

TRAINING HISTORICAL ARCHAEOLOGISTS FOR THE SOUTHWEST

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The Apex, Arizona Archaeology Project, a collaboration between Northern Arizona University and the Kaibab National Forest, explores a twentieth-century logging camp outside of present-day Tusayan. Operating as an archaeological field school, the program teaches students important skills to practice archaeology, encourages them to engage with the public, and provides them with collaborative experiences that benefit a wide range of stakeholders. This paper explores how the first four years of the field school have successfully trained a new cohort of historical archaeologists for the American Southwest.

Apex, Arizona was the logging headquarters of the Saginaw and Manistee Lumber Company for timber operations on the then–Tusayan National Forest starting in 1928. The 1930 census (United States Census Bureau 1930) recorded approximately 150 people at the “Saginaw Logging Camp,” including management, lumberjacks, railroad engineers, the camp cook, the teacher, sawyers, teamsters, and mechanics, alongside 26 women, mostly wives, and 36 children. Other employees were undoubtedly working elsewhere in the forest at smaller, temporary work camps. Apex consisted of a kitchen, dining hall, bunkhouse, and worker family housing on one side of the railroad tracks, and a schoolhouse, family management housing, and a timber sales office on the other. When the timber lease was completed in 1936, the company packed up all the equipment and buildings onto the train and transported them to the next forest stand.

Due to its well-defined time frame, sizeable population, and refuse disposal patterns, Apex is an ideal site for archaeological investigation, especially one designed to train students in historical archaeology. Artifacts are well preserved and near the surface, features are still vis-

ible on the landscape, and historic documents provide important background on the site. We therefore have the capacity to explore a wide variety of questions, including the diversity of the town's largely Scandinavian, Dust Bowler, and Mexican men, women, and children; the impacts of national issues on northern Arizona, like the Great Depression and Prohibition; and the growing mass consumerism of American capitalism.

While learning about archaeology in the classroom was interesting, our passions for historical archaeology were always ignited by hands-on experiences in the field or lab. Touching a shoe sole impressed through wear and sweat with an owner's footprint, examining the burnishing on a metal spoon handle from years of repetitive use, or finding a young boy's name hand-punched into a metal handle all make the past seem full of people with their own lives and stories. Our project wants to provide students with the same experiences that bring them closer to the past in ways that also train them for careers in archaeology.

This article explores how Northern Arizona University's Apex, Arizona Archaeology Project trains students in archaeology, strengthens ties between the Department of Anthropology and the Kaibab National Forest, and creates opportunities for historical archaeology in the Southwest in ways that benefit NAU, researchers, the forest, undergraduate and graduate students, and the public.

THE APEX, ARIZONA ARCHAEOLOGY PROJECT

Arizona, and the Southwest more broadly, is home to a rich diversity of historical archaeological sites. Yet,

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as has been explored in previous publications, such as James E. Ayres's (1991) *Historical Archaeology in Arizona and New Mexico* and a 2020 edited volume of *Kiva* (Dale 2020), more recent historic time periods get short shrift in academia, research, and public interest compared to the Southwest's precontact periods. The late nineteenth and early twentieth century, especially, are understudied, meaning key themes in Arizona's recent history that are well explored elsewhere in the American West, like the logging industry (e.g., Chung 2015; Franzen 2020; Sunseri 2020), go unexamined here.

Thankfully, this gap is being recognized, and groups like the Arizona Historical Archaeology Advisory Council, the Arizona State Historic Preservation Office, and numerous cultural resource management firms are calling for more trained historical archaeologists in the state. When Dale arrived in Arizona in 2016, however, it became apparent that training opportunities were few and far between for both undergraduate and graduate students in the Southwest. She immediately set about building such a program for Northern Arizona University, creating courses in historical archaeology, establishing a historical archaeology lab, building a teaching collection, leading research on the historic collections, and developing volunteer and research opportunities for undergraduate and graduate students.

