
Phase I Report

AWPF Grant Projects Assessment

Arizona Water Protection Fund
Phoenix, AZ

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PROJECT OVERVIEW

The Arizona Water Protection Fund (AWPF) has funded 177 projects since its establishment in 1994. A large number of AWPF projects have developed and implemented restoration practices to prevent or correct erosion issues, benefit water quality and/or enhance the Arizona's riparian ecosystems. Many practices have served the stated purpose of AWPF; others have not. This project aims to assess the success of projects funded by the Arizona Water Protection Fund over the past 12 years and give recommendations and prepare tools to improve future projects.

The objectives of this assessment are to evaluate whether grant monies have been well spent through evaluating project success and how well they met AWPF goals. Therefore, two over-arching objectives present themselves:

- 1) To evaluate the success of completed AWPF grant projects
- 2) To assess how effective the AWPF program has been in support of projects.

From these two over-arching objectives, a third objective arises:

- 3) Compile successful restoration and enhancement techniques to further improve project successes into the future and meet AWPF goals.

This project focuses on the first two objectives, with the understanding that the third objective may be addressed at a later date.

The project is divided into two phases. The first phase includes a general evaluation of all completed projects using a standard set of criteria created by Natural Channel Design, Inc. (NCD) in collaboration with AWPF staff. The evaluation is based solely on project records in AWPF archives. The second phase of the project includes a subset of 40 projects that have been chosen to serve as case studies. Case studies were evaluated more intensively, including visits to the project sites and interviews with grantees to measure the enduring benefits. Case studies were selected in collaboration with AWPF staff and the Commission.

This document consists of an explanation of the forms used to guide the assessment and a summary of the findings, which is presented through graphs, tables, and discussion. While general observations regarding the evaluations of Phase I are included in this report, conclusions and recommendations will be presented following the case study evaluations in Phase II.

PHASE ONE

The goal of Phase I was to conduct a general evaluation of all AWPf projects that have been completed or fulfilled to a point where meaningful information could be derived and evaluated. The evaluation was based entirely on the records, reports, and other documents contained in the AWPf files. Documents within AWPf files used for Phase I include the application, contract, design reports, monitoring reports, quarterly reports, billings, correspondence, and final reports. The goal was to characterize various types of projects, the practices used, the organization and management of each, and the relative success in meeting stated objectives and AWPf evaluation criteria.

EVALUATION FORMS

NCD, in collaboration with AWPf staff, developed two evaluation forms; one summarized project information, the other evaluated the success of project components based on a numerical scale. Every effort was made to objectively evaluate each project by recording extensive background information on the summary evaluation form and then assessing the success of each project using a scoring key. In this way, evaluation staff was consistent within the individual evaluation and between projects. The developed evaluation forms and key are included in Appendix A at the end of this report.

The Summary Form contains four sections:

- Section A contains general project information including project title, project purpose, watershed, county, project size, grantee, and project type. Most of this information was derived directly from the grant application. Information not contained in the application was gathered from the contract, reports, correspondence, billings, and deliverables. The project purpose was often cross-referenced from both the application and the AWPf contract.
- Section B contains financial information, which was derived from the AWPf contract and billings folders in each project file.
- Section C includes project detail information such as project objectives, tasks, and practices, which was found in a variety of folders including the original application, AWPf contracts and amendments, grantee/staff correspondence, and project deliverables. This section generally required some sleuthing and took the longest to complete.
- The last section includes any notes, comments, or suggestions the evaluator had regarding the project itself, the management or the implementation of the grant, and whether or not they felt it met the criteria to be a case study.

The Scoring Sheet contains two sections:

- The first section is an evaluation of the planning process. This section evaluated each of the primary components of the grant including objectives, tasks, monitoring, design, and public outreach. Clarity of tasks, relevancy and appropriateness to objectives, and whether or not the project components addressed AWPf primary and secondary criteria were answered in this section.
- The second section evaluated the execution of the project. The evaluation staff attempted to objectively determine whether or not the grantee successfully met their objectives, completed tasks, met deadlines, implemented the design and completed public outreach. The correspondence between AWPf staff and grantees was very valuable in making these determinations.

In addition, a detailed key was compiled and reviewed by an ‘assessment tool’ professional and AWPf staff. Evaluations were based entirely on written documents in AWPf files. The relative success of a project was determined using a scale of 1 to 5. Generally speaking, a score of 5 indicates a very successful element of a project and a 1 indicates an unsuccessful element. N/A indicates that the question was not applicable for that particular project.

PHASE ONE RESULTS AND OBSERVATIONS

The Arizona Water Protection Fund has awarded money to three different categories of projects during its lifetime: capital, research, and feasibility studies. The number of projects analyzed in each of the following sections may vary based on the quantity of projects that are relevant to each particular evaluation. Where possible all 128 projects were used in the analysis, which generally included the ‘demographic’ information about grant projects that is presented in section A of this report. In other sections, such as the financial section, terminated and withdrawn projects were discarded, which left 110 projects available for analysis. And finally, where major project components such as planning, implementation, and monitoring became the focus, 71 capital projects were available for analysis after terminated capital projects were excluded. In some cases, even less projects were analyzed depending on the information available for each project. Also, twenty-four completed research projects and 15 feasibility projects were analyzed separately where appropriate. The number of projects analyzed is stated often for clarity throughout the report. Terminated and withdrawn projects were most frequently eliminated from individual analyses, but whenever possible they were included in order to increase sample size, and therefore the level of certainty, that true population trends are represented.

TERMINATED PROJECTS

Terminated and withdrawn projects can reveal important information; however because of varying levels of completion, they could not always be included in the larger pool of completed projects. Of the 128 projects evaluated, fifteen projects were terminated early; three projects were withdrawn. The majority of projects that were terminated or withdrawn are capital projects; however, the majority of projects analyzed were also capital projects (87 out of 128). Two research projects were terminated, thirteen capital projects were terminated, and three capital projects were withdrawn.

Reasons for termination and withdrawal vary greatly with each grant. Overall, there does not appear to be a general cause and effect for project termination. Table 1 lists the general reason for termination or withdrawal. However, in some cases it is more accurate to state that a number of reasons resulted in project termination.

Table 1. Reasons for project termination or withdrawal.

This table lists the reason for the termination or withdrawal of 18 evaluated projects. The most common reason for grant termination was grantee behavior/mismanagement. The rest of terminated and withdrawn projects occurred for a variety of reasons and were the result of individual problems that occurred during the life of the grant.

No. of Projects	Reason:	Terminated or Withdrawn
5	Grantee behavior/mismanagement	Terminated
2	Communication errors	1 withdrawn, 1 terminated
2	Trouble obtaining environmental permits	Terminated
1	Climate and illness of grantee	Withdrawn
2	Water issues	Terminated
1	Government corruption	Terminated
2	Staffing deficiencies	1 withdrawn, 1 terminated
1	Implementation did not match design	Terminated
1	Grantee financial issues	Terminated
1	Plans changed after accepted and before funded	Terminated

Only five of the projects had landowners that differed from the grantee and only one of those projects was terminated because of miscommunication between entities. Government entities constitute half of the terminated and withdrawn projects as displayed in Figure 1.

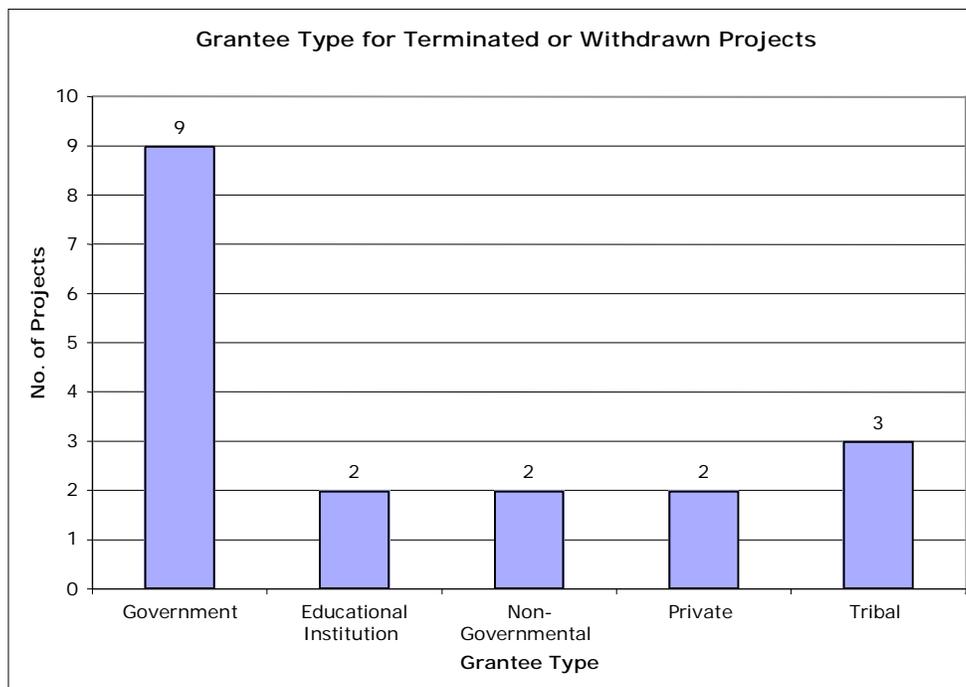


Figure 1. Number of terminated projects by grantee type.

Figure 1 categorizes the 18 terminated or withdrawn grants by grantee type. Governmental agencies constitute half of the terminated or withdrawn projects. The remaining projects are fairly evenly distributed amongst the remaining grantee types.

Of the 15 counties in Arizona, nine have had projects terminated within their boundaries with Pima County having the most terminated or withdrawn projects (n=5). Each year at least one project was terminated or withdrawn except for 1995, 2002, and 2003. The year 2000 experienced the most terminations or withdrawals at seven projects and 1996 followed with four projects. There was not any concrete information available in project files to explain why these years experienced more terminations or withdrawals than others.

Overall, about 5.7 million dollars was originally awarded for these projects. However, only \$766,842 dollars was actually paid to grantees, thus greatly reducing the possibility of money being unwisely or unnecessarily spent.

In summary, projects that were terminated or withdrawn were most commonly capital projects and projects that were awarded to government agencies. However, most projects evaluated were capital projects and/or awarded to government agencies, so this may be expected. Each termination or withdrawal was specific to individual problems encountered during the grant life. There is no “typical” reason for their occurrence. The termination or withdrawal of grant funding kept AWPF from spending money unwisely, allowing them to reallocate funds to other projects.

RESEARCH PROJECTS AND FEASIBILITY STUDIES

Research and feasibility studies are important components of the AWPf grant program. Research projects answer questions to further knowledge about riparian systems and how they function. AWPf also considers projects that collect baseline data or take inventory in this category. Currently, AWPf describes feasibility projects as projects that investigate the implementation potential of a proposed capital project and is considered a capital project during the application process. Evaluation staff differentiated feasibility studies from capital projects for this assessment because of the planning nature of the studies. Of the 110 completed projects that were evaluated, 24 were research projects and 15 were feasibility projects. General information and observations about these projects are presented in the next paragraphs.

RESEARCH PROJECTS

Research projects funded by AWPf appear to fall under two sub-categories; research and data collection. Research projects often contain an experimental design and test a hypothesis to further scientific knowledge. Data collection projects are inventories of a given riparian component, or project area, that informs the grantee of the natural resources that are present.

Analysis revealed that funded research projects are comprised of three broad components of riparian systems: vegetation, water, and geomorphology. Eleven projects focused on the vegetation component of riparian systems at varying scales. A few projects focused on one or two plant species, others asked questions at the community level, and a couple focused on the landscape scale; mapping riparian habitat. Research addressed questions about species physical traits, response to certain stimuli (like water flow or grazing), or their use in restoration practices. Two vegetation projects were inventory-focused. Nine other projects focused on water management, water quality, or groundwater flow. In addition, two projects looked strictly at the geomorphic components of stream systems, and two projects studied all three components of a selected watershed to complete an assessment.

Not surprisingly, educational institutions comprise the largest group of grantees that complete research projects (n=11). Governmental agencies are the next largest group (n=10), while two projects were conducted by non-governmental organizations and one by a private entity.

As in capital projects, design is a critical component of research projects. Generally, those research projects in which an experimental design component (n=10) was present, were able to describe the design clearly and appropriately to meet research objectives, and completed it as planned. In one instance, the design was never clearly relayed and at the end of the project, it was found to be inadequate. The design of fourteen research projects could not be evaluated because they lacked a traditional research design or were inventory-focused.

Technology transfer and information dissemination is a desirable outcome from research projects. Lack of information sharing was noted for many research projects during the evaluation. Conclusions, lessons learned, and clear summaries were scarce. Many times, publications, seminars, or other products resulting from the research were not present in the files. Greater success can be realized if the knowledge gained from funding research is recovered. Additionally, staff noted that data collection or inventory-focused research is less applicable to other projects or regions because of the site-specific nature of the project. Data collection projects have less far-reaching implications and often aren't able to state general conclusions for broader audiences. As such, it is possible that data collection projects are less valuable to AWPf than research projects. However, inventory is a significant part of feasibility studies and has value in planning efforts as discussed in the next section.

FEASIBILITY STUDIES

Feasibility studies aim to determine if a capital project has implementation potential. However, from this evaluation, it appears that funded feasibility studies range greatly in structure and intent. Of 15 projects evaluated, nine were planning documents for future implementation of restoration activities or management strategies. Four other projects were strictly inventory and were incorporated into other documents or informed management strategies by agency professionals. One project was funded to help alleviate the costs of the environmental regulatory process and one evaluated the effectiveness of a research tool/method.

Within the nine planning documents, four incorporated inventory of resources as part of the planning process. Incorporating inventory into the planning process seems a natural addition that increased the strength of the planning document. Only one project of the nine already had a funding source secured for implementation following the completion of the study. Three others are directly linked to future projects funded by AWPF. It is unknown whether implementation was realized for the remaining five projects. Only a few had construction drawings associated with the plan, while many were aimed at the feasibility of gathering enough support and information to determine if planning implementation was worthwhile.

The four inventory-focused projects may have originally been considered data collection research projects, however the projects are associated with the feasibility of a larger project or aim to inform management decisions, which seemed to fit more appropriately in this category. It is unknown to what extent these projects informed decisions or were used in future projects. Staff observed that the planning documents that incorporated inventory of resources appear to carry the project further toward implementation rather than just planning for future inventory.

The project that tested the feasibility of a research tool (#98-052WPF) was not very useful because of inconclusive results and indirect applicability. It is recommended that projects testing research methods not be funded through this program.

SECTION A: GENERAL PROJECT INFORMATION

Section A focused on a variety of characteristics within each of the projects. Information recorded included project title, grantee, landowner, legislative district, stream type, watershed, contract start and end date, type of organization, and type of project. Much of the information was obtained from the grant application; however contract start and end date and the final payment date were taken from the contract and billings folder, respectively. The findings and observations related to this section are discussed below. All projects evaluated (n=128) are included in this section for analysis.

PROJECT TYPE

Only 128 projects of the 177 total projects funded by the AWPf were included in this analysis. Forty-nine of the projects were not evaluated either because they were confidential tribal projects, or still active and in progress. Of the 128 projects analyzed, 68 percent (87 projects) were capital projects, 20 percent (26 projects) research, and 12 percent (15 projects) were feasibility studies (Figure 2). Capital projects include on the ground implementation projects to improve, enhance, or restore riparian areas. Upland improvements are included in the capital project category. Research projects are those that are based on research questions to improve and further the science and knowledge of riparian areas and may or may not have an ‘on-the-ground’ component. Feasibility projects are studies specifically designed to assess whether a capital project will be possible to implement using realistic guidelines such as design restrictions, monetary limits, and personnel needs.

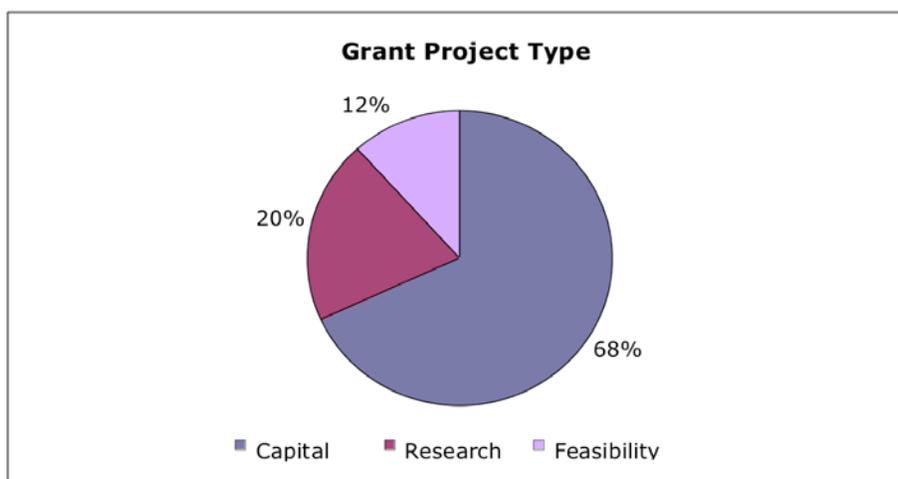


Figure 2. A pie chart of grant project type.

