



Cover Page: Application Information

WPF 188

1. Title of Project: Santa Cruz Headwaters Project

2. Type of Project
 Water Acquisition
 Capital Project or other
 Water Conservation
 Research

3. Stream type
 Perennial
 Intermittent
 Ephemeral

4. Date submitted: 7-30-97
 5. Date received by ADWR _____

6. Applicant Name: San Rafael Cattle Co.

7. Applicant address (city, county, zip code)
 San Rafael Cattle Company
 P.O. Box 414
 Santa Cruz County
 Patagonia, AZ 85624

8. In an AMA _____ Outside an AMA
 Phoenix
 Tucson
 Prescott
 Pinal
 Santa Cruz

9. Contact person/title: Bob Sharp, Manager
 Phone number: (520) 394-2447
 Fax number: same (call first)

10. Type of application:
 New () Continuation ()

11. Project start date Feb. 1, 1998
 End date December 31, 1998

12. Other type monies obtained and secured:		13. Estimated Funding:	
Grant type	Amount	a. AWP	Funding
_____	_____	a. AWP	\$100,445
_____	_____	b. Applicant	_____
_____	_____	c. Other	_____
_____	_____	c. Total	\$100,445
Total	_____	14. Tax ID number:	<small>Personal Identifying Information</small>

15. The undersigned hereby offers and agrees to perform in compliance with all terms, conditions, specifications and scope in the application. Signature certifies understanding and compliance with the attached application. Signature certifies that all information provided by the applicant within this application is true and accurate. The Arizona Water Protection Fund Commission may approve grant award agreements with modifications to scope items, methodology, schedule, final products and/or budget.

Bob Sharp
 Typed Name of Authorized Representative






Robert Sharp
 Signature

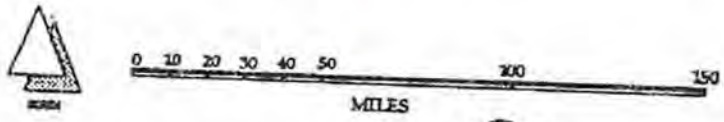
Manager (520) 394-2447
 Title and Telephone No.

7/30/97
 Date Signed

Indicate on the map the approximate location of your project. Ensure that your markings are clearly visible on all five copies submitted.



-  Major Roads
-  County Boundaries
-  Perennial Streams
-  Intermittent or Ephemeral Streams
-  Active Management Areas



PROJECT NAME:

Santa Cruz Headwaters Project



Summary: The purpose of the Santa Cruz Headwaters Project is to restore and maintain 7 miles of riparian and wetland corridor of the headwaters of the Santa Cruz River, using fencing and water developments to improve livestock grazing management in the riparian corridor.

San Rafael Cattle Company is located on the privately owned San Rafael de la Zanja Spanish land grant in the San Rafael Valley on the U. S. border with Mexico. The headwaters of the Santa Cruz River drain the San Rafael Valley and bisect the San Rafael Cattle Co. ranch.

The riparian project consists of installing 10 miles of fence to create 5 new riparian pastures where livestock grazing in the riparian and wetland areas can be better controlled. In addition, new storage tanks, pipeline and troughs will be installed by existing wells to replace livestock access to river water.

The 22,000 acre San Rafael Cattle Company began working with the USDA Natural Resources Conservation Service on a grazing management program in 1990. **The objective of this project** is to provide better livestock grazing control along the riparian area in conjunction with the existing management plan for the entire ranch. This will help increase the vegetative response to management in the riparian area, help to decrease streambed and gully erosion, improve water quality, provide additional protection for Gila topminnow habitat and improve wildlife values for other species, while maintaining a viable livestock operation.

Methods: Fences and watering facilities will be installed to NRCS standards and specifications. San Rafael Cattle Company and NRCS established 5 riparian monitoring sites along the Santa Cruz River in April of 1993. River cross section profiles were surveyed, and pace frequency monitoring was established along the cross sections. This information will be recollected at the beginning of the project. River profiles will be resurveyed every 5 years unless flood events cause significant changes. Vegetative data with photographs will be reread every 2 years. All monitoring will be done with the assistance of the Natural Resources Conservation Service. The river pastures will be mostly used during the early spring (mid-March to mid-May). Livestock will be removed at least 4 weeks prior to the beginning of the summer rainy season to allow regrowth of the riparian vegetation prior to the summer monsoon season, which provides 65-70% of the annual rainfall. The river pastures will be rested during the summer growing season so that vegetation growth and seed production is maximized, and streambanks of the channel have adequate vegetative protection during the season of highest runoff rates. Some early winter grazing after the first frost may also occur. The USGS has a streamflow gauge in the project area that has been in place since the 1950's. This gauge can also be used to evaluate changes in the streamflow in the project area. The Gila topminnow population in the project area, one of the few remaining populations in the state, is monitored annually by a qualified fish biologist. Collected Data is first submitted to San Rafael Cattle Co. and then given voluntarily to the US Fish & Wildlife Service and Arizona Game & Fish.

