Stallings Island Revisited: Modern Investigation of Stratigraphy and Chronology

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Abstract. Stallings Island (9CB1) is a large shell-midden site in the Savannah River near Augusta, Georgia, that figures prominently in archaeological perspectives on the origins of pottery and cultural complexity among hunter-gatherer societies of the American Southeast. Despite repeated investigations since the last century, Stallings Island was not securely dated with absolute chronometric methods. National Geographic funds supported an expedition to the site in 1999 to reopen a 1929 excavation for purposes of detailed stratigraphic mapping and radiocarbon sampling. The main trench of this early dig was located, but virtually none of the midden in the profiles of these units remained intact. Fortunately, many undisturbed pit features were preserved in the residual clay beneath the midden. Strategy was shifted to seek out pit features in the old excavation block, and in some of the hundreds of looters' pits at the site. Nearly all locations produced intact features filled with freshwater shell, charcoal, vertebrate remains, and artifacts. In addition, an area of the site heretofore regarded as geologically disturbed proved to contain over two meters of stratified shell midden. All told, dozens of pit features and a column from the deep shell strata provided ample opportunity for radiocarbon dating. Seventeen assays returned thus far not only enable Stallings Island to be situated firmly in the emerging details of regional chronology, but extend back by several centuries the onset of intensive habitation and shellfishing in the middle Savannah River valley.

Stallings Island (9CB1) is a National Landmark site in the middle Savannah River valley of Georgia that has been the subject of repeated archaeological investigations since the 1850s. As the namesake for the oldest pottery in North America, Stallings Island has figured prominently in the development of knowledge about increasing settlement permanence and social complexity in the prehistoric Southeast. Despite its central importance to prehistory, knowledge about Stallings Island has been more mythical than factual. Of the many professional investigations of the site (Bullen and Greene 1970; Crusoe and DePratter 1976; Fairbanks 1942), only the 1929 Peabody Museum expedition was reported in detail (Claflin 1931). Naturally, a report of work conducted 70 years ago cannot possibly satisfy all modern research needs. The Peabody investigators emphasized the recovery of artifacts and skeletal remains, and whereas they conducted stratigraphic mapping and feature excavation, a lack of independent dating prevented a detailed reconstruction of site formation, occupational sequence, and community patterning.

Since 1991 the Stallings Archaeological Project has undertaken field investigations at several other Stallings-period sites in the middle Savannah River valley.

All such investigations were prompted by looting activities, as the shell-rich deposits of these sites have preserved organic artifacts, such as carved bone pins, that bring premium prices on the antiquities market. Despite the damage from looters, these sites still preserved intact subsurface features, many with datable organics and diagnostic artifacts. One result of this work has been an increasingly detailed chronology of the cultural developments leading to classic Stallings Culture of 3800-3500 radiocarbon years before present (rcybp) (Sassaman 1998). As stratigraphic work at Stallings Island demonstrated 70 years ago, classic Stallings Culture was preceded by a preceramic culture known today as the Mill Branch phase of the Late Archaic period (Elliott et al. 1994:371). Dating from about 4200-3800 rcybp, the Mill Branch phase represents much more than a local ancestor or predecessor to Stallings Culture. A growing body of evidence suggests strongly that groups of Mill Branch affinity, with ancestry in the middle Savannah region extending back at least five centuries, coexisted with early Stallings communities for upwards of 200 years. These latter communities have histories of coastal settlement dating from about 4600 rcybp, but they began to make seasonal use of middle Savannah riverine sites after about 4000 rcybp. The hypothesis that arises from these new data is that the emergence of classic Stallings Culture in the middle Savannah at about 3800 rcybp was a sociopolitical consequence of interactions between ethnically distinct Mill Branch and early Stallings communities.

As the regional chronology for Stallings genesis developed from investigations elsewhere, the type site, Stallings Island, had little to offer. Three radiocarbon dates obtained from samples collected by Bruce Greene (Williams 1968:331) generally agree with the rough details of regional chronology, but they were hardly sufficient to situate the various components of this complex site in the emerging details of Stallings chronology. The opportunity to remedy this situate came in 1998, when the Archaeological Conservancy acquired Stallings Island from the land owner, who stipulated in the transfer that the site be not only protected from further looting, but also availed to scientific investigation.

