



MEMORANDUM

Date: September 29, 2020

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

From: C.H. Huckelberry
County Administrator

Re: **Seventh Annual *A Living River* Project Report Release – Charting Santa Cruz River Conditions Northwest Tucson to Marana – 2019 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 7th Annual Living River Report characterizes river conditions for the 2019 Water Year from the Agua Nueva Water Reclamation Facility outfall to Trico Road.

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

Findings

While allowing aquatic life to thrive, cleaner effluent discharged into the river also infiltrates more quickly into the aquifer system. This condition means that more water goes underground instead of flowing on the surface, resulting in a shorter flow extent. Since the water reclamation facilities were upgraded in 2013, nearly five times the number of invertebrates now call the river home. These species may be stabilizing because no additional species appeared in the 2019 surveys.

The improved conditions have also drawn more people to the river and Pima County is working more closely with residents by requesting and receiving feedback on river management.

Revised Approach and Format

This year we again used the shorter report format. In addition to noting improvements in river conditions, the report invites the public to participate in an on-line survey of projects

The Honorable Chairman and Members, Pima County Board of Supervisors
Re: **Seventh Annual A Living River Project Report Release – Charting Santa Cruz River
Conditions Northwest Tucson to Marana – 2019 Water Year**
September 29, 2020
Page 2

identified as part of the Santa Cruz River Management Plan. New to the report is the Heritage River Project adding effluent flows to the Santa Cruz.

Public Outreach

The more concise format allows more reports to be printed (this year 8,000, compared to less than 2,000 reports in the first few years). To expand outreach, 1000-copies of the Living River Annual report will be mailed with the 'Nature-to-Go kits' prepared by NRPR. Reports will be distributed through all 25 branches of the Pima County Library system. Once again, we are planning to mail the report to 6,700 households along the river. Mailing the report allows Pima County to engage more directly with the public regarding the long-term plans for the Santa Cruz River corridor, asking them to participate in a public survey on the Santa Cruz River Management Plan alternatives.

The Living River Project continues to bring young people to the river for science-based classroom activities and field trips via Pima 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 program this year, the product of which will be displayed as a traveling exhibit of artwork and poetry circulating through Pima County libraries. Several of these art pieces won national awards this year.

The District is sponsoring a virtual Dragonfly Day on October 3, 2020 in partnership with the Town of Marana, NRPR, and the University of Arizona. This event will showcase the diversity of the dragonfly population supported by the river. Dragonfly Day will coincide with the release of the 7th Annual Living River Report.

CHH/mp

Attachment

c: Jan Leshar, Chief Assistant County Administrator
Carmine DeBonis, Deputy County Administrator for Public Works
Francisco Garcia, MD, MPH, Deputy County Administrator & Chief Medical Officer,
Health and Community Services
Yves Khawam, PhD., Assistant County Administrator for Public Works
Suzanne Shields, P.E., Director, Regional Flood Control District
Jackson Jenkins, Director, Regional Wastewater Reclamation Department
Linda Mayro, Director, Office of Sustainability and Conservation
Chris Cawein, Director, Natural Resources, Parks and Recreation



PIMA COUNTY

WASTEWATER RECLAMATION
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TUCSON, ARIZONA 85701-1207

JACKSON JENKINS
DIRECTOR

PH: (520) 724-6500
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September 28, 2020

TO: C.H. Huckelberry, County Administrator

FROM: Jackson Jenkins, Director 

SUBJECT: *Seventh Annual A Living River Project Report Release – Charting Santa Cruz River Conditions Northwest Tucson to Marana – 2019 Water Year*

Attached please find a memorandum for your consideration to provide to the Pima County Board of Supervisors along with the Living River Report and the Living River of Words booklet of the Youth Poetry and Art Contest (*copies attached*). Hard copies of these reports will be delivered to your office today for dissemination.

Please let me know if you have any questions.

Attachment

c: Carmine DeBonis, Jr., Deputy County Administrator for Public Works
Yves Khawam, PhD, Assistant County Administrator for Public Works
Suzanne Shields, P.E., Director – Regional Flood Control District
Jackson Jenkins, Director – Regional Wastewater Reclamation Department
Linda Mayro, Director – Office of Sustainability and Conservation
Chris Cawein, Director – Natural Resources, Parks and Recreation

COMPLETE THE RIVER
IMPROVEMENTS
SURVEY—SEE PAGE 6

a living river

CHARTING SANTA CRUZ RIVER CONDITIONS
NORTHWEST TUCSON TO MARANA—2019 WATER YEAR



WHERE COMMUNITY AND NATURE MEET



SONORAN
INSTITUTE



PIMA COUNTY



Great blue heron (*Ardea herodias*)

THE SANTA CRUZ RIVER CELEBRATE AND PROTECT

There have been many improvements along the Santa Cruz River near Tucson since the *Living River* report series began in 2013. Cleaner water now supports increased diversity of aquatic wildlife, including the endangered Gila topminnow. River flows are shorter and more variable as more water is now replenishing the aquifer. Projects all along the river have enhanced natural areas, improved recreation opportunities, connected people to their river heritage, and even created a new stretch of flowing river downtown.

From northwest Tucson to Marana, the Santa Cruz River is Pima County's longest flowing river corridor, with flows sustained year-round by the release of effluent, or highly treated wastewater. Pima County has released this recycled water into the river since the 1970s, but river conditions have dramatically improved since the county's investment of more than \$600 million on upgrades to the wastewater treatment process were completed in December 2013. Improved water quality has resulted in a thriving aquatic environment, enhanced river parks, and the creation of new river flows in our community's birthplace.

To build on these improvements, the Pima County Regional Flood Control District is developing a management plan for the Santa Cruz River. Over the last year they have listened to community concerns and ideas for the river and identified a suite of potential projects with multiple benefits.

Now we need your help in choosing the projects to include in the management plan. What types of improvements should be prioritized in this important corridor and where can benefits be maximized? By adding your voice, you can help shape the future of this living river!



Crested water primrose (*Ludwigia pepeloides*)



Coyote (*Canis latrans*)

TRACKING RIVER CONDITIONS

Included here are Santa Cruz River conditions from northwest Tucson to Marana during the 2019 water year (October 1, 2018 to September 30, 2019). Current comparisons are made to baseline conditions from 2013, prior to the wastewater treatment upgrades. To explore more data, download a supplementary report from the Sonoran Institute website at www.tiny.cc/tlr19.

Sonoran Institute launched annual *Living River* reports in 2008 to track river conditions in Santa Cruz County. In 2012, the effort expanded in partnership with Pima County to assess conditions in the flowing reach in Tucson. All *Living River* reports can be found on the Sonoran Institute website: www.sonoraninstitute.org.



Ammonia levels lower than 2018

A full moon night
four coyotes
with the Llorona in the river
below the mountain
near a tree.