Significance of Project: The headwaters of the Santa Cruz River, prior to its entry into Mexico, provides unique riparian and wildlife values in a watershed that currently is only impacted by livestock grazing. Protection of this private river corridor now is critical to the needs of threatened and endangered and other wildlife species that use these riparian and wetland areas. The cost of the project cannot be justified by the ranch for livestock grazing alone. Without the project, the riparian and wetland values may be left unprotected in the future, and the rate of improvement in the riparian and wetland corridor will be slower.

LOCATION INFORMATION/LAND OWNERSHIP FORM

1. County: Santa Cruz 2. Section: See map 3. Township: 22S, 23S, 24S
4. Range: 17E 5. Stream Name: Santa Cruz River
6. Landownership of project area: Private Land
7. Current land use of project area: Grazing
8. Length of stream through project area: 7 miles
9. Size of project area (in acres): Roughly 2240 acres
10. Is the project area fully defined at this time: Y/N? Yes
11. Provide directions to the project site from the nearest town. List any special access requirements

From Patagonia, drive southeast on Harshaw Road. Follow the signs to the San Rafael Valley. After entering the San Rafael Valley, continue driving east 3 miles to a "T" intersection. Turn right and continue south for 1 and 1/2 miles to the north boundary of the San Rafael Cattle Company. Contact Bob Sharp for access permission at (520) 394-2447.

12. If you own the land on which the project is located, attach a copy of the appropriate legal document showing title in the name of the Applicant, and including a legal description of the property.

Copy of deed attached.

PROBLEMS/CAUSES/SOLUTIONS _____

Statement of Problems:

The Santa Cruz riparian area is being overgrazed while the uplands are being undergrazed. This has resulted in negative impacts on the riparian and aquatic habitats, especially bank erosion, low vegetative production and water quality affected by higher amounts of sediment.

Statement of causes of problems:

Under the existing grazing program, the river has been an essential water source for livestock, and pastures were fenced accordingly. As a result, livestock tend to graze in the bottom lowlands while leaving the upland area under utilized.

Statement of remedies or solutions:

To improve riparian conditions in the project area, the entire river corridor should be fenced. This will result in the creation of 5 separate riparian pastures. These pastures will be grazed from mid March to mid May, rested during the summer growing season, and grazed lightly after the first frost. The grazing rotation plan for these pastures will be coordinated with the existing livestock management plan. Monitoring of these riparian pastures will continue with vegetative data and photographs to be reread every 2 years.

To replace livestock access to river water, new storage tanks, pipelines and troughs will be installed by existing wells. Only one new well will be drilled and will be equipped with a submersible pump powered by solar energy.

INTRODUCTORY INFORMATION

The San Rafael Valley, located in southeastern Santa Cruz County on the U.S. side of the United States/Mexico border, encompasses roughly 100,000 acres. The valley, one of the few examples of short grass prairie remaining in the southwest, is bisected by the Santa Cruz River. The headwaters of the Santa Cruz River emerge at various different locations in the northern part of the Valley, with the beginning of the perennial water in the stream bed located on the San Rafael de la Zanja Land Grant.

The San Rafael Cattle Company, owner of the Grant and some additional surrounding private lands, covers approximately 22,000 acres of the center of the Valley. In the 1920s the ranch was divided up into pastures of roughly 600 acres each. From the 1940s through the 1980s, extensive conservation projects were completed, consisting mostly of dirt tanks, spreader dikes and checks to control runoff.

No other conservation practices have ever been enacted within the river itself, with the exception of surface water diversion used for irrigation and the installation of willow poles to inhibit headcutting. As a result of year-long grazing practices for many years in the past and severe summer flooding, erosion has caused the river channel to deepen and widen. Water samples taken at the USGS monitoring site, which gathers data on river water prior to its entry into Mexico, have all been positive in spite of river conditions, however. As a result, this site has been designated as a control site for the entire river.

In 1993, approximately 80 acres of the river were fenced off. The University of Arizona Range Club has been monitoring the fenced area and measuring vegetative regeneration. Also, in April of 1993, San Rafael Cattle Company and the Natural Resource Conservation Service established five riparian monitoring sites along the river where river crosssection profiles were surveyed. From these control sites, it has been possible to determine the best times for livestock grazing as well as times when grazing would be detrimental. By adding approximately ten miles of new fence to four miles of existing fenceline, the entire seven-mile river corridor will be enclosed. This will create five new riparian pastures which will be included in our already existing high intensity, short duration grazing plan over the entire ranch. These riparian pastures will be used mostly for breeding in the spring.

To replace livestock access to the river water, new storage tanks will be located by five existing wells and in three instances piped to those pastures lacking water. Submersible pumps placed under five existing windmills will insure that when there is not enough wind, water can be pumped into the storage tanks so that large numbers of livestock can be watered. One six-inch shallow well will be drilled and a solar submersible pump installed with one storage tank. One other solar system and storage tank will be installed on an existing well.

This project is an opportunity to truly improve the habitat along the last remaining natural stretch of perennial water in the Santa Cruz River within the United States. The benefits are long term, as the monitoring and maintenance programs will be continued indefinitely.

OBJECTIVES AND BENEFITS

Objective #1:

Restore the Santa Cruz River channel and surrounding flood plain by increasing vegetation through the use of high intensity, short duration grazing.

