

building long-term resiliency to drought in the hatch and mesilla valleys of southern new mexico through watershed health and stormwater harvesting



Supported by: The South Central New Mexico Stormwater Management Coalition



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Doña Ana & Caballo Soil and Water Conservation Districts



Sierra Soil & Water Conservation District



flood
commission

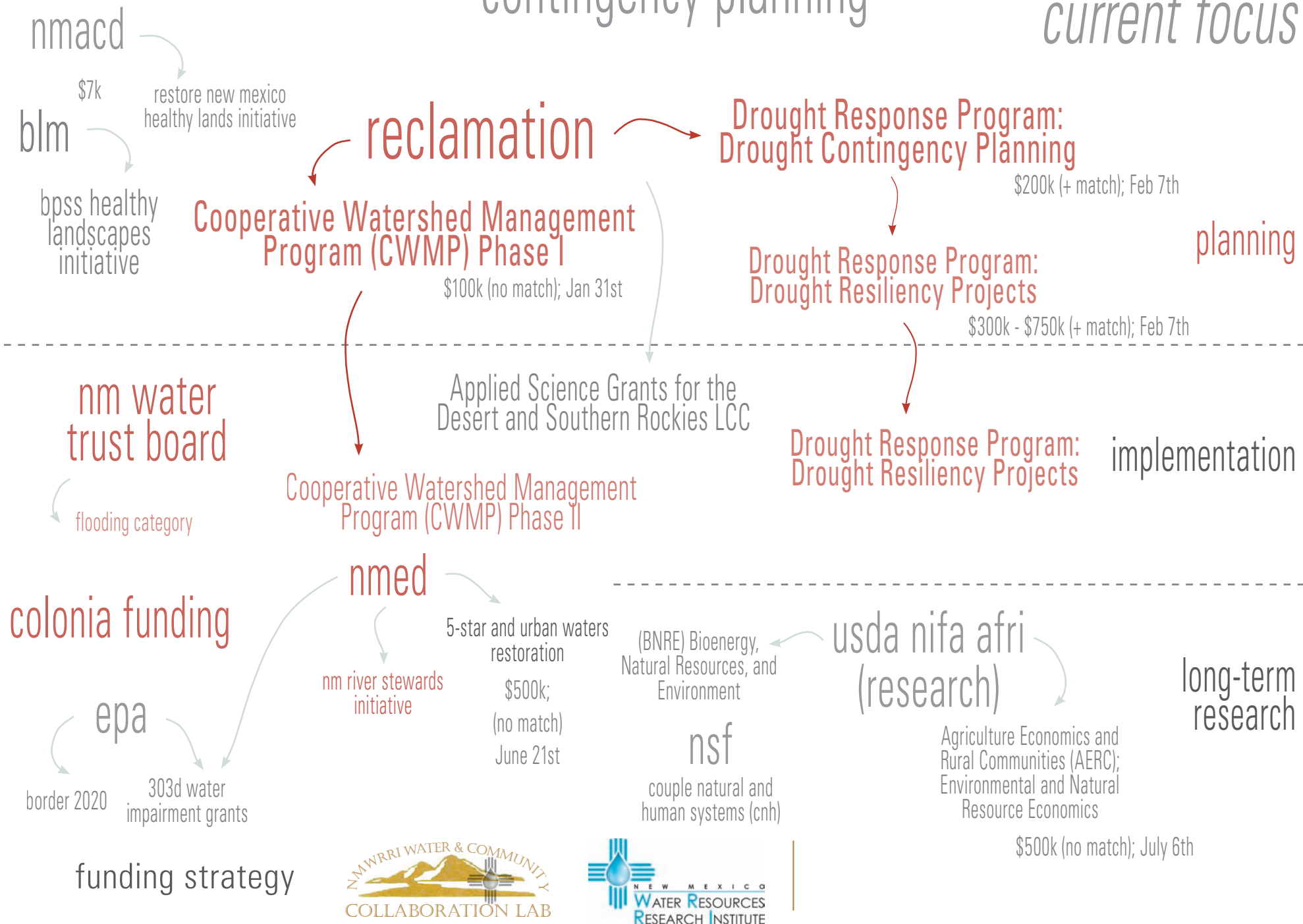


flood
commission



watershed health & long-term drought contingency planning

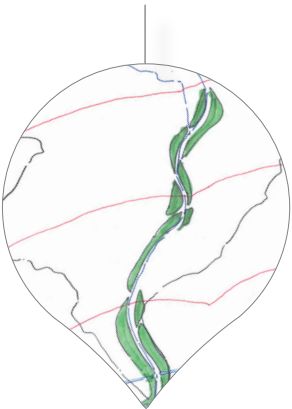
current focus



reclamation watersmart grants

cooperative watershed management program

drought response program



planning grant

planning grant

*implementation grant
- at contract and work plan negotiations*

Stormwater Coalition effort

drought contingency planning

drought resiliency

submitted 2018
debriefing "couldn't get their head around the urban component"

