

Quality and Productivity Commission
33rd Annual Productivity and Quality Awards Program
“Empowering Innovative Solutions”

2019 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: COMMUNITY SCIENCE: OF, FOR, AND WITH LA COUNTY

DATE OF IMPLEMENTATION/ADOPTION: 2011

(Must have been **fully** implemented for a minimum of at least one year - on or before July 1, 2018)

PROJECT STATUS: Ongoing One-time only

HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT? Yes No

EXECUTIVE SUMMARY: Describe the project in 15 lines or less using Arial 12 point font. State clearly and concisely what difference the project has made.

1 One of the three strategic goals of the Natural History Museums of Los Angeles County
 2 (NHMLAC) is to *create a new, interdisciplinary model for understanding and connecting*
 3 *to urban nature*. We have become a global model among natural history museums for
 4 that enterprise, largely in part because of our Community Science Program. Every
 5 single one of these interactions helps people engage in STEM, relevant to their daily
 6 lives; and every data point collected helps us better understand the biodiversity in LA
 7 County. Engaging the community like this has helped our scientists discover 43 new
 8 species to science that live in Los Angeles. NHMLAC accomplishes this through
 9 collaboration with the LA County Departments: Library and Parks & Recreation. To
 10 date, we have provided training to over 150 LA County employees, collected over
 11 200,000 nature observations, implemented over 400 programs, and engaged with over
 12 14,000 people. Community Science helps LA County have a more diverse and
 13 proficient STEM populace; more importantly, it helps make LA County a better place for
 14 wildlife and humans to live!
 15

BENEFITS TO THE COUNTY

(1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE	(2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS	(3) ACTUAL/ESTIMATED ANNUAL REVENUE	(1) + (2) + (3) = TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT	SERVICE ENHANCEMENT PROJECT
\$ N/A	\$ N/A	\$ N/A	\$ N/A	X

ANNUAL = 12 MONTHS ONLY

SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS The Natural History Museum of Los Angeles County 900 Exposition Boulevard, Los Angeles, CA 90007		TELEPHONE NUMBER 213-763-3301
PROGRAM MANAGER'S NAME Lila Higgins Senior Manager, Community Science		TELEPHONE NUMBER 213-763-3230 EMAIL lhiggins@nhm.org
PRODUCTIVITY MANAGER'S NAME AND SIGNATURE <small>(PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME)</small> Kiara J. Brown SIGNATURE ON FILE	DATE 6-28-19	TELEPHONE NUMBER 213-763-3482 EMAIL kiarabrown@nhm.org
DEPARTMENT HEAD'S NAME AND SIGNATURE Dr. Lori Bettison-Varga SIGNATURE ON FILE	DATE 6-28-19	TELEPHONE NUMBER 213-763-3301

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1st FACT SHEET – LIMITED UP TO 3 PAGES ONLY: Describe the **challenge(s), solution(s), and benefit(s)** of the project **to the County**. What quality and/or productivity-related outcome(s) has the project achieved? Provide measures of success **and specify assessment time frame.** Use Arial 12 point font.

Challenges

The recent United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report states that one million species are threatened with extinction if we don't take action to change our impacts on the environment. Here in Southern California, human population growth and urban sprawl have made our region the largest metropolitan area in the United States, and one of the world's principal regions of species imperilment and extinction. The biggest threats to wildlife and biodiversity in Los Angeles are urbanization, habitat modification, and the introduction of non-native species. Community Science represents an important opportunity to broaden awareness and interest in conserving species found in urban areas, to collect observations of those species. Ultimately, we hope this inspires more LA County residents to become stewards of the environment in which we all live.

NHMLAC's Community Science (formally known as Citizen's Science) program was created in 2011 to help community members see a place for themselves in science research, and to understand that their observations are valuable to the health of our region. Community Science staff members also work closely with NHMLAC's Urban Nature Research Center (UNRC) to increase understanding of local wildlife in exceptionally understudied regions of Los Angeles' urban habitat—including underserved and high need communities. The difficulties of accessing private property and conducting biological surveys in developed landscapes has led to an urban biodiversity data crisis, in which there is insufficient information to inform land planning for the benefit of conservation. Given that more than half the world's population now lives in cities, our community science approach has gained interest from various cities around the world.

