HOW ARE WE DOING & WHERE ARE WE GOING?

Think Like a Watershed, Act like a River:

The Culture of Community **Based River Restoration in the AZ-Mexico Binational** Watersheds

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RIPARIAN RESTORATION CONFERENCE

FEBRUARY 4-6, 2020 Colorado Mesa University's University Center Grand Junction, CO www.RiversEdgeWest.org

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RiversEdge West







UNITED STATES Showing Drainage Districts. to to an o M ige

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1878, Powell published his Report on the Lands of the Arid Region

142 years ago.....







Kwapa Mapping Team



Kwapa Vision

HISTORY

The accentrics of the Dirays are bedread to have segrend to the Calorada Rive Doles regions that yields a second second

The first European to encounter the Kirapa was Hermania de Allandis, e member of Constado capatitions with susched the Upper Call of California in August 1540 and travital on the California Brown and Brancia Janaie. Ottan, the first partners of New Mexics, who travided along the search-bank of the trav in 1604–65, true the first to member and parameters and the strue in 1604–65, true the first to member and many data and the search of the State entrands the population to manifer 5004.4600 sole.

Later encounters with the KWapa and adod those of Father Kion, Jeaut mission to the Indiant-of the Pieseria Abs (1702), Franciscan Father Garois (1772–76), and Lautemant R.W.H. Hardy, who was commissional to explore the Gall of and Lacontant Revises. Finally, which was concusations to captore the Locit of Colliformia for research (TLRS) and Concounting gains this must be the main. Collocated tradescription the Datis, the Das Hacky, Kropp a new network as guides to the manu-biost captoins networking thereagh the masses of Almondon any thermas Letterman HSD and 374.8 hypothe coils of the 17th contary, the Datas had almost beams a netwo responsible comparison areas provided and advectors to the mass.

In 1888, the Monican government concorded searly 900,000 uses in the Dofes to General Confluence Androide, neuron of these are matisticant Kimpa Luck. In 1005, the Colorenk Biert Land Congenera is also splorates, loging constraining in straightness sports in the Monical Vallay using important Chance muticus. An information in 1990 constant on the control of 1,200 Kimpa, magR/200 Kimbas special formation Monical and Yana, Neur Colorata Landa, a Kimpa constanting vir a dedicated

primarily to agriculture, growing oten, psimplins, beam, endous and waterweises. In the years that followed, sense families enough in the banks of the Rin Hardy While others moved in Spectrum, sear Yuma, AZ Whene the Kwapa with alongly ostablabed. A small constrainty was formed in Press de Arrites Whach, etil todați a one of the three principal Kwapa communities. In 1927, attuition refirm under President Linux Cardens

In 1997, agantan reliem under Precident Lauare Canicasa transferrer insuet of the laudi to the Darks, which then belanged in the Colonale River Land Company, into the bands of cpdos or agreem nonsmatches. The Kwepa were gives 5,752 acres to coldrease the lauto their sight to them in the following decade lossnase they daled tend them arweitten in Meatican law. The KWapa continued raising contle and gone and generate vegetables on land that was on longer theirs. In 1975, after years of efforts, they were given 350,000 acres in the Laguna Salada and the monitoring wild lands that cannot be callylined.

Today, the Kwapa number only around 1,500, and most live in Somerine, AZ. The other two communities in weath of the booler, since the Rio Hardy in El Mayor, Baja California, and





The map Adul 1777, is the first in markins the Rouge by name - "Gauged", as they are income in Maria

stheme) plantnese Gern Prists applies (The reage for Messail: As ording to byout names wa formed by the advert of a saled that at about all of the States states.



The Konga live is a region full of cardiopata, gentherinal and mung title activity. According to write and legislas, the Com-Picent, northe disc of a single problema liplase that provide mengy to Marinka, is formed by the aduss of a winch who drow the proper is a carsin is garding and activative plotes: Hilling and reding them. A consequence juma, can of the later meaning members of the relies due to the write and the biodynum than contrast, limiting as and who took off Datag.

When the Colorada Hiter used to flow freely into the Gulf of Tablemia, the collision of the excepting erfor and the socioning wa wene during high takes would create a wall of waner almost 10 feet high. The takal book, knows as "EI Barnt," migrated with the tides and cannot having in its wale. In 1922, not the toke and caused honce is in wate, in 1992, not long stars Adds Leopold their the egoc. III Darw Midd SS people when is edded the 36-tox ensame? Topoldsamps. According to longiture middents of the region, its mobile cauld be beard for relate served and the early 1964s. Today, the tails here has disappeared and the river and longly makes the way in the wom











These fishing remeisters are in denot coeffict with the Kompti new large conversion functions, exceeding as imprase that pits traditional indigences rights options modes monitoremental larss. The Kompt shares that the prevenues it manipular upon their traditional rights and the the training of the finding probabilistic doesn't erus make ments, the prevenues in term that the Kompt diable traditionally list is in this areas of the Diats, they is any case, the law more apply equility will distance, and that suppose is walkness to fish is the socialer sets if is is the previous distance of the list integration of the traditional suppose is walkness to fish is the socialer sets if is if the previous distance of the list integration.

The test supjointy of covina. Schemen are based in El Golfo de Santa Clara and the Kirtupa cach represents only an estimated 5-10% of the total. A solution that postents both coolegically ensuitive areas and traditional rights should not be impossible to find if the Kirtupa and the Reserve enter into a real fulfages.

built Glen Canttin Dam, Virtually no fresh Water mached the region,

by agricultural return states, or in the valley's casals.

and it dried up into oblition. By the last 1970s, only a few Kwapa were still eking out a living along the Rio Hardy, a tributary to the Colorado.

