



MEMORANDUM

Date: October 3, 2019

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator 

Re: **Sixth Annual *A Living River* Project Report Release – Charting Santa Cruz River Conditions, Northwest Tucson to Marana for the 2018 Water Year**

Introduction

Data from the Living River Project continues to show improvement in the Santa Cruz River, from Northwest Tucson to Marana. The attached Sixth Annual A Living River Report characterizes river conditions from the Agua Nueva outfall to Trico Road. This report follows the updated format and highlights the change in state law to eliminate the disincentive for keeping water in the river. It also features Pima County's efforts to improve public safety, habitat and recreational opportunities.

The annual report is a partnership between several Pima County departments and the Sonoran Institute. The Regional Wastewater Reclamation Department (RWRD) and Regional Flood Control District (RFCD) provided funding for this report. The RWRD also funded the Living River of Words Youth Poetry and Art Contest conducted by Natural Resources, Parks and Recreation.

Findings

This year the report found increased aquatic habitat diversity and improved water quality, while the dry section between the two treatment plants persists.

Revised Approach and Format

The new shorter more concise report format debuted last year and used again this year. In addition to noting improvements in river conditions, the report describes how changes in state law resulted in more of the water in the river is being credited to water owners. In addition, the report describes six County projects along the Santa Cruz River that improve public safety, enhance aquifer recharge and promote recreation opportunities.

Public Outreach

The more concise format also allows more reports to be printed-- 8,000 this year, which compares to less than 2,000 reports in the first few years. We are planning to mail the report to 6,700 households along the Santa Cruz River. Mailing the report allows the County to engage more directly with the public regarding the long-term plans for the Santa Cruz River corridor, including The Loop, managing open space for groundwater recharge, public access and infrastructure protection. The mailing will also inform the public about the Santa

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Cruz River Management Plan: Grant Road to Trico Road, which will be the focus of public meetings in December 2019.

The Living River Project continues to bring young people to the river for science-based classroom activities and field trips via the County's Environmental Education Program. For some students this was the first opportunity they had to experience a flowing river. Over 920 children from 20 schools participated in the Living River of Words Contest this year. A traveling exhibit of the artwork and poetry will circulate through Pima County Libraries. Several of these artwork and poems won national awards this year.

Rather than a single event, the report release will be a showcase at a series of events, including Tucson Meet Yourself the weekend of October 11 to 13; and at the dedication of the El Rio Preserve viewing platform in the Town of Marana, for which a date has not yet been determined.

In addition, the RFCD is sponsoring the first ever Dragonfly Day on November 9 at Crossroads Festival Park in Marana. This event will showcase the diversity of the dragonfly population supported by the river.

CHH/lab

Attachments

- c: Carmine DeBonis, Jr., Deputy County Administrator for Public Works
- Chris Cawein, Director, Natural Resources, Parks and Recreation
- Jackson Jenkins, Director, Regional Wastewater Reclamation Department
- Linda Mayro, Director, Sustainability and Conservation
- Suzanne Shields, Director, Regional Flood Control District

a living river

CHARTING SANTA CRUZ RIVER CONDITIONS
NORTHWEST TUCSON TO MARANA—2018 WATER YEAR



CARING FOR THE RIVER:
MAKING IMPROVEMENTS FOR NATURE AND COMMUNITY



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THE SANTA CRUZ RIVER CELEBRATE AND PROTECT

The Santa Cruz River near Tucson has seen many exciting improvements since this report series began in 2013. Although the river flows are now shorter and more variable, the water is cleaner, aquatic wildlife diversity is increasing, and the endangered Gila topminnow again calls the river home. Projects all along the river are enhancing wildlife habitat and improving recreation opportunities. And, for the first time, there is promise that water will remain in the river.

From northwest Tucson to Marana, the Santa Cruz River provides Pima County's primary wetland habitat, with river flows sustained year-round by the release of effluent—highly treated wastewater. Pima County has released recycled water into the river since the 1970s, but river conditions dramatically improved recently, thanks to the county's investment of over \$600 million in December 2013 to upgrade the treatment process. The substantially improved water quality supports both a rare aquatic environment and a river park that reconnects our community to our rich river heritage.

Currently, several state and local efforts are helping secure water for the river and ensure that stretches continue to flow year-round. The fact that the river environment's health is being considered as part of the water planning process bodes well for the future of the Santa Cruz River and is truly cause for celebration.

You can be part of this process as well. Add your voice by participating in community workshops designed to help the Pima County Regional Flood Control District develop a river management plan. Where can we invest to further improve this important corridor? What management alternatives do we prefer? Where can we align priorities to maximize aquifer recharge and wildlife habitat while ensuring flood safety? Help us determine the future of this living river!

TRACKING RIVER CONDITIONS

This *Living River* report highlights Santa Cruz River conditions from northwest Tucson to Marana during the 2018 water year (October 1, 2017 to September 30, 2018). Comparisons are made to baseline conditions in 2013, before the wastewater treatment upgrades. To explore more data, download a supplementary report from the Sonoran Institute website at www.tiny.cc/tlr18. Sonoran Institute launched *Living River* reports in 2008 to track river conditions in Santa Cruz County. In 2012, the effort expanded in partnership with Pima County to annually track conditions in the flowing reach near Tucson. All *Living River* reports can be found on the Sonoran Institute website: www.sonoraninstitute.org.

 Aquatic invertebrate diversity increases

2018 NOTABLE FINDINGS

 Ammonia concentrations no longer toxic

 In June, the river dries before Tres Ríos Water Reclamation Facility



LEGEND

- 1-5 Locations of river corridor projects described on page 6
- River reaches with seasonal flows
- River reaches dominated by effluent
- Direction of river flow
- 🚰 Water reclamation facility (treatment plant)

TREND OF IMPROVED RIVER HEALTH CONTINUES IN 2018



Roseate skimmer dragonfly (*Orthemis ferruginea*)



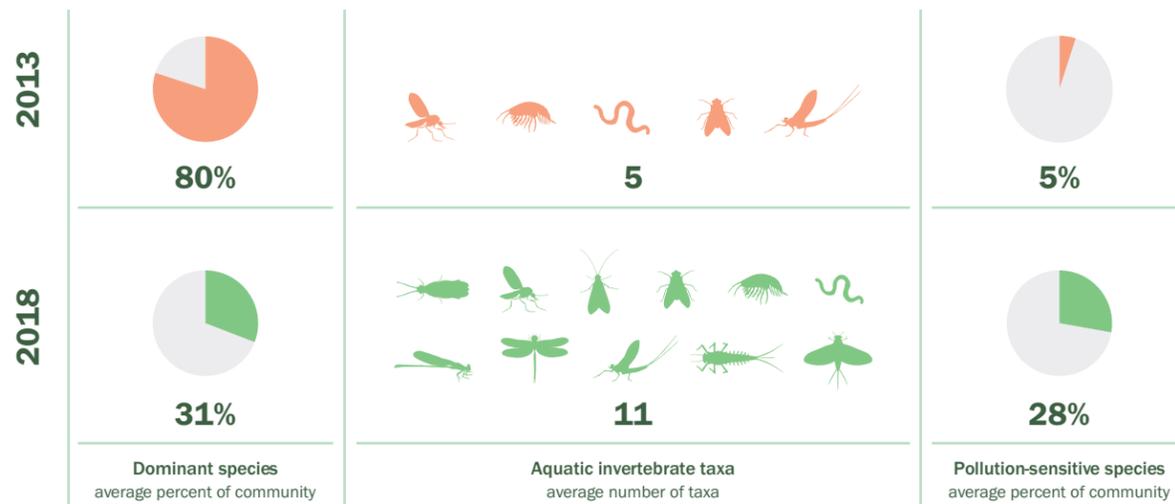
AQUATIC INVERTEBRATE DIVERSITY INCREASED

Aquatic invertebrates break down organic materials in rivers and are important food for wildlife. Species sensitive to pollution are a key indicator of river health; the more pollution-sensitive species present, the healthier the river. Diversity of species also indicates a healthy aquatic ecosystem.

Of species sampled at four sites in 2013, a single group comprised 80% of the aquatic invertebrate community on average. In 2018, the average dropped to 31%. This trend toward increased diversity is supported by a

doubling of the number of species and an increase in pollution-sensitive species.

University of Arizona researchers found over 160 invertebrate species along this reach of the Santa Cruz, including 12 pollution-sensitive species and over 40 species of dragonflies. Some dragonflies, like the powdered dancer and neotropical bluethroat, recently appeared and are now very common. The newest arrival in 2018 is the russet-tipped clubtail, a species associated with large rivers whose nearest population is along the Gila River near Kearny.