The Apex, Arizona Archaeology Project began in 2018, when she, along with Margaret Hangan and Neil Weintraub, both from the Kaibab National Forest, chose Apex as the site for a historical archaeology field school through NAU. The archaeological diversity of the site allows us to train students in key methods and concepts that will serve them well in graduate school, agency archaeology, cultural resource management, heritage preservation, museums, and other related fields. As Hangan explained, "Hosting the Apex Field School [in] the forest is a great benefit to the public, in that [the project] conducts an in-depth, academic study of a great historic site and educate students and volunteers on archaeological techniques, and the students learn about career opportunities with the Forest Service" (personal communication, September 19, 2024).

Partnering with the Kaibab National Forest, which also benefits from the project, as explored below, has opened up new funding for housing, equipment, and, most importantly, portable toilets. Most impactfully, though, the Apex, Arizona Archaeology Project has received a United States Forests Service Youth and Veteran's Engagement Funding grant each year, meaning we

have provided free or greatly reduced tuition for each of our 24 students between 2022 and 2025. As tuition costs are one of the most common impediments for students enrolling in a field school, we are proud to have largely eliminated that expense for our students (see Heath-Sout and Hannigan 2020, Warner et al. 2024, and Wynia and Wilson 2024 for further discussions of the viability of the field school model). We are also delighted that our funding draws in students from a variety of states, universities, and backgrounds, including Arizona, Nevada, Arkansas, and New York. Our 2022 students were Nathan Crennan, Madeleine Gulbransen, Logan Hick, Andrew Naranjo, Eva Parra, and Ian Villamil. Our 2023 students were Travis Cumming, Garrett Hoskinson, Alex Mason, and Rachel Matheson. Our 2024 students were Lorna Baker, Matthew Harwood, Marc Hillis, Makenzie Long, Devony Martell, Sarah O'Donnell, Ricky Raffaele, and Bailey Stalford. And our 2025 students were LeAnn Pearson Capener, Alex Liu, Damon Marcinko, Hunter Newman, Lucie St. Clair, and Chelsea Tenney.

Graduate student research opportunities have been available thanks to funding from Arizona Humanities grants that the project has been awarded in all four of its field years. These grants pay for the competitive salary of one graduate student per season to give public tours of the site, supervise students in the field, and assist with writing reports. Working at Apex is also a great chance for master's students to begin conducting research for their theses. Our 2022 teaching assistant (TA) was Ashley Mlazar, in 2023 it was Timothy Maddock, and 2024 and 2025 it was Rachael O'Hara.

WHAT STUDENTS LEARN

The Apex, Arizona Archaeology Project is dedicated to providing students with basic archaeological skills that prepare them for real-world jobs. Beyond working with documents, the field methods of historical archaeology are nearly identical to precontact archaeology. As a result, our students practice the same basic set of tools, like survey, excavation, mapping, artifact analysis, paperwork, photography, etc., that students at other Southwest-based field schools learn.

Archaeological Skills

Our field program provides basic training in archaeological methods through scaffolded learning over three six-day field sessions (Figure 1). The first session,



Figure 1. Students at work. *Top left:* Garrett Hoskinson and Rachel Matheson take points with a GPS tablet. *Top right:* Eva Parra and Ian Villamil take tape-and-compass measurements. *Bottom left:* Makenzie Long and Ricky Raffaele plot tape-and-compass map points. *Bottom right:* Sarah O'Donnell and Marc Hillis excavate a possible privy.

Dale and the TA teach the students the basics and provide consistent monitoring and supervision. The second week, students practice those skills by teaching others: our Passport in Time volunteers, who are discussed below. By the third week, students work independently, with little supervision. This format helps them cement their knowledge and build their confidence.

First and foremost, students learn survey methods at Apex. As the site's overall layout and main feature locations, or loci, were previously mapped by the US Forest Service in 2006, we do little traditional pedestrian survey there, though, as discussed below, the students learn this skill elsewhere during the field school. Instead, students refine and add to existing maps, artifact counts, and descriptions of the site's loci. Students define the boundaries of project-selected loci and determine concentrations within those, such as distinct artifact concentrations or wood scatters, stone walls, and rock piles, which helps provide a level of control in larger areas of cultural activity. In smaller concentrations, students conduct artifact counts (10% counts of highly concentrated, nondiagnostic items, like cans in a can dump; 100% counts of unique items or in less dense concentrations), record diagnostic artifacts, and take overview and artifact photos.

