



# ANNUAL REPORT TO THE GOVERNOR'S OFFICE

AZSITE Consortium

Report on AZSITE Consortium activities for the period July 1, 2023, through June 30, 2024.

7 August 2024  
azsite@arizona.edu

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## Introduction and Background

In 1995, the State Historic Preservation Office (SHPO), a division of Arizona State Parks, the Arizona State Museum (ASM), the Arizona State University (ASU), and the Museum of Northern Arizona (MNA) signed a Memorandum of Agreement that created the AZSITE Consortium (Consortium), with the goal to computerize and electronically share archaeological and historical site and project files for the State of Arizona. This information is extremely important to private companies and municipal, state, and federal agencies to comply with historic preservation laws.

In 2006, Governor's Executive Order 2006-03 identified the Consortium and the original four founding agencies as the official decision-making and planning body within Arizona's Executive Branch for the AZSITE database and Geographic Information System (GIS) inventory of Arizona's historical and archaeological properties. The integration permits AZSITE users to have up-to-date information on a property's eligibility status to the Arizona and National Registers of Historic Places (A/NRHP), project sponsors, and other related information that was heretofore scattered among many separate locations. This report summarizes AZSITE's activities during the 2023-2024 fiscal year.

### AZSITE Goals

- To serve as Arizona's electronic inventory of known historical and archaeological cultural resources.
- To provide information about previously documented historic and archaeological sites and previously conducted surveys.
- To assist state and local agencies in meeting federal and state mandates.
- To serve as a tool for the preservation of resources through planning, for the review of projects for compliance with federal and state preservation legislation, and as a research tool for qualified researchers.
- To provide data for improved review of state agency planning processes.
- To provide security for data related to archaeological site locations.

### Executive Board Membership

The Executive Order establishes the Board members as consisting of the Director of the MNA, the Chair of the School of Human Evolution and Social Change at ASU, the State Historic Preservation Officer, and the Director of the ASM, or their designees, on indefinite appointment. Traditionally, delegates have served as Board members. Current Board representatives are listed below.

Christopher Caseldine, Ph.D., Curator of Collections and an Assistant Research Professor, SHESC, Chair (2023)

James Watson, Ph.D., Associate Director, ASM

Mary-Ellen Walsh, M.A., Cultural Resources Compliance Manager, SHPO, Chair (2024)

Kelley Hays-Gilpin, Ph.D., Curator of Anthropology, MNA

## Summary of Activities, Fiscal Year 2024

### July 2023

AZSITE surveyed user organizations regarding a fee increase proposed at the April 2023 Board meeting.

### August 2023

New AZSITE web applications, including an updated Attribute Search application and a new Web Mapping application, were deployed on August 4<sup>th</sup>. This was the culmination of a development process that began in the spring of 2022, and represented the first significant update of AZSITE's web applications in more than 10 years. AZSITE personnel hosted a virtual demonstration and question and answer session for the new applications.

The AZSITE Executive Board held an open virtual meeting on August 9<sup>th</sup>, during which the Board heard an update on the migration of AZSITE's production servers to a different on-premise data center at ASU, approved a proposal to create new AZSITE data layers to represent inactive and consolidated ASM sites, heard a report on AZSITE finances and the results of the user survey about a proposed increase to use fees, discussed a proposal to seek state funding for AZSITE, and approved the proposal to increase AZSITE user fees to account for increased hosting and personnel costs. For this meeting, Dr. Watson, the ASM delegate to the AZSITE Executive Board, was on sabbatical, and Dr. Patrick Lyons, the ASM Director, served in his place.

In late August, the AZSITE Manager and the AZSITE GIS Technician attended the Arizona Geographic Information Council Symposium in Prescott, Arizona, to present on *AZSITE Web Application Redevelopment* and *Updating AZSITE Public Mapping Application*.

### September 2023

Migration of AZSITE's three production servers to the ASU Research Computing (ASU RC) on-premises data center at ASU was completed.

### October 2023

The AZSITE Executive Board held an open virtual meeting on October 4<sup>th</sup>, during which the Board heard a finance report including research on past funding sources and funding sources for other state cultural resources geodatabase programs, an update on the membership of AZSITE's Ad Hoc Advisory Committee Membership, approved a tribal consultation letter regarding development of a data sensitivity training for non-archaeologists approved for access to AZSITE by the SHPO, and Dr. Caseldine agreed to serve as AZSITE Board chair through January 2024, when Watson would be returning from sabbatical. For this meeting, Dr. Watson, the ASM delegate to the AZSITE Executive Board, was on sabbatical, and Dr. Suzanne Eckert, the ASM Head of Collections, served in his place.

At the Arizona State Historic Preservation Conference in Tucson, Arizona in late October, AZSITE personnel presented on *AZSITE: What It's Doing for You*. This talk covered AZSITE background and history, funding, data, recent updates to the AZSITE web applications, and data submission guidelines.

### November 2023

AZSITE distributed consultation letters regarding development of a data sensitivity training in late October and early November. These letters discuss the development of a data sensitivity training for non-archaeologists approved for AZSITE access by the SHPO, and request input and/or multimedia materials from tribes regarding their perspectives on the sensitivity of AZSITE data for inclusion in the training.

User-side password management functionality was implemented in the AZSITE web applications.

### December 2023

AZSITE developed and deployed a *Request a Data Fix* web form, allowing users to report errors or other issues with AZSITE data and propose specific corrections.

The University of Arizona implemented a blanket hiring freeze due to a university-wide financial shortfall.

### January 2024

An updated Public Mapping Application was deployed on AZSITE's production server on January 9<sup>th</sup>. This application was developed by AZSITE GIS Technician Carrie Schmidt as her capstone project for the University of Arizona Geographic Information Systems and Technology Masters program.

On January 10<sup>th</sup>, AZSITE GIS Technician Carrie Schmidt left the position.

