Appendix C

CALMET and CALPUFF Input Data

List of Tables

Table C.1 Surface Meteorological Stations Used in the Development of the CALMET Wind Fields

Table C.2 Upper Air Meteorological Stations Used in the Development of the CALMET Wind Fields

Table C.3 Ozone Monitoring Stations Used for CALPUFF Modeling

Table C.4 Modeling Parameters for Project Area Point Sources Used for CALPUFF Modeling

List of Figures

Figure C.1 Surface and Upper Air Meterorological Stations Used for Year 2001 CALMET Windfields

Figure C.2 Surface and Upper Air Meteorological Stations Used for Year 2002 CALMET Windfields

Figure C.3 Surface and Upper Air Meteorological Stations Used for Year 2003 CALMET Windfields

Figure C.4 Area Sources Modeled for Year 2005

Figure C.5 Area Sources Modeled for Year 2007

Figure C.6 Area Sources Modeled for Year 2009

Figure C.7 Area Sources Modeled for Year 2026

Figure C.8 Drill Rig and Compressor Stations Modeled for Year 2005

Figure C.9 Drill Rig and Compressor Stations Modeled for Year 2007

Figure C.10 Drill Rig and Compressor Stations Modeled for Year 2009

Figure C.11 Compressor Stations Modeled for Year 2026

Table C.1
Surface Meteorological Stations Used in the Development of the CALMET Wind Fields

Station Name	Station Type	Call Sign	Model ID	Anemometer Height (m)	Lambert Conformal Coordinates		CALMET Year		
					X (km)	Y (km)	2001	2002	2003
Pocatello, ID	NWS	KPIH	25780	10	-218.401	-10.511	X	X	X
Idaho Falls, ID	NWS	KIDA	25785	7.9	-177.123	52.659	X	X	X
Malad City, ID	NWS	KMLD	25786	7.9	-198.548	-93.614	X	X	X
Soda Springs, ID	NWS	KU78	25868	9.1	-141.388	-41.392	X	X	X
Rexburg, ID	NWS	KRXE	26818	10	-155.419	86.020	X		X
Rock Springs, WY	NWS	KRKS	25744	10	59.163	-155.548	X	X	X
Rawlins, WY	NWS	KRWL	25745	10	209.122	-130.919	X	X	X
Lander Hunt Field, WY	NWS	KLND	25760	10	84.377	-24.464	X	X	X
Riverton, WY	NWS	KRIW	25765	10	104.963	2.700	X	X	X
Evanston/Burns Field, WY	NWS	KEVW	25775	10	-100.068	-190.862	X	X	X
Jackson Hole, WY	NWS	KJAC	25776	10	-72.800	59.487	X	X	X
Johnson Co Arpt, WY	NWS	KBYG	26654	10	237.272	147.691	X	X	X
Sheridan CO Arpt, WY	NWS	KSHR	26660	10	216.581	188.173	X	X	X
Yellowstone Lake, WY	NWS	P60	26664	10	-47.358	161.231	X	X	X
Worland, WY	NWS	KWRL	26665	6.1	143.433	100.122	X	X	X
South Big Horn Co, WY	NWS	KGEY	26667	10	131.857	158.920	X	X	X
Cody, WY	NWS	KCOD	26700	10	60.134	157.800	X	X	X
Big Piney, WY	NWS	KBPI	26710	10	-23.818	-50.120	X		X
West Yellowstone, MT	NWS	KWEY	26763	9.8	-99.604	172.591	X		X
Yellowstone, MT	NWS	KWYS	26764	10	-100.848	176.154	X		X
Billings, MT	NWS	KBIL	26770	10	93.847	295.952	X	X	X
Dillon Arpt, MT	NWS	KDLN	26796	10	-208.458	239.764	X	X	X
Bozeman Gallatin, MT	NWS	KBZN	26797	10	-102.661	294.271	X	X	X
Livingston Mission, MT	NWS	KLVM	26798	10	-47.610	284.673	X	X	X
Craig-Moffat, CO	NWS	KCAG	25700	10	187.621	-271.501	X	X	X
Hayden/Yampa, CO	NWS	KHDN	25715	10	209.556	-270.839	X	X	X
Logan-Cache Arpt, UT	NWS	KLGU	24796	10	-164.942	-134.031	X		X
Vernal, UT	NWS	KVEL	25705	10	20.571	-281.358	X	X	X
Salt Lake City, UT	NWS	KSLC	25720	10	-177.265	-241.312	X	X	X
Ogden-Hinckley Arpt, UT	NWS	KOGD	25750	10	-180.112	-196.346	X	X	X
Ogden Hill AFB, UT	NWS	KHIF	25755	4	-176.292	-205.384	X	X	X
Yellowstone, WY	CASTNET	YEL	40800	10	-46.122	162.295	X	X	X
Pinedale, WY	CASTNET	PND	16500	10	0.947	-12.996	X	X	X
Jonah Field (BP), WY	Industrial	BP	88888	10	17.819	-62.496	X	X	X

Table C.2
Supper Air Meteorological Stations Used in the Development of the CALMET Wind Fields

Station Name	Station Type	Call Sign	Model ID	Lambert Conformal Coordinates		CALMET Year		
				X (km)	Y (km)	2001	2002	2003
Riverton, WY	NWS	KRIW	24061	104.963	2.700	X	X	X
Salt Lake City, UT	NWS	KSLC	24127	-177.265	-241.312	X	X	X

Table C.3
Ozone Monitoring Stations Used for CALPUFF Modeling

Station Name	State	Monitor ID Number	Source	Lambert Conformal Coordinates X(km)	Lambert Conformal Coordinates Y(km)	2001	2002	2003
Craters of the Moon NP	ID	160230101	AIRS	-294.162	51.003	X	X	X
	UT	490030003	AIRS	-168.049	-256.235	X	X	X
	UT	490050004	AIRS	-164.141	-139.639	X	X	X
	UT	490570007	AIRS	-177.414	-198.603	X	X	X
Yellowstone NP	WY	YEL408	CASTNET	-46.091	162.262	X	X	X
Pinedale	WY	PND165	CASTNET	0.947	-13.018	X	X	X
Centennial	WY	CNT169	CASTNET	288.384	-174.765	X	X	X
	WY	560391011	AIRS	-46.041	162.861	X	X	X

