Volunteers and Central Support Team staff planting oyster reef in Alabama.
Photo Credit: Erica Norteman @TNC

The Nature Conservancy's

TNC American Recovery and Reinvestment Act
Central Support Team Final Report

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Prepared for:
NOAA Restoration Center
F/HC3, NOAA Fisheries Service
1315 East West Highway
Silver Spring, MD 20910

Submitted by:
Amanda Wrona Meadows, Ph.D.

The Nature Conservancy Global Marine Team

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TNC CENTRAL SUPPORT TEAM FINAL REPORT

Executive Summary

The American Recovery and Reinvestment Act (Recovery Act), passed by Congress in 2009, provided NOAA with funding to administer towards coastal habitat restoration. The Nature Conservancy (TNC) was awarded eight projects representing 24.5 million dollars in public investment in coastal habitat restoration. The technical and management challenges associated with these projects were overseen and assisted by an internal Central Support Team (CST). The CST consisted of technical, outreach and administrative staff with the goal of adding cohesion and ensuring consistency among TNC projects, with respect to ecological monitoring of project outcomes, outreach activities, and administrative and budgetary issues. The CST provided targeted support to each project as needed, assisted with up-front logistics (e.g., legal issues, hiring, contracting, establishment of tracking procedures), as well as ongoing and post-restoration support. Importantly, the CST helped to showcase the benefits and outcomes of large-scale restoration projects for TNC members, the broader conservation community and the public in general. This report highlights the major milestones accomplished by the Central Support Team and details the overall value of project integration.

Introduction

The American Recovery and Reinvestment Act (Recovery Act) of 2009 provided NOAA with $167 million for large-scale habitat restoration projects. This amount represented a one-time opportunity to take coastal habitat restoration projects to larger scales. Eight projects led by TNC, representing $24.5 million dollars in public investment, were funded through a competitive grant process by the NOAA Restoration Center (the NOAA-ARRA projects). Many of the projects selected were dramatic expansions of restoration work that began as proof-of-concept community-based projects through the TNC-NOAA Community-based Restoration Program (CRP).

The NOAA-ARRA projects implemented by TNC represent an unprecedented scale of restoration, both collectively and individually. They present an opportunity to both accomplish large-scale ecological outcomes and to demonstrate the potential benefits of future restoration actions in the U.S. Given these leverage opportunities, the technical challenges and short timeframes presented by the ARRA funding, TNC assembled the CST as an important overarching and integrating element of all ARRA-funded projects. The CST consisted of technical, outreach and administrative staff with the goal of adding cohesion and ensuring consistency among TNC-led projects with respect to ecological project outcomes, outreach activities, and administrative and budget issues. The CST provided targeted support to each project as needed, assisted with up-front logistics (e.g., legal issues, hiring, contracting, establishment of tracking procedures), as well as post-restoration support. Importantly, the CST helped showcase the benefits and outcomes of large-scale restoration projects for TNC members, the broader conservation community and the public in general.

The overall goal of the Central Support Team was to integrate the eight TNC led NOAA-ARRA funded projects, providing support and assistance and to leverage and increase the visibility of results and lessons learned.

TNC's Amanda Wrona Meadows (Central Support Team), K Koski (NMFS), and Michael Kampnich (TNC) measure and record juvenile fish sampled from the Klawock Estuary in Southeast Alaska. Photo credit R. Bosworth @TNC.

Methodology

The Central Support Team staff and activities were supported by a centralized CST budget. This allocation was by each of the 8 projects as a percentage of the overall project costs. During the grant application process, after each project determined their budget and overall amount needed for project implementation, the CST percentage was then added on top of the final amount requested so that no money would be subtracted from the amount needed for on the ground project implementation. Both staff time and some products, those that were considered overarching, were charged equally to each project CST budget. Funding for individual project support (i.e. site visits) was charged to the applicable project.

The CST was staffed by several positions that were paid for directly by the CST budget including a Program Integrator, TNC Restoration Program Director and Marine Science staff. In addition, other support staff that contributed to the projects as part of the CST (Senior Grants Specialist, Senior Council, Senior Government Relations Staff and Associate Director of Marketing and Communications) was paid for by private dollars provided by TNC World Office and The Global Marine Team.