This pie chart uses the 128 projects evaluated to illustrate the most common type of project funded by AWPf; capital projects. The second most common type of project funded is research projects, followed by feasibility projects.

AWPF has funded project in all of Arizona counties and active management areas (AMA). All watersheds within Arizona are represented but two; San Simon Wash and Rio Sonoita Wash. Both of these watersheds are located in the southern portion of the state.

STREAM TYPE

Of the 90,375 miles of rivers and streams in Arizona, perennial streams represent only 4% (roughly 3,530 miles). The remainder of stream miles is made up of intermittent and ephemeral streams. Figure 3 provides a summary of the type of stream that was affected by each project (n=128) funded by AWPf. Perennial stream systems were the most common stream type affected by AWPf funded projects.

Seventy-four projects funded by AWPf affected solely perennial streams, three additional projects affected perennial streams that also affected intermittent streams, one project affected a perennial stream that also affected an ephemeral stream, and five projects affected all three stream types. In all, 11 AWPf funded projects affected multiple stream types. The remaining 43 projects affected either intermittent streams or ephemeral streams.

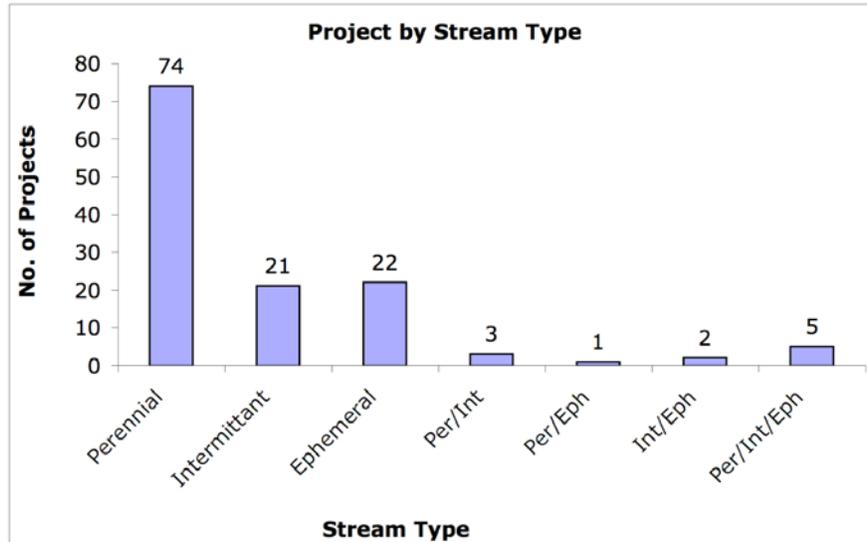


Figure 3. Evaluated projects by stream type.

This graph shows that of the 128 projects evaluated, intermittent and ephemeral stream types do not receive funding from AWPf as frequently as perennial streams. Perennial streams are rare in Arizona, but are the most common stream project type funded by AWPf.

GRANTEES

Grantee affiliation varies greatly. Governmental agencies received funding from the AWPf grant program most often. However, among the other categories of grantees, private landowners are the next largest category. Figure 4 displays the number of grants awarded to each grantee type for all projects evaluated.

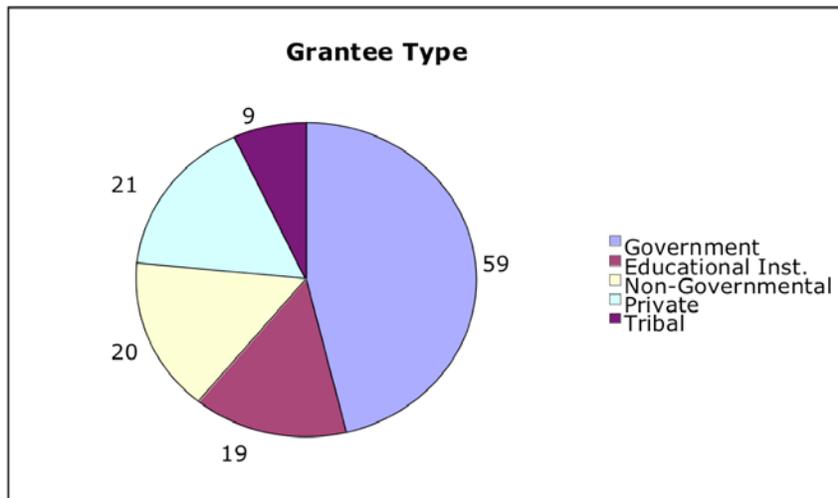


Figure 4. A pie chart of grantee type for the evaluated projects.

This pie chart points out that the type of grantee that has received the fewest number of awarded projects is tribal grantees. Government agencies have been awarded more projects than any other entity; with private grantees, non-governmental agencies, and educational institutions combined receiving as many awarded projects as government agencies alone. This subset included 128 of the 177 total grants funded by AWPf; excluded grants are those that are confidential or still in progress.

USE OF OUTSIDE PROFESSIONAL SERVICES

The use of outside professional services is an important part of understanding how grantees successfully complete a project. Staff recorded when professional services, whether in-kind or contracted, were used and then divided them into categories for easier interpretation. Categories include government agency, non-government agency (NGO), educational institute professionals, private company specialists, and tribal advisement. A total of 78 projects (62%) of the 128 analyzed, used some kind of outside professional service. Most projects (51) used only one type of professional service, 24 projects used two types of professional services; three projects used three types of professional services, while 50 projects did not utilize any outside professional services. Figure 5 illustrates the number of projects that used each type of professional service. The most frequently used professional service was private companies, with 48 projects utilizing this type of service. Government agencies were the second most common professional service utilized with 27 projects.

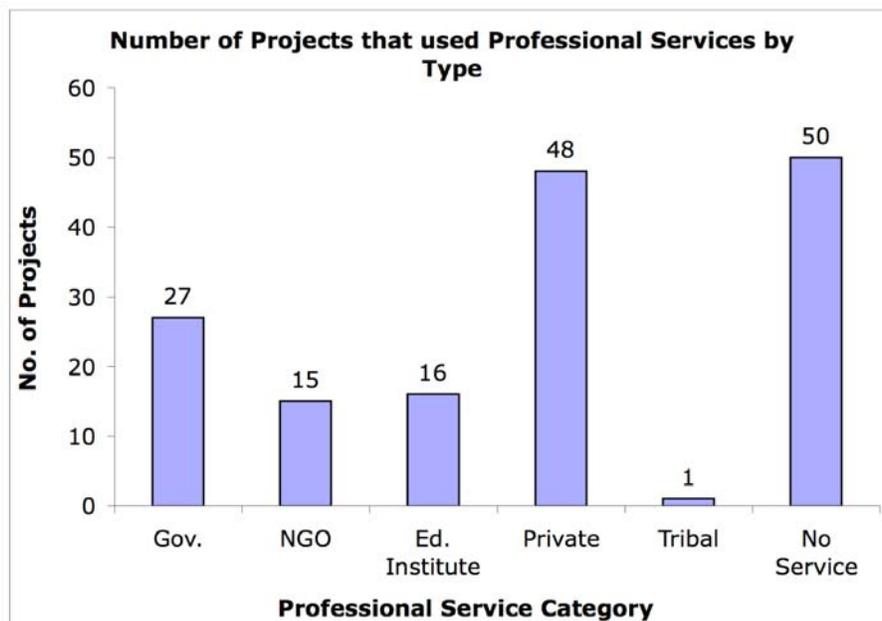


Figure 5. Distribution of service provider utilization by each project.

This graph was constructed using all projects evaluated (n=128). More often than not a grantee used outside professional services. The service most frequently utilized was private company specialists. It is important to note that a single grant may be represented in one or more of the outside professional service categories, as many grantees used more than one type of outside professional service.

The success of capital projects depends largely on their implementation of on-the-ground activities. Encouragingly, of the 87 capital projects evaluated, 60 (69%) utilized outside professional services (Figure 6). The most common outside professional services utilized included private services (34 projects) and governmental (19 projects). It is important to note that many projects utilized graduate students and a volunteer base to complete project goals, however because students and volunteers do not have expertise, they were not included in this analysis.

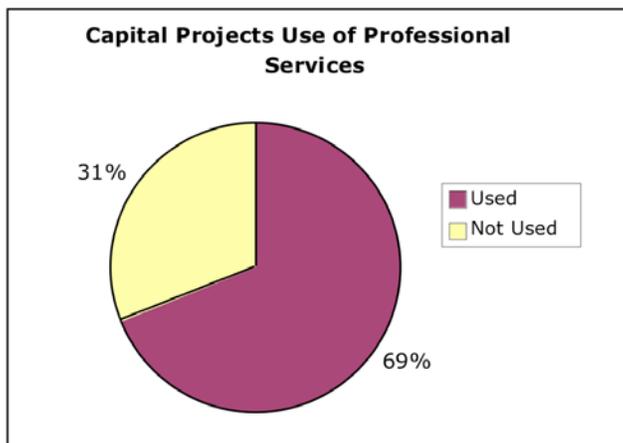


Figure 6. A comparison of the percent of capital projects that used outside professional services versus the percent of capital projects that did not.

A total of 87 capital projects were available for the evaluation of the use of outside professional services. Most capital projects did use at least one of the 5 types of outside professional service categories. Outside professional service categories include government agency, non-government agency, educational institute professionals, private company specialists, tribal advisement, and student services.

TIMELINESS OF COMPLETION

By examining when the project was closed by the grant manager, how well grants are executed in a timely manner can be assessed. Whether or not the project was completed on time was determined by examining the amount of time that elapsed between the end of the contract date and the final payment date. The total number of projects that were completed was 110. A project was considered to have been completed on time if the final payment was received within three months of the contract end date. Figure 7 presents the percentage of AWPf projects that were completed on time using the above defined criteria. This figure shows that 63% of all projects funded by the AWPf were completed on time, 37% were not.

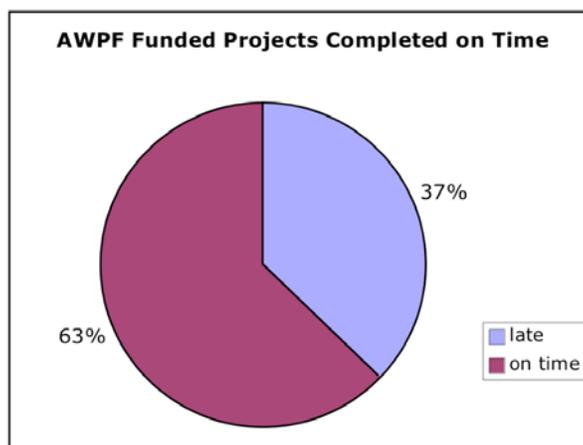


Figure 7. The percent of AWPf funded projects that were completed on time.

A total of 110 projects were completed. The 18 projects not included in this pie chart were either terminated or withdrawn. Most of the 110 projects evaluated in this section were completed on time. A project was considered to have been completed on time if the grantee received the final payment within three months of the contract end date.

SUMMARY: SECTION A

AWPF is limited in the amount of money that can be awarded for research projects to five percent of the total available annual funds. Therefore, it is expected that most of the projects funded by AWPF in the last 12 years are capital or feasibility projects. Section A reveals that over the past 12 years, 68% of the projects funded by AWPF have been capital projects. Research projects are the second most common type of project funded (20%) and feasibility projects having the fewest number of funded projects (12%). These projects have been spread across all counties and AMA's in Arizona, and most watersheds. All stream types are represented, and perennial streams are the most common type of stream that has received funding even though it is the least common stream type present in Arizona. Intermittent and ephemeral streams are almost equally funded; intermittent streams have one additional project.

The program has been utilized by diverse groups of people and agencies. Government agencies have acted as the grantee for the majority of funded projects. Tribal groups have received the fewest number of awards. It is important to note that more projects may have been funded to tribal groups, but because of confidentiality mandates they were not included in this evaluation. The other three grantee types; educational institutes, NGO's, and private land owners, are approximately equal in the number of projects that have received funding from AWPF.

Many outside services have been utilized to complete projects, which may be important to project success. Of the 128 projects evaluated for the outside professional services analysis, 68% of projects used at least one type of outside professional service, while 38% of the projects used no outside professional services. Capital projects frequently used outside professional services as well, with 69% of the 87 projects evaluated using at least one type outside professional service. The majority of projects are considered to have been completed on time (63%). However, it may be desirable to increase this percentage in the future.

SECTION B: FINANCIAL INFORMATION

Financial information included the amount awarded, amount used, amount of matching funds contributed, and how much of the award went to main project components such as planning, implementation, monitoring, and public outreach. The awarded information was taken from the grant contract, while the actual amount used was derived from the billings folder in the project file. Financial information was useful in comparing project size to average project cost and in characterizing how funds were distributed throughout the project components.

PROJECT COST

The costs of the 110 projects completed were grouped into cost ranges to determine how many projects were in each range. Eighteen projects that were terminated or withdrawn were excluded from this analysis for reasons discussed previously. The total number of projects in each cost range is summarized in Figure 8. The majority of projects were awarded between \$101,000 and \$300,999, and 34 projects were awarded less than or equal to \$50,999. The average awarded cost for all assessed projects equals \$172,162.41. The average actual reported cost equals \$165,281.14, about \$7,000 less than projected costs. The maximum amount awarded was \$2,562,000.00 and the minimum was \$7,390.00 (Table 2), both of which were capital projects. Table 2 also shows that capital projects had the highest median and average cost for all project types; research projects had the lowest median and average cost.

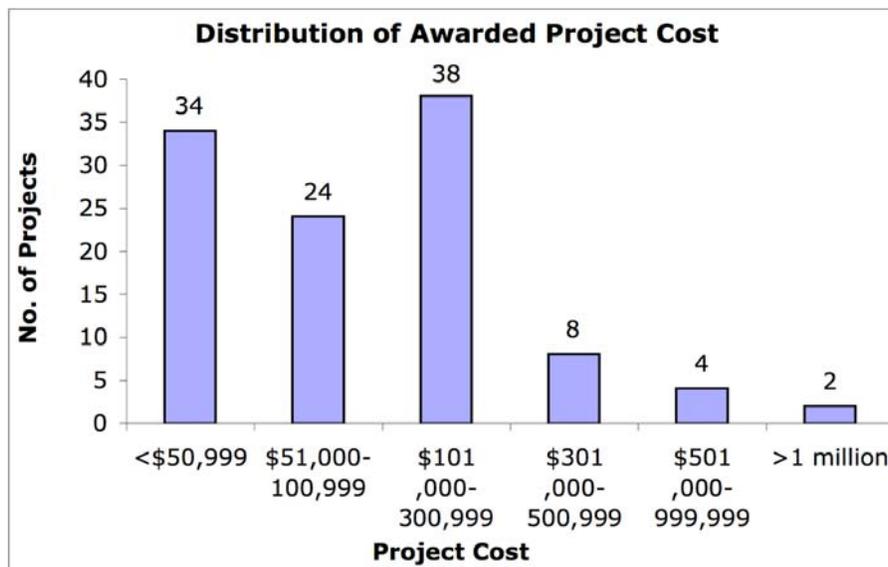


Figure 8. Project cost distribution in each cost range.

This graph was compiled using only those projects that were completed, eliminating projects that were terminated or withdrawn from the subset. This graph shows that the majority of awarded grants were contracted for less than \$301,000, with the majority receiving between \$101,000 and \$300,999.

Table 2. Financial information by project type.

The table summarizes grant awards based on the type of project. This subset uses the subset of 110 projects, which are only those projects that were completed. In general, capital projects were awarded more money than research and feasibility projects. However, one feasibility project received the highest awarded funding of all projects evaluated.

	Capital	Research	Feasibility
Total (w/exclusions)	71	24	15
Average Award Amount	\$204,709	\$80,406	\$164,914
Median Award Amount	\$116,525	\$48,953	\$78,100
Maximum Award	\$2,562,000	\$449,872	\$1,000,000
Minimum Award	\$8,556	\$7,390	\$16,115

MATCHING FUNDS

Matching funds are those funds the grantee secures as donated services or capital outlay at the grantee’s expense. Recorded matching funds for each grant project originated from the grant application. Figure 9 displays the range of matching funds for all projects, excluding 18 terminated or withdrawn projects. Only six funded grants did not have matching funds, while all others had money or in kind services to put toward the project. A comparison of matching funds versus awarded amount for each grant was analyzed, but does not appear to have any correlation between award size and matching funds. There were 34 projects that received matching funds that were greater than the amount awarded by AWPf; there were even a few projects that were funded for over \$1 million that had matching funds that were *equal to or greater* than the awarded amount. The next category with the most number of projects within the

specified range is the 25.1 to 50% match, which contains 29 projects. Figure 10 displays the percent of matching funds relative to the award amount.