Benefits:

With increased vegetation, not only will less erosion occur on the stream bank itself, but there will be more feed for livestock, increased cover for wildlife and improved water quality for the aquatic habitat.

Objective #2:

Fine tune our current grazing management plan for the entire ranch to include five new riparian pastures.

Benefits:

This will ensure that both the river and the floodplain will revegetate, and it will bring the ranch closer to its goal of establishing a higher percentage of midsize grasses throughout the uplands.

Objective #3:

Fine tune the Resource Monitoring Program for the ranch.

Benefits:

The current monitoring program provides the ranch with important data on how any given area is responding to management changes. By evaluating this data, it can be determined when changes are needed in the grazing program to ensure that the overall health of the riparian corridor continues to improve.

SCOPE OF WORK: TASK DESCRIPTIONS

Description of Task 1: Obtain well permit from ADWR

State Historic Preservation Office clearance will be obtained.

Deliverable description: Signed copies of all necessary permits

Deliverable due date: May 31, 1998

AWPF cost: \$100

Description of Task 2: Acquisition of Fence Materials

All fence materials and gates needed to complete the fence project will be obtained.

Deliverable description: Copies of material invoices

Deliverable due date: May 31, 1998

AWPF cost: \$17,399

Description of Task 3: Construct Fencing

The fence will be constructed in accordance with NRCS guidelines for constructing a 4-strand barbed wire fence. Twenty-five gates will be installed at pasture corners and at strategic locations, providing access to the riparian corridor.

Deliverable description: Description and photographs of construction process

Deliverable due date: May 31, 1998

AWPF cost: \$28,760

Description of Task 4: Acquisition of Water Materials

All PVC pipeline, water troughs, fittings, floats and one 2500-watt generator will be obtained.

Deliverable description: Copies of material invoices

Deliverable due date: May 31, 1998

AWPF cost: \$7600

Description of Task 5: Construct Water Facilities

The well will be drilled and cased by a state-licensed drilling company, beginning on April 1, 1998. Two solar submersible pumps will be installed on two wells and five 1/2 HP submersible pumps installed on five existing windmill wells. Pipelines will be constructed from wells to steel storage tanks and the water then distributed to water troughs, all located outside the river corridor.

Deliverable description: Description and photographs of water construction process

Deliverable due date: August 30, 1998

AWPF cost: \$45,086

Description of Task 6: Post-Construction Monitoring

In April of 1993, the applicant, in conjunction with NRCS personnel, established five key Pace Frequency Transects and River Profile Locations. Therefore, our baseline monitoring has already been established. Post-construction monitoring of the riparian sites will occur again in October of 1998 with NRCS technicians. Upon review, we may determine that it is necessary to add more transect points. Photographs will be taken and riparian vegetative data collected every October.

Deliverable description: Summary report of monitoring of riparian sites

Deliverable due date: October 31, 1998

AWPF cost: \$1000

Description of Task 7: Grazing Management Plan

After the fieldwork is done in October and the monitoring is complete, we will revise our grazing plan and current rotation system to incorporate the five new riparian pastures created by the project. Every year, livestock will be removed from these pastures at least four weeks prior to the beginning of the summer rainy season to allow maximum regrowth of riparian vegetation. The river pastures will be rested during each summer growing season.

Deliverable description: Copy of grazing plan

Deliverable due date: November 31, 1998

AWPF cost: 0

Description of Task 8: Final Report

The final report will be provided to the Commission by December 31, 1998. This will include a summary of all work completed, a completed monitoring schedule including vegetative data and photographs, and the final new grazing management plan.

Deliverable description: Final report

Deliverable due date: December 31, 1998

AWPF cost: \$500

Task-Timetable

Enter the starting and ending dates of the project, the duration of the project (in number of months), and the years of benefit your project will provide to the riparian or aquatic habitat. Indicate the timing of all tasks from the scope of work. If you perform a task periodically (e.g., taking water level measurements every 3 months), indicate it in this manner rather than as if it is performed every month. Provide the estimated cost to the AWPf for each task (which includes labor, materials, administration, etc.). The total cost for all tasks must add up to the exact amount you are requesting from the AWPf on the application cover page (line 13a), and must agree with the AWPf column total on the budget page. Forms for years 2 and 3 are included for multi-year projects.

Start Date: <u>3-1-98</u> Yrs of Benefit: <u>20+</u>		Project Name: <u>Santa Cruz Headwaters Project</u>												
End Date: <u>12-31-98</u> Duration: <u>12 months</u>		Months Since Project Initiated (Year 1)												
Project Categories and Tasks			1	2	3	4	5	6	7	8	9	10	11	12
Task No.	Task Cost	Task Description												
1	\$100.	Obtain Well Permit	X	X										
2	17,399	Acquisition of Fence Materials			X	X								
3	28,760	Construct Fencing			X	X	X	X	X	X				
4	6625	Acquisition of Water Materials				X	X	X	X	X				
5	45,086	Construct Water Facilities				X	X	X	X	X				
6	1000	Post-Construction Monitoring									X	X		
7	500	Grazing Management Plan										X	X	
8	975	Final Report											X	X
Total	\$100,445													