—Abelardo Mario Amezcuita
Age 6

2019 NOTABLE FINDINGS



Aquatic invertebrate diversity may be stabilizing

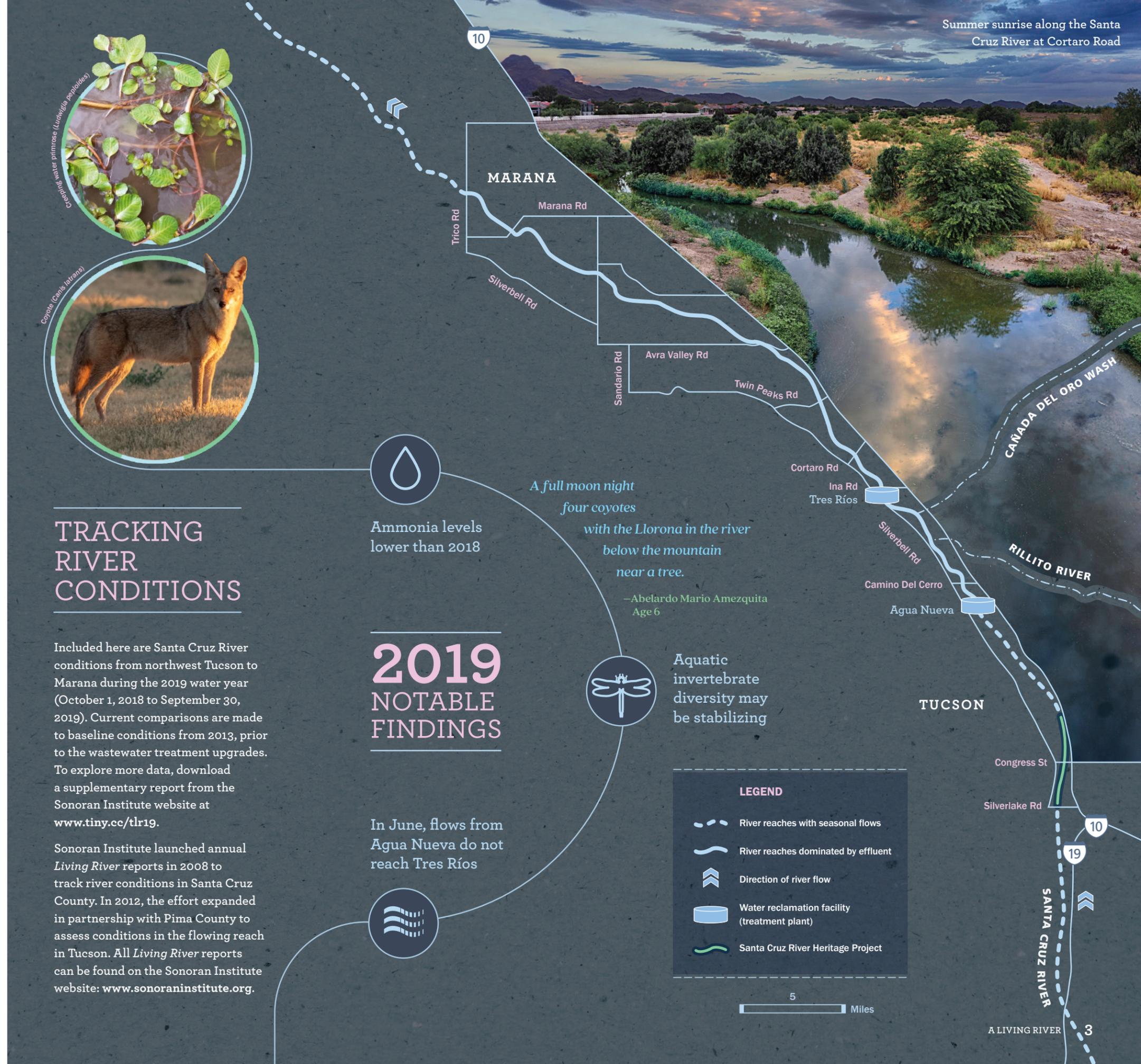


In June, flows from Agua Nueva do not reach Tres Ríos

LEGEND

- River reaches with seasonal flows
- River reaches dominated by effluent
- Direction of river flow
- Water reclamation facility (treatment plant)
- Santa Cruz River Heritage Project

5 Miles



TREND OF IMPROVED RIVER HEALTH CONTINUES IN 2019



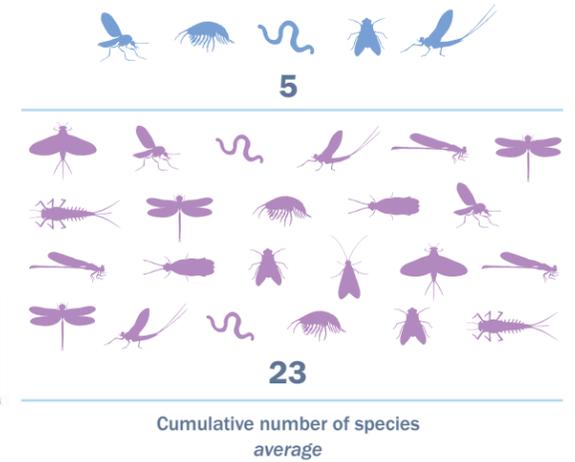
Common green damselfly (*Anax junia*)



AQUATIC INVERTEBRATES THRIVE IN CLEANER WATER

Aquatic invertebrates are sampled at four river locations, and the data reflect an average of all sites combined. Diversity has increased: the average number of species found doubled from 5 in 2013 to 10 in 2019. The cumulative number of unique species has also increased: 2019 had 23 species on average, nearly five times more than the 2013 average of 5 species. Increasing diversity trends may be stabilizing, as no new species were found in 2019.

2013
2013-2019



Blue-eyed damselfly (*Rhionaeschna multicolor*)

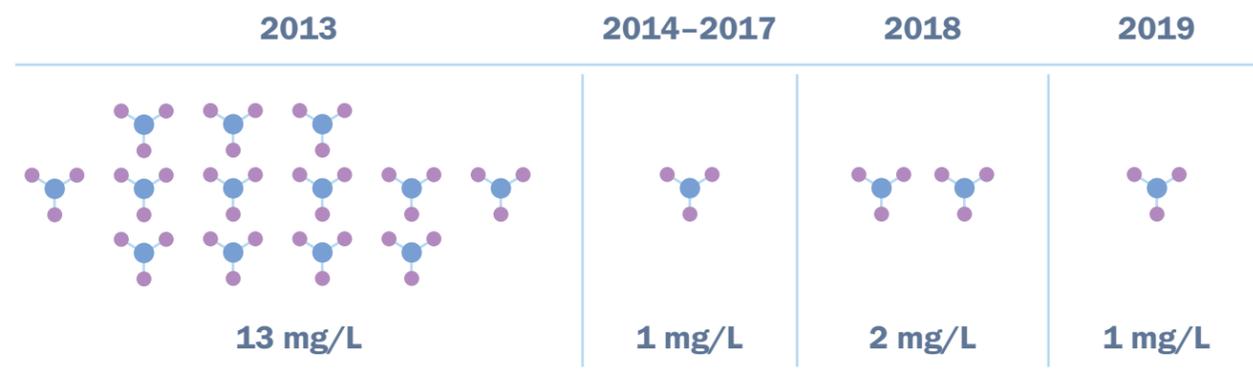
Blue-eyed damselfly (*Rhionaeschna multicolor*)



RIVER'S WATER QUALITY IMPROVED SINCE 2018

Many metrics demonstrate the river's improved water quality since the wastewater treatment upgrades. Most significant is the reduction in ammonia, a form of nitrogen common in effluent and toxic to fish at high concentration. Measured at four locations, average ammonia concentrations declined from a toxic 13 mg/L in 2013 to 1 mg/L in 2014-2017. For unknown reasons, in 2018, average ammonia levels increased to 2 mg/L, mostly in samples taken between the Agua Nueva and Tres Ríos facilities. Notably, average ammonia levels returned to 1 mg/L in 2019.