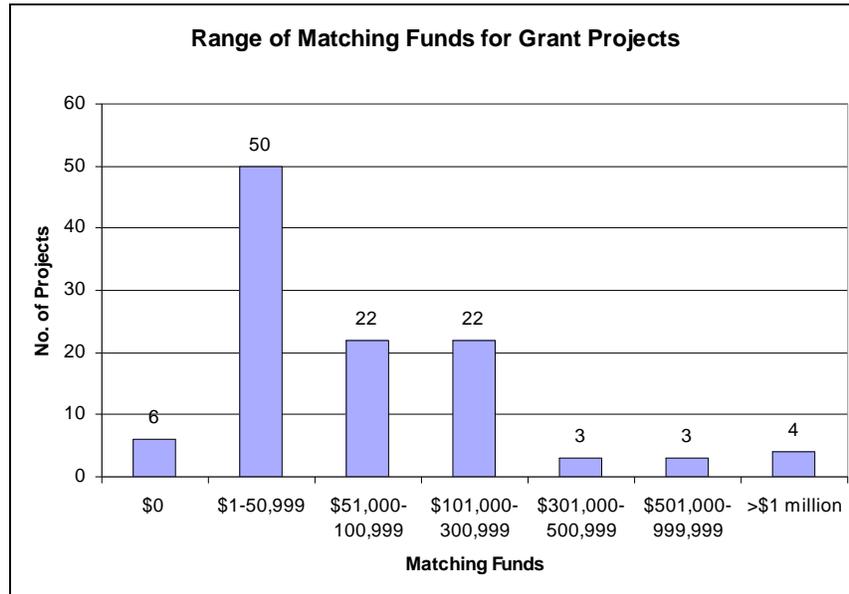


Figure 9. Range of matching funds for all (n=110) projects.

The range of matching funds for 110 completed projects is wide.

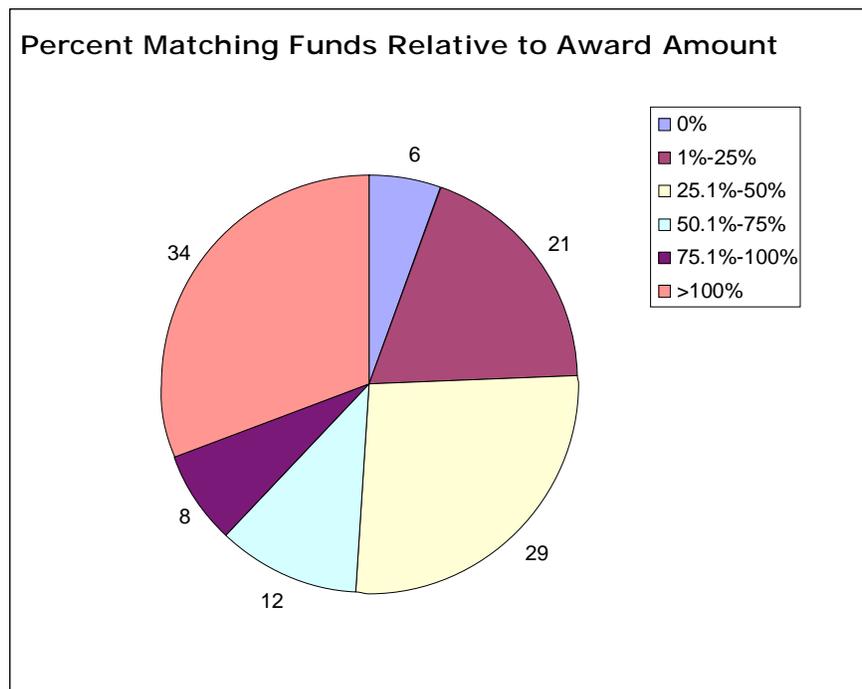


Figure 10. Matching funds in percent relative to award amount.

The pie chart above displays the number of completed projects (n=110) that had no matching funds or the percent of matching funds compared to the award amount. Thirty-four projects had matching funds that exceeded the award amount, while 20 projects had matching funds that equaled 50 to 100 percent of the award amount. Six projects had no matching funds.

PROJECT COMPONENT COSTS FOR CAPITAL PROJECTS

Projects that had an implementation component, solely capital projects, were further analyzed to assess the amount of grant award that went toward each major project component: planning, implementation, monitoring, and outreach. The reporting component was not analyzed because many of the grants included reporting costs within tasks and did not break reporting costs out separately, while others separated reporting costs out. Seventy-one capital projects were included in this analysis; this excludes the 16 capital projects that were either terminated or withdrawn. Each major capital project component was recorded from the contract (awarded amount) and the billings folder (actual amount used). Figure 11 displays the percentage of total grant amount awarded that was allocated to each major component of capital projects. If the award amount was zero for any of the components, either the project did not have that component or it was funded from a different source and thus not reflected in the contract or billings.

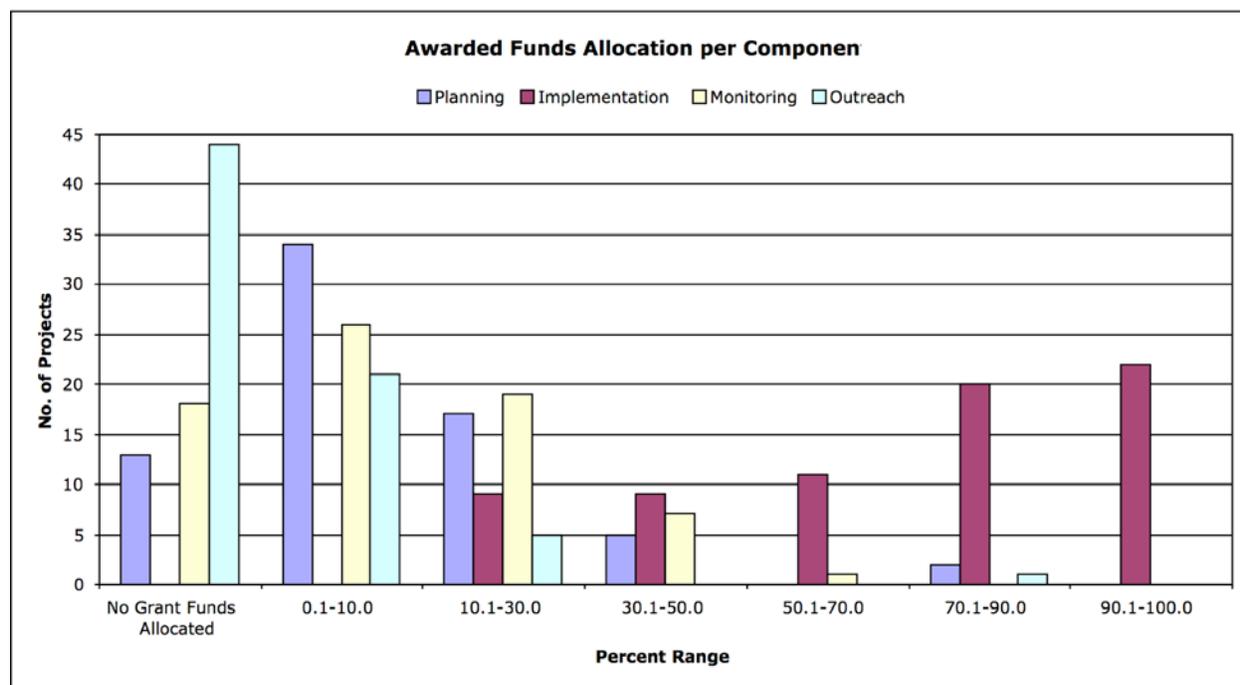


Figure 11. Percent of money allocated for capital projects components.

Capital projects have five main components, four of which are displayed in the above graph. The fifth component, reporting, is not included because it is often incorporated into the other four components. The implementation component receives most of the awarded funds in each capital project, while the other components receive much less of awarded funds.

Generally, the implementation component of a project was allocated the most amount of funding. The public outreach component of capital projects generally receives the least amount of funding allocations; with 44 of the 71 capital projects having allocated no funding to public outreach. In many cases, grantees use matching funds towards this project component. Unfortunately, there is no way of knowing if public outreach actually occurs.

The monitoring component of capital projects frequently receives very little funding allocation. The majority of capital projects distribute less than 10.1% of the total awarded grant amount to monitoring components. The planning component receives less than 10.1% of the total grant amount as well.

The amount of funds actually spent on each major project component was analyzed for capital projects in order to assess how well budgets were being estimated and managed. Figures 12 through 15 display the percent of funds actually allocated to each project component.

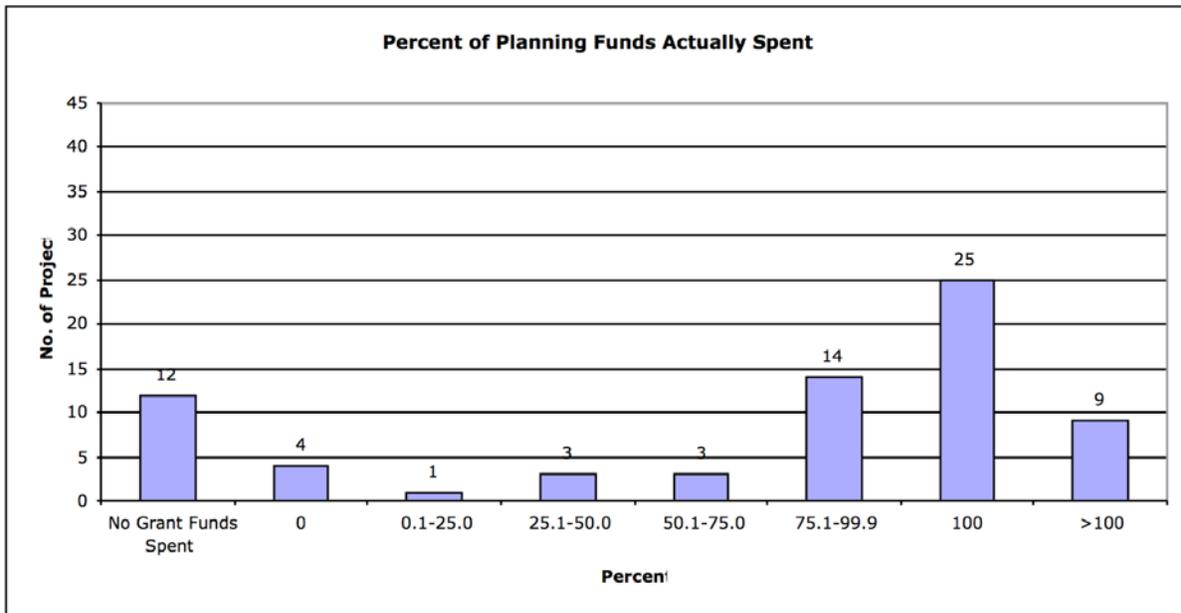


Figure 12. Percent of money actually spent on planning of capital projects.

Twelve capital projects had no funds allocated for planning from AWPf, while four projects originally did and then used the money elsewhere. A high percentage of the projects that had a planning budget used 75 to 100 percent of their funds (n=39). Nine projects exceeded their budget.

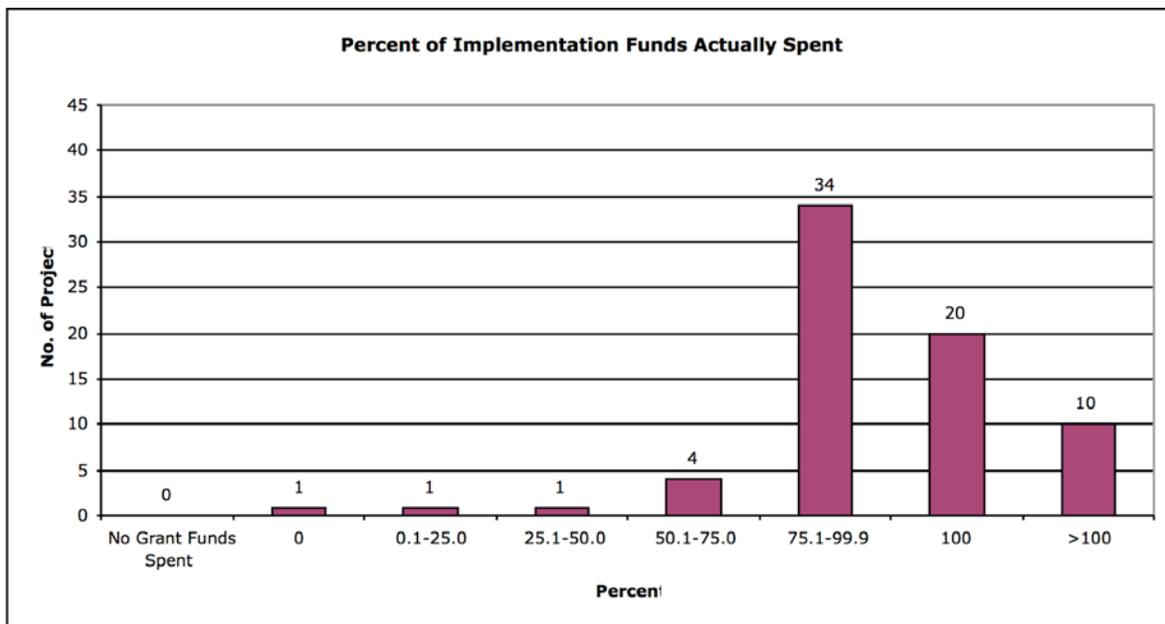


Figure 13. Percent of money actually spent on implementation of capital projects.

The implementation component of capital projects has the most money spent for its original purpose and is the most accurately budgeted with 54 projects utilizing 75 to 100 percent of allocated money. Ten projects exceeded their budget while one project took money from implementation and applied it elsewhere.

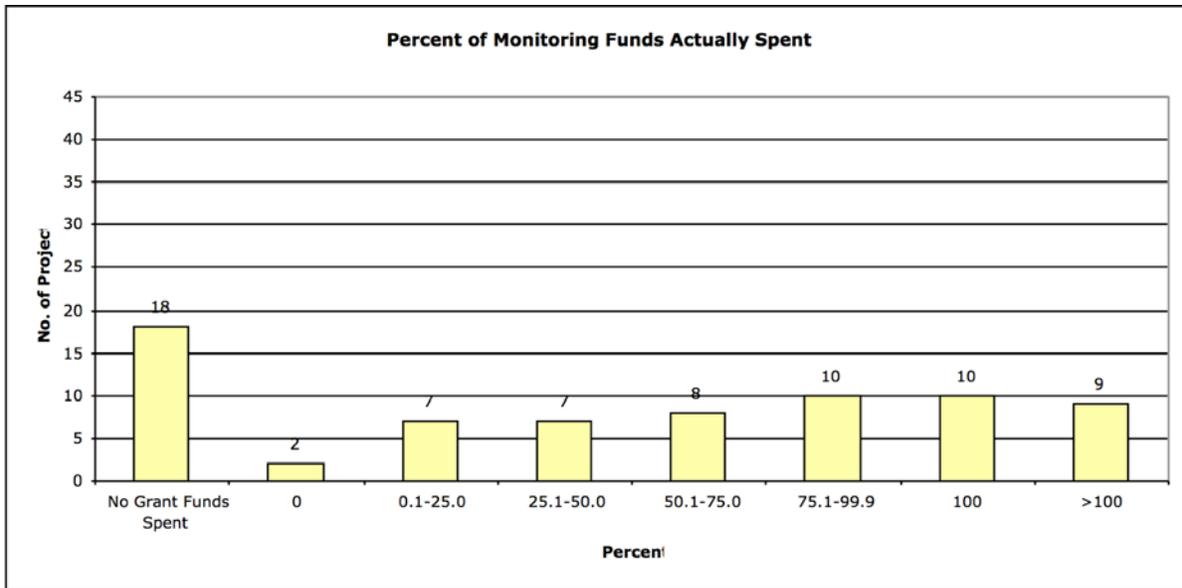


Figure 14. Percent money actually spent on monitoring of capital projects.

Of 71 capital projects, 18 had no funds allocated to monitoring from AWPf monies. Two projects used monitoring money elsewhere, while nine projects exceeded their monitoring budget. Twenty-two projects over-estimated monitoring costs while twenty projects utilized 75 to 100 percent of their monitoring budget.