Table C.4
Modeling Parameters for Project Area Point Sources Used for CALPUFF Modeling

Source	Stack Height	Stack Temperature	Stack Velocity	Stack Diameter
	(m)	(K)	(m/s)	(m)
Drilling Rig	5.0	675.0	30.0	0.2
Drilling Rig	5.0	700.0	25.0	0.2
Granger Gas Plant Expansion	13.7	689.0	34.1	0.6
Pinedale Compressor Station	15.2	713.7	72.5	0.5
Pinedale Compressor Station	16.0	758.0	9.8	2.2
Paradise Compressor Station	14.8	726.5	28.7	0.7
Paradise Compressor Station	16.0	758.0	9.8	2.2
Falcon Compressor Station	14.8	726.5	28.7	0.7
Falcon Compressor Station	16.0	758.0	9.8	2.2
Bird Canyon Compressor Station	14.8	726.5	28.7	0.7

Figure C.1 - Surface and Upper Air Meteorological Stations Used for Year 2001 CALMET Windfields

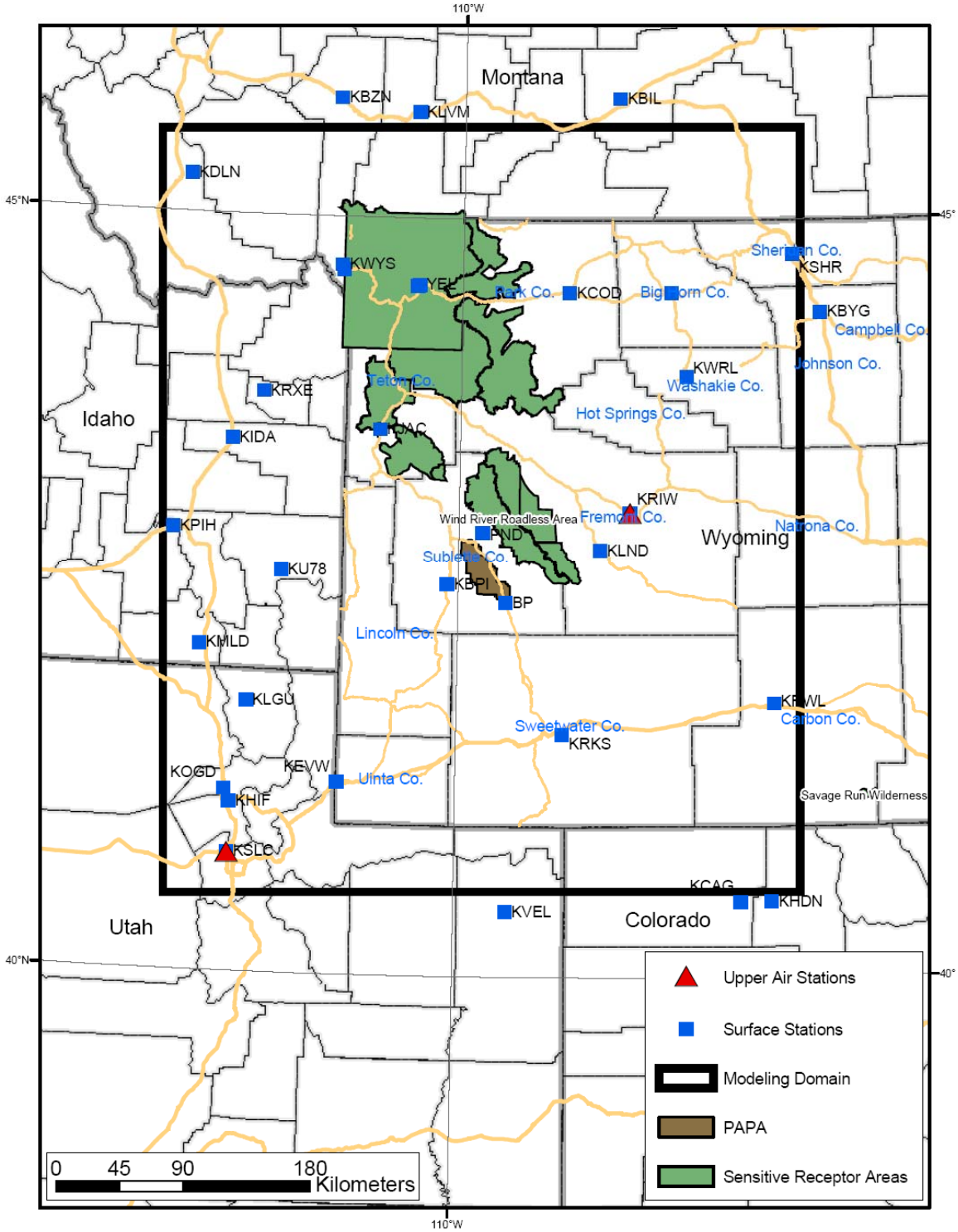

Figure C.2 - Surface and Upper Air Meteorological Stations Used for Year 2002 CALMET Windfields