In response to the growing curation crisis and in line with Kaibab National Forest principles, the Apex, Arizona Archaeology Project conducts catch-and-release archaeology. All artifacts are recorded, photographed, and documented in the field, where they are left. This "new" approach takes into consideration the money, time, and space required to curate historical artifacts, and emphasizes a respect for all past peoples and their heritage. This method teaches students to build their note-taking and photography skills, since they are, for the most part, the only documentation we have when doing research later. Finally, leaving artifacts in the field allows future students and tour groups to find things missed in past seasons. Our first season of catch-and-release was so successful that the Coconino National Forest requested our research design for ideas on how to implement the practice at a new project.

Due to our catch-and-release practices, an early stage in our survey at each location is the creation of the "cool things" pile, a gathering of all the diagnostic, identifiable, or interesting artifacts that are recorded individually on paperwork and in photographs. Students comb through the area, identifying artifacts they consider "cool" and collecting them separately from the larger counts of bro-

ken glass shards, ceramic sherds, nondescript cans, and wood fragments. Items that warrant such attention could contain writing or unique decorations, remain intact, have a recognizable shape or function, or are tantalizingly mysterious in ways that entice students to investigate further. Our fieldwork, then, is analogous to our lab work.

In addition to our exploration of previously identified loci, students are encouraged to explore beyond the known boundaries of the site, and, in so doing, have encountered new artifact scatters, privies, and isolated artifacts. Through these explorations, we identified five additional loci not recorded on the Forest Service's original site forms, as well as more firmly defined the boundaries of Apex camp as a whole.

For culturally related, subsurface features, students conduct excavation. Our research design allows for limited excavation, so we target features that are likely to provide important information about life at the site, namely depressions believed to be privies, where we hope to find undisturbed deposits and cultural soils. Students learn how to set up and excavate 1 × 1-meter excavation units following 10 cm arbitrary levels within natural stratigraphy. They practice pedestaling rocks and artifacts, sifting dirt in 1/8" screens, cleaning sidewalls, creating profile and floor maps, and backfilling. Our catch-and-release practices also extend to artifacts uncovered during excavations, all of which students record in detail during recovery so that we can place them at the bottom before reburial.

Mapping is another key skill students learn. At the site, we primarily create tape-and-compass maps, which gives students practice with compasses, spatial awareness, communication, and mathematical conversions. These maps allow us to capture the small details of a historical site, like extant timbers and foundations, stone walkways, privies, and excavation units. While students do get some hands-on experience with GPS tablets, since the Kaibab National Forest archaeologists help them take points of our loci datums, we feel it is important for them to still know the basic pencil-and-paper methods.

In all these methods, students experience the joys of archaeological paperwork. From level forms to notebooks to artifact catalogs to photo logs, students complete a wide variety of documentation that helps them practice the necessity for redundancy in a field that destroys the context of their subjects as they study them.

Throughout the duration of the field school, students also learn professionalism, beginning with an in-

classroom orientation in which we cover basic etiquette and behavior expectations. They practice efficient communication, information sharing, teamwork, and other key skills in collaboration, often without realizing it. This skill-building contributes tremendously to students' professional repertoire and can be useful when they get jobs in the field after graduating. Even personality clashes or conflict between students can be beneficial, as they learn to navigate difficult professional situations and persist as a team despite differences. Staff monitor inter-student conduct and rotate their assignments so they have a chance to work with all of their colleagues, but we rarely need to intervene, since students typically work their issues out among themselves.

Historical Archaeology

One distinct method we teach our students is how to use historical documents in our analysis and interpretations. Some Saginaw and Manistee Lumber Company records are available through NAU's Special Collections and Archives. Sean Evans, the Cline Library's archivist, provided tours in 2022 and 2023, while Mowana Lomamvaya, the Assistant Archivist for Indigenous Initiatives and Cultures and Tracy Glau, an Assistant Librarian, spearheaded our 2025 visit. They guided students through accessing both the in-person and digital repositories available through the library. Similarly, Margaret Hangan has provided tours of the Williams, Arizona Historic Photo Collection for three of our four years.

