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Temporal Dynamics of East Texas Caddo Sites with Nine or Fewer Radiocarbon Dates

Robert Z. Selden, Jr.

INTRODUCTION

This article presents the specifics from the date combination process, and the subsequent production of summed probability distributions for radiocarbon (^{14}C) assays from Caddo sites in East Texas. All ^{14}C dates employed in this effort were collected from research and cultural resource management (CRM) reports and publications, were synthesized, and then recalibrated in version 4.2.2 of OxCal (Bronk Ramsey 2013) using IntCal09 (Reimer et al. 2009) (Pertulla and Selden 2011). These data are meant to augment those from previous analyses of radiocarbon samples from East Texas Caddo sites (Selden and Pertulla 2013a, 2013b), assisting in refining these ideas further.

METHODS

The methods employed within this article were initially outlined within a temporal investigation of the Woodland period (Selden 2012), and have been used within a number of more recent publications aimed at delineating temporal trends within the Archaic (Selden 2013b) and Caddo periods (Selden and Pertulla 2013a, 2013b), and are not discussed here.

COMBINING THE SAMPLE

The 55 Caddo sites with nine or fewer ^{14}C dates include the following sites: Alcoa No. 1 (41AN87), Hatchel (41BW3), Cranfill (41BW171), 41BW553, 41CE299, Kah-hah-ko-wha (41CE354), Shelby (41CP71), 41CP88, 41CP316, Knight's Bluff (41CS14), 41CS151, Spike (41DT16), 41DT63, Thomas (41DT80), Doctors Creek (41DT124), 41DT141, Hardin-A (41GG69), 41HE343, Lawson (41HP78), Mound Pond (41HS12), 41HS231, 41HS588, 41HS846, Mackin (41LR39), Ray (41LR135), 41MX5, Chayah (41NA44), Washington Square (41NA49), Foggy Fork (41NA235), Naconiche Creek (41NA236), Miles Boundary (41NA248), Telesco (41NA280), Boyette (41NA285), Hudnall-Pirtle (41RK4), Herman Ballew (41RK222), 41RK557, Holdeman (41RR11), Fasken (41RR14), Roitsch/Sam Kaufman (41RR16), Rowland Clark (41RR77), Redwine (41SM193), Broadway (41SM273), Leaning Rock (41SM325), 41SM404, Tyson (41SY92), 41TT372, Mockingbird (41TT550), James Owens (41TT769), Harroun (41UR10), Kelsey Creek Dam (41UR118), Camp Joy (41UR144), Henry Spencer (41UR315), McKenzie (41WD55), Spoonbill (41WD109), and Taddlock (41WD482). In the following section, the samples are refined through date combination, and the subsequent results (combined dates) replace the original assays in the subsequent analysis of all ^{14}C samples from Caddo sites.

The ^{14}C dates from the Hatchel site serve as an overview of the date combination process (Figure 1), after which all sites with nine or fewer dates are listed in chronological order (Figure 2a-e). While these results clarify much with regard to the temporal position of contributing sites, further work is needed to expound upon this understudied amalgam of chronometric dates. The application of some manner of chronometric hygiene is warranted, and while that will greatly diminish the number of ^{14}C dates from the Caddo period, it should greatly increase the resolution of the current temporal model.