The AZSITE Board held an open virtual meeting on January 17<sup>th</sup>. The Board heard a report on AZSITE finances, including an analysis of income under the 2024 fee increase; approved a proposal to re-hire the AZSITE GIS Technician at 0.5 FTE when the UA hiring freeze was lifted or an exemption was obtained; heard and approved a proposal to add US Fish and Wildlife Service (USFWS) site and survey documents to the AZSITE document search application, funded by USFWS; and designated Mary-Ellen Walsh, SHPO delegate to the Board, as the AZSITE Board chair for the remainder of 2024. The AZSITE Board also formally recognized the contributions of Carrie Schmidt during her time as the AZSITE GIS Technician, including her work on the ASM data backlog, rectifying erroneous site boundaries, and web application modernization efforts.

In late January, the USFWS paid AZSITE \$2,995 for the development of implementation of a USFWS site and survey document library in AZSITE and began providing GIS data along with documents.

### February 2024

AZSITE met with White Mountain Apache Tribe Tribal Historical Preservation Office (THPO) and GIS personnel to discuss the AZSITE Data Sensitivity Training.

AZSITE partnered with the Arizona Association of Conservation Districts (AACD) to apply for South 32 Hermosa, Inc. Social Investment grant funds to subsidize AZSITE user fees for tribal government cultural resources personnel.

AZSITE began work on a new Lower Salt River Valley Hohokam Canals layer with Dr. Caseldine (ASU SHESC), using data from his research.

### March 2024

The ASM Archaeological Records Office (ARO) approved AZSITE to upload data related to surveys conducted under the new ASM fee structure that are still in their curation queue.

AZSITE granted hiring freeze waiver by UA; 0.5 FTE GIS Technician position advertised.

Ayan Mitra, the long-serving GIS developer at ASU GRS who had managed AZSITE's servers and applications for many years, left this position.

### April 2024

AZSITE interviewed candidates for the GIS Technician position.

The AZSITE Board held an open virtual meeting on April 4<sup>th</sup>, during which the board heard a report on AZSITE finances; advised the AZSITE manager that consultation input must be received from all federally recognized tribes in Arizona for the data sensitivity training; and suspended the AZSITE Ad Hoc Advisory Committee.

The AZSITE Manager began directing a significant fraction of his effort towards ASM's development of a new quotes and invoicing system for their Mandated Programs. This effort will be compensated by transfer from another account.

### May 2024

AZSITE hired Ellie Renteria for the 0.5 FTE GIS Technician role. The AZSITE Manager continued to direct a significant fraction of his effort towards the ASM quotes and invoicing system.

June 2024

The AZSITE Manager continued to direct a significant fraction of effort towards the ASM quotes and invoicing system.

AZSITE Finances

Funding Sources

AZSITE users are required to pay user fees for access to the database; access periods are based on the calendar year, and fees are charged for each individual user account. Table 1 below summarizes the fee structure used in calendar years 2021 to 2023, the calendar year 2024 fee structure, and the fee structure planned for calendar year 2025.

Table 1: Evolution of AZSITE Fee Structure, 2021-2025

<b>Account Type</b>	<b>2021-2023 \$/User</b>	<b>2024 \$/User</b>	<b>Planned 2025</b>
<b>Standard I</b>	\$550	\$750	\$825
<b>Standard II</b>	\$450	\$650	\$725
<b>Government Standard I</b>	\$450	\$650	\$725
<b>Educational</b>	\$100	\$120	\$120
<b>30 Day</b>	\$250	\$400	\$450

AZSITE’s general financial strategy is to cover operating and personnel costs with user fees, with major development costs targeted for grant funding. Due to increases in operational and personnel costs between 2020 and 2023, at the April 2023 Board meeting a three-year phased fee increase was proposed for 2024-2026.

In July 2023, AZSITE surveyed user organizations regarding the proposed fee increase. The responses showed that the proposed increases were relatively well-received by AZSITE user organizations, who have been pleased with recent improvements to AZSITE. The responses suggested there would not be a long-term, significant decrease in participation in AZSITE due to the proposed fee increases.

An unexpected server migration required in the summer of 2023 (see discussion in *AZSITE Account Balance* below) led this fee increase to be accelerated, with the original year two fees implemented in year one. At the August 2023 Board meeting, the Board approved the updated, two-year fee increase proposal. The Board also discussed a proposal to seek state funding for AZSITE at this meeting. ASM Director Dr. Patrick Lyons, filling in for Dr. Watson as the ASM representative at the meeting, provided ASM’s perspective on this matter, based on related



experience at ASM. Dr. Lyons explained that very few government entities in Arizona have permanent state funding, and that state money cannot be used to subsidize private business unless specified in state statutes. As a result, fee-for-service models have been put in place to generate revenue. The AZSITE Consortium was created as a government entity through an Executive Order and exists outside of state statute, including the Arizona Administrative Procedure Act (AAPA). Were AZSITE created by statute, all Consortium rules, standards, and fees would need to be approved by the Governor's Regulatory Review Council and the Governor per the AAPA. This would involve an economic impact study, hearings, published notices, and a public comment period. It would be complicated by the fact that state employees are prohibited from lobbying for changes to state laws. In summary, Dr. Lyons indicated that requesting state appropriation would be a complicated, long, and expensive process. He suggested the Board members consult their institutions' legal counsel before taking any action, and also recommended that AZSITE stabilize its finances through user fees before beginning this process, so that the decision makers understand the real costs of the program.

Under the first year of the user fee increase, the calendar year 2024 fee structure charges \$750 per user for one year of access with direct GIS access (Standard I account), \$650 per government agency user for one year of access with direct GIS access (Government Standard I account), \$650 per non-government agency user for one year of access with web-only access (Standard II account), \$400 for one user account with 30 days of access within the calendar year (30 day account), and \$120 per educational institution user for one year of access with direct GIS access (Educational account).

In January 2024, AZSITE received \$2,995 from the USFWS to develop a digital document library making USFWS cultural resource survey reports and site forms available in AZSITE.

In February 2024, AZSITE partnered with the Arizona Association of Conservation Districts (AACD) to apply for South 32 Hermosa, Inc. Social Investment grant funds to subsidize AZSITE user fees for tribal government cultural resources personnel. South 32 awarded \$5,000 to AACD, who provided a \$5,000 match. AZSITE will invoice AACD for one account per interested tribal government per year until these funds are exhausted.

