



PURDUE
UNIVERSITY



NIFA Water Portfolio: Project Director Survey Report Formula projects

Prepared August 2017 by:

Jackie M. Getson¹, Sarah P. Church¹, Laura A. Esman¹, Mike O'Neill², Linda S. Prokopy¹

¹Natural Resources Social Science Lab
Department of Forestry and Natural Resources
Purdue University

²College of Agriculture, Health, and Natural Resources
Extension
University of Connecticut

Recommended Citation:

Getson, J.M., Church, S.P., Esman, L.A., O'Neill, M., and Prokopy, L. S. (2017). *NIFA Water Portfolio: Project Director Survey Report Formula projects*. West Lafayette: Purdue University.

Table of Contents

1 Introduction	1
2 Methods	2
2.1 Portfolio development	2
2.2 Project Director Survey	2
3 Results	3
3.1 Response rate.....	3
3.2 Project and director demographics	3
3.3 Measuring success through outcomes	8
3.4 Funds	13
3.5 Perceptions of success	13
3.6 Additional comments	24
4 References	27
Appendix A	A-1
A.1 NIFA Water Portfolio Project Director Survey: Formula.....	A-1

Tables

Table 1. Directors on project.	3
Table 2. Projects with PD from MSI.	3
Table 3. Institutions on project.....	4
Table 4. Spendable funds.	4
Table 5. Project scale/area focus “Other” codes.....	5
Table 6. Project individual types open response codes.	6
Table 7. PD age.	7
Table 8. PD job title at time of funding.....	7
Table 9. Outcomes that resulted in project success open responses.....	9
Table 10. Publication types.	9
Table 11. Project knowledge disseminated	10
Table 12. Projects with stakeholders that learned about, used, and/or changed behaviors	10
Table 13. Stakeholders, partner agencies, and/or decision makers code definitions.....	11
Table 14. Stakeholders that learned about, used, and/or changed behavior	12
Table 15. Codes to describe how projects were successful.....	15
Table 16. Codes to describe how projects could have been more successful.....	19
Table 17. Project success areas open responses.	23
Table 18. Additional comments related to NIFA projects or funding.	25

Figures

Figure 1. Project scale/area scope.	5
Figure 2. Project individual types.....	6
Figure 3. PD scientist/professional.....	7
Figure 4. Outcomes that resulted in project success.....	8
Figure 5. Project knowledge dissemination methods.	10
Figure 6. Funding avenues.	13
Figure 7. Project success areas.	23
Figure 8. Success through synergies.....	24

Acronyms

BMP	Best Management Practice
HBCU	Historically Black College or University
HSI	Hispanic Serving Institution
MSI	Minority Serving Institution
NA	Not applicable
NIFA	National Institute of Food and Agriculture
PD	Project Director
Q	Question
REEIS	Research, Education, and Economics Information System
USDA	United States Department of Agriculture

1 Introduction

The National Institute of Food and Agriculture (NIFA) contracted University of Connecticut and Purdue University to conduct a synthesis of the NIFA water portfolio. Challenges to determining funding efficiency include identifying and quantifying measures of success for funded projects particularly once projects have ended. Therefore, this synthesis included an evaluation of Project Directors' (PDs') perception of project success for water portfolio projects funded between 2000 and 2013.

This report presents the descriptive results of evaluated PDs for formula (i.e. non-competitive funding distributed from United States Department of Agriculture [USDA] to land grant institutions) projects. This is a continuation of the study that was conducted as part of the same project entitled *A Synthesis of the NIFA Water Portfolio [2000-2013]: Lessons Learned and Future Directions*. More detailed project rationale is included in the descriptive report for the non-formula project PD Survey prepared in August 2016 (Getson et al. 2016).

The overall objectives remain the same: to determine 1) if the projects resulted in the creation and translation of knowledge, tools, and technologies to project stakeholders and 2) whether the synergies between, within, or external to the funding sources were present, added value to the NIFA investments, and assisted stakeholders in managing their water issues.

2 Methods

2.1 Portfolio development

The NIFA water portfolio (henceforth known as the Water Portfolio) was developed to be an inclusive database to examine water resource issues of NIFA funded projects for the years 2001-2013. The non-formula report described the portfolio development in detail and is outlined here.

The following broad steps were used to create the Water Portfolio:

- Queried the USDA Research, Education, and Economics Information System (REEIS) database (www.reeis.usda.gov) to identify potential projects for the Water Portfolio. The “Objectives” and “Keywords” were searched to determine if “water” individually or as part of a word (e.g. “water quality” and “groundwater”) were present (n=4,446 projects); and
- Refined to include projects initiated within the synthesis study period of 2001-2013 and formula funded (n=2,960). Since the REEIS database was incomplete for 2000, projects from 2000 were not included.

The project list was then distilled to projects pertaining to water resource issues only resulting in the final Water Portfolio for formula funded projects being comprised of 1,065 projects.

2.2 Project Director Survey

The PD Survey was designed to gather project-specific information to identify critical findings, lessons learned, and to evaluate the effectiveness of projects in promoting solutions to water problems in agricultural, rural, and urbanizing watersheds. The questions (Appendix A) encompassed the following key categories:

- project scope and scale,
- perceived project successes,
- perceived project improvements,
- how and to whom project results were disseminated,
- synergies generated or capitalized upon between collaborators and other NIFA and non-NIFA funded projects, and
- whether project results were utilized by stakeholders.

This project’s Advisory Group piloted the survey and provided feedback that was subsequently incorporated into the final survey.

The Water Portfolio PDs conducted the survey online through Qualtrics software (Qualtrics, Provo, UT) from March 31st to July 2016. Jim Dobrowolski, the Water Portfolio National Program Leader, announced the forthcoming survey and invited the PDs to complete the survey. PDs with multiple projects received an additional email to explain that they would receive one email per project. Survey invitation emails included unique links for each project. Following the initial invitation, the online survey software sent three reminder emails with the survey link. After the third reminder, research assistants called the remaining PDs once to ask them to complete the survey.

There were three broad types of survey questions utilized in the survey: closed, Likert, and open. The report summarizes results similarly to the non-formula report by topic, though questions do vary. Frequency tables present the single response closed questions. Bar plots, which include an inset table to indicate the number of categories selected, display multiple choice closed questions. Additionally, bar plots present the percentage of respondents for Likert responses for each portion of the rating scale as well as the mean Likert score. To analyze open questions, a single researcher developed the initial codebook by coding a portion of the responses. Two additional researchers independently coded the responses using the codebook. The team then met to finalize the codebook and discuss any conflicting response codes. All three researchers ultimately agreed upon the codes and one researcher reconciled remaining coding discrepancies identified through the codebook development process.

The corresponding survey question is referenced respective to the PD Survey provided in Appendix A (e.g. the first question of the survey is referred to as “Q1”). R Statistical Software (version 3.2.3; R Core Team 2015) was used to analyze the survey data.

3 Results

3.1 Response rate

Water Portfolio PDs completed (defined by at least one question answered) a total of 449 surveys. Each survey response is specific to a project (i.e. number of projects and not number of PDs since PDs could have multiple projects in the portfolio). Distribution consisted of 1,065 surveys, which included 37 bad addresses. The final response rate for 1,028 eligible recipients and 449 completed surveys was 43.7% (number of responses per eligible recipients by 100 [Vaske 2008]). Not all respondents answered all questions; therefore, response rates vary by question.

3.2 Project and director demographics

Over half (58.7%) of the projects were completed at the time of response (Q1). The number of PDs on a project ranged from 1 to 45; most (89.7%) of projects had five or fewer PDs (Table 1). Projects with a co-PD from a Minority Serving Institution (MSI) were uncommon (15.6%; Table 2). Multi-university and public/private collaboration projects were the most common 45.4% and 22.7%, respectively (Table 3). The most frequent response indicated that projects had spendable funds for research only (38.3%; Table 4). PDs could select more than one project scale/area and most projects were centered in a watershed (Figure 1); over half (53.0%) of the projects were in one to three broad scales/areas (inset table of Figure 1). Additionally, 6.8% of PDs indicated their project focus did not fit within the listed categories; of the “Other” categories identified, the most frequent response (26.7%) pertained to surface water (Table 5). The three most frequent types of scientists/professionals selected were natural/physical scientists, extension specialists/educators, and engineers (Figure 2). Approximately two-thirds (67.6%) of the projects had one to two different scientist/professional types (inset table of Figure 2). The coded “Other” open responses (Table 6) identified the most common distinct scientist/professional type as students (n=9). Most PDs were male (81.0%; total n=378; Q25), on average 56 years old (Table 7), and at the time of funding were Full Professors (42.3%; Table 8). PDs predominately classified their own scientist/professional type as “Natural and/or Physical scientist” (n=237; Figure 3). Most (86.1%) of the PDs identified with only one professional field (inset table of Figure 3).

Table 1. Directors on project.

Corresponds to closed Q5: “How many co-Project Directors, including yourself, were involved in this project?”

PD (n)	Frequency (%; n=429)
1	55.0
2	17.9
3	10.7
4	3.5
5	2.6
> 5	10.3

PD - Project Director

Table 2. Projects with PD from MSI.

Corresponds to closed Q7: “Were any of the co-PDs from a MSI such as a HBCU or a HSI?”

MSI co-PDs	Frequency (%; n=90)
Yes	15.6
No	68.9
Maybe	15.6

HBCU - Historically Black College or University

HSI - Hispanic Serving Institution

MSI - Minority Serving Institution

PD - Project Director

Table 3. Institutions on project.

Corresponds to closed Q6: “Please indicate what type of project this was.”

Collaboration type	Frequency (%; n=194)
Single university ^a	19.1
Multi-university	45.4
Public/private collaboration	22.7
Other ^a	12.9

^a The majority of “Other” responses were identified as “Single university” so these were removed from “Other”. The remainder of the “Other” responses were unclear/irrelevant (n=12), blank (n=2), or different collaboration (n=11) (i.e. university with and experimental station, government agency, or research institute).

Table 4. Spendable funds.

