GCDAMP Administrative History Project

Year One Performance Report

Bureau of Reclamation CESU Cooperative Agreement

R16AC00095

Arizona State University

October 1, 2016 – September 30, 2017

(Report submitted October 16, 2017)

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1. SOW and Summary of Accomplishments in Year 1
(15 Sept 2016 – 14 Sept 2017)

The Scope of Work (SOW) in the Bureau of Reclamation contract for the first year of this GCDAMP administrative history project (pp. 5-7) stipulates that the ASU team would accomplish the following by the end of Year 1:

- Prepare a **strategic plan** detailing the steps to be taken to develop the GCDAMP administrative history and associated products over the term of the contract;
- Conduct and process five **oral history interviews**, and prepare a list of additional interview subjects for years 2-4 along with a protocol for processing, archiving, and curating the interviews;
- Prepare a **website wireframe and a database framework** for the proposed website that will host the administrative history, the oral interviews, historical exhibits, a searchable archive, etc.

Most of the targeted tasks were completed with a few minor exceptions and delays.

The **strategic plan and budget** projections for years 2-4 follow in the next section of this report.

In year 1, the **oral history** team (Sweeney, Navarro, and Hirt) developed an interview protocol, interview questions, a recruitment script, a consent form, and a list of 21 prospective interview subjects. We completed four oral history interviews in year 1 instead of five because some of our priority target subjects proved difficult to schedule interviews with. We plan to conduct eleven oral histories in year 2 (instead of ten) in order to stay on track with the original SOW projections of 30 completed interviews by Sept 2020. Two of the oral histories were recorded in video at an ASU recording studio and two were recorded in audio in the field (Salt Lake City and Tucson). We typed up full text transcriptions of each oral history, plus we created time-stamped annotations for the digital recordings for digital searching and for use on the administrative history website. We also tagged the interviews by subjects and key words. The interviews, transcripts, and annotations are available in an ASU Dropbox folder. By the end of 2017 they will also be available on the beta version of the administrative history website (see below). A full report of year 1 accomplishments and our oral history methods, technologies, and protocols along with a list of interview prospects for years 2-4 appear in section two of this report.

In year 1, the **website** team (Drs. Tebeau and MacFadyen) analyzed the pros and cons of four alternative web platforms for the administrative history and settled on Drupal/Islandora as the platform and DiscoveryGarden as the vendor for setting up a beta version of the website. We planned to have the beta site available for the ad hoc administrative history advisory committee of AMWG to explore and evaluate by September 2017 but contracting complications at ASU unexpectedly delayed for several months our ability to hire DiscoveryGarden. We hope to have the site available for review by November 2017. The full first year report of the website team appears in the last section of this report.

2. Strategic Plan and Budget Projections for Years 2-4

Oral History Strategic Plan for Years 2-4

Oral History interviews are a main component of the GCDAMP Administrative History Project. The two overall goals of the Project are to support decision making and environmental management regarding the river ecosystem impacted by the Glen Canyon Dam, and to describe a model for adaptive management that can be replicated or applied in other programs or regions. The Oral History component of the GCDAMP Administrative History project will support these goals by:

- Recording and preserving the institutional memory of GCDAMP founders and leaders
- Capturing the depth and breadth of GCDAMP research, decisions, and operations
- Documenting the management options considered and exploring why they were implemented or rejected
- Evaluating GCDAMP successes and failures to help evaluate and set priorities for future funding

The information collected in the Oral History interviews completed to date by the ASU team satisfies all of the above objectives. For the most part, subjects have been eager to participate and generous with their observations and expertise. The project team is encouraged by the high quality of information collected so far, and is eager to proceed with the next round of interviews.

As projected in the original SOW, we plan to accomplish at least 30 oral history interviews for the project. We completed four in year 1 and plan to complete eleven in year 2, ten in year 3, and five in year 4. BuRec has the option to request more interviews in year 4 if desired. There is also a fifth year of authorized funding when additional interviews can be scheduled; however, we plan to complete the contracted project deliverables by the end of year 4 so work on this project in year 5 is optional.

Interviews so far are typically around 90 minutes long. The participants interviewed in year 1 were Cliff Barrett, former Acting Commissioner of the U.S. Bureau of Reclamation; Mary Orton, Adaptive Management Work Group (AMWG) Facilitator; Larry Stevens, Senior Ecologist for the Grand Canyon Wildlands Council and long-time GCDAMP participant; and Dave Wegner, former Professional Senior Staff for the Water Resources and the Environment Subcommittee, U.S. House of Representatives.