Knowing how severely Stallings Island had already been impacted by previous excavations and more recent looting, I was reluctant to initiate new excavations of sufficient scope to characterize the internal chronology of the site. At over 5000 m^2 in extent and as much as 3 m thick, the midden deposits that constitute the core of Stallings Island would require extensive digging to ensure adequate sampling. In lieu of new excavations, I proposed that the 1929 excavations of the Peabody be reopened to expose one of the profiles that bisected the midden. Previous work exposed strata with intervening layers of shell and loam resting on residual clay generally 1.0 to 1.5 m below the surface across most of the deposit. Given our recent success at dating freshwater clam shell from other Stallings sites (Sassaman 1998), I proposed that we simply collect samples of shell from portions of intact profile to establish, at the minimum, the range of time represented by episodes of shellfish discard.

The strategy then was to relocate the profile of the 210-ft-long Trench 2—dug in 1929 under the direction of Mr. And Mrs. C. B. Cosgrove—map it in detail, and collect at least 24 samples for radiocarbon dating. A recent topographic map of the site with a 2-ft

contour interval showed a surface depression in the general vicinity of the Cosgroves' block excavation, which was bordered on its north edge by Trench 2. Three test units were opened along the northern edge of this depression, in what presumably was the western half of Cosgroves' unit. None of the units intercepted decidedly intact midden deposits, but exposed in the floor of Test Unit 1 was a trench that penetrated some 55 cm into basal clay (Figure 1). Nothing in the 1931 report suggests that the Cosgroves' crew dug into basal clays in this part of the site, so we were skeptical that this feature related to their activity. However, we later exposed the trench in Test Unit 6, just to the west of Unit 1 (Figure 1). Projected across the entire site, the alignment of these two exposures conforms rather well with the topographic depression, particularly as it appears in the 10-cm contour map we generated from about 1400 laser transit readings (Figure 2).

Having located Trench 2 we were at a loss for how to proceed, for none of the midden profile above the clay was preserved in any of the test units opened thus far. Indeed, looting at the site was far worse than we expected. As weedy vegetation was cleared from the surface it became apparent that the entire midden was impacted by illicit digging. Nearly 200 individual looters' pits were mapped in the core of the midden (Figure 3); as many more are located along the slopping fringes of the "mound." Certainly portions of the midden remain intact in isolated places across the site, but we had little hope of locating sufficiently preserved midden along the Trench 2 profile to warrant the effort it would take to uncover the entire 210-ft long exposure.

Fortunately, our initial test units uncovered something we were not prepared to see but which proved to fulfill our needs for internal chronology. In all places where we exposed the clay floor of the Cosgroves' block excavation we observed the outlines of pit features. The Cosgroves located and excavated 110 such features, as well as hearths and human burials, and we found clear evidence of ones they had worked. However, we also located pits they overlooked, such as the one bisected by the trench fill in Figure 1. Like those found by the Cosgroves, unexcavated pits we encountered penetrated as much as 120 cm into the basal clay. They typically contained an organic-rich clay loam with shell, charcoal, abundant vertebrate bone, and numerous diagnostic artifacts. Here then was a resource we did not expect to have: a rich assemblage of well-preserved "time capsules" in the very location excavated by the Cosgroves. What is more, stains of back-filled features in their excavation block could be correlated with the published locations, so we were able to overlay the Cosgroves' excavation plan on to our modern map despite the lack of a datum from 1929.