Corresponds to closed Q2: “Please indicate whether you had spendable funds through your project for the following categories.”

Fund type	Frequency (%; n=428)
Don't know	6.5
Not applicable to my project type	11.0
Extension	0.5
Research	38.3
Student(s)/Postdoc(s)	5.8
Travel	10.3
Extension and Research	16.1
Other: (please specify) ^a	11.4
Extension, Research, and Startup	0.2
Extension, Research, and Students	0.2
Extension, Research, Students, and Travel	0.7
Research, Students, and Travel	0.9
Research and Travel	0.2
Supplies/general expenses	0.2
Travel and supplies/general expenses	0.2
Grants	0.5
None	7.5
Not coded ^b	0.7

^a “Other” was coded as follows below.

^b Response either unclear, vague, or irrelevant.

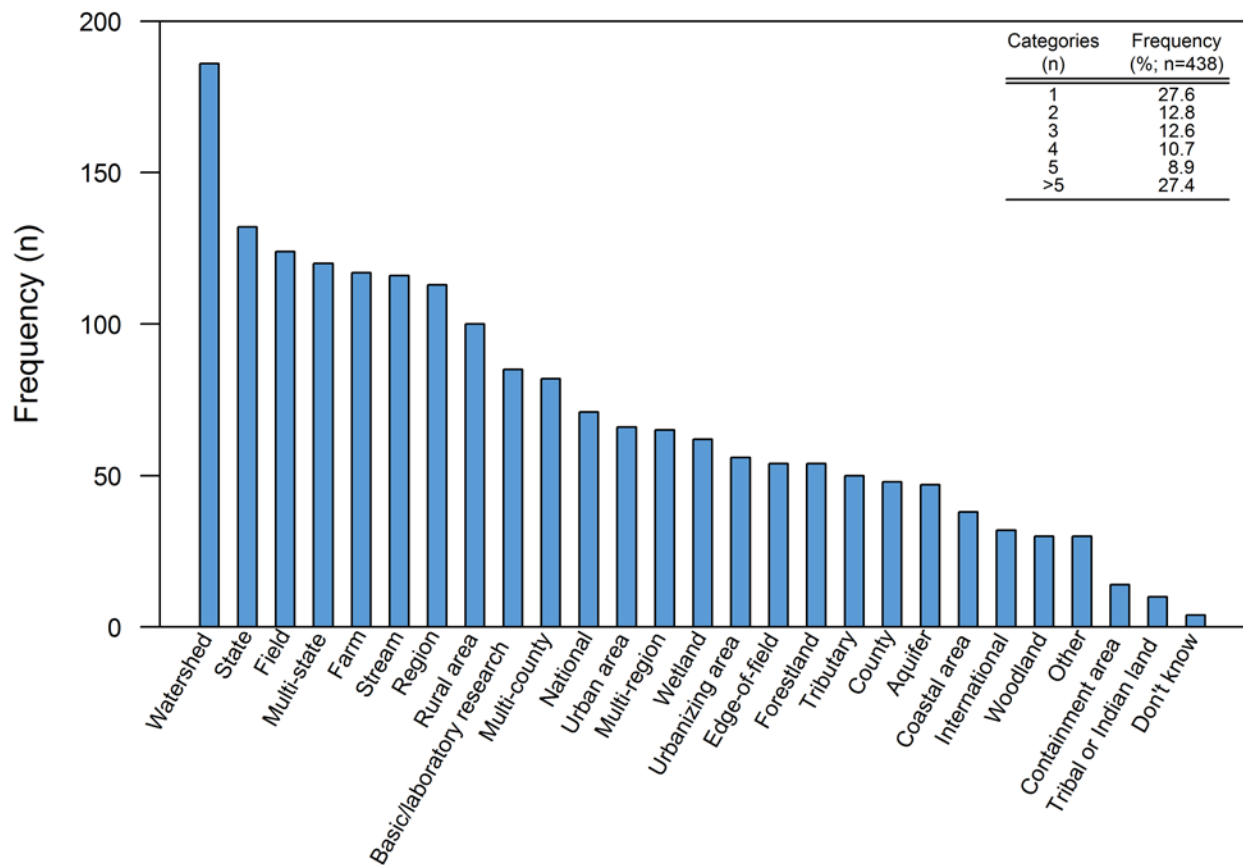


Figure 1. Project scale/area scope.
Corresponds to closed Q3: “Please indicate the scale/area of your project (check all that apply).”

Table 5. Project scale/area focus “Other” codes.
Corresponds to open portion of Q3 (n=30): “Please indicate the scale/area of your project (check all that apply):”

Code	Frequency (n)
Greenhouse	3
Groundwater	1
Riparian	3
Surface water	8
Wastewater/drainage	3
Not specified	1
No geographical focus ^a	5
Miscellaneous ^b	4
Not coded ^c	2

^a Geography not specified or required.

^b Included disturbed area, plot scale, nursery/landscape, and desert.

^c Response either unclear or irrelevant.

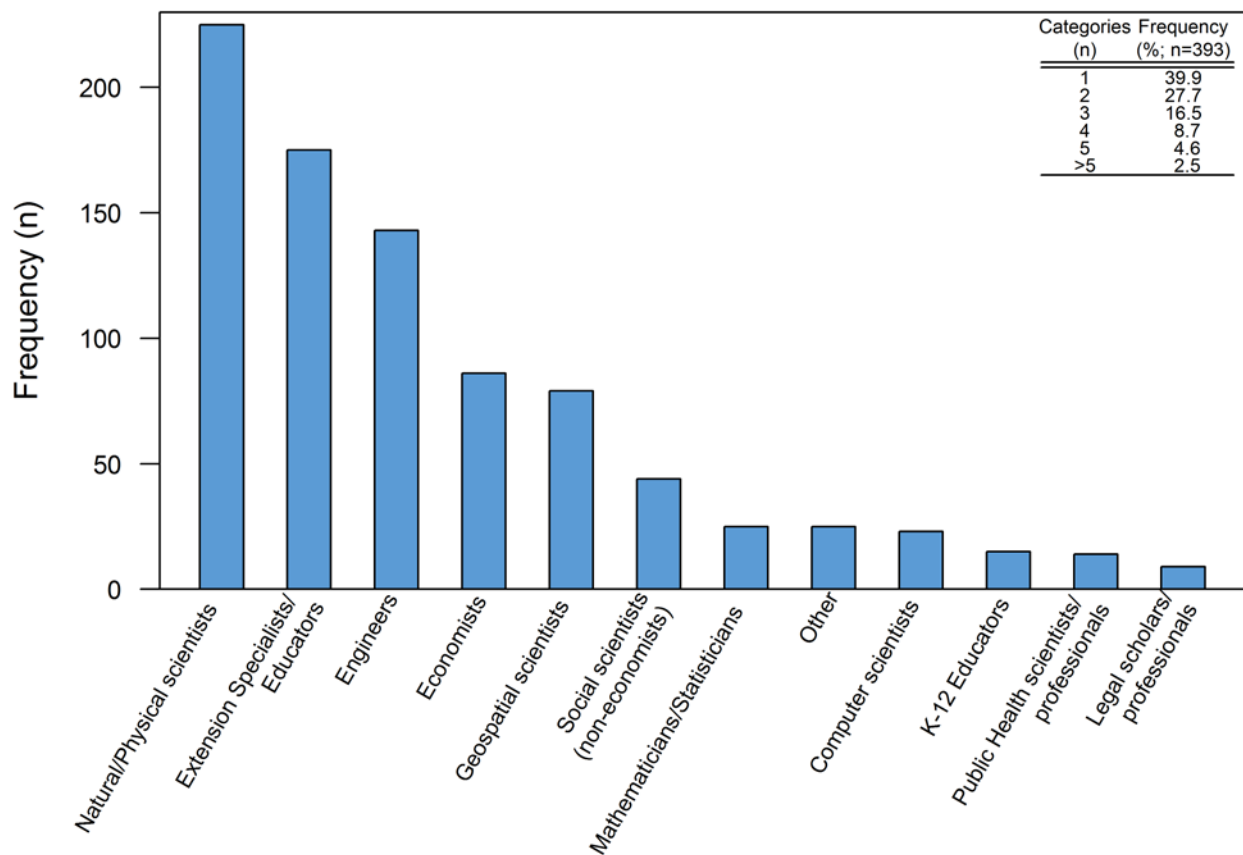


Figure 2. Project individual types.

Corresponds to closed Q4: “Not including yourself, what other types of scientist(s)/professional(s) were included on this project? (check all that apply).” “Other” open responses were reviewed and categorized; responses (n=26) were identified as “Natural/Physical scientists” and not included in the “Other” category.

Table 6. Project individual types open response codes.

Corresponds to open portion of Q4 (n=29): “Not including yourself, what other types of scientist(s)/professional(s) were included on this project? (check all that apply).”

Code	Frequency (n)
Business/Industry professional(s)	1
Engineer(s)	1
Government agency personnel	4
Marketing	1
Postdoc	1
Student(s)	9
Veterinarian	1
None	4
Not coded ^a	7

^a Response irrelevant or vague.

Table 7. PD age.

Corresponds to closed Q24: “What year were you born?”

Age (year; n=389)	
Range	35-92
Mean	56.2 ± 9.9(sd)
Median	56

Table 8. PD job title at time of funding.

Corresponds to closed Q26: “What was your job title when this project was funded?”

Title	Frequency (%; n=407)
Assistant Professor	23.1
Associate Professor	27.3
Full Professor	42.3
Extension Educator	4.2
Research Assistant/Associate/Professor	1.7
Research Staff	0.2
Program Manager	0.7
Other ^a	0.5

^a “Other” PDs reported having multiple titles (n=2).