Removing ammonia is a complex process. The Agua Nueva and Tres Ríos Water Reclamation Facilities both use a five-stage process that features alternating oxygenated and oxygen-free zones. Pima County has optimized processes to better maintain the delicate balance of oxygen needed for maximum ammonia removal. They aim to remove additional ammonia during treatment of biosolids at the Tres Ríos Facility when new technology is installed in 2020 and 2021.



Average ammonia concentrations by water year

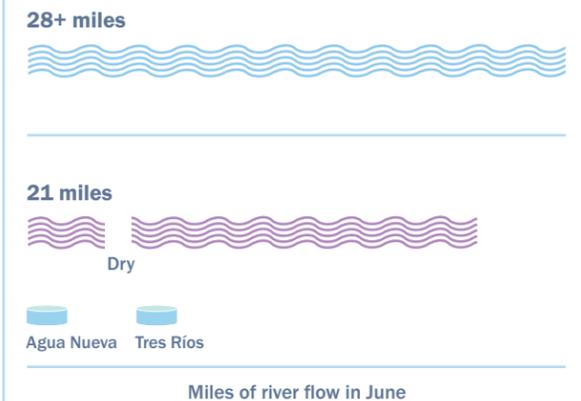
Review all data in supplementary report at www.tiny.cc/tlr19



CLEANER WATER REDUCES THE RIVER'S FLOW EXTENT

Since the wastewater treatment upgrades, river flow extent is shorter and more variable, especially in June, the driest time of year when miles of flow are lowest. In June 2013, the river flowed uninterrupted for over 28 miles. In June 2019, flow decreased to 21 miles and was dry for a 1.3 mile stretch between the Agua Nueva and Tres Ríos facilities. Now occurring every June since 2014, this dry stretch has ranged from 0.3 to nearly 2 miles in length. Variability in flow extent is complex and impacted by many factors. Cleaner water infiltrates the riverbed more easily to replenish the aquifer. Infiltration also increases after seasonal floods scour the riverbed. Indeed, the longest dry stretches were in years with larger and more recent peak floods.

2013
2019





MANAGING FOR A MORE NATURAL RIVER

Allowed to run naturally, rivers often flow in slow, winding routes and flood with seasonal rains. When flooding, water spills out of the river's channel and onto the adjacent land called the floodplain. Riparian vegetation growing on the banks and in the floodplain works to slow flooding, reduce erosion, filter water as it percolates into the groundwater, and provide habitat for wildlife.

Historically, the Santa Cruz River winding through the Tucson area had a wide floodplain. As our communities grew, however, buildings, parks, and other infrastructure were built very close to the river. Through much of Tucson, this development has confined the river and floodplain to a narrower and straighter corridor. As a result, the river requires significant management for flood safety, including regular removal of accumulated sediment and vegetation that displace water in the corridor and create other hazards to people and property.

North of the Agua Nueva and Tres Ríos facilities, however, the Santa Cruz River corridor is wide enough to allow for more flexible management and less physical constraint of the river channel. Here, the river can meander a bit, water levels can more safely rise, and native riparian vegetation can grow with fewer concerns. Through strategic action, we can also encourage more wildlife species to call the river home.

The Pima County Regional Flood Control District, which has operational and maintenance control within the Santa Cruz River, is preparing a management plan for the river corridor. The reach from Grant Road north to the Pinal County line is currently in the "alternatives development phase," where collaboration with key stakeholders aims to manage flood risk while also taking into consideration drainage infrastructure protection, water recharge, recreation opportunities, public safety, and riparian habitat preservation.



Learn about the potential projects along the Santa Cruz and tell us what you think.

Complete a survey by December 31, 2020 at: www.tiny.cc/scrprojects

Over the last year, the Flood Control District and stakeholders have identified a wide-ranging set of improvements that have the potential to be implemented along the river. Now we need your help. Please join the conversation so we can develop a plan for the Santa Cruz River that reflects the needs, desires, and values of the community.

HOW TO GET INVOLVED

- Follow the Flood Control District's progress on the Santa Cruz River management plan for the river between Grant Road and the Pinal County line at: www.pima.gov/SantaCruzRiverPlan
- Stay informed! Join the Sonoran Institute mailing list for the latest Santa Cruz news and events: www.tiny.cc/scrsignup
- Follow the Sonoran Institute's social media accounts for information and updates on the river management plan and other Santa Cruz River news.

YOUTH EXPLORE THE RIVER THROUGH SCIENCE AND ART

Living River of Words is a Pima County program that encourages young people to explore how water moves through the landscape and learn about the connections between plants, animals, people, and 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 are then submitted to the international River of Words contest. Some of the 2020 selections for the traveling exhibit are shown in this report. Learn more at: www.pima.gov/nrpr.

