

ENGAGING MARGINALIZED YOUTH IN HUNTING AND ANGLING

Identified Best Practices and Opportunities

First Edition





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Prepared by

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A Letter from the Director

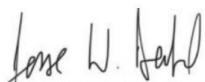
My earliest memory is following my dad through knee-deep snow across the Carson National Forest in Northern New Mexico. My dad was hunting mule deer and he brought me along for the journey. I was six years old. He didn't get a deer that day, and perhaps the fact that he had a six-year-old tyke in tow contributed to that outcome. Regardless, it's a memory I cherish and often recall. My dad's gone now, but his love for the outdoors and the natural world lives on through me.

Not every child has parents who hunt, fish, camp or otherwise enjoy the outdoors. I was fortunate to be born into a family that relied heavily on wild, public lands as part of our way of life. We didn't have a lot of money. What I did have was access to a seemingly endless landscape of wonder and adventure. Regardless of financial situations, youth are largely at the mercy of adults as to the outdoor experiences they are afforded. I have great concern for youth who do not have access to nature.

Without the ability to drive to a trailhead and without the ability to purchase a fishing rod or a hunting license, today's youth depend on today's adults to provide them with the pathway. That pathway must be resilient though – not just a single, enjoyable experience that will be positively remembered but never replicated. We must create meaningful outdoor experiences for our youth in a way that involves their families and ensures we break down the barriers to entry, creating a tradition of love and enthusiasm for the natural world. The New Mexico Wildlife Federation youth program, Nature Niños, focuses on creating these meaningful experiences by exposing kids to various topics, allowing our youth to discover and explore the passion which interests them.

There are countless activities to be had outdoors. The ones that resonate the most with me, and the ones I hope attract our next generation of land stewards, center around wild harvest. Whether one is harvesting the beauty of nature through painting and photography or whether that harvest is the literal extraction of wild, free-ranging protein taken through hunting or fishing, harvesting from nature is proof that we are part of nature. We are active participants rather than just distant admirers. I'm 42 years old now and I just topped off my freezer with a few beautiful drake mallards. My woodstack is looking awfully low, so I need to plan a trip to replenish that supply as I still heat my home with wood from our forests.

It's December as I write this and in about a month the ice-fishing in New Mexico should get good. I plan to spend ample days pursuing fish through the ice and sufficient time following animals through the snow. These are traditions I was born into. These are traditions I deliberately pass on, especially to those who likely would not be exposed to them otherwise. These activities, hunting and fishing especially, fund the conservation work necessary to ensure these traditions, and the memories made through them, will continue. We, at the New Mexico Wildlife Federation and the Nature Niños program, hope this research report and Toolkit will inform and inspire your program to provide lifelong outdoor memories for the next generation of conservationists.



Jesse Deubel
Executive Director
New Mexico Wildlife Federation



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01. EXECUTIVE SUMMARY

States have received over \$33 billion in funding for conservation projects through the North American Model of Wildlife Conservation - a model that requires states to direct revenues from the sale of hunting and fishing licenses back to wildlife agencies. Given that the sale of these licenses are critical to the funding model, it is concerning that the number of individuals in the country who hold a hunting license has decreased by 2 million in the last thirty years. Previous research has found that over 80 percent of adult hunters and anglers participated in the sport before they were twelve years old.

Ultimately, the goal of this project was to identify the best practices to effectively engage youth and their families in hunting and angling - especially those from communities not traditionally exposed to these activities. Our team utilized a mixed-methods approach to compile the leading strategies in youth engagement, which included identifying educational frameworks from the leading organizations in outdoor education, conducting a literature review to understand what peer-reviewed research existed, and hosting three listening sessions with partner organizations either implementing hunting and angling programming, or other outdoor activities. The strategies listed in this document will help engage and activate youth and ultimately help build life-long hunters and anglers.

Some of the leading strategies include:

- **Marketing materials should have language encouraging participants to engage with the program and not be intimidated.** Phrases like “introduction to hunting and fishing” or “no previous experience necessary” should be included.
- **Ensure marketing materials include language describing the safety measures** taken to reinforce the idea that the program is safe.
- **Tailor marketing materials to the program’s target age group**, primarily since youth at different ages are interested in different aspects of the program.
- **Include costs that are usually passed to families into organizational budgets**, like transportation and the purchase of materials.
- **Establish a resource library that allows youth to ‘check-out’ the equipment needed to participate in hunting and angling.** Staff should make sure all equipment is safe and operational, as well as develop a strategy to ensure archery equipment is used under adult supervision.
- **Offer transportation** by partnering with organizations that offer transportation, writing transportation into grants, and teach programs that can be easily accessible to youth like yoga in the park, cleaning up the river, etc.
- **Create a cohort of adult Black, Indigenous and People of Color (BIPOC) mentors;** this would ideally help to increase interest by students because they see adults who look like them participating in archery and fishing.



02. INTRODUCTION AND PROJECT PURPOSE

The North American Model of Wildlife Conservation has been the cornerstone of conservation for decades. And while it stipulates that fish and wildlife belong to the public and should be managed for the public's benefit, its strength comes from its steady revenue streams provided to state fish and wildlife agencies from the sale of "hunting and fishing licenses and from excise taxes collected on specific hunting and fishing equipment."¹ The Pittman-Robertson Act of 1937 (which established the Wildlife Restoration Program) and the similarly modeled Dingell-Johnson Act of 1950 (which established the Sport Fish Restoration and Boating Trust Fund) codified hunting and fishing license programs and required states to direct revenues from the sale of licenses to wildlife agencies.²

To date, the U.S. Fish and Wildlife Service, which manages the funds, has distributed over \$25.5 billion for conservation projects through

a formula-based distribution criteria focused on land and water area in a state, in addition to the number of paid fishing and hunting licenses.³ State wildlife agencies also have contributed approximately \$8.5 billion since its establishment, with funding coming from the sale of fishing and hunting licenses.⁴

The sale of fishing and hunting licenses is critical to the funding of conservation efforts at the state level, which is why it is concerning that recent trends show a decrease in licensed hunters over the last few decades and a modest increase in anglers in the last 10 years. Specifically, the U.S. Fish and Wildlife found that between 1980 through 2020, the number of individuals in the country who hold a hunting license has decreased by 2 million, with the number of active hunters declining by approximately 30 percent in that same time period.⁵ In addition, the Recreation

1 "AFWA Informs: The American System of Conservation Funding. Hunting & Fishing License Sales and the Wildlife & Sport Restoration Trust Funds," Association of Fish & Wildlife Agencies, accessed July 27, 2022, <https://www.fishwildlife.org/afwa-informs/resources/american-system-conservation-funding>.

