

NEW MODELS FOR FUNDING PUBLIC LANDS MANAGEMENT: A Case Study of the Northern Arizona Forest Fund

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I. INTRODUCTION

At the end of the twentieth century, scholars divided public land policy within the United States into three periods: disposition, reservation, and management.¹ As we enter the twenty-first century, our public lands are declining in health and, from a financial standpoint, are less an asset and more a liability. To address the issues facing public lands management, the federal government is now more dependent on public-private partnerships as well as private investment in the health of our public lands. Begging the question—are we entering a new period for public land policy following the “period of management”—an era of public-private partnerships?

Public-private partnerships, referred to as partnerships from here forward, are agreements between a federal public agency and a private individual, business, or organization, where the private party provides a financial or in-kind contribution to the public agency to achieve an agreed upon (or shared) goal.² The U.S. Forest Service (“USFS”) is currently seeking and expanding upon opportunities to enter into public-private partnership as a means of accomplishing a growing number of often underfunded management responsibilities, including conservation, restoration, recreation, and ecosystem service protection.³

This paper provides a brief review of USFS history to explain the emergence of the public-private partnership land management approach. A

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1. See generally SAMUEL TRASK DANA ET AL., FOREST AND RANGE POLICY 10 (1980).

2. See David Lick & Roger E. Hamlin, *Public-Private Partnerships for Promotion of Cross-Border Trade and Transportation*, 37 CAN.-U.S. L.J. 171, 172–73 (2012).

3. See U.S. FOREST SERV., U.S. FOREST SERVICE PUBLIC-PRIVATE PARTNERSHIP STRATEGY 1–3 (2011), http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3819576.pdf.

case study is then presented to highlight the newly developed Northern Arizona Forest Fund (“NAFF”), a public-private partnership established to expedite watershed restoration across five National Forests in northern Arizona. The case study provides highlights of lessons learned and insights on opportunities and challenges associated with developing partnerships in other locations.

II. U.S. FOREST SERVICE HISTORY AND EMERGENCE OF FOREST RESERVES

During the nineteenth century, westward expansion of the United States was driven, in large part, by the promise of private land ownership.⁴ During this time, federal laws, such as the Homestead Act of 1862,⁵ supported the transfer of much of the United States into private hands. Although policies favoring the disposition of public lands dominated the 1800s, an eventual recognition of the need for conservation of natural resources created a desire to retain some public lands for the federal government.⁶

In 1891, Congress passed the Forest Reserve Act, also known as the General Land Law Revision Act.⁷ This legislation gave the president of the United States authority to “set apart and reserve . . . public lands wholly or in part covered with timber or undergrowth, whether of commercial value or not, as public reservations. . . .”⁸ So were born the nation’s first forest reserves, which would eventually become National Forests.⁹ Following passage of the General Revision Act, President Benjamin Harrison was quick to act, establishing fifteen forest reserves covering more than thirteen million acres before leaving office.¹⁰

As the acreage of forest reserves grew, Congress recognized the need for legislation guiding the management of these vast areas of public lands. The Forest Service Organic Administration Act of 1897, provided the statutory authority for the management of these forest reserves to the Interior Department.¹¹ The Act also authorized the continuing creation of forest reserves to “improve and protect the forest . . . or for the purpose of securing

4. See, e.g., Amy Head, *The Death of the New Buffalo: The Fifth Circuit Slays Indian Gaming in Texas*, 34 TEX. TECH. L. REV. 377, 381 (2003).

5. Homestead Act of 1862, Pub. L. No. 37-75, 12 Stat. 392 (1862).

6. *Management of Public Land Resources*, 60 YALE L.J. 455, 459–60 (1951).

7. Forest Reserve Act of 1891, Pub. L. No. 51-561, 26 Stat. 1095 (1891).

8. *Id.*

9. *Management of Public Land Resources*, *supra* note 6, at 460.