Project Budget Form

On the project budget form, break down your budget into Administrative costs, Direct Labor costs, Other Direct costs, Outside Services costs, and Capital Outlay costs. **Administrative costs** are management and overhead costs, and by statute the total administrative costs charged to the AWPFC cannot exceed 5% of the total amount requested from the AWPFC. **Direct Labor costs** include the labor costs directly involved with the project. Break down these costs by: Job classification (e.g., laborer, project scientist, hydrologist, etc.); average cost/hour for that job classification; number of hours for that job classification; and total cost (Total cost = (Job classification cost/hour) x (number of hours)). **Other Direct costs** include supplies and materials, paper, pencils, computer time, per diem, printing, public relations, etc. **Capital Outlay costs** include any equipment costs greater than \$1000.00. [The costs on this budget form do not have to be broken down into the exact same task costs that you previously presented in the scope of work section and on the task-timetable.]

PROJECT BUDGET

	FUNDING SOURCES			
	AWPF	Other (Other grants and/or Applicant matching)	Donated Mat./Serv.	TOTAL
ADMINISTRATION COSTS (1)				
Project management & overhead	2000.			
DIRECT LABOR COSTS (2)				
Fence construction	23,760			
Water facilities construction	2720			
Project manager (daily mgmt)	8000			
OTHER DIRECT COSTS				
Fences materials	17399			
Water troughs, pipeline, misc.	6625			
Office supplies	1100			
Field supplies	500			

	FUNDING SOURCES			
	AWPF	Other	Donated Mat./Serv.	TOTAL

OUTSIDE SERVICES				
Licensed well drilling	1260			
7 Pump installations	9906			
7 tanks installations	24,600			
Rental ditch witch	1600			

CAPITAL OUTLAY				
Tech/Industrial Equip. (3) ^{2500 watt} Generator	975			
Water (CAP/Effluent)				
Other (describe)				
TOTALS	\$100,445			

- (1) Administration costs are limited to 5% of the total dollars requested for a project.
- (2) Include wages, salaries, and fringe benefits.
- (3) Attach list of capital equipment expenditures over \$1,000.00

Additional Budget Information

A. Project Manager – cost breakdown

Overall project management and overhead = \$2000

Daily management:

\$40/day for 5 days/wk = \$200/week

40 weeks x \$200 = \$8000

Total \$10,000

B. NRCS will provide a Range Conservationist in October to help revise our current monitoring and grazing plan.

C. Fence material for 10 miles

3,100 6' T posts @ \$2.42 each.....\$7502
 170 rolls American wire @ 29.96 each.....5093.52
 60 bundles of stays @ 23.89 each.....1433.40
 600' 2 7/8 offset tubing @ 70¢ each.....420
 40 sacks of cement @ 5.00 each.....200

Total \$14,648.52

Bid by: Ace Hardware
 P.O. Box 414
 Sonoita, AZ 85637
 Dated: 7/25/97

D. Cost of Water Facilities

WATER FACILITIES										
	Location	Tank	Pump	PVC Ln	PVC \$	Trough	Misc.	Rent	Labor	Total
1.	P#16	3800	1045	1400'	550	814	280	400	580	7469
2.	P#15	3800	1005	4,000'	1360	814	200	600	900	8679
3.	P#U-21	3300	906	400'	136	407	100	200	200	5249
4.	P#7	3800	3829			407	80		100	8216
5.	P#L21	3300	906				80		100	4386
6.	P#25	3300	906	40'	15	407	80		100	4808
7.	OK Well	3300	2569	1200'	408	407	80	400	740	7904
	Gen						975			975
	TOTAL	24,600	11166	7040'	2469	3256	1895	1600	2720	47,686.00

Existing Plans

Existing plans:

1. Natural Resources Conservation Service (NRCS) management plan with San Rafael Cattle Co.
 - a. In April of 1991, Steve Barker, currently the Arizona State Range Conservationist, helped San Rafael Cattle Co. set up a management plan. At the time, the overall goal was to manage for the establishment of a greater percentage of midsize grasses through the use of a three-pasture rotation system.
 - b. In April of 1993, the grazing plan and monitoring were extended to include the riparian corridor of the Santa Cruz River. As a result of this work, it was decided to fence approximately 80 acres of the river to serve as a control site.
2. University of Arizona Range Club
 - a. In April of 1994, the University of Arizona Range Club was given access to this site to monitor for vegetation and, in particular, to measure the length of cottonwood seedlings.

Due to the positive changes in vegetation in this control site, San Rafael Cattle Co. made the decision to apply for this AWPf grant in order to fence in the entire river corridor. We are confident that the results will be beneficial to the river ecosystem.

Community Support

Community Support:

The following entities support the proposed project:

1. USDA Natural Resources Conservation Service
2. San Rafael Valley Association
3. San Rafael Valley Land Trust

Personnel

Personnel:

Bob Sharp – Project Manager
San Rafael Cattle Co.
P.O. Box 414
Patagonia, AZ 85624
394-2447

*B.S. from the University of Arizona in Animal Science. Current manager and part owner of San Rafael Cattle Co. His employment at SRCC began in 1972; he assumed the position as manager in 1985. Bob is highly experienced in all phases of livestock management, implementing rotational grazing plans, designing and constructing fences, water development and erosion control.