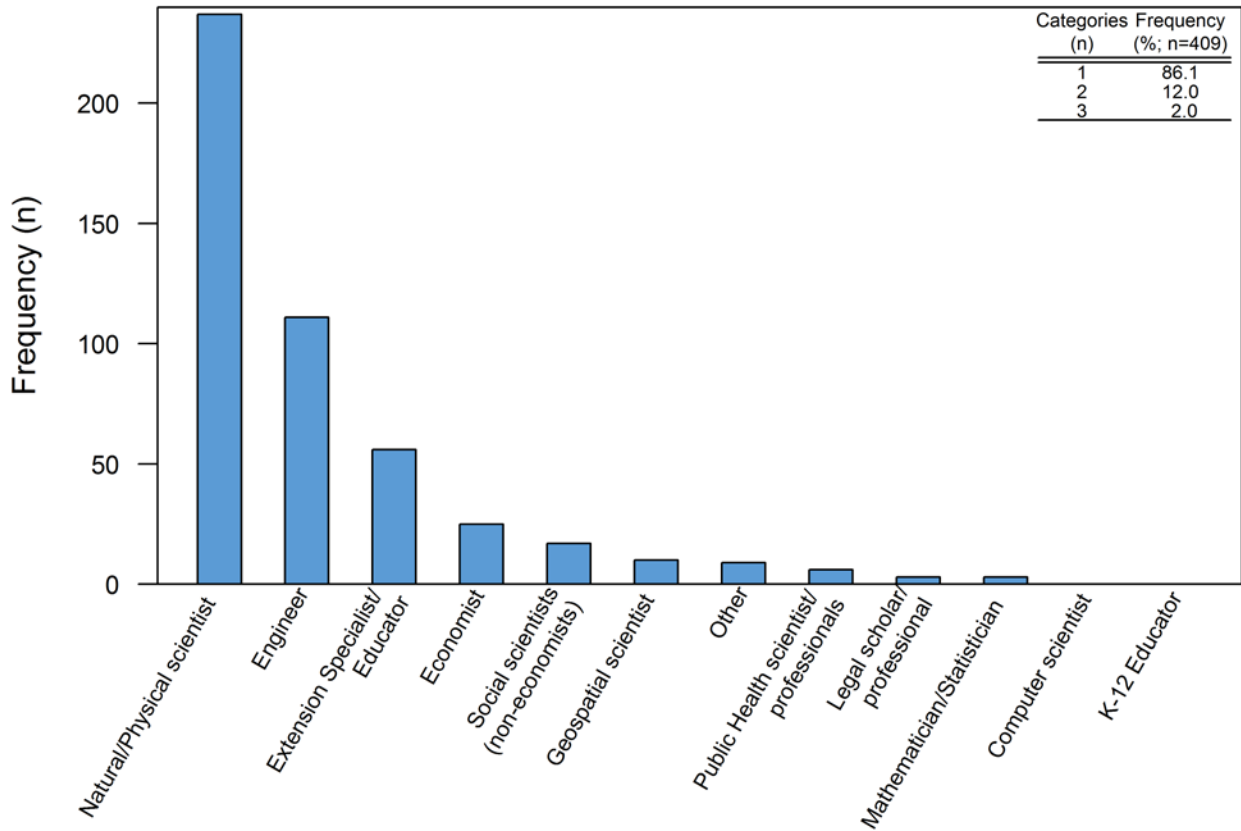


Figure 3. PD scientist/professional.

Corresponds to closed Q27: “Please specify the type of scientist/professional you are.” Table indicates the frequency of PDs to select ≥ 1 category. “Other” open responses were reviewed and categorized; responses (n=54) were identified as “Natural/Physical scientists” and not included in the “Other” category. The remainder of the “Other” category was coded to include miscellaneous (n=3), which included “water policy,” remote sensing,” and “planner,” and not coded (n=6) since responses were job titles (e.g. professor, researcher).

3.3 Measuring success through outcomes

The six most frequent outcomes that led to a successful project were: science knowledge expanded (n=334), students trained (n=321), number of students (n=280), project goals were achieved (n=276), number of publications (n=269), and relationship building with stakeholders (n=265; Figure 4). Few (2.7%) PDs responded that their project success hinged on a single factor (inset table of Figure 4). The most frequent (38.2%) publication type was journal articles (Table 10). Most (88.2%) projects disseminated project knowledge (Table 11). The most frequent method for disseminating project knowledge was conferences (n=268; Figure 5). Only 11.0% of projects used one method to disseminate project knowledge (inset table of Figure 5). Six questions investigated the type of stakeholders that learned about, used, and modified behavior. Overall, more stakeholders learned about project results compared to using project results or modifying behavior (85.9%, 56.4%, 36.2%, respectively; Table 12). Stakeholder groups varied by project but the most common group to learn, use, and modify behavior was the government (n=232; Table 13).

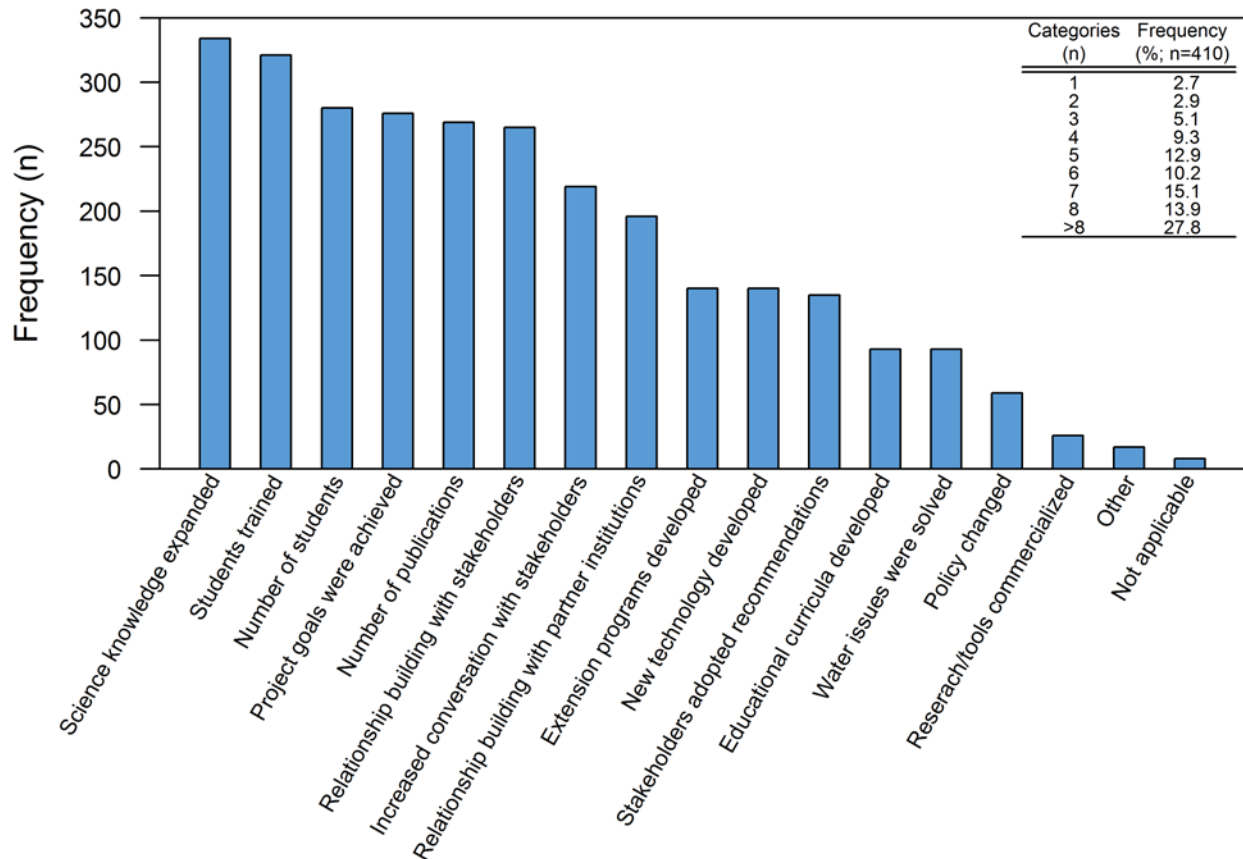


Figure 4. Outcomes that resulted in project success.

Corresponds to closed Q21: “Please indicate which of the following outcomes made this project a success (check all that apply).” Table indicates the frequency of PDs to select ≥ 1 category. A total of 17 PDs indicated “Other” and 14 included a description (Table 9).

Table 9. Outcomes that resulted in project success open responses.

Corresponds to open portion of Q21: "Please indicate which of the following outcomes made this project a success (check all that apply)."

Response (n=14)
<i>"Better understanding of historically excluded groups (e.g., people of color)."</i>
<i>"Greater understanding of water management framework so that solutions can be developed."</i>
<i>"Increase knowledge base."</i>
<i>"Increased awareness of water issues and possible solutions."</i>
<i>"Increased community participation and engagement."</i>
<i>"Increased knowledge about the water issue."</i>
<i>"Increased water conservation and improved planning of new landscapes and water allocations."</i>
<i>"It is just a successful technology."</i>
<i>"It makes good decision making easier."</i>
<i>"New decision support tool developed and tested and improved."</i>
<i>"New technology applied."</i>
<i>"Stakeholder's awareness increased."</i>
<i>"Water issues were addressed."</i>
<i>"While we know that the adoption of these WSN have great potential to positively impact water resource use, ongoing funded research will determine the final impact of this project."</i>

Table 10. Publication types.

Corresponds to closed Q10: "Please enter the number of the following publication types that emerged from this NIFA project (if you do not specifically remember, please enter your best guess and/or round up to the nearest estimate)."

Type	Frequency^a (%)	Number of Publications (mean ± sd)	Range (n)
We have not published from this project and do not plan to	2.1	NA	NA
We have not published from this project but plan to in the future	7.0	NA	NA
Journal articles	38.2	8.9 ± 16.6	1-200
Theses/dissertations	34.3	3.5 ± 4.6	1-50
Extension	18.4	6.4 ± 10.9	1-100

^aRespondents (n=411) could check more than one publication type.

Table 11. Project knowledge disseminated

Corresponds to closed Q11: “The project team disseminated project knowledge to stakeholders, partner agencies, and/or decision makers.”