ACKNOWLEDGEMENTS

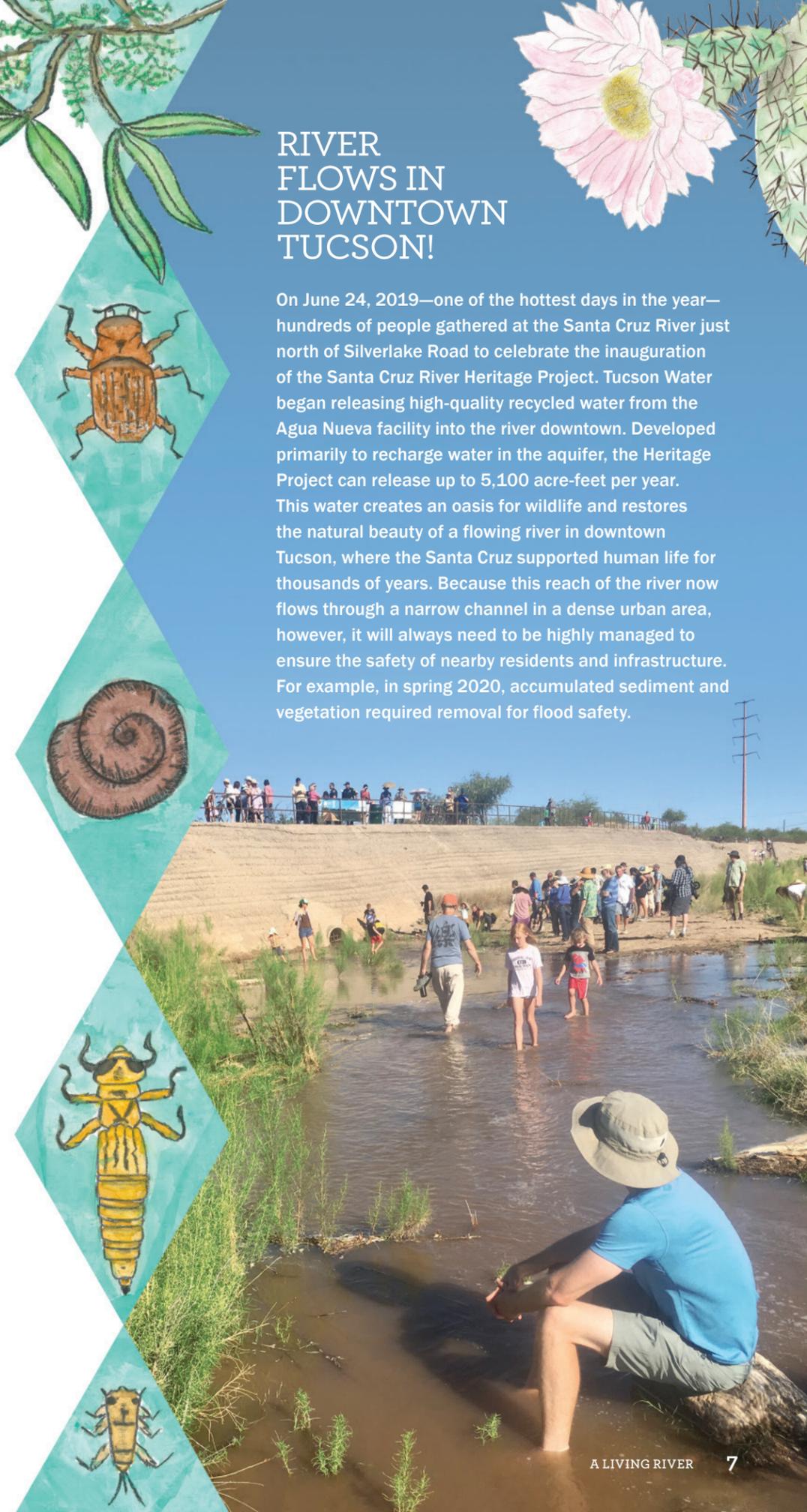
Sonoran Institute and Pima County developed and prepared this report with funding from Pima County Regional Wastewater Reclamation Department, Pima County Regional Flood Control District, and community stakeholders.

IMAGE CREDITS

Cover photos left: Santa Cruz River, and right: Great egret, by Charlie Alolkoy: www.alolkoyphotography.com
2: Great blue heron by Shutterstock (#375710713); Creeping water primrose by Claire Zugmeyer/Sonoran Institute; Coyote by Charlie Alolkoy **3:** Santa Cruz River by Charlie Alolkoy **4-5:** Santa Cruz River photos by Charlie Alolkoy; Dragonfly and damselfly photos by Michael T. Bogan **6:** left: Duck by Maia Garcia, age 15, Tucson High Magnet School — Marea Jenness; right: *A Night in the Desert* by Evelyn Allen, age 11, Mesquite Elementary School — Janice Mortensen & Paula Maxwell **7:** Invertebrate art by Alyssa Joseph, Age 16, and Cactus flower art by Gillian Jones, age 15, Tucson High Magnet School — Marea Jenness; Santa Cruz River Heritage Project photo by Michael T. Bogan

RIVER FLOWS IN DOWNTOWN TUCSON!

On June 24, 2019—one of the hottest days in the year—hundreds of people gathered at the Santa Cruz River just north of Silverlake Road to celebrate the inauguration of the Santa Cruz River Heritage Project. Tucson Water began releasing high-quality recycled water from the Agua Nueva facility into the river downtown. Developed primarily to recharge water in the aquifer, the Heritage Project can release up to 5,100 acre-feet per year. This water creates an oasis for wildlife and restores the natural beauty of a flowing river in downtown Tucson, where the Santa Cruz supported human life for thousands of years. Because this reach of the river now flows through a narrow channel in a dense urban area, however, it will always need to be highly managed to ensure the safety of nearby residents and infrastructure. For example, in spring 2020, accumulated sediment and vegetation required removal for flood safety.





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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 envision resilient communities living in harmony with the natural world, where flowing rivers and healthy landscapes enable all people and nature to thrive. Our work transcends borders, bringing together diverse communities to promote civil dialogue about complex conservation issues that know no boundaries. All aspects of our work are guided by inclusivity and collaboration to create positive environmental change in the western United States and northwestern Mexico.



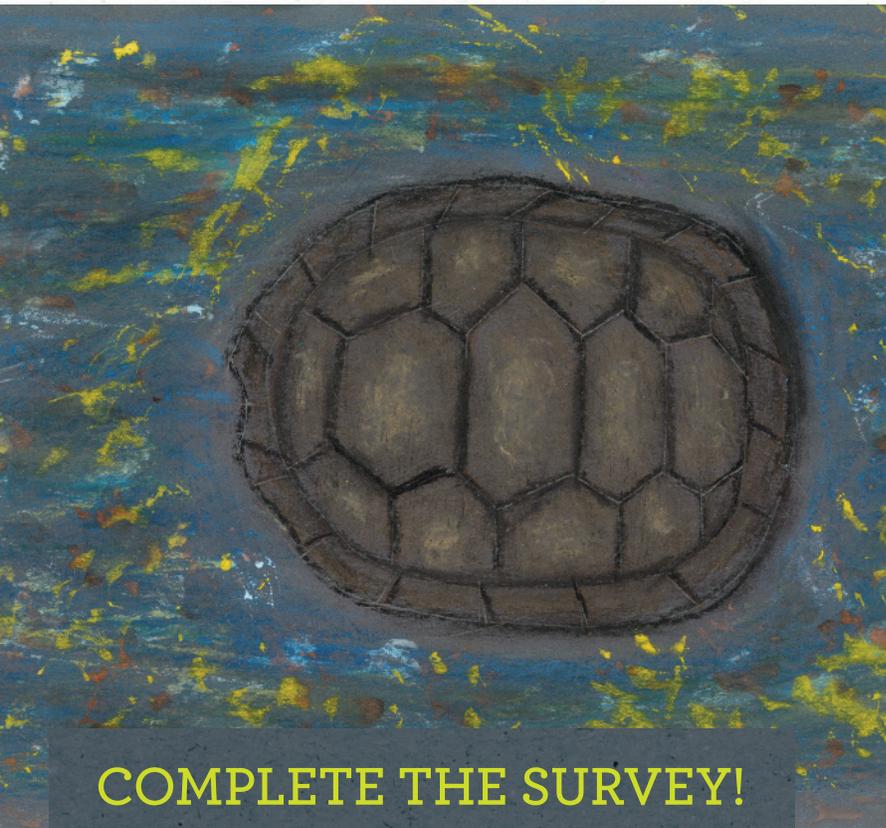
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Rey Compos, age 18, Tucson High Magnet School — Marea Jenness
Beautiful Desert by Serenity Phillips, age 6, Roadrunner Elementary — Liz Gary



COMPLETE THE SURVEY!