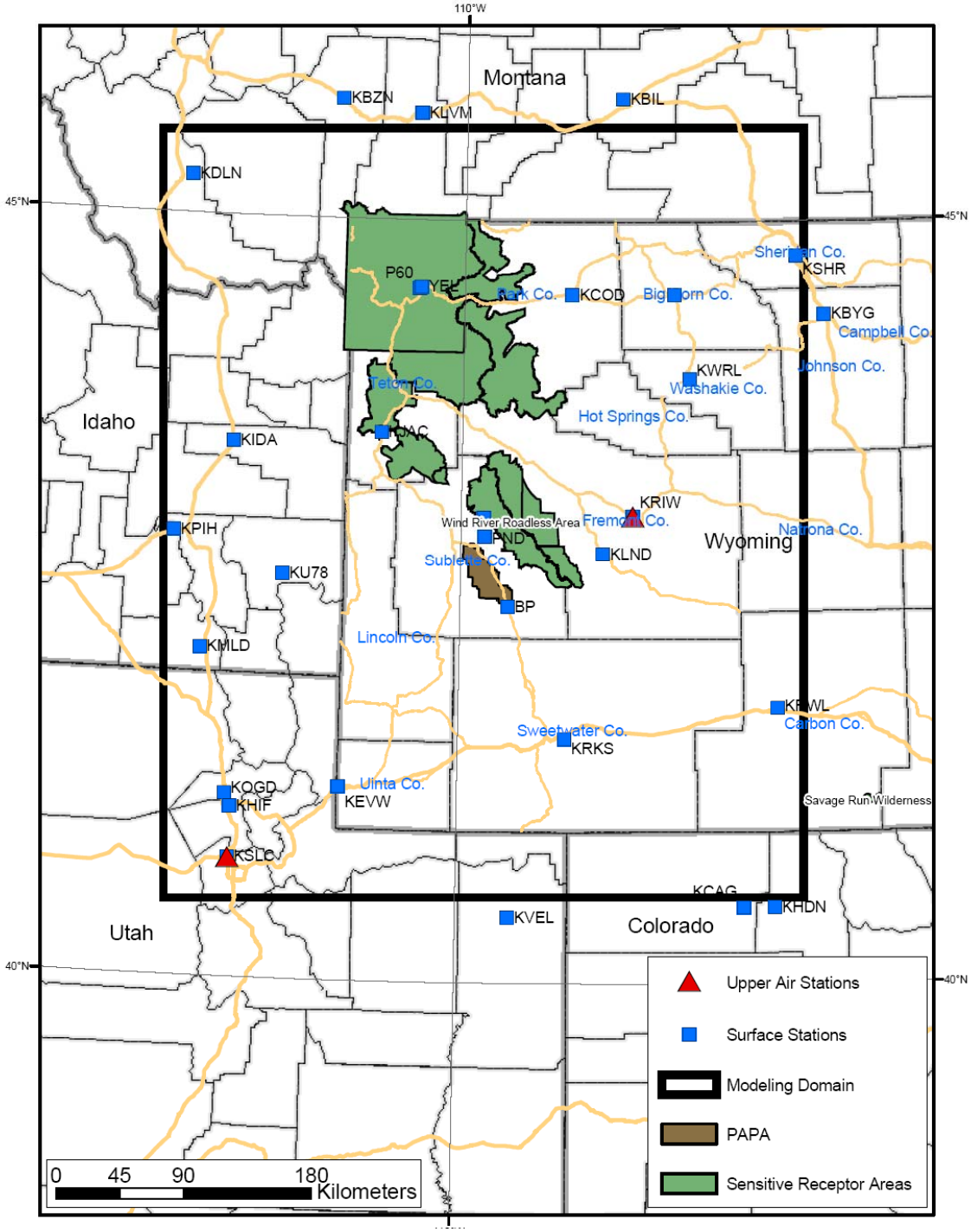

Figure C.3 - Surface and Upper Air Meteorological Stations Used for Year 2003 CALMET Windfields