The Central Support Team met on a quarterly basis and the Program Integrator engaged other CST members and individual projects on an as needed basis. The CST reviewed both the CST and individual project budgets quarterly. The Program Integrator convened at least 3 all ARRA Team meetings and met frequently with project managers for updates and to determine support needs. The CST created and delivered an overarching semi-annual progress report and delivered to individual projects for NOAA ARRA semi-annual reporting requirements. Working with NOAA, the CST developed a Final Report Guidance document that was shared with each of the projects and the CST reviewed all project final reports (in progress).

Table 1. Central Support Team Actions 2009-2012

Implementation	Outreach	Leveraging
• Provide overarching support and coordination on legal and grants management issues **(GMS)** • Assist with development of project-specific monitoring plans; disseminate best-practices among projects **(REG, PI, REG)** • Assist with the development of semi-annual programmatic progress reports (Jan & July); review for rigor and consistency across projects **(RPD, PI, REG)** • Conduct WebEx/phone meetings on key topics (e.g., monitoring plan development; progress reporting; sharing best-practices) **(PI, RPD, REG)** • Develop and support project-specific Share Point project page **(REG, RPD, PI)** • Develop and implement All ARRA Project Integration Meeting to provide final report guidance and share successes and other lessons learned. (**PI, RDP, REG)** • Develop Central Support Team final report including all aspects of the Team (GR, Media, Outreach, Science Support, etc.) **(PI)**	• Develop talking points (1 pagers) for each project individually and collectively **(PI, MRC)** • Develop fact sheets for each project **(PI, MRC, REG)** • Develop and share Nature.org website pages that highlight each project **(MRC)** • Develop and utilize Synthesis document that summarizes project objectives & early actions **(PI, PRD, MRC, LEG)** • Periodic summary of progress reports **(PI, RPD, REG)** • Develop and send regular OMB summaries at ea. Site **(GMS, REG, PI)** • Develop TNC wide Webinar Series on taking restoration to scale highlighting ARRA projects • Work with local projects to showcase media to TNC and NOAA • Input ARRA lessons learned into Restoration Results Chain • Create white paper and fact sheet on leveraged outcomes addressed to senior managers	• Develop and implement high impact media plan based on major milestones across projects **(MRC, LEG, PI, RPD)** • Develop and implement Government Relations push for new & increase funding / programmatic growth **(RPD, LEG)** • Promote projects and present results at national and international conferences **(REG, PI, RPD)** • Take ARRA projects to Congressional Briefing **(GR, RPD, PI, REG)** • Develop and implement Government Relations push for new & increase funding / programmatic growth **(RPD, LEG, GR)** • Publish peer reviewed paper on leveraged outcomes of restoration for peer reviewed journal (Restoration Ecology)
PI = Program Integrator; RPD = Restoration Program Director; REG = Regional Marine Directors; GMS = Grants Mgmt; LEG = Legal; MRC = Marketing Resource Center		

Results

By employing a full-time Program Integrator to work closely with all project managers and the NOAA Restoration Center staff, TNC treated the array of projects as a cohesive unit on all aspects of project implementation and follow-up. Specifically, this position added value to each project by (1) assisting with the smooth implementation of contracting, hiring and other administrative logistics at the front end of projects, (2) working with TNC's Marketing Resource Center to create a portfolio of project fact sheets, web pages and other communications materials for engaging the media, TNC's donors and general membership, conservation and resource management partners, and the public, (3) conducting site visits to each project site at critical milestones to provide additional on-site support for outreach, monitoring or other key tasks, and (4) ensuring consistency and coordination with ecological monitoring and sharing information on best practices and methods between project managers. The Program Integrator conducted team calls (as needed) with project managers and traveled to each site to review progress toward project-specific milestones, coordinated site visits with NOAA Restoration Center staff and others, and provided additional on-site technical support as needed (e.g., help with pre- and post-restoration monitoring and documentation of project milestones).