Rather than put all our efforts into the redigging of Cosgroves' block, we took the opportunity to open up several looters' pits to explore the potential for preserved midden and submidden features in other portions of the site. A total of six such pits were investigated with five 2 x 2-m and one 1 x 2-m units. The procedure in each case was to orient the test unit so that one edge would align roughly with the wall of the looter's pit, thereby providing at least one good profile of the midden from surface to basal clay. In all but one unit in the core of the site, the entire profile consisted of reworked midden deposits. Still, in all but one case, the submidden clay preserved evidence for intact pit features. All told, 54 pit features were located, mapped, and excavated in the 51 m^2 of

Left: Grid south profile of Test Unit 1, showing cross-section of Cosgroves' Trench 2 where it cut into basal clay. Higher "shelf" of clay to west (right) of trench represents the undisturbed basal stratum. Intact midden above this stratum was not observed.

Right: Close-up view of Trench 2 backfill. Note that the recent age of this feature is apparent in the sharp contrast between clay and organic fill. Note also the characteristically mottled appearance of trench fill.

Planview of Test Unit 6 at contact with clay, showing several pit features, postholes, looters backfill, and backfilled Cosgroves' Trench 2. Facing Grid East.

Inside margin of Cosgrove Trench 2

Figure 1. Views of excavation units exposing portions of the Cosgroves' 1929 Trench 2.