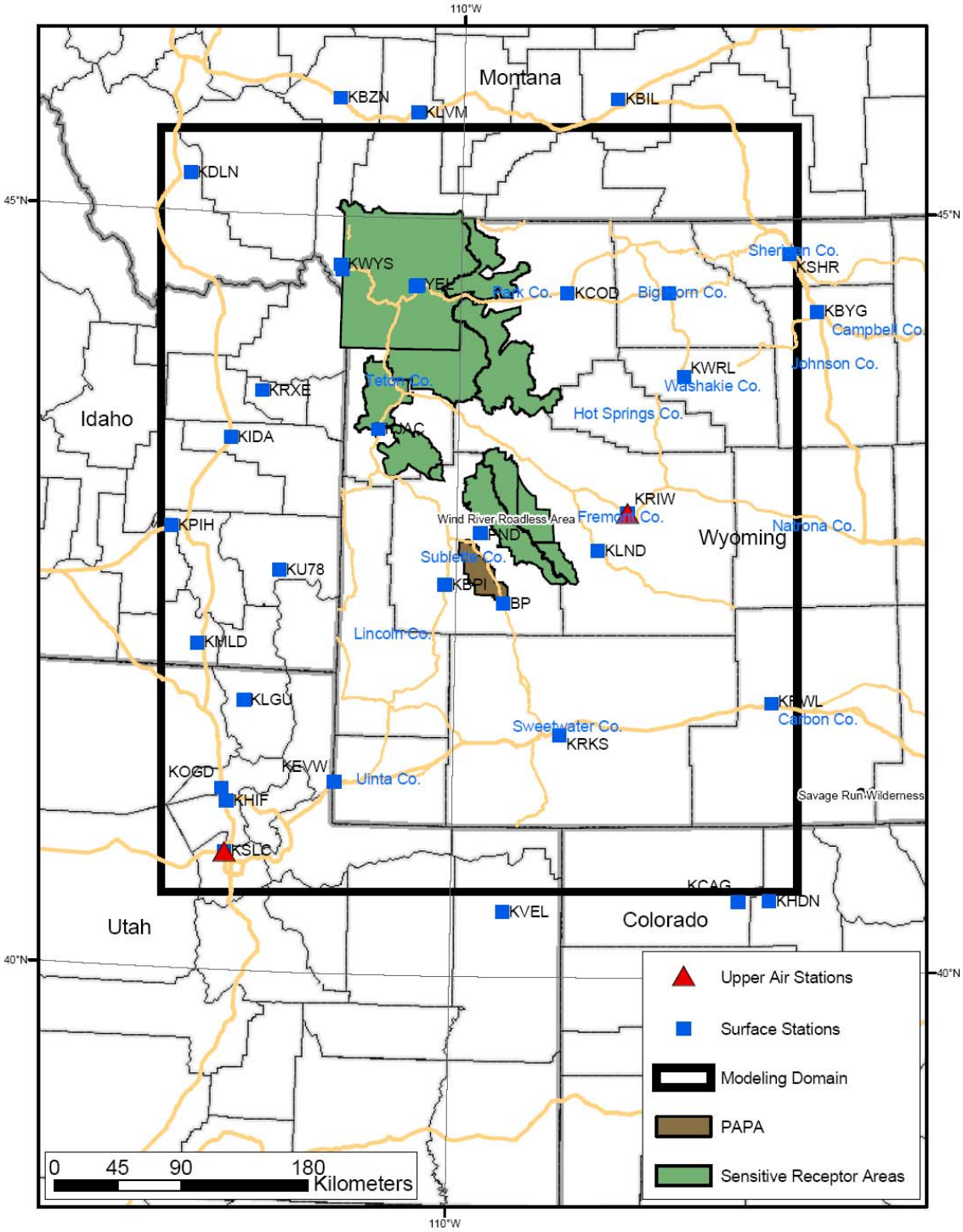

Figure C.4 - Area Sources Modeled for Year 2005

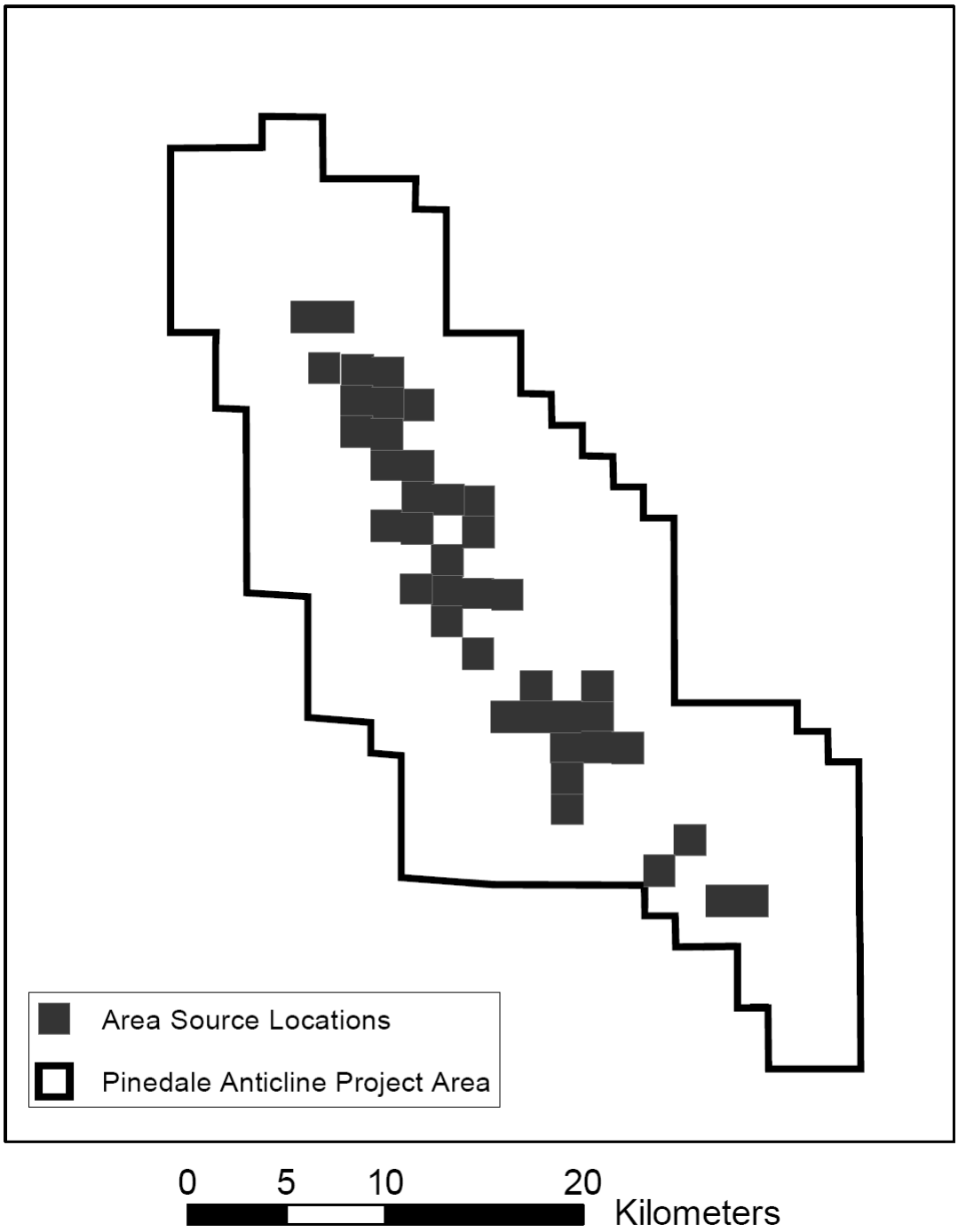

Figure C.5 - Area Sources Modeled for Year 2007