Steve Barker
Arizona State Range Conservationist

Dan Robinette
Resource Support Team, NRCS

Dan Sanders
F.R.O.G. Drilling, Inc.
P.O. Box 4378
Huachuca City, AZ 85616
456-9269

*Well driller

Bailey Foster
Foster Pump Sales
Box 271
Sonoita, AZ 85637
455-5362

*Bid on installation of all pumps

Abel Murrietta
P.O. Box 16
Patagonia, AZ 85624
394-2384

*Will install 7 storage tanks and build 10 miles of fence with fence crew

SHPO Certification
(must be submitted)

This certification is required by regulations implementing the State Preservation Act (A.R.S. 41-861 through 41-864), effective July 24, 1982. It is understood that recipients of state funds are required to comply with this law throughout the project period. The State Historic Preservation Act mandates that all State agencies consider the potential of activities or projects to impact significant cultural resources. Each State agency is required to consult with the State Historic Preservation Officer with regard to those activities or projects that may impact cultural resources.

PROJECT TITLE: Santa Cruz Headwaters Project

Please answer the following questions which provide information about the potential of the project to impact cultural resources:

1. Does the project have the potential to disturb the surface and/or subsurface of the ground?
YES: X NO:

2. Are there any buildings or structures (including mines, bridges, dams, canals, etc.) which are 50 years or older within the project area that have the potential to be disturbed by the proposed activity?
YES: NO: X

3. Are there any known prehistoric and/or historic archaeological sites within the project area?
YES: NO: X

4. Are you aware of any archeological investigations that have been performed within one (1) mile of the project area?
YES: X NO:

If you have answered "NO" to all of the above questions, please sign on the line below certifying that the activity or project is in compliance (and will remain in compliance throughout the project period) with the State Historic Preservation Act. **YOU MUST SUBMIT THIS FORM WITH YOUR COMPLETED APPLICATION.**

Authorized Signature

Date

If you have answered "YES" to any of the questions above, please answer the following questions.

SHPO Certification

If you answered yes to question #1, specifically identify any surface or subsurface impacts that are expected. Attach extra sheets if more space is needed.

Impacts will occur with the construction of fencelines, pipelines and installation of water storage tanks.

If you answered yes to question #1, describe the current ground surface condition within the entire project area boundary (i.e., is the ground in a natural undisturbed condition, or has it been bladed, paved, graded, used for agriculture, etc.). Attach extra sheets if more space is needed.

The ground is in a natural condition, impacted only by livestock grazing.

If you answered yes to question #2, list the sites, their names, and provide a brief description of the site.

NA

Has the project area been previously surveyed for cultural resources by a qualified Archaeologist?

YES _____ NO X _____

DON'T KNOW _____

If yes, submit a copy of the Archaeologist's report with your application.

YOU MUST SUBMIT THIS FORM WITH YOUR COMPLETED APPLICATION

III. A Common Task Forms

AWPF Task Form for Wells

Item	Applicant's response
Well type(s): e.g., monitor piezometer, production, etc.	Production well
How will these wells be used: e.g., to measure water levels, to measure water quality, to supply water to livestock, etc.	Supply water to livestock
Number of wells of each type?	1
Approximate depths (min-max.)	60'
Approximate diameter	6"
Pump size (gpm) if applicable	solar 2 1/2 gpm
Well casing material	steel
Estimated depth and length of perforated or screened interval	20' to depth; approximate length: 20'
Well drilling material	standard rotary
Cost per well in budget	Cost of well: \$1260 Cost of pump: \$2568.89
Have you included a map indicating the approximate location of the wells? If NO, please list parameters used to select well locations.	Yes
What will happen to the wells after the AWPF project is completed?	The wells will continue to supply water for livestock.
Additional information if required	Application for well permit

AWPF Task Form for Fencing

Item	Applicant's Response
Fence type:	Barbed wire fence
Fence description:	4-strand, barbed wire fence, 6' T posts placed 18' apart with 2 stays according to NRCS specifications
Purpose for fence:	Control location of livestock
Approximate fence length:	10 miles
Approximate number of gates to be installed:	25
Approximate number of cattle guards to be installed:	0
Cost of fence in budget:	\$41,159
Cost of gates and cattle guards in budget:	\$2,750
Have you included a map indicating the approximate location of all fence segments? If NO, please explain WHY.	yes
Who will be responsible for fence maintenance once the fence is complete?	San Rafael Cattle Company
Additional information if required	none

