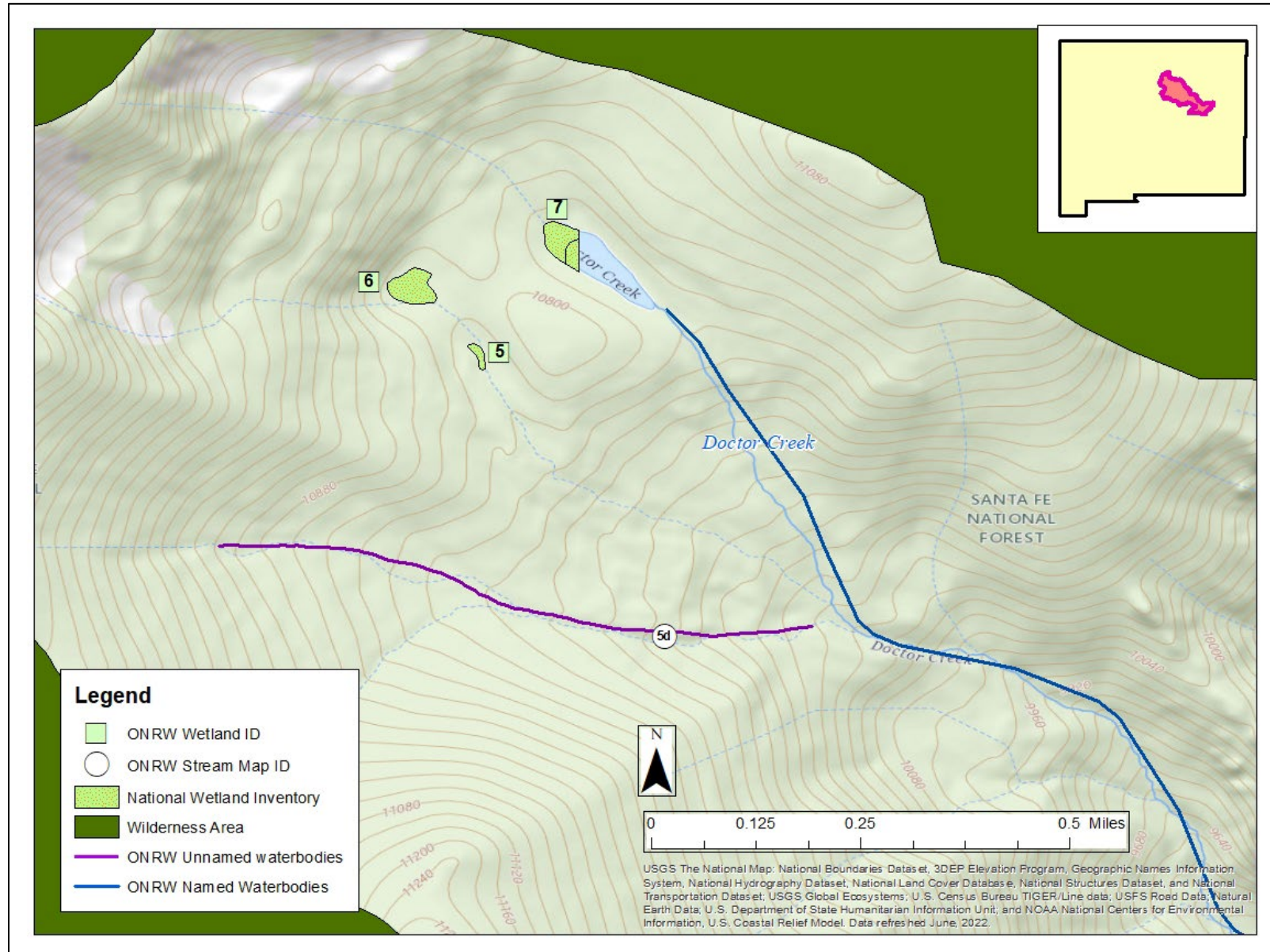




**Figure 12.** Map identifying unnamed wetlands 3 and 4, adjacent to Dalton Canyon Creek.

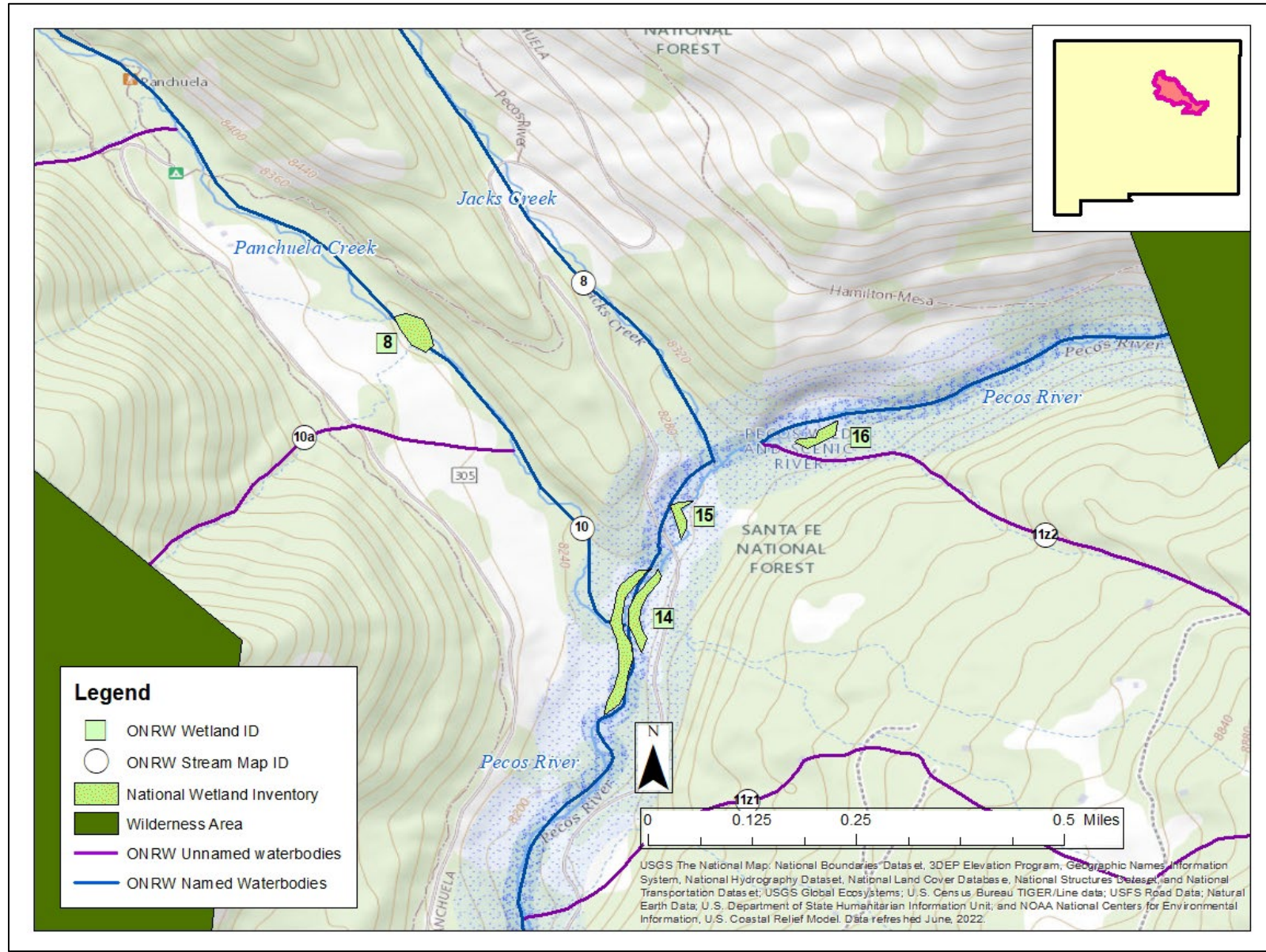


**Figure 13.** Map identifying unnamed wetlands 5, 6, and 7, adjacent to Doctor Creek.



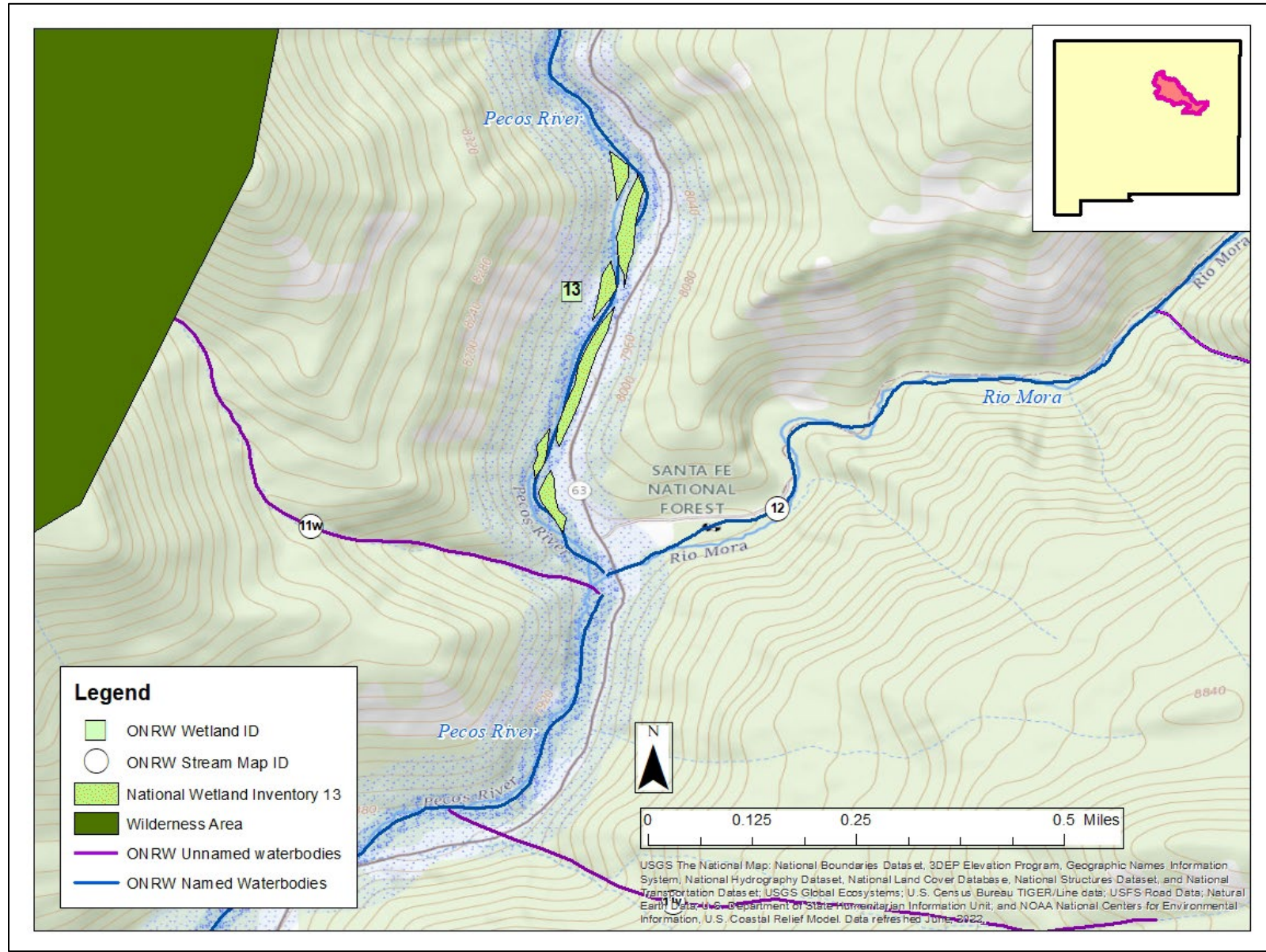


**Figure 14.** Map identifying unnamed wetlands 8, 14, 15, and 16, adjacent to Panchuela Creek and the Pecos River.



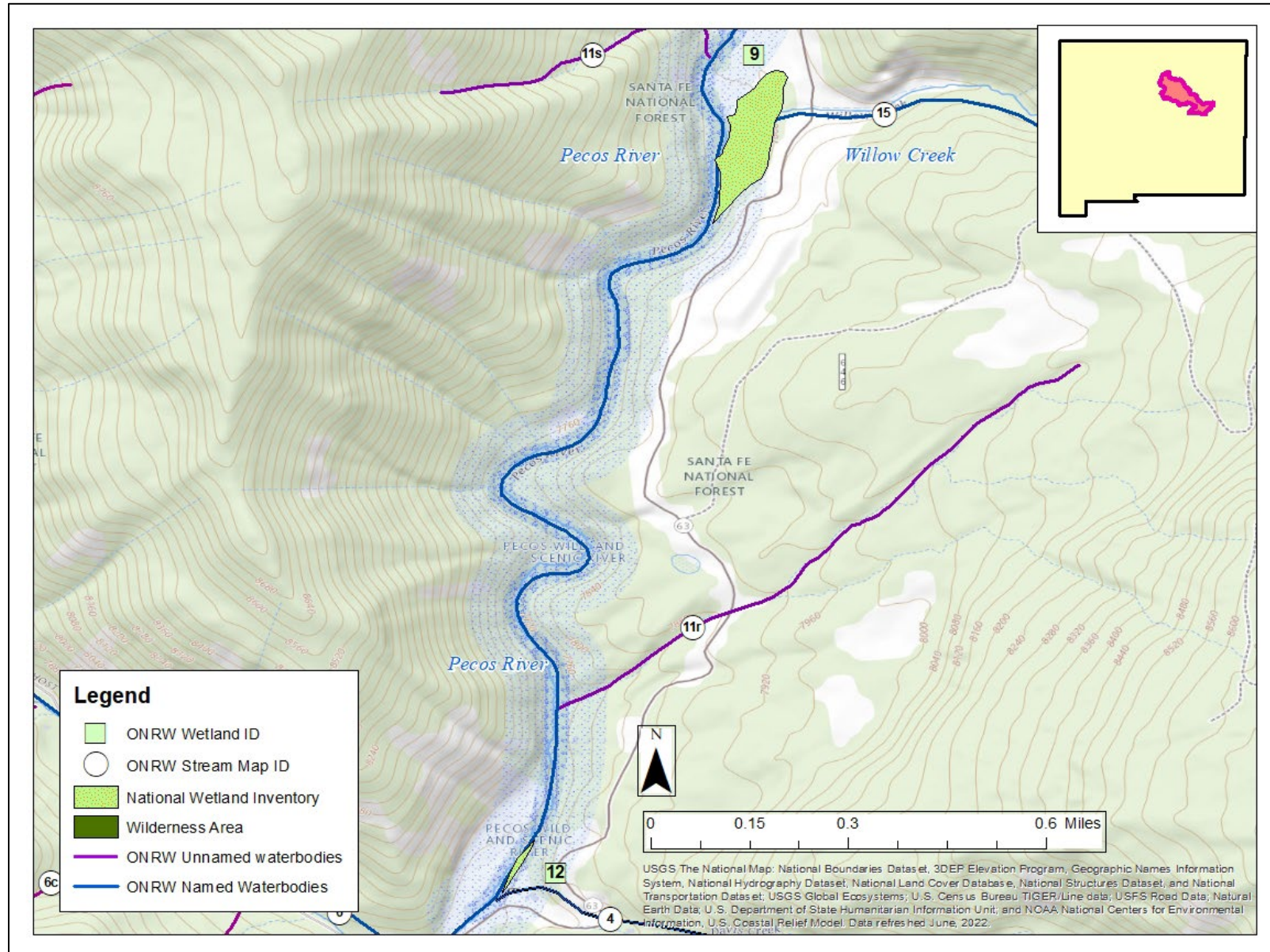