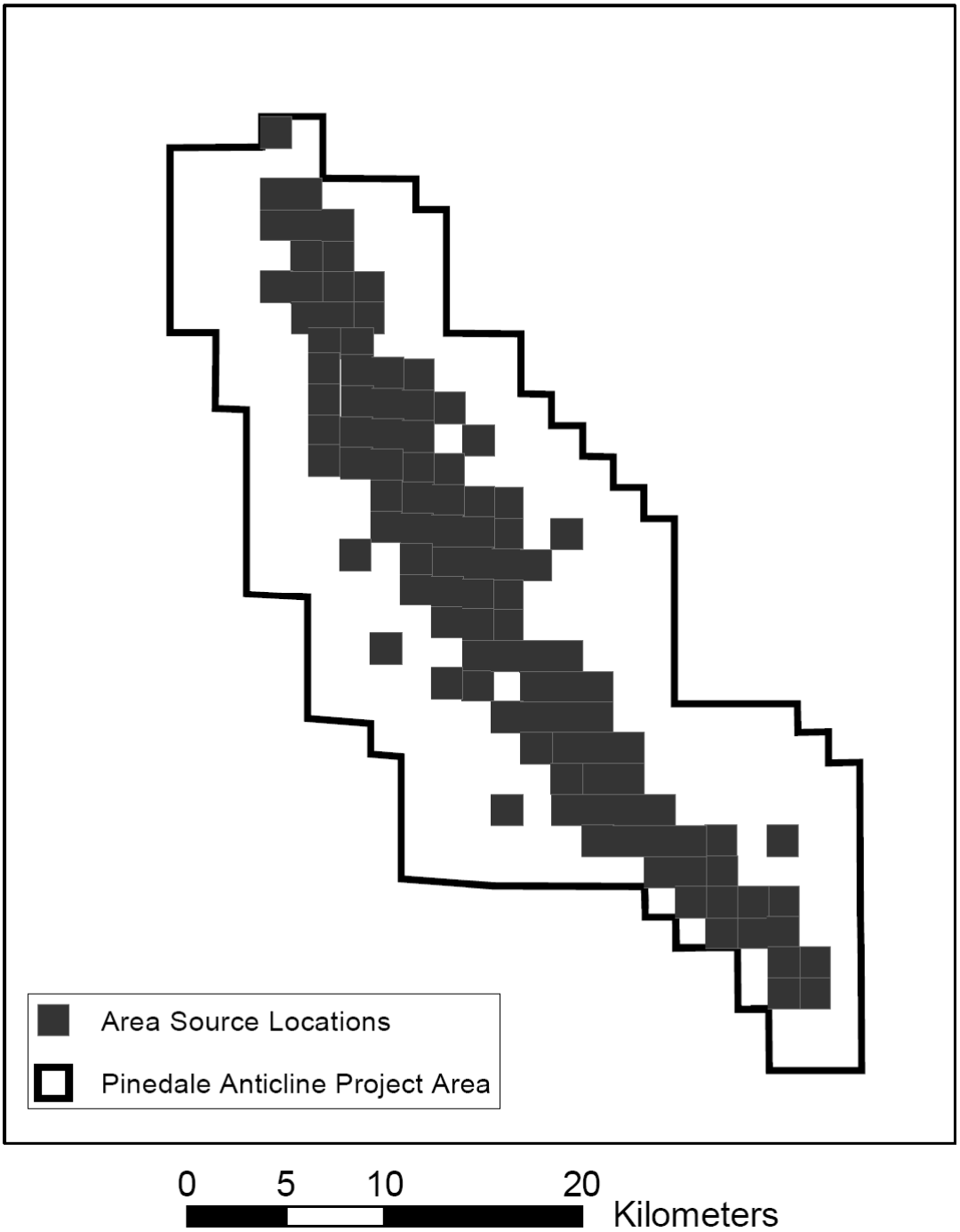

Figure C.6 - Area Sources Modeled for Year 2009

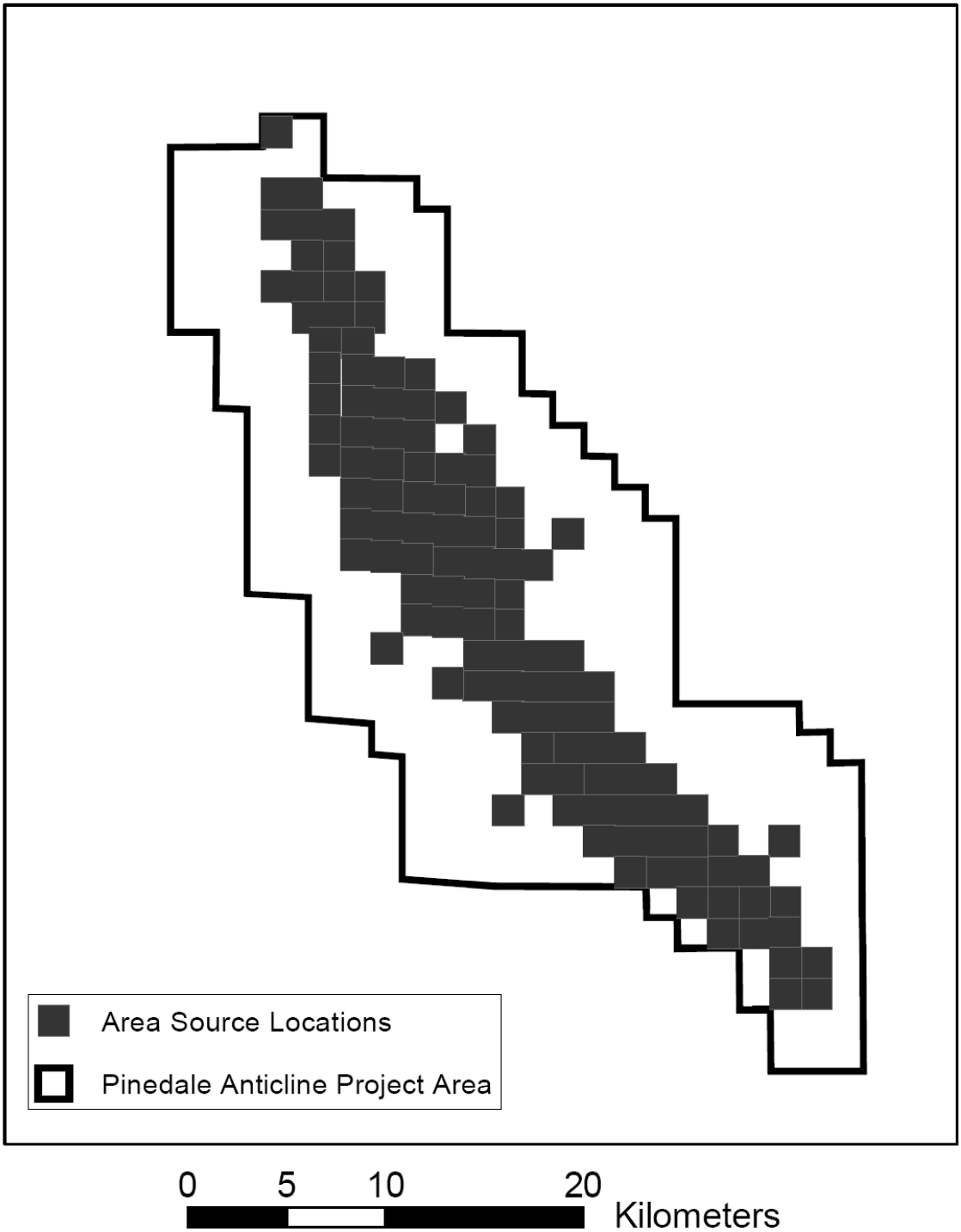