AWPF Task Form for Water Development Systems

Item	Applicant's Response																																	
Source or sources of water	Ground water																																	
Quantity of water (ac-ft/year)	Less than 5 ac-ft/year																																	
If source is surface water, do you have a water right for this quantity of water?	NA																																	
If you have a surface water right, does your project change the point of diversion, place of use, or type of use? If so, describe.	NA																																	
If source is an existing well, what is the well's registration or identification number?	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">55-602655</td> <td style="width: 33%;">55-602663</td> <td style="width: 33%;">55-602663</td> </tr> <tr> <td>55-602671</td> <td></td> <td>55-602670</td> </tr> <tr> <td>55-602973</td> <td></td> <td>One well-application process pending</td> </tr> </table>	55-602655	55-602663	55-602663	55-602671		55-602670	55-602973		One well-application process pending																								
55-602655	55-602663	55-602663																																
55-602671		55-602670																																
55-602973		One well-application process pending																																
If source is a new well/s, have you completed a well/s task form?	Yes																																	
Distribution system:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">pipelines:</td> <td style="width: 33%;">A</td> <td style="width: 33%;">B</td> </tr> <tr> <td>length:</td> <td>660'</td> <td>6,380'</td> </tr> <tr> <td>diameter:</td> <td>2"</td> <td>1 1/2"</td> </tr> <tr> <td>pipe type:</td> <td colspan="2">PVC sch 40</td> </tr> <tr> <td>above ground or below ground:</td> <td colspan="2">18" below ground surface</td> </tr> <tr> <td>storage:</td> <td colspan="2"></td> </tr> <tr> <td>tanks:</td> <td colspan="2">Four 12,720 gallon steel tanks Three 16,960 gallon steel tanks</td> </tr> <tr> <td>troughs:</td> <td colspan="2">Eight 415 gallon steel troughs</td> </tr> <tr> <td>distribution energy source:</td> <td colspan="2"></td> </tr> <tr> <td>gravity:</td> <td colspan="2">5</td> </tr> <tr> <td>pumps:</td> <td colspan="2">Two solar submersible @ 2 1/2 gpm Five 115 volt electric submersible @ 1/2 HP @ 10gpm</td> </tr> </table>	pipelines:	A	B	length:	660'	6,380'	diameter:	2"	1 1/2"	pipe type:	PVC sch 40		above ground or below ground:	18" below ground surface		storage:			tanks:	Four 12,720 gallon steel tanks Three 16,960 gallon steel tanks		troughs:	Eight 415 gallon steel troughs		distribution energy source:			gravity:	5		pumps:	Two solar submersible @ 2 1/2 gpm Five 115 volt electric submersible @ 1/2 HP @ 10gpm	
pipelines:	A	B																																
length:	660'	6,380'																																
diameter:	2"	1 1/2"																																
pipe type:	PVC sch 40																																	
above ground or below ground:	18" below ground surface																																	
storage:																																		
tanks:	Four 12,720 gallon steel tanks Three 16,960 gallon steel tanks																																	
troughs:	Eight 415 gallon steel troughs																																	
distribution energy source:																																		
gravity:	5																																	
pumps:	Two solar submersible @ 2 1/2 gpm Five 115 volt electric submersible @ 1/2 HP @ 10gpm																																	
Maintenance of the system:	Responsible party during project lifetime: Applicant Responsible party after project is complete: Applicant																																	
Have you included a map indicating the approximate location of the system's components? If NO, please explain WHY.	Yes																																	
Cost of system in budget?	\$46,686																																	
Additional information if required	NA																																	

AWPF Task Form for Monitoring

Item	Applicant's Response
Photo point monitoring (Y/N): If Y,	Yes
Approximate number of points, and photos per point?	5 points in riparian zone; 3 photos per point
How often will photos be taken?	Once every year in October
Fisheries habitat (Y/N): If Y,	Yes
How often will monitoring be performed?	Annually in the fall
Start and end dates for monitoring?	Continuation of current annual monitoring program of Gila Topminnow, started in 1972
Channel morphology (Y/N): If Y,	Yes
List parameters measured?	Channel width at 5 points
How often will monitoring be performed?	Every 2 years
Start and end dates for monitoring?	October 1998 – indefinitely
Will transects be used (Y/N) during any of the activities mentioned above? If Y,	Yes
List which activities involve the use of transects	Photo points; channel widths; riparian vegetation
Transect dimensions?	500' river profiles
Location selection parameters?	Five key riparian transect locations were established in April 1993 and will continue to be monitored.

SAN RAFAEL VALLEY ASSOCIATION
P.O. BOX 663
PATAGONIA, ARIZONA 85624

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
500 N. Third Street
Phoenix, Arizona 85004

July 22, 1997

To Whom It May Concern:

The San Rafael Valley Association Board of Directors would like to offer its full support of the proposed Santa Cruz Headwaters Project.

Incorporated in 1971, the San Rafael Valley Association was formed by the local residents and landowners. Among its purposes as stated in the Articles of Incorporation are the maintenance, preservation and protection of all natural forms of vegetation and wildlife and the desire to maintain and preserve proper ecological balance in our area.

Currently, our association's membership includes approximately 80% of the landowners and residents of the San Rafael Valley area designated by our bylaws, a number which represents a high degree of involvement and interest in the local environment.

We believe that the Santa Cruz Headwaters Project is in keeping with the purposes and objectives of our association, and we again lend our unqualified support to this endeavor.

Sincerely,



James McManus
President

Water Protection Fund
Commission

7-22-97

Dear Commissioners,

The Tucson Field Staff of the Natural Resources Conservation Service (NRCS) offers this endorsement of Bob Sharps application for a grant to fence and manage the riparian area of the upper Santa Cruz river on the San Rafael ranch. The proposal will allow for very careful management of seven miles of the river in this headwater reach. Livestock water developments outside the riparian corridor will mitigate the loss of streamside watering points.