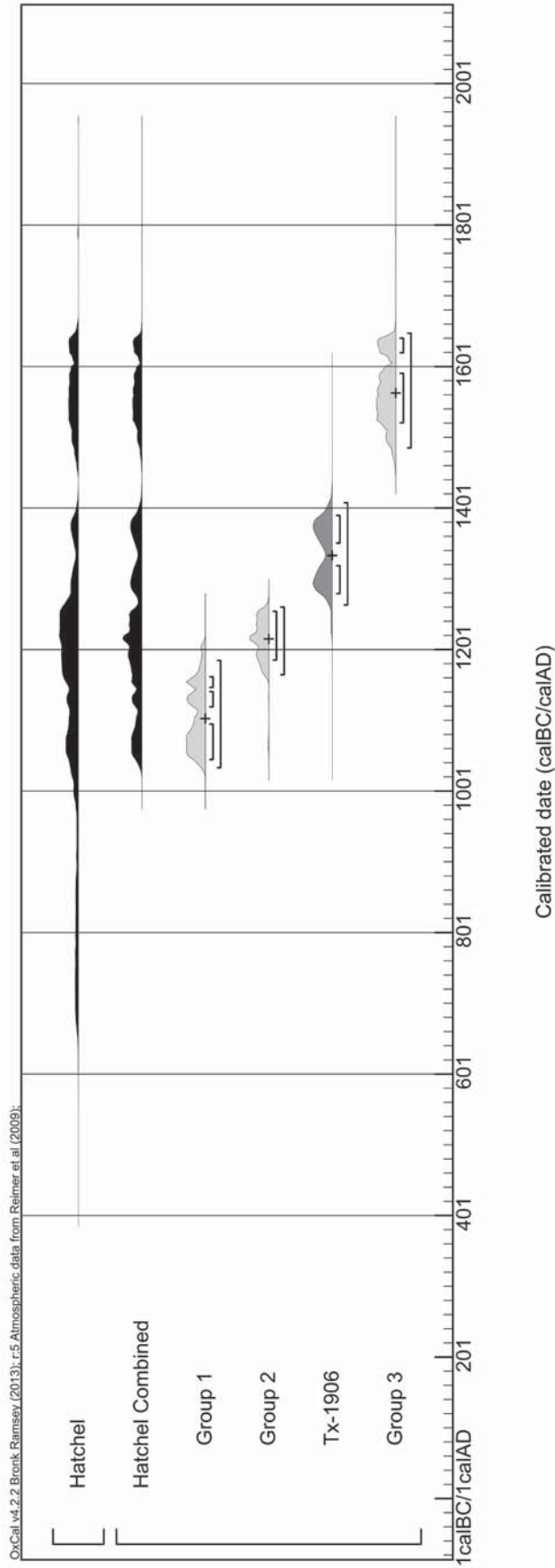


Figure 1. All and combined summed probability distributions for Caddo period dates from the Hatchel site (41BW3) with 1σ and 2σ ranges, median ages, and number of samples.