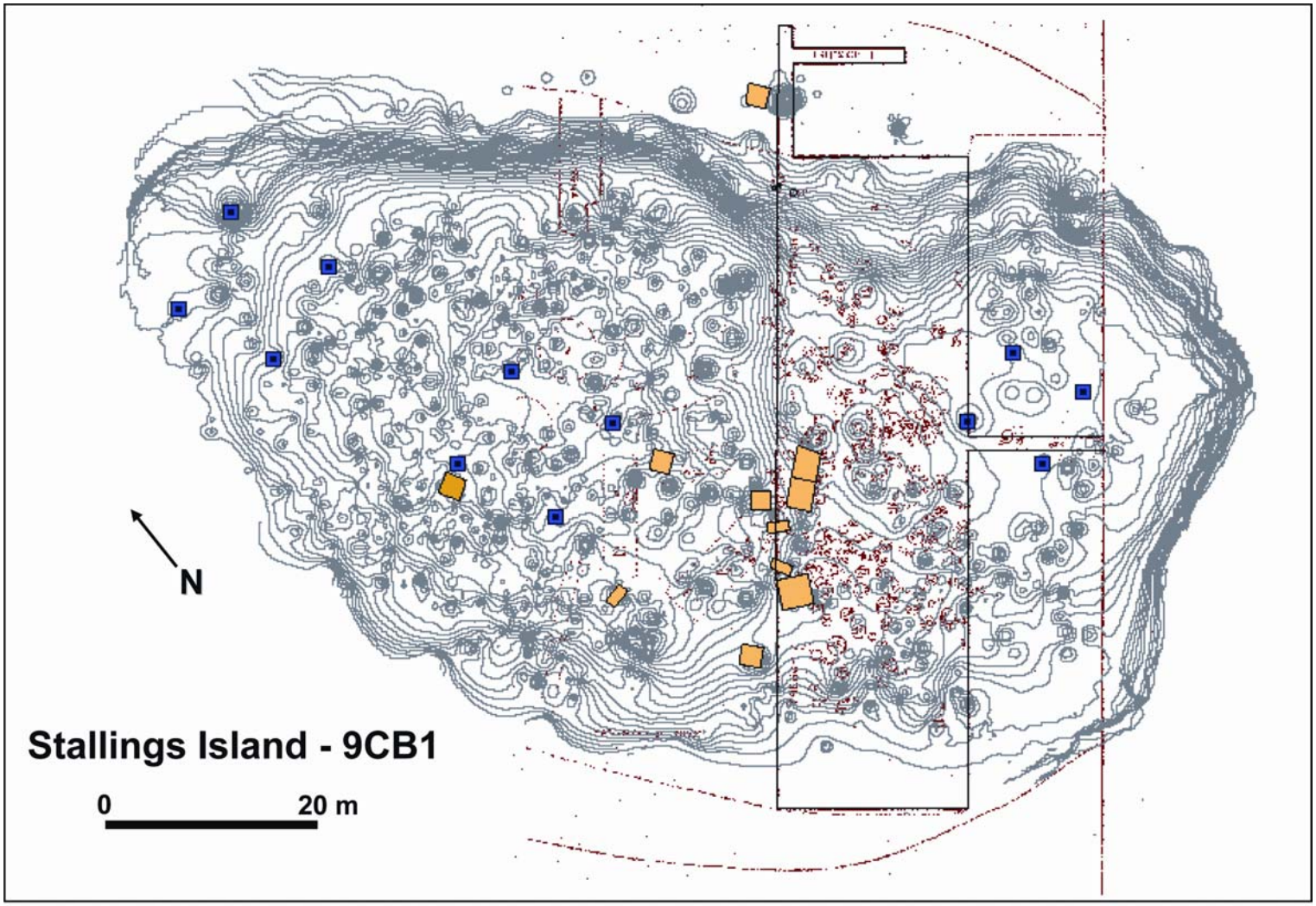

Figure 2. Topographic map (10 cm contour interval) of Stallings Island in June of 1999, showing nearly 200 looters' pits, location of 11 excavation units opened in 1999 (yellow), footings of three electrical pylons (blue), and overlay (red) of 1929 excavation by Cogroves.

test units in looters' pits and the Cosgroves' block combined. A sample of the features is provided in Figure 3. Given the rich organic fill and associated artifacts of most of these features, it goes without saying that they more than fulfilled our needs for developing an internal chronology for Stallings Island.

One additional surprise awaited us in the testing of looters' pits. Down the slope of the east side of the "mound" was an especially large and deep looter's pit (ca. 5 m in diameter) that exposed shell deposits at least 2.5 m deep. This was the area first tested by the Cosgroves' in 1929. In his report of this work, Claflin (1931:5) interpreted the profile as midden fill that was eroded from upslope by floodwaters and redeposited in an old flood chute. Clearly the eastern margin of the "mound" had suffered severe erosion from floods of the late 1920s (Claflin 1931:2), so I never thought to questioned Claflin's assessment of these deep deposits. However, as we began to expose a profile in this large looters' pit (LP81) it became apparent that the upper meter was in fact redeposited fill (flood or looter), but that the lower two meters reflected intact shell midden (Figure 4). Once we recognized this fact, a pedestal roughly 1 x 1 m in size was left standing in the northeast corner of the unit and then removed in natural levels for 1/8-inch waterscreening and flotation sampling. Devoid of pottery but rich in shell, charcoal, fire-cracked rock and soapstone cooking stones, this column provided additional materials for dating, along with a variety of subsistence and paleoecological data.

Radiocarbon Assays

With the full recovery of fill from dozens of large pit features and a shell column, this project ended up with much more than it bargained for. National Geographic sponsorship, however, was for the express purpose of obtaining samples for dating, so I restrict further discussion in this short report to the results and interpretation of 17 radiocarbon assays obtained thus far.

Table 1 provides data on each of the assays, subdivided by the three major phases of occupation at the site and a residual category. The results are very gratifying. The classic Stallings component of the site is securely dated from 3800-3500 rcybp with five assay on samples from four pit features, each containing the diagnostic drag-and-jab punctate fiber-tempered pottery. The oldest date in this set is the single assay derived from freshwater clamshell from Feature 17 (Beta-133185). Previous efforts at dating paired samples of charcoal and shell from the nearby Mims Point site (38ED9) returned consistently comparable results at one-sigma (Sassaman 1998), suggesting that any reservoir effect on shellfish in the area is virtually negligible. The three paired samples analyzed in this effort (F. 17, F.42, and LP81-VI) returned less satisfying results, although all but one pair (LP81-VI) are statistically indistinguishable at the two-sigma range. Thus, freshwater shell dating in the middle Savannah continues to be relatively reliable. Charcoal was the preferred material when samples allowed, but shell was in fact used to obtain nine of the 17 assays.

Figure 3. Examples of pit features dug into basal clay, sectioned for profiling.