2 "Wildlife Restoration: What We Do," U.S. Fish & Wildlife Service.

3 "Interior Department Announces Over \$1.5 Billion to Support State Wildlife Conservation and Outdoor Recreation," U.S. Department of the Interior, accessed July 27, 2022, <https://www.doi.gov/pressreleases/interior-department-announces-over-15-billion-support-state-wildlife-conservation-and>.

4 "Interior Department."

5 Victoria R. Vayer et al., "Diverse University Students Across the United States Reveal Promising Pathways to Hunter Recruitment and Retention," *The Journal of Wildlife Management* 85, no. 5 (May

Boating & Fishing Foundation (RBFF) found that the number of individuals in the U.S. who have gone fishing at least once decreased modestly - from 51.8 million participants in 2007 to 47.2 million in 2016⁶ - before steadily increasing to a peak of 54.7 million participants in 2020.

Both hunting and fishing data suggests that individuals introduced to the sport in their youth are more likely to continue participating later in life. For instance, RBFF's report found that "86 percent of current fishing participants first fished before the age of 12."⁷ Given the reliance on fishing and hunting licenses to fund conservation efforts, coupled with the higher likelihood of individuals staying in the sport if

they are exposed in their youth, it is imperative for stakeholders to focus their efforts on exposing youth to hunting and fishing and make the sports relevant to youth and their families - especially for those who would not otherwise have access.

Many stakeholders are actively working to combat this trend. Sixteen states have established officers for outdoor recreation and are providing outdoor equity grants with a focus on marginalized youth to mend the gap. In 2020, the Wilderness Society published "Next Stop: Equitable Access. A Transit to Parks Access," mapping opportunities and challenges faced by local communities, while providing recommendations on how to link access to the outdoors in the Albuquerque Metro area.

2021): 1017-1030, <https://doi.org/10.1002/jwmg.22055>.

6 Special Report on Fishing (Outdoor Foundation, Recreational Boating & Fishing Foundation, 2022), 1-55.

7 Special Report, 1-55.



The Association of Fish and Wildlife Agencies, the U.S. Fish and Wildlife Service, and the National Wildlife Federation and its affiliates are also working on this gap. The Association of Fish and Wildlife Agencies (AFWA) works to create a collective voice among its member fish and wildlife agencies to promote “science-based management and conservation of fish and wildlife and their habitats in the public interest.”⁸ AFWA also has developed a “Conservation Education Strategy” to enhance public appreciation of fish and wildlife management and manages the Multistate Conservation Grant Program to address regional priorities for fish and wildlife agencies.⁹

The U.S. Fish and Wildlife Service manages the Wildlife and Sport Fish Restoration (WSFR) Program, which funds conservation work at the state level. The USFWS also organized states into eight distinct regions to foster collaboration at the local level. New Mexico is located in the Southwest Region (Region 2) along with Arizona, Texas, and Oklahoma.

Lastly, the National Wildlife Federation (NWF), which has worked to connect children and youth with nature for decades by helping parents find new ways to engage their children outside and connecting with educators. NWF’s current three-year goal is to get “21 million American children, teens, and young adults out of their indoor habitat and into the great outdoors,” all with the goal of creating a “generation of happier, healthier children with more awareness and connection to the natural world.” To reach more youth, NWF has collaborated with

schools, park agencies, and other institutions to develop programming like the Schoolyard Habitats, Eco-Schools USA program, and the Trees for Wildlife™. NWF has also developed free educational resources such as lesson plans, curricula, and other on-line resources that aim to connect youth with nature.

The National Wildlife Federation has also worked to develop policies to connect youth and families to the great outdoors since its inception in 1936. Specifically, the National Wildlife Federation works with state-level policymakers (i.e., governors, legislators, and other state-level actors) to create state-specific action plans identifying resources and opportunities to increase youth engagement in the outdoors. The National Wildlife Federation is also working on national policy efforts for this cause, like the No Child Left Inside Act - which aims to have every student achieve a basic understanding of the environment.

The New Mexico Wildlife Federation is in the Rocky Mountain Regional Center of the National Wildlife Federation, which also includes affiliates from Nevada, Utah, Arizona, Colorado, Wyoming, and Nebraska. Many of these affiliates have embarked on initiatives to increase youth engagement in the outdoors, with activities related to hunting and fishing. For instance, the Nevada Wildlife Federation hosted the Annual Kids Fishing Derby. The Wyoming Wildlife Federation partners with local organizations to offer youth skill-building opportunities during summer day camps and worked to pass HB 122 to help fund reliable hunting and fishing access.

⁸ “AFWA Is: Overview,” Association of Fish & Wildlife Agencies, accessed July 27, 2022, <https://www.fishwildlife.org/landing/overview>.

⁹ AFWA Informs: MultiState Conservation Grant Program. MultiState Conservation Grant Program Overview,” accessed July 27, 2022, <https://www.fishwildlife.org/afwa-informs/multi-state-conservation-grants-program>.