10. JAMES RASBAND ET AL., NATURAL RESOURCES LAW AND POLICY 130 (2004).

11. See generally Forest Service Organic Administration Act of 1897, 16 U.S.C. § 473 (1897).

favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of the citizens of the United States.”¹² Subsequent presidents used their authority to reserve additional forest reserves, and by 1905, the nation’s forest reserves protected millions of acres.¹³ That year, Congress also passed the Transfer Act of 1905, reassigning jurisdiction of the forest reserves to the now-named U.S. Forest Service within the Department of Agriculture.¹⁴

Soon thereafter, the forest reserves became the National Forest System.¹⁵ Today, the National Forest System contains 193 million acres of land, managed as 154 national forests and twenty grasslands in forty-four states and Puerto Rico.¹⁶

III. THE EVENTUAL DOWNTURN OF FOREST HEALTH AND FUNCTION

In the one-hundred years following the passage of the Organic Act and the formation of the USFS, public lands became a source for timber and livestock grazing.¹⁷ While these uses maximized economic benefits, they also contributed to the degradation of forest lands, ultimately changing the structure and function of our National Forests.¹⁸ Forest management practices that focused on the production of timber and fodder for grazing included the suppression of wildfires and clearing multi-aged forest stands, which were then replaced by even-aged, densely grown forest stands.¹⁹ Today’s forest conditions, which are often characterized by elevated risk of high-severity fire because of fuel buildup in hyper-dense forest stands,²⁰ were directly influenced by past management practices.

In accordance with the Organic Act, today’s National Forest System remains “managed” lands, with some resource extraction still occurring,

12. *Id.* § 475.

13. ROBERT D. BAKER ET AL., *TIMELESS HERITAGE: A HISTORY OF THE FOREST SERVICE IN THE SOUTHWEST* 39–40 (1988).

14. Transfer Act of 1905, Pub. L. No. 58-33, 33 Stat. 628 (codified as amended at 16 U.S.C. § 472 (2012)).

15. BAKER ET AL., *supra* note 13.

16. *By the Numbers*, U.S. FOREST SERV., <http://www.fs.fed.us/about-agency/newsroom/by-the-numbers> (last visited Mar. 6, 2016).

17. See CHARLES F. WILKINSON & H. MICHAEL ANDERSON, *LAND AND RESOURCE PLANNING IN THE NATIONAL FORESTS* 22 (1987).

18. See *id.* at 63–64.

19. See Peter Z. Fulé et al., *Determining Reference Conditions for Ecosystem Management of Southwestern Ponderosa Pine Forests*, 7 *ECOLOGICAL APPLICATIONS* 895, 897 (1997).

20. *Id.* at 895.

albeit a fraction of historical levels.²¹ These lands are no longer managed solely for water and timber, as they were in the late nineteenth and early twentieth century. Instead, recognizing the numerous services provided by National Forests—including biodiversity, recreation, forest products, and clean air and water—Congress now requires the USFS to manage our National Forest System for a wide range of uses.²² Today, USFS land managers must consider timber, watershed health, minerals, range, wildlife, fish, and outdoor recreation when planning and implementing management activities on our National Forest System.²³

In the twenty-first century, the USFS is confronted with perhaps its most challenging times for achieving its mission—“to sustain the health, diversity, and productivity of the nation’s forests and grasslands to meet the needs of present and future generations.”²⁴ While past management generated revenue, the ecological consequences of those practices created numerous and costly challenges for managing public lands today. Now, the agency is tasked with improving unhealthy lands, in the face of uncharacteristically severe wildfires, outbreaks of insects and disease, drought, and invasive species.²⁵ Furthermore, every year, already tight agency budgets are hijacked for wildfire suppression expenses, leaving the USFS with extremely limited funding to improve the health of our National Forest System with proactive management.²⁶

In particular, over the last two decades, the Western United States has experienced notably longer fire seasons with larger, more destructive fires.²⁷ These fires not only pose a risk to surrounding communities and brave firefighters, but also produce long-term impacts to the resources and services provided by National Forest System lands. Severely burned landscapes can remain denuded for decades, leading to losses in wildlife habitat and creating unstable watersheds that produce irregular, sediment-laden water flows.²⁸

21. See generally Jan G. Laitos & Thomas A. Carr, *The Transformation on Public Lands*, 26 *ECOLOGY L. Q.* 140, 152 (1999).