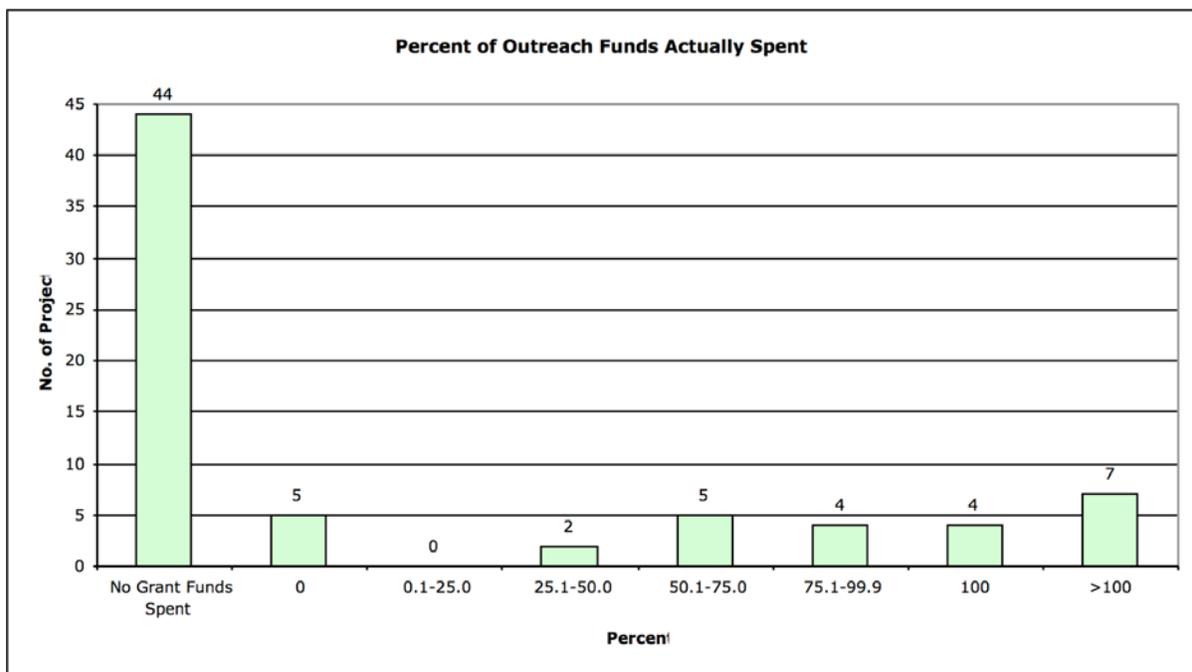


Figure 15. Percent money actually spent on outreach of capital projects.

Forty-four capital projects of 71 did not have any money allocated for public outreach from AWPf. Five projects that did have funding allocated for public outreach spent it elsewhere. Eight projects spent 75 to 100 percent of the allocated funds on outreach, while seven projects exceeded their public outreach budget.

Each major project component has had funds taken away from it to be reallocated to a different major component. This is reflected in the zero percent columns, which shows that 4, 1, 2, and 5 projects shifted the entire amount of money from their respective components (planning, implementation, monitoring, and

public outreach) to compensate shortcomings in other areas. It appears that over-spending is present, which is displayed in the last column of each graph where greater than 100 percent of funds were spent on project components. Implementation was most frequently the component that suffered from overspending (10 projects). However, it is also apparent that the implementation component of projects also has the most of its original funds spent for their original purpose. Twenty projects spent 100 percent of their funds and 34 projects spent 75 to 99 percent of their funds. The other three project components are spread more over the entire spectrum of percent money spent.

SUMMARY: SECTION B

Tracking where grant funds were spent, was sometimes difficult. The process became clearer as the program evolved and/or grantees were coached better on how to fill out grant payment requests and divide costs by task. However, this made analysis of where money was spent difficult and thus limited to what is presented in the section above.

There were 110 projects available for the evaluation of project costs. Cost did not seem to be directly related to either project size or the amount of stream affected. The financial assessment reveals that capital projects require the most amount of money to complete. Research and feasibility projects require significantly less funding. The majority of projects request between \$101,000 and \$300,999. An average of \$165,281 was required to accomplish a project, which is \$7,000 less than the average requested amount.

The majority of projects that have been funded by AWPf have received matching funds, either in actual dollar amounts or in-kind services. Of the 122 projects that received matching funds, 50 projects collected between one dollar and \$50,999 and 54 projects obtained more than \$50,999. Six projects had no matching funds. The evaluation of matching funds versus AWPf awarded amount revealed no obvious correlation.

Capital projects were evaluated to determine the amount of funding that was awarded and used toward planning implementation, monitoring, and public outreach. All capital projects were awarded funding for the implementation component of a project. Project components that received the least amount of awarded funding were monitoring, planning, and public outreach. Many capital projects were not awarded any AWPf funding for public outreach. During the life of the grant, funding was sometimes shifted from one component to another. Most often money was reallocated to the implementation component of a project.

SECTION C: PROJECT DETAIL

This section was designed to: 1) characterize how projects were structured, 2) record what techniques were used to implement a project, 3) understand how tasks were arranged, and 4) record the type of resource monitored and the method used to monitor that resource. The scoring sheet introduced at the start of the report, addressed the project components in this section. Scoring occurred on a scale from 1 to 5, with 5 being the best score. A key (Appendix A) was used to assist evaluation staff, though most scoring was derived directly from comments from grant managers in the correspondence folder of project files.

Project objectives stated by the grantee in the application were evaluated to determine clarity, relevance, and whether they addressed AWPf primary and secondary criteria. Implementation reports helped to determine whether or not the project had met the stated objectives. Project tasks were obtained from the contract and subsequent amendments and were evaluated based on whether or not the task was completed and if it was completed on time. Monitoring and implementation methods were gathered from project

deliverables (such as monitoring plans, reports, and design plans) and analyzed for monitoring consistency whether the project was completed as designed. The results of this analysis are presented in this section.

OBJECTIVES

Without clearly stated project objectives, determining whether a project was successful is impossible. Objectives define success by stating what the grantee hopes to achieve and by what measures they aim to achieve it. Without project objectives, one person's success is another's failure. Objectives help eliminate personal bias. Evaluation staff recorded project objectives from the application and noted that this was the only document with the objectives plainly presented. Projects stated from one to seven objectives. Most projects stated two to four objectives that were to be accomplished during the life of the grant. Four statements about the layout and concept of objectives were scored and one statement regarding whether objectives were met for the project after implementation was scored. Overall, it appears that this project element has had high success. Of 110 projects scored, 96 projects had clear objectives, 101 were relevant to the project goals, and a high number addressed AWPf primary and secondary criteria (Figures 16-18).

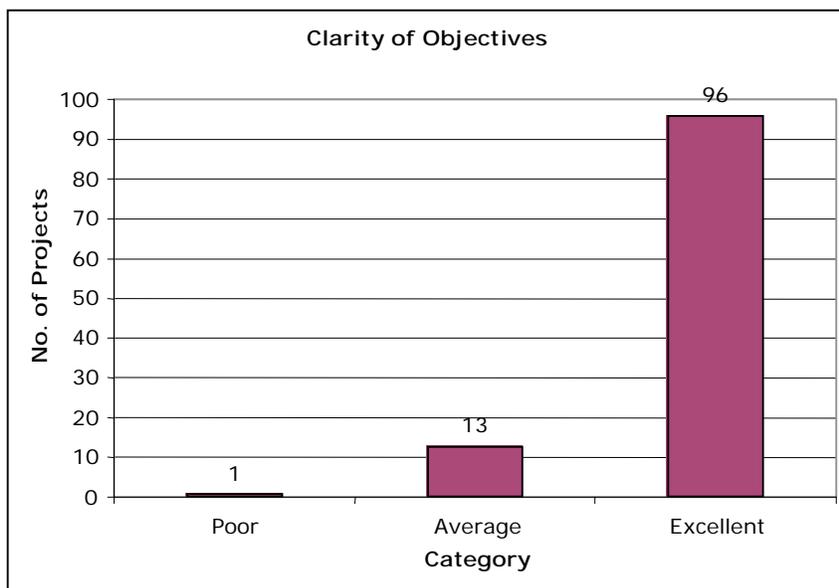


Figure 16. Number of projects with clear objectives.

Of 110 completed projects, a high number were considered to have clear objectives. Concerns about attainability of stated objectives are discussed below.

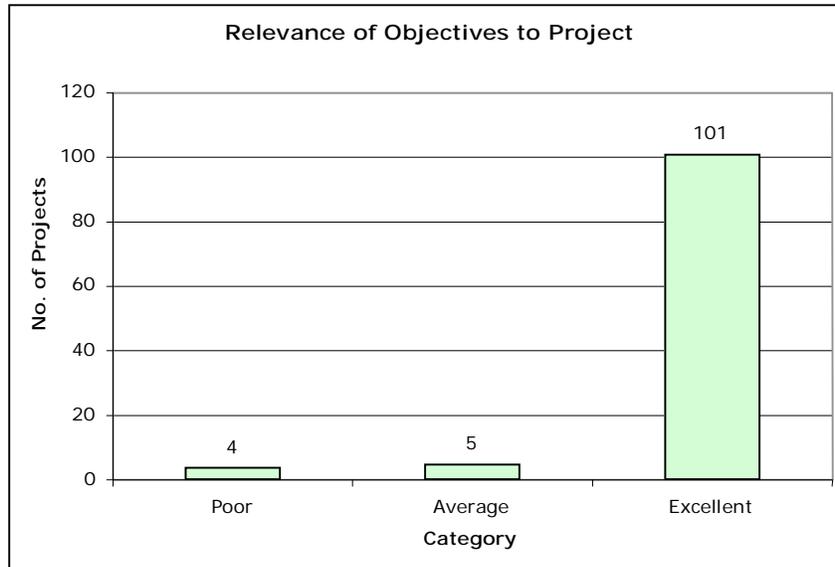


Figure 17. Relevance of objectives to project goals.

Objectives were rated highly relevant to project goals.

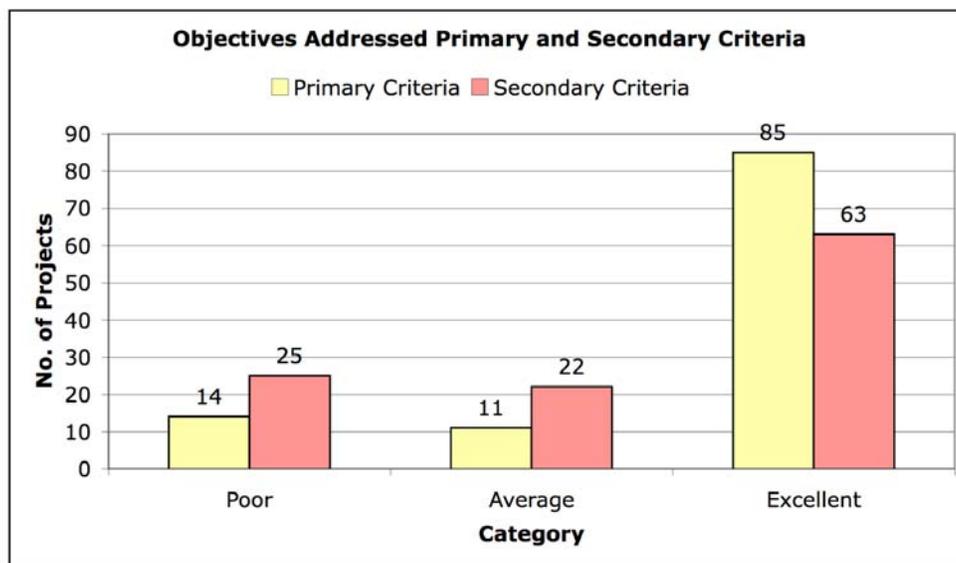


Figure 18. The number of projects that addressed AWPf primary and secondary criteria.

Of 110 projects completed, the primary and secondary criteria that AWPf has outlined were often directly addressed by grantees.

Often objectives addressed AWPf's primary and secondary criteria indirectly and it may be beneficial to link objectives to AWPf criteria more clearly in future grant projects. Many research and feasibility projects scored poorly in addressing AWPf primary and secondary criteria. This does not necessarily mean they did not benefit AWPf criteria, but that the link to the criteria was not clear or apparent. It may indicate that a separate criterion for these types of projects should be established by AWPf to clearly define goals for research and feasibility projects in the future.

The high ratings above may be a bit misleading. In retrospect, a question that could have been asked was ‘Were the objectives stated actually objectives?’ or ‘Were the objectives stated actually attainable?’ One major observation noted during the evaluation was regarding the scope of objectives. Some were very specific, while others were very broad. Some objectives appeared to resemble project goals and others resembled project tasks. In some cases, objectives were not realistic and would not be able to be reached within the project timeline or perhaps ever. Table 3 lists examples of objectives commonly recorded throughout the evaluation and the evaluation staff’s noted concern. Proper names have been replaced by asterisks in order to focus on the issue rather than a specific project.

Table 3. Examples of objectives in evaluated projects.

Objectives varied greatly from grant to grant. Evaluation staff was concerned about the variability of objectives and specific examples are displayed.

Examples of Objectives	Staff Concerns
Promotion of the establishment of herbaceous vegetation and riparian shrubs in *** Creek. There will be an increase of approximately 60% on all raw banks.	Target percent seems very high for a 3-year post-implementation timeframe.
Increase the vigor and abundance of existing native species of riparian vegetation.	Objective is vague. How will the grantee know when they've reached success?
Fence around City of *** gravel yard.	Appears to be a task.
Sustainable protection and enhancement of riparian and aquatic habitat in *** Reservoir.	Appears to be a goal.
Restore Watershed to a healthy fully functioning condition.	Seems like an unattainable objective.

With the above table as a consideration, the number of projects that met their objectives are displayed in Figure 18. The data shows that 76 percent of projects evaluated met their objectives. It should also be noted that when an objective was vague or broad it was considered to have met its objective because it couldn’t be proven otherwise. The last example in the above table is a good example of considering the objectives met even though the stated objective was too broad to be attainable.

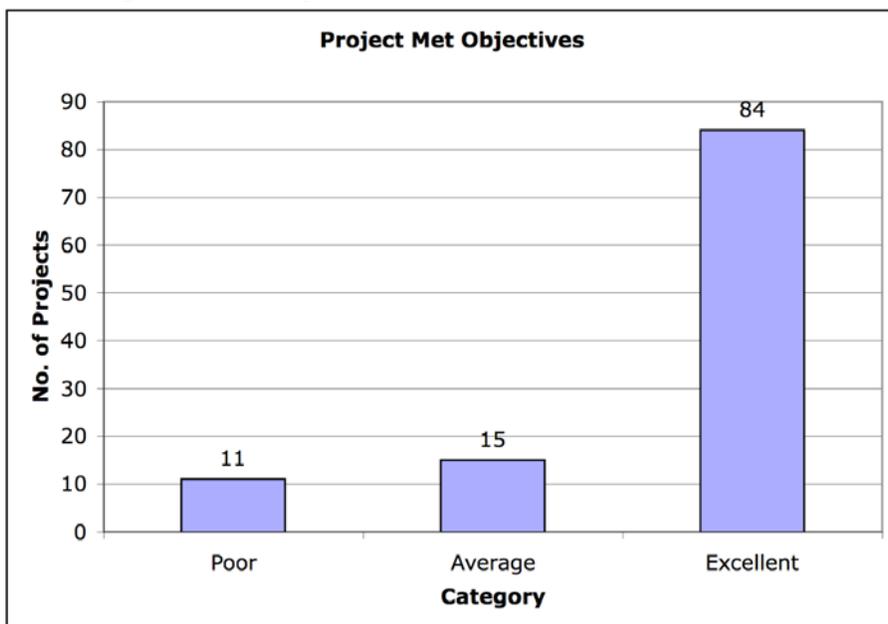


Figure 19. Number of projects that met objectives.

Of 110 projects analyzed, 76 percent met their stated objectives. Concerns about vague objectives, addressed in Table 3, may have resulted in higher than expected ratings.

Project objectives, as described in the application, were generally not incorporated in the final contract. They were also rarely addressed by the grantee in the final report as to whether or not the objectives were met, somewhat met, or still pending. Grant managers also appeared not to have put much weight on the stated objectives of the project. This is a large portion of the application and drives much of the decision making during the application process.

TASKS

Project tasks are the backbone of the contract and serve as the stepping stones to meet grant requirements and project goals. Tasks are associated with one or more deliverables and help the grantee and the grant manager stay on track. The tasks outlined in the contracts for 110 of the grant projects were analyzed. Terminated and withdrawn projects were excluded. Four statements related to clarity, relevancy, completion, and deadlines were included on the evaluation score sheet (see Appendix A). As the tasks are part of the initial contract of the grant, much attention and time is put toward making sure tasks are reasonable, in order, and have appropriate deadlines. The data reflects this attention by the grant managers. The data is included in Appendix B.