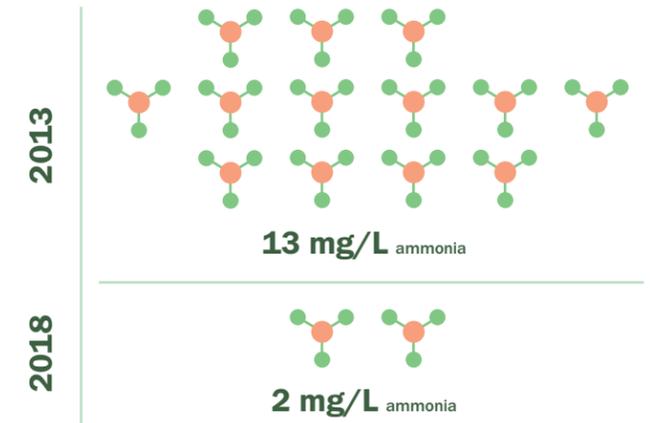


Review all data in supplementary report at www.tiny.cc/tlr18



WATER QUALITY IMPROVED

Increased aquatic invertebrate diversity is primarily the result of improved water quality. Perhaps most significant are the reduced levels of ammonia, a form of nitrogen common in effluent and toxic to aquatic life at high concentration. Average ammonia concentrations declined from a toxic 13 mg/L in 2013 to 2 mg/L in 2018, and the percentage of discrete water samples with elevated ammonia dropped from 83% to 21%. Pima County is evaluating system processes and installing new technologies in 2019 to address occasional, short-lived periods of elevated ammonia in the river.



JUNE FLOWS FROM AGUA NUEVA NO LONGER REACH TRES RÍOS

Since the upgrade, flow extent is shorter and more variable, especially in June, when miles of flow are lowest. In June 2013, the river flowed uninterrupted for over 28 miles. In June 2018, flow decreased to just over 23 miles and went dry for a 0.6 mile stretch before being replenished by the Tres Ríos facility. This dry stretch before Tres Ríos is now common in June and has ranged from 0.3 to nearly 2 miles in length. Many factors impact flow extent. Decreased flow may indicate increased recharge; in fact, the rate of recharge was four times higher here than in 2013. However, the Agua Nueva facility also released 75% less water (5,600 acre-feet in 2018 vs. 22,300 acre-feet in 2013). While recharge helps replenish the aquifer, fewer miles of flow means less habitat for wildlife, including fish and aquatic birds.



OUR LIVING RIVER HOW SHOULD WE MANAGE IT?

IN-CHANNEL RECHARGE RECEIVES MORE CREDIT

In 2019, Arizona enacted exciting legislation that provides an incentive to release effluent into the river. Previously, water owners releasing effluent into the river to recharge the aquifer earned only 50% credit for the volume recharged. Thanks to the new legislation, signed as part of the Drought Contingency Plan negotiations for the Colorado River, three stretches of the Santa Cruz River in Pima County will now receive 95% credit for effluent recharged along the river. This critical legislation is a huge milestone to celebrate.

TIME TO FOCUS ON RIVER MANAGEMENT

With increased assurance that water will continually flow in the Santa Cruz River, now is the time to determine how best to manage and improve the river corridor. The Pima County Regional Flood Control District, which has operational control and owns much of the corridor, is preparing a management plan for the Santa Cruz from Grant Road to Trico Road. While the Flood Control District's primary responsibility is to minimize flood risk, there are opportunities through this process to enhance the river's diverse benefits.

To protect the river corridor's wildlife habitat, increase recreation opportunities, and preserve cultural resources, the Flood Control District and various project partners already have several efforts underway that include:¹

- 1 Creating Meander Bend Park, located on the west bank of the river north of Grant Road, by filling an existing pit, restoring native vegetation, and installing a ramada.
- 2 Building new pedestrian bridges and connecting to existing pathways on the river's east side, allowing users to cross the Rillito River and Cañada del Oro Wash on the Chuck Huckelberry Loop trail.
- 3 Increasing the wetted area of the river, north of Cortaro Road, by replacing the single low-flow channel with three channels. This promotes aquatic habitat, water recharge, and growth of vegetation, while reducing erosion near development.



- 4 Protecting important habitat for over 200 birds and other wetland species at Marana's El Rio Preserve. Soil cement will preserve and stabilize the river's banks and connect wetland ponds with the river.
- 5 Highlighting the region's cultural traditions with new interpretive signage within the Los Morteros Conservation Area, located adjacent to El Rio Preserve.
- 6 Developing a drainage plan for the Marana area to increase flood safety, support development, and protect community amenities (unmapped).

YOUR INPUT IS NEEDED

In order to create a river management plan, the Flood Control District is identifying areas of concern along the river and developing management priorities and alternatives, which may result in additional opportunities for river improvements. As such, the Flood Control District wants to understand the community's preferences through feedback on past and current projects. Your input is essential in the development of a plan for the Santa Cruz River that reflects community values. See next page for details on how to join the conversation.

¹See the general location of these projects on the map on page 3.

YOUTH POETS AND ARTISTS RECEIVE NATIONAL RECOGNITION

Living River of Words is a Pima County program that encourages young people to explore how water moves through the landscape and to learn about the connections that plants, animals, and people have with water. Students visit the Santa Cruz River and create art or poetry entries for the Living River of Words Youth Poetry and Art contest. Finalists are displayed in a traveling exhibit throughout Pima County and submitted to the national River of Words contest. Eight of the 2018 finalists from the Tucson program were finalists at the national level! Some of the 2019 selections for the traveling exhibit are shown on page 6 and the back cover. Learn more at: www.pima.gov/nrpr.

ACKNOWLEDGEMENTS

Sonoran Institute and Pima County developed and prepared this report with funding from Pima County Regional Wastewater Reclamation Department, Pima County Regional Flood Control District, and community individuals.

IMAGE CREDITS

Cover left: Spot-winged glider dragonfly (*Pantala hymenaea*) by Michael T. Bogan; right: Santa Cruz River by Charlie Alolkoy: www.alolkoyphotographics.com **2:** Green heron ©Bill Hatcher/Sonoran Institute, 2019; Western pondhawk dragonfly by Michael T. Bogan; Gila topminnow by Bruce D. Taubert **3:** Santa Cruz River by Charlie Alolkoy **4-5:** All dragonfly and damselfly photos by Michael T. Bogan **6:** Artwork by Olivia Hitchings, age 10, Hendricks Elementary School — Janet Slingerland; Photographs ©Bill Hatcher/Sonoran Institute, 2019 **7:** Blackbirds and cottonwood tree ©Bill Hatcher/Sonoran Institute, 2019

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GET INVOLVED

- Share your thoughts on river management at an upcoming workshop. Join a mailing list to learn more at: www.tiny.cc/scrworkshop
- Follow the Flood Control District's progress on the Santa Cruz River management plan between Grant Road and Trico Road at: www.pima.gov/SantaCruzRiverPlan
- How do you want to see your floodplain managed? Make your voice heard and help develop a floodplain management plan at: www.pima.gov/fmp
- Celebrate Dragonfly Day on the Santa Cruz on November 9, 2019. Learn more at www.sonoraninstitute.org
- Stay informed! Join the Sonoran Institute mailing list for the latest Santa Cruz news: www.tiny.cc/scrsignup





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SONORAN INSTITUTE has worked since our founding in 1990 to realize our vision that the Santa Cruz River, from Mexico to Marana, is a living, flowing river and the foundation of community health and prosperity.

The Sonoran Institute's mission is to connect people and communities with the natural resources that nourish and sustain them. We work at the nexus of commerce, community, and conservation to help people in the North American West build the communities they want to live in while preserving the values which brought them here. We envision a West where civil dialogue and collaboration are hallmarks of decision making, where people and wildlife live in harmony, and where clean water, air, and energy are assured.



