



U.S. Geological Survey 2002 Petroleum Resource Assessment of the National Petroleum Reserve in Alaska (NPRA): Play Maps and Technically Recoverable Resource Estimates

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□ This report provides a summary of the estimated volume of technically recoverable undiscovered oil and nonassociated gas resources for each of the 24 plays evaluated in the U.S. Geological Survey 2002 petroleum resource assessment of the NPRA (Bird and Houseknecht, 2002). It also provides a set of illustrations showing the stratigraphic and geographic location of each play. Additional details of this assessment will follow in later publications.

□ Table 1 shows the undiscovered, technically recoverable oil and nonassociated gas resources estimated to occur in each of 24 plays evaluated in this assessment. The assessment method yields a probabilistic range of estimates for each play. Here, we report petroleum volumes representing the 95th- and 5th-percentile estimates, the mean estimate, and the standard deviation. Volumes of petroleum associated with the 95th- and 5th-percentiles are considered reasonable estimates of minimum and maximum volumes that may be present, and the mean is the average or expected value. Volumes of undiscovered, associated gas and natural gas liquids were also evaluated and will be reported in later publications.

□ A stratigraphic column (figure 1) provides a summary of ages, names, and rock types present in the NPRA and the stratigraphic position of the 24 petroleum plays evaluated in the 2002 assessment.

□ A set of maps (figures 2–14) shows the areal extent of each of the plays in the NPRA study area, which includes Federal and Native onshore land and adjacent State offshore areas.

□ Documentation of the assessment will appear in a later publication. That publication will consist of separate chapters and will include details of the petroleum geology of the NPRA, play descriptions, assessment methodology including assessment forms, economic analysis, and other, related studies.

□ □ □ □ References Cited

Bird, K.J., and Houseknecht, D.W., 2002, U.S. Geological Survey 2002 petroleum resource assessment of the National Petroleum Reserve in Alaska (NPRA): U.S. Geological Survey Fact Sheet 045-02, 6 p.

Table 1. Technically recoverable, undiscovered oil and nonassociated gas resources for each of the 24 plays evaluated in the 2002 NPRA assessment.

Map figure no.	Assessment Unit (Plays)	F95	Mean	F05	Std.Dev.	F95	Mean	F05	Std.Dev.
		Oil (millions of barrels)				Nonassociated Gas (billions of cubic feet)			
	BROOKIAN STRATIGRAPHIC PLAYS								
2	Brookian Topset	61	239	465	125	0	192	679	253
3	Brookian Clinoform North	538	1306	2257	531	0	674	1969	660
3	Brookian Clinoform Central	299	973	1849	477	1806	5405	10076	2535
3	Brookian Clinoform South-Shallow	0	508	1254	389	0	2405	5809	1792
3	Brookian Clinoform South-Deep	0	0	0	0	0	3788	8796	2843
	BEAUFORTIAN STRATIGRAPHIC PLAYS								
4	Beaufortian Cretaceous Topset North	0	103	239	75	0	405	1162	397
4	Beaufortian Cretaceous Topset South	0	0	0	0	635	2130	4004	1029
5	Beaufortian Upper Jurassic Topset Northeast	2744	5176	8086	1645	0	0	0	0
5	Beaufortian Upper Jurassic Topset Southeast	0	0	0	0	2053	5137	9030	2148
5	Beaufortian Upper Jurassic Topset Northwest	733	1859	3312	787	0	0	0	0
5	Beaufortian Upper Jurassic Topset Southwest	0	0	0	0	2008	5220	9265	2261
6	Beaufortian Lower Jurassic Topset	0	83	210	68	0	793	1915	612
7	Beaufortian Clinoform	0	12	71	28	0	822	2180	719
	STRUCTURAL PLAYS								
8	Brookian Topset Structural	0	137	654	269	4801	10606	18012	4072
9	Torok Structural	0	35	222	101	0	17905	35012	10120
10	Ellesmerian Structural	0	0	0	0	0	1990	5675	1920
10	Thrust Belt	0	6	43	23	0	1521	4240	1473
	ELLESMERIAN STRATIGRAPHIC PLAYS								
11	Ellesmerian Ivishak	0	84	243	81	0	106	565	211
12	Ellesmerian Echooka North	0	7	0	41	0	7	0	78
12	Ellesmerian Echooka South	0	0	0	0	0	505	2087	756
13	Ellesmerian Lisburne North	0	29	181	79	0	22	0	146
13	Ellesmerian Lisburne South	0	0	0	0	0	646	2732	982
14	Ellesmerian Endicott North	0	3	0	17	0	1	0	21
14	Ellesmerian Endicott South	0	0	0	0	0	1072	4816	1770
	Aggregated Totals	6673	10558	15007	2546	40372	61351	85317	13714