Over 100 projects were considered average or excellent in clarity, relevance to project objectives, and were completed as planned. The results indicate that tasks are a very successful and well managed component of grant projects. Whether task deadlines were met has not been as successful. Fifty-eight projects were rated poor or average. Average was defined as meeting some deadlines and not others. Fifty-two projects were rated excellent.

DESIGN

The design of a capital project is an invaluable source of information and acts as the project 'road map'. Plans contain information about materials, construction, and show how project goals are to be achieved on the ground. The design component of 57 capital projects was analyzed. Six capital projects were not evaluated because of missing design plans from the file, while 8 other capital projects did not contain a design (e.g. only prescribed fire used). Design information was gathered from design plans and drawings, specifications, reports, and as-built drawings from the project file.

All projects that contained design plans scored well, with the exception of one or two projects. Generally, if earthwork and construction was involved, it appears that grant managers were attentive to plans and clarity. Staff noted that if managers were unsure of design plans, outside assistance was sought to evaluate the project. This strategy has proven useful and helped ensure high design standards.

Some project files did not have specifications for the project or structures they were installing. As-built drawings were sometimes included, but plan drawings are useful for pre- and post-construction comparison. Evaluation staff noted that if the design was not in the file, it was nearly impossible to evaluate how well the project met its objectives.

IMPLEMENTATION PRACTICES

An essential part of this assessment is to discover what practices and techniques grantees used during project implementation to understand where implementation funds were spent and what practices were the most utilized. Thus, the practices used for each capital project were tracked during the evaluation. This information was gathered from design and restoration plans as well as implementation and construction reports. Research and feasibility studies generally did not use implementation practices to achieve their goals. Additionally, projects that were withdrawn or terminated early were excluded although they may have had plans finished because it was difficult to determine to what extent the project was completed. Excluding 16 terminated or withdrawn projects, 71 capital projects were evaluated.

Practices were divided into three general categories called ‘Management Changes’, ‘Vegetative Practices’, and ‘Mechanical/Structural Practices’. The first category includes practices that address land use issues that impact riparian areas such as livestock grazing, recreational use, and game animal pressures. The second category includes all vegetation related practices including plantings, both upland and riparian, seeding, bioengineering, fabric use, and natural recruitment, as well as temporary irrigation specifically for new riparian plantings. The third category includes all practices where earthwork, heavy machinery, or hard structures are needed to implement the design. These practices include bank stabilization, grade stabilization, upland mechanical treatments, water developments such as ponds or wetlands, large scale stream restorations, noxious weed removal, as well as aquatic habitat structures and interpretive structures. Each project could have one, two, or all three categories checked. Each category captured more specific practices that are listed in Table 4.

Table 4. Categories and sub-categories of practices and treatments utilized in funded projects.

The practices used for implementation of capital projects are listed by category and then sub-category. Each grant often utilized more than one category and could have many sub-categories checked. Over half of the capital projects evaluated used fencing as a major strategy for riparian restoration or land use management.

Category	Sub-Category	Number
Management Changes:	Grazing Plan	21
	Fencing	43
	Irrigation Water Mgmt	2
	Water Development/Distribution	26
	Restrict Access	13
Vegetative Practices:	Upland Plantings	10
	Riparian Plantings	30
	Seeding	18
	Vegetative Bank Stabilization	6
	Natural Recruitment	16
	Irrigation System-Plantings	16
	Fabric	4
Mechanical/Structural Practices:	Bank Stabilization	11
	Grade Stabilization	21
	Upland Mechanical Treatment	8
	Invasive Species Removal	12
	Channel/Bank Modification	20
	Aquatic Habitat Structures	2
	Backwater/Pond Habitat	12
	Interpretive Infrastructures	9

Figure 20 graphically presents the categories of practices used for all of the completed capital projects in this evaluation. About thirty-two percent (23 projects) implemented practices in all three categories. Generally, these were larger projects that aimed to restore a segment of stream or river. Twenty-three percent (16) of projects made land management changes only, which usually included grazing plans, fencing, and water development for livestock or wildlife. Six projects used structural/mechanical practices only, which contained two well capping projects, one hardened water crossing, two head-cut structure projects, and a backwater restoration project. In two of these cases (head-cut structures and the backwater projects) the re-vegetation plan was dropped either for financial reasons or soil salinity reasons. One project used vegetation as the only practice category; and one project focused solely on education, thus using none of the described practices.

Twelve projects incorporated vegetation and structural practices; seven incorporated land management and vegetation practices; and five projects utilized land management and structural/mechanical practices together.

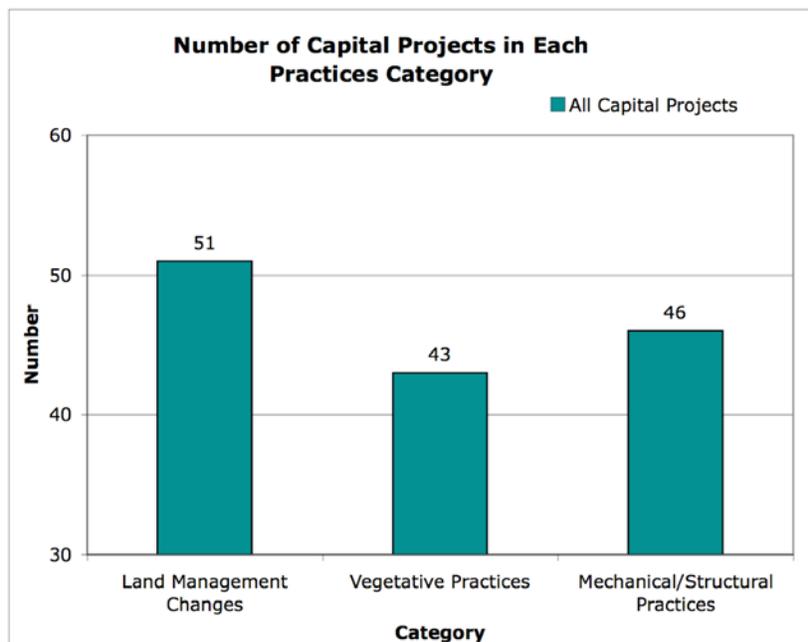


Figure 20. Percent of capital projects in each ‘Practices’ category.

Seventy-one completed capital projects were analyzed and practices they used were divided into the three categories as displayed. Categories sum greater than 71 because each project could be in one or all of the categories. Twenty-three projects used practices in all three categories. One project used vegetation as the only practice category, 6 projects used mechanical/structural practices only, and 16 projects used land management changes only.

MONITORING

Monitoring is a critical element in measuring project success and is generally required for AWPf capital projects. However, of the 87 capital projects evaluated in this study, 23 had incomplete or non-existent monitoring data. Sixteen capital projects were either withdrawn (2) or terminated early (14). Monitoring was not a task in four projects because they were dedicated solely to public outreach or had implementation tasks that did not require monitoring. In three projects, monitoring tasks were included in the project but never completed. In two of these projects, monitoring tasks were funded by non-AWPf sources limiting the leverage for completion.

The monitoring methods used in the remaining 64 capital projects were characterized and evaluated. Monitoring methods were divided into seven categories. Photo documentation in some form was incorporated in all projects (Table 5). Methods included general photo points, photos of specific project elements, and aerial photos. The second most common category was vegetation monitoring included in 81 percent of the projects. This category included a wide diversity of monitoring metrics (diversity, abundance, composition, growth rate, % cover, utilization, etc.) and protocols (transects, random plots, direct measurements, and visual observations). Hydrology, both surface flows and groundwater, were utilized in 39 percent of projects and water quality measurements were evaluated in 23 percent of the projects. Stream morphology including cross-sections, profiles, bank stability, and bed substrate was measured in 25 percent of the projects. Monitoring of birds, amphibians, elk, and other wildlife was part of 19 percent of the projects. Macro-invertebrate or benthic monitoring was included in this category. Finally, soils, mostly upland ranges, were monitored in 11 percent of the projects.

Table 5. Categories of monitoring methods.

Seven categories classify the methods used by grantees to monitor their project. Many projects utilized more than one monitoring method. Photo documentation was included in all 64 analyzed projects.

Category	# of projects	% of projects
Photo Documentation	64	100%
Vegetation	52	81%
Hydrology	25	39%
Stream Morphology	16	25%
Water Quality	15	23%
Fauna	12	19%
Soils	7	11%

While photo documentation was included in all projects, only nine percent of the projects depended solely on this protocol. Most projects included more than one category in the monitoring task. Almost two thirds of the projects incorporated two or three categories and a quarter of the 64 capital projects included four or more categories.

Given that riparian vegetation and their associated habitats are common project objectives, vegetation monitoring was a common component of project monitoring. Only 12 projects (19%) did not monitor vegetation at all and most of these were funded when the grant program was young (5=1996, 2=1997, 98, 99, and 1=2000). In addition, a wide variety of protocols and approaches to monitoring vegetation success were presented and most projects measured more than one parameter.

An evaluation of project documents gives some insight into the appropriateness and effectiveness of monitoring protocols. Four questions were evaluated:

- Were the objectives and methods of the monitoring design clearly described?
- Were the monitoring protocols appropriate to the project objectives?
- Did monitoring protocols target the resources modified during implementation?
- Was the monitoring completed as planned?

Based on project documents, each of these questions was ranked from 1 to 5 with 1 representing the poorest effort and 5 representing the most successful. These numeric scores were reduced to Poor (1-2), Average (3), and Good (4-5) ratings. The results are presented in Figure 21.

In general, ratings were good. Between 69% and 77% of projects received “Good” ratings for each question. The ratings are consistent for all four questions with the exception of “Monitoring Completed” that had twice as many “Poor” ratings. This may be the result of either well-designed monitoring plans that experienced problems in execution and completion or in overly complicated monitoring plans that were difficult to implement. In general, ratings were consistent across all questions within each project. For example, a project that rated “Good” in completion generally had equally high ratings for the remaining questions.

These scores would be skewed to the high side in a random sample. However, the high scores are likely due in part to the emphasis on monitoring by AWPf staff. Conceptual monitoring plans are first required of applicants in the grant application. Monitoring is a required task in all capital projects and a formal monitoring plan must be prepared by the grantee and approved by the AWPf staff before project

implementation occurs. Given this emphasis, expectations are higher and the ~ 25% of the projects with poor or average monitoring are of some concern. There was not sufficient information to evaluate the results of each monitoring program, but it was observed that the quality of the data analysis and conclusions were variable. Often the methods and data collected were appropriate, but the data analysis was inadequate to measure project success.

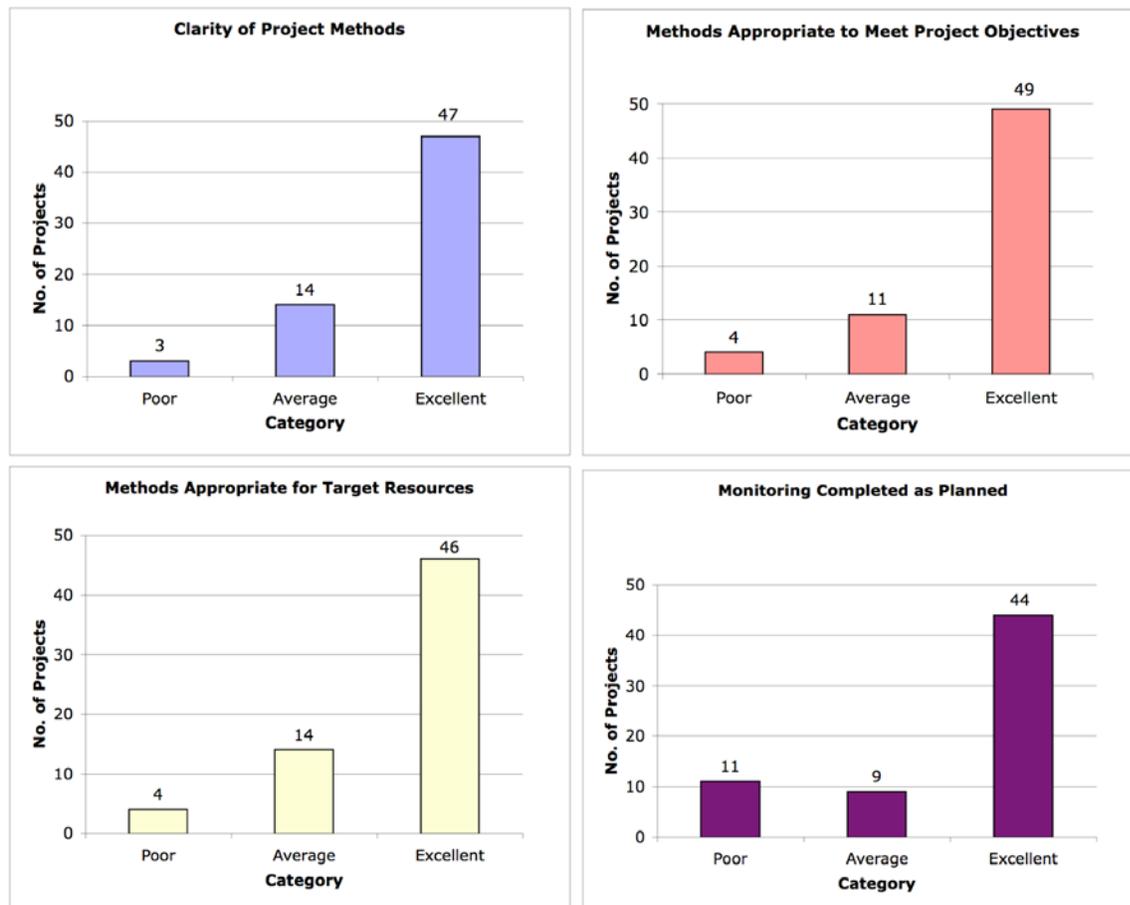


Figure 21. Monitoring program ratings.

The monitoring programs for 64 capital projects were evaluated. Generally, monitoring plans are designed well with the aid of AWPf grant managers. The ratings for the completion of monitoring plans is only slightly lower and this is due to the inability of the grantee to successfully implement a complex monitoring plan, or to analyze the data gathered and to draw conclusions.

PUBLIC OUTREACH

Public outreach is a critical component to funded projects. Many times it is the only way that the public is made aware of the work AWPf funds and the only exposure the public has to riparian systems and their importance in this region. Public outreach information was gathered from public outreach plans and reports as well as the original application. Of the completed projects, a total of 55 projects were analyzed; 40 were capital projects and 15 research or feasibility projects. Fifty-one projects did not have a public outreach component funded by AWPf and two were feasibility projects that did not have any public involvement in the planning process. Capital projects used outreach such as signs, workshops, and volunteers, while research or feasibility projects used volunteers to gather data, seminars to relay research data, or public involvement meetings during the planning process.

Projects that did have a public outreach component appeared to complete it as planned. Fifty projects were rated ‘excellent’ for completion. Public outreach plans were considered relevant to the project that often involved public meetings to include all possible stakeholders, which is an important component of project success. The level of public involvement was a bit lower, with 32 projects receiving an ‘excellent’ rating. Evaluation staff felt that public involvement of some projects was average and could have involved more stakeholders and input. Score sheet data can be viewed in Appendix B.

BENEFITS

If one of the objectives of funding a project is to improve the conditions at a project site, then quantifying how many resources were benefited through project implementation is one way of determining whether funding a given project was worthwhile. Understanding that each project is unique and aimed to meet AWPF evaluation criteria through their own objectives and goals, evaluation staff recorded whether direct and indirect benefits to a given resource occurred. Staff determined if a benefit to a resource was direct or indirect by recording information from the application, correspondence, and reports. If the project did not affect a benefit category, it was considered not applicable. Terminated and withdrawn projects were not included in this analysis.

Research and feasibility projects consisted mostly of indirect benefits and addressed the primary and secondary criteria of the AWPF program indirectly. However, both directly benefit educational components. Table 6 displays the number and percent of projects that have had direct and indirect benefits on the categories listed. Capital projects and ‘Other’ (research and feasibility) projects are listed separately.

Table 6. Direct and indirect benefits associated with capital and other projects (n=110).

Resources benefited from projects are listed below in the left column. Whether they were directly or indirectly affected or not at all (n/a) is displayed in the rest of the columns by number and percent. Riparian vegetation and habitat was most often directly benefited (72%) by capital projects while education was most directly benefited (39%) by research and feasibility studies (Other projects column).

