

Collaborating with Farmers to Recover Indigenous Archaic Period History from Private Lithic Collections in Virginia's Rappahannock River Valley

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ABSTRACT

Recovering Archaic period history of Native Americans such as the Rappahannock Tribe of Virginia is problematic because most of their rich, riverfront lands were taken by European colonists. Remaining archaeological material culture is now the property of current landowners. I collaborated with farmers along the Rappahannock River to evaluate their previously unstudied lithic collections as archaeological data sources. I tested landowner collections made by decades of repeated surveys for reliability by comparing independently made collections from the same site. The collections were significantly similar in abundance and composition through time, indicating they were representative samples of the underlying population. Comparison of collections including ground-stone tools from two different sites gave evidence of demographic changes and shifting settlement patterns through the Archaic periods and informed narratives of long-term Indigenous cultural change. I consulted with present-day Rappahannock Tribe members, who consider these collections important for tribal history, to develop research questions and evaluate shared results. Although private collections often lack documentation, proactive collaboration with responsive collectors as described allowed essential information to be recovered, documented, and preserved for the archaeological record. Building bridges of trust and information transfer among collectors, archaeologists, and tribe members is key to maximizing the information value of private collections.

Keywords: Rappahannock Tribe, Virginia Indigenous archaeology, lithic collections, lithic collection analyses, decolonization, Indigenous Archaic period history, Archaic period Indigenous settlement, consultation with the Rappahannock Tribe

La recuperación de la historia del período arcaico de los nativos americanos, como la tribu Rappahannock de Virginia, es problemático porque los colonizadores europeos tomaron la mayoría de sus fértiles tierras ribereñas. Lo que queda de la cultura material arqueológica es ya la propiedad de los terratenientes actuales. Yo he colaborado con granjeros por el río Rappahannock para evaluar sus colecciones líticas no estudiadas como fuentes de datos arqueológicos. Probé la fiabilidad de las colecciones de terratenientes —realizadas por décadas de encuestas repetidas— con una comparación de unas colecciones hechas independientemente, del mismo sitio. Las puntas de proyectil sensibles al tiempo fueron considerablemente parecidas en abundancia y composición a lo largo del tiempo, lo que indica que eran muestras representativas de la población subyacente. La comparación de las colecciones de dos sitios diferentes dio evidencia de cambios demográficos y cambiantes patrones de asentamiento por los períodos arcaicos, e informé de unos narrativos del cambio prolongado en la cultura indígena. Consulté con miembros actuales de la tribu Rappahannock —quienes ven estas colecciones como importantes para la historia tribal— para desarrollar unas preguntas de investigación y evaluar unos resultados compartidos. Aunque muchas veces las colecciones privadas carecen de la documentación, la colaboración proactiva con recolectores receptivos ha permitido la recuperación, documentación y preservación de información fundamental para el registro arqueológico. Crear puentes de confianza y transferencia de información entre recolectores, arqueólogos y miembros de la tribu es la clave para maximizar el valor de la información de las colecciones privadas.

Palabras clave: la tribu Rappahannock de Virginia, arqueología de los nativos Americanos de Virginia, colecciones líticas, colecciones de puntas de proyectil, descolonización, la historia del periodo arcaico de los nativos americanos, colaboración y consulta con la tribu Rappahannock

Tribes such as the Rappahannock Tribe of Virginia had most of their lands taken by European colonists. For them, recovering information that informs on their Archaic period history (10,000–

3000 BP) is difficult. Lands they once occupied are now owned by others. As a result, any remaining archaeological materials on private lands, which may hold information about populations and

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cultures through preceding millennia, are now legally the property of current-day landowners.

To gain access to archaeological materials on private lands, I sought landowners who have collected artifacts found while farming their own lands. I describe a small case study involving collaboration with farmers who have collections from their lands in the Rappahannock River valley of Virginia (Figure 1). This valley is home to the present-day Rappahannock Tribe, as it has been for millennia, according to their oral history. The tribe received federal recognition in 2018, having fought for it for over 100 years, although impeded by lack of “continuity of evidence” due to times when it was illegal in Virginia to register a child as Indian at birth (Ragan 2006; Speck 1925; Strickland et al. 2016). After almost four centuries of societal disruption and displacement by colonization, present-day members of the Rappahannock Tribe have little physical evidence of their deep past. They feel now is the time to take advantage of the work of archaeologists to help them recover their history. Although there is no legal mandate to consult with the descendants of sites that lie on private lands, as an archaeologist, I have an ethical mandate to do so (Silliman and Ferguson 2010). The opportunity to consult with present-day Rappahannock Tribe members broadened this inquiry and yielded a more faceted and decolonizing interpretation of the data.

The Rappahannock River valley is mainly rural; many working farms remain along the river. In general, farmland and forests dominate the landscape of the approximately 160 km long stretch of river valley between the fall line and the point at which the river flows into the Chesapeake Bay. Many of the farms along the river are of medium size, ranging from 200 to 600 and sometimes up to 1,000 acres. Farm owners, perhaps with a helper, carry out most of the work. The farmers know the land well, and it is not unusual for them to find and collect Native American artifacts in the course of their work.

Lithic or stone tool assemblages are the major source of Archaic period archaeological information in the Rappahannock River valley due to the destructive effects of the acidic soil of Virginia’s inner-coastal plain. Few bone, wooden, or plant-based items survive for millennia. Bifacial chipped-stone tools worked to fit a haft (projectile points) are highly variable, and their morphological variation led to the construction of types (Andrefsky 2005). Suites of distinctive projectile point types have been recovered from stratified sites in Virginia and the mid-Atlantic region and date sequences across the Paleoindian, Archaic, and Woodland periods derived by radiocarbon analyses of associated organic material (Egloff and McAvoyn 1990). Consequently, projectile points are indicators of both incidence and time. They are among the most abundant and easily recognized Native American artifacts, both along the Rappahannock River and across North America (Shott 2008).

Many archaeologists are reluctant to collaborate with private collectors. Their reservations about using collections made by non-professionals include a lack of adequate provenience information, the absence of—or random—survey design in making the collection, and a frequent lack of documentation. Shott (2008) reviewed the impact of private collections and argued for the compelling significance of such collections to the archaeological record and the need for conservation. Pitblado (2014) made a strong case for the ethical imperative of archaeologists engaging with collectors to prevent loss of data. And Shott and Pitblado

(2015), in introducing a series of articles discussing the pros and cons of consulting with collectors, summarized viewpoints concerning collaboration with them.