Ultimately, this project follows the Fish and Wildlife Relevancy Roadmap’s goal to “enhance conservation through broader engagement,”¹⁰ by identifying the best practices to effectively engage youth and their families in hunting and angling - especially those from communities not traditionally exposed to these activities. To do this, our team utilized a mixed-methods approach to compile the leading strategies in youth engagement. Our team identified

educational frameworks from the leading organizations in outdoor education, conducted a literature review to understand what peer-reviewed research existed, and conducted three listening sessions with partner organizations either implementing hunting and fishing programming, or other outdoor activities. The strategies listed in this document will help engage and activate youth and ultimately help build life-long hunters and anglers.

10 “Fish and Wildlife Relevancy Roadmap (v1.0): Enhanced Conservation Through Broader Engagement,” Association of Fish & Wildlife Agencies, Wildlife Management Institute.



03. METHODOLOGY

Understanding that few organizations have worked in fishing and angling, our team sought to understand what strategies would be particularly helpful to newer organizations. Because of this, our research sought to identify programmatic, organizational, marketing strategies that could help organizations become more effective at engaging youth. Our team also focused on obtaining these best practices, to the extent possible, from local partners as well as national organizations. To this end, our team employed the following mixed-method approach:

01. PRE-SURVEY AND LISTENING SESSIONS

Our team worked with Nature Niños staff to identify 30 organizations (practitioners in the field) that offer similar outdoor education programming, including hunting and angling. Each organization was invited to share its best practices as well as its biggest challenges in recruiting and retention.

All 30 organizations received an email describing the goal of the project and a link to a pre-survey to capture key information from the organization. The pre-survey had 20 questions that were a combination of free response and multiple choice, that were completed on Google Surveys. Twenty-one organizations completed the pre-survey questionnaire.

All of the 21 respondents were invited to participate in a 1-hour listening session. Each Listening Session had between 3-5 participating organizations and each followed a semi-structured interview guide which sought to understand what programs each organization was offering and where, and what programmatic, organizational, and marketing challenges they were experiencing. Participants were also asked to share strategies they had developed to overcome such challenges. The sessions were recorded using Otter.ai and analyzed for key themes and patterns.

The questions can be categorized across the following six themes:

1. Organizational Information - Seven questions asked participants about their organization, including, name, contact information, nonprofit status, geographic location, size of programming, and whether the organization had partnered with Nature Niños in the past.

2. Programming and Partnerships - Four questions centered on the organizations' programming. Questions covered what types of programming the organization offers, what partners the organization works with, and whether the organization offers programming on archery, fishing, and/or hunting).

3. Demographic Served - Three questions centered on whom the programs engage, specifically whether the programs prioritize engaging low-income and under-served communities, individuals with physical and/or learning differences, and non-English speakers.

4. Marketing - one question focused on how organizations promote their programs to their identified constituency.

5. Learning and Evaluation - Three questions focused on the types of curriculum used by the organizations, how they engage participants in their programming, and how they evaluate their programming.

6. Other Information - One free response question asked participants if there was anything else that they wanted to share with the research group and a second question asked whether the organization would like to participate in a listening session guided by our research team.

Of the 30 target organizations, 21 organizations responded to the survey. Participants were not required to answer each question and, therefore, some questions have fewer responses than the number of organizations that completed the survey.

Below is a summary of the 21 responses received in the pre-survey:

Fourteen respondents (66 percent of all respondents) were nonprofit organizations and 6 respondents (29 percent of all respondents) were with public agencies. One respondent was affiliated with a for-profit entity but was chair of a nonprofit organization.

Six respondents served less than 100 participants per month, 7 respondents served between 100-500 participants per month, and the remaining 7 respondents (35 percent) served more than 500 participants per month.

Forty-five percent of respondents (6 respondents) stated that they had partnered with Nature Niños in the past, while 53 percent (7 respondents) of the respondents had not partnered directly with Nature Niños. It should be noted that only 13 respondents answered this question.

Approximately 95 percent of respondents were involved in education and youth engagement on a regular basis, with approximately 62 percent of the respondents leading adult education and engagement, 42 percent being involved in advocacy/policy work, and another 42 percent being involved in land, water, and conservation/management.

Approximately 62 percent (13 respondents) of respondents offer short (60 minute or less) daytime programming for youth and their families. Another 62 percent offer half-day programs for youth. Approximately 52 percent (11 respondents) of respondents offer professional development workshops for teachers and educators. Thirty-eight percent (8 respondents) offer full-day programming, and 33 percent (7 respondents) offer classroom lessons. It should be noted that respondents can offer more than one type of programming and, therefore, the cumulative percentages can add up to over 100 percent.

All 21 respondents reported prioritizing partnering with other nonprofit organizations, 90 percent (19 respondents) prioritized partnering with government agencies, and 85 percent (18 respondents) prioritized partnering with community groups and public schools. A smaller number indicated their partnerships with for-profit business (51 percent), home school households (38 percent), and religious institutions (9 percent).

Eighty-one percent (17 respondents) of respondents were not providing educational programming around archery, fishing, and/or hunting. The remaining four organizations did provide archery, fishing, and/or hunting programming to both youth and adults.

Seventy-six percent (16 respondents) of respondents actively seek to engage both low-income and under-served populations.

Of the 13 respondents that answered the following questions, approximately 46 percent (6 respondents) actively work to engage

community members with physical disabilities and/or learning/developmental disorders and the same proportion offer programming in more than one language.

All respondents promoted their programming on their website, with 95 percent (20 respondents) promoted their programs on social media, 90 percent using word of mouth, and 76 percent using public outreach strategies like tabling at community events. Fewer respondents used strategies like email, mail, or public flyers to advertise.

Almost all respondents (95 percent or 19 respondents) used their own original programming, with fewer respondents (25 percent) also using specialized curriculum designed by other entities like Project WILD, Project WET, Project Learning Tree.