**Figure 15.** Map identifying unnamed wetland 13, adjacent to Pecos River.



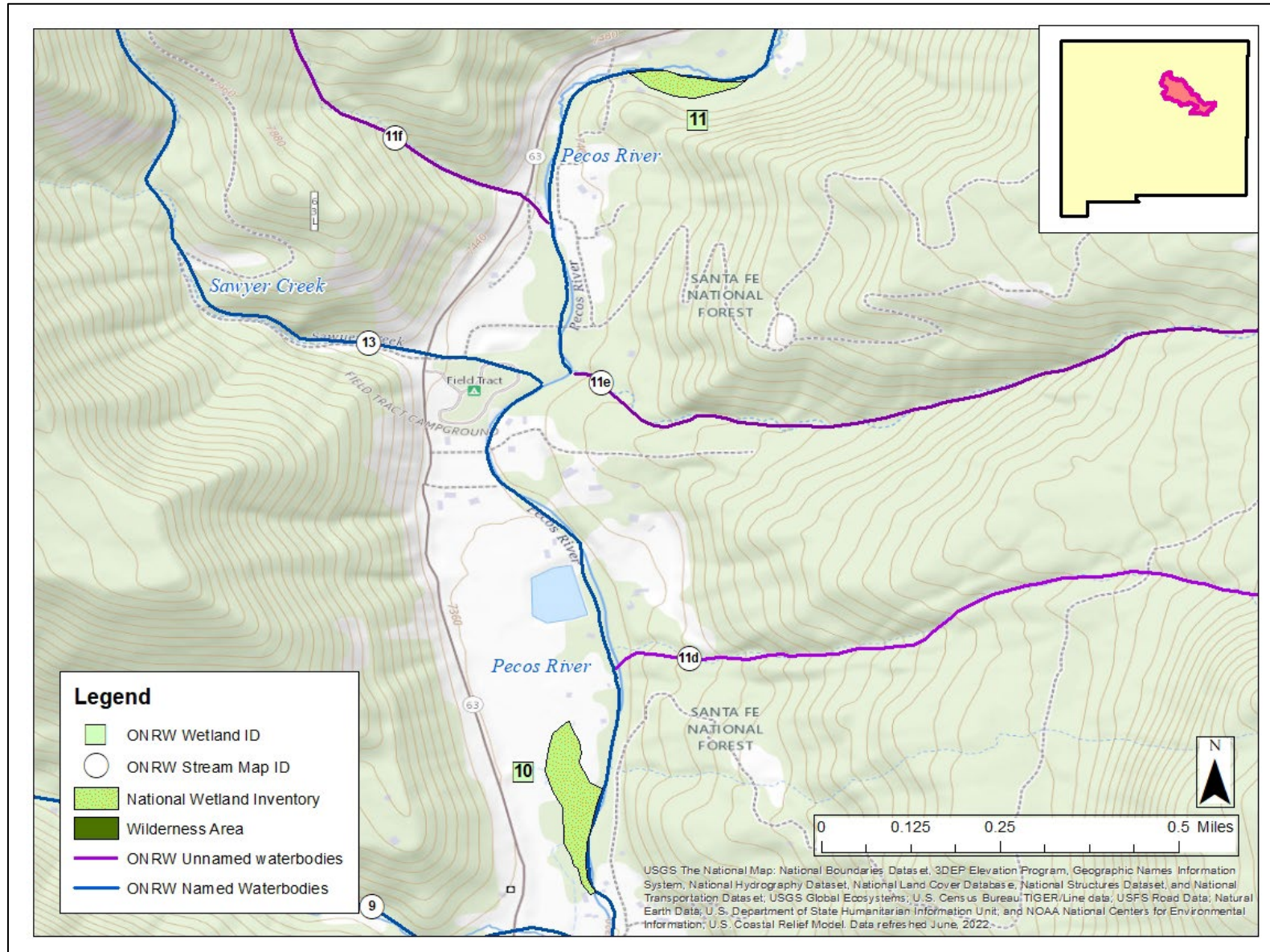


**Figure 16.** Map identifying unnamed wetlands 9, and 12, adjacent to Willow Creek and the Pecos River.





**Figure 17.** Map identifying unnamed wetlands 10 and 11, adjacent to Pecos River above and below Sawyer Creek.





## IX. References

U.S. Fish and Wildlife Service (“USFWS”). (2019). Wetlands Mapper Documentation and Instructions Manual. National