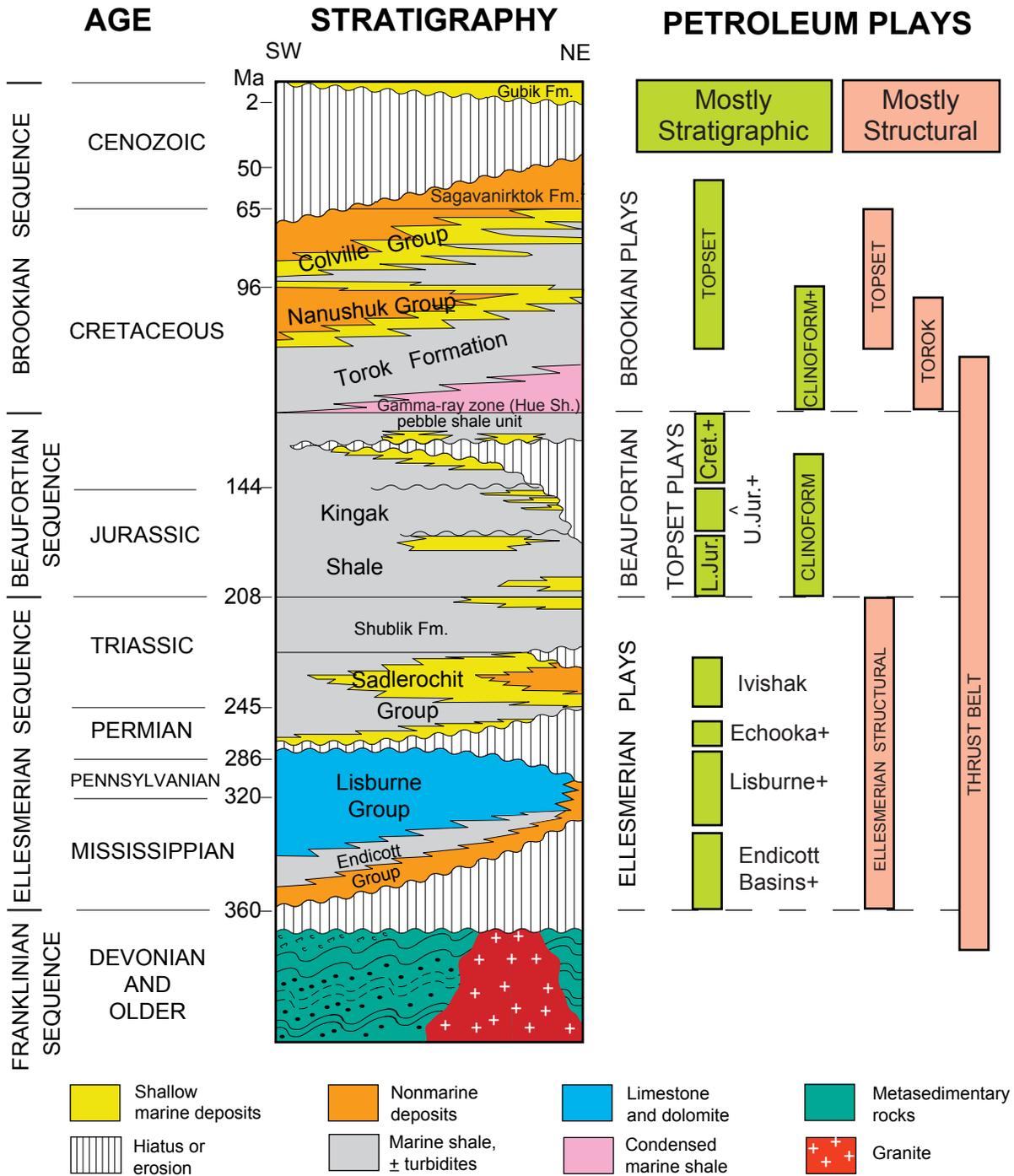


Figure 1. Stratigraphic column for the NPRA assessment area showing the stratigraphic position of the 24 plays evaluated in the 2002 USGS assessment. Six plays with a "+" symbol actually consist of two or more plays in different geographic areas, so the 14 plays indicated here represent all 24 plays listed in Table 1.

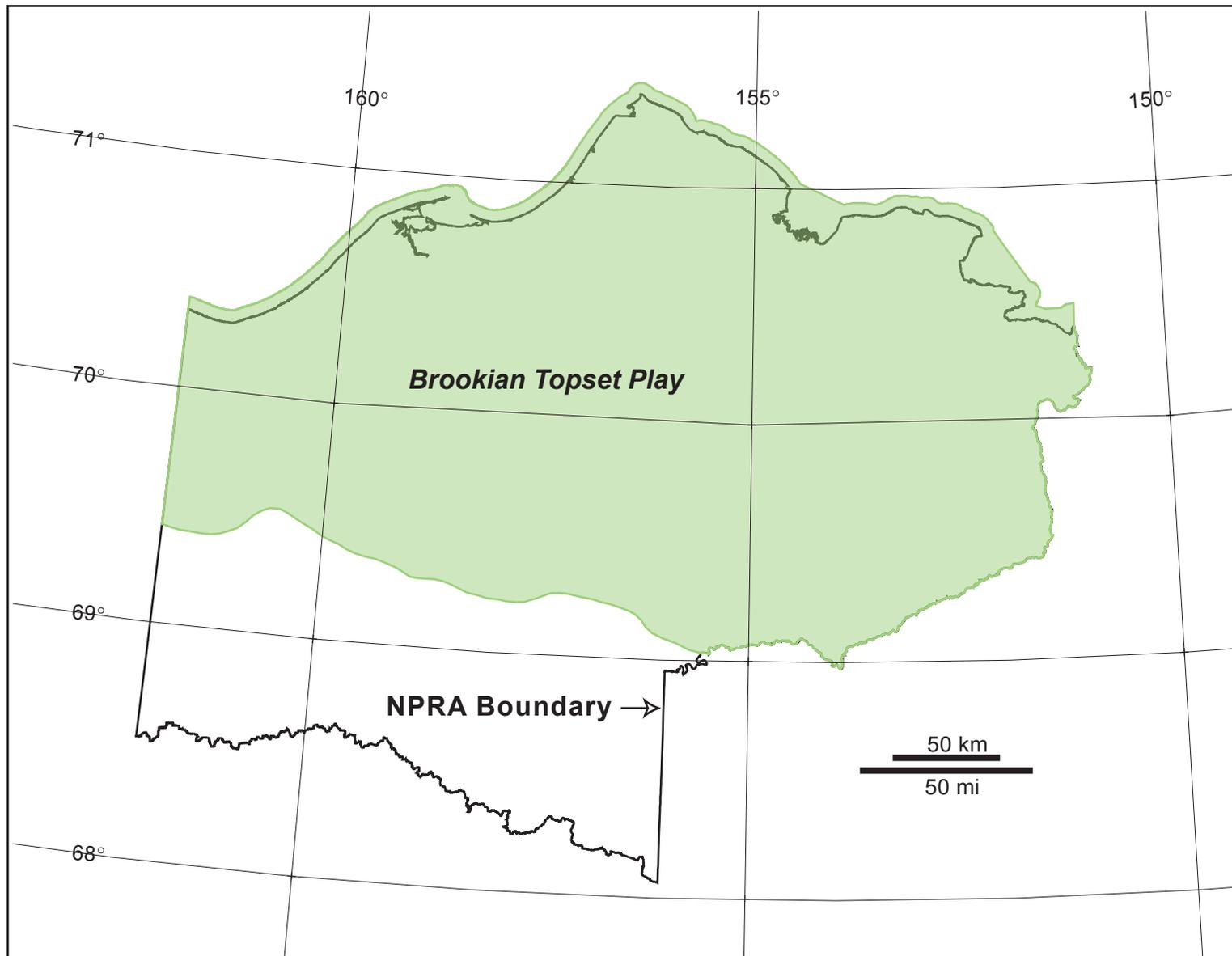


Figure 2. Map showing the areal extent of the Brookian Topset Play evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

