

1508

Arizona Water Protection Fund  
Application Cover Page  
FY 2015

Title of Project: Restoring Wildlife and Pollinator Resources in Aravaipa Canyon

<b>Type of Project:</b> <input checked="" type="checkbox"/> Capital or Other <input type="checkbox"/> Water Conservation <input type="checkbox"/> Research	<b>Stream Type:</b> <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral	<b>Your level of commitment to maintenance of project benefits and capital improvements:</b> <input type="checkbox"/> < 5 years <input type="checkbox"/> 5-10 years <input type="checkbox"/> 11-15 years <input checked="" type="checkbox"/> 16-20 years
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**Applicant Information:**  
Name/Organization: Sky Island Alliance  
Address 1: 300 E. University Boulevard , Suite 270  
Address 2:  
City: Tucson  
State: Arizona  
ZIP Code: 85705  
Phone: (520) 624-7080  
Fax: (520) 791-7709  
Tax ID No.: [REDACTED]

**Inside an AMA:** Yes  No   
**If yes, which AMA:**  
 Phoenix  
 Tucson  
 Prescott  
 Pinal  
 Santa Cruz

**Type of Application:**  
 New  
 Continuation

**Contact Person:**  
Name: Carianne Campbell  
Title: Restoration Director  
Phone: (520) 624-7080 x 14  
Fax: (520) 791-7709  
e-mail: carianne@skyislandalliance.org

**Any Previous AWPB Grants:**  
 Yes    No  
**If yes, please provide Grant #(s):**

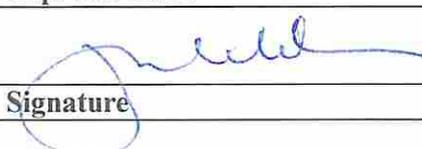
**Arizona Water Protection Fund Grant Amount Requested:**  
\$ 87,649  
If the application is funded, will the Grantee intend to request an advance:  
 Yes    No

**Matching Funds Obtained and Secured:**

<u>Applicant/Agency/Organization:</u>	<u>Amount (\$):</u>
1. Sky Island Alliance	\$27,084
2. The Nature Conservancy	\$3,900
<b>Total: \$45,416</b>	

Has your legal counsel or contracting authority reviewed and accepted the Grant Award Contract General Provisions?  
 Yes    No    N/A

Signature of the undersigned certifies understanding and compliance with all terms, conditions and specifications in the attached application. Additionally, signature certifies that all information provided by the applicant is true and accurate. The undersigned acknowledges that intentional presentation of any false or fraudulent information, or knowingly concealing a material fact regarding this application is subject to criminal penalties as provided in A.R.S. Title 13. The Arizona Water Protection Fund Commission may approve Grant Awards with modifications to scope items, methodology, schedule, final products and/or budget.

Jan Holder	Executive Director (520) 624-7080 x11
<b>Typed Name of Applicant or Applicant's Authorized Representative</b>	<b>Title and Telephone Number</b>
	5/11/2015
<b>Signature</b>	<b>Date Signed</b>

# *Restoring Wildlife and Pollinator Resources in Aravaipa Canyon*



*A Proposal to the Arizona Water Protection Fund  
Capital Projects  
22 May 2015*



**SKY  
ISLAND  
ALLIANCE**

Protecting our Mountain Islands  
and Desert Seas

1

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## *2) Executive Summary*

Sky Island Alliance (SIA) is pleased to submit this proposal for a Capital Improvement Project to the Arizona Water Protection Fund Commission for Funding in the FY2015 Grant Cycle. Our proposal builds on several years of restoration work in Aravaipa Canyon and strong relationships that Sky Island Alliance (SIA) has with The Nature Conservancy (TNC) and the Bureau of Land Management (BLM) Safford Field Office. The main goal of the project is to remove a destructive and invasive non-native plant, vinca, from the riparian forest understory at the TNC's Aravaipa Canyon Preserve, and to increase floral resources for pollinators and wildlife. This on the ground restoration work will restore habitat at the headwaters of Aravaipa Creek and protect additional habitat over 10 miles of perennial creek and riparian gallery forest habitat in the Aravaipa Canyon Wilderness, which is directly downstream.