	Frequency (%; n=416)
Don't know	3.4
Yes	88.2
No; not an intended outcome of this project	5.5
No; but it was an intended outcome of this project	2.9

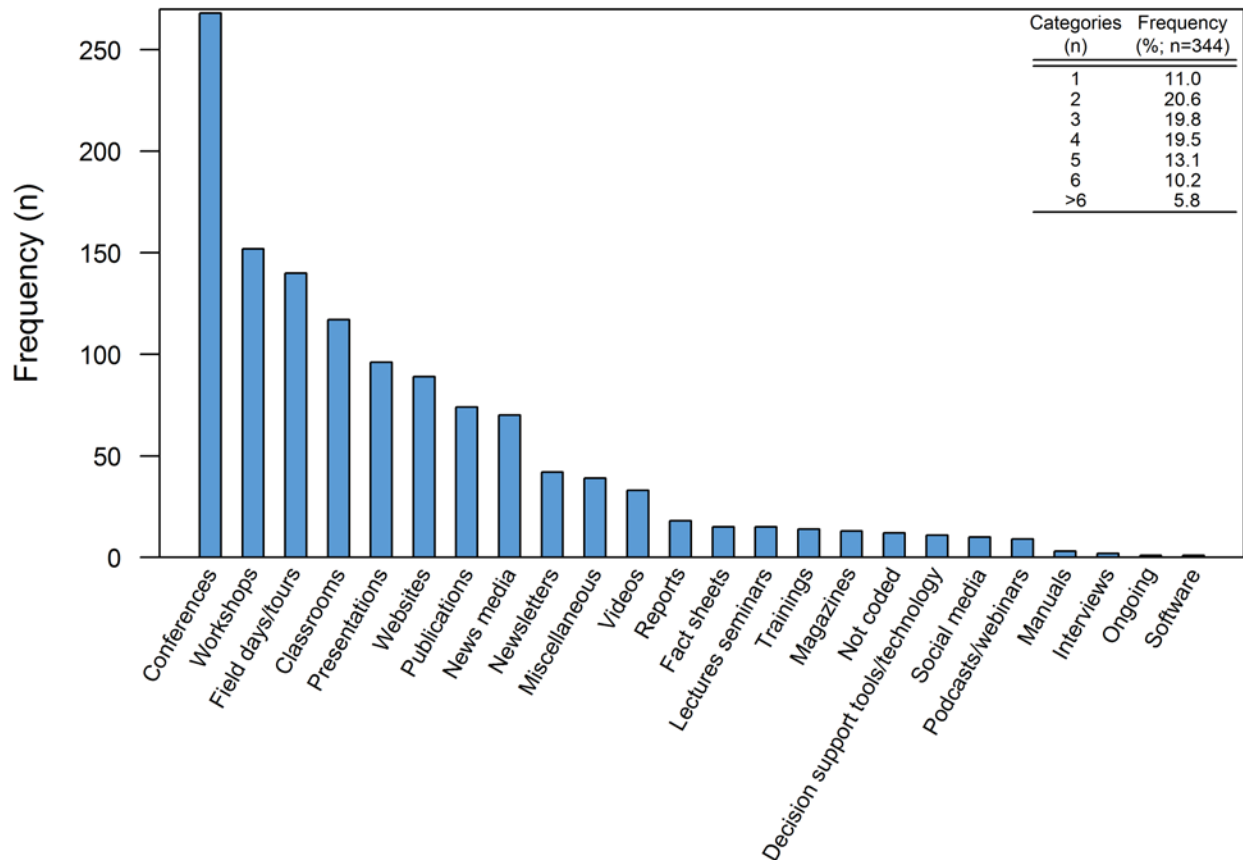


Figure 5. Project knowledge dissemination methods.

Corresponds to open Q12: “Please feel free to list the ways that you disseminated project knowledge.” Table indicates the frequency of PDs to indicate ≥ 1 category. Conferences and meetings were combined into a single category.

Table 12. Projects with stakeholders that learned about, used, and/or changed behaviors

Corresponds to closed Q13/15/17: “To the best of your knowledge, stakeholders, partner agencies, and/or decision makers (learned about/used/behaviors changed due to) the results of this project.”

	Learned About (n=417)	Used (n=417)	Changed Behavior (n=414)
Frequency (%)			
Don't know	9.8	37.2	54.8
Yes	85.9	56.4	36.2
No; not an intended outcome of this project	2.4	3.6	6
No; but it was an intended outcome of this project	1.9	2.9	2.9

Table 13. Stakeholders, partner agencies, and/or decision makers code definitions

Corresponds to open Q14/16/18: “Please feel free to list the stakeholders, partner agencies, and/or decision makers that (learned about/used/behaviors changed due to) project results.”

Code	Subcode	Description and/or examples
Business/Industry	Agribusiness	Companies in agribusiness includes fertilizer, bioenergy, livestock (all farm animals including poultry), and crop advisors
	Engineering firms	Professional engineering consulting companies
	Environmental consultants	Companies ensuring water projects are completed within compliance of environmental regulations
	Greenhouse/nursery	Businesses that propagate, grow, and/or sell plants in greenhouses and/or nurseries
	Landscaping	Businesses that install and/or design landscapes (residential or commercial) includes turfgrass and landscape architecture
	Water planning/distribution	Businesses involved with water planning, policy, programming, distribution and allocation of drinking water and irrigation water, wastewater treatment, and groundwater organization
Educators	NA	Person/people who provide general, K-12, and/or university education
Extension	Program Volunteers	Volunteers within Extension program including Master Gardeners and certificate recipients of Extension programs
	Staff/programs	Extension programming staff, county or regional agents, educators, and/or specialists
Producers	NA	Person or company that grows/raises and/or supplies produce and/or livestock
Government	Federal	Federal agencies
	State	State agencies (state level must be specified)
	Local	Local agencies including conservation districts, municipalities, local government employees, water and irrigation districts (below state level must be specified)
	Policy/decision makers	Senatorial and congressional people, policy makers, decision makers, legislators, and/or elected officials
	Tribal	Tribal groups or tribes
	International/territories	International or United States territory government
Home/landowners	Private landowners	Person/people owning private land
	Homeowners' association	Formal organization of several homeowners
Managers/planners	NA	Managers and planners not specified as water-related
Non-government organizations	Commodity/industry	Organization representing a commodity or industry
	Environmental/conservation	Organization with environmental and/or conservation intent
	Research/technical	Organization of researchers/scientists/engineers
	Water planning/distribution	Organization involved with water planning, policy, programming, distribution and allocation of drinking water and irrigation water, wastewater treatment, and/or groundwater
Public/community	NA	Broad members of the public with no specificity of owning a home, land, or being part of a specific organization
Researchers/Scientists	NA	Person/people studying or conducting research including university researchers/colleagues and those not specific to a university (does not include Extension)
Students	NA	Person/people studying at college or graduate level
University	NA	University entity includes centers, experimental stations, programs, and educational institutions
Utilities	Electric utilities	Companies that generate and distribute electricity
	Water utilities	Companies that provide water and/or wastewater services
Miscellaneous	NA	Does not fit into the above categories but is relevant to the project and question
Not coded	NA	Not relevant, vague, or unclear

Table 14. Stakeholders that learned about, used, and/or changed behavior

Corresponds to open Q14/16/18: “Please feel free to list the stakeholders, partner agencies, and/or decision makers that (learned about/used/behaviors changed due to) project results.” Not all responses were specific for a subcode assignment; therefore, the subcode totals will not necessarily equal the code value.

		Learned About (n=319)		Used (n=208)		Changed Behavior (n=134)	
Code	Subcode	Code	Subcode	Code	Subcode	Code	Subcode
		Frequency (n)					
Business/industry	Agribusiness	75	21	46	15	30	7
	Engineering firms		6		4		2
	Environmental consultants		4		1		0
	Greenhouses/nurseries		17		15		13
	Landscaping		20		10		6
	Water planning/distribution		10		3		2
	NA		NA		2		NA
Educators	NA	6	NA	2	NA	1	NA
	Program volunteers	49	7	22	4	8	3
Staff/programs	41		18		5		
Farmers	NA	71	NA	45	NA	36	NA
Government	Federal	232	132	135	66	54	20
	State		147		75		30
	Local		69		42		22
	Policy/decision makers		32		9		3
	Tribal		5		1		1
	International/territories		1		3		1
	NA		NA		1		NA
Home/landowners	Private landowners	24	10	11	8	8	5
	Homeowners' association		3		1		1
Managers/planners	NA	10	NA	5	NA	3	NA
Non-government organizations	Commodity/industry	95	45	45	18	15	6
	Environmental/conservation		34		19		8
	Research/technical		14		3		0
	Water planning/distribution		17		6		2
Public/community	NA	30	NA	7	NA	6	NA
Researchers/scientists	NA	49	NA	20	NA	6	NA
Students	NA	25	NA	5	NA	1	NA
University	NA	26	NA	8	NA	2	NA
Utilities	Electric utilities	10	7	4	1	3	1
	Water utilities		1		2		2
Miscellaneous	NA	2	NA	1	NA	0	NA
Not coded	NA	56	NA	48	NA	49	NA

3.4 Funds

Funds from outside of NIFA seeded the majority (n=250) of projects and the majority (n=251) of PDs indicated that their project led to funding for (an) additional project(s) (Figure 6).