Preventing loss of archaeological data is a principal reason to collaborate with collectors (Pitblado 2014; Shott 2008, 2017; Shott and Pitblado 2015). Additionally, because private collections often are far larger than those of professional academic or cultural resource management (CRM) surveys, they offer large data sources for documenting past cultures. For example, an academic study of population distribution in the Virginia coastal plain examined 148 sites and recovered only 387 diagnostic points from all sites (Turner 1978). In contrast, private collections, in particular collections made by landowners who have collected repeatedly year after year, often have hundreds or thousands of items. Strickland and colleagues (2016) have used private collections in collaborative work with the Rappahannock Tribe to recover their history through archaeology (see also Schneider 2018).

Shott (2017) compared lithic collections made by University of Michigan professional survey from 20 sample units with 30 private landowner collections from the same locations. In those units, points from private collections outnumbered professional ones by a factor of 32. A key finding was that the proportions of types of points in professional versus private collections were similar. On the basis of these findings, Shott (2017) concluded that large private collections of diagnostic projectile points should be documented and studied because their greater numbers provided large samples to refine definitions/types and to illuminate population trends across space and time.

Numerous studies have investigated factors affecting the reliability of surface assemblages (Lewarch and O’Brien 1981). By professional surveys in successive years, Shott (1995) showed that site surfaces are complex and that different exposure conditions, such as wind and rain following tillage, significantly improve survey results. His work showed that a single survey is not sufficient for adequate sampling; reliable survey of a cultivated surface requires numerous repeated surveys (Shott 1995; Shott et al. 2002). One tillage event exposed an average 5%–6% of artifacts in the plow zone (Odell and Cowan 1987). Lateral displacement of artifacts by repeated plowing was found to be 2–4 m, indicating that surface distribution was a reliable indicator of artifact distribution (Ammerman 1985; Roper 1976).

This article is about collaborating with collectors to recover the information content of private collections. The studies here investigated whether private-landowner surface collections from known fields along the Rappahannock River in the Virginia mid-coastal plain could provide reliable data on abundance and composition of lithic artifacts through time. I collaborated with three responsive farmers who had private collections in order to explore their collections’ potential as archaeological data sources. Their collections were previously unstudied surface collections made from their own land by repeated surveys over decades. First, I assessed whether the collections constituted reliable information sources. However, my approach was different from Shott’s (2017). Instead of comparing private collections with professional ones, I found two landowner collections made independently from the same location, by decades of repeated surface survey following tillage, and compared them for abundance and composition through time. Once analyses indicated the collections were

Northwest Chesapeake Bay & Rappahannock River, VA

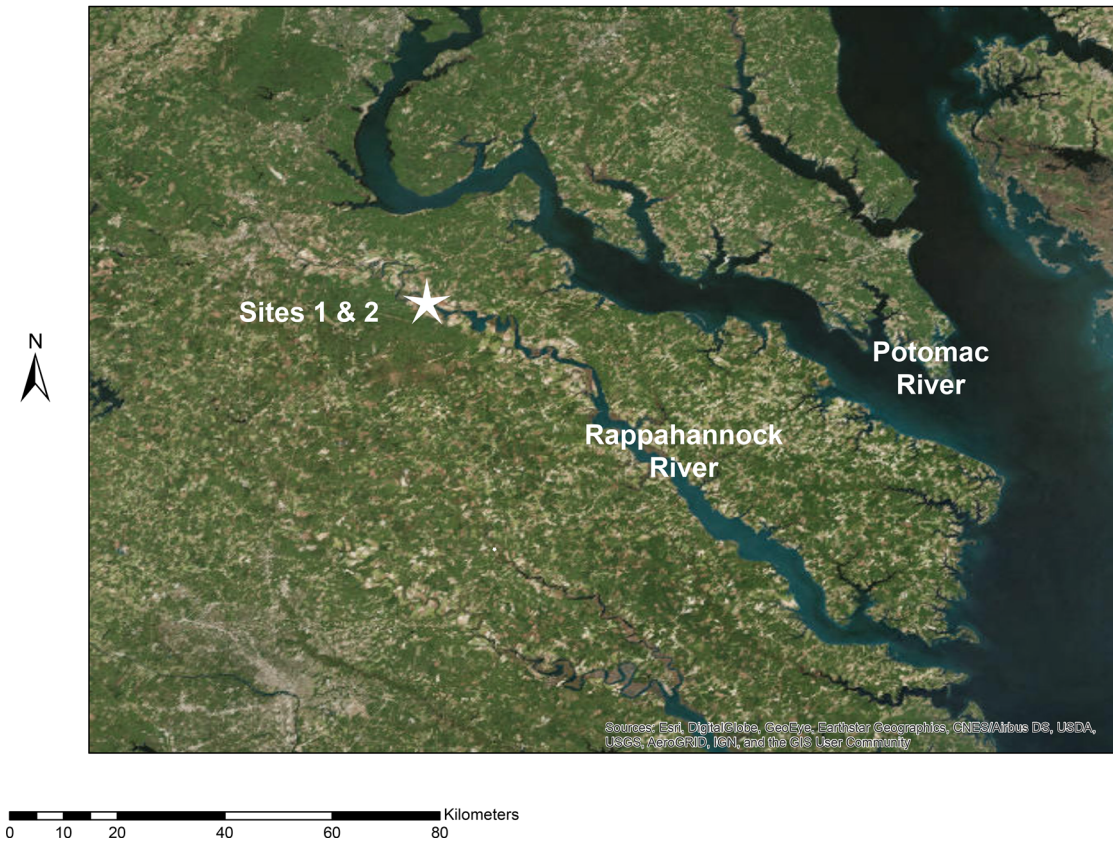


FIGURE 1. Location of Sites 1 and 2 along the Rappahannock River, Virginia.

reliable samples of the larger population, I explored the types of information that could be derived from the collections. The studies described reveal what private collections can tell archaeologists, Rappahannock Tribe members, and landowners themselves regarding times of site use, relative population levels through time, and site use characteristics. The numerous challenges of using private collections are discussed in light of collaborative practices archaeologists can employ to recover details essential for mining the collections’ information. Consultation with Rappahannock Tribe members to gather their perspective on these studies both guided the analyses and enriched data interpretation.