Resources	Capital Projects (n=71)						Other Projects (n=39)					
	Direct	%	Indirect	%	N/A	%	Direct	%	Indirect	%	N/A	%
Recreation	16	22.5%	13	18.3%	42	59.2%	2	5.1%	10	25.6%	27	69.2%
Riparian Vegetation & Habitat	51	71.8%	13	18.3%	7	9.9%	8	20.5%	24	61.5%	7	17.9%
Upland Habitat	28	39.4%	11	15.5%	32	45.1%	2	5.1%	9	23.1%	28	71.8%
Aquatic Habitat	22	31.0%	13	18.3%	36	50.7%	6	15.4%	14	35.9%	19	48.7%
Wetlands	27	38.0%	5	7.0%	39	54.9%	5	12.8%	12	30.8%	22	56.4%
Geomorphology/Channel Condition & Function	35	49.3%	15	21.1%	21	29.6%	5	12.8%	16	41.0%	18	46.2%
Water Quality	26	36.6%	20	28.2%	25	35.2%	5	12.8%	15	38.5%	19	48.7%
Water Quantity	14	19.7%	16	22.5%	41	57.7%	2	5.1%	14	35.9%	23	59.0%
Education	37	52.1%	3	4.2%	31	43.7%	15	38.5%	8	20.5%	16	41.0%
Public Involvement	21	29.6%	6	8.5%	44	62.0%	9	23.1%	5	12.8%	25	64.1%

Those capital projects that aimed at restoring a segment of river appeared to have the most direct benefits associated with them. Many times, education, recreation, habitat, channel function, and water quality were all directly influenced by the restoration project. Off-channel capital projects such as watershed projects or livestock management projects had a mixture of indirect and direct benefits. Recreation and public involvement benefits were the least applicable for all projects.

SUMMARY: SECTION C

This section assessed: 1) the objectives stated by the grantee, 2) the tasks developed by the grantee to carry out the project, 3) the design and implementation methods used to accomplish stated objectives, 4) monitoring methods used and their effectiveness, 5) the public outreach component of the project and 6) how the project benefited the riparian system (directly or indirectly).

In the section regarding project objectives, the majority of projects received high scores. Ninety-six out of 110 completed projects received excellent markings for clarity of objectives, 101 completed projects had excellent ratings for relevancy of objectives to project tasks, and more often than not completed projects addressed AWPf primary and secondary criteria excellently. Most of the high scores for objectives that addressed AWPf criteria were given to capital projects. The majority of projects evaluated were successful in meeting the stated objectives, with 84 projects receiving excellent scores. However, concerns about objectives being attainable or more like tasks or goals were presented and need to be taken into consideration. In general, tasks were relevant, clear, and completed as planned, but almost half of the projects assessed were late in completing the stated project tasks.

Only capital projects were analyzed for the implementation portion of the evaluation, and excluded those projects that were terminated or withdrawn (n=71). Implementation methods were divided into three main categories; management changes, vegetative practices, and mechanical/structural practices.

Approximately one third of the projects assessed made changes to the riparian area using all three of the above categories, one third used only one of the above categories, and the remaining projects used a combination of two of the above categories. Fencing was one of the most utilized practices (n=43), whether to organize pastures, protect riparian vegetation, or exclude elk from sensitive areas. Many projects (n=30) used riparian plantings in the project, whether to augment habitat or increase bank stabilization. Six additional projects used vegetation specifically for bio-engineering bank stabilization practices.

Sixty-four capital projects were analyzed in the monitoring methods section of this report. Monitoring methods were divided into seven categories: 1) photo documentation, 2) vegetation, 3) hydrology, 4) stream morphology, 5) water quality, 6) fauna, and 7) soils. All 64 of these projects used photo documentation as part or all of the monitoring techniques used. Vegetation monitoring was common (n=52). The rest of the categories show that less than 40 percent of the projects performed monitoring of that category. Only seven projects conducted soil monitoring and it was the category least utilized.

Monitoring practices were further analyzed to determine how clear the monitoring method was described, how appropriate it was to stated objectives, how appropriate the method was to the targeted resource, and whether or not it was executed as planned. In general, a project that received a high rating in one category, received high ratings in all four categories. More than half of the projects assessed received high ratings in all four of these categories. Many projects used methods that were appropriate to meet stated objectives; 49 projects received an excellent rating. The statement that displayed the highest number of projects that received a poor score was 'monitoring completed as planned' (n=11).

The public outreach component of a project could include signs, workshops, volunteers, seminars, and public meetings. Only 55 projects in this assessment had a public outreach component funded by AWPf. However, many projects had a public outreach component that was developed using matching funds or other means. Ninety-one percent of the projects that had public outreach as part of the project received scores of excellent in completing public outreach as planned, and 58 percent received an excellent rating for the level of public involvement included in the project.

Capital projects more often than not have direct benefits associated with them. Capital projects that approach whole watersheds and upland livestock issues tend to have both direct and indirect benefits associated with them. Research and feasibility projects generally benefit resources indirectly. Educational components are the most common indirect benefit of these types of projects.

PROJECT SUCCESS

Through meetings with AWPF staff it became clear that understanding project success relied on a few relatively simple factors. Projects may be weaker in one area than another, however overall project success could be determined from how well they met AWPF evaluation criteria, if improvement was apparent, and if the deliverables were clear and concise.

This section addresses the overall evaluation questions on the scoring sheet for the Phase I evaluation of each project (See Appendix A). From the correspondence file and NCD expertise, a score of 1 to 5, 5 being the best, was given for four statements. The four statements are:

- Met AWPF primary criteria
- Met AWPF secondary criteria
- Observed improvement during project
- Overall quality of deliverables

The results of each are displayed below from 110 projects. Terminated or withdrawn projects are not included. Thirty-nine research and feasibility studies are included within the 110 projects, however since they do not contain an on the ground component, no observed improvement could be recorded. These studies are represented by N/A (not applicable) in Figure 23. ‘Poor’ equals a score of 1 or 2; ‘Average’ equals a score of 3, and 4 or 5 equals ‘Excellent’. Data for the following figures is located in Appendix B. Figure 22 shows the ratings for meeting specified criteria for all projects. Many projects have met the primary and secondary criteria that AWPF has created. Thus, the criteria have been successful in its aim to clarify and focus grant projects. However, it is important to note that research and feasibility projects meet the primary and secondary criteria indirectly much of the time through increased knowledge of the system, thus were often rated average or poor by evaluation staff.

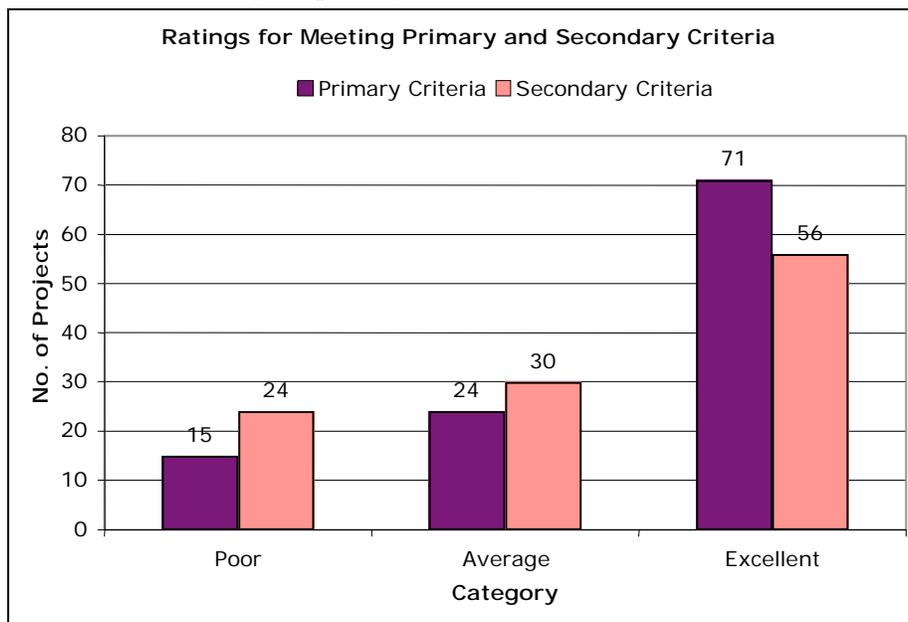


Figure 22. Number of projects that met AWPF primary and secondary criteria.

Of 110 projects completed and analyzed, the AWPF primary and secondary criteria that grantees addressed were also successfully met by a high degree by projects. Many that were rated poor were research and feasibility projects as they at best addressed and met the AWPF criteria indirectly.

Many projects received an ‘excellent’ rating for observed improvement during the project period (Figure 23). As noted above, research and feasibility projects (n=39) were excluded from this question. Projects that received an ‘average’ rating were those that saw some improvement, but evaluation staff felt that

monitoring results were inconclusive, climate had slowed recovery, or the site had shown some improvement in certain areas and none in others.

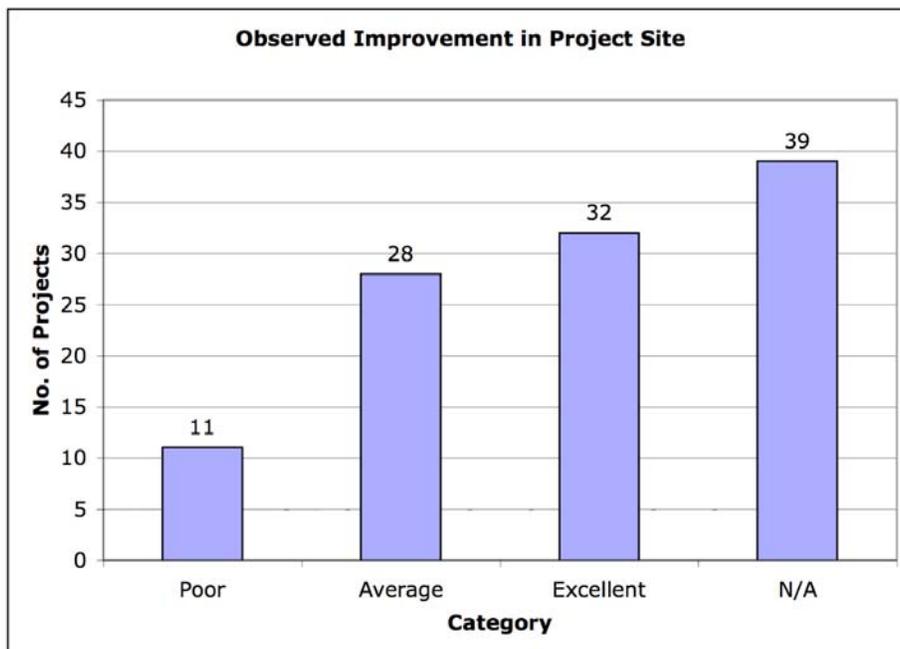


Figure 23. Number of projects that improved over the project period.

Of 110 completed projects, 32 projects were rated as seeing much improvement after implementation. Thirty-nine research and feasibility studies were not included (N/A), resulting in 85 percent of projects that received average or excellent rating for this statement.

The overall quality of deliverables is very high (Figure 24). Seventy percent of all projects completed had readable, informative, and clear reports or other deliverables. Grant managers have requested many second and third drafts and the diligence has been worthwhile. This observation may seem contradictory to the statement that monitoring conclusions were unclear or absent, however evaluation staff noted that although components of the project may be weak, that grant managers worked hard to request clarification within the ability of the grantees and focused on clarifying and focusing the information given to them, rather than asking for more data analysis. Thus, the overall quality of the deliverables is high, despite other evaluation staff concerns.

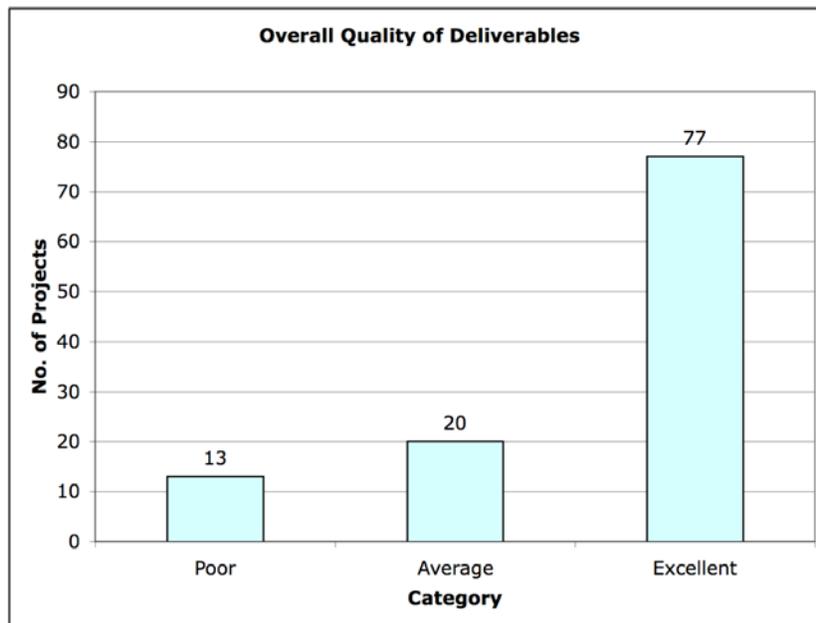


Figure 24. Overall quality of deliverables for all completed projects (n=110).

Of 110 completed projects, 77 received a score of four or five (excellent rating) for the overall quality of deliverables produced for the grant.

GENERAL OBSERVATIONS

Many observations were noted during the evaluation that cannot be quantified, but that are worth sharing to increase the ultimate success of grant projects. Some comments below regard recorded information that was not addressed in the previous sections of the report; other comments are observations from the quantified data just presented. Specific recommendations to increase project success, project benefits, and program success will be included in the Final Report for this assessment after Phase II has been completed.

In general, almost all of the projects seem like worthy projects from our evaluation of the files. Project site visits will play a large role in determining how much information about project success can be extracted from project files. Well-mapped and precise photo documentation was a critical tool for staff evaluations. Staff also noted that earlier grants were harder to follow, but as grant managers became better at tracking money and writing memos, the files became more organized. Extending the life of the grant from three to five years seems to have increased the overall success of projects, if only because post-implementation documentation and monitoring was extended.

The evaluation staff noted that information dissemination of project results is practically non-existent. The project files contain volumes of useful technical information for new grantees, managers, restoration practitioners, and the general public.

Section A: General Characteristics

Project size in acres, river miles affected, and length of stream treated was recorded in the application and varied greatly between projects. Project size in acres is a worthwhile question, especially for comparison of cost per acre across projects or how many acres have been affected by project monies in a certain region or watershed. However, this information could not be derived with confidence because of the noted variation. It was difficult to ascertain from the information provided in the project files what land

and river areas were to be affected directly and indirectly by project tasks. This observation became especially apparent in watershed or ranch improvement projects.

Many grants had multiple amendments. It appears this was often unavoidable because of individual circumstance that arose during the life of the grant. However, evaluation staff noted that a new contract with appropriate changes was much easier to interpret than a one or two page amendment.

The use of township, range, and section made exact location of projects difficult. Larger projects report 'many' for township, range, and section. Although this information may be helpful in locating general project area on a quadrant map, it does not always aid in locating the project area on the ground or by geographic information systems.

Project purpose statements on the first page of the contract were clear and precise and very helpful during the evaluation. Staff noted that stated project objectives were referred to often during evaluations, but that if the application was missing from the project file the stated objectives of the project were lost. Without objectives, it is hard to ascertain the effectiveness or success of a project after it has been completed and closed.

Section B: Financial

In several projects, funds were transferred from other project components to compensate for overspending during the implementation of the project. There were instances where re-vegetation was never completed or public outreach dropped because the funds were used to reimburse the first portion of implementation. In this situation, project objectives can be greatly reduced or even eliminated. For instance, removing funding from the outreach budget to compensate overspending in other areas virtually deletes any original objective related to public outreach and greatly alters the original scope of the project.

Monitoring and planning receive little funding in comparison to implementation components. One of the unique and important features of the grant program is the allowance for planning before project implementation and monitoring the outcome post-implementation to increase project success. However, this factor is not reflected in the ratio of the award amount to these components.

Section C: Project Detail

There is great variation in which methods were used to monitor projects and how many methods were used. Monitoring is an important aspect of project success, however it appears that many grantees "got in over their heads" and could not accomplish the monitoring plan or ended up with a gigantic amount of data and no time to analyze it. Overall, summary and conclusion statements regarding the data gathered were scarce in many documents. The evaluation staff felt that of all monitoring methods used, photo points were very useful for visual analysis. Plant survival after re-vegetation efforts was another simple, but effective monitoring tool. Depending on expertise, other means of monitoring may be beneficial, however for the private grantee, simple monitoring methods may reveal much more information than rigorous, in depth methods.

Climate and length of time post-implementation are two of the major reasons given by grantees that did not see any trend in the monitoring data. These are legitimate explanations and are not likely to become less so in the future. Staff noted that for these reasons, more simple monitoring methods may be most useful since most rigorous methods are slow to show response to change within 2-3 years.

Finally, as noted in this report, research and feasibility projects are very different from capital projects in planning, design, and implementation. The primary and secondary evaluation criteria AWPf has created for capital projects is indispensable and staff noted that if criteria existed explicitly for research and feasibility studies as well, that evaluating success would be more transparent.