TNC's Restoration Program Director with the Central Team and project-level staff to connect and promote the restoration work both within and outside TNC. The Restoration Director also integrated the NOAA ARRA projects with the broader array of marine habitat restoration efforts conducted by TNC through other funding mechanisms (e.g., NOAA-TNC Community-based Restoration Partnership and the Estuaries Restoration Act). Specifically, the Restoration Director provided added value to NOAA ARRA projects by (1) working closely with TNC's Marketing Resource Center (MRC) and NOAA's Public Affairs staff to maximize the impact of outreach opportunities through a coordinated outreach plan that incorporates key project milestones, (2) participating in periodic conference calls and Web-based presentations to update TNC senior management and others on key outcomes, milestones and problem-solve any logistical challenges, and (3) working with the Program Integrator synthesizing outcome data across all projects – both ecological and economic - for reports to NOAA, TNC's Board of Directors (to continue to elevate restoration as a priority conservation activity) as well as other key audiences. Working with the Program Integrator, the Restoration Program Director sought out opportunities to promote large-scale restoration as a conservation priority at key national conferences (e.g., Society for Ecological Restoration, Restore America's Estuaries, Coastal and Estuarine Research

Federation), as well as in the media (including TNC's widely circulated membership magazine and web page) and within the conservation community.

TNC's Jenn Greene (CST) and Jenny Baker (WA ARRA Project Director discuss restoration at a site visit to the FL ARRA Coral Recovery project. Photo credit A. Wrona Meadows @TNC

Regional Marine Staff

TNC's regional marine staff provided critical up-front and ongoing support to project managers for outreach and assistance with implementation of required activities, such as assisting with contract negotiations, scientific monitoring and documentation of project-specific milestones throughout each project's implementation phase. Regional staff provided direct support and helped to document progress toward project-specific milestones through site visits, and calls on an as needed basis. Importantly, these staff helped to connect the restoration projects in their region with the wider conservation efforts that are currently underway (e.g., through communication and updates to regional governance councils, TNC planning efforts, TNC's regional staff and programs, other key conservation partners that are operating in other parts of their regions).

Senior Grant Manager, Senior Council

During this first six month reporting period, the Central Support Team provided a variety of extensive supporting services that included extensive legal review and guidance on Davis-Bacon Act requirements, coordination with grants management specialists on OMB and NOAA financial accounting and reporting, reviewing draft RFPs and contracts, assisting with staff recruitment and hiring support, and providing technical advice support with start-up logistics.

Throughout the project period, the Senior Grants Manager assisted with the dissemination of any NOAA or DOC reporting guidance to project grants managers and assisted with the development and submission of grant reports. The Grants Manager managed the CST budget and created and reviewed with the CST all project budgets on a quarterly basis.

Associate Director of Marketing and Communications

With guidance provided by the Director of Marketing and Communications, the CST initiated a comprehensive communications strategy that amplified and support the site-based communications for each project. Importantly, this communications strategy was intended to complement the overall communications efforts of the NOAA Restoration Center. When needed, the Director of Marketing worked with the CST to produce communication pieces (e.g. synthesis document, fact sheets, videos, web features) highlighting the value of the ARRA projects as a whole.

In addition to the coordinating efforts mentioned above, following are examples of specific major activities of the Central Support Team from 2009 through 2012. Activities were focused ***on providing overarching support and coordination on legal and grants management issues, assisting with project-specific needs, enhancing the exchange of information among projects, and developing effective outreach to support TNC's suite of projects.***

Year 2009 (July- Dec)

- Provided legal analysis and input to all project teams on issues related to Davis-Bacon Act compliance and worked with NOAA Restoration Center and DOL staff to facilitate the review and determinations for all TNC-NOAA ARRA projects.

- Created and filled a new full time position (TNC-NOAA ARRA Integrator) to complete the Central Support Team.
- Assisted several project teams with review of 'scope of work' and draft contracts for major contractors (AL, LA, CA).
- Assisted with recruitment of TNC project management staff by reviewing job descriptions and participating with candidate interviews (AL, HI).
- Assisted all project sites with the purchase of ARRA signs, banners and placards for display at work sites, on project vehicles such as barges, trucks and heavy equipment.
- Initiated the development of a comprehensive communications plan that will integrate the project milestones and complement NOAA Restoration Center's overall communication efforts.
- Began construction of a set of ARRA-specific web pages on Nature.org toprovide additional project-specific information.
- Assisted with early-implementation logistics at several project sites, including participation in initial project team meetings and briefings and providing input on monitoring plans (FL, VA, LA, WA).
- Conduct interviews with all 8 project teams to create a 'road map' or work plan for Central Support Team activities in the next 12 months, including a plan for fostering exchange of information between project teams on timely/relevant topics (e.g., progress reporting, communications and outreach, monitoring).