METHODS

Collections and Location

The lithic collections studied came from farm fields situated on the north bank of the Rappahannock River 40.2 km (25 mi.) east of the fall line and 138 km (86 mi.) west of the Chesapeake Bay (Figure 1). Collections A and B were made from the same field (Site 1) by two different landowners at different times. Site 1 is a broad, level field approximately 1 km back from the river at the base of a high bluff next to the junction of two tributaries that feed into the river. Both collections were made predominately by repeated walking survey following tillage over several decades. Collection C was made from

an agricultural field (Site 2) approximately 2 km east of Site 1 by repeated survey over decades. Site 2 is also on the north bank of the Rappahannock River, but it lies along the riverbank at the entrance of a major tributary creek. A summary of sites, collections, and artifact numbers is given in Table 1.

Stone Tool Typology

Typological assignment of bifacial projectile points from the collections was based on morphological criteria (Andrefsky 2005) and surface treatments using the Virginia Department of Historic Resources (VDHR) projectile point typological characteristics and associated dates for the region (<https://www.dhr.virginia.gov/points/>). The VDHR criteria are based on work summarized in Egloff and McAvo y (1990) and Dent (1995). Point frequency was analyzed as a function of time with slight alterations based on the timing of contemporaneous climatic and cultural changes as argued by Egloff and McAvo y (1990:64): Early Archaic (10,000–8500 BP), Middle Archaic (8500–4500 BP), and Late Archaic (4500–3200 BP). Analysis of point composition by attribute was as described by Egghart (2016:69).

Quantification

Stone tools were quantified by count (Shott 2000). Only projectile points retaining diagnostic features were included. Approximately

Table 1. Summary of Sites, Collections, and Artifacts.

	Site 1		Site 2
Total artifacts per site	525		722
Collection	A	B	C
Artifacts per collection	163	362	722
Bifacial hafted projectile points	150	268	520
Bifacial blades, scrapers, choppers	11	71	139
Macro-tools	2	23	63

30% of some collections could not be typed. Nonhafted bifaces and macro-stone tools—such as axes, adzes, grinding bowls, grinding stones, and hammerstones—were recorded for each collection.

Collaborating with Collectors

The collections examined were located by personal connections. The collectors agreed to discuss the origins and locations of their collections. Only if it was clear the collections were from known fields on their own lands did I ask to analyze them, which eliminated some collections. Two collectors requested analysis be done on-site and preferred anonymity of location; the third loaned his collection for analysis. I interviewed the collectors concerning the locations, times, methods, and frequency of surveys. Later, after giving them copies of results, I also gave them a questionnaire on collection methods so they could expand on responses in interviews, as well as maps that had collection sites marked for confirmation. Pleased that their collections contained information of value to understanding Archaic period Indigenous settlement, the collectors agreed to share the information and reviewed this manuscript prior to submission.

In general, the collectors were not aware of ethical issues surrounding collections made on private land. In fact, there is no legal mandate to report collections made on private land (Silliman and Ferguson 2010). However, private collections that go unrecorded represent a lacuna in the knowledge base. Some farmers are unaware of these issues and also may not know whom to contact to report or share the collections.

Consulting with the Rappahannock Tribe

I contacted the chief of the Rappahannock Tribe and requested an opportunity to gain Rappahannock tribal input on this research in keeping with decolonizing archaeological practice. It was granted. The chief and tribal council chair met with me at the Rappahannock Tribal Center in Indian Neck, Virginia, during a workshop organized by archaeological collaborator Julia King (Strickland et al. 2016). I described my project's goals and asked three questions:

- (1) What might be the tribe's interests in learning more about its deep past?
- (2) How might studies of Archaic period settlement patterns along the Rappahannock River be of use to the Rappahannock Tribe?
- (3) What aspects of an archaeological study of Archaic period settlement as considered in light of the extensive climatic and environmental changes through time might be of value to the tribe?

They replied that the tribe desired knowledge—archaeological evidence of its past—to evaluate with respect to its oral history, and they listed specific questions that gave valuable focus to my analyses. When asked how they would like to receive results, they requested a presentation. I presented the key data and conclusions to the chief and the council chair. Prior to my writing the article, we discussed their interpretations and insights. They were given copies of the results (Wertz 2020) and this manuscript to review prior to submission.

INFORMATION POTENTIAL AND RELIABILITY OF LANDOWNER LITHIC COLLECTIONS

Reliability of Surface Collections: Abundance through Time

The two surface-collected lithic assemblages (Collections A and B), made independently from the same site (Site 1) by repeated survey over decades, were interrogated for reliability with regard to abundance through time. A typology of Collections A and B identified 40 different chronologically sensitive projectile point types (Wertz 2020).

Collection A contained chronologically sensitive points associated with the Early Archaic through the Late Woodland periods. Collection B also contained points extending from the Early Archaic through the Woodland periods, as well as three Clovis-type Paleoindian points (Figure 2). The majority of points from both collections (just over 50%) were associated with the Middle Archaic period, whereas just over 25% of both collections were characteristic of the Late Archaic period. The frequency of points through time was remarkably similar for the two independently made collections (A and B) from the same site, as shown by the data in Figure 2.

Statistical Significance. The initial data analysis of abundance per time period per collector indicated similarity (Figure 2). I tested the inferential statistical relationship of the point frequency data with regard to collector and abundance per time period using a nonparametric, 2×2 , chi-square test for independence. The data met the assumptions of: being nominal, having independent random sampling, and being of the appropriate size ($n = 418$). Chi-square analysis of the data gave a value of $p = 0.612$. This result supported accepting the null hypothesis that the two variables are independent, with no relationship between collector and points per time period. The collections made from the same field by independent collectors likely are representative samples of the underlying population.