02. LITERATURE REVIEW OF PEER-REVIEWED RESEARCH

Our team conducted a literature review to understand what peer-reviewed research existed around engagement in hunting and angling. Our team primarily used the North American Association for Environmental Education's (NAAEE) Environmental Education Research (eeResearch) page to identify best practices and also utilized its search engine to find additional peer-reviewed journals.

The overall takeaway was that while there were few published articles outlining the decline of individuals participating in hunting and fishing - and, consequently, a decline in youth participation in these activities, there were almost no published articles that had tested



and identified strategies to recruit more youth in hunting and fishing.

Because of this limited research, our team determined that the next best course of action was to treat hunting and fishing as regular outdoor/extra curricular activities, those that youth can choose to participate in like any other after school program. This allowed our team to understand the programmatic challenges and solutions that can improve recruitment and retention among youth who participate in hunting and fishing.

03. REVIEW OF BEST PRACTICES FROM LEADING ORGANIZATIONS

Our team identified several organizations that are leaders in environmental and outdoor education and reviewed their recommended best practices for developing, marketing, and managing programs.

04. RESULTS AND FINDINGS

The following sections outline the results and findings from our mixed-method approach. As you will see, some of the findings in the three distinct sections are complementary.

01. LISTENING SESSIONS

The following are lessons from the three listening sessions our team conducted in April 2022. The participating organizations discussed the barriers their programs face in recruiting new members, maintaining existing members, and ensuring that those who have gone through their programming can continue to participate in similar outdoor activities on their own. In many instances, similar factors could present barriers to all three points of entry. Again, the goal of these programs is to get youth from under-served and low-income communities to be engaged in the outdoors and, in particular, in hunting and angling.

Cost as a Barrier

Most of the organizations involved in the listening sessions raised cost as a central barrier that prevents youth from being engaged in outdoor activities. It is important to note that there are several instances (access points) where cost can be a prohibitive factor:

First, families from under-served and low-income populations often struggle to afford the equipment necessary to participate in hunting and angling- like fishing poles, bait, and bows and arrows.

Second, these activities often require permits which may also be cost prohibitive for many families. While the Junior Annual Fishing License for youth between 12-17 years of age in New Mexico is \$5.00 as of July 2022, youth generally are accompanied by adults who would also need their own license. Adult licenses are \$8.00-\$25.00 and may be cost prohibitive for some families.

Lastly, adults need time to travel and buy this equipment and file for these permits by either driving or online, stacking additional barriers to families who lack dependable transportation and connectivity.

Listening Session Highlight

The Des Moines Boys and Girls Club has faced some of these challenges in their programming. Fisheye was launched in the late 1990's by Barb Gigar with the goal of alleviating barriers for families. Through this partnership between a community organization, the Iowa Department of Natural Resources, the Iowa Wildlife Federation, and the school's students access an in-school curriculum. As part of the program, students who are 16 years and older can access free fishing permits. There is also an equipment library with 3,000 rods, along with a teacher recertification training and an expansion to include courses for outdoor skills in archery. "We think of partnership with education as lifetime recreational pursuits. Those are things that you can cultivate that interest kids. We see the broader impact being with those introductory gateway activities." - Barb Gigar, Iowa Dept. Natural Resources.

Listening Session Highlight

Big Brothers Big Sisters of Central New Mexico, along with other regional partners, have worked to bring programs closer to families. "Incorporating little things like Art in the Park or yoga in the park are important because we're trying to show them that sometimes you may not have the ability to have someone take you to the mountain or go for a hike, but you can do this even in your backyard." - Sarah Piano, Big Brother Big Sisters Mountain Region.

Transportation and Logistics as a Barrier

Many of the organizations mentioned that their hunting and fishing programming was offered in places that were appropriate for those activities (i.e., specific lakes, rivers, etc.). These places were not necessarily close to the more 'urban' and 'residential' centers where their participants lived. Therefore, participants often struggled to get to the site where activities were being held. This was especially true for communities with poor public transportation and in households whose parents work during the programmed activities.



Listening Session Highlight

Through a collaborative event with Cabela's, a hunting and outdoor store, a fishing event was scheduled in southern New Mexico targeting Latino families. During this well attended event, families were provided with free fishing gear and fishing lessons. "We are getting back to our roots and exploring how hunting and fishing has traditionally been experienced in Latino communities." - Shelby Bazan, Bosque Ecosystem Monitoring Program (BEMP).

Adult Supervision as a Barrier

Many activities need an adult present to supervise the activity for safety reasons. This can prohibit youth who do not have an adult willing and able to engage in the activity.

Perceptions as a Barrier

Organizations shared how potential participants often feel intimidated by hunting and fishing, and may choose not to attend events because they think they need to know how to do the activities before they get there.

Families who have not been exposed to hunting and fishing in New Mexico may not know hunting and fishing is an option.

Organizations observed how some immigrant families do not have a connection to hunting and fishing in their new hometown. Because of this, they often lack access to mentors and elders who they relate to from a cultural perspective, and who can introduce them to where and how they can fish and hunt in their new community.

The mainstream media often portrays guns as unsafe. Families that do not have previous experience may not consider hunting as a safe activity.

Increasing Access as a Solution

Organizations indicate that marketing programs and activities in advance are helpful. In particular, they recommend to clearly state that there will be hands-on training provided and that no prior experience in the activity is necessary to participate.

It is also important to provide marketing materials in the appropriate language. For instance, if your organization is trying to attract participants from Spanish-speaking households, marketing materials and instruction should also be available in that language. This approach can help families feel included and can also help families be less intimidated when participating in the activity.

Organizations shared that hiring people who are from the community being served can help ensure language and cultural access are part of the planning process.

Recruit community members and leaders when creating events to ensure events are culturally appropriate and meaningful.

Partnerships as a Solution

Establish partnerships to expand access to under-served communities. Examples include partnering with organizations that already work with vulnerable populations.

Partner with Title I schools and teachers who are from the community you would like to serve.