22. See Multiple Use-Sustained Yield Act of 1960, 16 U.S.C. §§ 528–31 (1960).

23. See, e.g., National Forest Management Act of 1976, 16 U.S.C. §§ 1600–14 (1976).

24. *About the Agency*, U.S. FOREST SERV., <http://www.fs.fed.us/about-agency> (last visited Mar. 6, 2016).

25. U.S. FOREST SERV., *THE RISING COST OF WILDFIRE OPERATIONS: EFFECTS ON FOREST SERVICE’S NON-FIRE WORK 2* (2015).

26. *Id.*

27. *Id.* at 2–3.

28. George G. Ice et al., *Effects of Wildfire on Soils and Watershed Processes*, 102 *J. FORESTRY* 16, 16 (2004).

As of 2015, fifty-eight million acres of National Forest System lands are at high or very high risk of severe wildfire.²⁹

IV. U.S. FOREST SERVICE'S SHIFTING FUNDING PARADIGM

Most scientists and land managers agree that many western forests and watersheds can be improved through treatments that thin trees and reintroduce low-intensity fires, reducing hazardous fuel loads.³⁰ Unfortunately, with a dwindling domestic wood products industry and federal budget limitations, there is limited capacity to conduct necessary treatments at the pace and scale needed.

Increased wildfire severity across the West is significantly increasing fire-related expenses. As the agency responsible for almost all wildfire suppression efforts, the USFS's budget is regularly crippled as it is forced to shift its resources from proactive land management activities to fire suppression efforts.³¹ In 1995, fire made up sixteen percent of the USFS's annual appropriated budget.³² In Fiscal Year 2015, the USFS spent \$1.7 billion on fire suppression and over \$2 billion dollars, over fifty percent of its budget, on wildfire-related activities.³³ These budget shifts have also been accompanied by shifts in staff, with a thirty-nine percent reduction in all non-fire agency personnel.³⁴ "Left unchecked, the share of the budget devoted to fire in 2025 could exceed sixty-seven percent."³⁵

As the USFS fire budget continues to grow, funds are continually transferred from other land management programs, requiring the agency to forego the very restoration activities that could reduce fire risk and improve the health of our watersheds.³⁶ Indeed, funding for the agency's Vegetation and Watershed Management program declined by twenty-four percent from Fiscal Year 2001 to Fiscal Year 2015, impacting the ability to support

29. *Improving Forest Health & Socioeconomic Opportunities on the Nation's Forest System: Hearing Before the S. Comm. on Energy & Nat. Res.*, 114th Cong. 2 (2015) (statement of Robert Bonnie, Undersec'y of Agric.) [hereinafter *Forest Health Hearing*].

30. Peter Z. Fulé et al., *Do Thinning and/or Burning Treatments in Western USA Ponderosa or Jeffrey Pine-Dominated Forests Help Restore Natural Fire Behavior?*, 269 *FOREST ECOLOGY & MGMT.* 68, 75–76 (2012).

31. U.S. FOREST SERV., *supra* note 25, at 2–4.

32. *Id.* at 2.

33. *The 2015 Fire Season and Long-Term Trends: Hearing Before the H. Comm. on Agric. Subcomm. on Conservation & Forestry*, 114th Cong. 1–2 (2015) (statement of Tom Tidwell, Chief, U.S. Forest Serv.).

34. U.S. FOREST SERV., *supra* note 25, at 2.

35. *Id.*

36. *Id.*

resource restoration projects on the Nation Forest System.³⁷ Still, for more than two decades, academics, policy-makers, and local communities have been calling for restoration of western forests.³⁸

Forest restoration is a multi-faceted approach to improving forest health that generally includes the thinning of small-diameter trees and removal of forest fuels through manual or mechanical techniques as well as prescribed fire.³⁹ Additionally, forest restoration can include other activities that increase overall watershed health, such as sediment and erosion control activities, wildlife habitat improvement, invasive species management, and more.⁴⁰ Although notably less costly than recovering from wildfire, restoration can still be prohibitively expensive, particularly at landscape scales.⁴¹ And as previously mentioned, many restoration efforts have been stymied by a lack of sufficient budget appropriations.⁴²

V. THE OPPORTUNITIES OF PARTNERSHIP

Addressing this management conundrum, the USFS is now recognizing the need to rely more heavily on private partners to accomplish proactive restoration projects. Partnerships provide an opportunity to expedite restoration, interrupt the positive feedback cycle of “fire borrowing,” and begin building collaborative working relationships for managing public lands.⁴³ Together with diverse partners, the agency has launched numerous programs and policies, many of which rely on public-private partnerships, such as the Collaborative Forest Landscape Restoration Program, the

37. *Id.* at 8.