Reliability of Surface Collections: Composition through Time

Examination of the composition of Collections A and B by aggregate analysis according to major diagnostic attribute or tradition in addition to individual type provided a more nuanced view of point usage over time. Points were grouped according to major attributes as described for lithic analyses in Virginia (Egghart 2016:69). There was strong similarity between Collections A and B

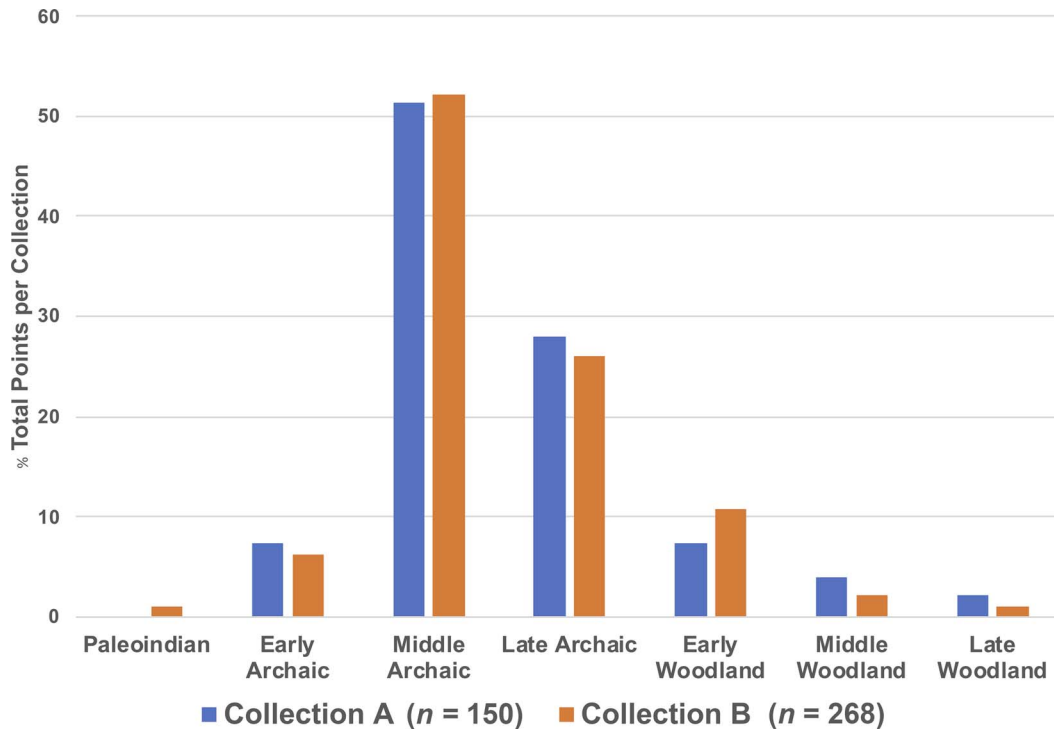


FIGURE 2. Comparison of projectile point frequency over time for Collections A and B from Site 1.

when time-sensitive points were analyzed by attribute (Figure 3). The majority of points in both collections fell into three Middle Archaic groupings: stemmed, side-notched, and Morrow Mountain. Broad blades—in particular, the Savannah River group—were the next most abundant group in both collections. These are typically associated with the onset of the Late Archaic period (Dent 1995; Egloff and McAvoy 1990). Analysis by point type or by attribute agreed in indicating a preponderance of Middle Archaic point types in both collections. Importantly, both collections indicated continuity of use of Site 1 through millennia.

Summary of Analysis

The abundance and composition of two independent private lithic collections from the same site were similar whether chronologically sensitive points were analyzed by type or by attribute as a function of time. The frequency data were statistically significant. These findings indicated that these private lithic surface collections made by decades of repeated survey comprised reliable samples of the larger population and are therefore appropriate for further study.

Comparative Analysis of a Private Lithic Collection from a Second Site: Abundance and Composition through Time

A third lithic collection (Collection C), made by repeated survey over four decades, of a nearby but distinctively different location (Site 2) was examined as detailed above. Site 2 is also located on the north bank of the Rappahannock River, but it is located along the river's edge, at the mouth of a tributary entering the river.

Abundance and Composition. Analysis of diagnostic projectile point abundance through time showed that almost half of Collection C from Site 2 was composed of points characteristic of the Late Archaic period (Figure 4). Analysis of the composition of Collection C by attribute showed that the largest proportion of points from Site 2 were broad blades, considered indicative of the Late Archaic period (data not shown) and consistent with the data in Figure 4, which show that the greatest abundance of points from Site 2 were those associated with the Late Archaic period. Points characteristic of the Middle Archaic period were present at proportions approximately one-half of that observed in the collections from Site 1. In general, the point abundance and composition of Collection C indicated that Site 2 had its highest level of use during the Late Archaic period. This is in contrast to Site 1, which had its highest level of use during the second half of the Middle Archaic period. Both sites showed continuity of use through millennia.

Point Frequency as a Proxy Indicator of Relative Population through Time

Accumulations of artifacts, and stone tools in particular, have been shown to be among the most reliable proxy indicators of relative population levels through deep history (French 2015). I examined point counts from collections from Sites 1 and 2 as proxy indicators of relative population levels through time. Point frequencies from the collections were converted to time-weighted point counts to examine relative population levels over time given that the Archaic and Woodland subperiods differ in length. Because the Middle Archaic period is approximately 4,000 years long, it was divided into two 2,000-year time frames: mid-Archaic I and II.

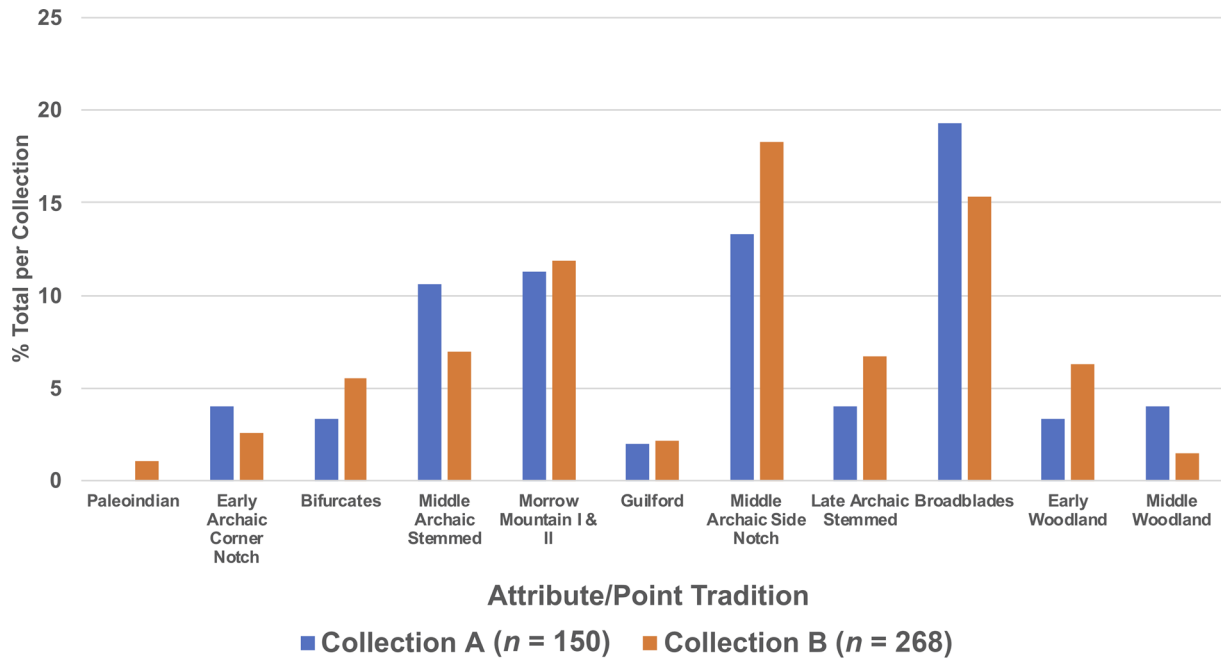


FIGURE 3. Point frequency compared by attribute for Collections A and B from Site 1.