We want your thoughts on proposed river projects.
Complete the survey at: www.tiny.cc/scrprojects

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



Isabel Velasco, age 15
Tucson High Magnet School – Marea Jenness
Grand Prize–Art–Category 4

*This book is dedicated to the 2020 Living River of Words Teacher of the Year:
Lori LaRussa – Innovation Academy*

*And to all the teachers, parents, and guardians who promote and support
the integration of science and the arts while creating opportunities for
children to connect with nature. Thank you!*

International River of Words Project

Pima County's *Living River of Words* program serves as a regional coordinator for the international *River of Words*, a project of The Center for Environmental Literacy at Saint Mary's College of California. Artwork and poetry created by this year's local finalists will be entered into the international contest for a chance to be recognized at the next level in 2021.

Beginning on page 33 of this book, you will see the work of this year's international finalists who were local *Living River of Words* finalists in 2019 and went on to be recognized at the international level this year. We are very proud to have these students and their creative work representing Pima County and Arizona!

Living River of Words Traveling Exhibit 2020-21

At the time of printing, Pima County Libraries are closed until further notice. The schedule for the *Living River of Words* traveling exhibit — featuring the artwork and poetry of this year's local and international finalists — will be posted on the Pima County Natural Resources, Parks and Recreation website once the libraries re-open and the exhibit is installed in its first location. For updated information, please visit: www.pima.gov/nrpr

Living River of Words: Youth Arts and Science

As desert dwellers, we have a special place in our hearts for water. We know there is nothing quite like a glass of cold water on a hot Tucson day, the sound of kids splashing in a stream, or the smell of creosote after a sudden monsoon storm. And we recognize that our communities and wildlife depend on water for life and livelihood.

The *Living River of Words (LROW)* program has been connecting youth in Pima County to the wonders of water for nearly 18 years by combining nature, art, and interdisciplinary science. The program usually begins with K-12 teachers who sign their classes up for an *LROW* residency to explore and reflect on the concepts of watersheds, the water cycle, wetland habitats, and water resources in our community.



*Drachman K-8 students sampling macroinvertebrates at the Santa Cruz River.
Photo: Christine Hoekenga*

After *LROW* instructors provide an introduction to these topics in the classroom, students take a field trip to the Santa Cruz River or another wetland habitat where they conduct water quality tests, study aquatic macroinvertebrates, and observe wildlife and vegetation. A community poet or artist spends time with the students by the water to guide their writing, sketching, or photography. Afterward, the artist visits the classroom to help students reflect on their field trip experience and turn their early inspirations into finished poetry or art.



*Students painting at Innovation Academy.
Photo: Elizabeth Quinn*

Youth ages 5 to 19 – whether part of a formal *LROW* residency or not – can then share their creative reflections on water by entering their poetry, visual art, or photography in the *Living River of*

Words: Youth Poetry and Art Contest. Out of more than 950 entries this year, the judges selected just 50 creative works as finalists and grand prize winners in each age category. These pages are filled with this award-winning poetry and artwork, inspired by *LROW* field trips, school residencies, and independent study.

Our Living River: The Santa Cruz

The Santa Cruz River has long been the lifeblood of the region, first attracting

humans over 12,000 years ago and sustaining agriculture and communities along its banks ever since. Today, due to groundwater pumping and other factors, many stretches of the river flow only when it rains. But thanks to the release of highly-treated wastewater into the riverbed, the river in northwest Tucson and Marana is alive with year-round flows, lush trees, and diverse wildlife – including a newly-returned native fish, the Gila Topminnow. In 2019, we also celebrated the first releases of water into the riverbed near downtown Tucson as part of the Santa Cruz River Heritage Project.



Student from Safford K-8 taking photos at the Santa Cruz River. Photo: Mike Kruse

The Living River Project, conducted by Pima County and the Sonoran Institute, measures conditions of this valuable ecosystem and tracks the impacts of our community investment. *LOW* supports the broader Living River Project by introducing students, teachers, and parents to the Santa Cruz River. During their field trips, students use study methods that reflect the Living River Project’s indicator assessments and discover the value of our living river for themselves.

We hope you enjoy the richness and wonder of these special places through the eyes of the 2020 *Living River of Words* 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; Pima County Department of Environmental Quality; Marana Parks and Recreation; The Udall Foundation: Parks in Focus; Friends of Agua Caliente Park; Arizona Project WET; Pima County Master Naturalists; The University of Arizona Poetry Center; and Sonoran Institute.

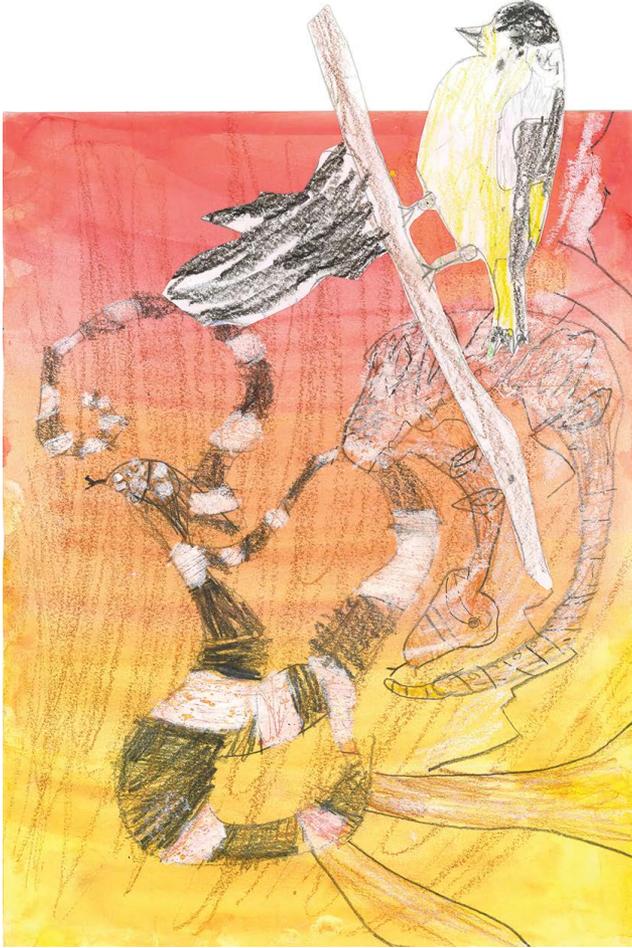
Many thanks to the community partners; teachers; school administrators; science, poetry, photography, and art instructors; judges; volunteers; and graphic designers who worked diligently to bring *Living River of Words* through the annual cycle of activities: Christine Hoekenga, Wendy Burroughs, Yajaira Gray, Marsha Colbert, Alex Wolfe, Jeffrey Babson, Sandy Reith, Axhel Muñoz, Julie Storm, Tiffany Wong, Barbara Goenaga, Elizabeth Quinn, Sevi, Clel Howard, Bret Muter, Mike Kruse, Miriam Aleman, Holly Thomas-Hilburn, Pearl Lam, Edie Price, Helen Wilson, Susan Knoll, Brian Powell, Doris Evans, Stuart Watkins, Tony Luebberrmann, Avery Lane, Janice Dewey, Paul Mirocha, Brenda Rentfro, Hazelle Gonter, Carol Brown, Franklin Lane, and Julie Hallbach.