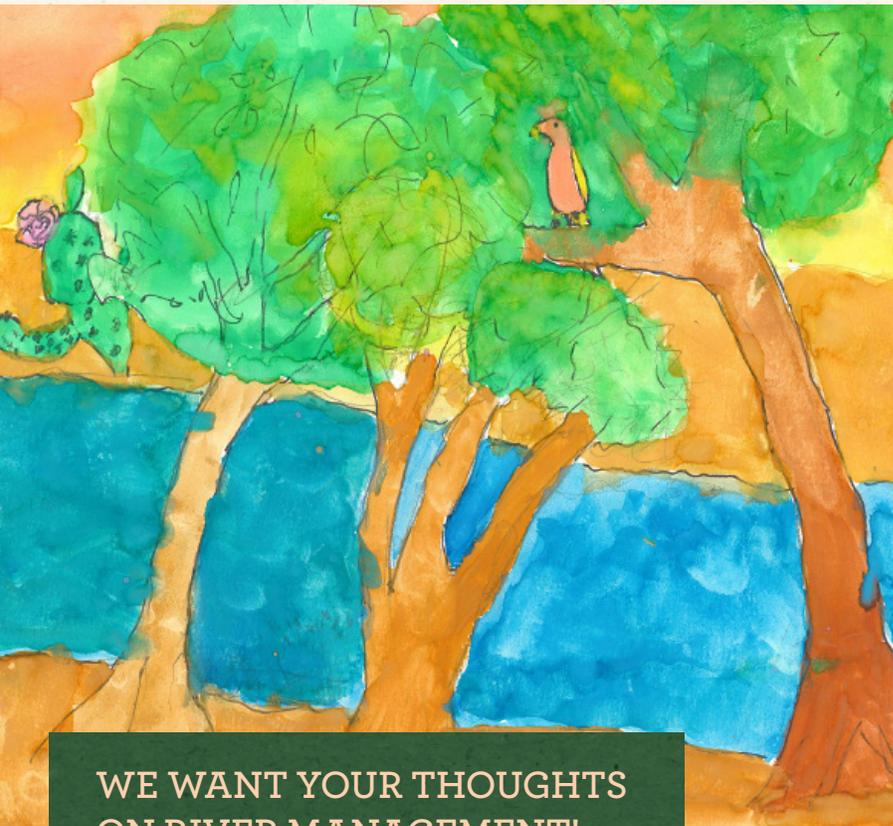
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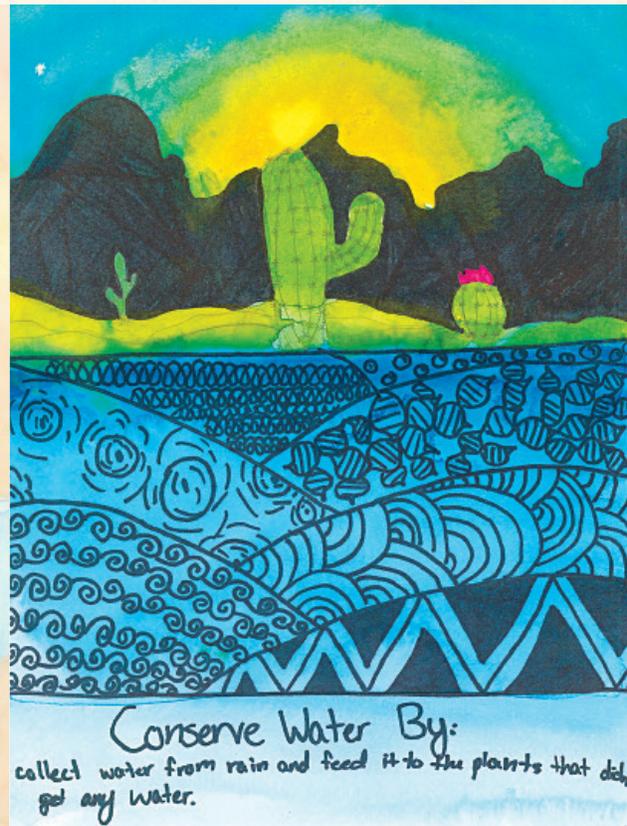


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Brianna Brock, age 11, DeGrazia Elementary School — Aaron Hart

Hayden Hishaw, age 11, Basis Tucson North — Carrie Vonier



WE WANT YOUR THOUGHTS ON RIVER MANAGEMENT!

Sign up for information about upcoming workshops at: www.tiny.cc/scrworkshop

PIMA COUNTY

Pima County Regional Flood Control District
Pima County Regional Wastewater Reclamation Department
Pima County Office of Sustainability and Conservation
Pima County Natural Resources, Parks and Recreation

www.pima.gov

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Living River of Words

Youth Poetry and Art Contest



Deer at Sunset

Evelyn Allen, age 10

Mesquite Elementary School – Janis Mortensen and Paula Maxwell

Grand Prize–Art–Category 3

*This book is dedicated to 2019 Living River of Words
Teacher of the Year:
Annie Tanner - Anza Trail School*

*And all the teachers and parents/guardians that promote and support
the integration of science and the arts while creating opportunities for
children to connect with nature.*

Living River of Words 2019 – 2020 Traveling Exhibit Schedule

April 13 – May 31, 2019

Wheeler Taft Abbett Sr. Library • 7800 N. Schisler Dr.

June 4 – June 30, 2019

Joel Valdez Main Library • 101 N. Stone Ave.

July 3 – August 29, 2019

Murphy-Wilmot Library • 530 N. Wilmot Rd.

September 4 – September 29, 2019

Dusenberry-River Library • 5605 E. River Rd., # 105

October 2 – October 30, 2019

Mission Library • 3770 S. Mission Rd.

November 2 – November 28, 2019

Quincie Douglas Library • 1585 E. 36th St.

December 3, 2019 – January 2, 2020

Eckstrom-Columbus Library • 4350 E. 22nd St.

January 7 – February 27, 2020

Joyner-Green Valley Library • 601 N. La Cañada Dr., Green Valley

Living River of Words: Youth Arts and Science

Living River of Words (LROW) sets the stage for learning, inspires science inquiry, and excites creativity. The cycle begins with teachers who invite *LROW* arts and science instructors to their classrooms. Students are introduced to the concepts of watershed and the water cycle, and explore local wetland habitats through a multidisciplinary series of science investigations and the practice of poetry and visual arts. After exploring these topics, children ages 5–19 have the opportunity to share their impressions with entries of poetry and/or visual art to *Living River of Words: Youth Poetry and Art Contest*. In these pages you see the award winning youth poetry and art works that are the result of the field study trips, school residencies, and independent study.



Photo: Doris Evans

The Santa Cruz River has long been the lifeblood of the region, attracting the first humans over 12,000 years ago. In fact, the Santa Cruz River Valley has the longest continuous record of agriculture in the United States. Today, due to a variety of factors including groundwater pumping, many stretches flow only when it rains. The Living River Project, conducted by Pima County and the Sonoran Institute,



Photo: Juliana Romero, Manzo Elementary School

measures conditions of this valuable ecosystem and track the impacts of our community investment. Thanks to the release of highly treated wastewater into the riverbed the Santa Cruz River in northwest Tucson and Marana, the river is alive with perennial flows, lush trees lining the riverbanks, and diverse wildlife. In 2017, we celebrated the return of the endangered Gila Topminnow to the lower Santa Cruz River!

Living River of Words plays a role in the broader Living River Project by introducing students, teachers and parents to the Santa Cruz River, Agua Caliente Park, and the pond at Historic Canoa Ranch, and other wetland habitats in Pima County. While at the field study site, students conduct water quality tests, study aquatic macroinvertebrates, and make vegetation observations, using methods that reflect the Living River Project indicator assessments. A visiting poet or artist spends time with the students by the river to guide their journaling,

photographing, and drawing in preparation for poetry writing and artwork back in the classroom. The ever-expanding reach of *LROW* is promoted through a partnership with Arizona Project Wet during the annual Living River Academy where teachers are introduced to *LROW* and explore education opportunities.



Photo: Itzel Chavez, Drachman Montessori Magnet School

We hope you will enjoy the richness and wonder of these special places through the eyes of the Living River of Words 2019 award winning youth poets and artists.

Thank You!

Living River of Words succeeds with in-kind services and financial support from Pima County Regional Flood Control District, Pima County Regional Wastewater Reclamation Department, Pima County Natural Resources, Parks and Recreation, Pima County Public Library, Friends of Agua Caliente Park, Arizona Project Wet, Udall Foundation: Parks in Focus, The University of Arizona Poetry Center, Sonoran Institute, and Marana Parks and Recreation.

Many thanks to the community partners, school administrators, teachers, science, poetry, photography, and art instructors, judges, volunteers, and graphic designers that worked diligently to bring *Living River of Words* through the annual cycle of activities: Yajaira Gray, Wendy Burroughs, Jeffrey Babson, Sandy Reith, Axhel Muñoz, Marsha Colbert, Matt Smogor, Eric Scheuering, Edie Price,