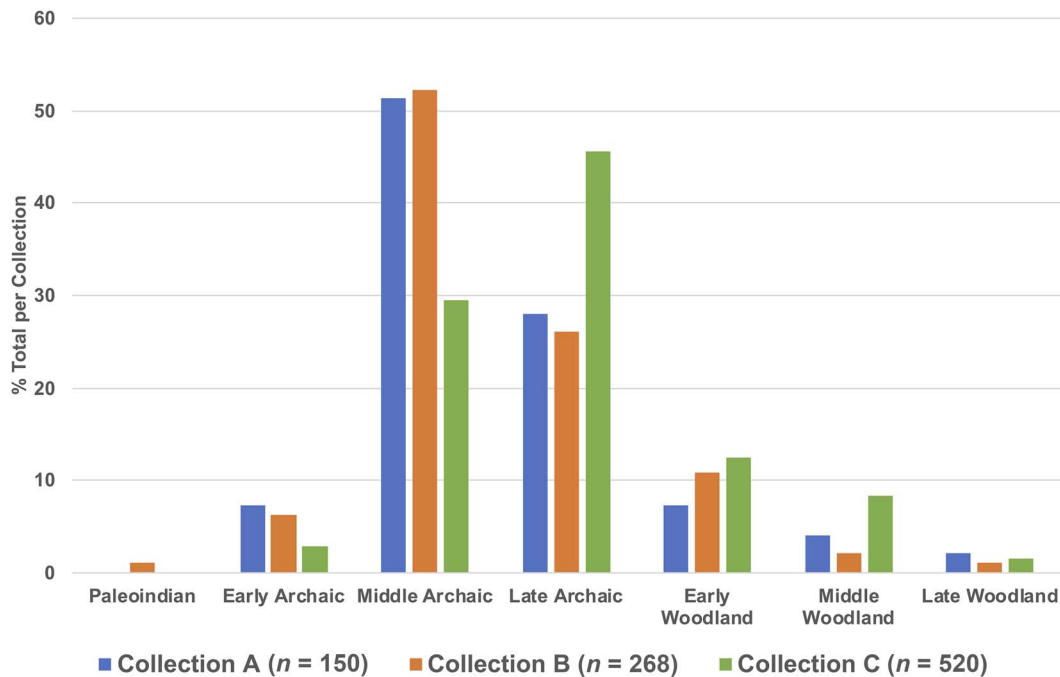


FIGURE 4. Comparison of diagnostic projectile-point abundance through time for Collections A, B, and C.

Time-weighted frequency analyses of Collections A and B (combined) indicated low relative population levels at Site 1 during the Early Archaic and the Middle Archaic I periods, followed by a sharp increase in relative population level during the second half of the Middle Archaic period (Figure 5). Relative population levels decreased slightly in the Late Archaic and the

Early Woodland periods, followed by sharp declines in the Middle and Late Woodland periods. In contrast, at Site 2, although relative population level also rose sharply during the second half of the Middle Archaic period, it continued to increase—even more sharply—in the Late Archaic period to almost triple the mid-Archaic II levels (Figure 5). Site 2

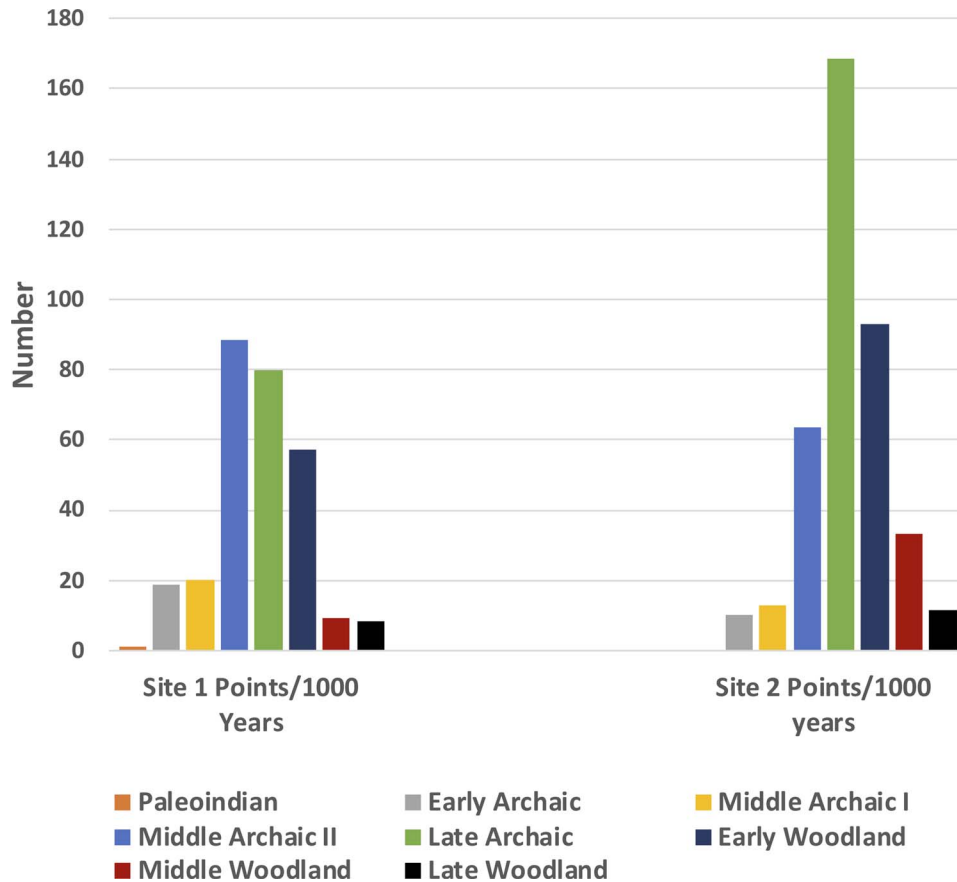


FIGURE 5. Time-weighted frequency of projectile points from Sites 1 and 2 compared.

experienced its highest level of use in the Late Archaic period, with declining use during the Woodland periods.