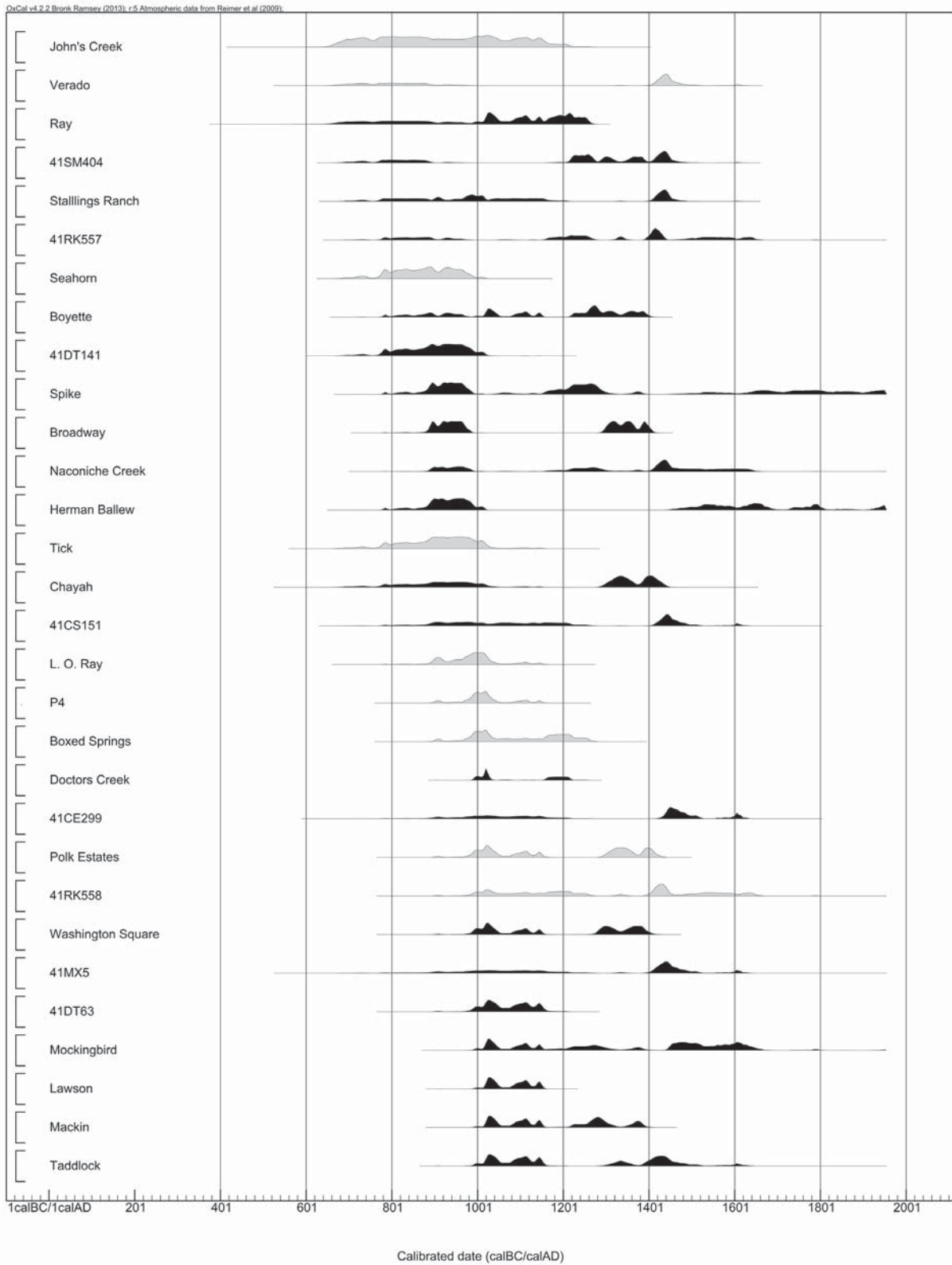


Figure 2a. Site-specific summed probability distributions listed in chronological order. Sites with combined dates appear in black, post-A.D. 800.