### Hosting Costs and Server Migration

During the reporting period, migration of AZSITE's three production servers (application server, database server, and GIS server) to the ASU RC on-premises data center at ASU was completed. This migration was necessitated by the closure of the on-premises data center at the ASU University Technology Office (ASU UTO) that had hosted these servers for more than 15 years. ASU Geospatial Research Solutions (ASU GRS) is the entity at ASU providing maintenance and development support for AZSITE since this migration.

In addition to the three production servers, ASU GRS maintains a working server and a development server for AZSITE. The working server hosts the working versions of AZSITE data, which are edited by AZSITE personnel each week and then synced to the production servers via automation processes each weekend. AZSITE's working server has been hosted at ASU RC since 2022. It was previously hosted by another now-defunct ASU on-premises

computing solution, Server On Demand. The development server is a lightweight Amazon Web Services (AWS) cloud server used solely for application development and testing.

ASU GRS provided AZSITE with two alternatives for a new hosting solution: 1) utilize the remaining on-premises hosting option at ASU, ASU RC, or 2) move the production servers to the AWS cloud hosting platform, widely used by Arizona state government agencies. Because ASU UTO had provided complimentary hosting services to ASU GRS (and thus AZSITE) prior to the closure of their data center in 2023, both hosting alternatives represented an increase in AZSITE’s annual operating costs (Table 2).

**Table 2: AZSITE Production and Working Server Costs**

<b>Server Costs – Software/Hardware</b>	<b>Actual Costs - On-Premises at RC</b>	<b>Alternative - Cloud Hosting with AWS</b>	<b>Comment</b>
<b>FY23</b>	\$ 1,575.00	NA	Working server, including backups
<b>FY24</b>	\$ 9,928.14	\$ 14,300.56	Working server, three production servers including initial software costs, including backups
<b>FY25 (Projected)</b>	\$ 7,925.00	\$ 12,425.56	Working server, three production servers, including backups

**Note: ASU GRS also manages a lightweight AWS cloud server used by AZSITE personnel for application development and testing, at a cost of \$800 per year.**

AZSITE opted to migrate the three production servers to the ASU RC on-premises data center due to the significantly cheaper cost. Also bearing on this decision were the integration and development advantages to having all four of AZSITE’s servers on the same network.

AZSITE Account Balance

Table 3 below summarizes the AZSITE account balance over fiscal years 2020 through 2024.

**Table 3: AZSITE Account Balance, FY 2020-2024**

<b>FY</b>	<b>Beginning Balance</b>	<b>Income</b>	<b>Expense</b>	<b>Annual Balance</b>	<b>End Balance</b>
<b>2020</b>	\$ 207,875.55	\$184,290.00	\$113,470.38	\$ 70,819.62	\$ 278,695.17
<b>2021</b>	\$ 278,695.17	\$142,965.00	\$165,093.70	\$ (22,128.70)	\$ 256,566.47
<b>2022</b>	\$ 256,566.47	\$137,825.00	\$197,963.92	\$ (60,138.92)	\$ 196,427.55
<b>2023</b>	\$ 196,427.55	\$141,151.00	\$225,718.73	\$ (84,567.73)	\$ 111,859.82
<b>2024</b>	\$ 111,859.82	\$218,730.00	\$197,786.56	\$ 20,943.44	\$ 132,803.26

AZSITE's expenses were lower in FY 2024 than in FY 2023, despite the increase in hosting costs described above. This was primarily due to the vacancy in the AZSITE GIS Technician position between January and May 2024, and the re-hire of the position at 0.5 FTE rather than 1.0 FTE. Another contributing factor was that a larger-than-normal proportion of AZSITE personnel salaries were paid from other accounts during the fiscal year, due to these personnel allocating effort to other projects at ASM.

Additionally, AZSITE's FY 2024 income was higher than anticipated, primarily due to a continued increase in AZSITE participation despite the fee increase. This was due in part, but not entirely, to increased tribal participation resulting from the AACD/South 32 grant effort.

Table 4 below shows the AZSITE FY 2024 budget estimated at the end of FY 2023, compared with actual FY 2024 income and expenditures. As previously mentioned, actual personnel costs in FY 2024 were lower than projected by about \$31,000, primarily due to the vacancy in the AZSITE GIS Technician position and the re-hire of the position at 0.5 FTE. Operational costs were roughly \$11,000 higher than anticipated, primarily due to the server migration.

Overall, AZSITE's FY 2024 income exceeded the projections by about \$20,000, while spending was roughly \$20,000 lower than projected. All told, after accounting for UA administrative fees, AZSITE's account balance increased by roughly \$21,000 over the course of FY 2024.

Table 5 shows AZSITE's projected income and expense for FY 2025. These projections assume that the new GIS Technician's FTE will be increased from 0.5 to 0.75 early in FY 2025 to enhance data management and support, and that the second year of the planned fee increase will be implemented for calendar year 2025 to continue to stabilization of AZSITE's finances.

Table 4: FY 2024 Income and Expense, Projected vs Actual

Section	Description	Projected Amount	Actual Amount
<b>Personnel</b>			
<b>Salaries</b>	AZSITE Manager & GIS Tech, ASM Database Manager Support	\$ 115,551	\$ 97,630
<b>ERE</b>	AZSITE Manager & GIS Tech, ASM Database Manager Support	\$ 36,860	\$ 31,242
<b>Projected / Actual Personnel Total</b>		<b>\$ 160,032</b>	<b>\$ 128,871</b>
<b>Operations</b>			
<b>General</b>	Software/Subscriptions	\$ 480	\$ 466
	Supplies	\$ -	\$ 494
	GRS Hosting & Maintenance	\$ 24,000	\$ 35,178
	CC Fees	\$ 5,000	\$ 4,353
<b>Misc. UA Admin</b>	New Hire Background Check	\$ -	\$ 92
<b>Travel/PD</b>	Conferences, training	\$ 1,500	\$ 1,678
<b>Projected / Actual Operations Total</b>		<b>\$ 30,980</b>	<b>\$ 42,261</b>
<b>Projected / Actual Total, Personnel + Operations</b>		<b>\$ 191,012</b>	<b>\$ 171,133</b>
<i>Projected / Actual UA IDC 2% on expenditures</i>		\$ 3,820	\$ 3,050
<b>Projected / Actual Income</b>		<b>\$ 199,400</b>	<b>\$ 218,730</b>
<i>Projected / Actual UA 11% on income</i>		\$ 21,431	\$ 23,604
<b>Projected / Actual Total Expenditure</b>		<b>\$ 218,912</b>	<b>\$ 197,786</b>