"The EBID Drought Contingency Plan: Building Long-Term Resiliency to Drought in the Hatch and Mesilla Valleys of Southern New Mexico"

"EBID Drought Resiliency Priority Projects: Watershed-scale Stormwater Monitoring and Capture"

submitted 2018 - only 2 awarded, program not substantially funded 2018

*this year eta release:
february 2019 - so soon*

this year eta release: summer 2019

grant awarded



the concept: collaborative watershed management prog.

- \$100k max Reclamation funding
- no match required
- 2 year project
- Stormwater Coalition led

Process:

- Oct '19 - Sep '21
- *Advisory Council* – to conduct assessments, planning, and project designs
 - meet twice a year
- *Collaborative Workshops* – two annual



the concept: drought contingency planning grant

- up to \$200k max Reclamation funding,
- up to \$200k (50% match) required
- 2 year project

Process:

- Oct '19 - Sep '21
- *Task Force* – to conduct assessments, planning, and project designs
 - meet twice a year
- *Collaborative Workshops* – two annual



draft - last year strategy

drought monitoring

*what we do now, what else we could do,
and what would be useful for our farmers and those we collaborate with*

- *Short-term and seasonal climate indicators: surface water allocations*
 - *snowpack*
 - *reservoirs*
 - *streamflow*
- *Mid and longer term water availability indicators*
 - *a) long-term climate projections from modeling results which will affect precipitation and anticipated snowpack, and temperature,*
 - *b) El Niño-Southern Oscillation (ENSO) forecasts,*
 - *c) trends in snowpacks,*
 - *d) reservoir levels, and*
 - *e) trends in soil moisture*
- *Internal system monitoring/indicators of irrigation and watershed system dynamics*
 - *rigorous understanding of how the current system functions in response to different climate inputs*
 - *real-time measurements of both the climate inputs into and the response of the system*
 - *communicating potential response actions to water users, and*
 - *providing a means for user inputs and assessment.*

plan requirements

Scope requirements:

- ***Drought monitoring*** – *coallate existing work*
- *Vulnerability assessment – economic analysis*
- *Mitigation actions & Response Actions – (meat of our interest) – Watershed health restoration and stormwater harvesting*
- *Operational and Administrative Framework & Plan Update Process*

- *Sectors:*
 - *regional: compact deliveries/state policies/regional water sharing agreements*
 - *valleys: farming agriculture/irrigators/riparian river system*
 - *upper watersheds: watershed health/grazing agriculture*
 - *developed areas: urban/municipal/industrial*



draft - last year strategy

vulnerability assessment

*what we do now, what else we could do,
and what would be useful for our farmers and those we collaborate with*

- *method*
 - *differing climate and stakeholder-identified scenarios*
 - *baseline*
 - *ideal future, all the restoration and actions that we think we need*
 - *mix to be determined by stakeholders*
 - *collaboratively develop relatively simple model to study*
 - *a dynamic extension of NM WRRRI's Statewide Water Budget Model for Doña Ana County*
 - *Regional Water Budget Model-Dona Ana County (RWB-DAC)*
- *risks: baseline assessment to sectors, critical resources, and the factors contributing to those risks*
 - *regional: water scarcity (Rio Grande Operating Agreement, water banking and DROP)*
 - *upper watersheds: dry upper watersheds, reduced productivity to ranchers, as more of our storms are arriving in fewer and increasingly intense monsoonal bursts, sediment washes down and clogs the downstream valley irrigation infrastructure.*
 - *valleys: flooding, maintenance, and water quality vulnerabilities*
 - *developed areas: valley vulnerabilities, also contributor*

plan requirements

Scope requirements:

- *Drought monitoring – coallate existing work*
- ***Vulnerability assessment*** – *economic analysis*
- *Mitigation actions & Response Actions – (meat of our interest) – Watershed health restoration and stormwater harvesting*
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draft - last year strategy

mitigation actions & response actions

*what we do now, what else we could do,
and what would be useful for our farmers and those we collaborate with*