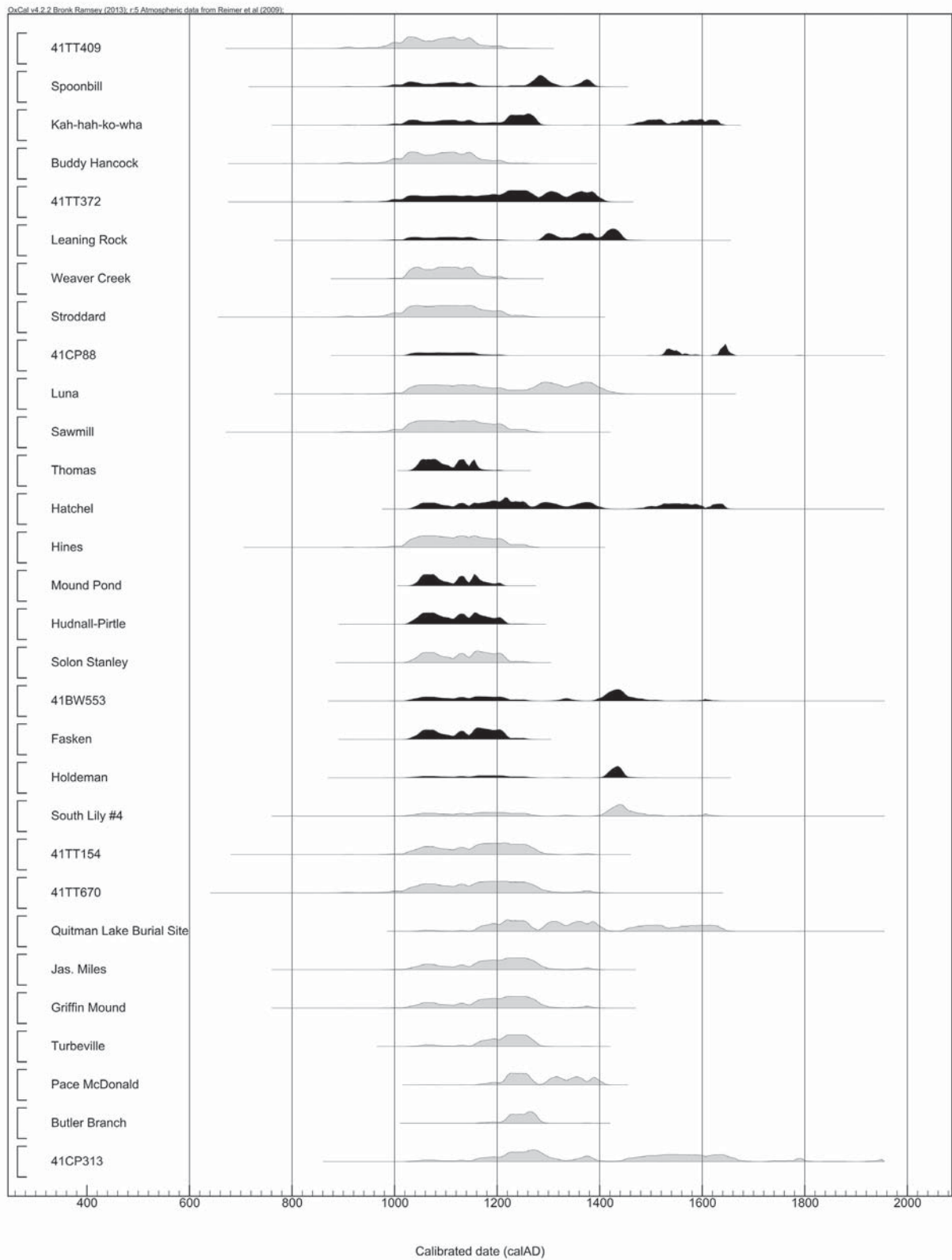


Figure 2b. Site-specific summed probability distributions listed in chronological order. Sites with combined dates appear in black, post-A.D. 1000.