The Mill Branch phase component at Stallings Island was dated to roughly 4200-4100 rcybp by samples from three features and the upper shell strata of LP81. All five assays overlap at one-sigma. Not all of these contexts produced definitive Mill Branch artifacts, but they each provided circumstantial evidence for the phase (predominance of metavolcanic flakes, soapstone, lack of pottery). The surprise here is the association between Mill Branch and large quantities of shellfish remains. Prior work at Stallings Island suggested that intensive shellfishing accompanied the introduction of pottery during classic Stallings times (i.e., post 3800 B.P.). Clearly this was not the case. The accumulations evident in LP81 suggest that the relative use of shellfish was misinterpreted due to sampling bias: previous efforts focused only in the core of the midden (i.e., the habitation area), where Stallings households discarded shellfish remains in large pits, whereas their preceramic predecessors did not. The LP81 profile shows that preceramic Mill Branch inhabitants harvested and ate freshwater shellfish intensively, throwing the remains over the sides of the "mound" into an area heretofore interpreted as flood-eroded and redeposited fill.

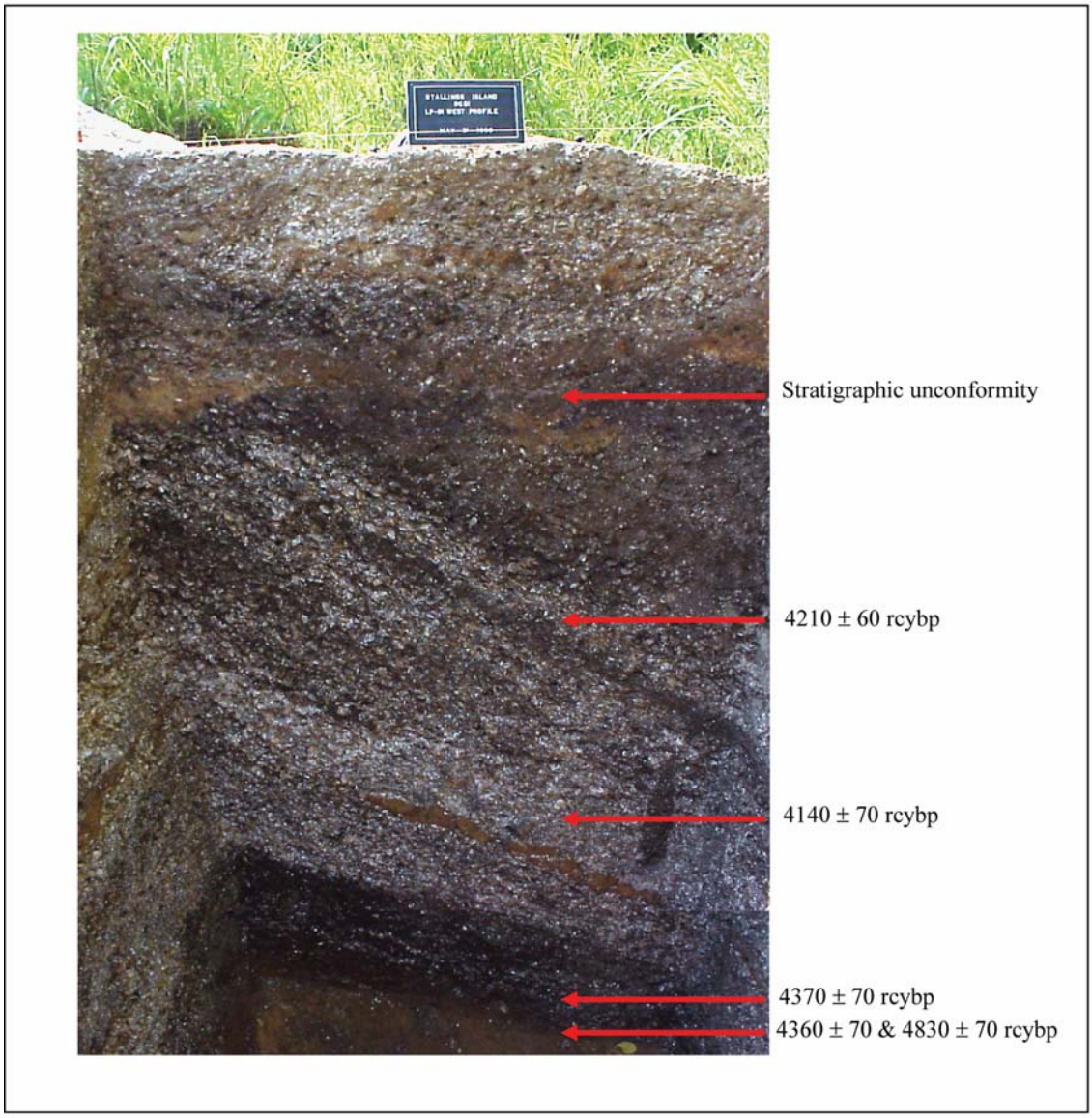

Figure 4. Grid west profile of LP81, showing upper meter of redeposited fill and lower two meters of intact, stratified shell midden of preceramic age.

The basal strata of the shell column of LP81 places the onset of midden accumulation at about 4400-4300 rcybp, and perhaps a few centuries earlier. This time frame coincides with the Paris Island phase, defined largely through excavations of sites in the upper Savannah River valley (Wood et al. 1986; see Elliott et al. 1994:370). Neither of the two