Lithic Assemblages and Site Use

Archaeological site use is often interpreted by identifying feature and artifact functions. Because few features persist from the Archaic period, site use is inferred from analyses of lithic artifact functions. Andrefsky (2005) suggests it is best to use assemblages of stone tools instead of single stone tool functions by investigating assemblage diversity. Inferences concerning the kinds of assemblages expected with various site functions rest to a large extent on Binford’s (1980, 2001) work characterizing hunters and gatherers by the strategy of foraging or collecting defined by the kind of mobility practiced. Foragers move consumers to goods with frequent residential moves; collectors move goods to consumers with few residential moves. Binford (1980) and Shott (1986) linked the generalizations of foragers and collectors back to the composition of assemblages, concluding that mobility was a regulating factor. High mobility resulted in less diverse assemblages, whereas low mobility resulted in more diverse assemblages (Binford 1980:17). Assays for evenness in assemblages measure whether multiple morphological types are represented evenly at a site or only a few types are present (Andrefsky 2005).

The collections from Sites 1 and 2 were analyzed to infer site use. Large stone tools were compared based on morphological

assessment of function and reconstruction experiments (Adams 1996; Anderson and Hanson 1988; Andrefsky 2005). The stone tool assemblages from Sites 1 and 2 were diverse (Figure 6). They both gave evidence of numerous activities. The tools from Site 1 included chipped-stone and ground-stone axes plus celts and adzes. There were large grinding bowls, oval and elongated pestles, and hammerstones. Along with the macro-tools, there were 82 nonhafted bifacial blades, scrapers, and choppers. Site 2 had a diverse array of tool types, including abraders, axes, drills, celts, and adzes, as well as grinding bowls, grinding stones, hammerstones, and a bannerstone (Figure 6). Site 2 was notable for the presence of 29 axes: 10 large chipped-stone axes and 19 large, well-crafted, fully grooved or three-quarter-grooved ground-stone axes ranging in length from 80 to 225 mm. The collection included grinding bowls and numerous grinding stones. There were 139 nonhafted bifacial knives, large blades, scrapers, and choppers.

Diversity and Evenness of Tool Assemblages. In considering site types, base camps or residential camps might be expected to include a range of activities and therefore are predicted to have more diverse tool assemblages with greater evenness than logistical task sites (Andrefsky 2005; Binford 1980). The assemblages from both Sites 1 and 2 were diverse, including tools that could be involved in hunting, food preparation, food milling, butchering, hide-working, timbering, wood-working, and lithic tool-making or maintenance (Figure 6). The breadth of tool types indicates Sites 1 and 2 both may have been used as base camps or—perhaps in the case of Site 2—a

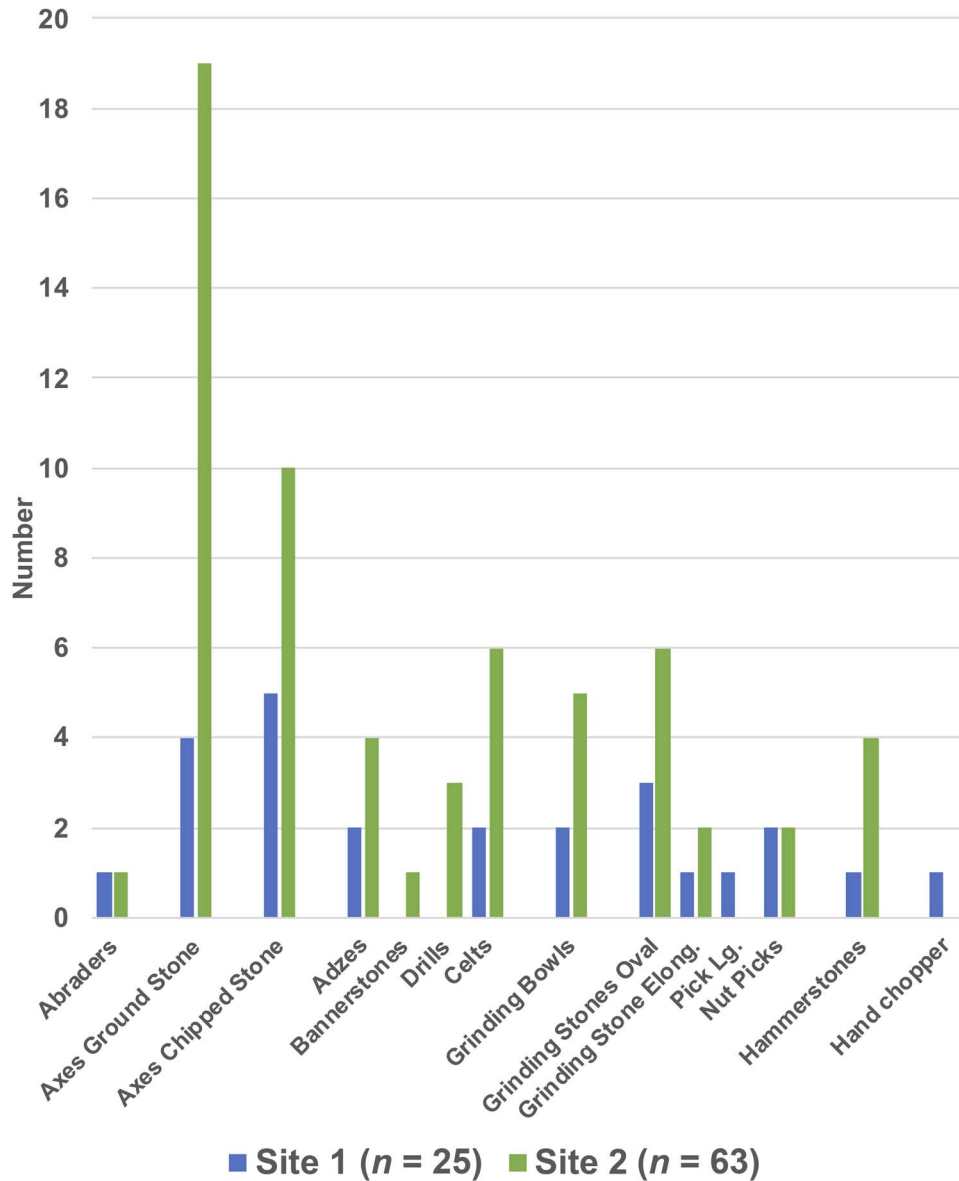


FIGURE 6. Comparison of macro-tool assemblages from Sites 1 and 2.