Development of this corridor will allow the ranch to graze adjacent grasslands while managing for maximum development of riparian vegetation in the creek and on the floodplains. Grazing in the riparian corridor will be managed to always leave (or allow for) enough growth of vegetation prior to the summer flood season to prevent erosion and trap sediment. In years with heavy establishment of riparian tree species like cottonwood and willow, the fencing will permit enough deferrment to let these plants to grow out of reach of grazing livestock.

NRCS field staff has been assisting the ranch with monitoring of both upland and riparian plant communities for many years using photo points and transects. This monitoring will continue and will expand to encompass the new riparian corridor.

It should be noted that the projects being proposed are not ranch investments that will result in a positive rate of return from the grazing operation. They are however a tremendous public investment. Over the long term these investments will result in improving water tables and streamflow, reduced flooding and sedimentation downstream, improved habitat for a great variety of native plants and animals, improved esthetics and improved recreational values.

Sincerely,

Dan Robinett NRCS Tucson

A handwritten signature in cursive script, appearing to read "Dan Robinett".

San Rafael Valley Land Trust
HCR 2, Box 179
Patagonia, AZ 85624

520 455-5310
Fax 520 455-5006

July 21, 1997

Arizona Water Protection Fund
Arizona Department of Water Resources - Community Services
500 N. 3rd Street
Phoenix, AZ 85004

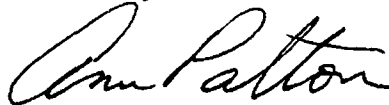
Gentlemen:

This letter is to express the support of the San Rafael Valley Land Trust for the proposed grant to the San Rafael Cattle Co., for the purpose of fencing and water storage along the Santa Cruz River. We believe that this project would help create an important tool to assist the landowners in management of their ranching operation and the vital resource of the Santa Cruz River.

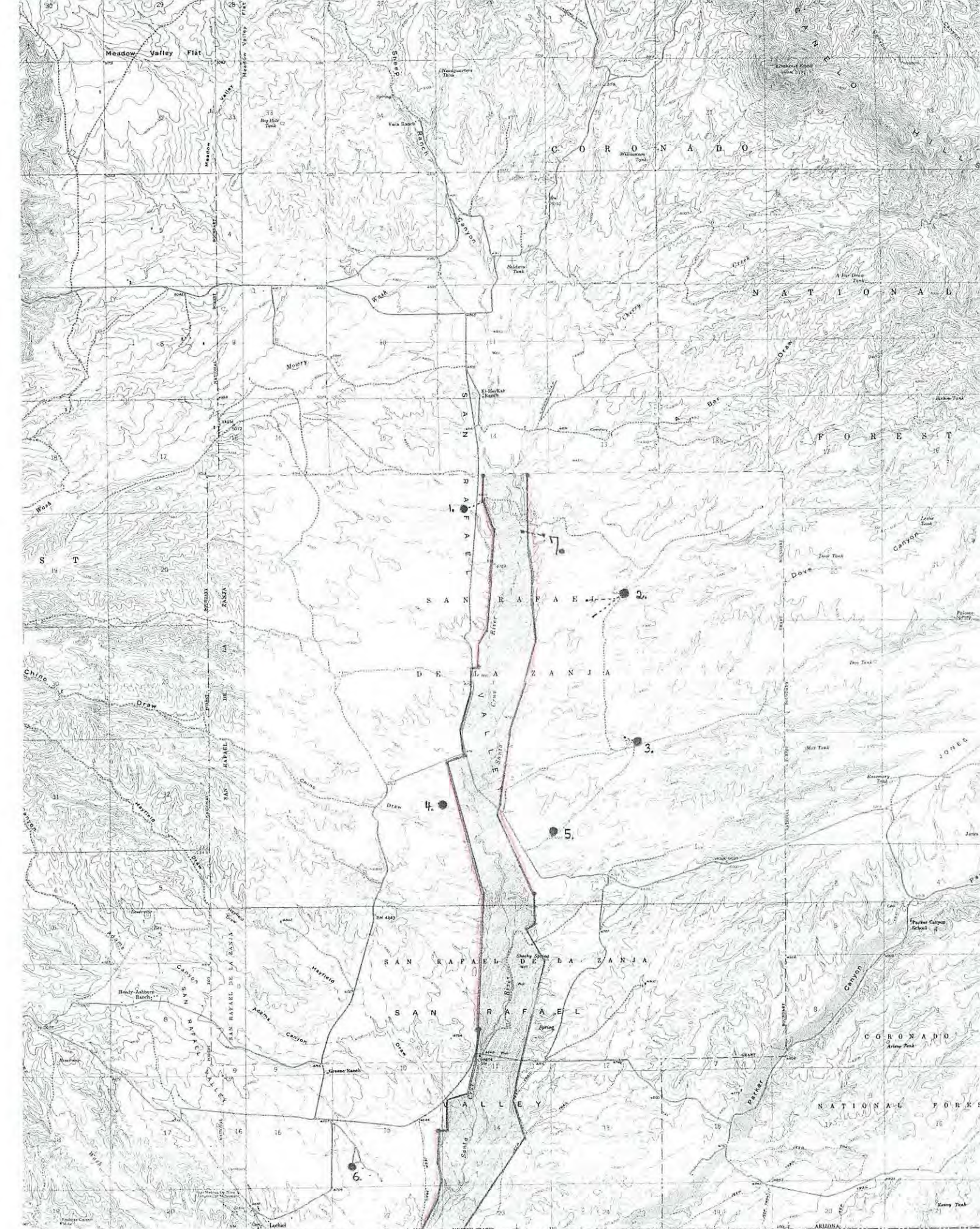
Our organization was formed to assist landowners in preserving their private lands and the important ecosystems found in the San Rafael Valley. We believe the quality and health of the river corridor is vital to Arizona, to us as a community, and to the ranching operation of the owners. We fully support their efforts, as well as yours, to help achieve this goal.