Hawaii ARRA project staff David Ziemann and Kim Hum show Jena Carter (CST) plans for next phases of estuary restoration. Photo credit A. Wrona Meadows @TNC

Year 2010

- Assisted several project sites with the review and submission of requests for supplemental funding available from NOAA.
- Provided on-going support for projects being delayed by Deepwater Horizon oil spill; provided coordination with TNC's legal staff regarding any reimbursement claims submitted to BP.
- Coordinated with NOAA Restoration Center and TNC Project Leads in the development of Monitoring Summary Tables that help to provide a consistent framework or describing ecological objectives and monitoring activities across sites.
- Conducted site visits to 8 project sites to (among other things) assess progress on monitoring plans. Site visits included HI, FL, VA, AL, LA, AK, CA, WA.
- Provided on-site support for Louisiana and Florida teams that hosted high-level NOAA staff during Earth Day week.
- Developed an internal TNC SharePoint web site to consolidate imagery, media and marketing pieces, reports and other communication documents about each project
- Developed a Synthesis Document that places TNC's suite of Recovery Act projects in the larger restoration context in the United States.
- Developed project-specific fact sheets that articulate project objectives, restoration approaches and anticipated benefits using a consistent framework.
- Assisted with the development of overarching and project-specific talking points in advance of NOAA's Earth Day events in LA, FL and HI.
- Assisted project teams with Earth Day and oil spill related media outreach/response.
- Published a story about the Alabama oyster reef living shoreline restoration project and the Florida/USVI Staghorn coral recovery project in Nature Conservancy magazine.
- Developed a special session on coastal adaptation for the Restore America's Estuaries conference that will feature two of TNC's Recovery Act projects (Alabama and Florida/USVI) .
- Coordinated CBS Evening News visit to Florida coral project for Earth Day event with Dr. Lubchenco. Filmed for two days at various project sites.
- Coordinated Univision visit to Grand Isle to see the Louisiana oyster restoration project and oil spill response.
- Provided on-going support for projects being delayed by Deepwater Horizon oil spill, including requests for supplemental funds to help with re-mobilization costs associated with restarting implementation activities and the leveraging of the ARRA projects to help with the development and implementation of the Alabama 100/1000 restoration goal.
- Provided on-site support for Alabama team that hosted high-level NOAA staff visit to promote "Getting Back to Work in the Gulf."
- Provided government relations, event organization, media, and on-site support for California team for planning of high level NOAA staff visit (event postponed)
- Assisted with FL ARRA Coral out planting meeting to review and refine outplanting techniques and address early permitting issues.
- Worked with AK ARRA project to identify and secure additional funds needed for construction shortages due to project delays.
- Continued to archive photos, presentations and other relevant information about each project on a TNC SharePoint web site accessible to all project teams
- Presented review of all ARRA projects to TNC staff state wide at project site visits

- TNC hired Kerry Crisley, Associate Director of Marketing, who is the new CST marketing coordinator for the ARRA projects.
- Convened a special session at the 4th National Conference on Estuarine Restoration highlighting two NOAA-ARRA funded projects (FL coral recovery and AL oyster reef & shoreline restoration).
- Produced a poster and distributed fact sheets to showcase all of TNC's NOAA-ARRA projects at The Nature Conservancy's exhibition booth at the National Conference on Estuarine Restoration.
- Participated in International Conference on Shellfish Restoration (2010) and submitted 2 session abstracts to upcoming Society for Ecological Restoration meeting (2011) featuring TNC's coral and oyster reef ARRA restoration sites.
- Sent professional photographer to CA to capture "Salmon Rodeo" event and habitat restoration activities at ARRA Big Springs Ranch project site

TNC's Rob Brumbaugh (CST) lends a hand to fellow reef restoration volunteers. Photo credit A. Wrona Meadows @TNC

Year 2011

- Assisted several project sites with the review and submission of project extensions requests.
- Conducted multiple site visits at 8 project sites to (among other things) assess progress on construction and monitoring implementation.
- Assisted AL project staff with Alabama "100-1000" coastal restoration event kick off support as an extension of the AL ARRA project.
- Assisted LA project staff with outreach event and media coordination at the completion of the Grand Isle, LA restoration site.
- Assisted with finding additional funding for ARRA projects derived from cost savings on behalf of the CST that were re-allocated for project implementation.
- Facilitated additional NOAA funds ($50K) to the WA Fisher Slough project through the TNC-NOAA CRP Partnership.