Table 5: FY 2025 Projected Income and Expense

Section	Description	Projected Amount
<b>Personnel</b>		
<b>Salaries</b>	1.0 FTE AZSITE Manager, 0.75 FTE GIS Tech, ASM Database Manager Support	\$ 112,853
<b>ERE</b>	1.0 FTE AZSITE Manager, 0.75 FTE GIS Tech, ASM Database Manager Support	\$ 36,113
<b>Projected Personnel Total</b>		<b>\$ 148,966</b>
<b>Operations</b>		
<b>General</b>	Software/Subscriptions	\$ 480
	Supplies	\$ 500
	GRS Hosting & Maintenance	\$ 24,175
	CC Fees	\$ 5,000
<b>Travel/PD</b>	Conferences, training	\$ 2,000
<b>Projected Operations Total</b>		<b>\$ 32,155</b>
<b>Projected Total, Personnel + Operations</b>		<b>\$ 181,121</b>
	<i>Projected UA IDC 2% on expenditures</i>	\$ 3,622
<b>Projected Income</b>		<b>\$ 231,078</b>
	<i>Projected UA 11% on income</i>	\$ 25,419
<b>Projected Total Expenditure, Including Fees</b>		<b>\$ 210,162</b>

## AZSITE Improvements

### Web Application Redevelopment

In fiscal year 2023, AZSITE undertook to redevelop its core web applications for fee-paying users, the Attribute Search Application and the Web Mapping Application. Both projects took into consideration years of feedback and suggestions from the AZSITE user community and consortium agencies, as well as input from the AZSITE Ad Hoc Advisory Committee. Redevelopment of the Attribute Search Application was undertaken primarily by AZSITE personnel, with support from ASU GRS personnel. Redevelopment of the Web Mapping Application was undertaken primarily by ASU GRS personnel under the direction of AZSITE personnel. These efforts represented the first significant overhaul of AZSITE functionality in more than 10 years.

Achievements of the Attribute Search Application redevelopment included:

- Ability to search multiple site datasets with one search term;
- Additional query functions and multiple parameter search for the primary AZSITE sites, projects, and references datasets;
- Ability to query the provisional ASM sites dataset;
- Addition of ASU site documents to .pdf library;

- Direct linkage of AZSITE Consortium site document .pdfs (from ASM, MNA, and ASU) to site entries;
- Direct linkage of ASM Project Registration Form .pdfs to project entries;
- Addition of project type information;
- Addition of project provenience information;
- Listing of sites recorded for each project entry, including provisional sites;
- Additional query functions and multiple parameter search for the AZSITE references dataset;
- Addition of ASM project reports to the .pdf document library;
- Direct linkage of ASM project reports to reference entries;
- Ability to directly search for documents by site or project number;
- Ability to directly query site and project information obtained from SHPO;
- Separation of NRHP Eligibility recorder recommendations and SHPO Determinations; and
- Improved formatting, sorting, and interrelation of data across all web views.

Achievements of the Web Mapping Application redevelopment, implemented in the Esri WebAppBuilder Developer Edition framework, included:

- Development of new, high-resolution historical USGS 7.5' Topographic Map basemap tile cache;
- Ability to choose from Esri basemaps;
- Ability to add external data (from web or upload) to the map;
- Improved integration of attribute table with map interface;
- Improved filter and query capabilities;
- Advanced spatial relationship query tools;
- Enhanced print capabilities;
- Enhanced spatial search/geocoding capabilities;
- Integration with .pdf document library with advanced feature pop-up configurations; and
- A new user guide website with a modern interface.

In July 2023, AZSITE personnel adjusted the applications for beta testing feedback received in June 2023. The updated applications were deployed on August 4<sup>th</sup>, 2023. On August 18<sup>th</sup>, 2023, AZSITE personnel hosted a virtual demonstration and question and answer session for the new web applications. This session was recorded and made available by request to AZSITE users. The production applications continue to be refined and enhanced, but major troubleshooting was complete in the production environment by the time of the production server migration in late September.

### User-side Password Management

User-side password management functionality was implemented in the AZSITE web applications in November 2023. This included a “Forgot Password” function, which reads in a username, randomly generates a new, strong password for the account, and emails the password to the email address on file for the account. A “Change Password” function allows users that

have logged in, including those that have logged in after resetting their password with the “Forgot Password” function, to set their own password. While functionality like this is standard for modern web applications, it had not previously been implemented in AZSITE. This change reduces AZSITE personnel effort in processing user inquiries regarding forgotten passwords or requests to change passwords.

### Data Fix Request Form

AZSITE developed and deployed a *Request a Data Fix* web form, allowing users to report errors or other issues with AZSITE data and propose specific corrections. Each feature in the web mapping application, and each record in the attribute search application, shows a hyperlink to this form. When the link is clicked, information about the record the user was just browsing is autopopulated into the form. The user can then add additional information about the requested data fix, and indicate that they would like to submit supporting materials, such as screenshot images, documents, or GIS boundaries, for their request.

When a data fix request is submitted on the form, data from the form are automatically written into an internal tracking list, a data fix ticket number is generated, AZSITE receives an email notification, and the submitter receives an email confirmation with their ticket number. If the submitter indicated that they wanted to submit supporting materials, a folder linked to the ticket number is automatically created on the ASM cloud server, and a file upload link for this folder is automatically emailed to the submitter.