TNC manages the Aravaipa Canyon Preserve, and SIA has identified 580 acres of potential habitat for vinca within the Preserve. Within a 120-acre section of the Preserve, near the TNC Guesthouse, we have carefully mapped the vinca, and found that there is 8 acres of infested habitat. This project will allow us to expand our mapping effort to the remaining 460 acres, where we expect to identify approximately 30 additional acres of infestation.

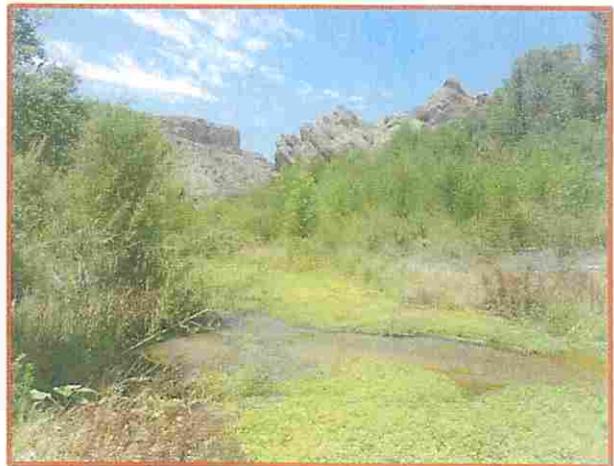
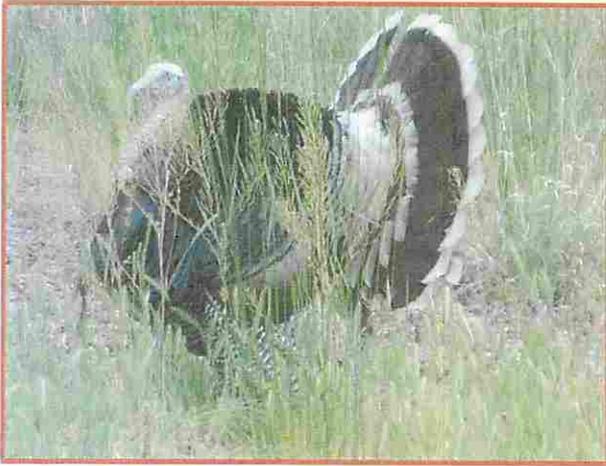
We have refined our approach and methods based on a current project funded by the US Fish and Wildlife Service's partners for Wildlife Program. We will be partnering with the Arizona Conservation Corps for the heavy lifting of initial vinca removal (5 weeks), and following up with large groups of SIA volunteers to conduct re-treatments (8 weekends) and to install and maintain native plants (4 weekends). This approach utilizes will maximize the treatment area while remaining respectful of budgeting constraints.

This project directly addresses several of the objectives of the Capital Improvement category from the Arizona Water Protection Fund:

- Protect/Restore native riparian vegetation and habitat;
- Restore proper hydrologic conditions/functions;
- Improve watershed conditions using forest and/or near-stream restoration treatments that increase water quantity;
- Demonstrate benefits to a perennial stream;
- Demonstrate commitment to continued maintenance of proposed enhancements;
- Protect/Restore habitat needs for fish and wildlife; and,
- Decrease negative impacts of non-native species to riparian areas.

In addition to the ecological and hydrological benefits of this project, there will be significant economic benefits for Arizonans through employment and purchase of native plant materials from local businesses. We will engage at least 100 volunteers who will experience one of Arizona's natural wonders and gain insights into the value of Aravaipa Canyon for wildlife. In addition, we will make presentations to report on this project to professional organizations and public outreach events such as the annual meetings of the Society for Ecological Restoration SW Chapter, Southwest

Vegetation Management Association, the Arizona Native Plant Society, the Gardening Club of Green Valley, and others.



*Recent scenes from SIA volunteer trips to Aravaipa Canyon.*

### 3) Project Overview

#### Background

Sky Island Alliance (SIA) has been working with the BLM Safford Field Office and The Nature Conservancy (TNC) at the Aravaipa Canyon Preserve over the past several years on a variety of restoration projects designed to increase watershed health and resources for wildlife. The Aravaipa Canyon Preserve, managed by TNC, includes 9,000 acres of land, including several miles of the creek. The creek cuts through the northern end of the Galiuro Mountains, and the flow begins at the canyon's east end, fed by springs and tributary creeks. Above-ground flow is intermittent at its lower end, where it joins the San Pedro River. Aravaipa Creek is an unparalleled riparian resource in southern Arizona, with over 10 miles of perennial water and a lush riparian gallery forest of cottonwoods, willows, sycamores, and walnut trees. The creek is known for its rare remaining diversity of native desert fish species, including the endangered spikedace and loach minnow. Aravaipa Creek also supports a rich suite of birds and mammals, including desert bighorn sheep.