Another such resource is the oral histories Williams historian Al Richmond (1988, 2017) conducted in the 1980s with people connected with the early days of the Grand Canyon Railway, including several former employees of the Saginaw and Manistee Lumber Company and Atchison, Topeka, and Santa Fe Railroad, as well as residents of Apex. We listen to snippets of these interviews, and students think about which questions they would have asked had they been the interviewer. Richmond met with our students in 2023 and 2025 for tours of the Grand Canyon Railway depot in Williams.

Fortunately, as we have cell service at the site and our artifacts are fairly recent, students perform preliminary identification and analysis of diagnostic artifacts. They search through professional and historic databases, such as the Society for Historical Archaeology Historic Bottle website, the Southern Oregon Digital Archive's Jim Rock Historic Can Collection, and Newspapers.com. In navigating web searches for artifacts, students learn to

distinguish good sources from bad ones. For example, an embossed number on a piece of metal led to a US patent for a wind-up toy car. The lid to an Old Dutch Cleanser can revealed 1930s advertisements depicting a little Dutch woman chasing dirt away with a broom. A search for an Eveready "Daylo" flashlight end cap turned up a 1919 company catalog, complete with pictures and pricing.

Professional Partners

In recognizing that students have interests beyond the expertise and knowledge of project staff, we strategize ways to expose them to a wide variety of other methods in archaeology. To that end, we have recruited several archaeological professionals who volunteer their time and expertise to train our students in specialized skills and equipment (Figure 2).

Each year, the Kaibab National Forest hosts a day of Section 106/Section 110 survey for the students. Rochelle Rhone, Nash Overell, and Kelsey Gruntorad led students on transects in unsurveyed forest lands. The students measure their pace, learn to read a map, and practice using a GPS tablet. This also exposes them to

precontact archaeology. Several students in 2024 wrote in their notebooks about the artifacts they encountered on survey, like obsidian flakes, intact projectile points, and ceramic shards, while another wrote that "what was most interesting to myself was a peach-colored scraper that I found while on survey. It was knapped and sharpened on all sides—smoothed to a flat blade." Another 2024 student, who took a ceramic identification course at NAU the previous semester, proudly documented that they had "found a ceramic shard and correctly identified it as Tsegi orange ware!"

Bruce Phillips, a geoarchaeologist and archaeobotanist, has worked with the project since 2022. Each year, he visits the site, talks to the students about geoarchaeology, and demonstrates how to collect soil samples from excavation units. Students gather around and watch in awe as Phillips quickly and precisely removes sections of soil from the same unit that they spent hours methodically excavating. "The best aspect of geoarchaeology is the fieldwork, getting in the dirt," Phillips explained. "Sharing my knowledge of the landscape with students at Apex field school the past few summers has added an exciting new component to my experience. Future field sessions promise to expose young archaeologists



Figure 2. Students learn from experts. *Top left:* Logan Hick operates a GPR unit. *Top right:* Bailey Stalford, Devony Martell, Fran Maiuri, and Lorna Baker watch Bruce Phillips at work. *Bottom left:* Rochelle Rhone (second from left) explains how to read a map to Travis Cumming, Rachel Matheson, Garrett Hoskinson, Alex Mason, and Emily Dale. Photo by Tim Maddock. *Bottom right:* Devony Martell and Bear Thomas metal-detecting.

to myriad career opportunities and further enhance my experience as a professional" (personal communication, October 9, 2024).

In 2022, Phillip Mink of the University of Kentucky visited the site for two days to provide a lesson on ground-penetrating radar. Students conducted GPR of four potential privy depressions. They helped set up the grids, pushed the unit, and read the displays. At lunchtime on the second day, Mink presented the students with the processed data and taught them how to read the graphs. One student described her time with the GPR unit: it was "difficult to push through [the] privy site due to large rocks, sagebrush, cans/buckets/metal pieces & slope, but we were able to keep it fairly steady (or as much as was possible) while moving along the grid patterns, making sure to keep it as low to the ground as possible." Several other students took notes on how the unit worked, detailed the size of the grid, and drew pictures of the transects they walked or the display readout.