38. See Craig D. Allen et al., *Ecological Restoration of Southwestern Ponderosa Pine Ecosystems: A Broad Perspective*, 12 *ECOLOGICAL APPLICATIONS* 1418, 1418–19 (2002); W. W. Covington & M. M. Moore, *Postsettlement Changes in Natural Fire Regimes and Forest Structure*, 2 *J. SUSTAINABLE FORESTRY* 153, 175–76 (2008).

39. See, e.g., Jerry F. Franklin & K. Norman Johnson, *A Restoration Framework for Federal Forests in the Pacific Northwest*, 110 *J. FORESTRY* 429, 429–30 (2012).

40. *Id.*

41. See Bruce R. Hartsough et al., *The Economics of Alternative Fuel Reduction Treatments in Western United States Dry Forests: Financial and Policy Implications from the National Fire and Fire Surrogate Study*, 10 *FOREST POL’Y & ECON.* 344, 351 (2008); Evan Hjerpe et al., *Socioeconomic Barriers and the Role of Biomass Utilization in Southwestern Ponderosa Pine Restoration*, 27 *ECOLOGICAL RESTORATION* 169, 169–70 (2009).

42. See Hartsough et al., *supra* note 41, at 352; see also Tong Wu et al., *Investing in Natural Capital: Using Economic Incentives to Overcome Barriers to Forest Restoration*, 19 *RESTORATION ECOLOGY* 441, 441 (2011).

43. See *Threats to Forest Health Put Arizona at Risk: Why Healthy Forests Matter to Our Health, Environment, Economy & Quality of Life*, *ARIZ. FORWARD*, Oct. 1, 2015, at 4, <http://arizonaforward.org/pdf/FINAL.HFE.PRIMER.pdf> (explaining the concept of “fire borrowing”).

Western Watershed Enhancement Partnership, the Two Chiefs' Joint Landscape Restoration Partnership, Good Neighbor Authority, efficiency improvements for the stewardship contract processing, and market support programs for forest products.⁴⁴

In many cases, partnerships are nimbler than a bureaucratic federal agency on its own. For one, resources can be made more immediately available to complete projects.⁴⁵ Secondly, partnerships often deliver additional capacity, bringing on skilled labor and volunteers for project-specific tasks.⁴⁶ Finally, partnerships may help focus efforts of public and private entities on projects that provide maximum societal benefits.⁴⁷ In these ways partnerships can help leverage additional funding and resources that may otherwise be unavailable to achieve desired goals or conditions on a targeted project-by-project basis.

The growing reliance on partnerships is also pushing the USFS to develop standardized practices for working in partnerships. In 2011, the USFS identified the following objectives for enabling partnerships: identifying key areas for partnerships, such as watersheds and recreation, expanding strategic partnerships that compliment and leverage existing management objectives, using partnerships to encourage collaborations, adding capacity to the agency through partnerships, and improving reporting and monitoring for private partners.⁴⁸ The recognition and development of strategic planning documents focused on partnerships indicates an increasing interest and recognition of the growing importance of partnerships.

Recognizing the need to help build public-private partnerships in the 1990's, Congress chartered the National Forest Foundation ("NFF").⁴⁹ This non-profit partner of the USFS is authorized to collect private funds for the benefit and enhancement of National Forest lands.⁵⁰ NFF fills a critical institutional role facilitating partnerships by accruing contributions from private entities, engaging volunteer groups, supporting local non-profit stewardship organizations, facilitating collaborative working groups, and coordinating with the USFS to leverage pooled resources and accomplish

44. *The 2015 Fire Season and Long-Term Trends*, *supra* note 33, at 5 (statement of Tom Tidwell, Chief, U.S. Forest Serv.); *Forest Health Hearing*, *supra* note 29, at 3–5.