An extensive, yet manageable population of invasive vinca (*Vinca major*, also known as periwinkle) has infested the canyon floor, and threatens the diversity of wildlife that is so spectacular in the canyon. Vinca directly suppresses the growth of native plants that provide pollinators such as hummingbirds, butterflies, and moths with the diverse floral resources they need. It also forms a dense mat that intercepts and steals water from native riparian trees and other plants. SIA has been working with TNC and BLM since the beginning of 2015 on a pilot project to remove vinca on the Preserve; this effort is funded by the US Fish and Wildlife Service's Partners for Wildlife Program and has informed this proposal.

#### Goal

The goal of this project is to contain the spread of invasive vinca on the Aravaipa Canyon Preserve to protect the downstream BLM Aravaipa Canyon Wilderness and the wildlife and pollinator values that the creek supports. This is the beginning of a long term effort; support from the Arizona Water Protection Fund would be leveraged to obtain additional funding to continue this work over the next decade.

#### Objectives

Project objectives include: 1) develop a detailed map of the vinca infestation on the Aravaipa Canyon Preserve; 2) implement a removal strategy that protects the downstream Aravaipa Wilderness Area from vinca infestation, and remove several solid acres of vinca; and, 3) install and maintain native plant materials (seeds and at least 500 native plants) to restore understory diversity for wildlife and pollinators.

### *Statement of Problems and Causes*

Vinca is an ornamental vine that was introduced to gardens in the US in the 1700s from its native habitat in Mediterranean Europe. It has an attractive blueish purple pinwheel flower, and evergreen leaves, making it a popular landscape plant in the arid southwest. To add to its appeal, it is low maintenance and spreads quickly. Unfortunately, these traits also make it a formidable pest when it escapes the garden, especially when it arrives in riparian areas. Along Aravaipa Creek, vinca was planted by homesteaders to help control floodwaters; over the decades it has spread to form solid patches underneath the shady riparian understory. Vinca is aggressively crowding out native species and creating a dense mat of leaves and stems that interfere with water infiltration for native riparian plants. The result is large swaths of riparian forest with depauperate understory plant diversity, and consequently, diminished resources for pollinators and other wildlife. Vinca spreads vegetatively, and as pieces break during floods, they can be washed downstream and take root to form new colonies. Vinca is in the dogbane (Apocynaceae) family, and is poisonous to livestock. A decline in pollinators across the world has been attributed to many factors, including loss of habitat and forage. The spread of vinca exacerbates this issue in Aravaipa Canyon, which is otherwise an excellent nectar corridor.

### *Statement of Solutions*

Vinca can be controlled mechanically through careful digging - it is critical to remove as much of the root and stem/stolon material as possible. Repeat treatment is to be expected, but with vigilance, areas can be cleared of vinca and native revegetation can be re-established. The result will be a more diverse understory and the restoration of natural water infiltration during flood events. Volunteer groups have successfully removed vinca from the riparian understory at TNC's Ramsey Canyon Preserve in the Huachuca Mountains, and SIA has started to remove vinca from the Aravaipa Canyon Preserve. Installation of a carefully chosen native plant palette will improve the connectivity of nectar corridors for a variety of pollinators, including Monarch butterflies.

### *Project Years of Benefit to the Resource and the General Public*

Vinca removal will result in water conservation through the re-establishment of natural flooding and water infiltration in the canyon bottom, both currently impeded by dense vinca growth. Restoration of the riparian understory could provide decades of ecological benefits – Aravaipa Canyon is a location that will provide critical habitat resources to wildlife and pollinators as a refugia for climate-related impacts. This project will provide paid work for Arizona Conservation Corps and SIA staff, provide ample opportunities for community engagement in natural resource management through volunteerism, and an income stream for local businesses such as Borderlands Restoration (Patagonia, AZ), Nighthawk Natives (Tucson, AZ) plant nurseries, as well as Apple Annie's in Willcox, where we always stop for pie.