A full moon night
four coyotes
with the Llorona in the river
below the mountain
near a tree.

Abelardo Mario Amezcuita, age 6
Independent Entry
Grand Prize–Poetry–Category 1



Ryder Thompson, age 8
Innovation Academy – Pamela Barrett
Grand Prize–Art–Category 2



The Reptiles

Roman Olivarria, age 7
Safford K-8 – Robin Gilbert

Seashells in My Garden
Exquisite, Elegant
gleaming, sparkling, shimmering
balancing the soil for a natural pH
Seashells shining like the morning sun rising
Sea rocks

Ashley Martinez, age 9
Manzo Elementary School – Dan Stoner

Wilderness

If you listen carefully
You can hear the wind singing and talking
You can hear the water
The paws and hooves
The sticks and leaves

The dirt crunching
The grass
The twigs
The rocks splashing
The water rushing

And they are all talking and singing
Last of all
You will never stop listening
To the wilderness
And be relaxed

Ilsa Chute, age 7
Agua Caliente Elementary School – Kelli Baker



Climbing Home

Chaylee Dietmeyer, age 11
DeGrazia Elementary – Robert Mayer



Desert Animals

Ian Kroll, age 6

Roadrunner Elementary – Liz Gary

Chirping River

Smell the fragrance in the air

See the greenness

hear the children eating pretzels

Hear the water rushing through the store.

Ninos taken by the river

Feel the muddy mud and the sandy sand

And warmest warm water

Hear the nature and the quietness.

Nathan von Niederhausern, age 8

Agua Caliente Elementary School – Betsey Robinson

Comfort in the Desert

Running through
the desert on a cloudy spring day
The grass is dancing and the clouds are overjoyed
I ask, "for what makes you happy on this wonderful day?"
They say to me, "for the sun is asleep"
The Lady Bugs whisper
In my ear and say to me, "the rain is out!"
Por eso las hojas son muy frescas para comer"
I live in a desert how do I know?
Only in the desert is it a comfort
when the sun is asleep.

Alina Rudnitsky, age 10
Davis Bilingual Magnet School – Rebecca Mota
Grand Prize–Poetry–Category 3



Alyssa Joseph, age 16
Tucson High Magnet School – Marea Jenness

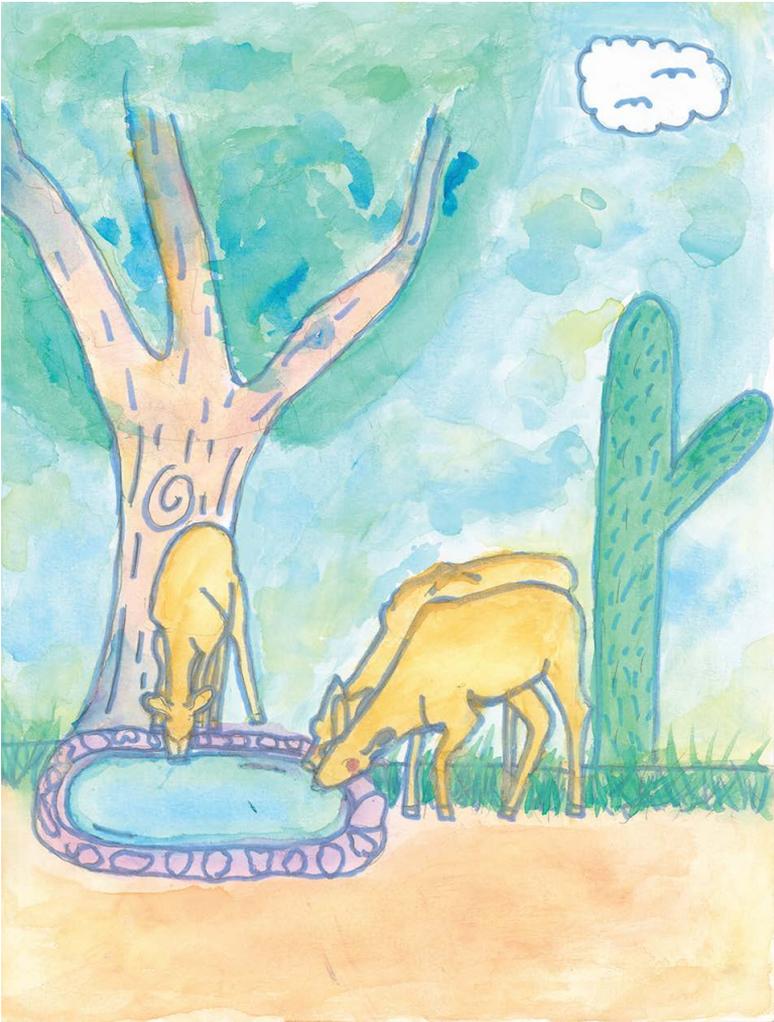
Rainbows

Sunlight and rain
Hit together
Makes a rainbow
Thunder and lightning
Animals in mountains
Having fun
Making rainbows so much fun!

Kassidy DeBake, age 6
Mesquite Elementary School – Janice Mortensen and Paula Maxwell



Adriel Valenzuela, age 6
Cragin Elementary School – Ellan Price
Grand Prize–Art–Category 1



Multidear

*Angelleena Hoover, age 12
Hollinger K-8 – Rebeka Denson*

At The Santa Cruz River

I hear birds chirping
I see hawks flying.
If you close your eyes
You can hear the water moving.
It is like a land of water all around you.
It is almost like we are not in a desert.
The dragonflies go zing, zing.
The rocks are green and rough from moss.

Sadie Fry, age 8

Agua Caliente Elementary School – Jennifer Mansour



Daddy, Mommy, and Baby Fish

Maria Lopez-Vallejo, age 6

Sewell Elementary – Charlena Dolan



Tree a la Stick

Rosalie Fonseca, age 8

Safford K-8 School – Nalda Francisco

Grand Prize–Photography–Category 2

Closer and Closer to the River

When you're close to the river you hear the wind and smell the plants.
I wanted to hear the river so I went closer and closer.
I walked through a tunnel and saw the river.
Then I could hear the river and the wind.

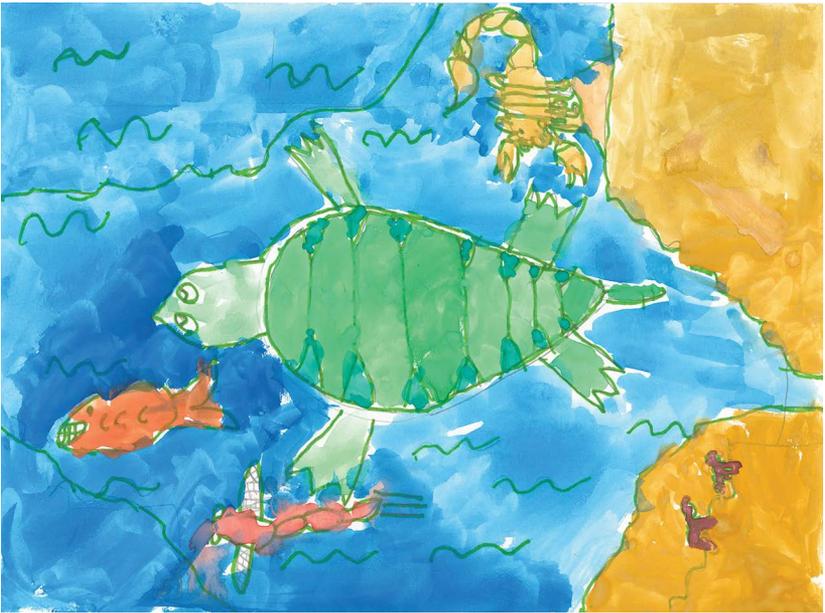
I couldn't hear hawks but I could see them.
When I was getting closer and closer I saw an old torn up suitcase and a
shopping cart.
Then walked back through the tunnel and climbed a hill.
And on the hill we saw a funnel web spider and her web.