Oral History interviews are recorded with specialized digital equipment. Participants who can travel to the Arizona State University Tempe campus are recorded on video in a dedicated studio. Interviews conducted in the field are audio only. Finished recordings and backup copies are saved separately for security. After a recording is finished and stored, Research Assistants with Oral History expertise carefully listen to the interview and process it to make its contents searchable.

At this time, processing results in two products. The **Oral History Interview Transcript** is a word-for-word written version of the interview, including both questions and answers. Transcripts are timestamped, meaning that the elapsed interview time, in minutes and seconds, is noted in the left margin of the transcript. The **Oral History Annotation** is a document designed to facilitate access to content for research beyond keyword searching. Using a spreadsheet divided into sections representing one minute of recording time, the topics contained in that minute are synopsized and significant excerpts are quoted. Works or documents referenced by the interview subject are also footnoted in this document. Tags, or references to entities or topics particular to GCDAMP, can also be noted in the annotation. These tags, also called metadata, will be used to make Oral History interviews easily searchable once they are integrated into the web platform being developed for the administrative history. Both Transcripts and Annotations will likely be paired with recorded content on the platform streamable from the website.

Here is a link to a Dropbox folder where we currently store the oral history interviews and related documents including the recruitment script, interview questions, consent forms, etc.: https://www.dropbox.com/sh/o1luou2q20bkwz3/AAD_ugRuHF7BtpOdZtkLTpjXa?dl=0

Our master list of oral history interview prospects that we developed in consultation with GCDAMP members in year 1 includes 21 names. That means we need to identify nine more subjects for oral history interviews. With the help of the administrative history ad hoc committee we have prioritized who should be included in the first 15 interviews, which covers interview activities for years 1 & 2. (See Prospective Oral History Interview Subjects list below).

Budget considerations: Three of the four interviews in year 1 were conducted in Phoenix and Tucson, with one interview conducted in Salt Lake City, so our $10,709 annual travel budget was hardly utilized in year 1 ($1,467 spent on travel in year 1). We believe that the original budget allocation will be sufficient to cover travel expenses in years 2 and 3. We will only need about half that amount in year 4.

Prospective Oral History Interview Subjects

NOTE: Those marked with an asterisk are "high priority" to be interviewed in years 1 and 2.

*Bruce Babbitt (Washington DC) – Secretary of the Interior, 1993-2001

*Clifford (Cliff) Barrett (Salt Lake City)—Interview completed May 2017

*Anne Castle (Denver)

*Dave Garrett (Grand Junction) -- Interview attempted in 2017, will keep try**ing**

*Leigh Kuwanwisiwma (Hopi Mesa) – Interview attempted in 2017, will keep trying

*Mary Orton (Bend, OR) – Interview conducted in Feb 2017

*Larry Stevens (Flagstaff) – Interview conducted in Feb 2017

Randy Peterson (Salt Lake City) Former AMWG Program Manager for BoR in SLC. Retired.*

*David Wegner (Tucson) – Interview completed in August 2017

*Andre Potochnik (Flagstaff) – Interview scheduled for November 2017

Jack Schmidt -- Geomorphologist, served as Chief of GCRMC.*

*Michael Yeats (Hopi Tribe, cultural resources)

*Kurt Dongowski (Zuni Tribe, cultural resources)

*Kerry Christensen, Biologist/Preservation Specialist III, Hualapai Tribe

*Carl Walters (UBC) Fisheries scientist. Important player in early years.

Interview Prospects for Years 3 & 4 (need to identify nine more prospects)

Rich Valdez (Utah State University) Fisheries scientist.

Lori Caramanian, former Deputy Assistant Secretary for Water and Science at U.S. Department of the Interior. Recommended by Mary Orton.

Randy Seaholm, Colorado Rep to AMWG/TWG for many years

Serena Mankiller

Clayton Palmer

Dennis Kubly

Strategic Plan for Administrative History Narrative Years 2-4

The SOW indicates that we will complete a 20,000 word narrative history of the GCDAMP by the end of year 4 (Sept 2020). The SOW also indicates that in year 2 the ASU team will produce an annotated bibliography of relevant published literature about the GCDAMP, along with a chronological summary of the program and an orientation packet for new members of AMWG/TWG. We want to adjust two of these target dates. Dr. Hirt has applied for a research sabbatical in the fall of 2018. If it is granted by ASU, Hirt plans to work with research assistant Jen Sweeney to produce a draft the administrative history between August and December of 2018—the beginning of year 3. It would seem desirable to develop the orientation packet for new members of the GCDAMP in the second half of year 3 after the first draft of the narrative history is completed. We remain committed to producing the annotated bibliography and chronological summary by the end of year 2.