- Worked with AK project to implement monitoring including working with NOAA Coastal Services (Charleston, SC) to acquire and interpret areal imagery of estuary restoration site, assisted with organization of monitoring site visit and ordering of monitoring equipment and water quality monitoring plan.
- Assisted FL/USVI project staff and partners with development and organization of coral restoration manual.
- Organized 3 sessions related to restoration featuring 7 ARRA projects (HI, AL, WA, CA, LA, VA, and FL/USVI) at TNC's Marine Aggregation meeting.
- Featured ARRA oyster restoration and fish passage projects in presentation at TNC Integrated Landscape meetings.
- Updated synthesis document featuring all ARRA projects "Investing in Nature."
- Worked with NOAA to update Restoration Atlas with current project imagery.
- Organized and implemented congressional education briefing in D.C. that featured coral restoration including HI and FL/USVI projects.
- Highlighted ARRA projects at the TNC Ecosystem Services workshop in California.
- Worked to coordinate consistent reporting of labor hours and develop talking points about jobs created by projects.
- Assisted with finding additional funding for ARRA projects derived from cost savings on behalf of the CST that were re-allocated for project implementation.
- Facilitated additional NOAA funds ($50K) to the WA Fisher Slough project through the TNC-NOAA CRP Partnership.
- Worked with AK project to implement monitoring including working with NOAA Coastal Services (Charleston, SC) to interpret areal imagery of estuary restoration site, assisted and participated in monitoring site visit, conducted ground verification of project and advised tribe members of protocols for follow-up monitoring.
- Assisted FL/USVI project staff and partners with development and publication of coral restoration manual.
- Organized and delivered a three part Webinar Series highlighting lessons learned from each ARRA project, presented internally to TNC wide and NOAA Restoration Center staff.
- Organized and implemented congressional education briefing in Washington, DC, highlighting AL and LA projects in anticipation of future restoration funding for the Gulf of Mexico.
- Presented ARRA project highlights (AL, CA, HI) and lessons learned from TNC ARRA restoration projects and assisted project staff with development and submission of abstracts and presentations given to highlight their projects at the Coastal and Estuary Research Federation and Coastal Zone Management 2011 meetings.
- Organized and facilitated two special symposiums at the 2011 Society of Ecological Restoration's World Conference on Ecosystem Restoration in Merida, Mexico. Symposia highlighted AL, LA, HI, FL and USVI ARRA projects.
- Highlighted ARRA projects at TNC All Science Conference, in October 2011.
- Shared lessons learned about large scale restoration and project integration across sites while participating in TNC Gulf of Mexico NRDA project planning meetings and at State of the Gulf of Mexico Summit, 2011.

Year 2011 (Jan – July)

- Reviewed video and photo guidelines with all projects to ensure consistency and compliance with TNC and ARRA requirements.
- Conducted site visit to USVI Coral Recovery site to (among other things) assess progress on construction and monitoring implementation, conducted site visit to CA project to collect video footage and review final reporting.
- Collected and compiled all ARRA digital media (photos and video) for TNC archive
- Assisted FL coral recovery project staff and partners with large media event and coral plantings
- Worked with TNC Information and Technology staff to begin development of externally facing web page (Conservation Gateway) that will feature each of the ARRA projects.
- Organized and facilitated an "all project integration" meeting where the Central Support Team provided guidance and best practices info on final reporting, finalize a summary paper for publication and executive summary for board of trustees and other TNC senior managers and conduct breakout sessions for teams based on monitoring success and challenges, communication needs, and "what comes next" for restoration (see attachment for meeting notes and next steps).
- Highlighted the ARRA projects at several high level internal meetings including; The Nature Conservancy's Global Marine Team working retreat, Senior Manager's meeting and briefed TNC's Mid-Atlantic Seascape Team (MAST) on outcomes from ARRA restoration projects to help put the oyster and seagrass project at VCR into larger national context and NOAA Scientific Advisory Board Working Group meeting.
- Supported TNC's Government Relations staff in briefings of congressional staff who have an interest in habitat restoration including meetings in Washington, D.C.
- Worked with TNC outreach staff to develop and hire contractor to develop Integrated ARRA videos (due for release September, 2012).
- Incorporated outcomes and information about ARRA projects in a new TNC publication "*Restoration Works"* that summarizes ten years of collaboration with the NOAA Restoration Center, and briefed members of TNC's Senior Management Team about that report at an annual planning meeting

Lessons Learned: The Value of Integration – looking up from and beyond the site level with centralized support