Figure C.7 - Area Sources Modeled for Year 2026

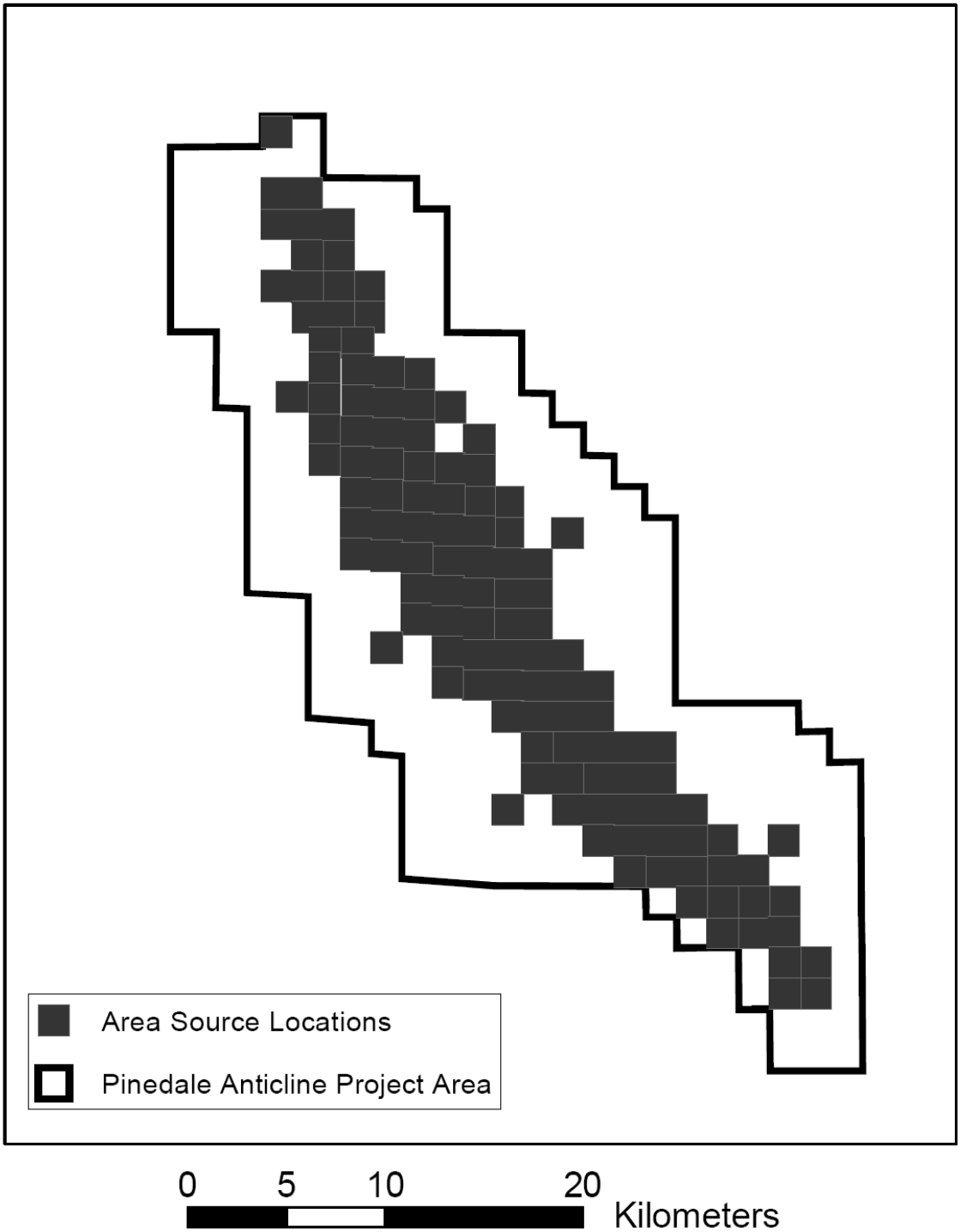

Figure C.8 - Drill Rig and Compressor Stations Modeled for Year 2005

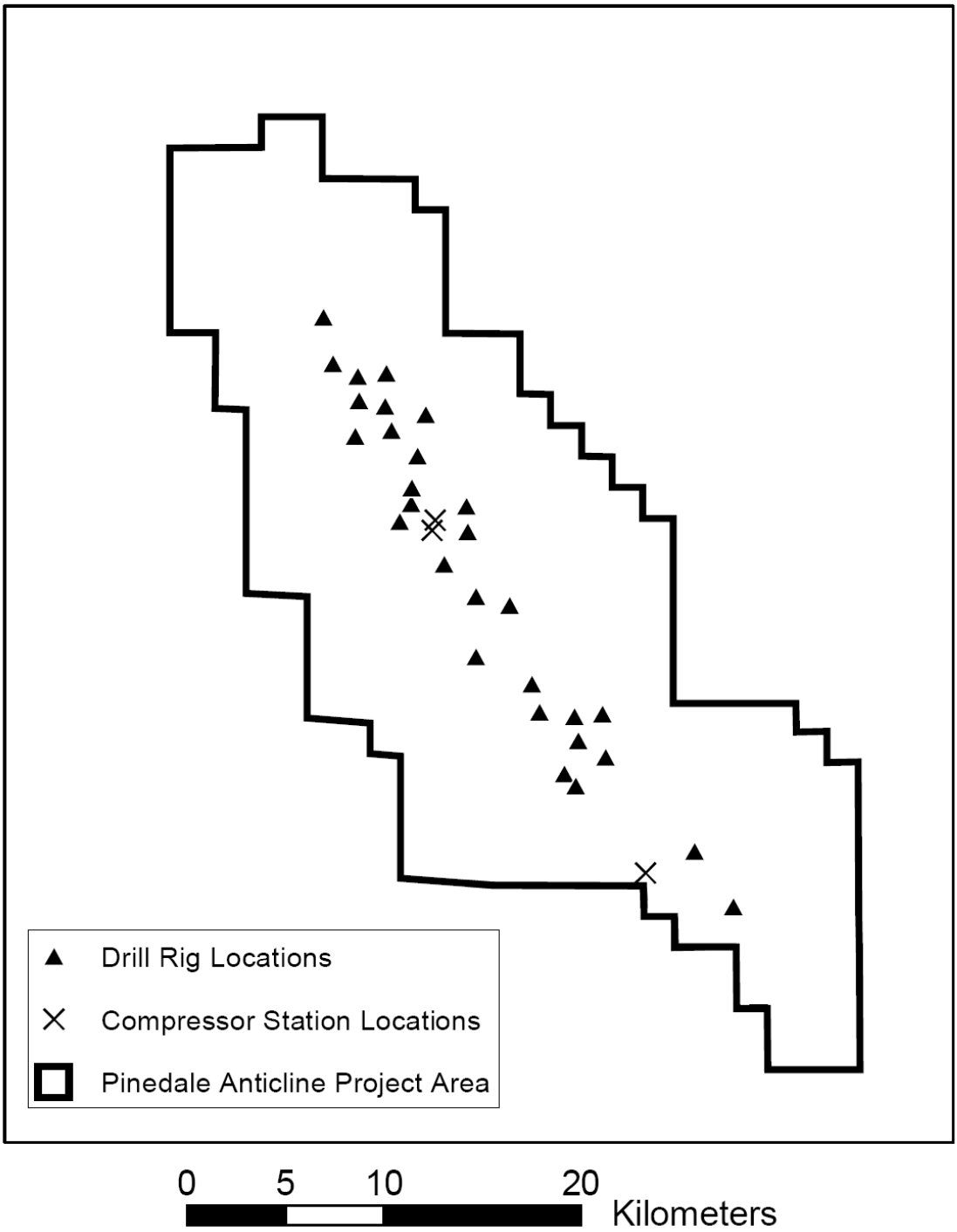