45. *See* U.S. FOREST SERV., *supra* note 3, at 1 ("Partner contributions and trends towards working together hold promise for more defensible, efficient management decisions and vested public support towards projects and project outcomes.").

46. *See id.* (discussing the values of volunteerism and stewardship).

47. *See id.* at 3 (recognizing the guiding principles for Forest Service partners).

48. *Id.* at 1.

49. National Forest Foundation Act, 16 U.S.C. § 583j (2012).

50. *See id.* § 583j-2.

impactful, on-the-ground work.⁵¹ To a large degree, the NFF assists the USFS in achieving its mission and multiple-use management mandate. Moreover, the NFF engages the larger public in the stewardship of our public lands by working with a variety of stakeholders—fundraising, providing grants, leading collaborative efforts, and offering volunteer opportunities.⁵² NFF works closely with USFS partners to align goals at national, regional, and local scales.⁵³

VI. A CASE STUDY: THE NORTHERN ARIZONA FOREST FUND

To further understand the development and scope of public-private partnerships addressing restoration needs on USFS lands, we review the development of the NAFF, which provides an exemplary case involving five National Forests in Arizona, the NFF, the Salt River Project (“SRP”)—an Arizona-based water and power utility—and a growing number of businesses, non-profits, and conservation organizations.⁵⁴ The NAFF fledged from a desire to incentivize private investment in the restoration of National Forest lands in northern and eastern Arizona for the benefit of local communities and the environment, and to protect water resources flowing downstream from the Salt and Verde watersheds providing the majority of the surface water supply to the greater Phoenix metropolitan area (hereinafter, the “Valley”).⁵⁵

SRP is the oldest multipurpose federal reclamation project in the United States, serving water to the Valley since 1903.⁵⁶ SRP’s power district is also one of the nation’s largest public power utilities providing electricity to approximately one-million customers.⁵⁷ Foundationally, SRP recognizes its long-term stewardship role in protecting the watersheds that deliver the

51. See NAT’L FOREST FOUND. & U.S. FOREST SERV., PARTNERSHIP GUIDE: THE POWER OF PEOPLE WORKING TOGETHER 18–19 (2005), http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5193234.pdf.

52. *Id.*; see also *Who We Are*, NAT’L FOREST FOUND., <https://www.nationalforests.org/who-we-are> (last visited Mar. 4, 2016).

53. See *Who We Are*, *supra* note 52 (“As the nonprofit partner of the U.S. Forest Service, we work with the agency and thousands of Americans each year to promote the health and public enjoyment of our 193-million-acre National Forest System.”).

54. See *Facts About SRP*, SALT RIVER PROJECT, <http://www.srpnet.com/about/Facts.aspx> (last visited Mar. 4, 2016); *Northern Arizona Forest Fund*, NAT’L FOREST FOUND., <https://www.nationalforests.org/who-we-are/regional-offices/southernrockies/azforestfund> (last visited Mar. 4, 2016).

55. See *Northern Arizona Forest Fund*, *supra* note 54 (summarizing the objectives and projects of NAFF).

56. *Facts About SRP*, *supra* note 54.

57. *Id.*

Valley's water supplies and the power-delivery infrastructure that extends through National Forest lands.⁵⁸ Together, SRP and NFF are charting success in building new partnerships and a stable funding stream for watershed improvement projects, and, at the same time, bolstering downstream business and public interest and support through outreach and communication.⁵⁹

The NAFF capitalizes on SRP's business relationships with water and power customers, and utilizes NFF's ability to raise funds, manage conservation work on National Forest lands, and help direct work and build capacity on-the-ground. The NAFF aims to improve the health of the Salt and Verde River watersheds by "reducing the risk of catastrophic wildfire, decreasing erosion and sedimentation into streams, rivers and important reservoirs, improving wildlife habitat, and enhancing recreation opportunities."⁶⁰ As a program, NAFF is organized around "shovel-ready" watershed improvement projects—that is, projects that have been identified as a priority by the USFS and that have already undergone the extensive and often lengthy environmental permitting process as defined under the National Environmental Policy Act on federal lands.⁶¹