If programmers from mean car in the trady is cause. Beginging in [175], high semantics of twice we neckand down the Coloneds Bitter due to exceptionally wei El Nolo Mutars. These warear-bringht links to Else a portion of the formuly defause to Data and also filled algons Salida (s.k.s. Lagan Massath), toleford we need depression that Else white Coloneds River ware desing wey wey yons, forming a lake of nake long. Along no shore, mail anomencific linking eposition question (s.k.d. S. Sa of also provide and sea and linking the search colored base, exp and hence were base in a single light! Philing constrained and the last (15M when the lake device) up.

In the late 1980s, the Kitupa began looking for other places to fish commercially, and with the opportunities

is for an 1996, the Media Jogon Soung are observations to static demonstrating and with the opportunities of the static static

ADAPTATION TO MODERN LIFE Refere the Daths logar on day up after the construction of Horter Data is the 1DDa on openality due to basiling of Gins Gaptus Data is the 1Web, the main strengt Dayang in the system with due in - and to the strength, then were plaques and parame. These, nearbox, correst, config or case, such as bolter the plaques and parame. The data regard at Spatial field softward the strength of the system of Spatial Data system of the strength of the system of Spatial Data system. The strength of the system of Spatial Data Spatial Data system of Spatial Data Spatial D



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on less than \$200 per month.



CULTURAL EXPRESSIONS

The Kimpa traditionally were willow bark alters, body and face paint, and bead jeweby known as "charpairs," originally mude of earth and glass and now mude of colorful plantic, to form intricate concluses, bundles, or rings and large pottends, the large of Which were used mainly for extraordines. Working with Krapa alders, anthropologies Anita Williams helped to retrie the malition in the early 1976s and new alterns, anthropologies Anita Williams helped to retrie the malition in the steps



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The land on the river hash wat mine a long time age. when Indians were Indians, uber Indiano come and sorest as they pleased

> The Rattle Sings The saith sings. sings. ainge In minter and in care it sings.

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the border. The traditional colors were blue, white and red, but new articum use a wide

variety of collors. In mount years, whence in FI Major have begun integrating locally available materials, such as willow arrowing and salt order into their jewdet:

Using gourds, willow sticks and wesls, the Kwapa make rattles that are used in traditiona chants and dances performed at cultural events and at forerals. Chants can last hours and hours, often going through the night.









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- Where is the river in the river?
- Human Restoration-Adaptation
- Perception and Imagination





Santa Cruz River

Tucson, AZ

San Pedro River





Sonora Mexico Riparian Systems of The Sonoran Desert

Water for Nature and Humans



Santa Cruz Watershed

 Environmental Monitoring •Water •Birds Riparian Vegetation •Group 5 – Milpillas Wildlife Management Range Management Riparian Restoration •Erosion Control – Gabion •Rancher to Rancher Exchanges Community Outreach •Los Halcones/La Ruta de Sonora Community Center for **Conservation (CCC)**

The way we did it



- · StategydoEnderal Rollised/Atton and
- · Date shies it to **Socialize** of Sgical
- avistepation in a
- Relationsbiend **Biplomacy**a •
- **Terripings**intyd Capacity Building

Regional Scope -

Multinational

Community Empowerment



It Takes Time





Lessons Learned Need of Local Leadership



Real Tangible Results



Adaptability



Incentive base management



Celebrate your success



How do you make your work stick?



San Pedro River 2019 - 2021



- Invest in Community
- Health of Watershed Baseline
- Common Ground
- Nature and Economic Health
- Why do we do this?



Bunting, D., Bennett, J., Caplan C., Garrett, G., Gimblett, R., Hammer, H., Hoagstrom, C., Itami, R., Murrieta, J. 2020. <u>Chapter Six - Implementation: Putting Your Stream</u> <u>Corridor Restoration Plan Into Action.</u>

M.K. Briggs and W.R. Osterkamp, Renewing Our Rivers: A Guidebook to Stream Corridor Restoration. University of Arizona Press, Tucson, Arizona. 276 pp.



..... and the City – The Old Pueblo



50 Year Vision



Green infrastructure can restore watershed health!



Image source: www.epa.gov

Ser St	Part - Filter		23/4
URAN		perennial. Threats: pumping.	12
Lower Tranque Verde	Current Flow Status, Future Opportunities and Target Goals	Opportunities: restoration projects, shallow groundwater, water demand reduction. Current Status: intermittent wet - intermittent dry. Flow Target Goal: perennial - intermittent wet.	
	Groundwater	Groundwater	1 martine
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Recharge the Rain Schools

School	WS-Date	Voltrs	# Trees	# Shrubs	Urban Wild Habitat (SF)	Total Cap (gal)
Esperero Canyon Middle School	3/10/2018	37	0	41	5,900	9,000
Santa Rita High School	3/16/2018	30	4 (3)	54	2,670	11,000
Drachman Montessori School	4/23/2018	25	10	63	4,180	15,600
Sierra Middle School	10/27/2018	60	6	64	5,124	10,100
STAR Academy High School	11/17/2018	80	15	100	15,461	90,000
Esperero Canyon Middle School – 2	4/14/2019	40	0	30	6,185	21,300
Canyon del Oro High School	5/5/2019	40	1	69	2,200	9,400
Paulo Freire School	5/14/2019	25	0	0	Slim Tank	620
TOTAL		387	43 (3)	474	51,145	194,440
City High						
Tucson High						
Cooper Center (??)						





- Urban environments and restoration GI
- Productive units of water
- Streamsheds, neighborhoods and hydroregionalism
- Connectivity from the home to the watershed

It takes a community to restore watersheds. Many thanks to our donors, funders, advisory members, and volunteers!

Muchas Gracias

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