Budget implications: none.

Website Strategic Plan for Years 2-4

In the first year, web coordinators MacFadyen & Tebeau explored different technical options for the project, considered the materials that would be archived, and conceptualized the item types and post types for the archive and interpretive sections. The team also considered issues related to sustainability, integrating oral history, and training future users and managers. They investigated multiple developers and ultimately selected the vendor DiscoveryGarden, which develops the Islandora software for the Drupal-based DAMS, to provide hosting and basic site development. At the time of this writing, ASU is finalizing its contract with DiscoveryGarden and the beta website should be in development by the end of October 2017.

In year 2 of implementation (Sept 2017-Sept 2018) the website team will test its basic plan for content archiving and interpretive exhibits and oversee the uploading of content by student assistants. By November 2017, the digital team hopes to have a beta site up and running. After testing, we will solicit feedback from the AMWG ad hoc administrative history advisory committee and then develop a plan for customization, within the framework of the budget. Throughout year 2 we will also be uploading content with metadata tags in the archival back end of the website as well as developing user interface features and interpretive exhibits on the front end of the website.

In year 3 website development activities will mostly focus on additional content archiving and digital exhibits development, plus the incorporation of the long-form administrative history narrative that Hirt and Sweeney will write in year 3, as well as and the special information packet we will develop for orienting new members of the GCDAMP. A training program for future managers and users of the website will be developed late in year 3 (summer 2019). The project team will work with digital repository experts at the ASU Library to determine when/if it is appropriate for ASU to take over hosting, maintenance and development of the website.

In year 4 we will complete the uploading of archival content and exhibit development, and then commence a training program for users in the adaptive management community. The project team will lay the necessary groundwork for ensuring the sustainability of the website and determine if ASU Libraries will take over hosting and maintenance.

Budget implications: The CESU contract budget includes $8,000 for a web consultant spread out over the life of the project. DiscoveryGarden will charge us $3,000/year for years 2-4 for web design, development, and hosting services. Therefore, our web consulting budget will be $9,000 instead of $8,000. We also would like to hire a graphic/branding consultant for $1,000. We believe that there are sufficient excess funds built into the travel budget to easily cover this extra $2,000 spread out over two years.

Questions
(1) Could the website be coordinated with extant interpretive signage at the Glen Canyon Dam visitor center or elsewhere? (2) Who is the typical user (i.e. audience) and from what sorts of devices might they be accessing the website from?

Summary Budget Projections for Years 2-4

Our first year's expenditures were 34% under budget mainly because of lower than expected out of state travel expenses, lower than expected wages paid for research assistance, and because the first year's payment for the website wireframe consultant/vendor was delayed to the beginning of year 2. The ASU team is interested to know whether unspent funds from year 1 can roll over to year 2.

Looking forward to years 2-4, as mentioned in the report above, we anticipate spending $2,000 more than originally budgeted for website development (DiscoveryGarden and design consulting), but we expect to spend that much less than originally budgeted for travel.

It appears that we may bump up against our $50,000 annual funding limit in years 2 and 3 when the oral history interviews and website development and writing of the administrative history are all at their highest levels of activity, while we will likely spend less than $50,000 in year 4, just as we underspent our budget in year 1. Moreover, we may not need any funding in year 5 as we have planned to complete all promised deliverables by the end of year 4. It would therefore be helpful if we were allowed to exceed our $50,000 annual budget by up to 15 percent in years 2 and 3 in exchange for reducing our spending by an equal amount in years 1 and 4. But if this is not permissible, we are confident that the approved annual budget of $50,000 remains adequate for the more ambitious Scope of Work for years 2 and 3.

Pasted below is a screenshot of the expenditure report from ASU as of September 15, 2017. Note that ASU requires reporting in a particular set of budget categories which are not consistent with the categories set up in federal government contracts. There is not a direct correlation between the CESU budget line items and the ASU budget line items. But the total amount of direct and indirect costs are accurate. You will see below that we spent the budgeted amount for salaries and benefits for the project director, co-directors, and staff; while we spent less than budgeted for student wages, services, equipment, and travel. Dr. Hirt will work with ASU's Office of Sponsored Research Administration to refine the year 2 expenditures spreadsheet to better reflect the CESU budget if possible.