Of course we saw human beings.
We did lots of water tests.
We did the tests by getting closer and closer to the river.

Watch your step! Thornbushes!

Lucas Randall, age 8

Innovation Academy – Rachelle Ferris



*Benjamin Castañeda, age 8
Innovation Academy – Lori LaRussa*



*Rey Compos, age 18
Tucson High Magnet School – Marea Jenness*

Our Beautiful Desert

Hawks soaring in the dark dawn
 Blooming flowers
Mountain lions roar like thunder
 Tarantulas hunt for their prey
Frogs croak at the top of the pond
 Loud, huge storm, lightening
 Birds chirping, ravens cawing
 Eagle's call like dragons
 Hares bounding
Wolves howling at the moon
 Rain is always amazing
 Sunrise, blooming clouds
 Bobcats hunt, owls hoot
 Colorful rainbows
 Giant Saguaro cacti
 Mayflies and dragonflies
So many insects and amphibians
 On our pond
Great diving beetles and fishing spiders
 Hummingbirds, honey bees
 Look for nectar
 Our beautiful desert

Reed Hallum, age 8

*Mesquite Elementary School – Janice Mortensen and Paula Maxwell
Grand Prize–Poetry–Category 2*



Beautiful Desert

Serenity Phillips, age 6

Roadrunner Elementary – Liz Gary



Clean Water

Angel Solis, age 8

Safford K-8 School – Shania Grijalva

Peaceful

I can hear the river going swish, swish.

I can see the fish having a blast.

I can feel, hear, and see all the greatness happening right now
in this beautiful and grateful place.

What can you feel, see, and hear?

I can see people learning.

I can feel the colorful rocks on my skin.

It feels amazing to be in a peaceful spot
because you have time to think about
what is going on in our life.

Terah Rosmaier, age 9

Drachman Montessori K-8 Magnet School – Kristin Sixt

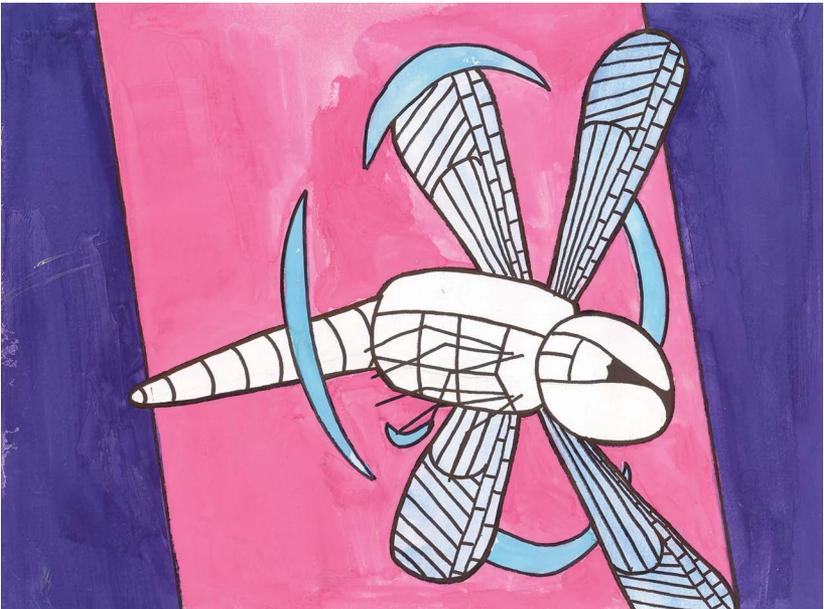


The Gopher Holes

Christopher Ochoa, age 11

Bonillas Traditional Elementary Magnet School – Phelan Mahony

Grand Prize–Art–Category 3



Seth Baldwin, age 15

Tucson High Magnet School – Marea Jenness



The Wild Animal

Wilhelmina Flint, age 5

Sewell Elementary – Maria Alvarado-Wells



Ant

Jacob Riley, age 11

*Drachman Montessori K-8 Magnet School – Jenny Russell
Grand Prize–Photography–Category 3*

The Santa Cruz River

The river smells like the
Creosote that grows on the
Bike path

The river looks like a ditch with
Lots of beautiful plants

The river would probably taste like
Algae water

The river feels like sand from the beach

The river sounds like the amazing
Coyotes that sing for us in the evenings

*Marytza Catalan, age 11
Independent Entry*



Aniyah Dunn, age 6
Cragin Elementary School – Ellan Price



The Animals of the Santa Cruz River

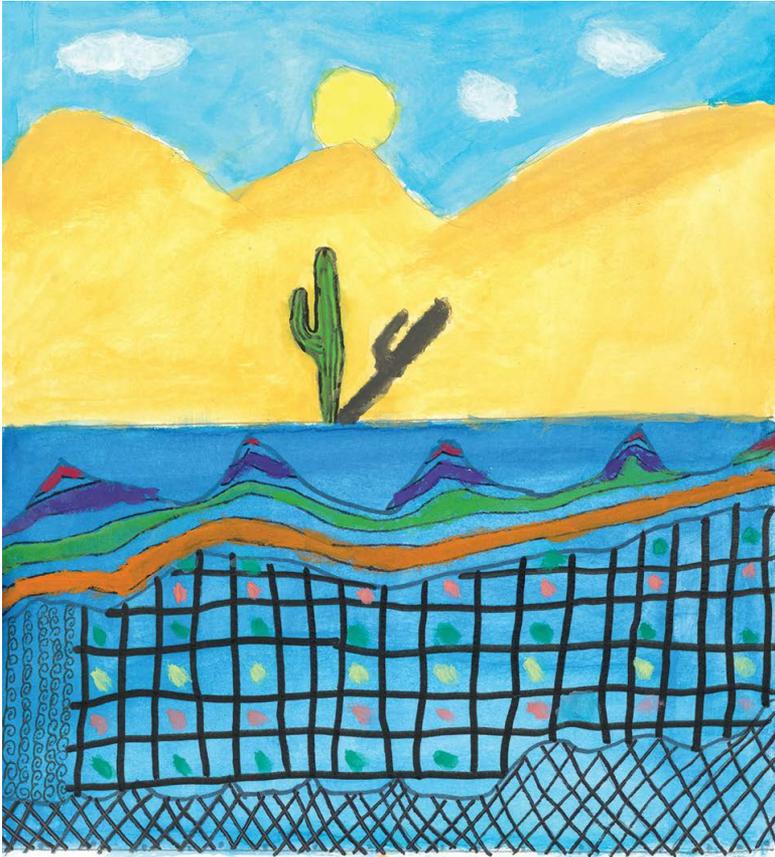
Adalina Ruiz, age 7

Safford K-8 – Robin Gilbert



Daniel Garcia, age 13

Drachman Montessori K-8 Magnet School – Jose Haro



I take the boiled pasta water
to water our tree.