#### *4) Project Location and Environmental Contaminant Information*

This project would take place within the Aravaipa Canyon Preserve, on the east end of the canyon at the headwaters of Aravaipa Creek. Aravaipa Creek is located in the San Pedro River Watershed, and is a very important tributary of the San Pedro River. See following map for the general location of the project area within the watershed.

**Project Location & Environmental Contamination Information  
FY 2015**

<b>Project Location Information</b>			
1. County: <u>Graham</u>	2. Sections: portions of <u>19,20,21,27,28,34,35</u>	3. Township: <u>6S</u>	4. Range: <u>19E</u>
<p>5. Watershed: <u>San Pedro River</u></p> <p>6. 8 or 10 Digit Hydrologic Unit Code (HUC): <u>1505020307</u></p> <p>7. Name of USGS Topographic Map where project area is located: <u>Klondyke / Booger Canyon</u></p> <p>8. State Legislative District: <u>14</u> (Information available at: <a href="http://azredistricting.org/districtlocator/">http://azredistricting.org/districtlocator/</a>)</p> <p>9. Land ownership of project area: <u>The Nature Conservancy (private)</u></p> <p>10. Current land use of project area: <u>Preserve</u></p> <p>11. Size of project area (in acres): <u>Approximately 38 acres</u>      <u>DIRECT</u></p> <p>12. Stream Name: <u>Aravaipa Creek</u></p> <p>13. Length of stream through project area: <u>4 miles</u></p> <p>14. Miles of stream benefited: <u>4</u> miles</p> <p>15. Acres of riparian habitat: <u>up to 580</u> acres will be:  <div style="margin-left: 400px;"> <b>Enhanced</b> <input checked="" type="checkbox"/>  <b>Maintained</b> <input checked="" type="checkbox"/>  <b>Restored</b> <input checked="" type="checkbox"/>  <input type="checkbox"/> <b>Created</b> </div> </p> <p>16. General description and/or delineation for the area of impact of the project within the watershed. We propose to work within the Aravaipa Canyon Preserve, within a vinca infestation area that includes 580 acres of potentially occupied habitat. Based on a detailed survey of a 120-acre portion of the area that includes 8 acres of infestation, we estimate that there may be up to 38 acres of vinca in the project area. The 580 acre area includes the entire floodplain of Aravaipa Creek within the Aravaipa Canyon Preserve.</p> <p>17. Provide directions to the project site from the nearest city or town. List any special access requirements: From Tucson: (155 miles) Take I-10 east to Willcox exit 340. Turn left onto Fort Grant Road and go north 30 miles to Bonita. Turn left onto Klondyke Road and go 32 miles to Klondyke. Preserve entrance is seven miles past Klondyke. The last 38 miles is a well-maintained dirt road and subject to closure during wet weather.</p>			
<b>Environmental Contaminant Location Information</b>			

1. Does your project site contain known environmental contaminants?   **YES**   **NO** If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants:
  
2. Are there known environmental contaminants in the project vicinity?   **YES**   **NO** If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants:
  
3. Are you asking for Arizona Water Protection Fund monies to identify whether or not environmental contaminants are present?   **YES**   **NO**

## 5) Scope of Work

### Task 1: Permits, Authorizations, Clearances, Agreements, and Planning

- **Description:** SIA will obtain and submit to the AZWPF Project Manager all permits, authorizations, clearances and agreements, and perform any consultations necessary to complete the tasks listed in this Scope of Work. This may include but is not limited to: SHPO clearance, NEPA compliance, ESA consultation, access agreements, Section 401 Certification, Section 404 permit, data collection permits, and others.
- **Purpose:** To comply with all local, state, and federal permit requirements and laws, and to obtain/ensure legal access to the project area.
- **Deliverable Description:** Copies of all necessary approved permits, authorizations, clearances, and agreements.
- **Responsible Personnel:** SIA Restoration Director
- **Deliverable Due Date:** Prior to any ground-disturbing activities.
- **Reimbursable Cost:** \$5,680

### Task 2: Mapping

- **Description:** SIA will continue mapping vinca on the Aravaipa Canyon Preserve to include the entire 580 acres of potential infestation area.
- **Purpose:** A completed map will allow planning for the most efficient and effective vinca removal strategy, and allow for detailed tracking and monitoring of removal and re-treatment efforts. Areas of cultural resources concern will be avoided.
- **Deliverable Description:** A map with each vinca infestation represented as a unique numbered polygon of known area in acres or square feet. Spatial data will be collected to sub-meter accuracy. GIS shapefiles and metadata will be delivered to TNC and the BLM (and AZWPC if requested).
- **Responsible Personnel:** SIA Restoration Director and Conservation Coordinator will lead SIA volunteers and intern(s) on a detailed survey of the Preserve to detect and map all vinca present. The Conservation Coordinator will produce the map.
- **Deliverable Due Date:** Prior to any ground-disturbing activities.
- **Reimbursable Cost:** \$3,414.