AZSITE personnel conduct a review of each submission, request additional information if necessary, make corrections to AZSITE data based on internal procedures and data standards, and then disposition the request on the internal tracking list. When the ticket is indicated as closed on this list, the submitter receives an email indicating their ticket is closed, with a summary of the action taken and the justification for that action.

### AZSITE Public Mapping Application

An updated Public Mapping Application was deployed on AZSITE’s production server on January 9<sup>th</sup>. This application was developed by AZSITE GIS Technician Carrie Schmidt as her capstone project for the University of Arizona Geographic Information Systems and Technology Masters program. This represented the first upgrade to AZSITE’s Public Mapping Application in approximately 15 years. The original Public Mapping Application was developed in an early version of the ArcGIS Javascript API. The new version was developed in ArcGIS WebAppBuilder Developer Edition, and provides a modern web map interface, improved performance, updated data, and external reference datasets and resources.

### New AZSITE Data Layers

Over the reporting period, AZSITE developed three new GIS data layers, which will be added to the production web mapping application and GIS services early in the next fiscal year. These layers are:



1. Consolidated ASM Sites: Polygon layer representing ASM site boundaries that have been consolidated under a single ASM site number under the ASM site definition based on proximity of the sites to each other. Lists pre-consolidation site number, AZSITE primary key, and date of consolidation. Intended as a point of reference, this layer has been available to SHPO and ASM ARO staff for most of FY 2024.
2. Inactive ASM Sites: Polygon layer representing ASM site boundaries, or segments of ASM linear site boundaries, that are considered inactive. These are largely historic waste piles no longer meeting the ASM site definition, or in-use segments of historic linear sites. Intended as a point of reference, this layer has been available to SHPO and ASM ARO staff for most of FY 2024.
3. Lower Salt River Valley Hohokam Canals: Polyline layer representing prehistoric canals researched by Dr. Caseldine, building on the work of Howard, Huckleberry, and others. Intended as a point of reference for those conducting fieldwork, in particular monitoring within greater Phoenix, this layer will serve as a partial update and companion dataset to the existing Howard Canals layer.

### USFWS Document Library

In late January 2023, the USFWS paid AZSITE \$2,995 for the development of implementation of a USFWS site and survey document library in AZSITE and began providing GIS data along with documents. Overall, 11 USFWS sites and five USFWS surveys were added to the AZSITE database. AZSITE is in the process of digitizing a larger batch (152) of USFWS sites. AZSITE also assisted the USFWS in developing site form templates for use by their field personnel.

AZSITE implemented the USFWS document library in the development version of the attribute search web application. The implementation is designed to be a reusable framework for other partner agencies that wish to make cultural resources documents available in AZSITE. Testing of this partner agency document library will be conducted in early FY 2025 before deployment to production. USFWS cultural resources documents are already available to AZSITE users on the production server. USFWS data will continue to be added to the AZSITE database when provided by USFWS.

### AZSITE by the Numbers

#### AZSITE User Participation, 2023-2024

In calendar year 2023, AZSITE had approximately 372 individual users, representing the four Consortium agencies, 72 private companies, 20 state and local agencies, 14 federal agencies, four Tribal agencies, two public utilities, and 8 educational or non-profit organizations. About 70% of the users had direct GIS access.

In calendar year 2024, AZSITE has approximately 406 individual users. These users represent the four Consortium agencies (59 individual users), 69 private companies (usually archaeological consulting firms or engineering firms with archaeologists on staff; 254 individual users), 14 state and local agencies (excluding consortium agencies; 40 individual users), 10 federal agencies (22 individual users), eight tribal agencies (nine individual users), three public utilities (four



individual users), and nine educational or non-profit organizations (18 individual users). About 70% of the users had direct GIS access.

Overall, 117 organizational user agreements have been issued for calendar year 2024. Roughly 59% of user agreements were issued to private companies; 30% were issued to local, state, tribal, or federal agencies, or public utilities; 8% were issued to educational or nonprofit institutions. Despite the increase in fees for calendar year 2024, participation in AZSITE from the archaeological research and compliance community increased in terms of individual users.

### Backlog ASM Data

In the fiscal year 2023, AZSITE continued to apply and refine previously developed backlog processing methods. The data backlog consists of 7,877 original site recordings and 2,586 projects submitted to the ASM Archaeological Records Office (ARO) between approximately 2003 and 2017. In late 2020, AZSITE was granted permission to upload these materials into the AZSITE system prior to completion of curation activities by ASM. More recent submissions are handled by the ASM ARO under a different fee structure and workflow and are not available for AZSITE to upload prior to curation. 241 of the backlog site recordings and 37 of the backlog projects are known to be entirely on Tribal land, meaning they will not be added to AZSITE. In the first half of 2020, prior to backlog submissions being made available for AZSITE to upload prior to ASM ARO curation, site center points for original site recordings in the backlog were added to a provisional data layer in AZSITE as an interim measure that would provide approximate site location information to users.

At the beginning of 2020, 121 projects and 528 original site recordings from the backlog had previously been uploaded to AZSITE. By the end of June 2024, 2,456 backlog projects (97%) and 7,483 original site recordings (98%) had been uploaded (see Figures 1 and 2 below). The remaining submissions generally lack digital data or some component of the submission, requiring more effort to prepare for upload, or may have been voided by ASM.