Focus on developing “in the backyard” activities. Work with partners that have captive audiences and provide the resources geographically located in the target community.

Organizations with a long term engagement strategy are usually the most successful.

Show appreciation for community partnerships. For example, provide gift cards to guest speakers and tag partners on social media.

Listening Session Highlight

Nature Niños works with community leaders and families to provide food at every event. With a high Latinx population, Nature Niños has found that family-friendly food options and greeters from the community not only encourages multi-generational involvement but increases engagement.

Listening Session Highlight

Kim Winton with Conservation Coalition of Oklahoma took a similar approach with an undergraduate research program. Her students in the Chickasaw Nation participated in the School to Work program which provides a stipend for eligible participants while pursuing full-time college or vocational program and complete on-the-job training. Many of her students never had been exposed to outdoor education, conservation, or environmental research. And, as Winton suggested, “our programs open up their eyes to research and opportunity and life experiences that they haven’t had before.”

Listening Session Highlight

National and local partners are working to bolster cultural competency within programs, and one way to do that is through hiring skilled members of a targeted community. Ben Jones with the Texas Conservation Alliance established a robust internship program focused on exposing underserved populations to conservation projects. To be more inclusive of the population being targeted, the organization dropped the college student requirement which allowed both students and community members to participate.





02. PEER REVIEWED RESEARCH

The team conducted a literature review of peer-reviewed research to identify best practices for recruiting and retaining youth in outdoor education programs, specifically those focused on hunting and angling. As mentioned in the methodology section, our team found that there was limited research on ‘best practices’ that show how to get youth engaged in hunting and angling. We did find research identifying trends and challenges in recruiting youth to participate in these activities that could be beneficial. The following themes were identified:

Communicating the safety in hunting and angling programs is critical for parents and youth. This safety is related to all aspects of the programming, from how youth will travel to these programs to who will supervise the youth while they are engaging in the activity. One article that analyzed engagement in urban and community fishing (UCF) projects - those that help provide easy access to fishing opportunities to a more urbanized areas - found that out-of-city sites are often “too far in travel distance (e.g., a long bicycle ride) and beyond the parental “comfort zone.”¹ The result being

that parents may perceive the transportation to these places as too dangerous and, therefore, opt for their children to do other activities. Another article found that individuals living in low-income neighborhoods with higher crime rates are “unlikely to use community park and recreation resources if they feel threatened on site or while traveling to the site.”² Lastly, a large research study conducted in 2003 titled Factors Related to Hunting and Fishing Participation

Fishing Opportunities,” American Fisheries Society Symposium 67, (2008): 53–62.

2 David Scott, “Economic Inequality, Poverty, and Park and Recreation Delivery,” Journal of Park and Recreation Administration 31, no. 4 (Winter 2013): 1-11.

Among the Nation's Youth, which surveyed over 2,000 youth found that "many parents [were] reluctant to allow their children to hunt out of safety concerns" and that "those who said their parent(s) would not let them go hunting most commonly said that one of the reasons for this was that hunting was not safe."³

Costs are an obvious barrier that prevents youth from low-income communities from participating in hunting and angling. While this has been mentioned previously, it is important to highlight that peer research articles also mentioned costs as being a barrier. Specifically, David Scott's article stated how hidden costs, which include the equipment, uniforms, snacks, and travel can all be "prohibitive for families and individuals who have limited means."⁴ Sue Waite's piece, et. al, titled 'It's not for people like (them)': structural and cultural barriers to children and young people engaging with nature outside schooling, found that most outdoor programming providers identified the "cost of activities and transport" as the leading barrier for low-income youth participants.⁵ And it was not just the cost of transportation, but it was the loss of "valuable earning time to 'get there'".⁶ Ultimately, for households that live far away from the program site or with poor access to public transportation, participating in these programs may be too costly.

Programming and marketing should be different depending on age group, this is because youth

at different age groups have different reasons for participating in hunting and angling that change with the cognitive abilities of their age group.⁷ For instance, one survey of youth satisfaction with fishing that surveyed 997 youth found that youth in grades 1-4 "associated satisfaction with egocentric, hands-on activities such as catching fish or having fishing equipment."⁸ The survey also found that "as age increased, 'to catch fish' became a decreasingly important reason for fishing."⁹ Instead, older youth stated that they fished in order to to "[be] close to nature" and "to relax".¹⁰ This finding suggests that programming and marketing for the program should be different depending on the age group.

Youth at different age levels have different definitions of program success, which directly contributes to the likelihood of them staying in the program. As mentioned in the previous point, youth at different ages are choosing to engage in the program for different reasons. And, if these reasons are not met by the programming, youth may identify this program as "unsuccessful" or as "unsatisfactory", which is likely to be a contributing factor for youth choosing to continue in a program.

Programs seeking to recruit Latinx youth, or any other traditionally under-served population, to hunting and angling, should work to establish partnerships with individuals and organizations already working with that demographic. While an obvious point, the report Valuable Lessons Learned From Hosting

3 "Factors Related to Hunting and Fishing Participation Among the Nation's Youth, Phase V: Final Report," Responsive Management, accessed April 24, 2022.

4 Scott, "Economic Inequality," 1-11.

5 Sue Waite et al., "'It's not for people like (them)': structural and cultural barriers to children and young people engaging with nature outside schooling," *Journal of Adventure Education and Outdoor Learning*, vol. ahead-of-print, no. ahead-of-print, (June 2021): 1-20, <https://doi.org/10.1080/14729679.2021.1935286>.

6 Waite et al., "'It's not for people like (them)'," 1-20.

7 "Factors Related to Hunting and Fishing Participation Among the Nation's Youth, Phase I: A review of the literature," Responsive Management.

8 "Phase I."

9 "Phase I."

10 "Phase I."