### Task 3: Initial Treatment

- **Description:** SIA and the Arizona Conservation Corps (AZCC) will work together to manually remove vinca according to an agreed-upon strategy (likely starting at the farthest downstream vinca polygon).
- **Purpose:** To remove vinca.
- **Deliverable Description:** AZCC will provide a 6-person crew for 5 full-time weeks of vinca removal.

- **Responsible Personnel:** SIA Restoration Director will direct and oversee the AZCC in this task.
- **Deliverable Due Date:** Within 12 months of completion of tasks 1 and 2.
- **Reimbursable Cost:** \$34,614.

#### ***Task 4: Follow-up Treatment***

- **Description:** Vinca is a vigorous re-sprouter, and re-treatment of initial removal areas is expected. This task is crucial to protect the investment and ecological gains made through task 3.
- **Purpose:** To remove vinca that has re-sprouted from initial treatment areas.
- **Deliverable Description:** SIA will recruit and organize large groups of volunteers to complete 8 weekends of vinca re-sprout removal.
- **Responsible Personnel:** SIA Restoration Director and Conservation Coordinator.
- **Deliverable Due Date:** Within 18 months of completion of task 3.
- **Reimbursable Cost:** \$17,820.

#### ***Task 5: Installation and Maintenance of Native Plants***

- **Description:** SIA will develop a palette of site-appropriate plant materials, collect and cuttings seeds with permission, and work with local nursery business owners to propagate plant materials for the project. SIA staff and volunteers will install the plants in areas that have been effectively cleared. Plants will be installed with DriWater irrigation supplement and watered by hand with water directly from the creek to promote success.
- **Purpose:** To increase the diversity of native plant resources available to wildlife and pollinators and to provide a competitive edge to natives against re-infestation.
- **Deliverable Description:** SIA will recruit and organize large groups of volunteers to complete 4 weekends of native plant installation and maintenance.
- **Responsible Personnel:** SIA Restoration Director.
- **Deliverable Due Date:** Within 12 months of completion of task 4.
- **Reimbursable Cost:** \$17,206.

#### ***Task 6: Reporting and Presentations***

- **Description:** SIA will generate progress and final reports and to the Arizona Water Protection Commission, TNC, and BLM, as well as to a wider audience.
- **Purpose:** To communicate project progress and lessons learned to a wide audience.
- **Deliverable Description:** SIA will submit progress reports and a final report and oral presentation to the Arizona Water Protection Commission. SIA will also share project results through posters and powerpoint presentations at conferences and meetings including the Southwest Chapter of the Society for Ecological Restoration, Arizona Native Plant Society, the Southwestern Vegetation Management Association, and

others. These are meetings that SIA already plans to attend, and so this outreach is included in-kind. In addition, SIA will feature this project in a newsletter article, on its website, and through social media.

- **Responsible Personnel:** SIA Restoration Director.
- **Deliverable Due Date:** Ongoing; final presentation to the Commission will be due within 90 days of contract termination.
- **Reimbursable Cost:** \$5,195.