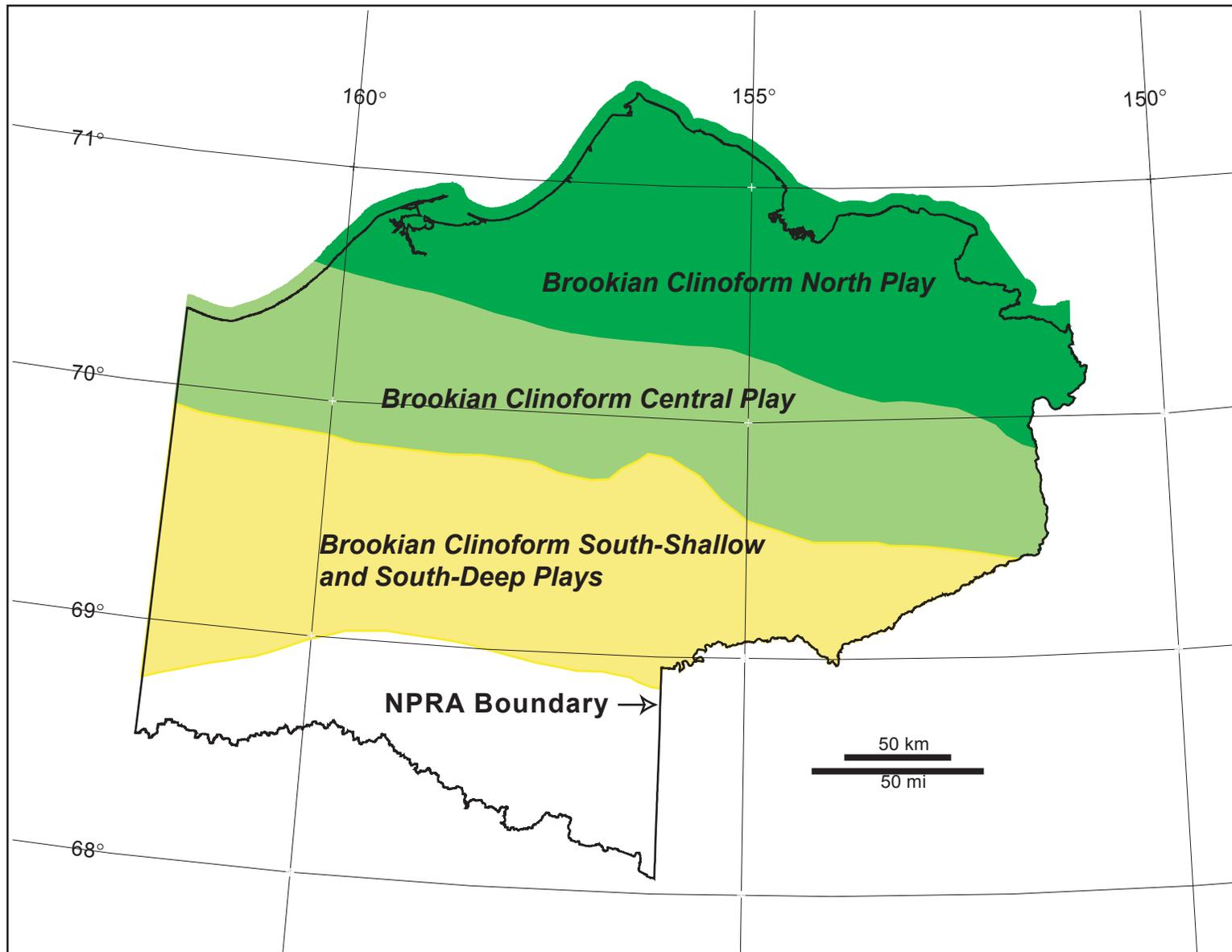


Figure 3. Map showing the areal extent of the four Brookian Clinoform Plays evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

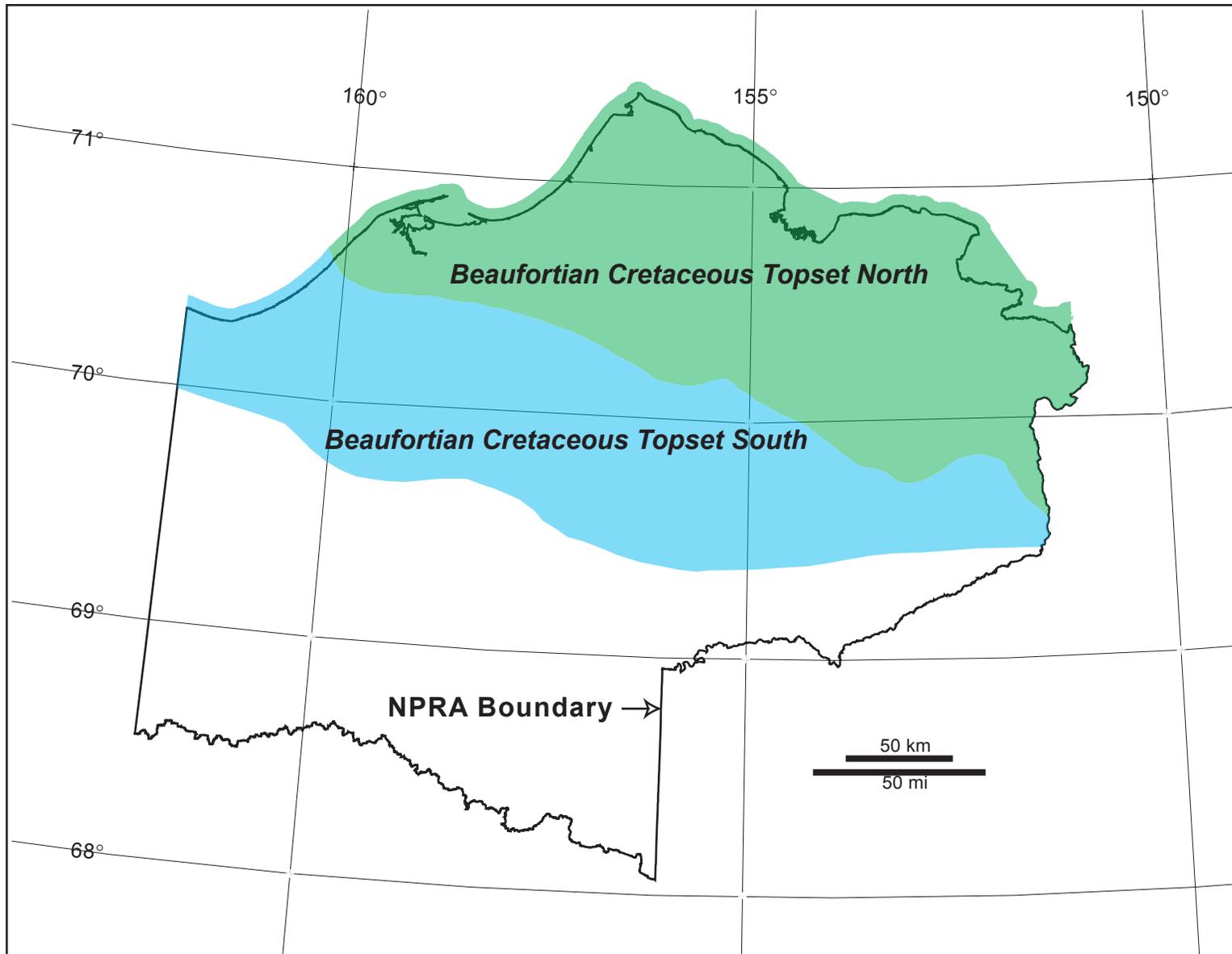


Figure 4. Map showing the areal extent of the two Beaufortian Cretaceous Topset Plays evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