In 2024, Bear Thomas and Ron Wickenheisser from the Northern Arizona Metal Detectorists volunteered their expertise. For two days, they taught our students how to use our metal detectors while modeling ethical artifact recovery, return, and recording. In their notebooks, students excitedly documented the artifacts they found while surveying with the metal detectors, like a logging chain, a double-headed axe blade, and an intact Old Quaker whiskey bottle. One student, who worked with the metal detectors several times, commented on his progressing comfort with the equipment: "Did more metal detecting, which allowed me to figure out what I had retained and what I needed refreshers on." For their part, Thomas and Wickenheisser were excited to pass their knowledge onto the next generation, revealing a mutually beneficial arrangement. In an email sent after his first visit to the site, Thomas remarked, "I really appreciate the opportunity to work with you and the kids. I was truly impressed with them! They were smart, polite, and pleasant to be with. They gave me a renewed hope in today's young folks. I hope they got something from me. Thank you again for the opportunity to actually be part of a real archeological search" (personal communication, June 4, 2024).

Harnessing Student Strengths

While we do have set goals each field season, our main strategy is to complete what we start and prioritize quality over quantity in data collection. This allows

students time to pursue their own interests at the site. They explore other areas and research artifacts that catch their attention. Parra, for example, discovered shards of an Orange Crush bottle on one of the first days at the site, which led down a months-long rabbit hole into the history of the company and its highly recognizable, patented bottle design.

Naranjo and Long, both artists, drew detailed sketches of artifacts and features (Figure 3). Naranjo, especially, was interested in the occasional finding of lithic debitage at the site, while Long found inspiration in an intact shoe she found. In both cases, they captured important details of artifacts not otherwise readily apparent in photographs or easily translated into words.

Cumming was intrigued by the ponderosa pines at the site. Throughout the field season, he took notes and made maps of his observations of trees, even titling one entry "Tree Time Notes." His investigations into how the species grows helped us to identify the trees that were present when the site was occupied. He also identified several culturally modified trees that were likely used as telephone or electricity lines, which allowed us to envision the ways the different parts of the site were connected to each other, the railroad, and the outside world.

GIVING BACK

We are committed to instilling in our students the need for archaeology to give back to the community. Through Passport in Time programs and public tours, we build relationships with the public and teach our students important skills in public education, like public speaking, answering questions, and working with non-archaeologists.

Passport in Time

In 2023, the Apex, Arizona Archaeology Project ran its first Passport in Time, or PIT, project. We accepted three volunteers: Fran Maiuri, Carl Evertsbusch (both Arizona Site Stewards in Tucson) and Adrienne Dale (the coauthor's mother). For Maiuri and Evertsbusch, it was their first PIT project; for Dale, her fourth. All three returned in 2024, along with Shannon Stoller, an undergraduate student from the University of Arizona. Dale attended again in 2025, alongside new volunteer Michelle Neathammer, a professional archaeologist. For five days each summer, the PIT volunteers work alongside our students, assisting in all their activities, like mapping, exca-