Figure 1: Expenditures for 15 Sept 2016 – 14 Sept 2017

ASU Financial SuperReport for Glen Canyon Dam Adaptive Management Program Cooperative Agreement #R16AC00095 (ASU account DRS0081)

Account Summary ▼

Account:	DRS0081	Principal Investigator:	Hirt,Paul Wayne
Org Manager:	Hirt,Paul Wayne	Award Status:	Active
Project Title:	GLEN CANYON DAM ADAPTIVE MANAG	Fund Code:	3000 - SPONSORED CURRENT FUND-MAIN
Tuition Remission Type:	Flat Rate Account	ERE Rate:	CURRENT

☑ Show Account Detail

Obligated Budget by Object Code

Object Code	Description	Current Modified Budget	Expenditure Current Period	Expenditures Inception to Date	Outstanding Encumbrances	Available Balance
7110	SALARIES	18,276.00	0.00	18,275.00	0.00	1.00
7120	WAGES	5,600.00	105.00	2,808.75	0.00	2,791.25
7200	EMPLOYEE RELATED EXP	5,610.00	1.16	5,416.73	0.00	193.27
7310	SERVICES	1,600.00	0.00	0.00	0.00	1,600.00
7320	MATERIALS AND SUPPLIES	258.00	0.00	0.00	0.00	258.00
7325	NON-CAPITAL EQUIPMENT	500.00	0.00	0.00	0.00	500.00
7330	COMMUNICATIONS	0.00	0.00	0.00	0.00	0.00
7340	RENTALS/LICENSES	0.00	0.00	0.00	0.00	0.00
7390	MISCELLANEOUS	0.00	0.00	0.00	0.00	0.00
7510	TRAVEL/IN-STATE	0.00	0.00	0.00	0.00	0.00
7520	TRAVEL/OUT-OF-STATE	10,709.00	0.00	1,467.63	0.00	9,241.37
	DC SUBTOTAL	42,553.00	106.16	27,968.11	0.00	14,584.89
8201	INDIRECT COSTS RECOVERED	7,447.00	18.58	4,784.70	(0.01)	2,662.31
	IC SUBTOTAL	7,447.00	18.58	4,784.70	(0.01)	2,662.31
	TOTAL	50,000.00	124.74	32,752.81	(0.01)	17,247.20

3. Year 1 Website Wireframe & Database Framework Report

Contents of this section of the report:
- Objective
- Wireframe
- Archival Materials and Item Types
- Design, logos, etc
- Proposed management system (Islandora)

Objective

The objective of the GCDAMP Website is threefold. First, we seek to create a space that serves as a repository for primary source materials that are relevant to the project but do not appear elsewhere in federal archives. In some cases the materials may appear elsewhere, but they could be inaccessible or they could have additional significance by being aggregated with other archival materials related to the GCDAMP. Second, the web space will carry interpretive features that include exhibits and curated materials related to the administrative history being developed and written by the PI, Dr. Paul Hirt. The web space will also plan for sustainability after the project by allowing the GCDAMP community to curate materials related to the endeavor through systematic collecting, uploading, and tagging (using a basic controlled vocabulary.) Finally, through faceted search these materials will be available to the community and general public. Rather than thinking of this as an encyclopedia or a wiki, the GCDAMP website will provide curated highlights of the administrative history and multifaceted access to supporting archived materials.

Wireframe

The key sections, elements, and features of the website are elaborated below. These sections will be top-level menus, with the site opening to latest news--which is one of the post types. Special display types may be integrated, if desired. The proposed menus will include: About; Archive; GCDAMP History; People; Places; and Search.

About
The purpose of this section is threefold: it will describe the GCDAMP in general terms, it will guide users through the web space, and it will briefly describe the background of the administrative history and the AMWG and TWG.
- GCDAMP History and Mission
  - Contact information
- How to use this site
- Administrative history team
  - A welcome message from the historian

○   Contact information

Archive

This section will serve as a summary of and gateway to the archived content. Content may be public or protected. Protected content will be available only to users with administrative access. The repository will focus on original content generated by the project (e.g., oral histories) as well as primary source materials that are relevant to the project but that do not appear elsewhere in easily accessible federal archives.

The archive will reflect basic metadata, using the main categories as recommended by the Dublin Core Standard. There will be multiple item types but all will follow the basic metadata recommended here. For long-term sustainability, the variety of metadata should be kept simple.

- Item Type (of different sorts of documents and/or media)
- File (image, audio, etc.)
- Title, Author, Date (basic metadata elaborated)
- Description (two-sentence or more description)
- Subjects (controlled vocabulary)
- Tags (folksonomy)
- Geolocation (map location)
- Exhibits (posts it appears in)
- Links (to external resources, including federal archives)

GCDAMP History (Posts/Stories/Exhibits)

The ASU Administrative History team members will create these stories and exhibits. We propose to arrange the administrative history as a series of posts and exhibits. Visitors would see a title post with the option to click and read more. Additional posts would appear as a series of boxes or graphics that each lead to supporting narrative posts. Conceptually, these posts will be interpretive blog articles of modest length (1000 words) supported by internal site items (stored in **Archive**), as well as potentially external elements such as YouTube videos, Internet Archive media, or FLICKR photograph collections. The post metadata will include metadata, subjects, and tags. (Subjects will be a controlled vocabulary used project wide. This is essentially a "keyword" style of organization.)