Latino Hunters' Roundtable found that a critical way for these programs to be more successful is to "build formal and informal partnerships with individuals and organizations that already engage with the Latino community."¹¹ The benefit of doing so was these individuals or organizations may already have a trusted set of relationships with the community to be served.¹²

Hunting and angling recruitment and retention are social activities, and successful programs will focus on building the social ties between mentors and participants. There are many studies and reports identifying hunting and angling as social processes, where individuals get introduced to these activities by family members, primarily male relatives,¹³ and remain active participants because of positive socio-cultural experiences.¹⁴ Conversely, many youth may not have a family (or other social) tie to hunting and fishing and, therefore, may not be socialized into the activity. Because of this, hunting and angling programs should focus on building social connections, especially for those populations that do not already have them.

One-off hunting/fishing activities are unlikely to recruit and retain hunters and anglers, largely because these are single-day activities that introduce youth to the activity but do not create the social component necessary to keep youth engaged and interested in the activity long-term.¹⁵ Ultimately, youth need mentors and

other social connections to continue hunting and angling once the hunting day is over.¹⁶

Youth have time constraints and competing interests. As mentioned above, participating in hunting and angling activities usually requires transportation to a site that is likely not close to where the youth live. In a report titled Perceived Opportunities and Constraints on Participation in a Massachusetts Youth Hunt, the report found that non-participation in a youth hunt was the result of lack of time.¹⁷ This perceived lack of time was driven by school work, work (for older teens), and involvement in other organized sports.¹⁸

16 Larson et al., "Hunter Recruitment," 20.

17 Rodney Zwick et al., "Perceived Opportunities and Constraints on Participation in a Massachusetts Youth Hunt," Proceedings of the 2005 Northeastern Recreation Research Symposium (2005): 259.

18 Zwick et al., "Perceived Opportunities," 260.



11 "Valuable Lessons Learned from Hosting Latino Hunters' Roundtables: Toolkit for Engaging Diverse Demographics," Theodore Roosevelt Conservation Partnership.

12 "Valuable Lessons."

13 "Phase V."

14 Lincoln R. Larson et al., "Hunter Recruitment and Retention in New York: A Framework for Research and Action," Human Dimensions Research Unit Series Publication 13-04, (2013): 7.

15 Vayer et al., "Diverse University Students," 1017-1030.



03. REVIEW OF BEST PRACTICES FROM LEADING ORGANIZATIONS

The team reviewed best practices identified by leading environmental and outdoor education organizations, principally the North American Association for Environmental Education (NAAEE)'s Guidelines for Excellence. The best practices can be segmented into four main categories: 1) strategies for program development; 2) strategies for marketing; 3) strategies for program delivery; and 4) specific strategies for implementing archery, bow hunting, and fishing programs.

Program Development

The following are best practices as identified by leading organizations, principally the North American Association for Environmental Education (NAAEE) Guidelines for Excellence: Non-formal Programs.

There should be a need for the program in the community, and this should be decided upon based on interactions with various partners and

stakeholders. Programs should complement other organizations' work and should not duplicate efforts already underway. The intent of the program should be communicated to community partners and organizations. Partners for program delivery should be identified and confirmed as early as possible.

A target audience (segmentation of the population or community) should be identified and the cultural perspectives of this audience should be understood and addressed in program development. Similarly, an assessment of audience skills and knowledge should be completed to accommodate literacy levels, languages spoken, experience, and more with educational methodologies.

Program activities should be identified and selected based on the needs of the community.

All equipment and supplies should be listed and ordered with sufficient time before the beginning of the program. All equipment should be tested by any staff who might be using it in program delivery in a setting that resembles the program conditions, and any equipment that poses a potential safety concern should be tested by all staff, regardless of program delivery responsibility.

Each new program should be reviewed for its appropriateness and sensitivity regarding: cultural inclusivity, race and ethnicity considerations, gender identity, age-appropriateness, physical ability (Americans with Disabilities Act), and the broader social and physical needs of the audience. For thoroughness, having an expert in the field review these materials is ideal.

Facility partnerships should be established far in advance of programming and facility walk-throughs should be completed to assure that the location is safe and accommodating for different comfort and ability levels.

Methods of evaluation should be decided on before any program begins. Staff should be briefed on the methods of evaluation.

Evaluation mediums should be accessible for varying audiences, which may include being offered in multiple languages and available in written and verbal delivery.

Program Marketing

The following are best practices as identified by leading organizations, principally the North American Association for Environmental Education (NAAEE) Guidelines for Excellence: Non-formal Programs.

Program marketing should be available in multiple languages and should be shared in numerous locations of varying mediums: flyers, social media posts, emails, radio, and more.

Programs should not be scheduled over competing or complementary programs delivered by partner and community organizations.

Utilize partner networks as well as non-traditional partners - such as gyms, churches, and healthcare facilities - to advertise programming.

Program Delivery

The following are best practices as identified by leading organizations, principally the North American Association for Environmental Education (NAAEE) Guidelines for Excellence: Non-formal Programs.

Programs should be delivered in multiple languages based on the needs of the community.

Culturally relevant and place-based instructional approaches should be utilized across and throughout program delivery to strengthen participants' sense of place and identity.

While each program should operate from a standardized outline, program leaders should be flexible in incorporating different learning preferences and abilities into the program delivery.

Archery, Bow Hunting, and Fishing

The following are best practices as identified by leading organizations, principally the Kalkomey Bowhunter-Ed educational materials.

Begin programs by discussing the history of modern archery and fishing. Include the influence of European settlers and the indigenous peoples of your region

Programs introduce the social and environmental benefits of hunting and fishing, such as recreation, economic, aesthetic, education, history, social, therapeutic, and health

Fishing and hunting programs discuss the relevant wildlife characteristics and wildlife management, and depending on age group can go on to cover themes of ecology such as populations and competition.

Spend time covering the safety concerns and best practices of the activity. This includes being safety-conscious, following regulations, being ethical, acting as an environmentalist, and more. This also includes how to properly use equipment and how to place a safe shot (archery).