Standards and Support Team Madison, WI 53711-1061. Accessed August 29, 2022 from: <https://www.fws.gov/sites/default/files/documents/Wetlands-Mapper-Documentation-Manual-May-2019.pdf>

USFWS. (2022). National Wetlands Inventory - Get data. Accessed August 19, 2022, from: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>

U.S. Geological Survey (“USGS”) and U.S. Environmental Protection Agency (USEPA). (2018). National Hydrography Database Plus version 2.1 (NHDPlusv2), accessed August 10, 2022, from: <https://www.usgs.gov/national-hydrography/national-hydrography-dataset>

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WQCC. (2022). WQCC 21-51 (R) - Petitioners’ Notice of Intent to Present Technical Testimony to Designate Waters of the Upper Pecos Watershed as an ONRW. March 10, 2022. Accessed August 29, 2022 from: <https://www.env.nm.gov/opf/wp-content/uploads/sites/13/2022/03/2022-03-10-WQCC-21-51-R-Petrs-Direct-NOI-pj.pdf>

WQCC. (2022b). WQCC 21-51 (R) - WQCC’s Statement of Reasons and Decision to Designate Waters of the Upper Pecos Watershed as an ONRW. August 10, 2022. Accessed August 29, 2022 from: [https://www.env.nm.gov/opf/wp-content/uploads/sites/13/2022/08/2022-08-10-WQCC-21-51-Statement-of-Reasons-and-Order\\_Upper-Pecos-Watershed-pj.pdf](https://www.env.nm.gov/opf/wp-content/uploads/sites/13/2022/08/2022-08-10-WQCC-21-51-Statement-of-Reasons-and-Order_Upper-Pecos-Watershed-pj.pdf)