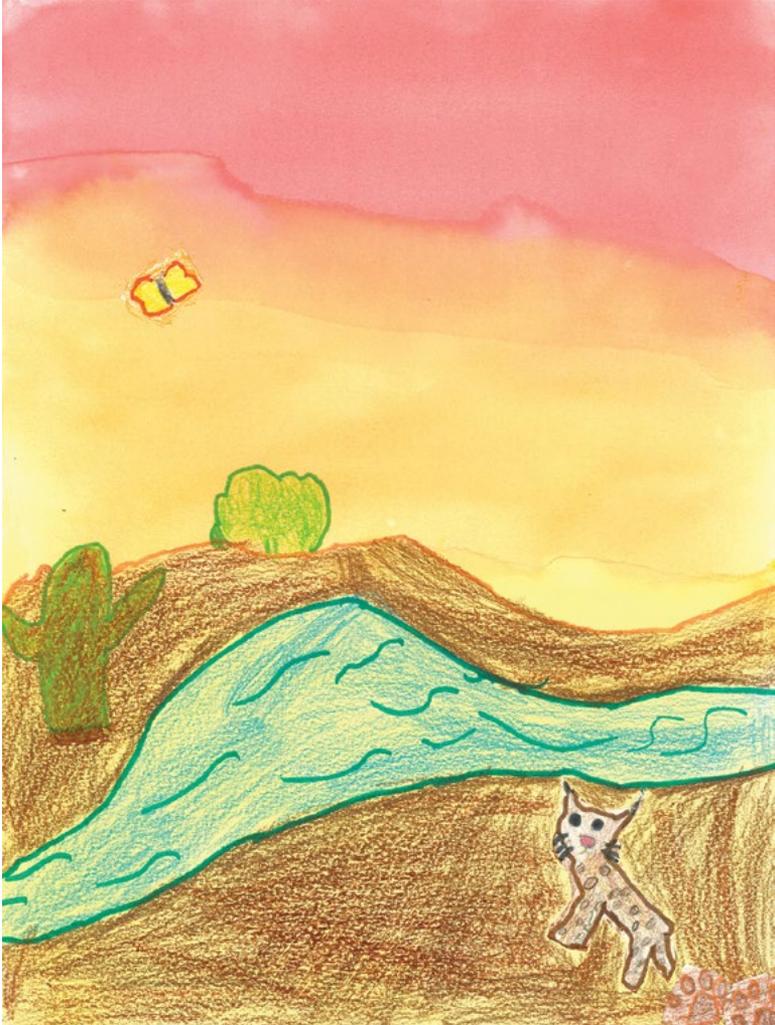


Photo: Angel Soto, Manzo Elementary School

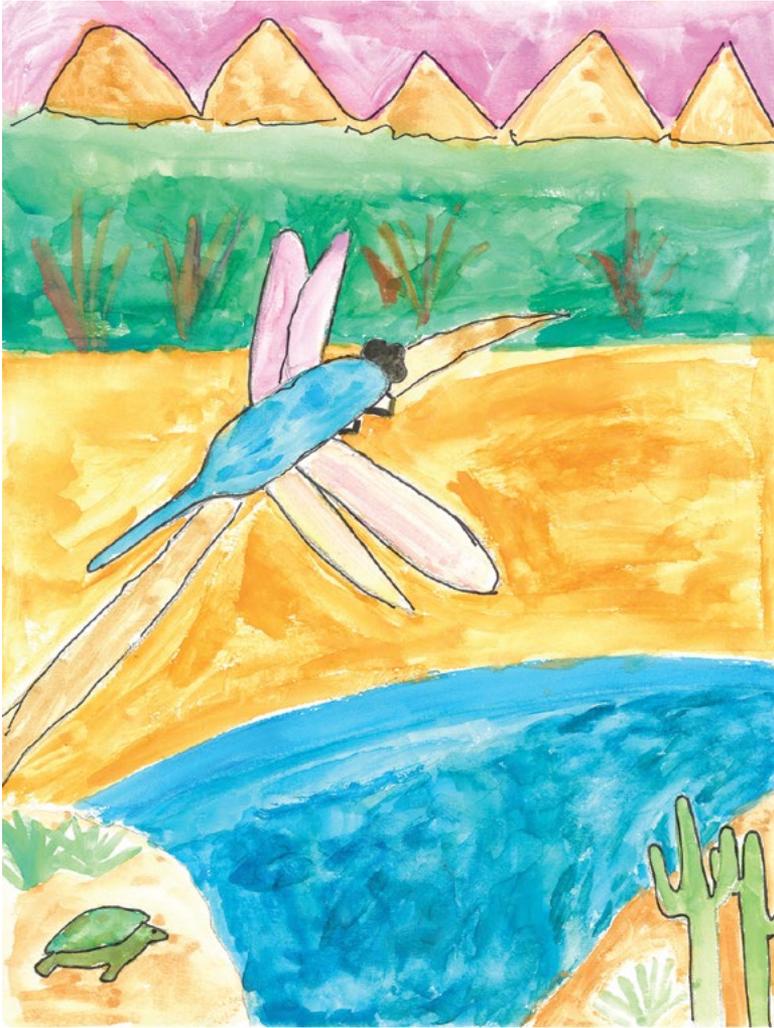
Helen Wilson, Noemi Zazueta, Neil Diamante, Doris Evans, Elizabeth Quinn, Dominique Sevi, Clel Howard, Mariana Caballero, Andrea Bennett, Miriam Aleman, Susan Knoll, Brian Powell, Bret Muter, Hazelle Gonter, Carol Brown, Kerry Schwartz, Elizabeth Wilkening, Tony Luebberrmann, and Tyler Meier.

Roadrunner at noon
Willows weeping from heat
Sweat pours down my face

Maria Robles, age 7
Miles Exploratory Learning Center – Rosalie Perales
Grand Prize–Poetry–Category 1



Saryna Flores, age 8
Mission Manor Elementary School – April Brown



A Day at the River

Sierra Skye Milligan, age 12

DeGrazia Elementary School – Robert Mayer

So Pretty

Waterfall flowing

Rushing flowing crystal clear

Crystal clear water

Sydney Allen, age 8

Tanque Verde Elementary School – Kim Roh

The Wonderful Things I See

Look upon a tree, oh what wonderful things I see.
One big waterfall, two little butterflies,
One fox as orange as can be,
Five dandelions, four little chickadees,
One female cardinal that I can see.
One big woodpecker pecking at a tree.
Three little squirrels running into their hole,
And then what did I pull?
A root from the tree
That's home to all the wonderful things I see.

Hannah Harrington, age 7
Tanque Verde Elementary School – Cheryl LaRose



David Reyes, age 14
Drachman Montessori Magnet School – Eric Flewelling

The Calling

As I head home, I turn around to hear something
calling for me.

I turn around to see the beautiful moonlit sky.
In the distance, I can hear the coyotes
howling at the full moon,
and the soft sound of the running river that flows through here.

I take a whiff of the air and in the air,
I could smell the sweet mesquite seeds
that are scattered everywhere.

I turn around to see the desert calling for me.
And I answer.

Liam Diaz, age 12
Anza Trail School – Annie Tanner
Grand Prize–Poetry–Category 3

The Deep Sleeping Rivers

The deep sleeping rivers
As free as the moonlight crossing
Mist and miles away of your dreams
And the death of the rivers
The stones are still and
The whistles of the birds.

Madelyn Hand, age 7
Agua Caliente Elementary School – Jennifer Mansour



Owls

Alyssa Hackett, age 6
Gale Elementary School – Hannah Sainz

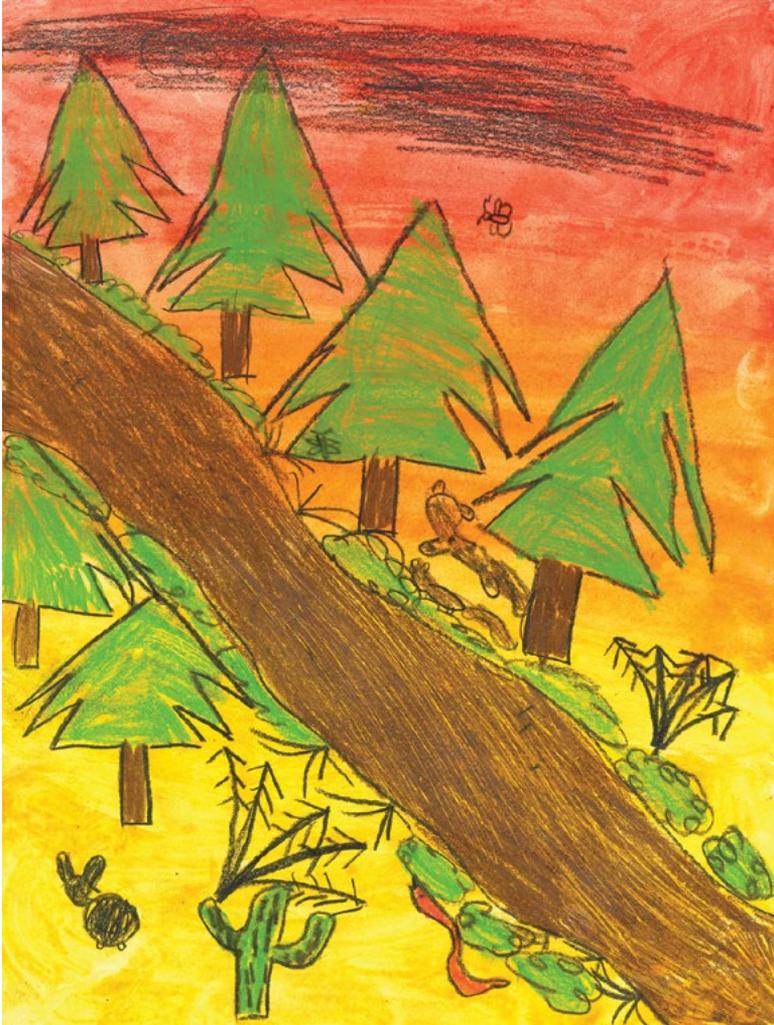


Outta the Wasteland

Diego Muner Hernandez, age 16
Tucson High Magnet School – Marea Jenness

Tortoise
Slow, reptile
Walking, drinking, eating
Brown, hard
Turtle

William Osborne, age 7
Tanque Verde Elementary School – Jill Vengelen



Ranando Josemaria Jr., age 8
Mission Manor Elementary School – April Brown
Grand Prize–Art–Category 2