Figure C.9 - Drill Rig and Compressor Stations Modeled for Year 2007

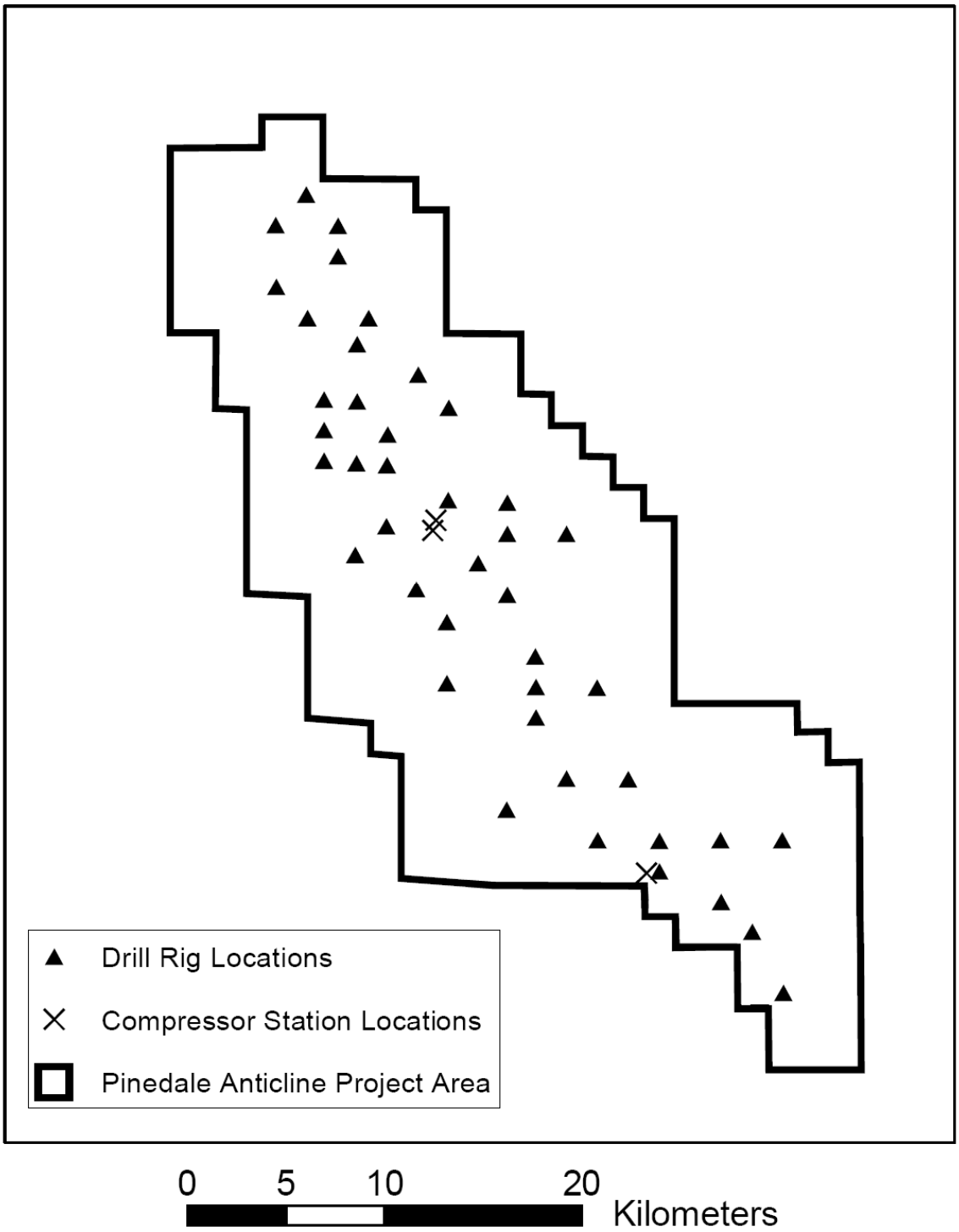

Figure C.10 - Drill Rig and Compressor