larger residential camp. The macro-tool assemblages of Sites 1 and 2 had high evenness indexes, 0.96 and 0.87, respectively (on a scale of 0 to 1), as assessed by the Shannon-Weaver equation (Shott 2010). These findings are consistent with the stone tool assemblages’ diverse nature and suggest that Sites 1 and 2 were used as base or residential camps at some time. The slightly lower evenness score for Site 2 likely is related to the high proportion of ground-stone axes in the assemblage.

Summary: Basic Information That Private Stone Tool Collections Can Reveal

Private landowner lithic collections made by repeated surface survey over decades were found to be reliable archaeological data sources. Analyses of farmers’ private collections from defined locations provided information on (1) times of site use, (2) relative population

levels through time, and (3) site use characteristics. These three key pieces of archaeological information are crucial for developing testable hypotheses on cultural change. These findings support the use of privately made artifact collections of reasonable provenience in systematic archaeological analysis. Such collections may contribute information about relative local population demographics through time and also be compared with a wider regional view.

CONSULTING WITH PRESENT-DAY MEMBERS OF THE RAPPAHANNOCK TRIBE TO GO BEYOND THE BASICS

Additional analyses of substantial collections can give insight into cultural change through time. The relative population analyses

described herein showed that Sites 1 and 2 were multicomponent: they were occupied and reoccupied over millennia, showing continuity of site use. Over time, site use likely changed. The Paleoindian and Early Archaic components may have been from highly mobile hunting parties using the sites as short-term camps. Both sites had substantial population levels in the Middle Archaic period. Following that, the collections gave evidence of demographic change and shifting settlement patterns from the Middle Archaic to the Late Archaic period. Site 2 had a substantial increase in relative population level in the Late Archaic period, whereas relative levels at Site 1 decreased. I assessed reasons for the demographic changes and shifting settlement pattern.

I was fortunate to be able to consult with present-day members of the Rappahannock Tribe concerning what aspects of archaeological study of the Archaic period along the Rappahannock River might be of value to them. After years of not being acknowledged in many archaeological studies, the Rappahannock people now want to take advantage of information revealed by archaeological studies to learn about their past in relation to their oral history. They asked for information on where early people had settled during the Archaic period: Was it in upland areas or by rivers or streams? How did the climate affect them through time? What animal and fish life would have been available for subsistence over time, and how did it change? They wanted to know if it was possible to correlate the influence of the environment and subsistence resources over time, and how and why they changed. Their questions gave focus to my analytic approach.

The information provided by the private collections allowed me to investigate their questions by correlating the times of Indigenous occupation of the different sites with characterization of the landscape of the two sites and the changes occurring in those landscapes and the landscape of the river over time. The Archaic period coincides roughly with the Holocene epoch. It was a time of extensive climatic and environmental change, with temperature increases, glacial melt, and ensuing sea-level rise. In the Chesapeake region, a temperate ecosystem was established, and the Chesapeake estuary formed (Anderson 2001; Dent 1995).

In studies beyond the scope of the present report, I analyzed the overall topography, hydrology, and environmental settings of the two sites along the Rappahannock River by geospatial analyses of lidar images and then considered long-term environmental data using paleoclimate, biological, and archaeological information. I evaluated sea-level rise, the formation of the Chesapeake Bay, and the effects of embayment on the landscape of the tributary Rappahannock River (Wertz 2020). The major effects of sea-level rise and Chesapeake embayment on the portion of the Rappahannock River where Sites 1 and 2 are located were slowing of the river's rate of flow and broadening, roughly estimated to have begun at the end of the Middle Archaic period. The river would have begun to meander and wetlands form, offering new estuarine and plant resources (Dent 1995). I reasoned the change in settlement emphasis from upland areas in the Middle Archaic to riverine locations in the Late Archaic was linked to the new riverine resources that became available as river flow rate slowed because of Chesapeake embayment. The large tools in the collections contributed to this conclusion. The 19 large, well-made ground-stone axes from Site 2—characteristic of the Late Archaic period—along with celts and adzes, indicated substantial timbering and wood-working and suggest Indigenous technology development

in order to take advantage of new riverine resources perhaps by building weirs or watercraft for fishing. These studies were shared with the Rappahannock Tribe for their input on interpretation and use in regard to questions on their deep history.

THE REALITIES OF COLLABORATING WITH LANDOWNER COLLECTORS

Part I: Locating and Gaining Access to Collections

Locating substantial private landowner collections from specific areas of interest is not easy. Landowners are often cautious and circumspect, and they value their privacy. Some have reservations about letting outsiders know of their collections because of misconceptions concerning federal legislation and spurious rumors to the effect that significant archaeological finds on one's land can result in loss of rights to or use of one's land. The "Age of Misinformation" is accountable for a great deal. In my experience, locating private collections was most successful if done through personal connections or via neighborhood networks.

Gaining access depends on establishing trust, and trust is a two-way street. The landowner must be able to trust the archaeologist with their collection—by allowing the archaeologist to either take it off-site to study or work with it on the premises. In turn, the archaeologist needs to trust the collector as regards descriptions of survey, provenience, and context of the collection. Establishing trust on both sides takes time, interactions, and connections. Personal connections, local networks, and references are invaluable. Contacts through local historical societies or the Farm Bureau may help.

Part II: Issues of Documentation, Provenience, and Survey Design

Most farmers' collections come without documentation. Finding this situation, some archaeologists would walk away. But it is wise to consider that these are working farmers. Most do not have time to keep written records of where they found every artifact and still meet their planting deadlines. Yet, there are ways the archaeologist can compensate for the lack of documentation by proactive collaboration with the collector.