On an annual basis, priority projects are identified by the USFS and provided to NFF for consideration.⁶² NFF, SRP, and an advisory committee represented by public, private, and non-profit conservation groups help oversee the strategic selection each year.⁶³ NAFF projects can be expeditiously completed within a given funding year, accomplishing work that the USFS otherwise lacks resources to accomplish.⁶⁴ The strategic vision for these projects integrates their value into a larger framework of ongoing landscape-based restoration efforts, such as the Four Forest Restoration

58. *Protecting Water Supplies and Restoring Forest Health in Arizona*, SALT RIVER PROJECT, <http://www.srpnet.com/water/forest/involvement.aspx> (last visited Feb. 14, 2016) ("[SRP] is bringing together wide-ranging public, private and nonprofit interests with a stake in forest health, seeking funding and other resources to address the problem.").

59. *See The Northern Arizona Forest Fund: A Valuable Investment in Our Watersheds*, NAT'L FOREST FOUND. 2, <https://www.nationalforests.org/assets/pdfs/2-NAFF-two-page-summary.pdf> (last visited Feb. 14, 2016) [hereinafter *A Valuable Investment*] (discussing the benefits of becoming a partner with NAFF).

60. *Northern Arizona Forest Fund*, *supra* note 54.

61. *Id.*; *see also Watershed Investment Programs: Updates from the Field*, CARPE DIEM W. 5 (Apr. 2015), <http://www.carpediemwest.org/wp-content/uploads/WIP-Update.pdf> (explaining the concept of "shovel-ready" funding projects).

62. *A Valuable Investment*, *supra* note 59, at 2.

63. *See id.*

64. *See Northern Arizona Forest Fund*, *supra* note 54 ("This year the Northern Arizona Forest Fund completed both of the watershed restoration projects planned for 2015 on the Coconino National forest.").

Initiative.⁶⁵ This means their geographic placement and project type enhances and facilitates improved forest conditions at a larger scale.

The implementation of NAFF projects is completely funded by Arizona businesses, residents, and foundations.⁶⁶ SRP and NFF often work collectively to develop relationships and funding partnerships. SRP, with its unique business relationships with water and power customers in the Valley, lends credibility to the program while NFF instills a stewardship ethic and program management expertise. Through this partnered effort, “[c]ontributions to NAFF [are] collected by NFF and awarded to local non-profit stewardship organizations, local contractors, and the USFS to implement projects annually on the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto National Forests.”⁶⁷

On-the-ground work is managed and overseen by NFF, in close coordination with USFS personnel.⁶⁸ NFF also coordinates unique volunteer opportunities for corporate partners who want to participate directly in portions of the on-the-ground work.⁶⁹ And each year, contributors and members of the public receive reports detailing stewardship accomplishments associated with each of the individual projects.⁷⁰ Overall, this work adds value to the broader construct of the management of National Forest lands by accomplishing work that would not have otherwise occurred by bringing additional capacity to the stewardship of our public lands, and by giving the federal agency financial flexibility needed to move beyond a “business as usual” approach.

Although incentives to participate vary between business partners, the common factor for participation appears to be improved water quality and long-term water certainty. For many, the idea of improved environmental conditions is “feel good” and makes sense from a personal level or from a public relations marketing approach. But, for businesses, the incentives must also be clearly defined around the longer-term financial risk of *not* investing or participating. In particular, increasing water treatment requirements, decreased reservoir storage capacity, and loss of supply compels interests when rising costs can be directly attributed to business practices and bottom

65. *4FRI Description*, FOUR FOREST RESTORATION INITIATIVE, <http://www.4fri.org/description.html> (last visited Feb. 14, 2016).

66. See *Northern Arizona Forest Fund*, *supra* note 54.

67. *Id.*

68. See NAT'L FOREST FOUND. & U.S. FOREST SERV., *supra* note 51, at 18–19.

69. *Id.* at 18; see also *Volunteer Opportunities*, NAT'L FOREST FOUND., <https://www.nationalforests.org/get-involved/volunteer-opportunities> (last visited Feb. 14, 2016).