Outdoor preparedness is included as part of the program so that participants understand the importance of planning and prep, first aid, maps and compasses, and beginner survival skills.

Programs seeking to recruit Latinx youth, or any other traditionally under-served population, to hunting and angling, should work to establish partnerships with individuals and organizations already working with that demographic. While an obvious point, the report Valuable Lessons Learned From Hosting Latino Hunters' Roundtable found that a critical way for these programs to be more successful is to "build formal and informal partnerships with individuals and organizations that already engage with the Latino community."¹ The benefit of doing so was these individuals or organizations may already have a trusted set of

¹"Valuable Lessons Learned from Hosting Latino Hunters' Roundtables: Toolkit for Engaging Diverse Demographics," Theodore Roosevelt Conservation Partnership.

05. RECOMMENDATIONS

PROGRAM DESIGN, STRUCTURE, AND DELIVERY

Determine the community need for the program.

Determine the target audience for each program.

Complete logic model and/or theory of change to identify how the program will create the desired change.

Create a “playbook” of core, but flexible, lesson plans for staff to use throughout the programming. Staff should adapt as needed.

Ensure every program delivered is based on an established lesson plan. In order to ensure the consistency of program quality and support evaluation, staff should follow established lesson plans. While staff should remain flexible to the audience’s needs (such as learning style or cultural preferences), programs should not be completely improvised or drastically altered during delivery.

All programs should be tested by staff. This includes the entire lesson plan as well as any equipment that will be used during the activity.

Programs should include local and traditional ecological knowledge. This can include action items like including land recognition in each program and including the local history of the program’s topic (i.e., wildlife, trees, etc.) in the introduction of the program.

Align each program with the state level content standards as well as the North American Association for Environmental Education (NAAEE) K-12 Environmental Education: Guidelines for Excellence. This strengthens relationships with public schools and can serve as funding support from grants that focus on public school partnerships.

Align each of the hunting and fishing programs with the relevant state and national standards, such as game & fish hunter education and/or fishing regulations, as well as International Bowhunter Education Standards.

ENGAGING WITH THE COMMUNITY AND PROGRAM

Offer all programs in English and Spanish, and/or the local languages needed by the population.

Programs should be advertised in multiple languages and list them on numerous traditional and non-traditional mediums. Examples could be posters, Facebook, Instagram, school messaging systems.

Marketing materials should have language encouraging participants to engage with the program and not be intimidated. Language includes phrases like “introduction to hunting and fishing” or “no previous experience necessary”.

Marketing materials should include language describing the safety procedures taken to reinforce the idea that the program is safe.

Marketing materials should be tailored to each program and that program’s age group, primarily since youth at different ages are interested in different aspects of the program.

Build costs that are usually passed to families into organizational budgets, or partnering to mitigate costs like transportation and buying materials.

Establish a resource library that allows youth to ‘check-out’ the equipment needed to participate in hunting and angling. Staff should make sure all equipment is safe and operational, as well as develop a strategy to ensure archery equipment is used under adult supervision.

Better utilize social media. Examples can include improving website and social media presence, and hiring a summer intern to maintain the efforts.



Offer programs at times and places that benefit all populations.

Offer transportation - Partner with organizations that offer transportation, write transportation into grants, and teach programs that can be easily accessible to youth like yoga in the park, cleaning up the river, etc.

Waive fees for fishing and hunting licenses.

Create a cohort of adult Black, Indigenous and People of Color (BIPOC) mentors; this would ideally help to increase interest by students because they see adults who look like them participating in archery and fishing.

Prioritize partnerships with organizations that can pool resources and make programs more accessible. Pooled resources can allow for new venue access, reduced or free programming, transportation, and more.

Establish multiple points of access for students to get involved. This flexibility could include increasing presence in schools or easily accessible spaces to mitigate transportation and parent involvement barriers.

Have participants complete evaluations for programs and review them with staff; apply feedback qualitatively and quantitatively to allow for program scaling and iteration.

STAFF HIRING AND TRAINING

All staff leading programs should be first aid and CPR-certified.

All staff should trial the programs they will lead at least once before leading them.

At least one full-time staff should attend each of the following curriculum workshops: Project WILD, Project AquaticWILD, Project Learning Tree, Leopold Education Project.

Prioritize hiring bi-lingual staff.

Training should extend beyond subject matter and delivery to include emergency preparedness, working with different audiences, and dealing with behavioral disruptions during the program.

All staff should go through basic hunter education. In the near-term is having staff work through on-line training programs and resources.

06. CONCLUSION

This project aimed to identify the best practices to engage youth and their families in hunting and angling - especially those from communities not traditionally exposed to these activities. With recent trends showing a decrease in licensed hunters since the 1980s and a modest increase in anglers in the last 10 years, we are at a point where increased interest by new youth and family participants would benefit current state-level conservation funding and department efforts. Both hunting and fishing data suggest a higher likelihood that individuals will stay in the sports if they are exposed to the activities in their youth, providing a current opportunity for effective youth programming engagement.

This report is a preliminary step in highlighting best practices in our region to engage people, especially youth, in the outdoors and build conservation efforts nationally. Our hope is to continue to expand the impact of the intricate web of institutions that support hunting and angling, conservation, and youth engagement in this field.

For information about how to implement these findings and suggestions in your program's development, refer to the supplementary "How to Guide."



APPENDIX A:

NATURE NIÑOS CASE STUDY

In order to identify the strategies that will best help Nature Niños grow as an organization and supplement NWF's goals, we first sought to understand the current status of the organization. Specifically, we sought to understand their programming, staff capacity, resources (tangible and intangible), and future goals. By doing so, our team was able to digest the lessons learned from our research and provide Nature Niños with a more tailored - and immediately useful - recommendations for their outreach.