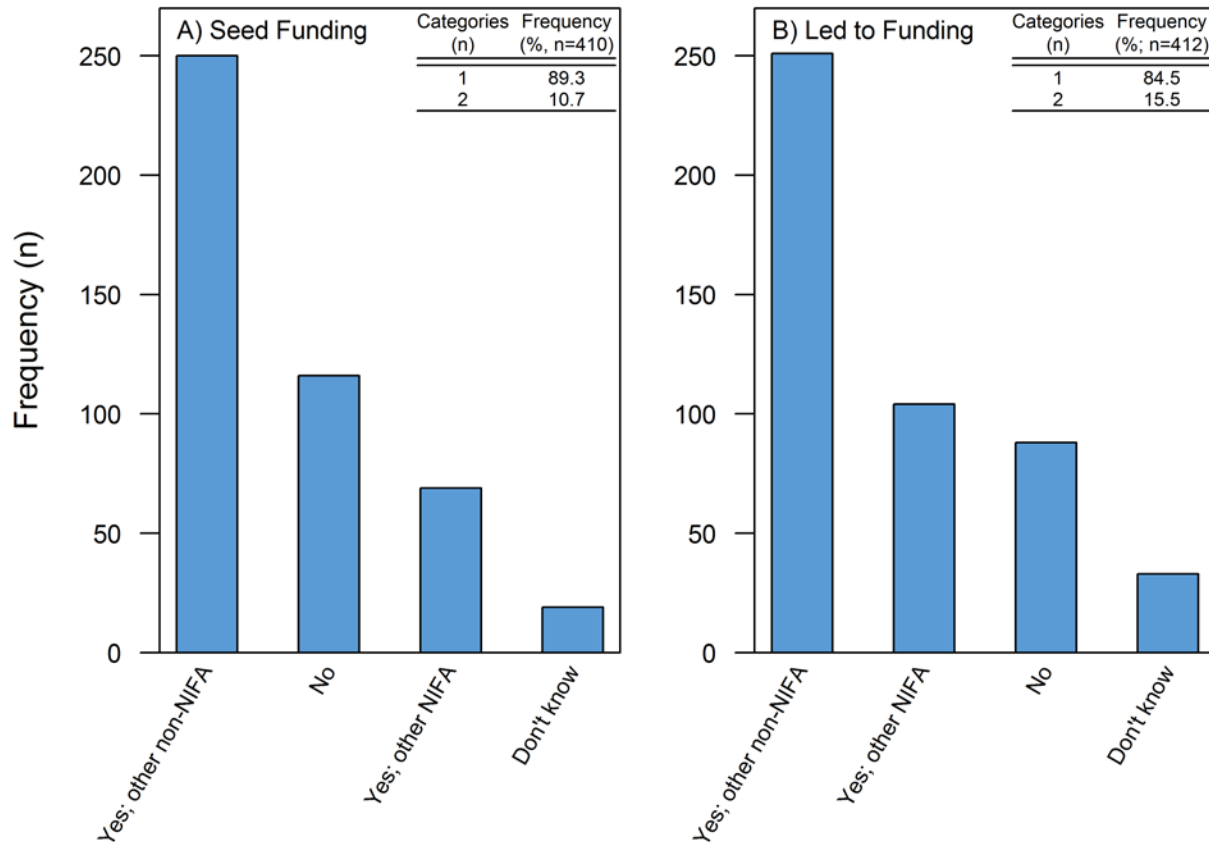


Figure 6. Funding avenues.

Corresponds to A) closed Q22: “Were other funds used to seed this project?” and B) Q23: “Did this project help lead to funding for (an) additional project(s)?” Table indicates the frequency of PDs to select ≥ 1 category.

3.5 Perceptions of success

The survey requested PDs to reflect on project success through open and Likert questions. The PD responses regarding how their project was successful resulted in a total of 24 codes (Table 15). The majority (n=194) of PDs identified their project success was due to “knowledge gained” followed by “publications” (n=69). For what could have made their projects more successful, their responses resulted in 17 codes; the most common code identified was “funding” (n=178), defined as an increase of, more stable, full, and/or longer-term funding and/or funds to be spent at the PD’s discretion (Table 16).

In addition, PDs rated their project’s success in 14 specific areas; overall, the projects rated as either successful or very successful with a mean Likert score range of 3.8-4.7 out of a 1-5 (1=“Very unsuccessful”, 5=“Very successful”) point scale (Figure 7). The highest (Likert mean 4.7; n=19) ranked area was “Other”. The responses (n=16) that specified the “Other” project area are listed in Table 17. The following highest Likert mean score (4.5) were two project areas “generating research results” and “training students.”

If respondents selected “Successful” or “Very successful” for “Developing new relationships/synergies with other organizations” (Likert mean 4.2) a follow-up question was asked (Figure 8). Overall, synergies resulted in improved water outcomes, stakeholder/decision maker/partner agency adoption, and increased leveraging of additional funds.

This page intentionally left blank.

Table 15. Codes to describe how projects were successful.

Corresponds to open Q8: "Please tell us, in your opinion, how this project was successful?" Codes ordered by frequency (n=385).

Code	Frequency (n)	Description	Examples
Knowledge gained	194	Scientific knowledge gained, expanded knowledge.	<p><i>"We have identified grass species and varieties under certain maintenance systems that use less water."</i></p> <p><i>"Assessing environmental impact of saline industrial wastewater on a desert shrubland. Addressed deficit in literature."</i></p> <p><i>"Showed a clear link between soil organic matter and water quality using laboratory studies."</i></p> <p><i>"It demonstrated the persistence of ethanol in shallow groundwater."</i></p>
Publications	69	Project led to research publications includes presentations.	<p><i>"Results were published in peer review journal, we also gave a number of presentations on the work."</i></p> <p><i>"Multiple publications with nearly no funding."</i></p> <p><i>"I thought it was fairly successful (given there was just a tiny amount of funds provided) and resulted in a publication validating our simulation of putting green hydrology."</i></p>
Students	64	Undergraduate/graduate students were involved and/or funded.	<p><i>"Training undergraduates for sustainable agricultural practice."</i></p> <p><i>"Student interest and training. One undergraduate student received laboratory training for several months in summer and a graduate student completed her M.S. thesis on the project."</i></p> <p><i>"This project successfully trained 3 M.S. graduate engineers, and contributed to the training of 1 M.S. graduate engineer, and 1 other M.S. student."</i></p>
Stakeholder engagement	55	Project engagement with stakeholders and/or extension focusing on K-12, includes sharing results with stakeholders (can include researchers).	<p><i>"Demonstration, research, and extension opportunity provided multiple outputs to multiple stakeholders."</i></p> <p><i>"An amazing sharing of current information and technology on nursery production water management practices to protect and conserve water which guarantees maximum growth and business sustainability."</i></p> <p><i>"To discuss issues with scholars from multi-state through an annual meeting."</i></p>
Collaboration	54	Beneficial partnerships, relationships, or interactions established/developed includes reciprocal data sharing.	<p><i>"Team is cohesive, committed, and engaged. Regular interactions allow for identification of opportunities for grants and publications. Professional development, particularly the chance to learn from colleagues about how they work on interdisciplinary teams, has been critically important to my own career development."</i></p> <p><i>"Provided my base research dollars for my research program. This allowed me to develop collaborations across the college, university, and the public."</i></p> <p><i>"Developed a large collaborative team to address land sustainability."</i></p>

Code	Frequency (n)	Description	Examples
Leveraging capability	43	Ability of project to be leveraged for new funds or research.	<p><i>"We leveraged these projects to write and win several externally funded grants."</i></p> <p><i>"This project led to other projects that were successful."</i></p> <p><i>"The funds for my salary allowed me to write grants to secure funds from external sources (federal agencies, state agencies, and NGO's)."</i></p>
Not coded	34	Either unclear, vague, or irrelevant.	<p><i>"Received zero funding for the project. We are basically told to have a project or we will not be paid."</i></p> <p><i>"There is a need for stream and field collected data to better understand the uncertainty of current day models."</i></p> <p><i>"Although I have had NIFA funding in the past, this survey about HATCH funds leaves me with little to say."</i></p>
Policy	33	Project led to a policy change, includes guideline and inventory equation(s), best management practices (BMPs), developing policy changes, talking with policymakers.	<p><i>"The project allowed me to respond to policy needs within the region."</i></p> <p><i>"This project outlined specific recommendations for the fresh produce industry that resulted in risk reduction to consumers."</i></p> <p><i>"The project facilitated the development of concepts that were used to expand regulatory compliance options in Virginia."</i></p>
Sustained outcomes	28	Project led to increased awareness, commercially available product, change in behavior, stakeholder adoption.	<p><i>"Local growers use this information to improve onion production. Grower reported that grade size (jumbo/colossal) increased by 10-15% through better water management."</i></p> <p><i>"We are seeing changes in practices among turfgrass and horticulture professionals."</i></p> <p><i>"Much of the research resulted in practices that were adopted by farmers."</i></p>
Usefulness	21	Result are perceived by the PD as useful to scientific or stakeholder communities, includes publications being cited.	<p><i>"The methodology we developed has been used widely by other researchers. The results have been cited widely cited in scientists."</i></p> <p><i>"It was successful within limits because we addressed a real-world issue of important to the fine turf industry and the regulatory community."</i></p> <p><i>"Findings were relevant to the state's most important crop: alfalfa."</i></p>
Foundational	16	Provided a "foundation" for further research. foundational/preliminary research, provides guidance, broad/large implications or generated results that can/should be applied.	<p><i>"Provided background information to justify more in-depth studies to modify current assessment process for determining compliance with aquatic life criteria in reservoirs of Puerto Rico."</i></p> <p><i>"This was one of the first projects in the nation addressing the issue of how antibiotics included in animal manure impacts the soil bacteria population."</i></p> <p><i>"I was able to determine some results that will be useful to water users and will help with further research."</i></p>