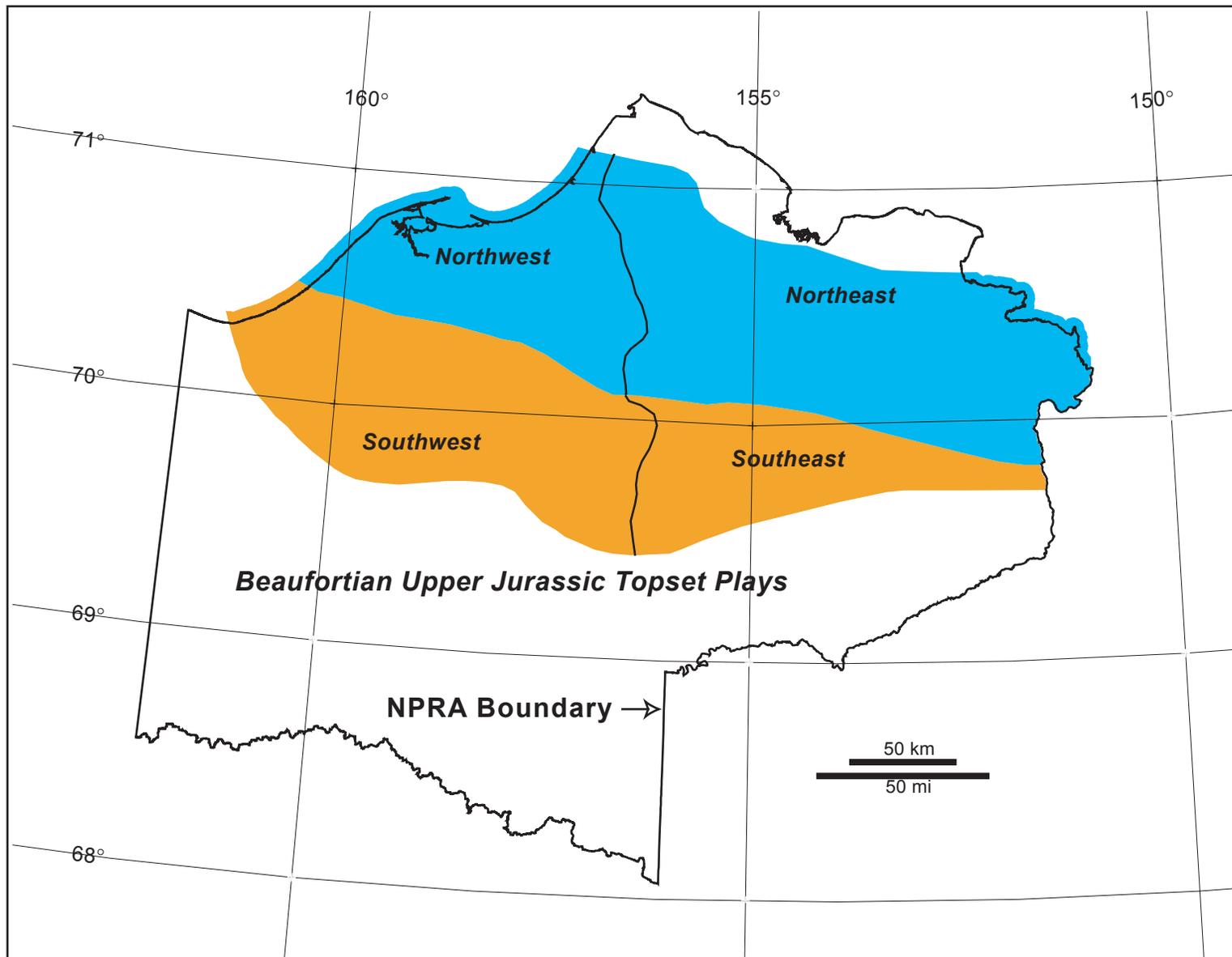


Figure 5. Map showing the areal extent of the four Beaufortian Upper Jurassic Topset Plays evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

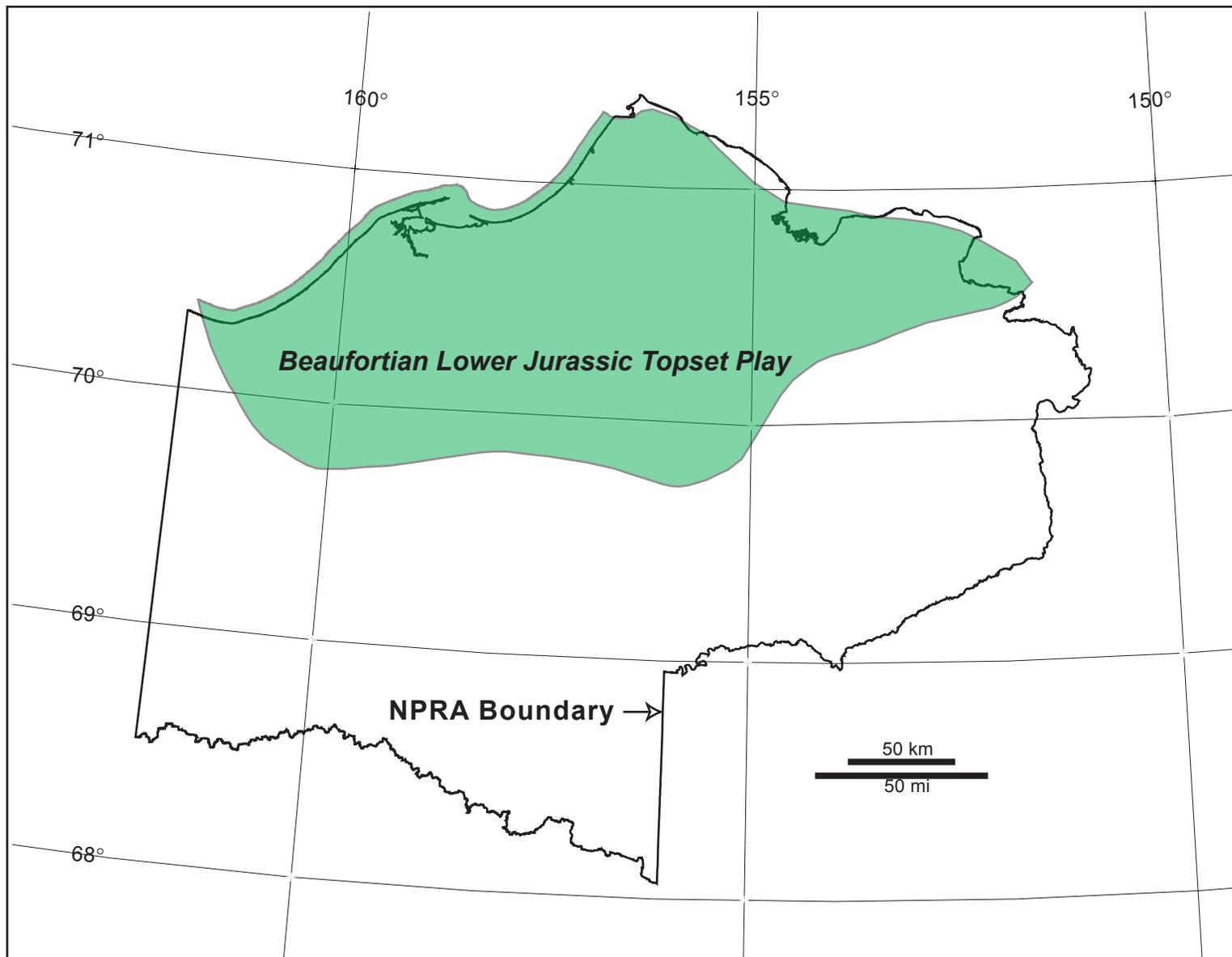


Figure 6. Map showing the areal extent of the Beaufortian Lower Jurassic Topset Play evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