Another challenge we face is participation. Getting youth, adults, and families involved in studying biodiversity in cities is crucial; however, we recognize that there may be barriers to galvanize the research support we need. We understand that the lack of women and minorities represented in science can make potential participants feel that science is not a space for them or that they need a special invitation, or specific qualifications to participate. Add to that the lack of understanding that plants and animals living in the city really are nature, specifically urban nature, and it can take some convincing and multiple touch points of messaging to convince people that they can be community scientists, and that their observations are valuable.

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To meet this challenge, NHMLAC trains hundreds of community scientists (a.k.a. local community members) each year to observe and record wildlife on their own properties, in schools, and neighborhoods to report their findings to researchers through the iNaturalist app platform.

In the coming year, there are numerous ways that LA County residents can participate in the fascinating research that the UNRC and Community Science Program are conducting, from projects that track and observe insects, spiders, reptiles, amphibians, snails, slugs, squirrels, and bats. The level of involvement can vary from in-depth experiences, such as having an insect trap in your own backyard to a more modest commitment, such as uploading wildlife photos collected on walks for identification purposes. Locally, NHMLAC has partnered with LA County Department of Parks & Recreation, the LA County Library, as well as 1,900 schools throughout LA County to promote awareness of Community Science.

For the past three years, the Community Science Program has been involved in training Parks & Recreation staff for their ESTEAM Summer Camp program. This involvement has included training on how to safely look for wildlife, take photos for science, upload photos to NHMLAC’s nature projects, plus other educational activities to connect youth to the nature in their parks and neighborhoods. In addition to the ESTEAM summer camps, the Community Science team participates in the “Parks After Dark Program” and leads special BioBlitz’s, which are a fun and informative format for learning how to use the iNaturalist app.

Altogether, a total of 40,000 observations annually are made available to NHMLAC researchers through the efforts of our local community scientists.

Benefits

In 2018, the Community Science Program collaborated with LA County Library to pilot community science tool kits available for check out. These kits contain different tools (e.g., hand lens, bug jars, journal, and insect net) to help youth, adults, and families explore nature in their own backyards. Quickly, we soon learned that the kits were a hit! Evaluation of this pilot study showed overall positive reactions to the kits. The most consistent feedback from both on-site and follow-up interviews was that children were excited to try out something new and use the tools. Parents too enjoyed the kits, expressing how they appreciated that the kits motivated their family to go outside and explore nature. Parents also felt the kits generated new ideas, new conversations between family members, and inspiration to explore nature. Having families comfortable exploring the outdoors makes them ready to become community scientists who will contribute data to NHMLAC projects.

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Community Science activities occur year-round, but reach peak levels through a ground-breaking multi-day nature competition called the City Nature Challenge. Cities compete against each other to see which can make the most wildlife observations, find the most species, and engage the most people. Launched in 2016 by NHMLAC and San Francisco’s California Academy of Sciences as a friendly competition between the two cities, the City Nature Challenge has surpassed all initial expectations. In just three years, it has grown from two cities to over 150 cities worldwide that participated in the Challenge in 2019. From April 26-29, 2019 over 35,000 people around the world made over 960,000 wildlife observations. Los Angeles County had 1,555 people submit over 34,000 observations of over 3,200 species during this four-day period. Through the very act of connecting and caring for nature in their own neighborhoods, people in LA County and around the world are helping transform their communities and improving the quality of life for all.

Community Science also informs NHMLAC scientists about what types of organisms currently live in Los Angeles County. Using our historic scientific collections, museum scientists can compare how biodiversity has changed over time, study what factors are influencing these changes to biodiversity, and then propose recommendations to civic leaders and decision makers on how future planning can protect and enhance biodiversity throughout LA County. To date, over 70 new species records have been made possible through the efforts of NHMLAC scientists and community scientists. Some of these records include learning that some known species are now living in Los Angeles County (e.g., brown widow spiders in 2002, Mediterranean House Geckos in 2013, European Garden Snails in 2016), to even discovering 42 species of flies that had never been described in scientific literature - new discoveries for the entire world.