Code	Frequency (n)	Description	Examples
Developed research site/ center/program/ project	14	Develop/establish/sustain/maintain a center, program, project, site, or station.	<p><i>“The project allowed the long term development of a project that resulted in a tangible product.”</i></p> <p><i>“The reliability of these funds have enabled us to pursue a long term project that would be difficult to support through other routes.”</i></p> <p><i>“Established long-term field experiment.”</i></p>
Met objectives	13	Project goals accomplished.	<p><i>“We timely delivered what we offered.”</i></p> <p><i>“Yes, it was considered a success, in that the original goals of the project were realized.”</i></p> <p><i>“The major goals of the project were accomplished.”</i></p>
Ongoing	11	Project ongoing and respondents indicated too early to judge project success.	<p><i>“It’s ongoing and is a very small grant. Up till now, I have been able to get some data analyzed that were otherwise being collected and ignored.”</i></p> <p><i>“The Project was just initiated.”</i></p> <p><i>“This is an on-going project and we are developing new information and understanding on enhancing water and nutrient efficiency under precision management.”</i></p>
Integration of pre-existing projects/interests	10	Developed broadly to be able to incorporate multiple PD interests, integration of pre-existing projects or data.	<p><i>“The Hatch Project was successful in my opinion, because it integrated on-going activities that were funded externally via other sources. The Hatch Project would not be successful, if it didn’t use data generated through other research and monitoring projects.”</i></p> <p><i>“The project was successful because it was designed to allow folks on the project to continue to do what they were already doing but to assemble the information at a regional (multistate) level.”</i></p>
Broad application	9	Large potential application of results.	<p><i>“This has significant implications for water resources now and in the future, both nationally as well as internationally.”</i></p> <p><i>“Results showed that there are commonalities for water management that were transferable across diverse regions.”</i></p>
Due to outside funding	9	Due to outside funds.	<p><i>“Success was based on the PIs obtaining funding to support the research. The PIs were highly successful in this effort.”</i></p> <p><i>“It was successful because I was able to secure the external funds necessary to actually do the work. Otherwise, this project provided no funding other than funds that paid part of my salary.”</i></p>
Recognition	7	Awards or new program recognition.	<p><i>“We won the [award name] national award for excellence in multistate research.”</i></p> <p><i>“We have developed a recognized program of soil and water salinity evaluation and management.”</i></p>

Code	Frequency (n)	Description	Examples
Personnel staffing	6	Hiring of postdocs and/or research staff.	<p><i>“This small pool of funding has allowed me to fill gaps in staffing.”</i></p> <p><i>“The project provided full-time employment of two Research Associates, one of which earned a Master's degree with a thesis on the project.”</i></p>
Mission	5	Established a mission for PD.	<p><i>“Provides an overall mission for my entire research program, including the justification and the desired outputs and outcomes. This in turns guides the proposal opportunities that I pursue, in part, and my extension emphases.”</i></p> <p><i>“This is a hatch project, which doesn't provide any funding toward the research goals, but simply a frame of work that I propose to do. However, the flexibility allows me to conduct any research within that frame, which leads me to a maximum potential in research.”</i></p>
Lessons learned	4	Knowledge/understanding gained by experience had a significant impact; the experience may be positive or negative.	<p><i>“While we did not initiate a nutrient trading program as we had hoped, we learned why it was not likely to work at this time.”</i></p> <p><i>“We were able to learn about pros and cons of the approaches.”</i></p>
Miscellaneous	3	Miscellaneous project specific activities and/or interactions.	<p><i>“The flexibility of this funding is a true asset- we are able to quickly incorporate new information and adjust project questions and goals accordingly.”</i></p> <p><i>“Funding agency's interaction.”</i></p>
Extended scope	2	Ability to expand project to a larger area (either geographically or disciplinarily).	<p><i>“This project launched several others where we were able to expand our work in geographic breadth (multiple states) and disciplines (natural and social sciences).”</i></p> <p><i>“Additionally, the research and development has been extended internationally and is being used to map the entire nations of El Salvador, Honduras, Nicaragua and Guatemala. Additionally, there are projects in Kenya and Afghanistan where the soil mapping technique is being used.”</i></p>
Positive reception	2	Community (either scientific or stakeholders) view the results/ publications positive; community acceptance.	<p><i>“It has already resulted in a number of presentations at national and international scientific meetings where the data presented was received very positively.”</i></p> <p><i>“Generated research community interest in social network analysis.”</i></p>

Table 16. Codes to describe how projects could have been more successful.

Corresponds to open Q9: “Please tell us, in your opinion, how this project could have been more successful.” Codes ordered by frequency (n=340).

Code	Frequency (n)	Description	Examples
Funding	178	Increase of, more stable, full, and/or longer-term funding, direct funds to be spent at the PD discretion including for staff, materials, students.	<p><i>“If we could get any funding for equipment or graduate student stipend.”</i></p> <p><i>“Of course, more direct funding of project beyond Hatch would allow greater depth and faster progress.”</i></p> <p><i>“The project was written based on previous funding sources that were no longer available by the time the project was over half way through. If funding could have been locked in and its availability secured, the project would have been more successful and written to cover that which was doable.”</i></p> <p><i>“Just a few dollars available for supplemental research, travel and meetings could have made a world of difference in the success of this project. I think it was successful but it could have been much more so with a small expenditure of funds.”</i></p>
Barriers	33	Barriers related to conducting research such as politics, natural phenomenon, mandated work, etc.	<p><i>“Competing demands for time, especially service functions in my department, have detracted from the productivity of this project.”</i></p> <p><i>“We discovered and solved a problem with our analytical methodology during the project. It reduced our ability to interpret the data.”</i></p> <p><i>“There was a challenge of having detailed residential participation in an intensive part of project.”</i></p>
Expansion	32	Increased/broadened project to include or expand project element (e.g. outreach, scale, tools used, scope, participants, project team personnel, and/or evaluation).	<p><i>“More support was needed to distribute the info out to the Fort Valley, Ga. citizens.”</i></p> <p><i>“Broaden the scope of the study to include other neighboring States.”</i></p> <p><i>“Involvement of a socioeconomic scientist could have helped identify and address barriers to adoption of the irrigation scheduling tool by farmers.”</i></p>
Collaboration	29	Improved partnerships, relationships or interactions with others in the project team, including continued collaboration.	<p><i>“Get more involved in multiple state projects which will enhance the communications among scientists and policy makers.”</i></p> <p><i>“Increased participation by biophysical scientists.”</i></p> <p><i>“It would have been more successful if extension and especially socio-economics co-investigators were more active as participants.”</i></p>
Time	26	Additional time.	<p><i>“If the project could be extended for a couple of more years.”</i></p> <p><i>“Timing. This project was fast and furious.”</i></p> <p><i>“Additional time for data collection and a better collection technique to determine loads instead of concentrations.”</i></p>

Code	Frequency (n)	Description	Examples
Not coded	23	Either unclear, vague, or irrelevant.	<p><i>"I believe that this project was fine as completed. It pointed to new work that should be done and a new project should be formulated. This project was, in my opinion, completed."</i></p> <p><i>"No comment."</i></p> <p><i>"More resources."</i></p>
Support	16	Increased support from scientists, extension, stakeholders, industry.	<p><i>"Increased technical assistance or additional graduate student support would have made this project more successful."</i></p> <p><i>"We could/should have done more follow-up on implementation if funding and willingness of academics to pursue such efforts had been greater."</i></p> <p><i>"If more administrative support had been granted."</i></p>
Miscellaneous	15	Miscellaneous project specific constraints.	<p><i>"Most of the members on this regional project were modelers with limited experience with field data collection."</i></p> <p><i>"If more hybrids would have been available to evaluate at the time."</i></p> <p><i>"Better attention to harvesting boundaries during clearcutting."</i></p>
Staff	15	Additional staff (not Extension).	<p><i>"Hatch grantees no longer have access to technicians as the length of support on USDA grants is short, and the Hatch fund itself doesn't fund the lab. Thus we lack continuity in personnel that is vital to the success of field research."</i></p> <p><i>"During the years of this project, we [Name] did not have a Professor-level row crop irrigation specialist to help us. (For example, an Agricultural Engineer.) We were able to 'borrow' one on occasion from the [University Name], but that was not effective for the long-term continuity we needed regarding overhead irrigation education for county agents and farmers."</i></p> <p><i>"If we would have had a larger team of scientists, we would have been able to do more work."</i></p>
NIFA constraints	13	Programmatic/funding agency barriers/limitations/restrictions.	<p><i>"Uncertainty in research funding makes it difficult to plan future activities. A more robust or 'backstop' financial mechanism may help."</i></p> <p><i>"A close collaboration with NIFA will be helpful. Most PIs see that there is not real money available on the project as opposed to NIFA's view."</i></p> <p><i>"In all seriousness, there is too much reporting on an annual basis. It distracts from the research. Research in this area takes a longer time-cycle than annual or even three years. These projects need to be on ten year cycles."</i></p>

Code	Frequency (n)	Description	Examples
None	13	No change would have helped the project be more successful.	<p><i>"I think that it served its purpose very well."</i></p> <p><i>"Not sure how. Highly successful, lots of internal momentum and interest."</i></p> <p><i>"The project provided base salary support and could not have been more successful, in my opinion."</i></p>
More impact	8	Broader impact and adoption of project results/outcomes.	<p><i>"More State level government could have used this information to solidify existing riparian buffer legislation."</i></p> <p><i>"I would like to see more growers/farmers adopting some of these results to manage salinity and improve farm profitability. However, it takes time and lot of persuasion to effect the change in behavior."</i></p>
Project management	8	Increased and/or improved project management, study design, and/or preparation.	<p><i>"Proper experimental design of land application site provided by municipality."</i></p> <p><i>"There was not a clear distinction on the roles we all should play. Many participants were primarily Extension, there to learn, but the emphasis was on research. Research is very important, of course, but it often felt as though there were too many people and not quite the right number (or fit) of roles. I'm still a member, but it's not really my strongest area of emphasis and I'm not sure that I add a lot of value. I do appreciate being kept in the loop and will share the information with my stakeholders, as an Extension Specialist."</i></p>
More publications	7	Increase in publications.	<p><i>"Unfortunately we did not publish the results appropriately."</i></p> <p><i>"There remain some unpublished studies that deserve publication."</i></p>
Unexpected personnel change	4	Project team member departed causing setbacks to project goals and outcomes.	<p><i>"Although we put together a very strong research team, practically all of the original participants in this project changed jobs and moved away, which did not allow for on-going research by the research team on the subject of this project."</i></p> <p><i>"Graduate student ended with terminal masters, probably best for him, but not in terms of research products."</i></p>
Ongoing	2	Project ongoing and success cannot yet be judged.	<p><i>"It is not over yet - this is difficult to answer."</i></p> <p><i>"Still working on an integrating framework."</i></p>
Extension	1	Extension was ineffective.	<p><i>"More extension and outreach."</i></p>

This page intentionally left blank.