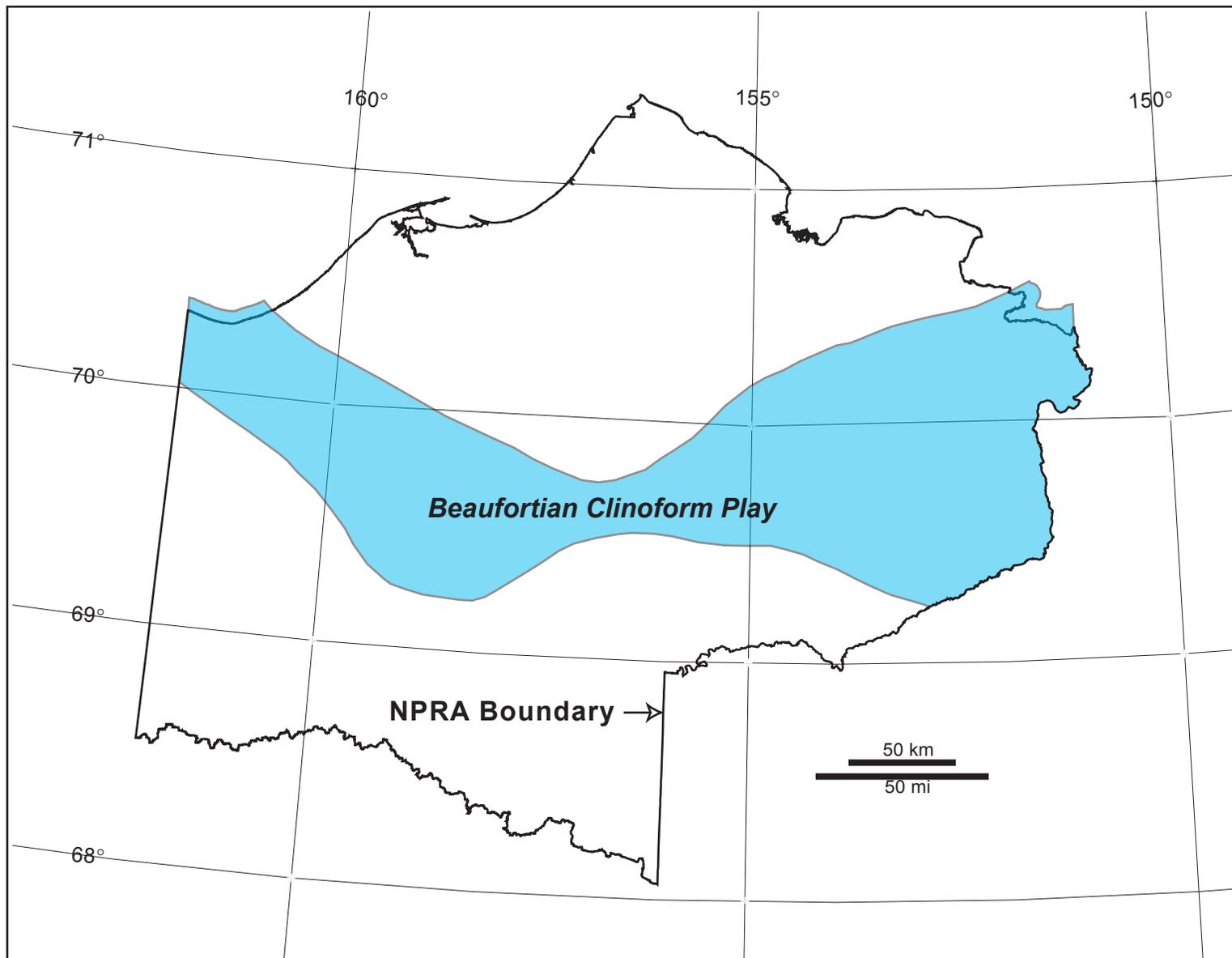


Figure 7. Map showing the areal extent of the Beaufortian Clinoform Play evaluated in the 2002 USGS petroleum resource assessment of the NPR A.

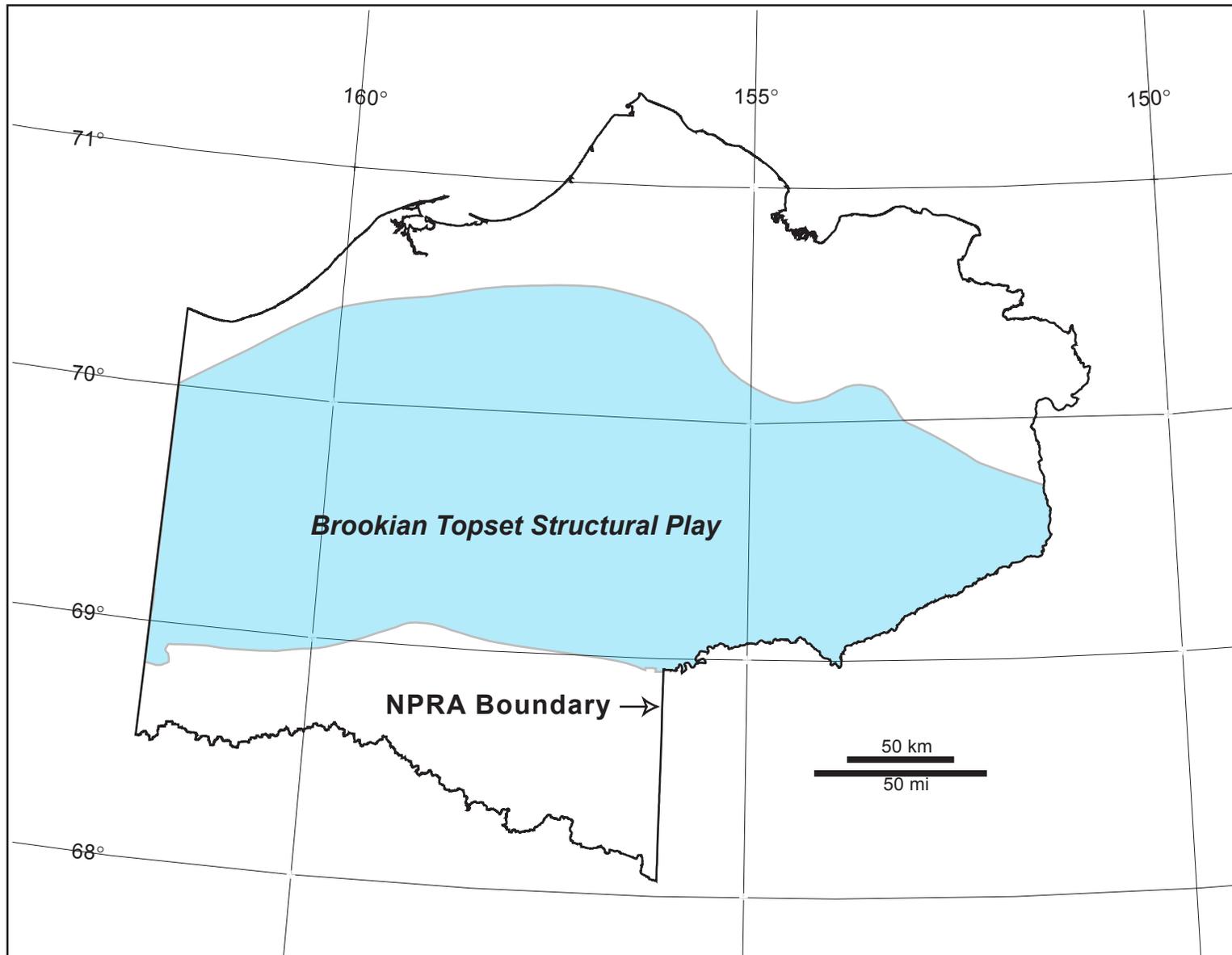


Figure 8. Map showing the areal extent of the Brookian Topset Structural Play evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