## 6) Detailed Budget Breakdown

Direct Labor Hours					
TASK	Project Director	Conservation Coordinator	Operations Manager		Total
1: Permits and Authorizations and Planning	100	40	0		140
2: Mapping	0	80	0		80
3: Initial Treatment	40	40	0		80
4: Follow up Treatment	60	320	0		380
5: Installation of Native Plants	160	160	0		320
6: Reporting and Presentation	60	0	64		124
<b>Subtotal SIA Labor Hours</b>	<b>420</b>	<b>640</b>	<b>64</b>		<b>1124</b>
Direct Labor Cost					
<i>rates</i>	<i>\$42.00</i>	<i>\$37.00</i>	<i>\$40.00</i>		<b>Total</b>
1: Permits and Authorizations and Planning	4,200	1,480	0		\$5,680
2: Mapping	0	2,960	0		\$2,960
3: Initial Treatment	1,680	1,480	0		\$3,160
4: Follow up Treatment	2,520	11,840	0		\$14,360
5: Installation of Native Plants	6,720	5,920	0		\$12,640
6: Reporting and Presentation	2,520	0	2,560		\$5,080
<b>Subtotal SIA Labor</b>	<b>\$17,640</b>	<b>\$23,680</b>	<b>\$2,560</b>		<b>\$43,880</b>
Outside Services					
	<b>AZCC</b>				<b>Total</b>
1: Permits and Authorizations and Planning	\$0				\$0
2: Mapping	\$0				\$0
3: Initial Treatment	\$31,000				\$31,000
4: Follow up Treatment	\$0				\$0
5: Installation of Native Plants	\$0				\$0
6: Reporting and Presentation	\$0				\$0
<b>Subtotal Subcontractor</b>	<b>\$31,000</b>				<b>\$31,000</b>
Other Direct Costs					
	<b>per diem</b>	<b>mileage</b>	<b>plant materials</b>	<b>tools and materials</b>	<b>Total</b>
1: Permits and Authorizations and Planning	\$0	\$0	\$0	\$0	\$0
2: Mapping	\$224	\$230	\$0	\$0	\$454
3: Initial Treatment	\$224	\$230	\$0	\$0	\$454
4: Follow up Treatment	\$1,120	\$1,840	\$0	\$500	\$3,460
5: Installation of Native Plants	\$896	\$920	\$2,500	\$250	\$4,566
6: Reporting and Presentation	\$0	\$115	\$0	\$0	\$115
<b>Subtotal Other Direct Costs</b>	<b>\$2,240</b>	<b>\$3,105</b>	<b>\$2,500</b>	<b>\$750</b>	<b>\$8,595</b>
				<b>Subtotal</b>	<b>\$83,475</b>
				<b>5% Admin</b>	<b>\$4,174</b>
				<b>Total</b>	<b>\$87,649</b>

## 7) Detailed Matching Funds Breakdown

TASK	Volunteer Hours @ \$8.05/hr	Lodging @ \$150/night	Intern @ \$15/hr	SUBTOTAL
<b>Sky Island Alliance</b>				
2: Mapping	\$0	\$0	\$600	\$600
3: Initial Treatment	\$6,440	\$0	\$300	\$6,740
4: Follow up treatment	\$23,184	\$0	\$1,800	\$24,984
5: installation of native plants	\$11,592	\$0	\$900	\$12,492
6: Reporting and Presentation	\$0	\$0	\$600	\$600
subtotal	\$41,216	\$0	\$4,200	\$45,416
<b>The Nature Conservancy</b>				
2: Mapping	\$0	\$300	\$0	\$300
4: Follow up treatment	\$0	\$2,400	\$0	\$2,400
5: installation of native plants	\$0	\$1,200	\$0	\$1,200
subtotal	\$0	\$3,900	\$0	\$3,900
<b>TOTAL</b>	<b>\$41,216</b>	<b>\$3,900</b>	<b>\$4,200</b>	<b>\$49,316</b>

The table above details the matching funds that are included in the line items presented on this proposal cover page. Additional matching contributions were excluded either because the value of the contributions are not yet known or because SIA was not able to get letters of support in time for inclusion. Here is a list of other types of cash and/or in-kind contributions that add to this project:

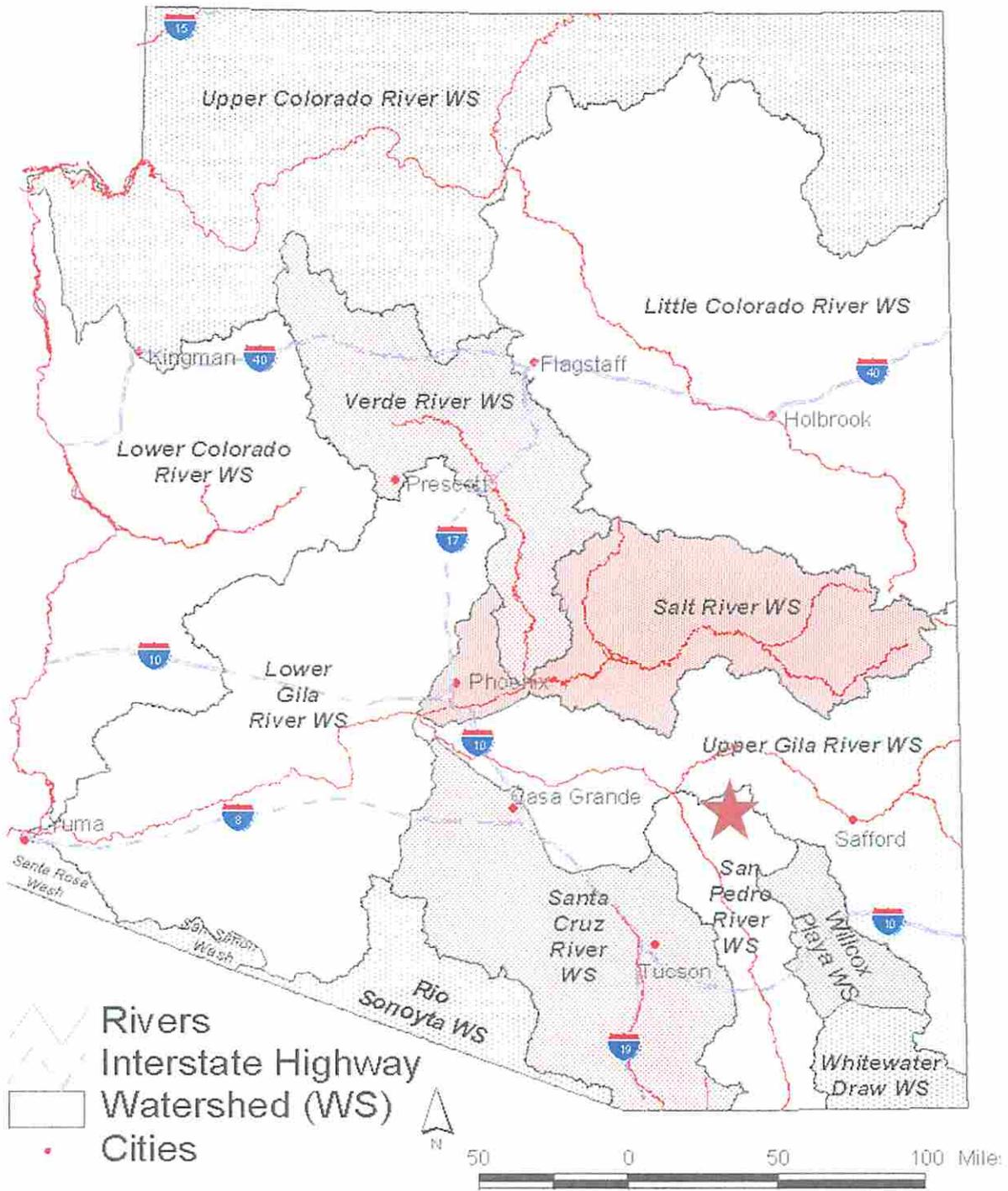
- **USFWS Partners for Wildlife:** Agreement Numbers F12AC00516 and F13AC00852 for a combined total of \$20,050.
- **TNC:** TNC Aravaipa Preserve Manager Mark Haberstitich has offered to haul and safely dispose of the vinca biomass at the Cobra Ranch. In addition to this effort, Mark and his staff often join us in the field.
- **BLM Safford Office:** Jeff Conn has offered to assist us with mapping of vinca within the BLM Aravaipa Canyon Wilderness. We will be able to get permits for this activity, and he will likely help with staffing as he often has interns available. In addition, we will be pursuing funding through the BLM directly to conduct vinca removal within the Wilderness Area. We do know that the infestation gets more sparse in the Wilderness Area and is not known to extend past Hell Hole Canyon.
- **SIA equipment and materials:** SIA already has many of the tools and equipment needed to conduct this work, including a sub-meter accuracy GPS unit, picks, shovels, sod forks, tarps, buckets, and wire protectors for new plantings. The

tool budget in this proposal is therefore much smaller, as it only needs to cover incidental tool purchase and replacement.