Stations Modeled for Year 2009

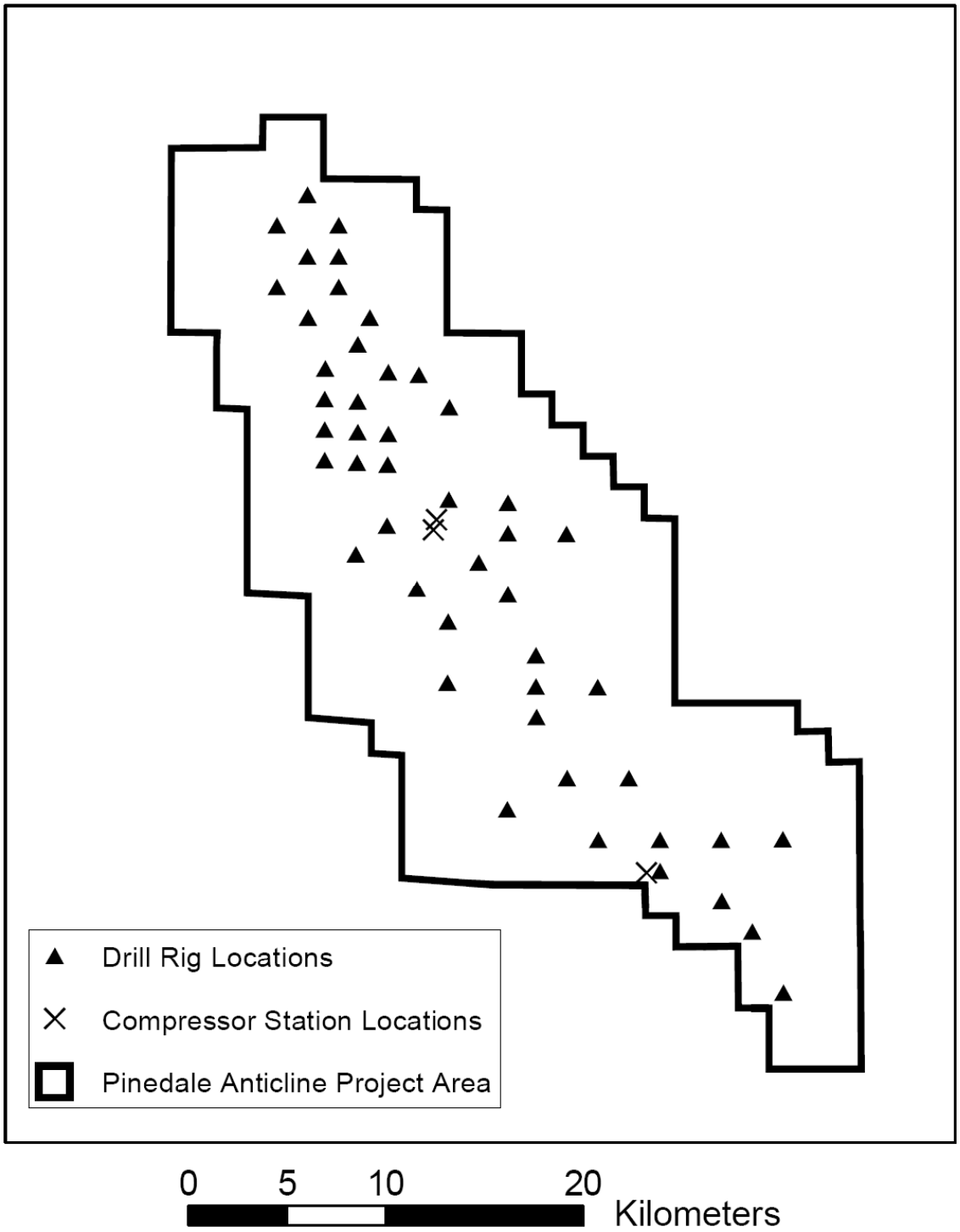
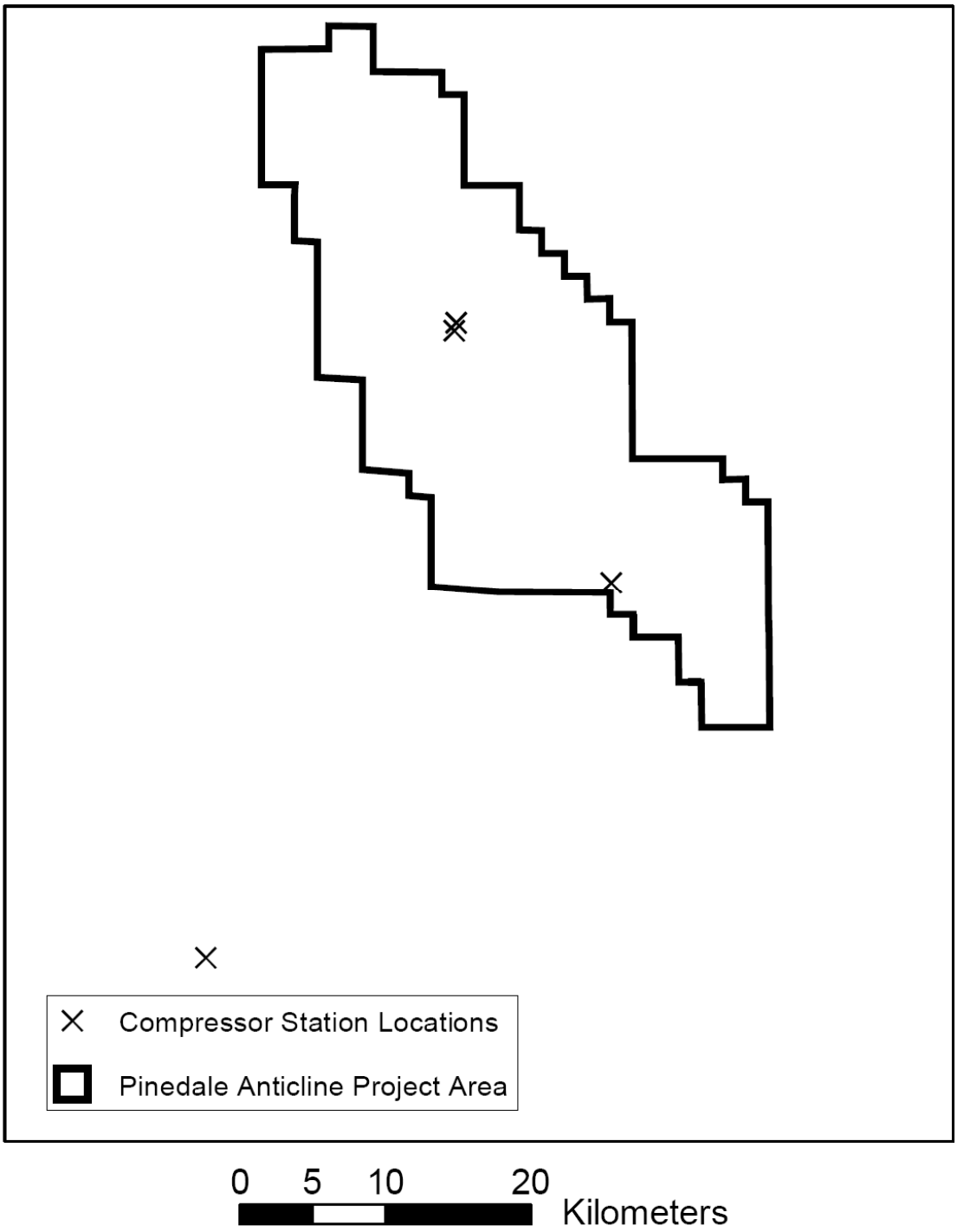
Figure C.11 - Compressor Stations Modeled for Year 2026