- Post types
- Interpretive Posts/exhibits
- Author, Title, Date
- Embed archival objects
- Subjects
- Tags

People/Stakeholders

This section would feature a number of people and stakeholders who are important to the history of the GCDAMP. This could be arranged as a complete stakeholder tree (in list form or graphically) or it could focus on a smaller subset of actors who are featured in the administrative history. We propose featuring the complete oral histories in this section. These objects will also

appear in the **Archive**, and sometimes **Places** (see below), but they will be featured more intuitively under this section.

Places
This section will focus on the environmental history of the watershed, and it will feature significant locations affected by the Glen Canyon Dam and the AMP. Some of these locations will be described as stories under the **GCDAMP History,** but users will see them arranged spatially on a map of the watershed. We will also present links to geolocated Stakeholders who appear under **People** and archived materials that appear under the **Archive**. Depending on the capabilities of the proposed management system (Islandora), we will either feature the Places on a native webmap or we will use third party tools like Carto or (less optimally) Google Maps.

Search will be available across the site, with references to posts & archival material by subjects and tags.

Additional Functionality Notes
1. The website will be designed for desktop but optimized for display on mobile devices.
2. The key feature of the design will be a front page that features the interpretive posts, including sticky posts or feature posts. Otherwise the design of the site should be simple and clean.
3. The archive would include the ability to display geolocated items on a map.
4. The main menu will be simple and uncluttered.
5. The site will feature, or spotlight, certain archival items in the History, People, and Places menus as appropriate.
6. User permissions should be included in order to give users access to partners to upload and to curate the archival collection.

Archival Materials & Item Types

In the first year, administrative history project team members visited various physical and online archives in order to identify material useful for the administrative history. Much of the new content we developed is in the form of oral interviews, and the website is being designed with these interviews in mind. However, other content providers include the archives of the Environmental Resource Division of the Bureau of Reclamation (Upper Colorado Region, Salt Lake City UT) and the Grand Canyon Monitoring and Research Center. At the most basic the list of archive materials will include documents, maps, images, scientific & administrative reports, oral histories, and videos. The present GCDAMP wiki features many of the digital objects that we will seek to archive and integrate into the exhibits and search functions.

Design, logos, etc.

We propose to hire a designer in the second year of the project to develop graphics and branding for the administrative history site.

Proposed Management System (Islandora)

The web design team has selected Islandora as the Digital Asset Management System (DAMS), from among several options that we considered. The options we explored in depth included WordPress, Omeka, Collective Access, and Islandora.

The advantages of Islandora include its unique archival capabilities including SOLR indexing, the ability to do faceted (global) search out of the box, its use of Drupal for a broader user community, excellent hosting & technical support, and the quality and functionality of its basic out-of-the-box themes. Islandora features a basic post/blog structure, in addition to an archive, that can serve as the vehicle for Dr. Hirt's administrative history narratives--as we'd like to synchronize the exhibits with the publication of the administrative history. The digital archiving experts at the ASU library have indicated a preference for Drupal/Islandora going forward because of its industry-leading support capabilities. Finally, we found the reasonable cost structure appealing, which will facilitate long-term sustainability of the digital archive and exhibits.

Islandora's competitors had features we liked, but typically had greater liabilities. For example, WordPress has the best blogging and interpretation functionality but its archival capabilities were more limited (e.g., maximum file sizes and limited search functionality). We worried that using or creating numerous plug-ins to enhance WordPress functionality might make it more difficult to sustain over the long term, especially beyond the five-year window of the grant funding. Omeka's archival and search functionalities are more sophisticated than WordPress, but its ability to handle historical interpretation posts/exhibits and the flexibility of its themes were too limited for our needs. The other tools available, such as Collective Access, were more focused (and expensive) archival or library tools, which lacked the interpretive capabilities we are seeking. Also, this would have been more costly to operate and maintain.

We opted not to use a wiki format because it does not allow for archivally rigorous content management, is too difficult to maintain (keeping links & organization active), and it is not as easily or thoroughly searchable.

Our long-term sustainability plan is for the archival aspects of the project to be sustained by the adaptive management community beginning in the fourth year of the grant. We hope that ASU or, alternately, Discovery Garden will be the long-term host for the website.