Blue Skies in Tucson

Isabella Owens, age 10
BASIS Tucson North – Carrie Vonier



The Yellow Flower

Miah Dinicola, age 11

DeGrazia Elementary – Aimee Katz



Maia Garcia, age 15

Tucson High Magnet School – Marea Jenness



A Night in the Desert

Evelyn Allen, age 11

Mesquite Elementary School – Janice Mortensen & Paula Maxwell



A Very Berry Sky

Alexia Cota, age 12

DeGrazia Elementary – Aaron Hart

I love the Santa Cruz River

I hear the sound of rushing water
It reminds me of waves crashing
On the beach

The breeze helps put together the feeling
Of being on the beach
Dragonflies whiz to trees
And hawks circle in the sky
Vegetation grows everywhere
It is very pleasant

I love the Santa Cruz River
Mountains are in the background
It is the perfect place to meditate
Tarantula hawks zoom through the sky
Funnel Spider webs spiral
Colored glass is found all around
On the ground

Felix Croy, age 8

Innovation Academy – Mabel Rivera



Bethel Eyasu, age 7
Cragin Elementary School – Heather Wenning



The Desert Sunset
Summer Looney, age 7
Roadrunner Elementary – Alissa Montminy



*Parker Serrato, age 8
Innovation Academy – Brenda Mendez*



*Chris Yenesel, age 7
Innovation Academy – Pamela Barrett*

Half and Half

Half the year flowing half the year not.
Half the River polluted the other half clean.
Half the day sunny the other half dark.
I love both halves
no matter what.

*William Suhrheinrich II, age 10
J. Robert Hendricks Elementary School – Janet Slingerland*



*Rowan Ravesloot, age 7
Innovation Academy – Lori LaRussa*



Jasmine Aguirre, age 12
Drachman Montessori K-8 Magnet School – Jose Haro
Grand Prize–Photography–Category 4



Gillian Jones, age 15
Tucson High Magnet School – Marea Jenness

As you walk to the river,
The river sounds very nice and sweet.
The river does not have a dam.

As waves thump up and down,
You hear a bird that calls nature's name,
Cawking its meaningful words you can't understand.

This river is better than a beach.
You can't swim in it though, lots of fish are in there.
It may make you sad that you can't swim.
The river is out of reach.

Oh the river is so pretty.
The crunchy sand beneath your shoes,
The trees blowing leaves where no one knows.
How far do the leaves go?
Do they go where I don't?
The river is great, but humans choose its fate.

Jolieanna Graves, age 8
Presidio School – Trancye Foster



It Broke After This

Peyton Sharp, age 11
DeGrazia Elementary – Robert Mayer

The River

I hear the water flowing
Beneath the rustling trees.

I hear the rocks falling
From the wall.

Oh how I loved this in all.

But wait... There's more.

I hear the birds chirping
Their sweet little songs.

I hear the branches
Rustling while I write with my pencil

I hear the twigs
Dragging in the river
With flow.

I hear the leaves
Rustling on the tree
Like their free.

I see the moss that is so green.

I see a branch that looks
Like a tree
While my friend
Sits next to me.

Sophia Jacobson, age 8
Presidio School – Kelly Aliperti



The Plant in the Light

*Elizabeth Corona-Goss, age 12
DeGrazia Elementary – Aimee Katz*

Local Winners in International River of Words 2020

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* 2019 who went on to be selected as finalists in the international *River of Words* 2020 Youth Poetry and Art Contest.

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
International River of Words Category 1 Poetry Winner*



Anya Kaldonski, age 7
Roadrunner Elementary School – Alissa Montminy
International River of Words Finalist

Black crows flying
Brown river moving slow
Green cactus

Camila Garate, age 6
Miles Exploratory Learning Center – Mary Hope Bergey and Jolene Terry
International River of Words Finalist

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

Maria Robles, age 7
Miles Exploratory Learning Center – Rosalie Perales
International River of Words Finalist

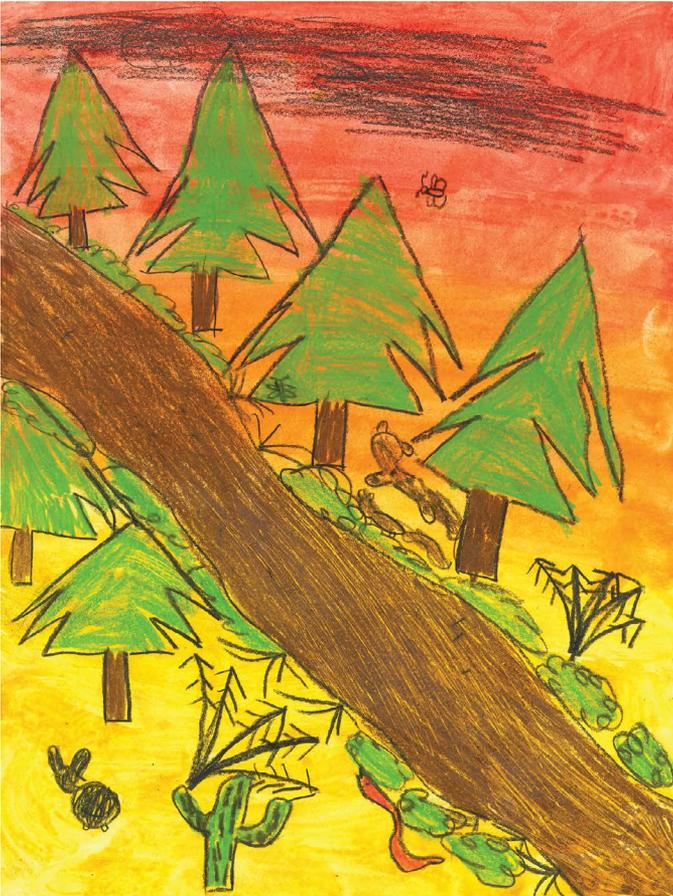


Leon Obezo, age 6
Cragin Elementary School – Heather Wenning
International River of Words Finalist

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
International River of Words Finalist



Ranando Josemaria Jr., age 8
Mission Manor Elementary School – April Brown
International River of Words Finalist



Deer at Sunset

Evelyn Allen, age 10

*Mesquite Elementary School – Janis Mortensen and Paula Maxwell
International River of Words Finalist*

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
International River of Words Finalist*



Student from Safford K-8 taking photos at the Santa Cruz River. Photo: Mike Kruse

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**



**Natural Resources, Parks and Recreation
Regional Flood Control District
Regional Wastewater Reclamation Department
Pima County Public Library**



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