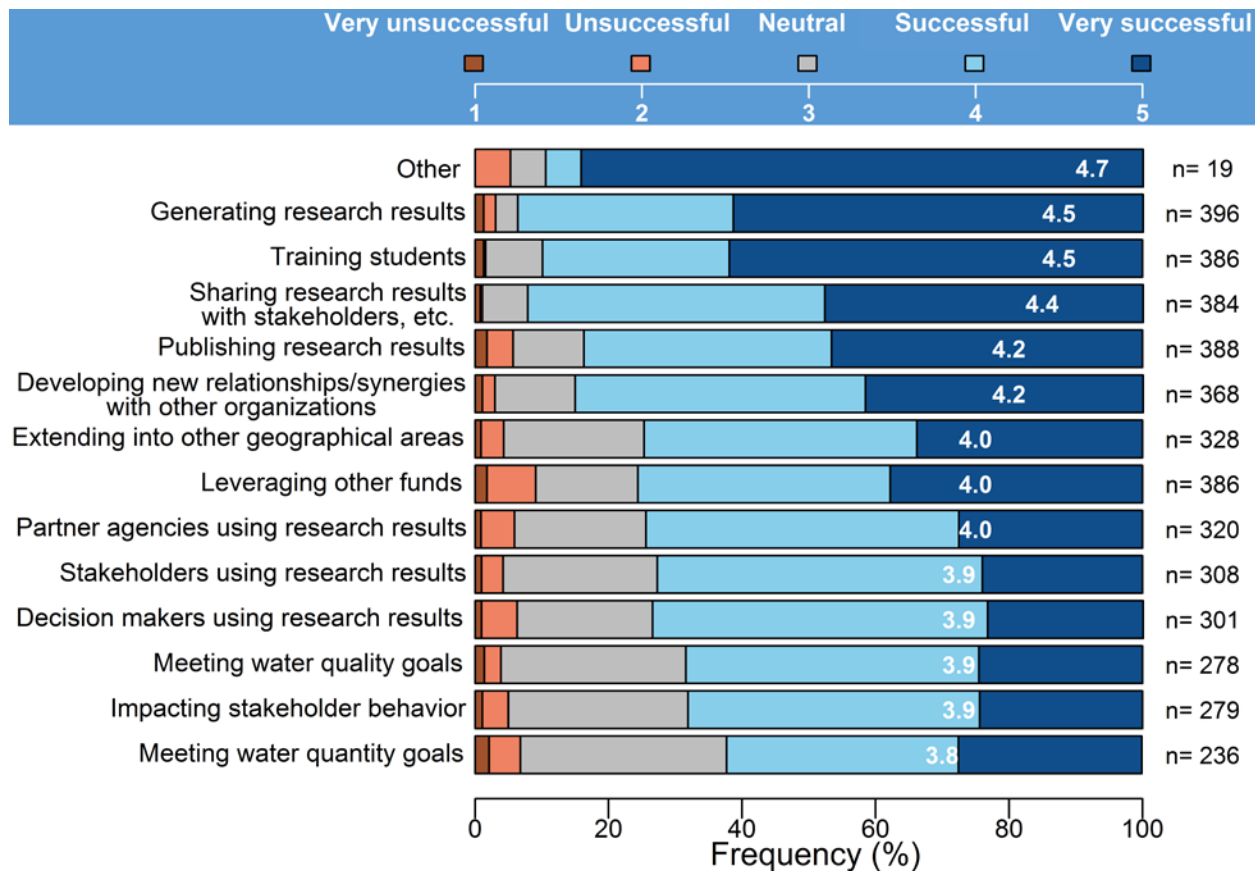


Figure 7. Project success areas.

Corresponds to Likert Q19: “In your opinion, how successful was your project in the following areas?” Mean in white text. Survey responses of “Don’t know” and “Not a project goal” were not included.

Table 17. Project success areas open responses.

Corresponds to Likert-style Q19: “In your opinion, how successful was your project in the following areas?”

Response (n=16)
“Building community capacity for water protection”
“Building strong collaborations”
“Classroom applications”
“Collaborative Adaptive Management”
“Established long-term experiment”
“Helping those outside the southwestern US understand Arizona and southwestern water policy and management”
“Leveraging funding”
“Recruiting skillful technical experts”
“Results varied greatly for the different participating states”
“Training farmers”
“Training Post-Docs”
“Training visiting scientists”
“Training water quality workforce”
“Using translational science (extension) to teach farmers”
“Water supply by water treatment plant”
“We developed a new interim conservation practice”

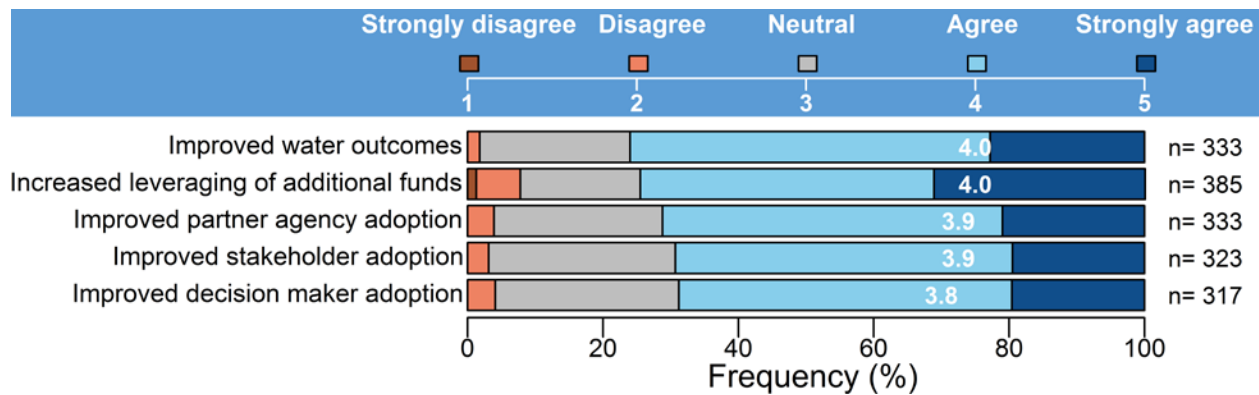


Figure 8. Success through synergies.

Corresponds to Likert Q20: “New synergies/relationships developed through this project helped in the following areas:” Mean in white text. Survey responses of “Don’t know” were not included.

3.6 Additional comments

The final question of the survey requested additional comments (Q28). Six main themes were developed from responses regarding NIFA projects and funding. The majority (n=49) of comments were comprised of comments about NIFA, the USDA, or the funding programs (Table 18).

Table 18. Additional comments related to NIFA projects or funding.

Corresponds to open Q28: “Please use the space below for any additional comments about this survey or NIFA projects and funding.”

Code	Frequency (n)	Examples
NIFA/program comment	49	<p><i>“The funding has been instrumental in getting long-term research on agricultural and mixed use watershed started and maintained. Data used extensively by EPA in nutrient levels for TMDL.”</i></p> <p><i>“The funding for the project was so low that it did not meet the needs/costs of the meetings. Travel was insufficiently supported (travel funds were the only NIFA commitment) and in the end, we couldn't revise the project because enough new participation could not be found with no money to support activity.”</i></p> <p><i>“As both our current State and Federal funds are being cut, I believe our government has forgot how we got to where we are today. [University name] uses tuition to pay for programs that were once paid for by our government agencies. This is what the so called tea party is doing to reduce the size of government but they have lost sight of how our country got where we are today. I see the day that we will struggle to feed our own people! Our supply and quality of water are already at a point that it is undependable!”</i></p> <p><i>“Hatch, McIntire-Stennis funding is a critical method for research scientists to start difficult to fund, long-term projects. The utilization of these funds for the [Experiment site name] has led to non-NIFA funding exceeding \$500,000 this year with the potential of an additional \$500,000 in the next three years. The [area] has no LTER site and [Experiment site name] is extensively instrumented and poised to answer many important questions regarding climate change, invasive species and management of working landscapes for years to come. The ability to initiate this research program is largely due to NIFA funding.”</i></p> <p><i>“Having methods to share current research findings and other information between states is critical for those involved in extension and research. Meetings of professional organizations cannot replace the exchange of information which takes place through multi-state workgroups.”</i></p>
Project detail	20	<p><i>“Farmers and ranchers do not trust models, but when field data that they can understand is used they will make changes to improve the environment!”</i></p> <p><i>“This project has launched a decade long endeavor that is still ongoing. We continue to attract support -- sporadically -- from EPA and other sources to improve the usability and adoption of the decision support tool by decision makers. We are encouraged by the responses and hope to see behavior change based on the work in the near future.”</i></p> <p><i>“Again, I inherited this project when a faculty member left. Thus, I am not the initiating PI and have been care taking the project. Hence the project success has been limited.”</i></p> <p><i>“To date, several hundred undergraduate students have participated in measurement and maintenance of this long-term field forestry experiment studying tree genetics and water use. More students are expected to participate annually into the future, and their learning will be enhanced as results come periodically from graduate student analyses of the data collected annually. Forest industry and private partners contributed non-cash resources to the project, and other sources of funding have since been secured using preliminary data collected in the experiment.”</i></p>