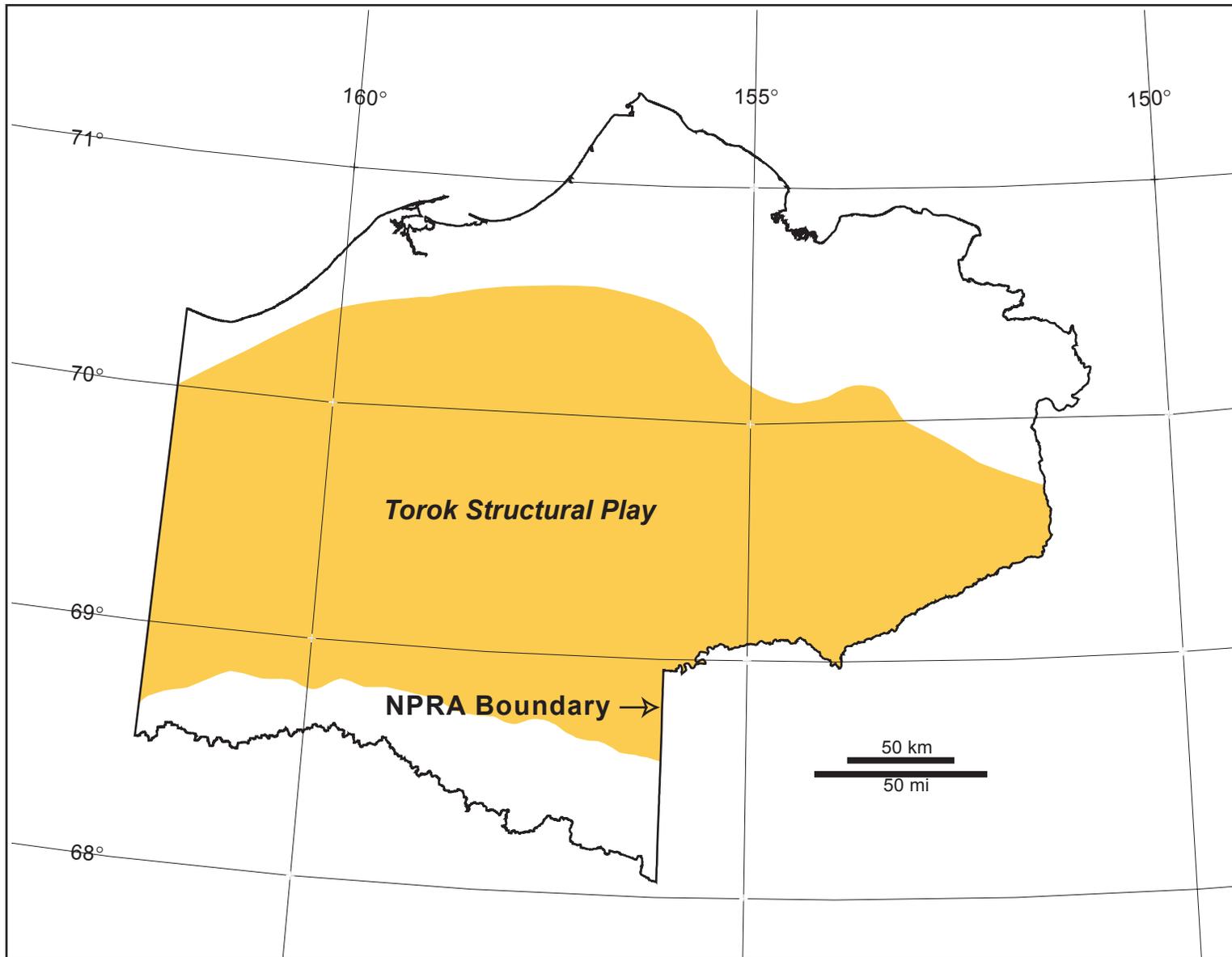


Figure 9. Map showing the areal extent of the Brookian Torok Structural Play evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

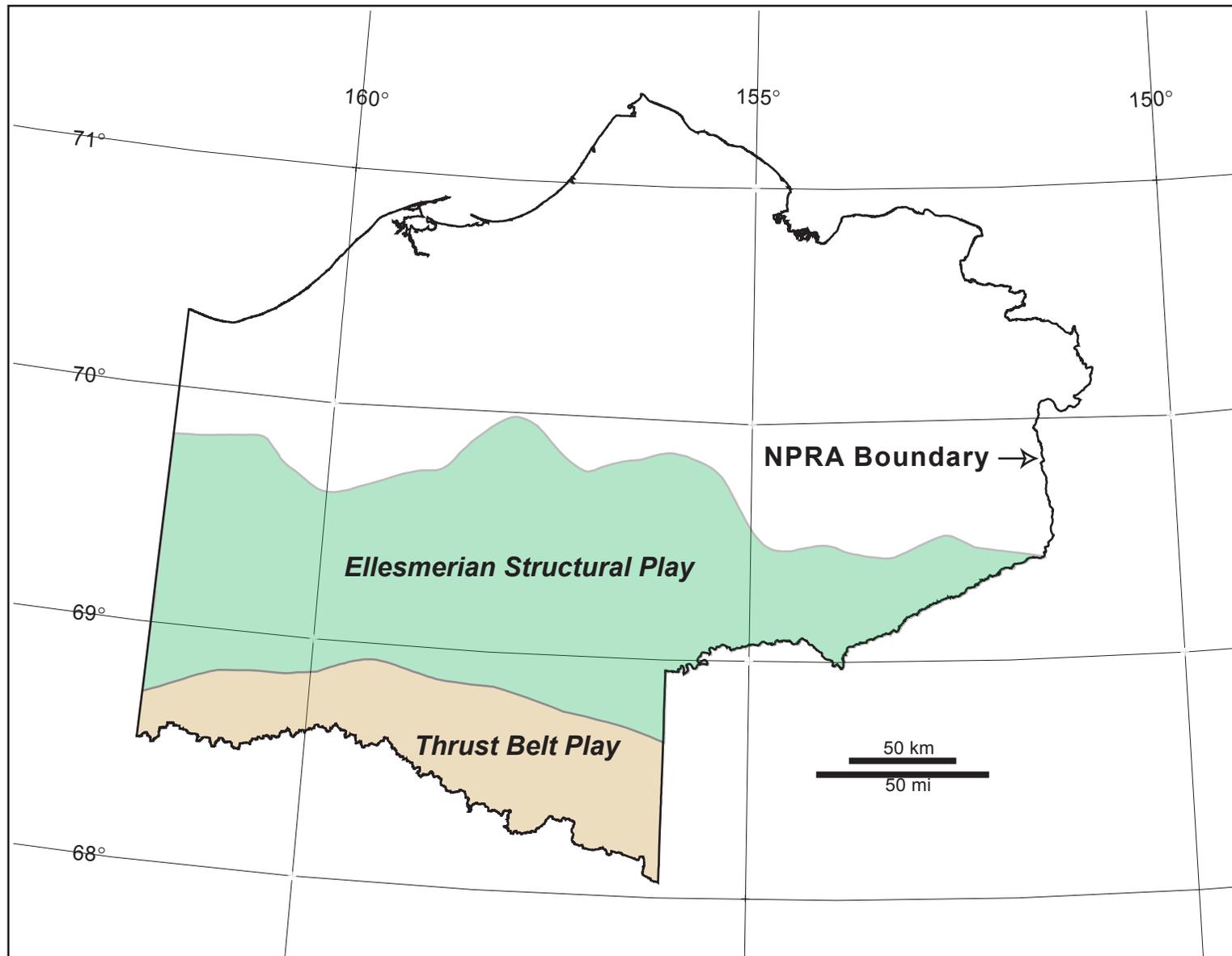


Figure 10. Map showing the areal extent of the Thrust Belt and Ellesmerian Structural Plays evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