The NOAA-ARRA projects implemented by TNC represent an unprecedented scale of restoration, both collectively and individually. They present an opportunity to both accomplish large-scale ecological outcomes and to demonstrate the potential benefits of future restoration actions in the U.S. The value of cross-site coordination was many fold. While project managers were occupied with daily management activities, CST staff was able to network sites together to find or share information, assist with site visits, assist with the development and implementation of monitoring and reach out across the Conservancy to raise awareness of projects and restoration success. Lessons learned from project implementation include:

- Overall project integration significantly enhances overall project success without creating additional work for teams.
- Project teams pull together to coordinate when the value added is clear.
- Difficult to show examples of "disasters averted" yet most feel that integration is an essential component of success;
- A central point of coordination allows lessons from the "many eyes" of the herd to be shared and implemented in other projects.
- Integration allows for greater ease of receiving and disseminating information, which in turn leverages more support.
- It takes more than large-scale funding to implement large-scale restoration projects. It also takes demonstration, innovation, knowledge sharing, partnerships and leverage.

TNC Central Support Team and NOAA site visit to Fisher Slough ARRA project in Washington. Photo credit Rob Brumbaugh @TNC.

Demonstration sites – laying the foundations of restoration and spurring innovation.

Each of these projects should be considered a demonstration site, where TNC and partners had to adapt existing knowledge to new challenges dealing with large scale restoration. For example, although the Florida coral recovery project had a coral nursery technique proven to be effective and efficient at a small scale, methodologies had to be modified when nurseries expanded. Nursery corals grown on blocks secured to the ocean floor required a great deal of maintenance in the form of cleaning off algae and sedimentation and were frequently attacked by bottom-dwelling predators (i.e.,

fire worms and corallivorous snails). Nursery managers discovered that growing corals attached to floating lines suspended in the water column kept corals cleaner and healthier, and that they grew faster. Most of the nurseries now employ some combination of block and line nurseries, taking advantage of the ease of maintaining line nurseries while spreading risk associated with depending on any one method exclusively. Each of the project sites provided a successful way to test the feasibility of methodologies and the effectiveness of techniques. Implementing a demonstration project also required that project managers be comfortable with failures and realize that we can sometimes learn as much from unfavorable results in order to improve the restoration process moving forward.

INNOVATION

Previously funded small scale living shoreline oyster reef restoration projects have demonstrated that creating the right building blocks for oysters to settle and then grow on is an essential piece to shellfish reef restoration. Although many materials were tested to attract oysters, oyster shells produce the best results. I n some places, shell material can be spread in thick piles (coastal bays of Virginia), but in many other coastal locations, piles of loose shell get scattered by wave and tidal energy. In higher wave energy locations, shell can be placed in bags to hold the shell material in place until reefs can be established. In smaller restoration projects, volunteers are commonly used to bag shell providing opportunities for communities to get direct hands on experience with shellfish restoration. The Alabama restoration project alone required over 150,000 bags of shell (6 million lbs. of shell) which would have overwhelmed any group of volunteers. A crew of 5 full time workers was hired to manually bag shell. Innovation inspired the workers to invent an oyster bagging machine (picture above) that, with that same a crew of 5, were easily able to create 2,000 bags in one day, increasing production and cost savings to achieve project success. This machine invented by the contractors can now be marketed to other contractors interested in shellfish restoration.

Knowledge Sharing – passing information on

Demonstration sites are successful only if detailed information can be easily made accessible to others. Passing knowledge to others about successes and failures is an important way for new technologies, techniques and innovations to spur successful restoration. As other TNC chapters and public and private partners implement restoration projects, access to important information (e.g., restoration and monitoring plans, lessons learned) will help new projects to build upon stepping stones already laid by

past work. Many of these projects have attracted private companies, other NGOs, and state and federal agencies interested in restoration technologies, and project managers have spent many hours showcasing the projects to visitors far and wide. There are lessons learned at each site, but the cumulative effect of looking across sites and as a body of restoration work has been an important feature of the TNC ARRA funded projects. Bringing project managers together to share knowledge takes dedicated staff in this case the CST, who are working at scales larger than project site level.