Figure 1: Upload Progress, 2020-2024 - Backlog Original ASM Site Recordings

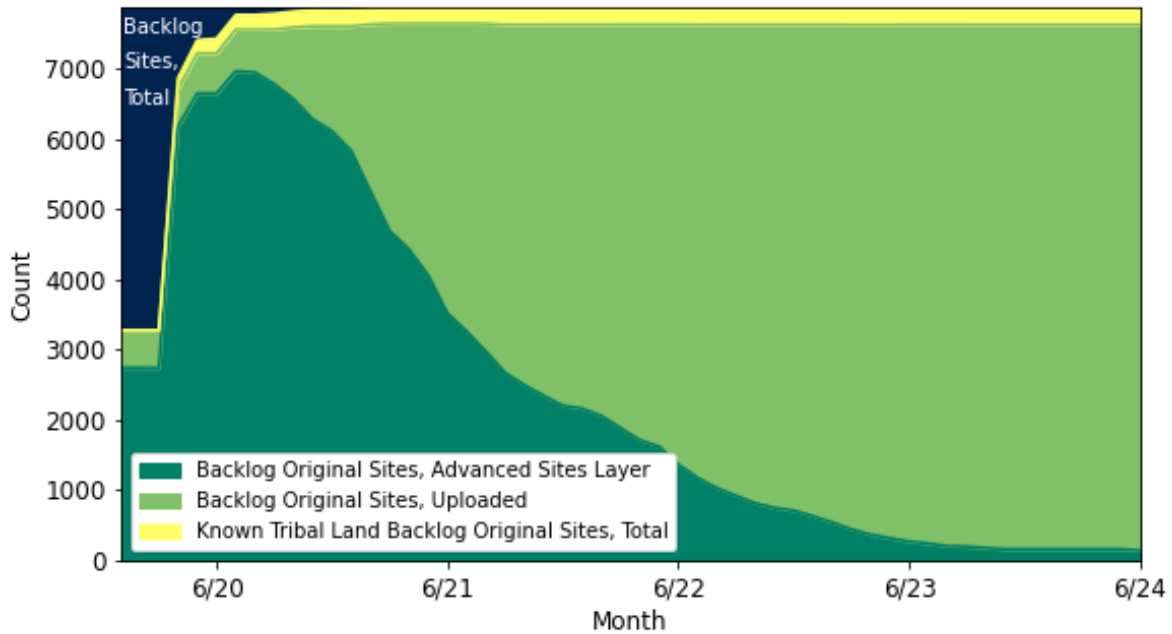
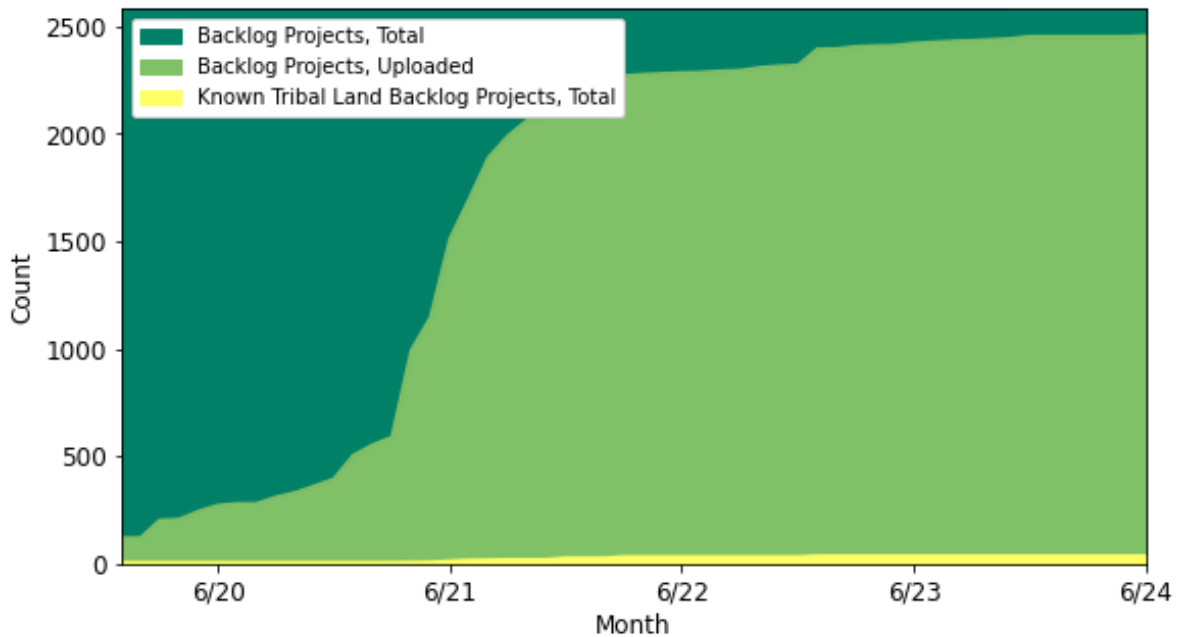


Figure 2: Upload Progress, 2020-2024 - Backlog ASM Projects



Newer ASM Data

While the ASM data backlog has been largely under control since 2022, AZSITE has become increasingly out-of-date with respect to site and survey data submitted to the ASM ARO since 2017 under the new ASM fee structure. This is because, unlike the backlog submissions, these

materials are not made available for addition to the AZSITE system until ASM curation activities are complete.

Prior to the spring of 2024, these newer data were primarily represented in AZSITE by the following means:

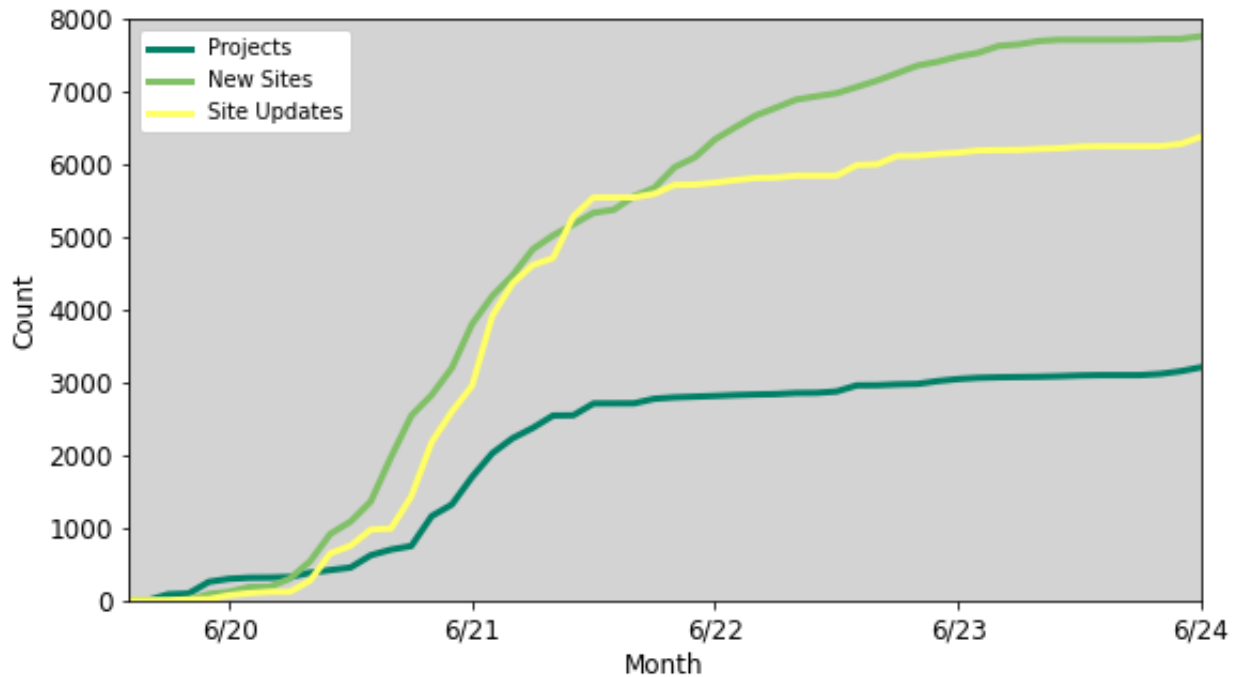
1. The Newly Recorded ASM Sites GIS layer, showing centerpoints of original site recordings (not detailed boundaries) still in curation at ASM; and
2. ASM Project Registration Form (PRF) .pdfs, which typically include a map showing the project area, and are finalized early in the curation process.

The recent improvements to the AZSITE web applications made the newly recorded ASM sites data fully queryable and directly related to PRF .pdfs. However, there is still no GIS-based representation for these newer projects until ASM curation is completed. Since many AZSITE users are approaching their research spatially, it is important that newer project boundaries are added to AZSITE.

To this end, in April 2024, the ASM ARO granted AZSITE permission to add ASM project boundaries to AZSITE as soon as the PRF is finalized. This made roughly 500 ASM projects from recent years available for upload to AZSITE.

Over the past several years, AZSITE has developed several tools to bulk process ASM project entries. This allows AZSITE to rapidly add these materials to the AZSITE database. 98 of these newer projects have been uploaded by the AZSITE GIS Technician since May 2024. Integration of the AZSITE projects dataset with the newly recorded ASM sites dataset in the new AZSITE web applications means that both projects and sites still in review at ASM, as well as the relationship between the two, will be represented in AZSITE. Figure 3, below, summarizes total additions of ASM site and project data to AZSITE from 2020-2024, including both backlog and new fee structure data.

Figure 3: Total Uploads, 2020-2024 - ASM Sites and Projects



### SHPO Data

AZSITE receives quarterly updates to undertakings information, site information, and NRHP eligibility determinations from the SHPO. The raw text files exported from the SHPO database are transformed and uploaded into the AZSITE database. In the new AZSITE web application, these data are made queryable and interrelated to the other AZSITE datasets. For example, NRHP eligibility determinations for a given site are shown separately but alongside NRHP eligibility recommendations made by the recorders of the site.

SHPO data were updated in AZSITE in July and November 2023, and March and June 2024. A total of 1,696 SHPO undertakings information entries, 1,282 SHPO site information entries, and 984 NRHP eligibility determination entries were added to AZSITE over the reporting period.

### ASU Data

As previously described, the updates to the AZSITE web applications implemented in 2023 included the addition of ASU site survey forms to AZSITE's .pdf library. This was in conjunction with the ASU SHESC repository conducting a digitization effort for their paper records. In 2023, 56 ASU site survey form scans were made available in AZSITE; in 2024, 680 ASU site survey form scans have been made available. The total number of ASU site survey forms available in AZSITE is 853.

The AZSITE database contains many ASU sites. As the ASU site survey form scans are obtained from the ASU SHESC repository, they are added to the AZSITE database and linked to the corresponding, existing site entry where applicable. As part of this process, AZSITE reviews the

existing site GIS boundary to see if it can be improved based on the information on the site survey form. Where AZSITE does not yet have a corresponding site entry, one is created based on the information on the site survey form. 26 new site entries were created in the reporting period based on site survey form scans provided by ASU.

Summary of Data Uploads

Table 6 below summarizes total items added to the AZSITE database in calendar years 2023 and 2024, as well as past years.

Table 6: Summary of AZSITE Data Uploads

Mean Annual (past) Total Annual (current)	2004-2009	2010-2014	2015-2019	2020	2021	2022	2023	2024
Projects	1,061	840	109	452	2,225	172	220	126
New Sites	1,706	1,287	194	1,084	4,087	1,663	696	50
Site Updates	ND	ND	ND	752	5,033	299	360	206
ASM PRFs	ND	ND	ND	335	231	257	361	309
ASM Site Cards	ND	ND	ND	322	511	405	743	28
Fixes	ND	ND	ND	73	316	48	221	37
ASM Reports	NA	NA	NA	NA	NA	4	3,975	143
ASU Site Survey Forms	NA	NA	NA	NA	NA	117	56	680

**ND = No Data; NA = not applicable; data type did not exist.**

Uploads of core data types (sites and project GIS features) have tailed off in 2023 and 2024 as the ASM backlog effort that peaked in 2021 has neared its conclusion. In lieu of a significant source of new data, in 2023 and 2024, more emphasis was placed on application and data development. Significant numbers of .pdf documents were also added to the system, particularly for the newly available document types, ASM reports and ASU site survey forms. This stands to change in FY 2025 with ASM making more project materials available to AZSITE late in FY 2024, and other agencies beginning to contribute data.

Data Clip Requests

AZSITE provides a “data clip” service to fee-paying users. Users of this service provide a GIS boundary for a research area, specify the data of interest to them and the format in which they want to receive it, and AZSITE provides an extract of the requested AZSITE data for the area of interest. Table 7 below summarizes the number of data clips processed in recent years.