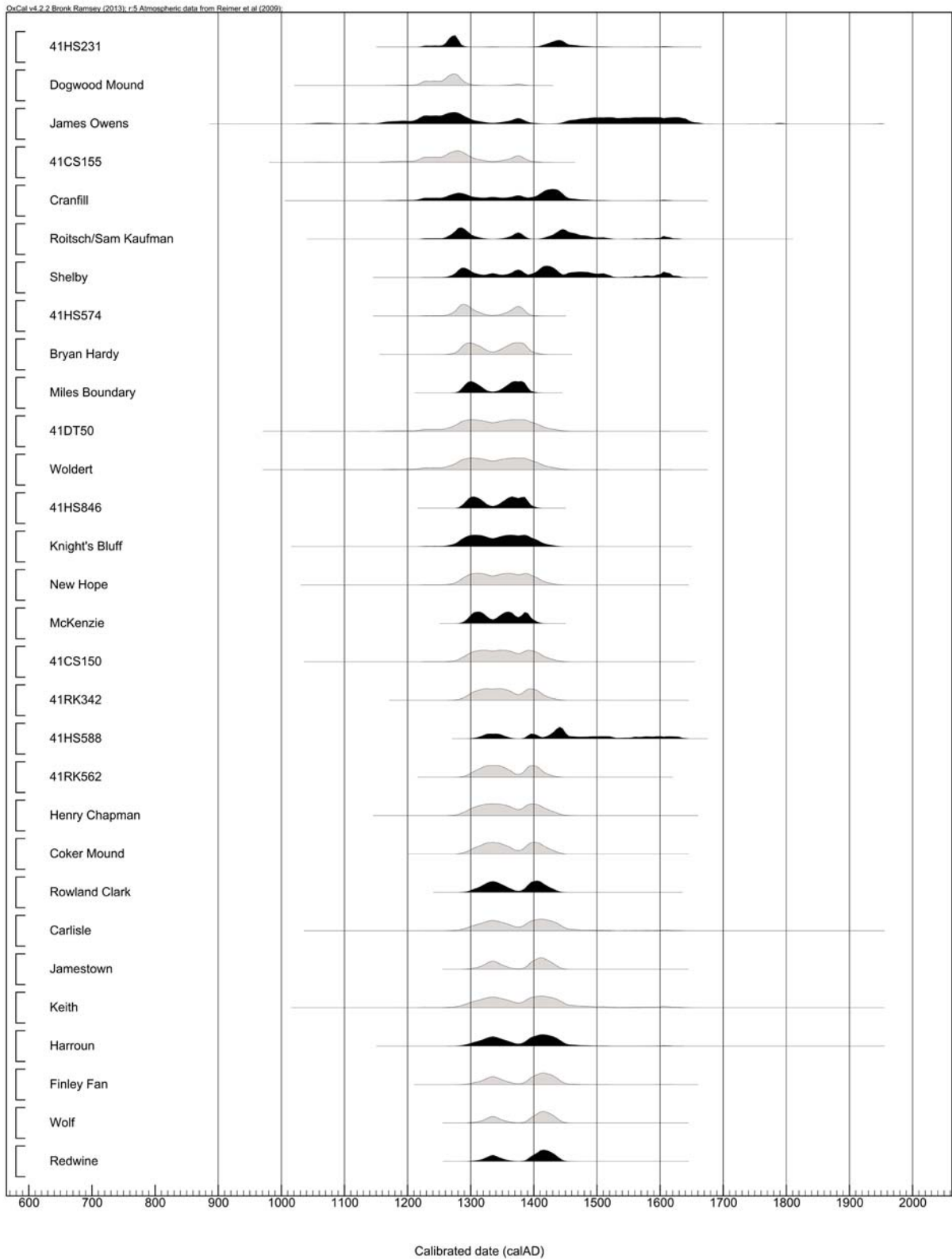


Figure 2c. Site-specific summed probability distributions listed in chronological order. Sites with combined dates appear in black, post-A.D. 1150.

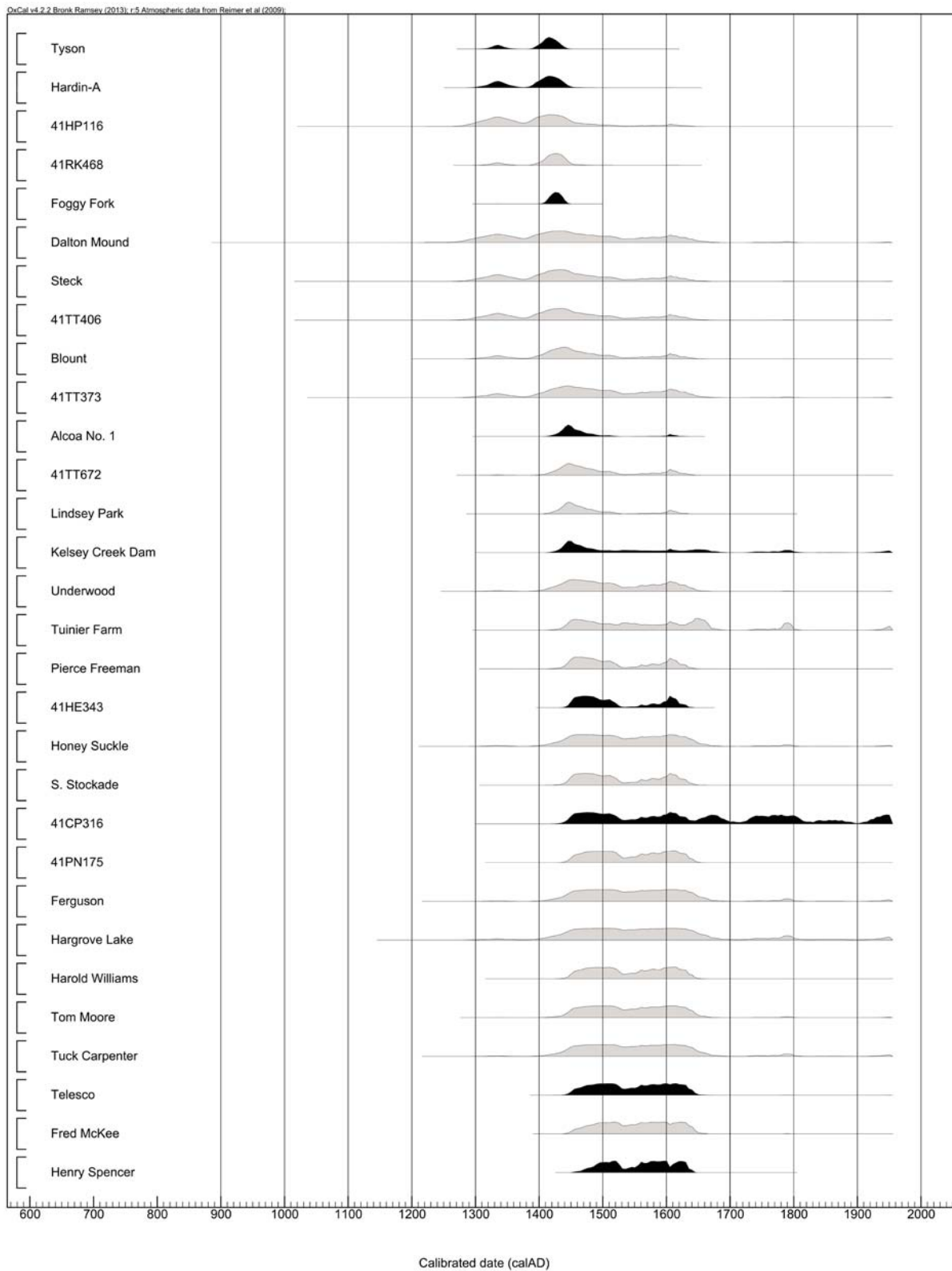


Figure 2d. Site-specific summed probability distributions listed in chronological order. Sites with combined dates appear in black, post-A.D. 1300.