Stallings Island features yielding Paris Island-age assays (F. 29 and 42) included diagnostic artifacts, but they were devoid of pottery. Irrespective of artifact associations, the Paris Island-age assays from LP81 are supported by their stratigraphic position at the base of the deposit. Again, pottery was completely absent throughout the LP81 shell column.

Table 1. Data on Radiocarbon Assays from Features and Shell Column of Looter Pit 81 (LP81), Stallings Island (9CB1), Columbia County, Georgia.

Context	Lab Number	Material	Measured C14 Age (BP)	13C/12C Ratio (o/oo)	Conventional C14 Age (BP)	2-Sigma Cal. (BP)
Classic Stallings						
F. 10	Beta-134458	charcoal	3510 ± 70	-25.0	3510 ± 70	3970-3620
F. 17III	Beta-133184	charcoal	3580 ± 60	-27.7	3530 ± 60	3970-3650
F. 16	Beta-134459	charcoal	3550 ± 70	-25.4	3540 ± 70	3985-3645
F. 2	Beta-134456	charcoal	3680 ± 60	-25.4	3670 ± 60	4155-3845
F. 17III	Beta-133185	shell	3490 ± 70	-9.3	3740 ± 70	4290-3895
Mill Branch						
F. 36	Beta-134463	shell	3830 ± 70	-9.7	4080 ± 70	4830-4410
F. 24	Beta-134460	charcoal	4100 ± 60	-25.7	4090 ± 60	4825-4425
LP81-Ib	Beta-134464	shell	3860 ± 70	-7.8	4140 ± 70	4845-4435
F. 33	Beta-134462	shell	3940 ± 70	-8.7	4200 ± 70	4865-4530
LP81-5-8a	Beta-134466	shell	3940 ± 60	-8.5	4210 ± 60	4860-4555
Pre-Mill Branch						
LP81-VI	Beta-133189	shell	4100 ± 70	-8.8	4360 ± 70	5275-5175 5070-4830
LP81-V	Beta-134465	shell	4100 ± 60	-8.5	4370 ± 70	5280-5165 5130-5105 5075-4830
F. 29	Beta-134461	charcoal	4400 ± 70	-25.4	4390 ± 70	5290-4835
F. 42	Beta-133186	charcoal	4450 ± 70	-26.3	4430 ± 60	5295-4855
F. 42	Beta-133187	shell	4340 ± 70	-9.5	4590 ± 70	5470-5045
LP81-VI	Beta-133188	charcoal	4840 ± 70	-25.7	4830 ± 70	5670-5455 5380-5335
Ambiguous						
F. 7/8	Beta-134457	shell	3650 ± 70	-9.2	3910 ± 70	4525-4145