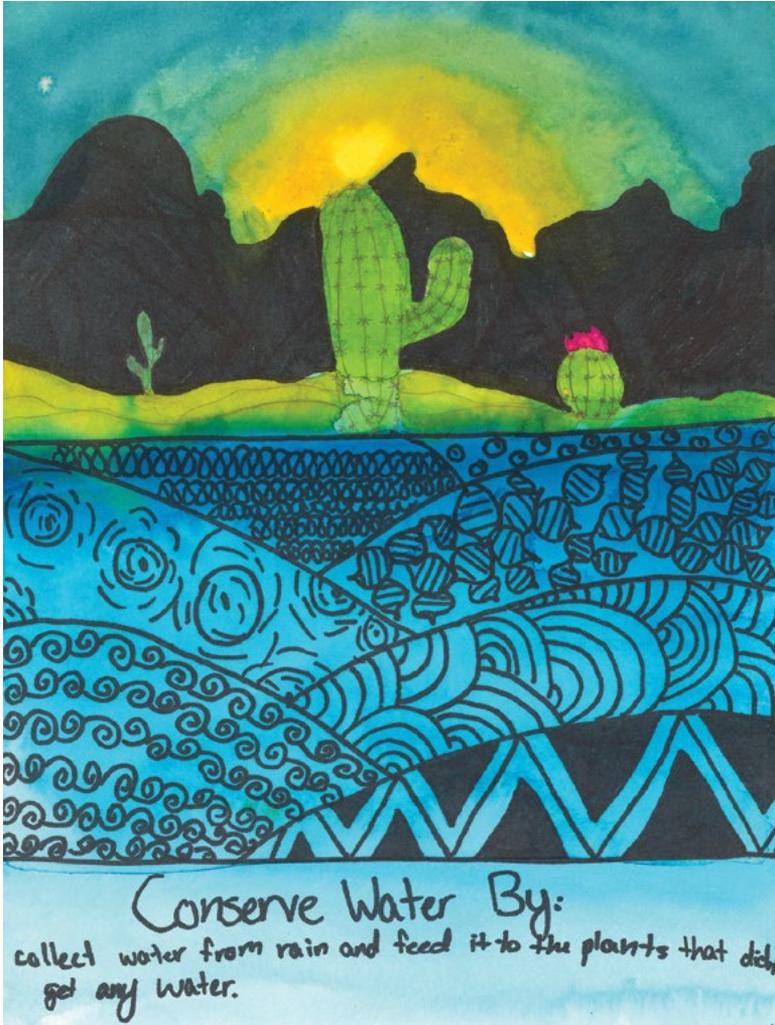
A Sunny Day

Corina Canchola, age 5

Sewell Elementary School – Sandra Payton

Black crows flying
Brown river moving slow
Green cactus

Camila Garate, age 6
Miles Exploratory Learning Center – Mary Hope Bergey and Jolene Terry



A Daily Sunrise
Hayden Hishaw, age 11
Basis Tucson North – Carrie Vonier



Sarah Haro, age 13
Drachman Montessori Magnet School – Jose Haro
Grand Prize–Photography–Category 4

When Water Moves

Water moves in many ways
Up and down and sideways
It goes up to form white fluff
Super white and super lush
It goes down and down and down
Into the wind and on the ground
Water sometimes falls as snow
As we wait for “Ho Ho Ho”
When the water filters it will link
To our home so we can drink
Water is used in many ways
Taking different shapes each day

Cedric Supomo, age 10
Mesquite Elementary School – Janis Mortensen and Paula Maxwell



A Storm

Cooper Stahn, age 6

Gale Elementary School – Jennifer Nguyen



Eli Graizbord-Michelson, age 15

Tucson High Magnet School – Marea Jenness

A Poem to the River

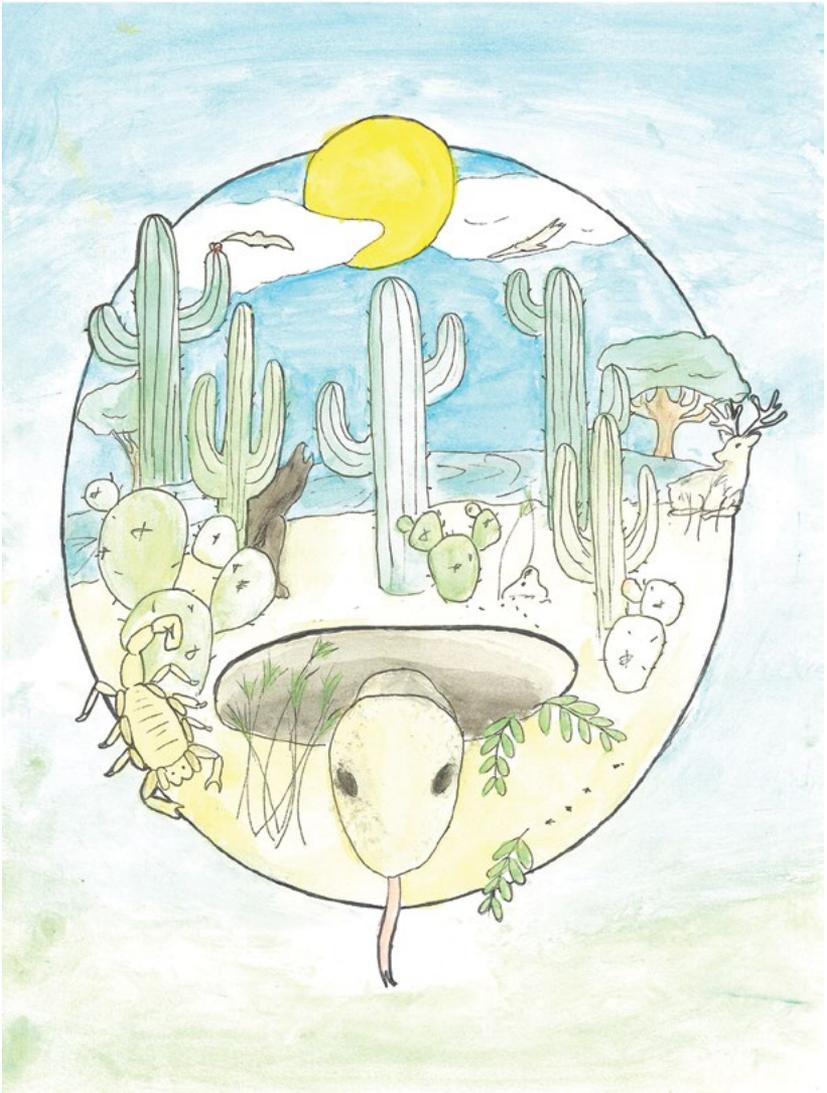
When It rains it pours
When it pours the earth roars
When the earth roars
The river is full
When the river is full
everyone is cheerful.

Marytza Catalan, age 10
Independent Entry

Sleepy Years

The sleeping years of the ocean's pearl.
The quiet sleeping river
Is flowing through the waves.
The branches are on fire
And I am in the dark alone.

Adam Nelson, age 8
Agua Caliente Elementary School – Jennifer Mansour
Grand Prize–Poetry–Category 2



Angeleeza Alvarez, age 16
Tucson High Magnet School – Marea Jenness
Grand Prize–Art–Category 4



*Christopher Martinez, age 11
Manzo Elementary School – Jessica Benites*

The Santa Cruz

I remember the wildlife
The sound of birds chirping,
I remember the food,
Sweet red wolfberries.

I remember the crane,
The big white bird flying sky high,
I remember the smell of rain,
The humid wet smell.

I remember the river,
The river of life,
The stream that moved like lightning,
The Santa Cruz River.

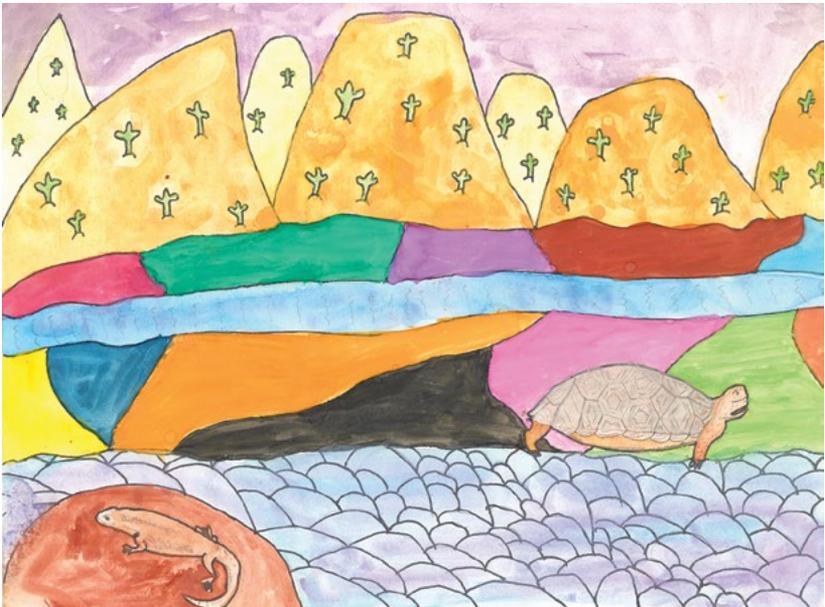
*Lucas Nguyen, age 11
Ironwood Elementary School – June Hall*



Desert Water

Isabella Vaughn, age 7

Tanque Verde Elementary School – Shelley Sanchez and Jenna Childers



Colors in the Desert

Alana Torres, age 11

DeGrazia Elementary School – Robert Mayer



*Leon Obezo, age 6
Cragin Elementary School – Heather Wenning
Grand Prize–Art–Category 1*