We appreciate your making funds available for projects of this type and offer to be of assistance, if needed. Thank you for your consideration.

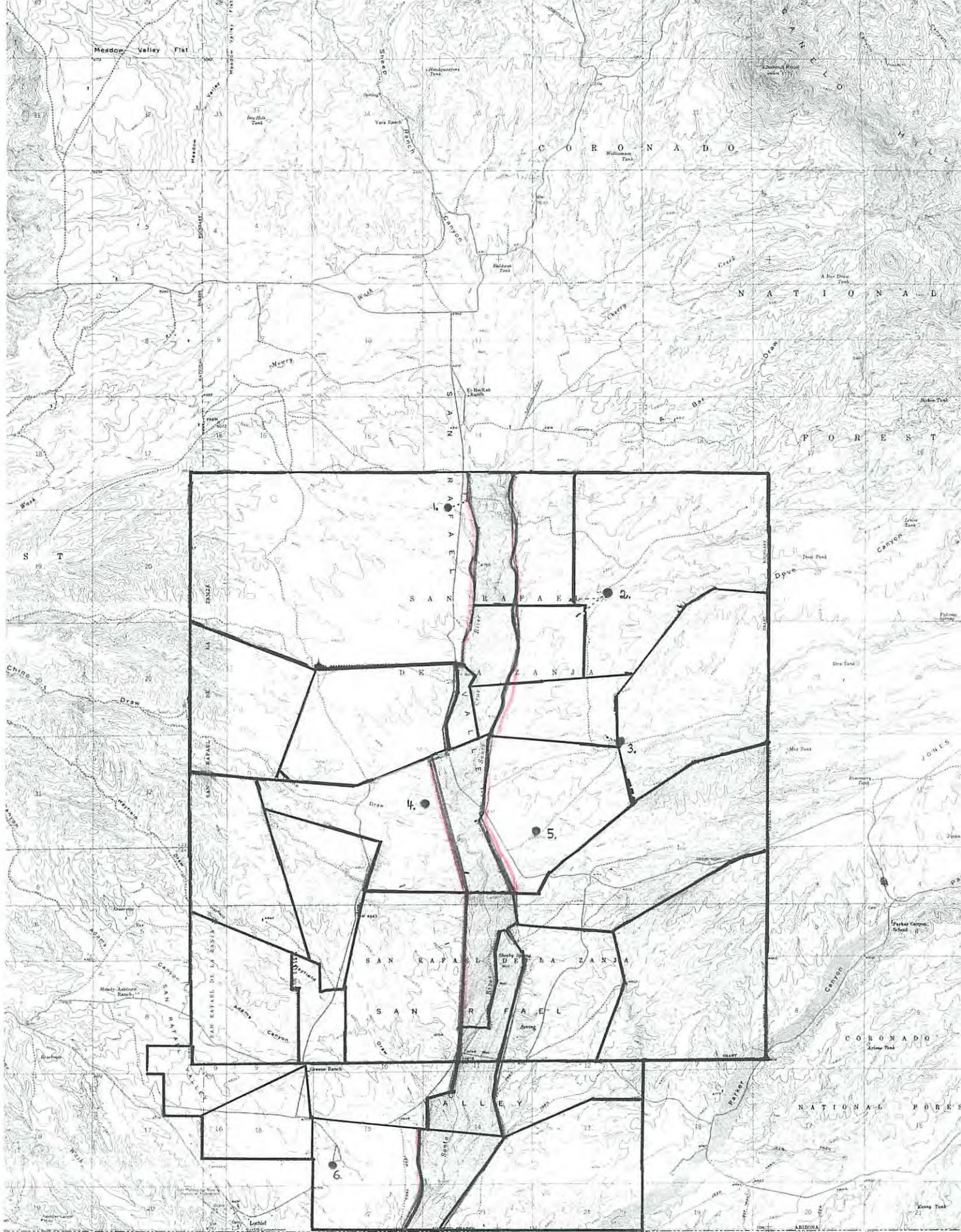
Sincerely,



Ann Patton
President



— EXISTING ROAD
— NEW ROAD



— EXISTING FENCE
 — ADJACENT FENCE