Table 7: Summary of Data Clip Requests

Data Clips	2019	2020	2021	2022	2023	2024
Requests	48	46	51	200	102	61

## AZSITE Next Steps

This section describes priorities for AZSITE in the next reporting period.

### Advisory Framework

The AZSITE Ad Hoc Advisory Committee (AHAC) was established in 2020 to serve in place of the AZSITE Advisory Council, which had not been active in some years. The AHAC was comprised of representatives from utilities, tribal governments, federal agencies, state agencies, county governments, local governments, producers, academia, small businesses, and large businesses. The intended purpose was to provide guidance and assistance to the AZSITE manager from a diverse set of perspectives and skillsets.

The AHAC provided input to AZSITE on application redevelopment efforts, policy development, and a draft AZSITE Data Sensitivity Training between 2020 and 2024. Due in part to the improvements at AZSITE over this time, the AHAC’s direction and leadership has declined. As a result, most of the administrative tasks associated with the group have fallen to the AZSITE manager. Therefore, the AHAC was suspended by the AZSITE Board in April 2024.

It is important for AZSITE to have an advisory framework within which to receive feedback, develop priorities, and communicate with stakeholders. With the suspension of the AHAC, some suggested alternatives have been for AZSITE to host user forums on a quarterly or as-needed basis, or for an AZSITE advisory body to be convened as a committee of a state professional organization, such as the Arizona Archaeological Council. AZSITE personnel and the AZSITE Consortium Executive Board will explore these possibilities in the next reporting period.

### Data Sensitivity Training

*AZSITE Annual Database Use Agreements* are issued at the organizational level. In general, AZSITE user organizations are required to have a responsible representative meeting the Secretary of the Interior’s Professional Qualifications for Archaeology and Historic Preservation (SOI’s Qualifications). The SHPO delegate to the AZSITE Consortium Executive Board reviews applications for access to AZSITE and approves them based on these qualifications.

Changes to AZSITE’s *Access Policy* implemented for calendar year 2023 give SHPO discretion to grant AZSITE access to government or public utility organizations not meeting the SOI’s Qualifications, but demonstrating cultural resources management responsibilities, on a case-by-

case basis. In calendar year 2024, three user organizations of this category, with four total individual users, have been approved by the SHPO.

As stated in the *Access Policy*, approved users from these organizations are intended to complete an AZSITE Data Sensitivity training. This training is intended to provide them with the specific context and perspective on the sensitivity of cultural resources data that they may not otherwise have from their professional background (Note: all AZSITE users must review and sign the *Annual Database Use Agreement*, which stipulates basic access management, data management, and data distribution limitations). A draft AZSITE Data Sensitivity Training was developed in late 2022 and 2023 by members of the AHAC. Since late 2023, AZSITE has been conducting a tribal consultation process to receive tribal input on the training and tribal perspectives on the sensitivity of data in AZSITE. To date, input on the training has been received from the White Mountain Apache Tribe. Early in FY 2025, AZSITE will engage in a discussion of the AZSITE Data Sensitivity Training at a meeting of the Four Southern Tribes Cultural Resources Working Group.

Obtaining additional input from tribal governments on the AZSITE Data Sensitivity Training is a priority for the beginning of FY 2025, as is finalizing and delivering the AZSITE Data Sensitivity Training.

### Data and Development Goals

Another priority for the first several weeks of FY 2025 will be the deployment of three new GIS layers as described above: Consolidated ASM Sites, Inactive ASM Sites, and Lower Salt River Valley Hohokam Canals. These layers will be deployed in AZSITE's web mapping application and standalone GIS services, with accompanying metadata and documentation.

Once this is completed, the next priority will be the deployment of the USFWS document library, adapted for other partner agencies, to AZSITE's production servers. Accompanying this will be documentation providing guidelines to other agencies wishing to make their cultural resources documents available in AZSITE.

AZSITE Consortium member institution MNA has provided AZSITE with approximately 1,000 of their survey reports, for surveys conducted between 1973 and 1987, and agreed to make them available in the AZSITE web applications. Early in FY 2025, AZSITE will develop the necessary back- and front-end components to accomplish this. AZSITE has existing entries for many of these surveys in its projects dataset, but they lack GIS boundaries. As part of this effort, AZSITE will begin adding GIS boundaries for these MNA surveys.

In the current reporting period, AZSITE has been in communication with several federal agencies regarding providing data to AZSITE. One of these agencies, the USFWS, has begun providing data. AZSITE will continue these efforts with the goal of bringing AZSITE closer to its stated purpose to provide a statewide, consolidated cultural resources GIS inventory.

## Conclusions

Addition of new data to AZSITE has slowed since 2022 with the ASM backlog effort winding down. However, AZSITE's pre-curation access to newer ASM materials has recently been increased, and a significant volume of ASM survey data will be added to AZSITE early in the next reporting period. New data sources from ASU, MNA, and USFWS will also increase the volume of data being added to AZSITE.

With the backlog of ASM data under control, modernizing the web applications was the next logical point of emphasis for AZSITE. The redevelopment effort completed early in FY 2024 represented a significant improvement to the AZSITE user experience, and highlighted aspects of the AZSITE dataset that are most useful to researchers. The subsequent server migration increased the performance of AZSITE's web applications, and simplified data management and application development for AZSITE personnel.

AZSITE increased user fees in 2024, with a second round of increases planned for 2025, to cover increased operating and personnel costs, and to fully account for University of Arizona administrative fees. These fee increases were relatively well-received by the AZSITE user base, perhaps because they followed shortly after the redevelopment effort. As a general strategy, user fees are used to cover base operating and personnel costs, while grants will be pursued for specific enhancements and developments.

AZSITE successfully partnered with AACD in 2024 to obtain South 32 Social Investment funds, with an AACD match, to sponsor AZSITE access for tribal government cultural resources personnel. AZSITE also obtained funding from the USFWS for application development work. AZSITE will continue to research potential grant projects, and to seek partnership opportunities with other agencies that could include funding for improvements to AZSITE data and applications.