Waters Wind

Laila Roberts, age 11

Anza Trail School – Annie Tanner

Grand Prize–Photography–Category 3

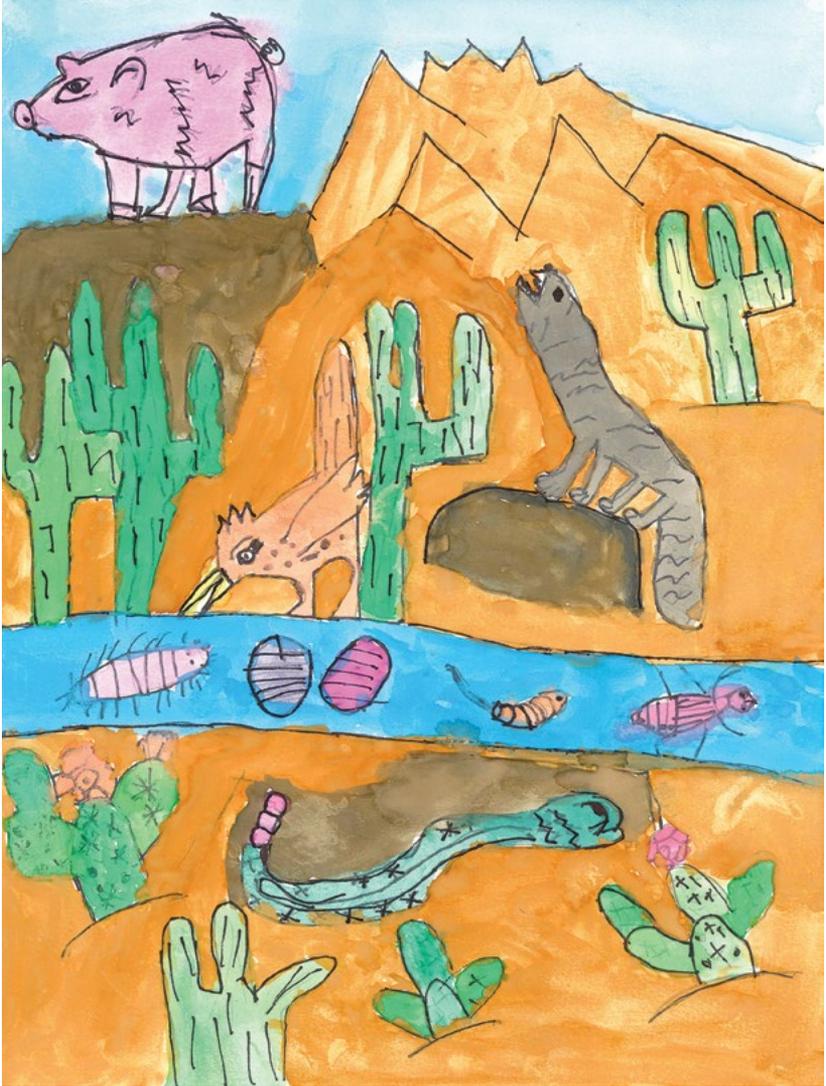
Remembering the River

I remember the Santa Cruz River
The cold, slow wind and the small grass
The water gave me a vision of soft, smooth glass
I remember the cold gravel beneath my feet
The air was fresh and sweet

I remember the soft, glowing sun
The clouds were dark and covered the light
It was so quiet, it seemed like night
You can hear the birds soft chirping as the river flows
I remember the red wolfberries that were
Vibrant against the deep green leaves.

Sadie Chintis, age 11

Ironwood Elementary School – June Hall



*Yoana Romero, age 15
Tucson High Magnet School – Marea Jenness*



Sunrise

Madelyn Pertile, age 5

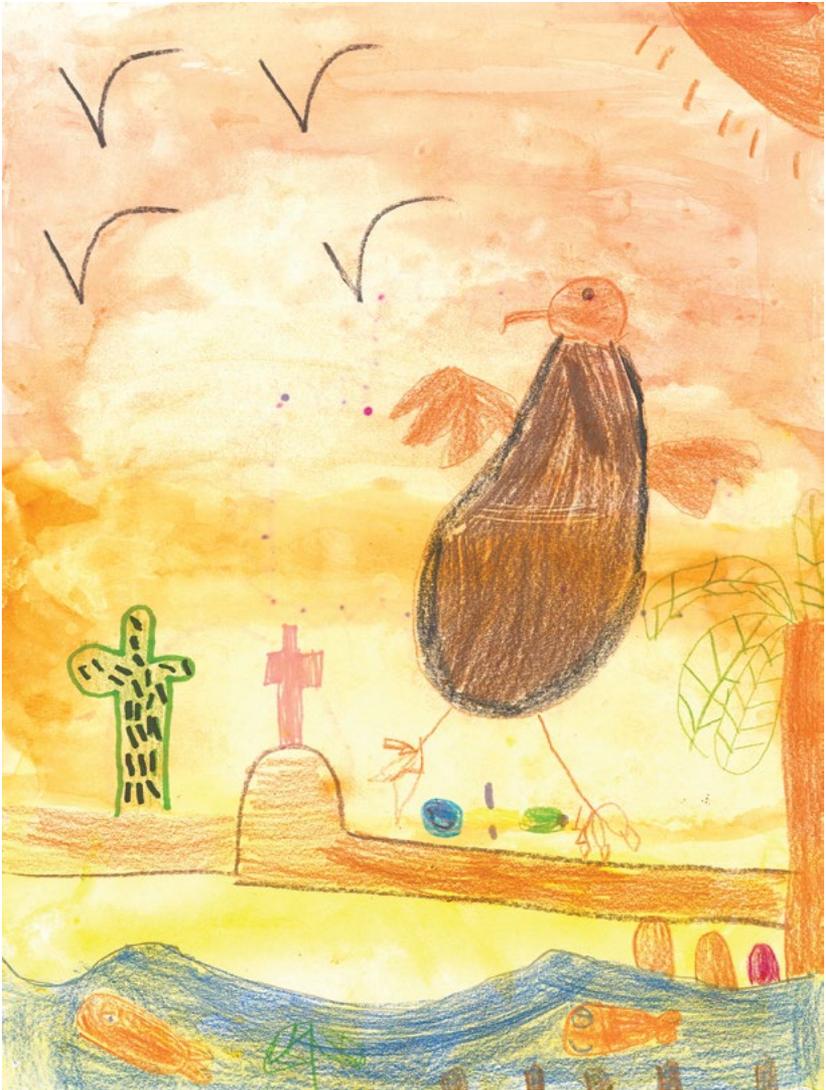
Gale Elementary School – Briana Gryzynger



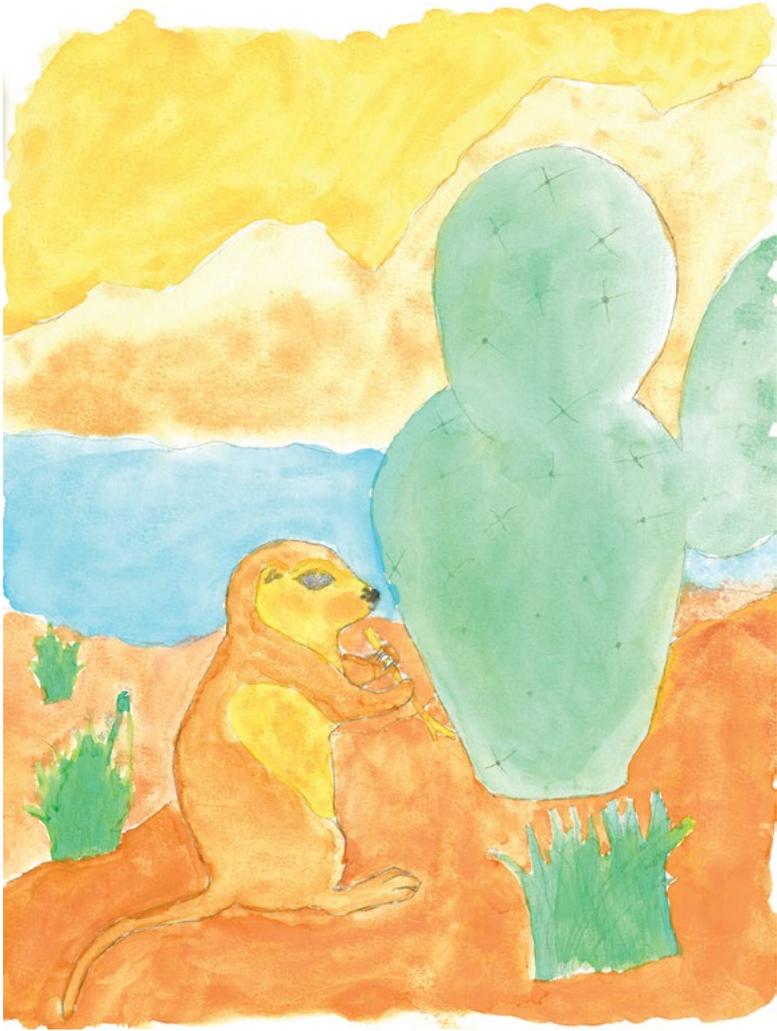
Desert Javelina Walks on Rocks

Trevor Jensen, age 7

Roadrunner Elementary School – Elizabeth Gary



*Reyna Blanca Santillanes, age 7
Mission Manor Elementary School – April Brown*



*Xia Hendricks, age 14
Tucson High Magnet School – Marea Jenness*

The Wolfberry

The wolfberry
Was red and little.
It was good and smooth
Like a baby turtle.