None of collections described here came with written documentation. The information on provenience, survey times, and methods came from questioning the collectors, as described in Methods. It is important to realize that farmers have detailed knowledge of their land. They have plowed, disked, harrowed, and harvested their fields year after year. By asking the right questions, the archaeologist can recover and document information on survey methods and location that can support the collection. I found that farmers had an amazing recall of the locations in their fields where artifacts were concentrated and repeatedly found. A walking or riding survey with the farmer over their fields elicited impressive details about locations of high concentrations of artifacts and locations of differing types of artifacts. With a GPS, it was possible to create a reasonable record of artifact locations as the farmer recalled them. Additionally, I found that farmers had a clear

memory of where remarkable finds—such as a beautiful celt, large axe, or grinding bowl—were made. Ask farmers how they found their artifacts. Did they spot most as they walked the fields? Or was it from their tractor seat? Did they slam on the brake and step down to collect them? Ask every question you can think of, then record the information. Make maps using geospatial technology. Leave written and electronic copies documenting what you have learned about provenience and survey with the collection. Knowledge of a collection's provenience is key to its use archaeologically (King and Samford 2019). Many farmers do not realize the informational value of their collections. By collaborating, the archaeologist learns from the farmer's knowledge of the land and details of survey and collection. In turn, the archaeologist has an opportunity to explain the information potential of the farmer's collection, discuss the importance of knowing the locations at which artifacts were found, and leave documentation with the collection. If possible, make information about the collection and its documentation available to others through publication.

Part III: Selectivity and Sample Bias

Private collectors often may not recognize all classes of artifacts, thereby making collections biased. Certain artifacts are more easily recognized than others. For example, a hafted biface or projectile point is easier to identify than a nonhafted biface, such as a scraper or blade, or a worn fragment of Native American pottery. Fragments of bifaces are difficult to recognize if not examined closely for worked surfaces. Some collectors may collect only intact, easily recognizable projectile points and not simple knives or scrapers. Other collectors are extremely knowledgeable and can competently detect most worked lithic surfaces as well as debitage, preforms, and broken fragments. Biases often can be detected upon analysis of the collection. For example, if a stone tool collection has been made by including every spotted artifact—broken or intact—it may not be possible to type a substantial portion of it due to missing diagnostic elements. Alternatively, if a collection consists mainly of perfect specimens, it is prudent to consider biased sampling. Better information on quantitation comes from more complete collections, but this may be balanced by the fact that only chronologically sensitive points retaining diagnostic elements can be typed for information on occupation times. Land use is another form of bias. It is easier to survey cultivated fields than pasture or forest. Finally, it is essential to ascertain early on whether all artifacts come from the owner's land; some collectors may include items not from their fields.

Summary

The potential challenges and problems with private collections discussed above are recognizable. Identifying them can help design approaches to collaboration that release and preserve information about those collections.

Collectors: Why They Collect, and What They Value

Shott (2008) comments that little is known about collectors' motivations. Although this is a small case study, the farmers who made the collections used here had been instilled with an eye for artifacts from childhood. They walked the land with their elders, who drew their attention to artifacts. Over time, it became an

occupation for an often-isolated rural child, spending time outdoors, looking out for artifacts, and learning about them. The compiler of Collection B had a transformative grade-school science course with a section on archaeology. The teacher recommended reading C. W. Ceram's book *Gods, Graves and Scholars: The Story of Archaeology*. From then on, the young collector did research on the artifacts found. At the time, that meant the library or family encyclopedia, but those resources gave enough information to indicate what the finds—predominately Native American artifacts—represented. Upon finding a Clovis point, the collector rendered a drawing of it and sent it to Virginia archaeologist Howard MacCord, who responded. MacCord eventually surveyed the area, finding a variety of Archaic period points he deposited with the VDHR. The young collector never lost enthusiasm for the information the artifacts revealed about the history of the land, and he continued to collect over the next 40 years as he grew up, went to college, and returned to take over the farm.

Another of the collectors, who grew up almost 20 years earlier on an adjacent farm, similarly was instilled with awareness of artifacts from childhood. When she took over her family farm, collecting was the ingrained habit of a lifetime. The artifacts collected gave her a feeling of connection with the past and of admiration for the people who made the artifacts while living and working on the land thousands of years before.

The landowner collectors all value what the artifacts in their collections reveal about the history of the land. The collections are considered part of the land, and they help them learn about its history. They feel that they are caretakers, and they value sharing the information contained in the collections with others, particularly young people and present-day Native Americans. They are considering possibilities for long-term curation. One collector noted that it is unlikely future generations will collect; "no-till" agriculture, which reduces plowing and erosion, precludes the opportunity to scan fields following tillage.

CONCLUSION: BUILDING BRIDGES TO DECOLONIZE ARCHAEOLOGY

If, as archaeologists, we fail to seek and explore the information in private landowner collections, then substantial information sources will be lost to the archaeological record along with the opportunity to identify sites important to Indigenous history. The private collections examined here contained data that identified sites with patterns of shifting settlement through time and that showed continuity of use over approximately seven millennia. The continuity of use indicates that these sites were important locations to the Indigenous population through time.

Building a bridge of trust and information transfer between the collector and the archaeologist is key to using private collections as data sources. Collections made by individuals who are not professionally trained archaeologists often lack documentation. Despite this, through collaboration with responsive collectors as described here, archaeologists can recover information essential for use of private collections. They can document it, allowing future use.

In locations such as the Rappahannock River valley, where private farms line much of the river's course, it is important to find and

document private lithic collections while they remain intact, and while it is still possible to interview the collector or an informed individual. Often, collections are dispersed or sold when a collector dies. If undocumented, the details on provenience and methods of collection are lost, making potential information from the collection that can contribute to tribal histories uninterpretable.

It is also important to involve present-day tribal members in the exploration and interpretation of archaeological data from private collections. Archaeology can give back to descendant communities in a variety of ways, including simply by the direct sharing of knowledge resulting from archaeological studies. Such knowledge can be used for “cultural preservation, resource management, site protection, alternative histories, repatriation efforts, economic incentives, political capital, education, and more” (Silliman and Ferguson 2010:61). For example, the information from this study helped the Rappahannock Tribe push back against an infrastructure company that claimed there was no need for surveys in the area studied because there was no evidence of Archaic period occupation. Failing to communicate archaeological findings would be an act of omission that disrespects the modern-day people descended from those who left a record of their past. In the words of Silliman and Ferguson (2010:60), “Doing archaeology as anthropology necessitates paying attention to the living people descended from the past and not just to the past.”

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Data Availability Statement

No original data are presented in this article. Datasets of the private collections can be found in Wertz [2020]. The private collections referenced herein reside with the landowners.

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