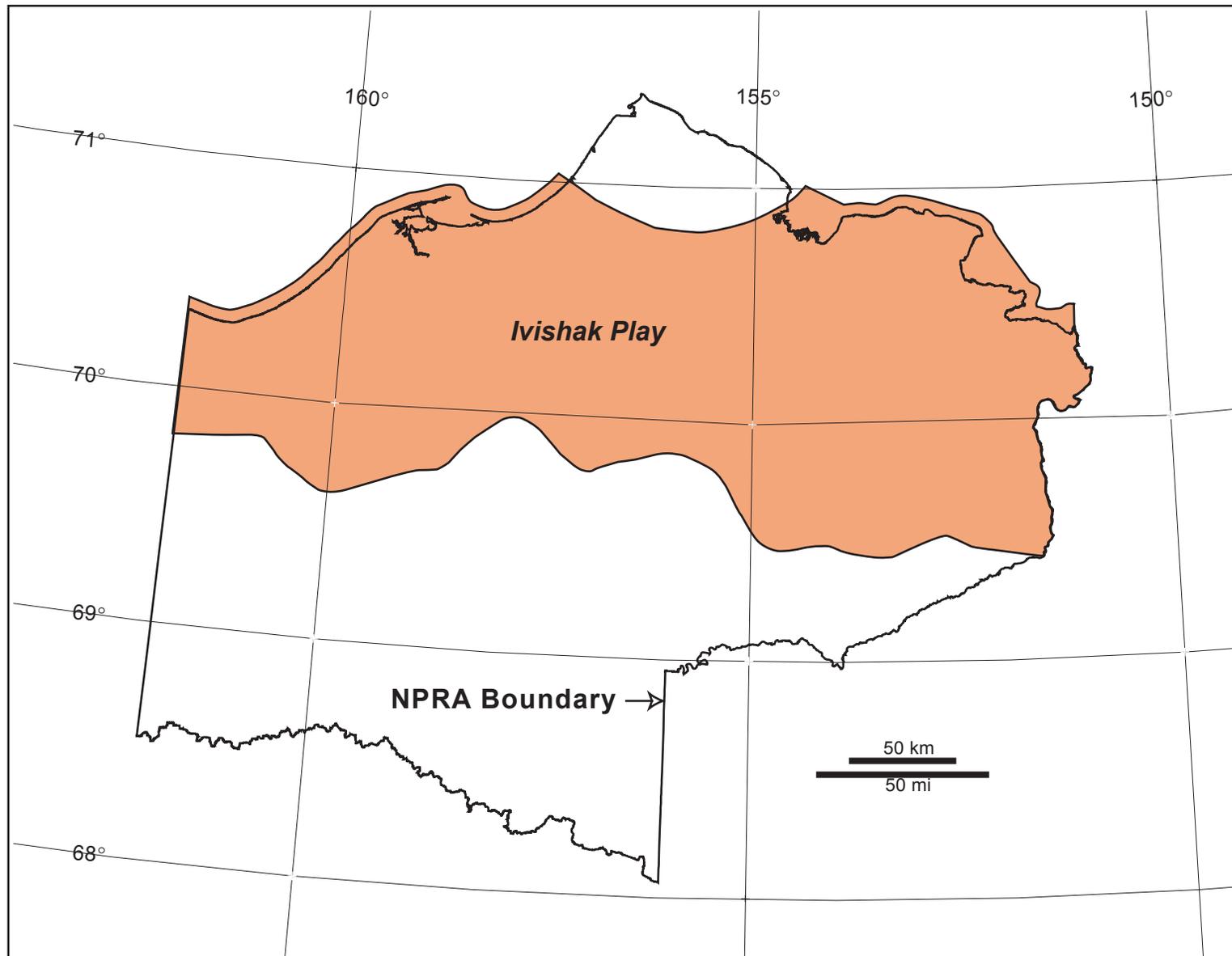


Figure 11. Map showing the areal extent of the Ellesmerian Ivishak Play evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

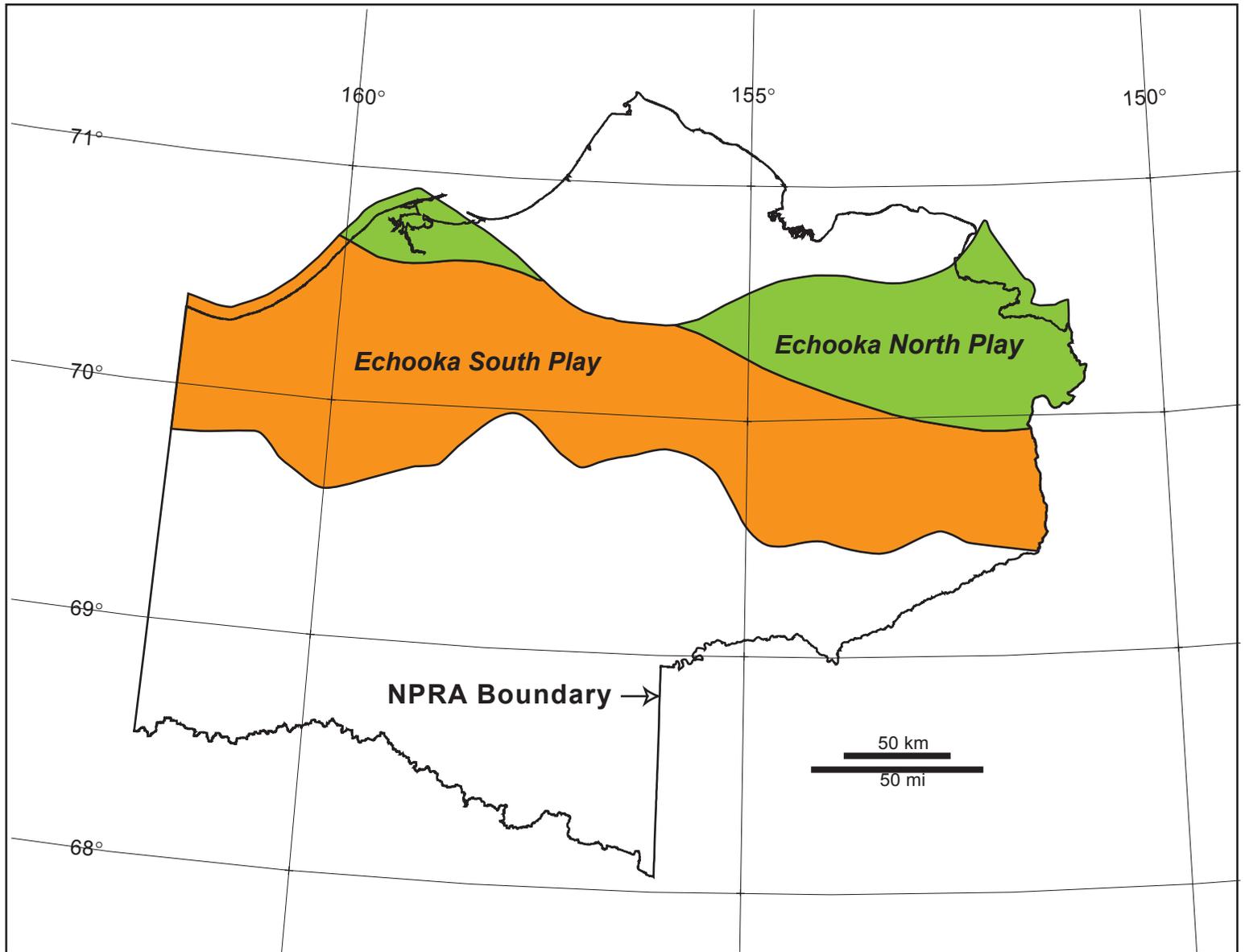


Figure 12. Map showing the areal extent of the Ellesmerian Echooka Plays evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