*Valerie Flores Machado, age 8
Miles Exploratory Learning Center – Mary Hope Bergey and Jolene Terry*



Noah Fish, age 7
Safford K-8 School – Callista Radloff

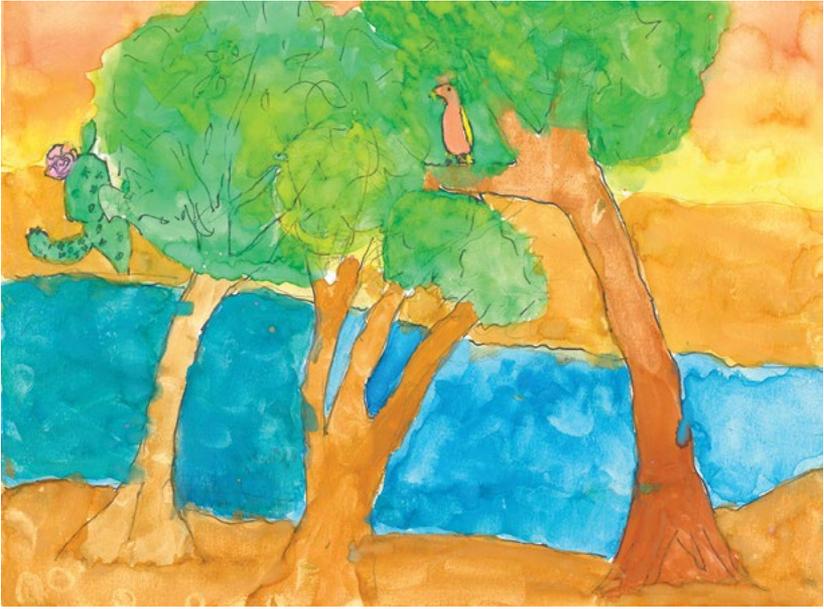


*Melanie Hout, age 11
Manzo Elementary School – Julie Elvick*

Time

It is of the dragonfly, souring.
It is like a snail, sliding.
It is the emerald of creative and useful imagination.
It is a sly fox, keep in mind.
It has no beginning.
It has no end.
It is the Good Samaritan.
Yet still the robber passing by.
It assumes many shapes.
It assumes many sizes.
It is a creator,
Yet also a destroyer.
And still,
It is time.

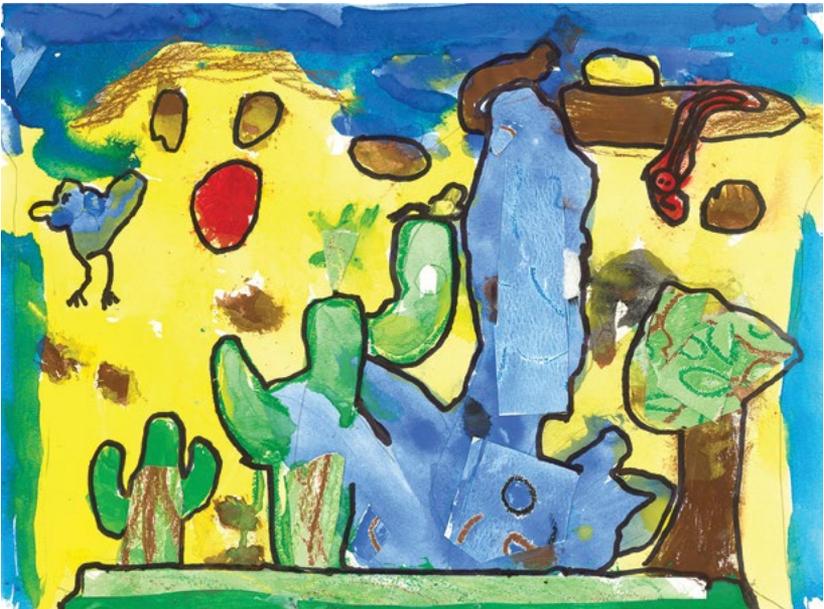
*Devon Meeker, age 11
Anza Trail School – Annie Tanner*



The River

Brianna Brock, age 11

DeGrazia Elementary School – Aaron Hart



The Ways of the Desert

Jack Fletcher, age 8

Tanque Verde Elementary School – Cheryl LaRose



*Gabriel Norris, age 7
Cragin Elementary School – Laura McIntosh*



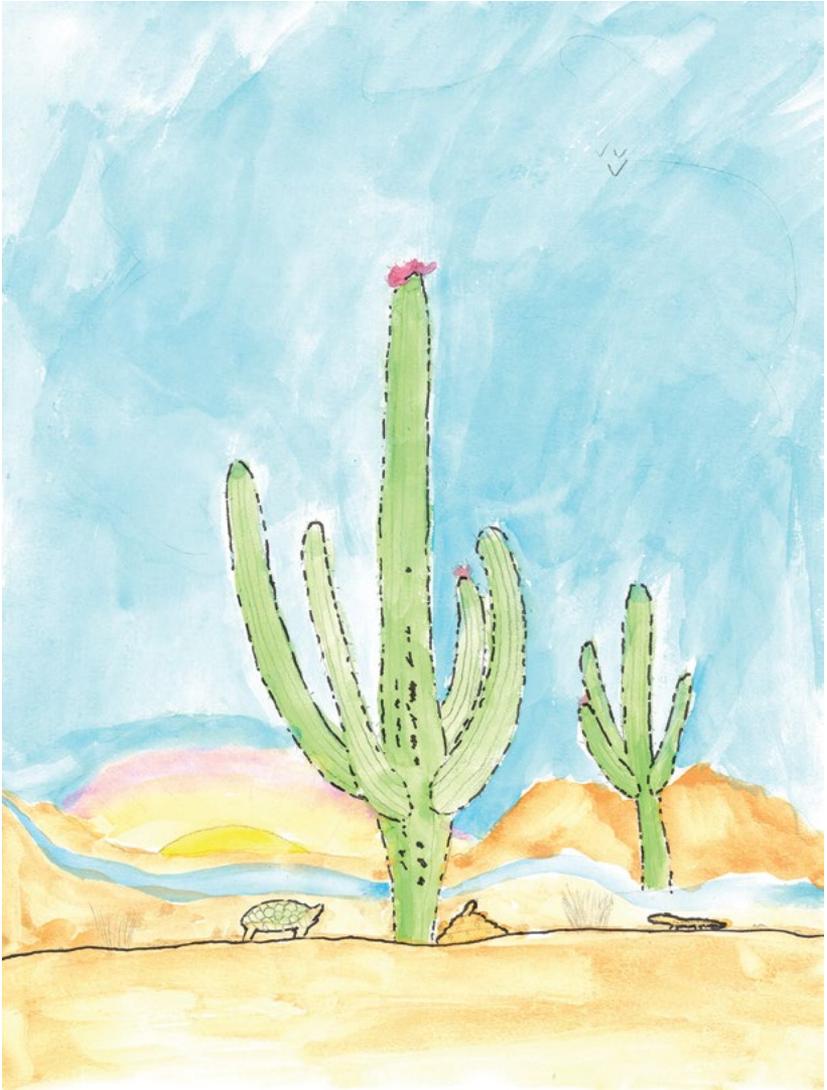
The Busy River

Ian Romero, age 7
Safford K-8 School – Tracey Burton

The Awesome River

I hear the splash of the fish.
The train was roaring
The river was soaring.
The small bugs were in my face
The small bugs were moving at quiet pace.
Were the bugs in a race?

Peyton Puls, age 8
Presidio School – Kelli Aliperti



Noah Huth, age 15
Tucson High Magnet School – Marea Jenness



*Britzeyda Delgado-Arias, age 13
Drachman Montessori Magnet School – Jose Haro*



The Sunset Desert
*Raven Wherry, age 8
Tanque Verde Elementary School – Cheryl LaRose*



*Brianna Baden, age 7
Roadrunner Elementary School – Ashley Haines*



Pretty Lonely Lizard

Olivia Hitchings, age 10

Hendricks Elementary School – Janet Slingerland

Sweet Desert Rain

Rain pouring down
Rivers start roaring
Animals drinking
Plants growing
I wish it would stay
Sweet desert rain