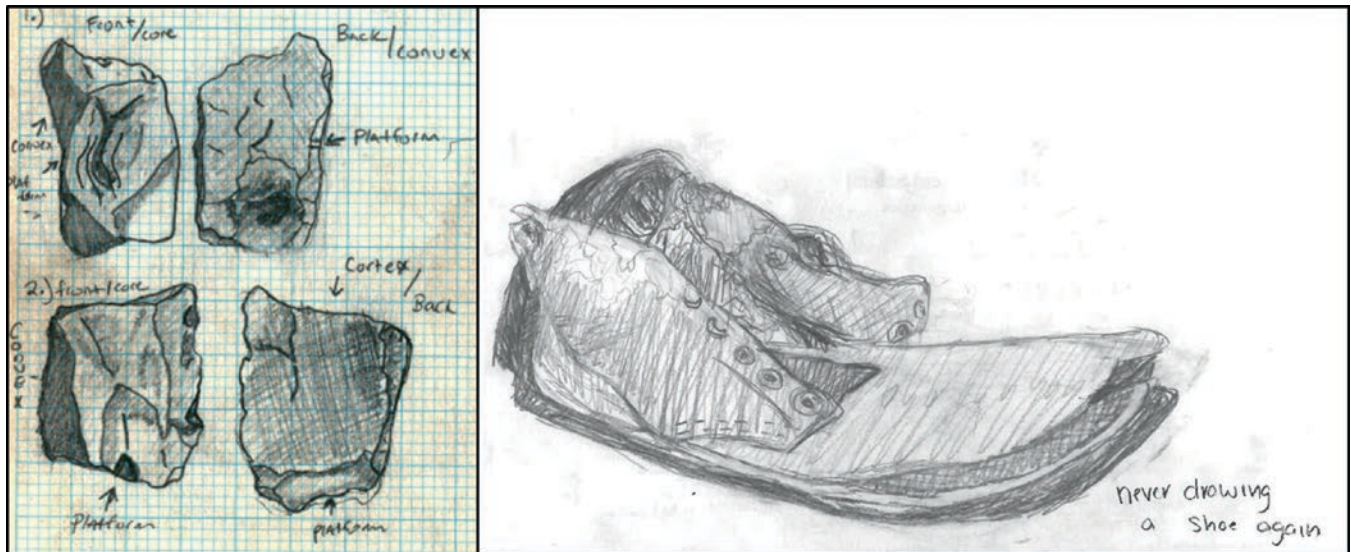


Figure 3. Notebook drawings. Left: Andrew Naranjo's drawing of lithics found at Apex. Right: Makenzie Long's sketch of an intact shoe.

vating, artifact recordation, and note-taking. As the PIT program falls during the second week, students practice what they learned during the first field session by assisting the volunteers. While Maiuri, Evertsbusch, Dale, and Neathammer all had more experience at archaeological sites than our students and provided important tips, they deferred to students in areas of site procedure, paperwork, and artifact information. Stoller, however, was new to archaeological fieldwork, and several of the students took her under their wing for the week.

In return, the PIT volunteers gain important insights into how archaeological work is conducted and unique understandings of the forest. We set aside an afternoon for the Kaibab National Forest to take the volunteers and students on a field trip to other sites on the Kaibab, including nearby mines and rock art panels. This helps everyone think about the larger landscape and broad use of the area by different peoples and industries over the past 5,000 years.

We also host a Passport in Time ceremony each year, at which our PIT volunteers receive a stamp in their passport to document their participation in the project, an official patch, and a thank-you gift from the forest archaeologists. One 2024 student commented in their notebook that there was a "PIT graduation ceremony today, good for them. It was cool. I am jealous of the patch they get."

The incorporation of a Passport in Time program in the Apex, Arizona Archaeology Project has resulted in important connections across Arizona. A returning PIT volunteer wrote in their notebook, "I really appreciate

the opportunity to participate in this field school. I have learned many new skills: identifying historic artifacts that are diagnostic and mapping with tape & compass. It is particularly valuable to meet the students and hear their thoughts." Three of our Tucson-based students continued their connections with Maiuri and Evertsbusch and have volunteered with them at the Arizona Archaeological and Historical Society.

With the closure of the PIT clearinghouse, however, the future of the program is unclear, and our 2025 PIT season was unofficial. The Apex project was the first Passport in Time program to advertise through the new Volunteer.gov home for PIT projects, and Dale was officially the first applicant for a PIT project on the website. To acknowledge the project's past dedication to PIT and our commitment to keeping the program alive, despite the changing organization, each of our 2024 volunteers received a \$500 stipend from the PIT clearinghouse.