Code	Frequency (n)	Examples
Hatch funding allocation	19	<p>“With the exception of [university name] (whose PI received \$15 to \$20 K per year), the only funds we ever received were some travel funds. We never received any funds to conduct any research; the research was funded by non-CREES sources. A shame.”</p> <p>“Other than part of my salary for the duration of the project, a technician for the first few years of the project, and perhaps operating funds for the department, I do not believe I received any direct funding for this project. The two graduate students who conducted research were funded through grants.”</p> <p>“So, I personally think tracking the results, benefits, etc. from Hatch Projects is kind of bogus - the honest reason I say this is that the faculty does not explicitly get funding to conduct research; most faculty write the Hatch Project to cover something or some research that they already have going on. This particular Hatch Project would not have ever been successful without leveraging existing water-quality monitoring activities funded externally by non-NIFA sources.”</p> <p>“Hatch funding should be competitive and distributed in more transparent methods.”</p>
Suggestions for NIFA	19	<p>“NIFA needs to have more emphasis and project funding available for projects that study ecological responses of native organisms to changes in landscape and water quality. There is too much emphasis on farm animals.”</p> <p>“Formula funds e.g. Evans-Allen approved projects should be managed just like non-formula funds.”</p> <p>“I would like to stress the need for funding projects for technology development, testing and application for optimization of agricultural water use (i.e. increasing yields, conserving water resources, and protecting the environment). Projects that utilizes: 1) the recent advancements in data collection and analytics to develop data-driven decision support tools, 2) conducts research spanning from the field scale to regional scale, 3) integrates social and economical sciences to physical/biochemical sciences, 4) conducts research that investigates the relationships of the food-water-energy nexus.”</p> <p>“Essential to keep funding at some reliable level.”</p>
Thank you	10	<p>“Thank you. This seed funding helped to jump-start my research career as an Assistant Professor, and was invaluable.”</p> <p>“Thank you for the opportunity to provide feedback on the project.”</p>
Ongoing	4	<p>“This project is still ongoing and data is being collected. We anticipate an important paper with results useful to many stakeholders in the next year.”</p> <p>“It is too early to assess this ongoing project. Consequently, many questions have been left unanswered.”</p>

4 References

Getson, J.M., Church, S.P., Esman, L.A., O'Neill, M., and Prokopy, L. S. (2016). *NIFA Water Portfolio: Project Director Survey Report Non-formula Projects*. West Lafayette: Purdue University. https://www.purdue.edu/fnr/prokopy/wp-content/uploads/2014/06/NIFA_Water_PDsurvey_Descriptive_Report_nonformula_20170321.pdf

Qualtrics software, Version April - November 2015 of Qualtrics. Copyright © 2015 Qualtrics. Qualtrics and all other Qualtrics product or service names are registered trademarks or trademarks of Qualtrics, Provo, UT, USA. <http://www.qualtrics.com>.

R Core Team, 2015. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria, <https://www.R-project.org/>.

Research, Education, and Economics Information System (REEIS) database (<http://www.reeis.usda.gov/>). Accessed December, 2014.

Vaske, J. J. (2008) *Survey research and analysis: applications in parks, recreation and human dimensions*. State College, PA., Venture Publishing.

This page intentionally left blank.

Appendix A

A.1 NIFA Water Portfolio Project Director Survey: Formula

A Synthesis of the NIFA Water Portfolio: Lessons Learned and Future Directions

Thank you for participating in this survey. Your input will influence our understanding of project successes and will help impact how NIFA funds projects in the future.

We greatly appreciate your participation. Thank you!

Please answer the following questions according to your project, [Project Title] [Project Number], first entered into the CRIS database in [Year].

This is a Hatch, McIntire-Stennis or Evans-Allen project. We are aware that the funds for these projects are managed in a variety of ways depending on the university and this may cause some confusion. If you recognize this project as yours, please use your experience during this project to answer the following survey questions. We have included an open-ended question where you can provide more information about how you receive these funds.

Please note that we refer to NIFA during this survey, but we recognize that the agency used to be named CSREES.

Question 1 (Q1). Is this an ongoing project?

- Yes
- No

We are interested in evaluating the current status of projects, whether on-going or complete. When completing this survey, please reflect upon what has actually occurred with your project since it began (rather than what you plan for the future).

Q2. Please indicate whether you had spendable funds through your project for the following categories:

- Don't know
- Not applicable to my project type
- Extension
- Extension and Research
- Research
- Student(s)/Postdoc(s)
- Travel
- Other: (please specify) _____

Q3. Please indicate the scale/area of your project (check all that apply):

- Don't know
- Aquifer
- Basic/laboratory research
- Coastal area
- Containment area
- County
- Edge-of-field
- Farm
- Field
- Forestland
- International
- National
- Multi-county
- Multi-region
- Multi-state
- Region
- Rural area
- State
- Stream
- Tribal or Indian land
- Tributary
- Urban area
- Urbanizing area
- Watershed
- Wetland
- Woodland
- Other: (please specify) _____

Q4. Not including yourself, what other types of scientist(s)/professional(s) were included on this project? (check all that apply)

- Computer scientist(s)
- Economist(s)
- Educator(s) (K-12)
- Engineer(s)
- Extension Specialist(s)/Educator(s)
- Geospatial scientist(s)
- Legal scholar(s)/professional(s)
- Mathematician(s)/Statistician(s)
- Natural and/or Physical scientist(s)
- Public Health scientist(s)/professional(s)
- Social scientist(s) (non-economists)
- Other: (please specify) _____

Q5. How many co-Project Directors, including yourself, were involved in this project?

Skip: If equal to one than continue to Q8.

- Q6.** Please indicate what type of project this was:
- Multi-university
 - Public/private collaboration: (please specify) _____
 - Other: (please specify) _____

Skip: If “Multi-university” selected, answer Q7. All other categories continue to Q8.

- Q7.** Were any of the co-PDs from a Minority Serving Institution (MSI) such as a Historically Black College or University (HBCU), a Hispanic Serving Institution (HSI), or Tribal College or University?
- Yes
 - No
 - Don't know

Q8. Please tell us, in your opinion, how this project was successful:

Q9. Please tell us, in your opinion, how this project could have been more successful:

Q10. Please enter the number of the following publication types that emerged from this NIFA project (if you do not specifically remember, please enter your best guess and/or round up to the nearest estimate).

- We have not published from this project and do not plan to
- We have not published from this project but plan to in the future
- Journal articles: (specify number, no dashes) _____
- Theses/dissertations: (specify number, no dashes) _____
- Extension publications: (specify number, no dashes) _____

Q11. The project team disseminated project knowledge to stakeholders, partner agencies, and/or decision makers.

- Don't know
- Yes
- No; not an intended outcome of this project
- No; but it was an intended outcome of this project

Skip: If “Yes” selected, answer Q12. All other categories continue to Q13.

Q12. Please feel free to list the ways that you disseminated project knowledge (e.g., video(s), website, workshop(s), meeting(s), print news media, newsletter(s), field day(s)/tour(s), conference(s), classroom(s), etc.):

Q13. To the best of your knowledge, stakeholders, partner agencies, and/or decision makers learned about the results of this project:

- Don't know
- Yes
- No; not an intended outcome of this project
- No; but it was an intended outcome of this project

Skip: If “Yes” selected, answer Q14. All other categories continue to Q15.

Q14. Please feel free to list the stakeholders, partner agencies, and/or decision makers that learned about project results:

Q15. To the best of your knowledge, stakeholders, partner agencies, and/or decision makers used the results of this project:

- Don't know
- Yes
- No; not an intended outcome of this project
- No; but it was an intended outcome of this project

Skip: If "Yes" selected, answer Q16. All other categories continue to Q17.

Q16. Please feel free to list the stakeholders, partner agencies, and/or decision makers that used project results:

Q17. To the best of your knowledge, stakeholder groups, partner agencies, and/or decision makers' behaviors changed due to the results of this project:

- Don't know
- Yes
- No; not an intended outcome of this project
- No; but it was an intended outcome of this project

Skip: If "Yes" selected, answer Q18. All other categories continue to Q19.

Q18. Please feel free to list the stakeholder groups, partner agencies, and/or decision makers whose behaviors changed due to project results:

Q19. In your opinion, how successful was your project in the following areas?

	Very unsuccessful	Unsuccessful	Neutral	Successful	Very successful	Don't know	Not a project goal
Decision makers using research results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing new relationships/synergies with other organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extending this project into other geographical areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generating research results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacting stakeholder behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leveraging other funds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meeting water quality goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meeting water quantity goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partner agencies using research results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Publishing research results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sharing research results with stakeholders, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stakeholders using research results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: (please indicate)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Skip: If “Developing new relationships/synergies with other organizations” “Successful” or “Very Successful” selected, answer Q20. All other categories continue to Q21.

Q20. New synergies/relationships developed through this project helped in the following areas:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
Increased leveraging of additional funds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved partner agency adoption of project results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved decision maker adoption of project results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved stakeholder adoption of project results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved water outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21. Please indicate which of the following outcomes made this project a success (check all that apply):

- Not applicable
- Educational curricula developed
- Extension programs developed
- New technology developed
- Number of publications
- Number of students working on the project
- Policy changed
- Project goals were achieved
- Relationship building with stakeholders
- Relationship building with partner institutions
- Research/tool(s) commercialized
- Science knowledge expanded
- Stakeholders adopted recommendations
- Students trained
- There was increased conversation about project goals/outcomes with stakeholders
- Water issues were solved
- Other: (please specify) _____

Q22. Were other funds used to seed this project? (check all that apply)

- Yes; other NIFA funds
- Yes; other non-NIFA funds
- No
- Don't know

Q23. Did this project help lead to funding for (an) additional project(s)?

- Yes; additional NIFA funds
- Yes; additional non-NIFA funds
- No
- Don't know

General Information:

Q24. What year were you born?

Q25. What is your gender?

Q26. What was your job title when this project was funded?

- Assistant Professor
- Associate Professor
- Full Professor
- Extension Specialist/Educator
- Research Assistant/Associate/Professor
- Research Staff
- Program Manager
- Other: (please specify) _____

Q27. Please specify the type of scientist/professional you are:

- Computer scientist
- Economist
- Educator (K-12)
- Engineer
- Extension Specialist/Educator
- Geospatial scientist
- Legal scholar/professional
- Mathematician/Statistician
- Natural and/or Physical scientist
- Public Health scientist/professional
- Social scientist (non-economist)
- Other: (please specify) _____

Q28. Please use the space below for any additional comments about this survey or NIFA projects and funding.

Thank you for completing this survey and providing your feedback to the assessment of the NIFA Water Portfolio. Once you click the >> button to submit your responses, you will be redirected to a summary of your responses that you can convert to pdf for your records, if interested. We may contact you in the future for additional input and information.