Braden Irwin, age 9

Mesquite Elementary School – Janis Mortensen and Paula Maxwell



*Michelle Ley Mar, age 15
Tucson High Magnet School – Marea Jenness*

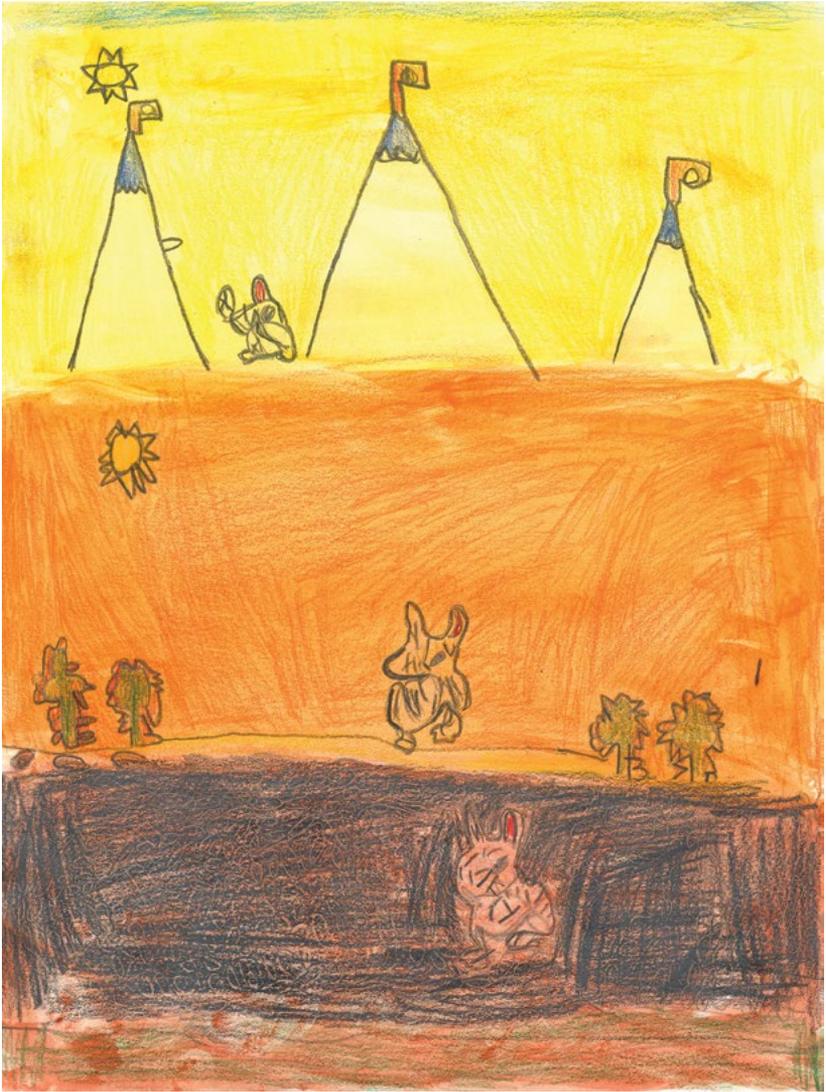


Anya Kaldonski, age 7
Roadrunner Elementary School – Alissa Montminy

Stars

Once there was a tadpole
looking up at the stars then
he saw the reflection of his
Eyes off the surface of the
Water and saw the inner
frog in him.

Martin Suarez, age 11
Anza Trail School – Annie Tanner



Sonic Sunny
Edgard Luna Jimenez, age 7
Safford K-8 School – Callista Radloff



Animals

Ryleigh K. Bailey, age 6

Sewell Elementary School – Maria Alvarado-Wells

Puddles

Splash, fun

Running, jumping,

Stomping

I was running in the puddle

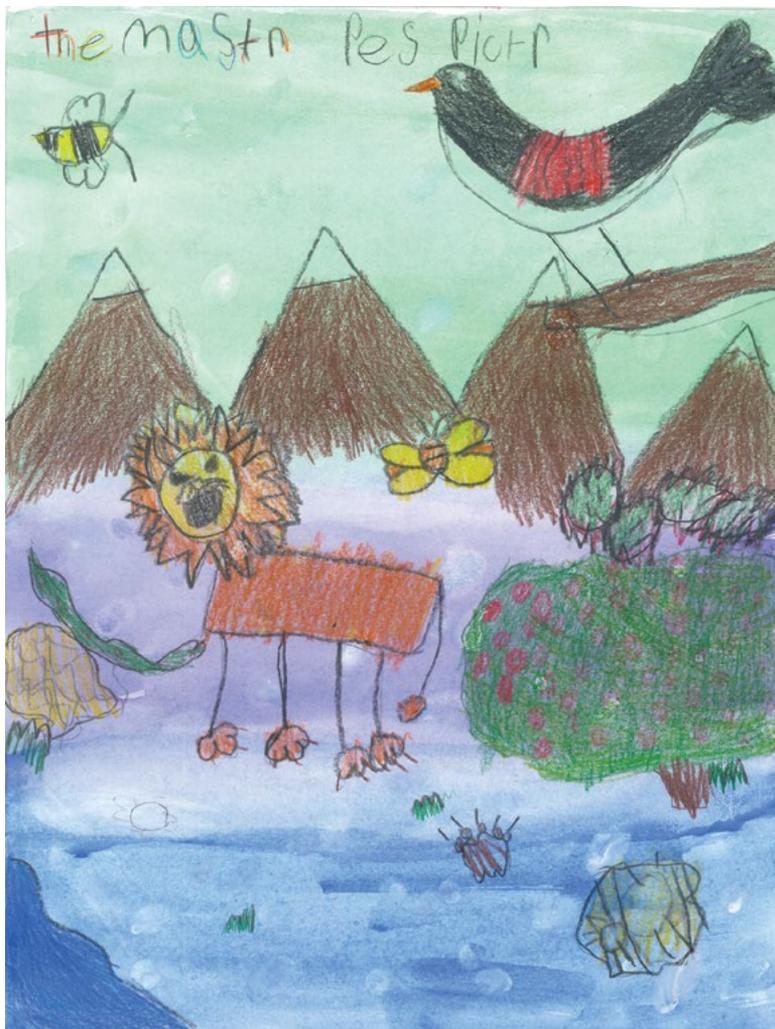
Splashy Hole!

Juniper Dorr, age 6

Mesquite Elementary School – Janis Mortensen and Paula Maxwell

Lizard hunts.
Morning.
Fallen wolfberries around
My tracks in the sand.

Nicolas Meschino Earle, age 8
Miles Exploratory Learning Center – Mary Hope Bergey and Jolene Terry



The Masterpiece Picture

Jessini Siqueiros, age 7
Safford K-8 School – Robin Gilbert

Local Winners in International River of Words 2019

Living River of Words is a regional coordinator providing local support for *River of Words*: a project of The Center for Environmental Literacy at Saint Mary's College of California. *River of Words* is its own watershed: a linked network of people throughout the United States and the world who are committed to teaching the art and poetry of place to young people.

In the pages to follow we honor local student finalists from *Living River of Words* 2018 who were selected as finalists in the *River of Words* 2019 Youth Poetry and Art contest.

From a Seed to a Cactus

On a hot, dry day in the desert
A beautiful red fruit drops from a
green, spiky saguaro cactus.
It slowly opens on the dry desert floor.
Two thousand black seeds fall out.
Wind and rain comes.
Months, years, and weeks come,
and there is a beautiful cactus
waiting to be seen.

Georgina Valenzuela, age 9
Borton Magnet School – Mrs. Bennett
2019 Poetry Winner in Category 1

The Reflection of the River

The quiet light floats through the wind
as if it could go through
the walls of the earth.

Dreaming spirits whispers
blowing together.

Friends run along a starlit path
through the trees.

The sparkling stones fall
calling their names.

The reflection of the river water running,
seems to be making
a clean long path.

The clouds still white
in the peaceful desert.

If you listen closely,
you can hear the wind
saying, believe!

Noemi Celani, age 7
Agua Caliente Elementary – Mrs. Robinson
International River of Words Finalist

The River of Words

Take heed as you stand among the reeds
Your mind may get lost in the Waters of Thought
The water lays still, until an idea sparks
Sending a ripple
Feel the wind hugging your cheek
Embracing it in the cloak of nature's welcome
Sit down by the River of Words
Sit down and think
Then write some poetry

Alyssa Thompson, age 11

Agua Caliente Elementary – Mrs. Johnson

2019 Poetry Finalist in the "On Writing" Category



Desert Blossoms After Rain

Maryanne Allen, age 10

Mesquite Elementary – Mrs. Knox and Ms. Mortensen

International River of Words Finalist

I Love Trees

A tree is like my grandpa
drying leaves, bent over
limbs in the winter of
his life deep thoughts
and roots.

Jocelyn R. Sepulveda-Cocio, age 9
Presidio School – Mrs. Nelson
International River of Words Finalist



Andrea Sampson, age 15
Tucson High School – Ms. Jenness
International River of Words Finalist



Waterland

*Sean Mergenthaler, age 7
Agua Caliente Elementary – Ms. Mansour
International River of Words Finalist*



Relaxation

*Evelyn Grace Brandon, age 8
DeGrazia Elementary – Mrs. Mirlocca
International River of Words Finalist*



Photo: Jolicia Sutton, Drachman Montessori Magnet School

For more information about *Living River of Words: Youth Arts and Science* contact:
Pima County Natural Resources,
Parks and Recreation
Environmental Education
Phone: (520) 724-5375
Email: eeducation@pima.gov
Website: www.pima.gov/nrpr



parks in focus
Udall Foundation



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EDUCATION



*Friends of Agua
Caliente Park*



THE UNIVERSITY OF ARIZONA
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Natural Resources, Parks and Recreation
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Regional Wastewater Reclamation Department
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