Public Tours

Thanks to funding from the Arizona Humanities, we have organized public tours of Apex each of our field seasons (Figure 4). Visitors from a wide variety of organizations (see the acknowledgements), alongside family and friends of students and staff, get to not only learn about Apex but also see archaeology in action. In 2022, 98 people toured Apex; in 2023, 70 visited; in 2024, 112 people walked through the site; and our 2025 season was host to 99 visitors. Our TAs (Mlazar, Maddock, and O'Hara) serve as our head tour guides, but they are ac-



Figure 4. Public tours. *Left:* Adrienne Dale, Matt Harwood, and Emily Dale explain screening to the Hat Ranch Field School. Photo by Bailey Stalford. *Right:* Travis Cumming talks to Flagstaff National Monuments employees on a tour of Apex.

accompanied by one or two students, who are required to go on at least one tour. Students assist in answering questions, passing around historical photos, and pointing out artifacts. The *Williams-Grand Canyon News* (Giddens 2021, 2022a, 2022b), the *NAU Review* (Banks 2022), and Arizona Humanities visited the site for publicity, and students were interviewed for the pieces, giving them experience in talking with print and video media. A 2025 KNAU “Earth Notes” piece on the project elicited several tour sign-ups (Houk 2025).

Students occasionally write about the tours they give in their notebooks. They record the information they shared, the places and artifacts that catch visitor interest, the questions they are asked, and the information offered by visitors. In one case, two 2022 students noted that a visitor recognized a Lavoris bottle base as mouthwash concentrate, as their father was a dentist, and corrected their pronunciation of the brand.

Allowing members of the public onto the site provides invaluable extra sets of eyes on the artifact assemblages. Guests are encouraged to participate in scavenger hunts through the many can dumps on site, which has occasionally resulted in guests finding previously unrecorded artifacts. Tours of Apex work to highlight the importance of Arizona’s historic sites, even those that to the average person just seem like trash in the woods.

Public outreach to local historical institutions allows for a mutual exchange of knowledge and insight. Research conducted at Apex can further contribute to the stories documented by the Grand Canyon Historical

Society, Williams Historical Society, and Forest Service. Working with other local groups, such as the Westerners, Arizona State Parks, the Grand Canyon Conservancy, Arizona Site Stewards, and the neighboring Hat Ranch field school allows Apex students to teach the importance of Arizona’s historic sites and highlight that archaeology in the state does not stop at the arrival of Europeans. In exchange for their tour of Apex, Riordan Mansion employees hosted our 2024 and 2025 field school students for a behind-the-scenes tour of the logging family’s historic Flagstaff home. Ellen Brennan, the Cultural Resources Program Manager for Grand Canyon National Park, gave the 2022, 2024, and 2025 students tours of Grand Canyon Village.

After tours, guests are encouraged to fill out anonymous surveys about their experience at Apex, recording their favorite parts and any suggestions for changes. This not only fulfills our requirements for the Arizona Humanities funding but also allows us to make adjustments to future tours. Some responses have included thoughts on the expertise and professionalism of our students: “Thoroughly enjoyed the students and their interest,” “All were so knowledgeable and friendly,” “Great tour guides!” and “THE STUDENTS WERE AWESOME!” In a 2023 email to the NAU College of Social and Behavioral Sciences dean about their tour, the Sedona chapter of the Questers, an organization focused on preservation and restoration, stated, “We were amazed and would have been overwhelmed with the expertise, professionalism, care and attention that we received from Dr. Dale and

our guides Tim and Garrett. But their ability to paint a vivid picture both of how you are conducting the research today and how the camp would have been experienced during the time it was operating prevented information overload. You gave us our first (and we hope not last) insight into this important, yet understudied, part of the history of our great state" (personal communication, June 14, 2023).

STUDENT SUCCESSES

Despite being only four years old, the Apex, Arizona Archaeology Project appears to be meeting its goals of training students for careers in archaeology. Our students have found jobs with the Forest Service and cultural resource management firms in Arizona, Utah, New York, Florida, and Tennessee. Professional archaeologists in the Southwest have commended the program for training a new generation of historical archaeologists.

Others are still students and are pursuing coursework and lab and research opportunities to keep their skills fresh. In addition to helping students find out what they enjoy about archaeology, we also expect students to discover what they do not like, to help them navigate potential careers and future goals. As one 2024 student wrote in their field notebook, "Although we are only a couple days in, I am very much enjoying fieldwork, and I can see myself doing fieldwork after college. It is great doing all different kinds of tasks, and even in less than ideal conditions, I am having a good time."