CONCLUSION

From the project files review, it appears that many projects have been successful in meeting AWPF criteria and project objectives. Whether the on the ground outcomes match the information relayed in the reports is yet to be determined. In Phase II of this project, during site visits, evaluation staff will have the ability to 'ground truth' a subset of the projects evaluated in this report. Much useful and important information has been compiled in Phase I that will aid Phase II site visits and evaluations.

It appears from the project file reviews that grantees have accomplished what they set out to do as outlined in the contracted scope of work. This fact is reflected in the high scores received by many projects for plan layout, appropriate methods, completion, and addressing key criteria. However, it also became apparent that some added guidance, additional components, and more clarity, especially for project results and goals, could benefit the projects very much. In Phase II, evaluation staff will use the insight gained from case study visits to make recommendations that will aid the grant program and bring even greater project success to the Arizona Water Protection Fund in the coming years.

APPENDIX A- EVALUATION SHEETS

AWPF EVALUATIONS SUMMARY SHEET

		NCD PERSONNE				
GRANT No.:		EVALUATION DAT				
SECTION A. GENERAL INFO (FROM APPLICATION)						
PROJECT TITLE:						
FISCAL YEAR:		PROJECT STATUS:				
PROJECT TYPE: <small>(CHOOSE APPROPRIATE COLUMN AND CHECK ONE IN EACH CATEGORY)</small>	CAPITAL	RESEARCH	FEASIBILITY			
	RESTORATION	DIRECT APPLICABILITY	DIRECT APPLICABILITY			
	CREATION	INDIRECT APPLICABILITY	INDIRECT APPLICABILITY			
	ENHANCEMENT					
	DIRECT					
	INDIRECT					
PROJECT PURPOSE: <small>(FROM APPLICATION)</small>						
AMA:						
WATERSHED:		STREAM NAME:				
<small>(CHECK ONE)</small> PERENNIAL		INTERMITTANT EPHEMERAL				
COUNTY:		LOCATION (S,R,T):				
LEGISLATIVE DISTRICT: <small>(FROM NCD WORKBOOK)</small>		MAP No.: <small>(FROM NCD WORKBOOK)</small>				
PROJECT SIZE: acres		# OF AMEND. & REASON(S):				
river miles affected						
length treated						
LANDOWNER:		CONTRACT START DATE:				
GRANTEE:		CONTRACT END DATE:				
<small>(CHECK ONE)</small> GOVERNMENT		FINAL PAYMENT DATE:				
NGO		<small>(ENTER YES OR NO)</small>				
PRIVATE						
TRIBAL		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>PHOTO DOCUMENTATION:</td> </tr> <tr> <td>O&M AGREEMENT:</td> </tr> <tr> <td>ACT OF GOD/CLIMATE:</td> </tr> </table>		PHOTO DOCUMENTATION:	O&M AGREEMENT:	ACT OF GOD/CLIMATE:
PHOTO DOCUMENTATION:						
O&M AGREEMENT:						
ACT OF GOD/CLIMATE:						
PROFESSIONAL SERRVICES:						
SECTION B. FINANCIAL (FROM CONTRACT & BILLINGS)						
		<small>AWARDED/ACTUAL (IF DIFF.)</small>	RELATED TASK(S):			
AMOUNT AWARDE		PLANNING COS				
GRANT AMOUNT USED:		IMPLEMENTATION COS				
DIFFERENCE:		MONITORING COST:				
		PUBLIC OUTREACH COST:				
MATCHING FUNDS:		OTHER:				

BENEFITS:		NOTED FAILURES:	
(D= DIRECT I=INDIRECT)			
	RECREATION		
	RIPARIAN VEGETATION & HABITAT		
	UPLAND HABITAT		
	AQUATIC HABITAT		
	WETLANDS		
	GEOMORPH./CHANNEL CONDITION & FUNCTION		
	WATER QUALITY		
	WATER QUANTITY		
	EDUCATION		
	PUBLIC INVOLVEMENT		

SECTION D. PROJECT EVALUATION NOTES

To Consider:

- Adequate Funding?
- Adequate Management?
- Case Study Candidate?
- Organized?

MISSING ITEMS NOT NEEDED TO FINISH ASSESSMENT:

SCORING SHEET- AWPf ASSESSMENT PROJECT

*FOR RESEARCH GRANTS, SOME QUESTIONS MAY NOT BE APPLICABLE, IF SO ENTER N/A
WHEN FILLING OUT ELECTRONICALLY, REPLACE NUMBER WITH 'X'

PROJECT TITLE:						GRANT No.:	
SECTION A. EVALUATION OF PLANNING							
		POOR		AVERAGE		EXCELLENT	
OBJECTIVES PRESENT:	YES	NO					
CLARITY OF OBJECTIVES	1	2	3	4	5		
RELEVANT TO PROJECT GOALS	1	2	3	4	5		
ADDRESSED PRIMARY CRITERIA	1	2	3	4	5		
ADDRESSED SECONDARY CRITERIA	1	2	3	4	5		
NOTES:							
TASKS/SCOPE OF WORK PRESENT:	YES	NO					
CLARITY OF TASKS	1	2	3	4	5		
TASKS RELEVANT TO OBJECTIVES OF PROJECT	1	2	3	4	5		
NOTES:							
MONITORING PROGRAM PRESENT:	YES	NO					
CLARITY OF METHODS	1	2	3	4	5		
METHODS APPROPRIATE TO MEET OBJECTIVES	1	2	3	4	5		
METHODS APPROPRIATE FOR TARGET RESOURCES	1	2	3	4	5		
NOTES:							
DESIGN PRESENT:	YES	NO					
CLARITY OF DESIGN	1	2	3	4	5		
DESIGN APPROPRIATE TO MEET OBJECTIVES	1	2	3	4	5		
NOTES:							
PUBLIC OUTREACH PRESENT:	YES	NO					
OUTREACH RELEVANT TO PROJECT	1	2	3	4	5		
LEVEL OF PUBLIC INVOLVEMENT	1	2	3	4	5		
NOTES:							

SCORING SHEET KEY

SECTION A. EVALUATION OF PLANNING									
Section A evaluates components of the project that are highly valued by AWPf or mandatory in the grant process. A 1 =poor, 3=average, and 5=excellent.									
		EXPLANATION/DEFINITIONS							
OBJECTIVES PRESENT	According to grant guidelines, each project should have set objectives that can be achieved through project tasks within the grant timeline.								
CLARITY OF OBJECTIVES	1=None of the stated objectives were clear. 5=All objectives were stated and achievable within grant timeframe.								
RELEVANT TO PROJECT GOALS	1=Stated objectives were not relevant to the overall goal of the project. 5=All objectives were greatly relevant to project goals.								
ADDRESSED PRIMARY CRITERIA	1=None of the objectives addressed the primary criteria of AWPf 5=All of the objectives addressed the primary criteria of AWPf								
ADDRESSED SECONDARY CRITERIA	1=None of the objectives addressed the secondary criteria of AWPf 5=All of the objectives addressed the secondary criteria of AWPf								
NOTES: Observations for objectives that cannot be quantitatively addressed go here.									
TASKS/SCOPE OF WORK PRESENT	According to grant guidelines, each project should have a set of clearly stated and formatted tasks to achieve project objectives.								
CLARITY OF TASKS	1=Tasks were not clear and without formatting 5=Tasks were written clearly and in AWPf format								
TASKS RELEVANT TO OBJECTIVES OF PROJECT	1=Tasks are not appropriate for project objectives 5=All tasks are relevant and appropriate for project objectives								
NOTES: Observations for tasks that cannot be quantitatively addressed go here.									
MONITORING PROGRAM PRESENT	According to grant guidelines, each project should have a clearly planned, achievable monitoring program that tracks the project after implementation.								
CLARITY OF METHODS	1=Methodology was not clearly explained, confusing, or not present 5=Methodology was clear								
METHODS APPROPRIATE TO MEET OBJECTIVES	1=Methods chosen do not meet objectives of project or do not answer monitoring question 5=Methods chosen clearly address objectives and are appropriate for questions asked.								
NOTES: Observations for monitoring that cannot be quantitatively addressed go here.									
DESIGN PRESENT	According to grant guidelines, a design plan must be approved to implement the project.								
CLARITY OF DESIGN	1=Design not clear, construction sequence absent 5=Design clear, construction sequence, sheets, and specs present								
DESIGN APPROPRIATE TO MEET OBJECTIVES	1=Design is not at all relevant to project objectives 5=Design is relevant and appropriate for project objectives								
NOTES: Observations for design that cannot be quantitatively addressed go here.									
PUBLIC OUTREACH PRESENT	Public outreach componenets are highly valued by AWPf.								
LEVEL OF PUBLIC INVOLVEMENT	1=No or very little public involvement 5=Very much public, volunteer activity								
NOTES: Observations for public outreach that cannot be quantitatively addressed go here.									

SECTION B. EVALUATION OF EXECUTION	
Section B addresses in what manner the project was completed and how the successful the project was overall that AWPf would like answered. A 1=none or poor, 3=some or average, 5=all or excellent.	
MET OBJECTIVES	1=None or one objective was met and those that weren't met lacked sufficient explanation. 5= All objectives were met
COMPLETED TASKS	1=No tasks were completed and no sufficient explanation is provided 5=All tasks completed
MET DEADLINES	1= Tasks were completed, but no deadlines were met. 5=All deadlines were met
MONITORING COMPLETED AS PLANNED	1=None or one monitoring part was completed and those that weren't completed did not have sufficient explanation. 5=All monitoring components completed
DATA GATHERED IN CONSISTENT FASHION	1=Data not gathered, variance in time/season data collected, or methods and/or reporting varied greatly 5=All data collected with little variance and on time with monitoring plan schedule
DESIGN IMPLEMENTED	1=Design not implemented. 5=Design fully implemented
DESIGN COMPLETED	1=Design not completed at all 5=Design fully completed
PUBLIC OUTREACH COMPLETED	1=No public outreach completed. 5=Public outreach fully completed
MET PRIMARY CRITERIA	1= No primary criteria met. 5= All stated primary criteria met.
MET SECONDARY CRITERIA	1=No secondary criteria met. 5=All stated secondary criteria met.
OBSERVED IMPROVEMENT FROM PROJECT	1=No improvement observed in monitoring reports. 5= Much improvement observed and recorded in monitoring reports
OVERALL QUALITY OF DELIVERABLES	1= Quality poor, serious concerns outlined by AWPf staff comments 5= Quality superior, outstanding comments given by AWPf staff.
NOTES:	Observations for general questions that can't be quantitatively addressed go here

Data Table 3. Score sheet data for design section of report.

Grant Number	Clarity of Design	Appropriate to meet Objectives	Design Implemented	Design Completed
00-100	5	4	5	5
00-101	5	5	5	5
00-102	4	5	5	5
00-103	4	4	5	5
00-104	5	5	5	5
00-105	5	5	5	5
00-106	3	4	3	3
00-108	5	5	5	5
00-110	5	5	5	5
00-111	5	4	4	5
00-115	4	5	4	5
03-116	5	5	5	5
03-117	5	5	5	5
03-119	5	5	5	5
05-127	5	5	5	5
95-005	4	4	5	5
95-006	3	4	4	4
95-007	5	5	5	5
95-014	4	4	4	3
95-015	2	2	4	4
95-020	5	5	5	5
95-021	5	5	5	5
95-022	4	5	5	5
96-0001	5	5	5	5
96-0009	5	5	5	5
96-0015	5	5	5	5
96-0016	5	5	5	5
96-0017	5	5	5	5
96-0020	5	5	5	5
96-0023	5	5	5	5
96-0026	5	5	5	5
97-027	4	5	5	5
97-028	4	4	5	5
97-029	4	4	5	5
97-031	5	5	5	5
97-032	5	5	5	5
97-033	5	3	5	5
97-044	4	4	4	4
97-045	5	5	5	5
98-046	4	4	5	5
98-047	4	4	4	4
98-049	4	5	4	3
98-050	4	5	5	5
98-059	5	5	5	5
98-061	5	3	5	5
98-062	5	5	5	5
98-066	5	5	5	5
99-067	4	4	5	5
99-069	5	5	5	5
99-070	4	4	4	5
99-075	5	5	5	5
99-076	5	5	5	5
99-077	5	5	5	5
99-083	5	4	5	5
99-088	4	5	4	5
99-092	5	5	5	5
99-098	4	4	5	5
No research and feasibility studies in analysis				

Data Table 5. Score sheet data for public outreach section of report.

Grant Number	Relevant to Project	Level of Public Involvement	Outreach Completed
00-101	3	1	5
00-103	5	3	5
00-104	5	5	5
00-106	3	4	3
00-108	5	3	5
00-111	5	2	5
00-115	5	5	5
03-116	5	5	5
03-117	5	5	5
03-119	5	5	5
05-127	3	3	5
95-002	5	5	5
95-005	3	3	3
95-006	5	5	5
95-007	5	3	5
95-015	5	5	5
95-020	5	5	5
95-021	4	3	5
95-022	5	4	5
95-023	3	4	4
95-024	4	2	5
96-0005	5	3	5
96-0007	5	5	5
96-0009	5	1	5
96-0012	4	3	5
96-0014	5	3	5
96-0020	5	5	5
96-0022	4	3	5
96-0023	5	5	5
96-0025	5	5	5
96-0026	5	5	5
97-028	4	4	5
97-029	4	4	5
97-030	5	5	5
97-031	5	5	5
97-035	5	5	5
97-040	5	5	5
97-041	5	5	5
97-044	4	4	4
98-046	4	3	4
98-047	4	3	4
98-050	5	4	5
98-054	4	1	1
98-057	5	5	5
98-059	5	1	4
98-062	5	5	5
98-066	5	5	5
99-068	5	5	5
99-071	5	3	4
99-074	4	1	2
99-083	4	3	4
99-085	5	5	5
99-086	5	3	5
99-089	3	1	2
99-092	5	5	5
Research and Feasibility Studies			