Putting the Stallings Island assays into regional context, several significant new findings can be advanced (Figure 5). First, the antiquity of intensive riverine settlement and shellfishing in the Middle Savannah can be pushed back some two to three centuries. The cultural affiliation of this early phase cannot be specified presently, although it is all but certain that it reflects lineal ancestry of those communities comprising the Mill Branch phase. Second, dates for Mill Branch occupation at Stallings Island corroborate those from the nearby Ed Marshall site, the only other riverine settlement dated radiometrically. Together the Mill Branch components at Ed Marshall and Stallings Island constitute intensive riverine occupations dating from 4200-4000 rcybp; the only other dated contexts for Mill Branch in the Middle Savannah region come from two sites in the interriverine uplands: Hitchcock Woods and the Mill Branch type site, both dating to the 4000-3800 rcybp interval. Whereas the lack of riverine Mill Branch components dating to this latter aspect of the phase might be attributed to sample error alone, the existence of early Stallings components spanning this interval at three riverine (or river-adjacent) sites (Victor Mills, Uchee Creek, and Ed Marshall) renders this prospect less likely. Thus, the co-existence of Mill Branch and early Stallings communities from ca. 4000-3800 rcybp is becoming firmly established. In this regard, the absence of an early Stallings component at Stallings Island is conspicuous. Previous investigations of the