Partnerships – it takes a village to save a village

Partnerships provide valuable capacity leverage and motivate communities to set priorities and take action to improve coastal *habitats*. In Alaska, where resources and expertise are spread thinly across a large state, CST staff were able to connect project managers with NOAA Coastal Resources Center scientists who played an integral part in securing pre-restoration aerial photography and then developing seagrass and marsh vegetation maps that can be re-created over time to visualize changes in the Klawock lagoon after restoration. This partnership will help answer questions about the success of the project and showcase the value of investment of public dollars on this site. In Washington, working not only with fish and wildlife agencies but with dike and irrigation districts, farmers and the Skagit Watershed Council has helped forge trust between parties once adversaries but now moving towards working together on future restoration projects.

Leverage – using our success to move future restoration forward.

These projects have helped to build the local and national reputation of TNC as one that can implement working solutions to restore our nation's natural capitol for the direct benefit of all Americans. When you think about our Nation's infrastructure – bridges, highways, maybe high speed internet, or water treatment facilities might come to mind. Natural infrastructure is made up of our Nation's assets that provide an array of goods and services that we rely on for things like clean air, clean drinking water, food production, and/or protection from flooding or storm surges. This project has helped TNC to leverage our reef restoration efforts in Louisiana and across the Gulf of Mexico. TNC's restoration projects, such as these in Louisiana and Alabama have generated a great deal of interest across the Gulf Coast. They have helped elevate the value of these reefs or living shorelines as a viable and cost effective natural option for shoreline protection. TNC has been given the opportunity to test and compare different innovative artificial reef technologies for shoreline protection and

restoration in different habitat types and salinity regimes to see what works best, where. Understanding the long-term viability of the reefs will help inform future living shorelines projects Gulf-wide.

These two Gulf of Mexico projects have allowed TNC to foster partnerships and discussions with public and private partners and decision makers about how habitat restoration and particularly oyster reef restoration is a critical investment to the Gulf Coast's recovery. Due to the vast experience gained from managing this and other large-scale projects, TNC has achieved credibility and visibility as a partner in the Gulf-wide restoration community. Staff in Louisiana was recently approached by a partner agency asking for TNC's help in designing and managing a future 25-mile oyster reef project.

Several of the ARRA funded projects were featured in two congressional briefings on Capitol Hill in Washington, D.C. to share with congressional and federal administration staff that investing in nature and natural infrastructure provides long-term benefits for the environment and the economy. These restoration briefings were an important piece to demonstrating TNC's role in implementing conservation strategies for the benefit of species, habitats and humans, and to leverage support for our federal partners like NOAA and the USACE that have been essential in TNC achieving conservation successes**.**

Many of these projects have been used to showcase the benefits of conservation for people. Several sites were visited by top administrative officials at NOAA, and local, state and federal elected officials. Restoration that affects the human bottom line and gives a boost to local communities is a story that resonates with all, regardless of political agenda. Using these project sites as a springboard for discussions with agency and government officials about the global significance of habitat loss and need for restoration has been a large part of the leverage strategy for this body of work.

CST and ARRA Project Staff gather to discuss project success at the All ARRA Integration meeting. Photo credit A. Wrona Meadows @TNC

Key Challenges and Lessons Learned

There were many levels of challenges faced by projects where the CST was able to bring extra capacity. Key challenges included monitoring, project delays, and capacity (staff and budget).

Monitoring

There were many different approaches taken to implement monitoring at each of the ARRA Restoration sites. Each team made decisions based on capacity, partnerships and past experiences with other restoration projects. At a recent TNC ARRA project workshop, project leads were surveyed about the approach they took to and the level of investment in monitoring that was made at each site. When asked about their choices for implementation, monitoring activities fell into three broad categories: environmental consultants, academia and TNC staff. Most projects utilized a combination of all three approaches depending on the metric measured. It was important for each project to have the flexibility of hiring needed in order to contract with partners with existing relationships, those scientists that had local expertise, and entities that had a proven ability to execute on contracts with deliverables. In most cases, specialized expertise came from either TNC staff or local universities where contracting with scientists and graduate students was also perceived as long term relationship building for the TNC chapter. In some cases, however, project directors reported difficulty in obtaining

summarized results from academic contracts in a timeframe that is helpful for semi-annual reporting and project close out. Project leads suggested that in future contracts; they would tie the release of payments to more specific and timely deliverables rather than quarterly invoice or lump sum payments.