APPENDIX C- ALL PROJECTS LIST

Grant #:	Project Type	Project Title:	Project Status:	Grantee:	County:	Watershed:
00-099	Capital	Gila Reference Riparian Area, Discovery Park	terminated early	Mt. Graham Int. Science & Cult. Foundation	Graham	Upper Gila River
00-100	Capital	Willow Creek Riparian Restoration Project	complete	David Movius	Mohave	Lower Colorado River
00-101	Capital	Murray Basin and Saffell Canyon Watershed Restoration	complete	Apache Sitgreaves NF	Apache	Little Colorado River
00-102	Capital	Upper Eagle Creek Restoration on East Eagle Allotment of Four Drag Ranch	complete	Gary and Darcy Ely	Greenlee	Upper Gila River
00-103	Capital	Riparian Restoration on the Santa Cruz River - Santa Fe Ranch	complete	Coronado Resource Conservation & Development, Inc.	Santa Cruz	Santa Cruz River
00-104	Capital	Continued Enhancement of Pueblo Colorado Wash at Hubbell Trading Post National Historic Site	complete	National Park Service - Hubbell Trading Post NHS	Apache	Little Colorado River
00-105	Capital	Hubbell Trading Post Riparian Restoration with Treated Effluent	complete	National Park Service Hubbell Trading Post NHS	Apache	Little Colorado River
00-106	Capital	Tres Alamos Ranch Dirt Tanks to Aquatic Habitat Conversion	complete	Duncan K. Blair - Tres Alamos Ranch	Yavapai	Lower Colorado River
00-108	Capital	Lake Mary Watershed Streams Restoration Project	complete	NAU	Coconino	Little Colorado River
00-110	Capital	Upper Rairchild Draw Riparian Restoration	complete	Apache Sitgreaves NF	Coconino	Little Colorado River
00-111	Capital	Cooperative grazing management for riparian improvement on the San Pedro	complete	Double Check Ranch	Pinal	San Pedro River
00-112	Research	Completion of riparian habitat mapping in the Upper Little Colorado River Watershed	complete	Town of Eagar	Apache	Little Colorado River
00-113	Capital	Poiaacca Wash Grazing Management	terminated early	Hopi Tribe	Navajo	Santa Cruz River
00-115	Capital	Tucson Audubon Society North Simpson Farm Riparian Recovery	complete	Tucson Audubon Society	Pima	Santa Cruz River
03-116	Capital	Cottonwood Creek Restoration	complete	Coronado RC&D Area Inc.	Cochise	Wilcox Playa
03-117	Capital	Lynx Creek Restoration at Sediment Trap #2	complete	Prescott NF	Yavapai	Lower Gila River
03-118	Capital	Verde River Riparian Partnership Project	terminated early	Mingus Union High School	Yavapai	Verde River
03-119	Capital	Wet Meadows for Water Quality and Wildlife- A Riparian Restoration Project	complete	National Wild Turkey Federation	Apache	Little Colorado River
05-127	Capital	EC Bar Ranch Reach 8 Water Well & Drinker Project	complete	Jim Crosswhite	Apache	Upper Colorado River
95-001	Research	Stable Isotope Assessment of Groundwater and Surface water Interaction: Application to Verde River Headwaters	complete	Robert Grim (ASU)	Yavapai	Verde River
95-002	Feasibility	Partnership for Riparian Conservation in Northeastern Pima County (PROPINA)	complete	Rincon Institute	Pima	Santa Cruz River
95-003	Capital	Sycamore Creek Riparian Management Area	terminated early	Tonto NF Mesa Ranger District (Russell Orr)	Maricopa	Verde River
95-004	Capital	Road Reclamation to Improve Riparian Habitat along the Hassayampa and Verde Rivers	complete	Prescott NF	Yavapai	Verde River, Lower Gila River
95-005	Capital	San Pedro River Wastewater-Effluent Recharge Project - Phases 1 & 2	complete	City of Sierra Vista	Cochise	San Pedro River
95-006	Capital	Critical Riparian Habitat Restoration along a Perennial Reach of a Verde River tributary	complete	NAU	Coconino	Verde River
95-007	Capital	Marana High Plains Effluent Recharge Project	complete	Pima County Flood Control District, City of Marana	Pima	Santa Cruz River
95-008	Capital	Picacho Reservoir Riparian Enhancement Project	terminated early	Pinal County Dept of Civil Works	Pinal	Upper Gila River
95-009	Research	Regeneration and Survivorship of Arizona Sycamore	complete	ASU Office of Research and Creative Activities	Cochise	San Pedro River
95-010	Research	Assessment of the role of effluent dominated rivers in supporting riparian functions	complete	Arizona State University (Duncan Patton)	Yavapai, Santa Cruz, Maricopa	Lower Gila River
95-012	Feasibility	Comprehensive Plan for the Watson Woods Riparian Preserve	complete	Prescott Creek Preservation Association	Yavapai	Verde River
95-013	Research	Streambank Livestock use: effects on native aquatic vegetation, morphology and fish habitat and populations.	terminated very early	USFS, John Rinne	Yavapai	Verde River
95-014	Capital	Gila Box Riparian and Water Quality Improvement	complete	Bureau of Land Management	Graham, Greenlee	Upper Gila River
95-015	Capital	San Pedro Riparian National Conservation Area Watershed Rehabilitation Restoration Project	complete	Bureau of Land Management	Cochise	San Pedro River
95-016	Research	Refinement of Geological Model Lower Cienega Basin, Pima County, Arizona	complete	AZ Geological Survey	Pima	Santa Cruz River
95-017	Research	Restoration of Fossil Creek Riparian Ecosystem: Effects of Variable Flows on Restoration of the Riparian Vegetation in Fossil Creek	complete	USDA/USFS, NAU	Yavapai, Gila	Verde River
95-018	Research	Restoration of Sporobolus wrightii	complete	ASU - Julie Strawburg	Pima, Santa Cruz, Cochise	Santa Cruz River
95-019	Research	Quantifying Anti-Erosion Traits of Streambank Graminoids	complete	ASU	Pima	Santa Cruz River
95-020	Capital	Teran Watershed Enhancement	complete	Redington natural Resource Conservation District	Cochise	San Pedro River
95-021	Capital	Lofer Cienega Restoration	complete	White Mtn Apache Tribe	Apache	Salt River
95-022	Capital	Gooseberry Watershed Restoration Project	complete	White Mountain Apache Tribe	Apache	Little Colorado River
95-023	Research	Sabino Creek Riparian Ecosystem Protection	complete	Hidden Valley Homeowners	Pima	Santa Cruz River
95-024	Feasibility	Potrero Creek Wetland Characterization and Management Plan	complete	Environet, Inc.	Santa Cruz	Santa Cruz River
96-0001	Capital	San Pedro Riparian National Conservation Area Watershed Protection and Improvement Project	complete	Bureau of Land Management	Cochise	San Pedro River
96-0002	Capital	Completion Phase - Hi Point Well Project	complete	Navajo County NRCD	Coconino, Navajo	Little Colorado River
96-0003	Capital	Hoxworth Springs Riparian Restoration	complete	NAU - Dept of Geology - Abe Springer	Coconino	Lower Colorado River
96-0004	Research	Hydrologic Investigation and Conservation Planning - Pipe Spring, Arizona	complete	Pipe Springs N.M.	Mohave	Upper Colorado River
96-0005	Feasibility	Tres Rios - River Management & Constructed Wetlands Project	complete	City of Phoenix, Water Services Dept	Maricopa	Lower Gila River
96-0006	Research	Hydrogeologic investigation of groundwater movement and sources of baseflow to Sonoita Creek	complete	The Nature Conservancy	Santa Cruz	Santa Cruz River
96-0007	Capital	Ash Creek Riparian Protection Project	complete	Mingus Springs Camp, Henry Dahlberg, Ed.D.	Yavapai	Verde River
96-0008	Feasibility	Watson Woods Vegetation Inventory	complete	Prescott Creeks Preservation Association	Yavapai	Verde River
96-0009	Capital	Watson Woods Riparian Preserve Visitor Management	complete	Prescott Creeks Preservation Association	Yavapai	Verde River
96-0010	Capital	Rehabilitating the Puertocito Wash on the Buenos Aires National Wildlife Refuge	terminated early	Arizona Conservation Boaters, Habitat Fund	Pima	Santa Cruz River
96-0011	Capital	Lower Colorado River - Imperial Division Restoration	complete	US Bureau of Reclamation	Yuma	Lower Colorado River
96-0012	Capital	Eagle Creek Watershed and Riparian Stabilization	complete	Allotment Lessee (Holder Family)	Greenlee	Upper Gila River
96-0013	Capital	Happy Valley Riparian Area Restoration Project	complete	Coronado NF	Cochise	San Pedro River
96-0014	Feasibility	Klondyke Tailings Response Strategy	complete	AZ Dept. Environmental Quality	Graham	Upper Gila River
96-0015	Capital	Abandonment of an Artesian Geothermal Well	complete	Smithville Canal Company	Gila	Upper Gila River
96-0016	Capital	The 'Ahakhav Tribal Preserve	complete	Colorado River Indian Tribes	La Paz	Lower Colorado River
96-0017	Capital	Big Sandy River Riparian Project	complete	BLM (Range Management Specialist)	Mohave	Lower Colorado River
96-0018	Capital	San Carlos Spring Protection Project	terminated early	San Carlos Apache Tribe	Gila	Upper Gila River
96-0019	Research	Response of Bebb Willow to Riparian Restoration	complete	NAU-School of Forestry	Coconino	Little Colorado River
96-0020	Capital	Cienega Creek Stream Restoration	complete	Bureau of Land Management	Pima	Santa Cruz River
96-0021	Research	Riparian Vegetation & Stream Channel Changes Associated with Water Management along the Bill Williams River	complete	ASU, Center for Environmental Studies	Mohave, La Paz	Lower Colorado River

Grant #:	Project Type	Project Title:	Project Status:	Grantee:	County:	Watershed:
96-0022	Feasibility	Saffell Canyon and Murray Basin Watershed Restoration Project	complete	Apache Sitgreaves NF	Apache	Little Colorado River
96-0023	Capital	Watershed Restoration at the Yuma Conservation Garden (YCG)	complete	Yuma Conservation Garden	Yuma	Santa Rosa Wash
96-0025	Capital	Tsalle Creek Watershed Restoration Demonstration	complete	Navajo Nation	Apache	Upper Colorado River
96-0026	Capital	Riparian Restoration on the San Xavier Reservation Community	complete	San Xavier Indian Reservation Community	Pima	Santa Cruz River
96-0027	Capital	Nogales International Wastewater Treatment Plant Constructed Wetland Demonstration Project	withdrawn	City of Nogales	Santa Cruz	Santa Cruz River
97-027	Capital	Lyle Canyon Allotment Area Restoration Project	complete	Byrd Lyndsey	Cochise, Santa Cruz	San Pedro River
97-028	Capital	Gila Valley Reference Riparian Area - Discovery Park	complete	Mt Graham International Science and Culture Found.	Graham	Upper Gila River
97-029	Capital	Demonstration Enhancement of Pueblo Colorado Wash at Hubbell Trading Post	complete	National Park Service - Hubbell Trading Post	Greenlee	Little Colorado River
97-030	Research	Walnut Creek Center for Education and Research - Biological Inventory	complete	Yavapai College	Yavapai	Verde River
97-031	Capital	Lincoln Park Riparian Habitat Project (k.a. Atturbury Wash Project)	complete	City of Tucson Water Dept.	Pima	Santa Cruz River
97-032	Capital	Ahakhav Tribal Preserve - Deer Island Revegetation	complete	Colorado River Indian Tribes	La Paz	Lower Colorado River
97-033	Capital	Proctor Vegetation Modification	complete	Coronado NF	Pima	Santa Cruz River
97-034	Capital	Oak Tree Gully Stabilization	complete	Coronado NF - Nogales Ranger District	Pima	Santa Cruz River
97-035	Capital	Watershed Improvement to Restore Riparian and Aquatic Habitat on the Muleshoe Ranch CMA	complete	The Nature Conservancy	Cochise	San Pedro River
97-036	Research	Stable Isotopes as Tracers of Water Quality Constituents in the Upper Gila River	complete	Arizona Geological Survey	Cochise, Graham, Greenlee	Upper Gila River
97-037	Capital	Talastima (Blue Canyon) Watershed Restoration Project	terminated early	Hopi Tribe	Coconino, Navajo	Little Colorado River
97-038	Research	Tres Rios Wetland Heavy-Metal Bioavailability, Design for Denitrifications and Microbial Water Quality	complete	City of Phoenix, Wastewater Engineering	Maricopa	Salt River
97-040	Capital	Bingham Cienega Riparian Restoration Project	complete	Pima County Flood Control District	Pima	San Pedro River
97-041	Research	Altar Valley Watershed Resource Assessment	complete	Pima Natural Resource Conservation District	Pima	Santa Cruz River
97-042	Feasibility	Queen Creek Restoration and Management Plan	complete	Town of Superior	Pinal	Upper Gila River
97-044	Capital	San Pedro River Preserve Riparian Habitat Restoration Project	complete	The Nature Conservancy	Pinal	San Pedro River
97-045	Capital	Santa Cruz Headwaters Project	complete	The Nature Conservancy	Santa Cruz	Santa Cruz River
98-046	Capital	EC Bar Ranch Water Well Project	complete	James Crosswhite	Apache	Little Colorado River
98-047	Capital	Upper Verde Adaptive Management Unit	complete	Almida Land and Cattle	Yavapai	Verde River
98-049	Capital	Empire Cienega & Empiria Fencing Project	complete	MacFarland Donladson	Pima	Santa Cruz River
98-050	Capital	Watershed Restoration of a High-Elevation Riparian Community	complete	Northern Arizona University	Coconino	Verde River
98-051	Research	Evaluation of Carex species for use in Riparian Restoration	complete	NAU-Forestry	Coconino	Little Colorado River
98-052	Feasibility	Tritium as a tracer of groundwater sources and movement in the Upper Gila River drainage	complete	Arizona Geological Survey	Graham	Upper Gila River
98-054	Research	Upper Gila River Fluvial Geomorphology Study	complete	Graham County	Graham, Greenlee	Upper Gila River
98-055	Capital	Horseshoe Allotment: Verde Riparian Project II	complete	George and Sharon Yard	Yavapai	Verde River
98-057	Research	Upper Verde Valley Riparian Area Historical Analysis	complete	NAU, Dr. Abe Spring	Yavapai	Verde River
98-058	Research	Effects of removal of livestock grazing on riparian vegetation and channel conditions of selected reaches of the upper Verde River	terminated early	USFS Rocky Mtn Research St.	Yavapai	Verde River
98-059	Capital	Verde River Headwaters Riparian Restoration Demonstration Project	complete	NAU (AZ Board of Regents for & on behalf of NAU)	Coconino	Verde River
98-061	Capital	Watershed Enhancement on the Antelope Allotment	almost completed	Foremaster Revocable Trust	Mohave	Upper Colorado River
98-062	Capital	Partnership for Riparian Conservation in Northeastern Pima County II	complete	Rincon Institute	Pima	Santa Cruz River
98-066	Capital	Hay Mountain Watershed Rehabilitation	complete	Ruth Evelyn Cowan	Cochise	Whitewater Draw
99-067	Capital	EC Bar Ranch Wildlife Drinker Project	complete	James Crosswhite	Apache	Little Colorado River
99-068	Feasibility	Lower Cienega Creek Restoration Evaluation Project	complete	Arizona Department of Environmental Quality	Pima	Santa Cruz River
99-069	Capital	Riparian and Watershed Enhancements on the A7 Ranch Lower San Pedro River	complete	City of Tucson	Cochise	San Pedro River
99-070	Capital	Lyle Canyon allotment Riparian Area Restoration Project Phase 2	complete	Byrd B. Lindsey	Cochise	San Pedro River
99-071	Feasibility	Protection of Spring and Seep Resources of the South Rim, Grand Canyon National Park, by measuring water quality, flow and associated biota	complete	Grand Canyon NP	Coconino	Upper Colorado River
99-072	Capital	Leopard Frog Habitat and Population Conservation at Buenos Aires National Wildlife Refuge	terminated early	University of Arizona	Pima	Santa Cruz River
99-073	Feasibility	Colorado River Nature Center Backwater-Phase II	complete	AZ Game and Fish	Mohave	Upper Colorado River
99-074	Feasibility	Inventory of Spring, Seep, and Natural Pond Ecosystems in the Arizona Strip Area	complete	Grand Canyon Wildlands Council	Coconino, Mohave	Upper Colorado River
99-075	Capital	Glen and Grand Canyon Riparian Restoration Project	complete	Grand Canyon Wildlands Council	Coconino	Upper Colorado River
99-076	Capital	Watson Woods Preserve Herpetological Interpretive Guide and Checklist	complete	Prescott Creeks	Yavapai	Verde River
99-077	Capital	Blue Box Crossing	complete	Greenlee County	Greenlee	Upper Gila River
99-078	Research	Aquifer framework and Groundwater flow paths in Big and Little Chino Basin	complete	U. S. Geological Society	Yavapai	Verde River
99-080	Capital	Cortaro Mesquite Bosque	terminated early	Pima County Flood Control	Pima	Santa Cruz River
99-083	Capital	Cherry Creek Enhancement Demonstration Project	complete	Tonto National Forest	Gila	Salt River
99-084	Research	Assessments of Riparian Zones in the Little Colorado River Watershed	complete	LCR Multi Objective Management Program, Colorado River Plateau R	Navajo, Apache, Coconino	Little Colorado River
99-085	Feasibility	Kirkland Creek Watershed Resource Assessment	complete	Triangle Natural Resource Conservation District	Yavapai	Lower Colorado River
99-086	Capital	Abandonment of Gila Oil Syndicate Well #1	complete	Gila Valley NRC	Graham	Upper Gila River
99-087	Capital	Rillito Creek Habitat Restoration Project	withdrawn	City of Tucson-DOT	Pima	Santa Cruz River
99-088	Capital	Wickenburg High School Stream Habitat Creation	complete	Wickenburg Unified School District	Maricopa	Lower Gila River
99-089	Feasibility	Town of Eagar/Round Valley Water Users Association Pressure Irrigation Feasibility Study and Preliminary Design	complete	Town of Eagar / Round Valley Water Users Assoc.	Apache	Little Colorado River
99-090	Capital	Redrock Riparian Improvement	terminated early	U. S. Forest Service	Santa Cruz	Santa Cruz River
99-091	Research	Effects of Livestock Use Levels on Riparian Trees on the Verde River	complete	Arizona State University	Yavapai	Verde River
99-092	Capital	Little Colorado River Enhancement Demonstration Project	complete	Apache Natural Resources Conservation District	Apache	Little Colorado River
99-093	Research	Coconino Plateau Regional Water Study	complete	City of Williams	Coconino	Upper Colorado River
99-094	Capital	Santa Cruz River Park Extension	terminated early	City of Tucson Dept of Transportation	Pima	Santa Cruz River
99-095	Capital	Brown Creek Restoration Project	complete	Apache Sitgreaves NF	Navajo	Little Colorado River
99-096	Capital	Upper Santa Cruz Watershed Restoration	Withdrawn w/o prejudice	Lazy J2 Ranch	Santa Cruz	Santa Cruz River
99-097	Capital	Dakini Valley Riparian Project	terminated early	Dakini Valley LLC	Gila	Salt River
99-098	Capital	Rio Salado Habitat Restoration Project	complete	City of Phoenix: Parks, Rec & Libraries Dept.	Maricopa	Salt River