As Greg Pauly, our Curator of Herpetology states, “In the best scenario, in the best projects, Community Science is generating data that allows scientists to answer questions that otherwise we would never be able to answer.”

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Linkage to the County Strategic Plan – 1 page only. Which County Strategic Plan goal(s) does this project address? Explain how. Use Arial 12 point font.

The NHMLAC Community Science Program’s work throughout LA County coincides with many of the County’s strategic plan goals. Our Program, especially in partnership with other LA County departments, has enabled NHMLAC to successfully expand access to recreation and cultural opportunities (Goal II.2.2) and make environmental sustainability our daily reality (Goal II.3).

Goal II.2.2: The NHMLAC Community Science Program has utilized technology, such as mobile apps, and innovative public programs to make nature exploration fun and accessible, while expanding opportunities for community scientists to build their social network. Rather than resist the expanding use of mobile technology, our Program has embraced the fact that mobile devices are regular companions for people while in nature. In fact, we encourage individuals to actively photograph plants and animals so they can enrich their experience and learn more about the plants and animals that surround them. They become part of real science, when they find and take photos of wildlife in our County. We also design a variety of program types that aim to cater to diverse backgrounds and perspectives, so that community science continues to be a welcoming platform for everyone. These programs include scientist meet and greets at their local library, global competitions that tap into their competitive drive, or events that bring diverse audiences together for a common goal of exploring urban biodiversity and create lasting bonds with fellow naturalists. We even provide check out mobile devices for people to participate, who may not have access to a smart phone.

Goal II.3: Community Science programs not only introduce the public to various species in LA County, but they are introduced to the roles that rare, common, native and non-native species play in the environment. Hands on experiences, such as BioBlitzes through Community Science convey the crucial role that community scientists play in biodiversity conservation. Expanding their knowledge about local species, community scientists are able to view the most concrete neighborhoods as living breathing ecosystems. At minimum they come away with a higher level of respect for nature, which leads to more sustainable decisions that have global ripple effects, especially when done in mass numbers.

Lastly, our program also touches on Goals I.2.4, Support Job Readiness and Increase Employment Opportunities for Youth Served by the County and Goal II.1.3, Coordinate Workforce Development: The NHMLAC Community Science Program participates in the Expo Park Summer Youth Internship every year, which provides summer job opportunities for local high school students to learn about local nature, our work and other museum career paths.

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COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFITS TO THE COUNTY): If you are claiming cost benefits, include a calculation on this page. Please indicate whether these benefits apply in total or on a per unit basis, e.g., per capita, per transaction, per case, etc. You must include an explanation of the County cost savings, cost avoidance or new revenue that matches the numbers in the box. Remember to keep your supporting documentation. Use Arial 12 point font

Cost Avoidance: Costs that are eliminated or not incurred as a result of program outcomes. Please indicate whether these are costs to the County or to other entities.

Cost Savings: A reduction or lessening of expenditures as a result of program outcomes. Please indicate whether these were expenditures by the County or by other entities.

Revenue: Increases in existing revenue streams or new revenue sources to the County as a result of program outcomes.

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\$	\$	\$	\$	X

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FOR COLLABORATING DEPARTMENTS ONLY

(For single department submissions, do not include this page)

DEPARTMENT NO. 2 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE	DEPARTMENT HEAD’S NAME AND SIGNATURE
EMAIL: _____	EMAIL: _____
DEPARTMENT NO. 3 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE	DEPARTMENT HEAD’S NAME AND SIGNATURE
EMAIL: _____	EMAIL: _____
DEPARTMENT NO. 4 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE	DEPARTMENT HEAD’S NAME AND SIGNATURE
EMAIL: _____	EMAIL: _____
DEPARTMENT NO. 5 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE	DEPARTMENT HEAD’S NAME AND SIGNATURE
EMAIL: _____	EMAIL: _____
DEPARTMENT NO. 6 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE	DEPARTMENT HEAD’S NAME AND SIGNATURE
EMAIL: _____	EMAIL: _____
DEPARTMENT NO. 7 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE	DEPARTMENT HEAD’S NAME AND SIGNATURE
EMAIL: _____	EMAIL: _____