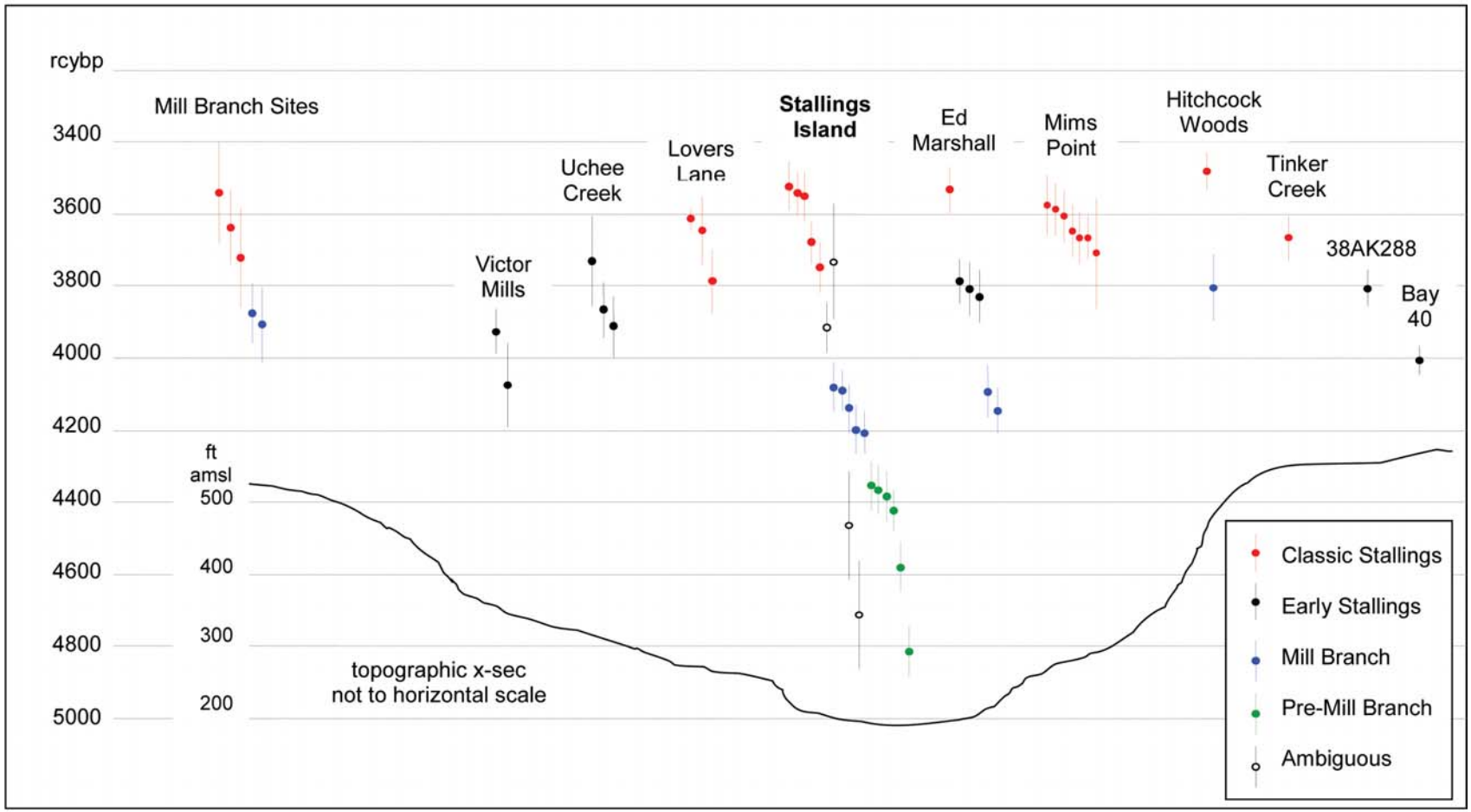

Figure 5. Regional chronology of Stallings, Mill Branch, and pre-Mill Branch components at sites in the middle Savannah River valley, South Carolina and Georgia. Topographic cross-section looking up river is idealized and compressed schematic intended to show topographic relationships of sites to river bottom and to one another. Vertical bars for each radiocarbon assay indicates one-sigma range.

island noted the occurrence of plain fiber-tempered pottery (Bullen and Greene 1970), one of the hallmarks of early Stallings material culture. However, the truly defining characteristic of early Stallings pottery is the thickened or flanged lips of plain, basin-shaped vessels (because later, decorated pottery involves the use of zoned motifs that leave large portions of vessels undecorated, plain body sherds alone are not terribly diagnostic). Such forms were exceedingly rare in the hundreds of rim sherds recovered in this project. Granted, other parts of the Stallings Island site may very well hold evidence for occupations during this early ceramic phase

Finally, the five assays obtained from features with classic Stallings pottery conform generally with dates from other classic Stallings components in the region. All five dates overlap at two sigma (3600-3650 rcybp), matching the statistical range of assays from the well-dated Mims Point site. However, the tight cluster of three dates from separate, well-defined features at Stallings Island suggests that the classic Stallings component actually spans the last few decades of occupation in the region (ca. 3510-3540 rcybp). Riverine sites in the middle Savannah are completely abandoned after about 3500 rcybp and would not be again be occupied in any significant fashion for centuries, long after Stallings Culture dissolved.

At the time of this writing, several other samples from Stallings Island are being prepared for radiocarbon analysis. One goal of this final effort is to bolster the dating of from the shell column of LP81 to determine whether it represents a continuous sequence spanning two or more centuries, or discrete episodes of rapid deposition at either end of this time span. The second goal is to bolster the dating of the classic Stallings component(s) to determine whether they indeed represent occupations on the eve of regional abandonment, or an array of occupation spanning the entire 200-300-year history of classic Stallings Culture.

Conclusion

The National Geographic-sponsored expedition to Stallings Island was a complete success. Although the initial goal of locating and sampling one of the profiles of the 1929 excavation was not realized, the discovery of intact features throughout the site was welcomed consolation. In addition, we located deeply stratified midden deposits in a portion of the site long regarded as destroyed. Together the midden and features provided ample opportunity for radiometric dating in contexts rich in diagnostic artifacts, subsistence remains, and other data classes. Detailed mapping of the core of the site and subsurface testing will aid the Archaeological Conservancy in its effort to stabilize and preserve Stallings Island. Our work demonstrated unequivocally that the site has much untapped potential for scientific investigation. The National Geographic-sponsored work satisfied the need for an internal chronology for the site; the immediate goal now is to obtain additional funding to inventory and analyze the enormous volume of artifacts and subsistence remains obtained in this project.

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