- *baseline assessment of risks to sectors, critical resources, and the factors contributing to those risks*
 - *regional: water sharing agreements (Rio Grande Operating Agreement, water banking and DROP)*
 - *upper watershed restoration*
 - *valleys: stormwater harvesting system*
 - *developed areas: sharing agreements, watershed planning (other WaterSMART proposal)*

plan requirements

Scope requirements:

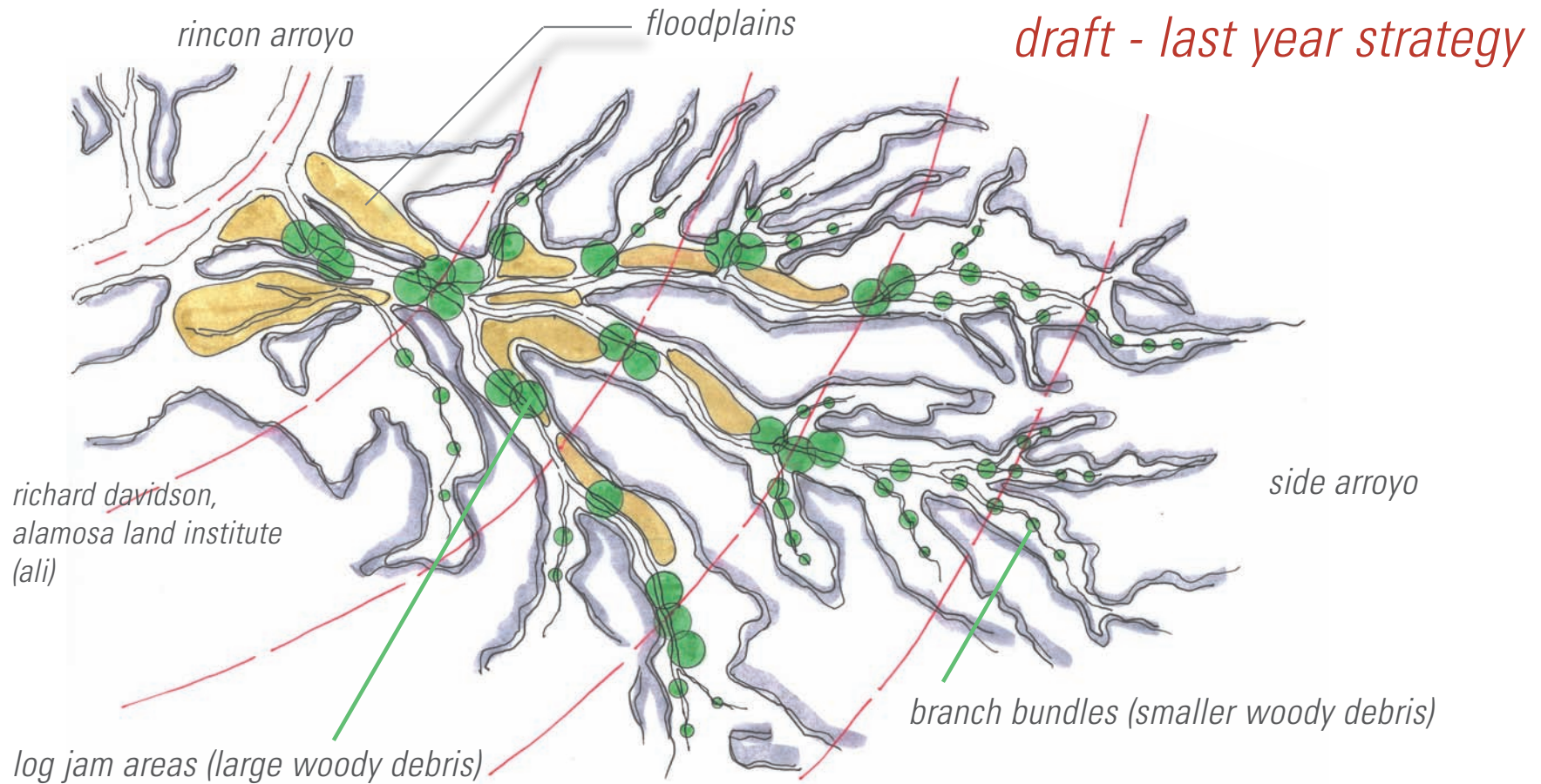
- *Drought monitoring – coallate existing work*
- *Vulnerability assessment – economic analysis*
- ***Mitigation actions & Response Actions***
 - *(meat of our interest) – Watershed health restoration and stormwater harvesting*
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draft - last year strategy