70. *A Valuable Investment*, *supra* note 59, at 2.

lines.⁷¹ Proactively investing in the long-term protection of the Valley's water supplies—and getting public credit for the action—has thus far provided a high level of incentive to participate.⁷² NAFF participants are also incentivized by showcasing their forward-thinking leadership on behalf of a shared public good.

In its second year of operation, the NAFF has gained significant local and west-wide accolades.⁷³ To date, over \$1.6 million has been invested by fourteen organizations, representing publicly and privately owned businesses, municipal water departments, wildlife conservation groups, and foundations.⁷⁴ First year on-the-ground accomplishments include thirty-one miles of erosion control on roads near the town of Sedona, AZ, feeding into the Verde river system, and over 3,000 acres of hand-thinning and prescribed fire in endangered species habitat within the Verde Watershed.⁷⁵

In the longer term, challenges and opportunities will continue to include developing new funding and outreach partnerships and ultimately maintaining a sustainable funding source for fulfilling the strategic value of projects across the landscape. Currently, participants are encouraged to contribute a minimum of three years, although other types of contributions are and have been considered.⁷⁶

71. *Id.* at 1 (“Investing now in ‘green infrastructure’ through watershed restoration efforts will reduce future water treatment costs, minimize the risk of costly infrastructure damage, sustain forest-based recreation and tourism markets, increase property values, and support restoration-based employment opportunities.”).

72. The NFF recognized the contributions of both Phoenix and Scottsdale to the NAFF and commended their efforts to support forest restoration. *See* Press Release, Nat'l Forest Found., City of Phoenix Invests to Protect Water Supplies (May 28, 2015), <https://www.nationalforests.org/who-we-are/press-news/city-of-phoenix-invests-to-protect-water-supplies> [hereinafter Nat'l Forest Found., Phoenix Invests]; Press Release, Nat'l Forest Found., City of Scottsdale Invests to Protect Water Supplies (Oct. 15, 2015), <https://www.nationalforests.org/who-we-are/press-news/city-of-scottsdale-invests-to-protect-water-supplies> [hereinafter Nat'l Forest Found., Scottsdale Invests]; *see also A Valuable Investment*, *supra* note 59, at 2 (“Participating businesses can be recognized in the NFF’s magazine (distributed nationwide to 50,000 people), annual report, and Website.”).

73. *See* Emery Cowan, *Forest Restoration Gets Help from State Utility Giant*, AZ DAILY SUN (Feb. 28, 2015, 11:00 AM), http://azdailysun.com/news/local/forest-restoration-gets-help-from-state-utility-giant/article_db59facb-c89e-511e-a03c-03a2c78654d2.html; *Watershed Investment Programs: Updates From the Field*, *supra* note 61, at 5.

74. *Northern Arizona Forest Fund—Year in Review 2015*, NAT'L FOREST FOUND. 11, <https://www.nationalforests.org/assets/pdfs/NorthernArizonaReport-Low.pdf> (last visited Mar. 9, 2016).

75. *See Northern Arizona Forest Fund*, *supra* note 54.

76. *See* Nat'l Forest Found., Phoenix Invests, *supra* note 72 (“The Phoenix City Council has approved a three-year partnership with the National Forest Foundation”); *see also* Nat'l Forest Found., Scottsdale Invests, *supra* note 72.

VII. DISCUSSION AND LESSONS LEARNED

The recognition of the NAFF as a legitimate investment opportunity—among the many others that exist—has largely been due to the organizational agility of NFF in combination with the business relationships held by SRP. The NAFF model recognizes the unique interests of diverse organizations and the shared benefits of forest and watershed improvements. Through this approach, the program can increase in scale and capacity, in terms of project size and number, manageability, and in terms of the number of on-the-ground partners.

A number of key tactics are being implemented to grow the program: 1) multi-media approaches to outreach, including press, paper, and online; 2) program materials that describe both the environmental benefits of investment as well as avoided costs of water treatment and water supply losses; 3) individualized approaches for different businesses and organizations—recognizing that the interests of one business may not fit the interests of another; and 4) projects funded are implemented the same year, so that benefits are tangible in time and space.⁷⁷ Project dollars largely go directly on-the-ground, making real-time improvements across the forests and watersheds.