Investments in monitoring ranged from as little as 3% of the overall project budget to over 27%. Most projects (6 out of 8) reported that the level of money that they spent was "just right". One project reported that they chose an environmental consulting firm because of the perception that their involvement in the monitoring would be perceived in the community as non-biased, autonomous and without any political conflicts with stakeholders and were therefore willing to invest at a higher rate to pay for this autonomy. This perception within the stakeholder community, however, did not hold true and so their investment was described as "too high" for the return of results.

One project reported that their level of investment was too low. In this project, monitoring funds were not put aside upfront in the overall project budget and TNC had to go back to NOAA for additional supplemental funding that was only available in much lower amounts. With help from the CST, local state and federal partners, this project's monitoring includes minimum monitoring with only limited new resources to bring to implementation (data collection and analysis). In the future there is concern that with only minimal monitoring, TNC and other managers could potentially struggle to either show proof of the full suite of ecological and economic benefits of the project or if the project does not produce expected ecological outcomes, scientists and managers will have difficulty determining adjustments to make to create restoration success.

Project managers across the board also identified at least one monitoring metric that enabled them get very high leverage information. Many projects were getting great benefit from visual metrics such as before and after photos, areal photos, and habitat maps from areal images. They also agreed that with these short term projects, there was great value in measuring response variables that had a quick response time but that long term monitoring will be necessary to continue past the grant period in order to declare restoration success for the larger system.

In addition to ecological metrics, project teams agreed that there was great value in tracking the socioeconomic benefits of project success in terms of the number and type of job created through restoration. Having numbers to support the positive economic effects of the project on local economies helped to garner local support that made success possible and helped TNC chapters and the North America region to build support for restoration in their states including support for restoration funding soon to come to the Gulf of Mexico through NRDA and RESTORE Act fines. Focusing on the economics of restoration has also helped TNC reach influential congressional staff and representatives and federal agencies in Washington DC and with donors interested in job creation and has begun to demonstrate the tangible results of restoring "green infrastructure" for the benefit of people.

Capacity

Many project teams reported that they underestimated the amount of scientific expertise that was needed for the project in order to develop monitoring plans, review data or deliverables coming from science contractors, and interpreting results. Some project leads indicated that they were either lacking science support within their chapters, or did not budget for TNC science support upfront in the project budget. Sharing these lessons learned with future restoration projects will be important to ensure that science continues to support our conservation strategies.

Many project managers also reported that the amount of capacity needed for implementation was underestimated. Managers reported that they used other TNC staff not paid for by the grant to work on various project needs (land protection, monitoring, government relations, media and marketing). In some cases, the CST paid directly for that staff or use expertise on the CST to assist projects (monitoring). In some cases, CST facilitation of sharing information and exchanging project staff between sites helped to build capacity.

Project Delays and Budget Shortages

In most cases, budget shortcomings were a result of significant project delays. Due to cost savings on behalf of the CST, we were able to pass back a significant amount of funds to all of the projects for project implementation. In Alaska, the short construction season and need for re-engineering of the restoration plans caused delays and budget shortfalls that were in part, covered by CST funds (passed

back to the project) and additional funds were provided by private dollars from the Global Marine Team. In Washington, unexpected weather delays and cultural resources discover within the construction site also caused budget shortfalls. In this case, the CST was able to find additional support through other federal grants to help keep the project on track. In the Gulf of Mexico (GOM), both the LA and AL project experiences significant project delays. The CST was able to assist the GOM projects with project extension requests and supplemental funding that were successfully secured from NOAA.

Summary

TNC has a decade of experience leading coastal habitat restoration projects at various scales and has managed a portfolio of exciting ARRA-funded projects supported by NOAA. The Conservancy has observed that:

- Public-private partnerships provide valuable leverage for implementing on the ground restoration strategies and motivate communities to set priorities, take action and become advocates to improve their coastal habitats.
- Restoration projects produce large outcomes that can leverage influence and build our credibility with partners.
- Restoration projects at larger scales are engines of innovation and achieved large-scale conservation outcomes within and beyond local restoration sites.

Each of the eight TNC led ARRA projects exemplify these values. Leading the integration of these projects the Central Support Team was able to showcase and utilize these projects as examples of leverage, credibility and influence. While the importance of overcoming challenges with integrated and centralized support is clear, the many examples of success from these cohesive set of projects provide profound insight into taking restoration to ecological and sociological meaningful scales.

Section VI. Attachments

1) Synthesis Document (Investing in Nature)
2) Electronic version of TNC magazine articles
3) Agenda from All ARRA Integration Meeting
4) Other?