work with ranchers to develop floodplains as pastures & manage upland grazing

1) slow water down in the watershed



canada alamosa, alamosa land institute



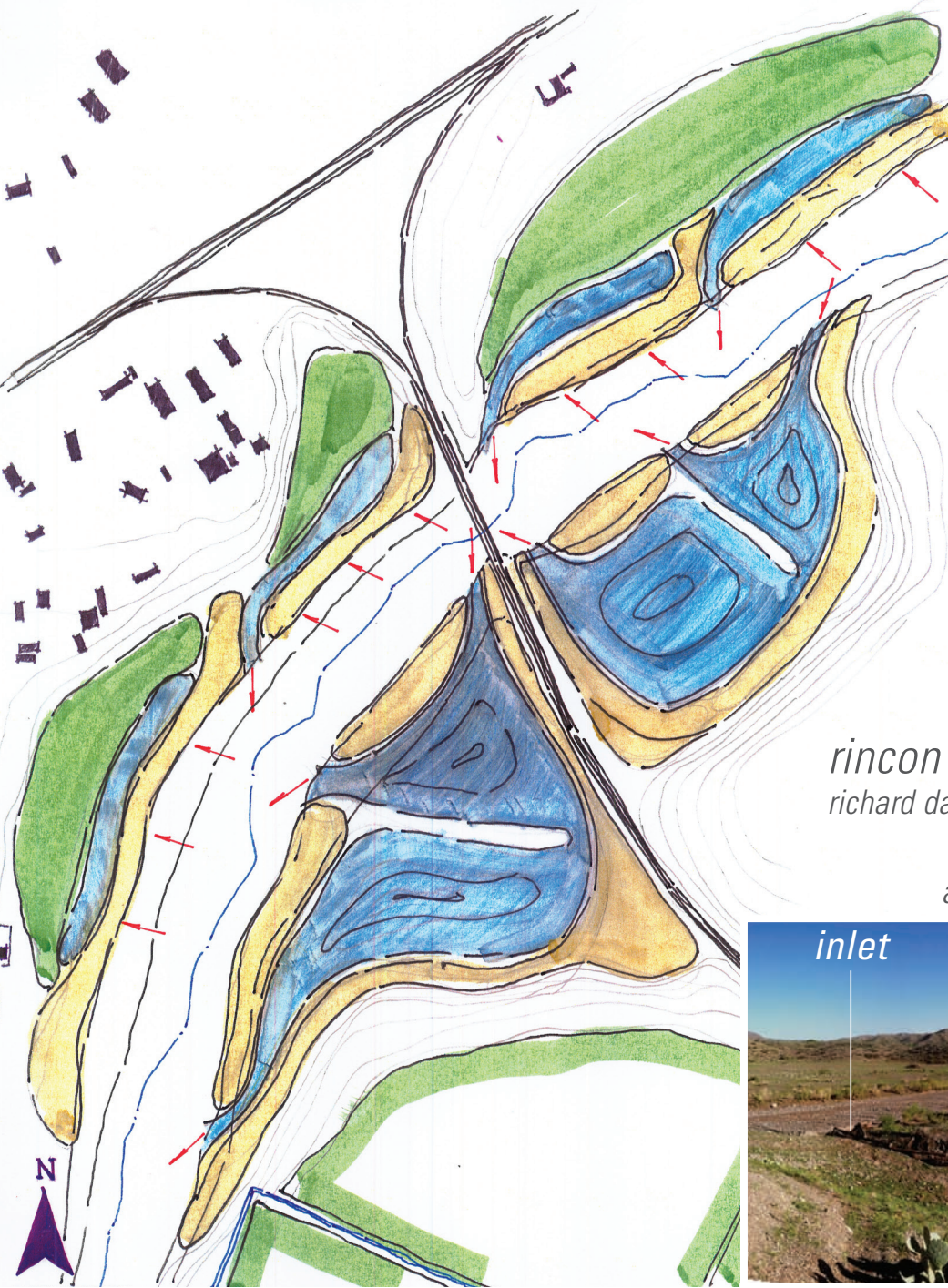
looking downstream 5/31/2012



looking downstream 11/11/2014

2) *passive retention ponds above valley*

draft - last year strategy



*rincon arroyo schematic,
richard davidson, alamosa land institute (ali)*



3) plan for valley system to have capacity to capture high intensity - high quantity storms

draft - last year strategy