The flexibility of NFF in building investment packages to meet differing interests has also increased awareness of the program and overall participation. While financial investments get work accomplished on-the-ground, in-kind marketing and campaign “investments” by other businesses help tell the story.⁷⁸ The public communication and support of NAFF by program investors—in addition to SRP and NFF—has led to additional investment.⁷⁹

77. See Press Release, Salt River Project, Six New Northern Arizona Forest Fund Projects Selected (Oct. 6, 2015), <http://www.srpnet.com/newsroom/releases/100615a.aspx> (“Formed in 2014 to help connect businesses, residents and other stakeholders with projects that improve forest and watershed health, the Northern Arizona Forest Fund provides an innovative opportunity to invest in projects on National Forest lands in the Salt and Verde watersheds in Arizona”); *A Valuable Investment*, *supra* note 59, at 2 (“Each year, contributors will receive official reports detailing stewardship accomplishments associated with these priority projects.”); *Northern Arizona Forest Fund—Year in Review 2015*, *supra* note 74, at 12–13 (explaining NAFF’s cooperative marketing techniques and tailored approaches to attracting strategic partners); *Ways to Give*, NAT’L FOREST FOUND., <https://www.nationalforests.org/get-involved/ways-to-give> (last visited Feb. 14, 2016).

78. The partnership between SRP and the NFF allows businesses and Arizona residents to easily invest in the lands they depend on. See *Donate to the Northern Arizona Forest Fund and Help Protect Our Watershed*, SALT RIVER PROJECT, <http://www.srpnet.com/water/forest/naff.aspx> (last visited Feb. 14, 2016).

79. See Cowan, *supra* note 73 (stating that the SRP’s contributions to the NAFF increase understanding of the importance of northern Arizona’s forest landscapes).

In terms of project prioritization, NFF and SRP are focusing funding efforts around multi-year commitments by investors, moving away from year-to-year “random acts of conservation,” spurring more strategic project planning by the USFS.⁸⁰ As observed within the Arizona’s Four Forest Restoration Initiative, project planning can be conducted at watershed scales, with the goals of strategically tackling overall priority projects within a watershed.⁸¹ In the future, this may take the form of the development and implementation of Watershed Restoration Action Plans, which were born out of the USFS’s Watershed Condition Framework.

Ultimately, lands-based restoration programs require cooperation and partnership between the landowner of the lands needing improvement, an organization with vested interest in overseeing the work, and the investor(s). In the case of NAFF, the program also includes support from a water and power utility which has added credibility to program operations. Ultimately, that fourth component of institutional support may be pivotal for the success of other conservation investment programs. Certainly, in Arizona, and in the Phoenix area particularly, the more conservative business demographic requires added certainty when considering investment opportunities. From a business perspective, landscape-scale restoration of forests and watersheds is necessary to minimize risk of catastrophic wildfire, and to limit devastating downstream effects of post-fire flooding events. Yet, no one organization can fund it alone, and many interests benefit from the work. Capitalizing on downstream water supply benefits, including reducing the rise in water treatment costs and minimizing loss of reservoir storage capacity speaks broadly to a wide range of constituents.

Added benefits of the public-private partnership model—beyond the on-the-ground accomplishments of improved watershed function on public lands—help connect people and businesses to their watersheds and their public lands, which not only provide important ecosystem services, such as water supplies, but also provides vast areas of lands to recreate, hunt, camp, hike, and get away from the trials of an urban lifestyle. Part of the success of NAFF is that it provides a more informed public that supports the work necessary for the enhancement of public lands and the environment. Better informed beneficiaries may now be positioned to support state and federal legislative efforts that improve the funding and management capacity of the Forest Service.

80. Salt River Project, *supra* note 77 (listing the high-priority projects to receive funds in for the upcoming year).

81. *Background Information, FOUR FOREST RESTORATION INITIATIVE*, <http://www.4fri.org/background.html> (last visited Feb. 14, 2016).