PROGRAMMING

Nature Niños provides outdoor education programming to under-served populations in the Albuquerque metropolitan area. The organization offers the following programs for youth between 4-17 years old:

Tiny Trees Art & Stories. This program is child-centered and designed on emergent experiences in the outdoors. The goal of this program is for the youngest learners (4-8 years old) to have a wonderful experience in nature with their peers.

Investigating the Outdoors (ITO). Designed for youth 9-17 years old, ITO is geared at introducing youth to career pathways in conservation and agriculture. This program is centered on partnerships with conservation and agricultural experts. Youth are exposed through hands-on outdoor workshops. The culmination of ITO is "The Surthrive Project," a semester-long capstone project that allows students to dive into their passions, and to investigate and display nature-related topics.

Family Day Hikes. This program is designed to expose whole families to the outdoors and is set up as single-day hikes on trails around Albuquerque.

Wonderlings Certification Course. This program aims to assist professionals working with young children in discovering the joy of wonder in nature together. Youth learn how to support wonder and observation in nature, as well as children's discovery, exploration and reflection, using nature as a third teacher.

Outdoor Adventure Camp (started Summer 2022). This new summer program is for children

attending 4th - 9th grade, with a special consideration for children attending partner schools and those coming from low-income households. Using previous programs as a model, this camp exposes youth to the great outdoors through partnerships and pre-built curricula. This summer was broken up into three camp 'sessions', with each participant being able to attend one three-week session.

KEY PARTNERSHIPS

Outdoor education programs often rely on key partnerships with other local organizations, whether they are other nonprofit organizations serving a similar demographic, public schools, or other public agencies (such as the game and wildlife department). Nature Niños has certainly developed strong partnerships with these types of organizations. However, what makes Nature

Niños unique is the partnership it developed with Vara Winery and Distillery, an unaffiliated privately owned company that purchased Shady Lakes in 2020 with the intention of preserving and revitalizing the lake. The partnership has resulted in Nature Niños actively exposing youth to outdoor education at Shady Lakes, while taking part in the active preservation of the space.

Nature Niños also has strong partnerships with local individuals and organizations that allow the organization to serve the community better. These partnerships include:

New Mexico Department of Game and Fish (NMDGF) - Nature Niños' largest partnership. NMDGF provides resources for hunting and fishing education, providing technical and educational support.



Archery - NMDGF provides lessons on anatomy of wild animals and helps participants build 3D targets using household recycled products.

Bird Dogs & Quail - Ray Trejo, the Southern Outreach Coordinator for NMWF provided hands-on experience with bird dogs and introduced the youth to native quail throughout New Mexico.

Turkey Calls - NMDGF provides lessons on turkeys and shows youth how to practice turkey calls.

Pellet Gun Trailer - NMDGF brings their pellet gun trailer and provides instruction on gun safety using pellet guns.

New Mexico Academy of Rock and Blues (NMARB) - NMARB is a nonprofit organization focused on teaching young people the craft of music and lyrical performance, as well as writing. NMARB leads outdoor drum circles during the summer sessions.

Ciudad Soil and Water Conservation District (CSWCD) - CSWCD created a Rolling River working model of a watershed to teach participants about scientific water cycles and water conservation in the desert. The model is filled with sand-like recycled plastic and can be molded into nearly any type of landscape and outfitted with miniature forests, farms, and cities. Hidden plumbing allows the rivers to flow, wetlands to appear, and lakes to rise and fall in response to simulated flood and drought cycles.

The New Mexico Acequia Commission - The NM Acequia Commission leads program participants on acequia walks to discuss the history and

importance of caring for water resources.

Sandia Mountain Natural History Center (SMNHC) - Staff at SMNHC share their research related to wildlife in the Sandia Mountains.

Bosque Ecosystem Monitoring Program (BEMP) - Leads local research initiatives and provides hands-on research education for students. BEMP focuses on the changes of the Rio Grande Bosque environment.

Los Ranchos Agri-Nature Center - The Los Ranchos Agri-Nature Center is a community center and working farm. The center provides farm education such as planting, harvesting, and beekeeping.

Outdoor Equity Fund, NM Department of Economic Development Outdoor Recreation Division - In 2020, the Outdoor Equity Fund opened applications for the first time, awarding \$270,000+ to 25 applicants across the state. It continues to support transformative outdoor experiences that foster stewardship and respect for lands, waters, and cultural heritage.

Albuquerque Sign Language Academy - The Albuquerque Sign Language Academy is an ASL-English tuition-free public charter school which incorporates ASL and English, hearing and deaf in an inclusive environment.

Sevilleta National Wildlife Refuge - The Sevilleta National Wildlife Refuge is a protected area of New Mexico managed by the United States Fish and Wildlife Service as part of the National Wildlife Refuge System. It is located in the Chihuahuan Desert, 20 miles north of Socorro, New Mexico.


APPENDIX B:

LISTENING SESSION PARTICIPANTS

- Arizona Wildlife Federation
- Asombro Institute for Science Education
- Big Brothers Big Sisters of Central New Mexico
- Big Brothers Big Sisters Mountain Region
- Bosque Ecosystem Monitoring Program (BEMP)
- Ciudad Soil & Water Conservation District
- Conservation Coalition of Oklahoma
- Explora
- Environmental Education of New Mexico
- Friends of Organ Mountains-Desert Peaks
- Hero's Path Palliative Care
- Iowa Department of Natural Resources
- Latino Outdoors
- Molino de la Isla Organics LLC
- New Mexico Acequia Commission
- New Mexico Dept. of Game & Fish- Hunter Education
- Pacific Education Institute
- Reunity Resources
- Sandia Mountain Natural History Center - New Mexico Museum of Natural History & Science
- Texas Conservation Alliance
- The Global Warming Express
- U.S. Fish and Wildlife Service - Sevilleta National Wildlife Refuge
- Zuni Youth Enrichment Project

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