A final component of our program is maintaining connections with students throughout the year, even after the field school has ended. Our students have given presentations and written papers based on Apex that allow them to build their CV and learn additional research and writing skills. For example, since we use student paperwork, notebooks, and other information they gathered during the field school in our yearly report to the Forest, we credit them as contributing authors, even if they did not directly write any sections.

We incorporate additional students throughout the year to assist with digitizing paperwork, transcribing photo logs and tour surveys, and conducting research projects. Undergraduate students Joey McCauley (2022), Madeleine Levesque (2024a), and Zulia DeWire (2025a) were hired through NAU's Office of Undergraduate Research and Creative Activity's Interns-to-Scholars program to conduct independent research projects. A

Grand Canyon Historical Society grant funded Logan Hick and Melissa Baskin's employment in fall 2022. Anna Foley (2024), an NAU geography, planning, and recreation major, completed her internship by creating a story map of Apex.

We encourage our undergraduate and graduate students to attend conferences and present on aspects of the project that interest them. Parra and Villamil (2023) and Hick (2023) presented papers on Apex at the 2023 Society for Historical Archaeology (SHA) meeting in Lisbon, Portugal. O'Donnell (2024a) presented a paper at the 2024 Pecos Conference and won second place in the Cordell-Powers Paper Prize. In addition to his 2024 thesis, Maddock (2023a, 2023b, 2024a, 2024b) presented at the 2023 Arizona History Convention, the 2023 Williams Historical Talks series, and the 2024 SHA conference in Oakland. O'Hara (2025a) presented at the 2025 SHA conference in New Orleans. And Levesque (2025) and O'Hara (2025b) presented posters at the 2025 Arizona History Convention in Tempe. We host available papers and presentations on the Apex, Arizona Archaeology Project website (<https://nau.edu/anthropology/apex-arizona-archaeology-project/>), so they are available to the public. A dedicated "Student Research" tab highlights the hard work students put in to contribute to our knowledge of the site.

In September 2024, the project began a monthly artifact blog, in which we showcase interesting artifacts or types of artifacts and how they relate to life at Apex (<https://nau.edu/anthropology/apex-arizona-artifact-blog/>). While Dale (2024) wrote the inaugural post on tinned meat, subsequent ones consisted entirely of research conducted by undergraduate and graduate students, who choose their topics, select appropriate photos, and design their own formatting and style. Topics have included the jack-o-canterns (Long 2024), 1920s health and hygiene standards (Levesque 2024b), women's beauty and makeup trends (O'Donnell 2024b), beer brewing during Prohibition (O'Hara 2025c), Apex's flashlights (Mason 2025), a souvenir projectile point (Boerger 2025), the results of our 2024 soil samples (Marshall 2025), gendered toys (Martell 2025), and powdered cocoa brands (DeWire 2025b).

The Apex, Arizona Archaeology Project has one more year on our Archaeological Resources Protection Act permit, and we look forward to training more students. Even if they do not specialize in historical archaeology or stay in the Southwest, they will still have a basic

skill set at their disposal to use when they come across historical sites or artifacts. As Charlie Webber, Kaibab National Forest Heritage program manager, explains:

Some of the most rewarding experiences I have had as the Heritage Program Manager here on the Kaibab National Forest have come from working with Dr. Dale and her field school students. They bring a level of enthusiasm to their investigations that cannot be matched and have opened our program's eyes not only about the diversity of material on the ground but also to the actual people who lived and worked there, including lumberjacks, wives, and children. This has added a unique dimension to our understanding of the site and its place within the northern Arizona region as a whole during the years of the Great Depression. It is rare that any of our sites receive this level of attention, but the findings of these students have helped reveal this history not only to archaeologists but also to many of my coworkers on the Forest and to the hundreds of members of the public who have taken student-led tours at the site. Opportunities like this are crucial to training the next generation of heritage resources managers, and a number of past students have already been hired by different Forests into both seasonal and permanent positions (personal communication, October 9, 2024).

ACKNOWLEDGEMENTS

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