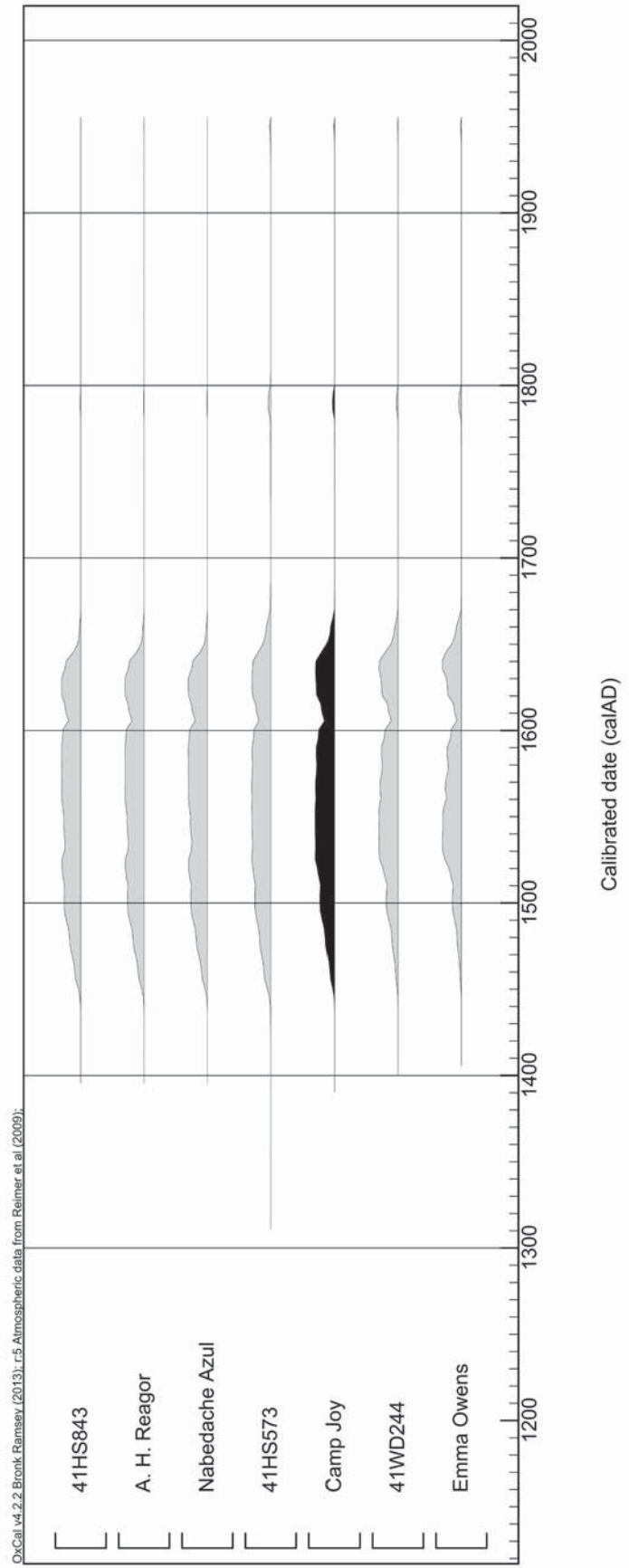


Figure 2e. Site-specific summed probability distributions listed in chronological order. Sites with combined dates appear in black, post-A.D. 1400.

CONCLUSIONS

The date combination process, when paired with summed probability distributions, allows for in the establishment of more accurate and precise temporal ranges for Caddo archaeological sites in East Texas; in this case, 55 important sites with nine or fewer ¹⁴C samples. This method can be used to explore the temporal range of sites, and their combination serves as a means of highlighting the various temporal trends within almost a 900 year portion of the Caddo archaeological tradition (ca. A.D. 800-1680). The analysis of Caddo radiocarbon dates can help to identify and/or clarify the ages of features or events that appear to have occurred—potentially—within the same probabilistic span of time.

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