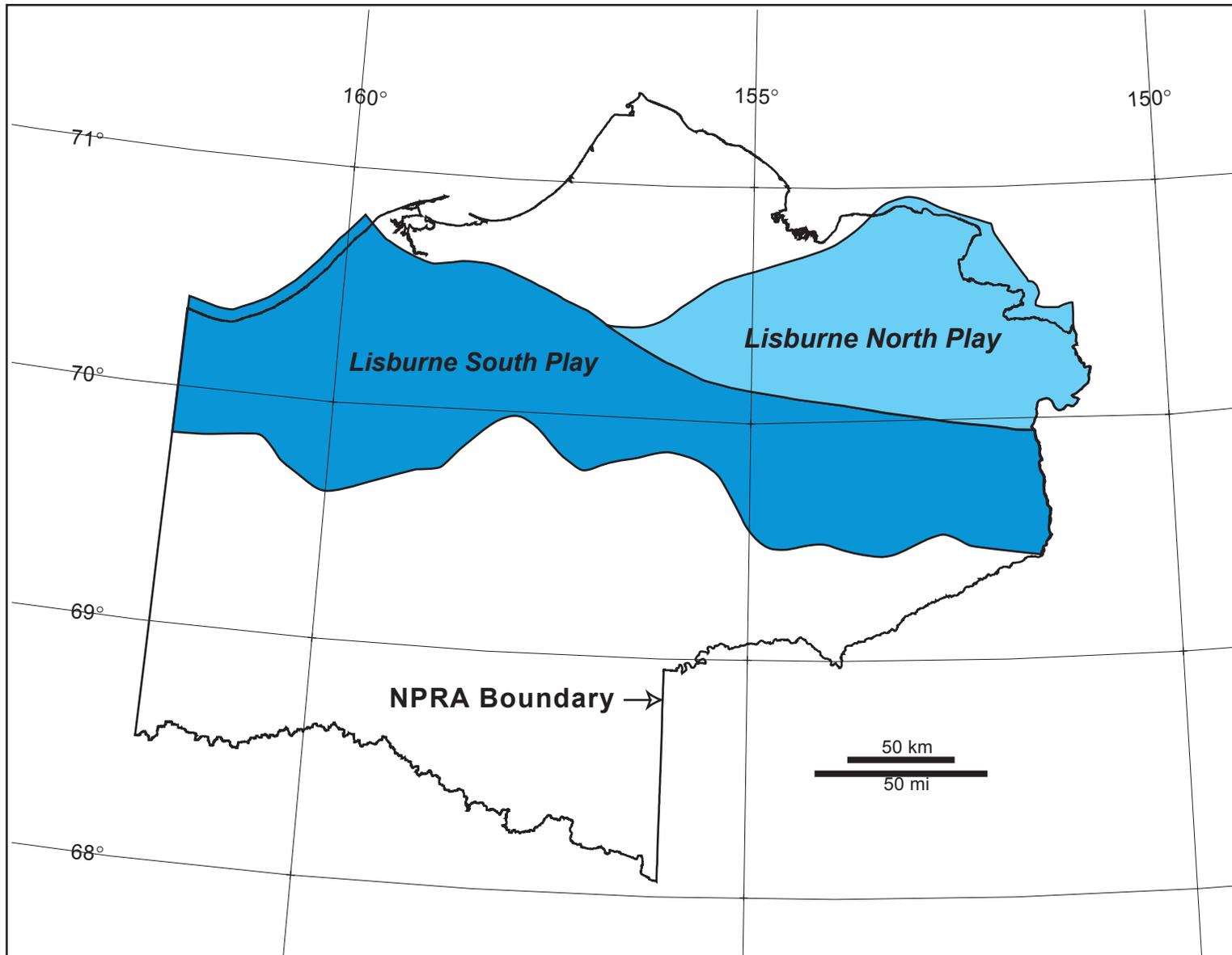


Figure 13. Map showing the areal extent of the Ellesmerian Lisburne Plays evaluated in the 2002 USGS petroleum resource assessment of the NPRA.

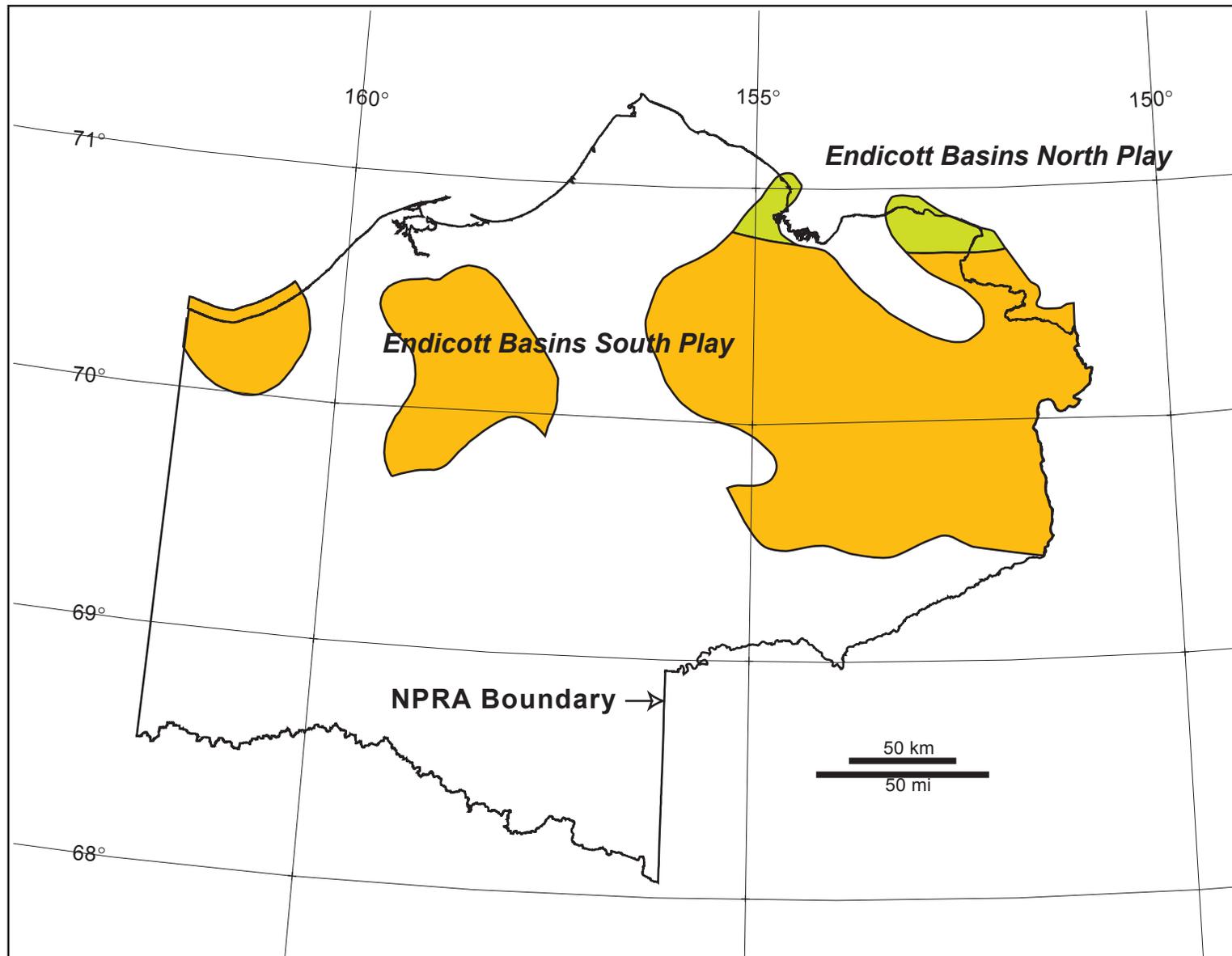


Figure 14. Map showing the areal extent of the Ellesmerian Endicott Basins Plays evaluated in the 2002 USGS petroleum resource assessment of the NPRA.