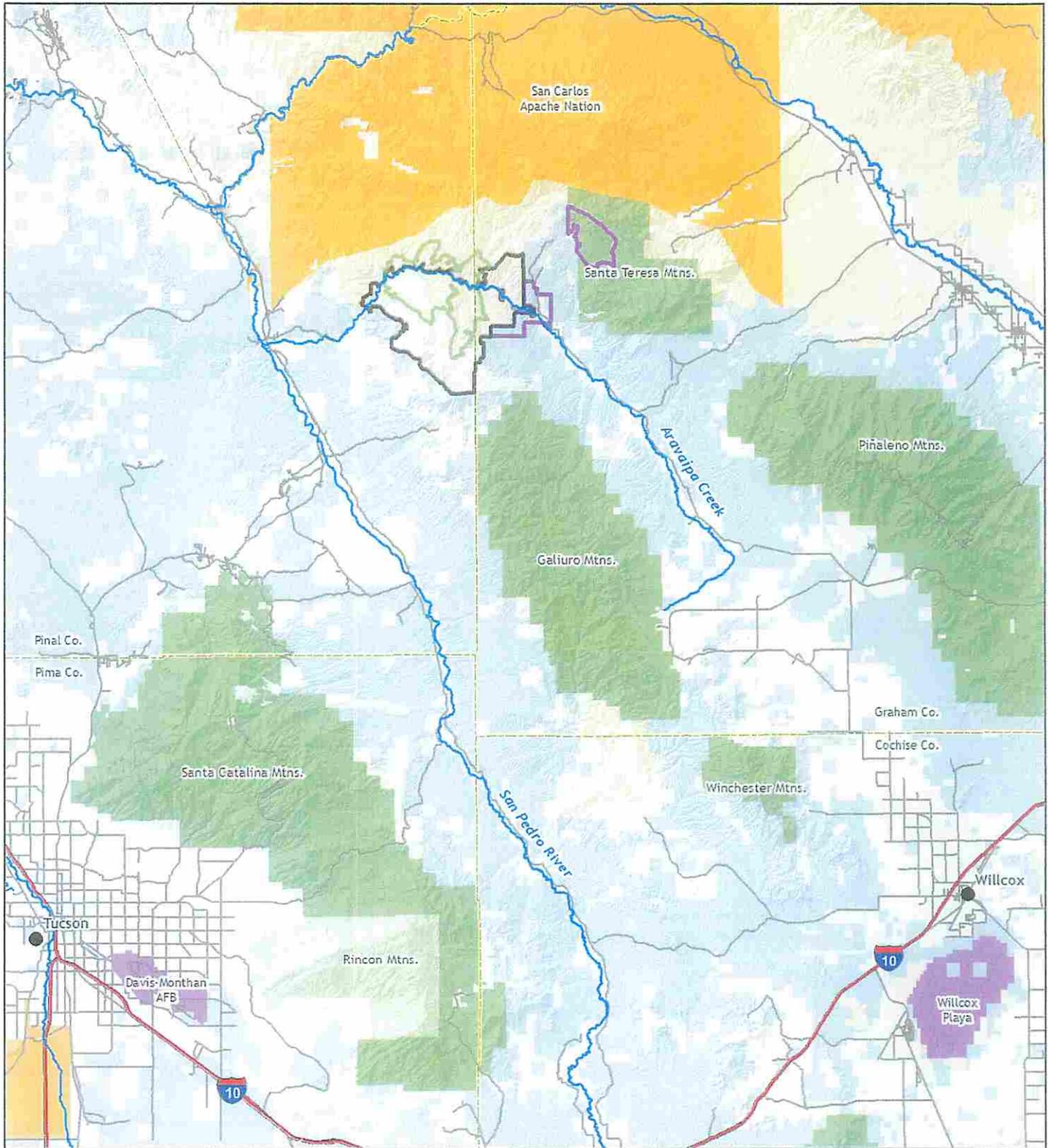
### *8) Project Maps and Schematics*

The following project maps and schematics show the extent of the mapping work that has already been accomplished. The 120-acre project area shown on the second and third maps represents the area in which SIA is currently working with TNC and the USFWS Partners for Wildlife project – this is the only area in which vinca occurrence has been mapped to sub-meter accuracy. AWPf funding would allow us to expand our mapped survey area to include the entire 580-acre area identified as “potential infestation area” on the second map.

# AZ Watershed Map FY 2105



*Project Title: Restoring Wildlife and Pollinator Resources in Aravaipa Canyon*



## Vinca Removal Project Area Overview



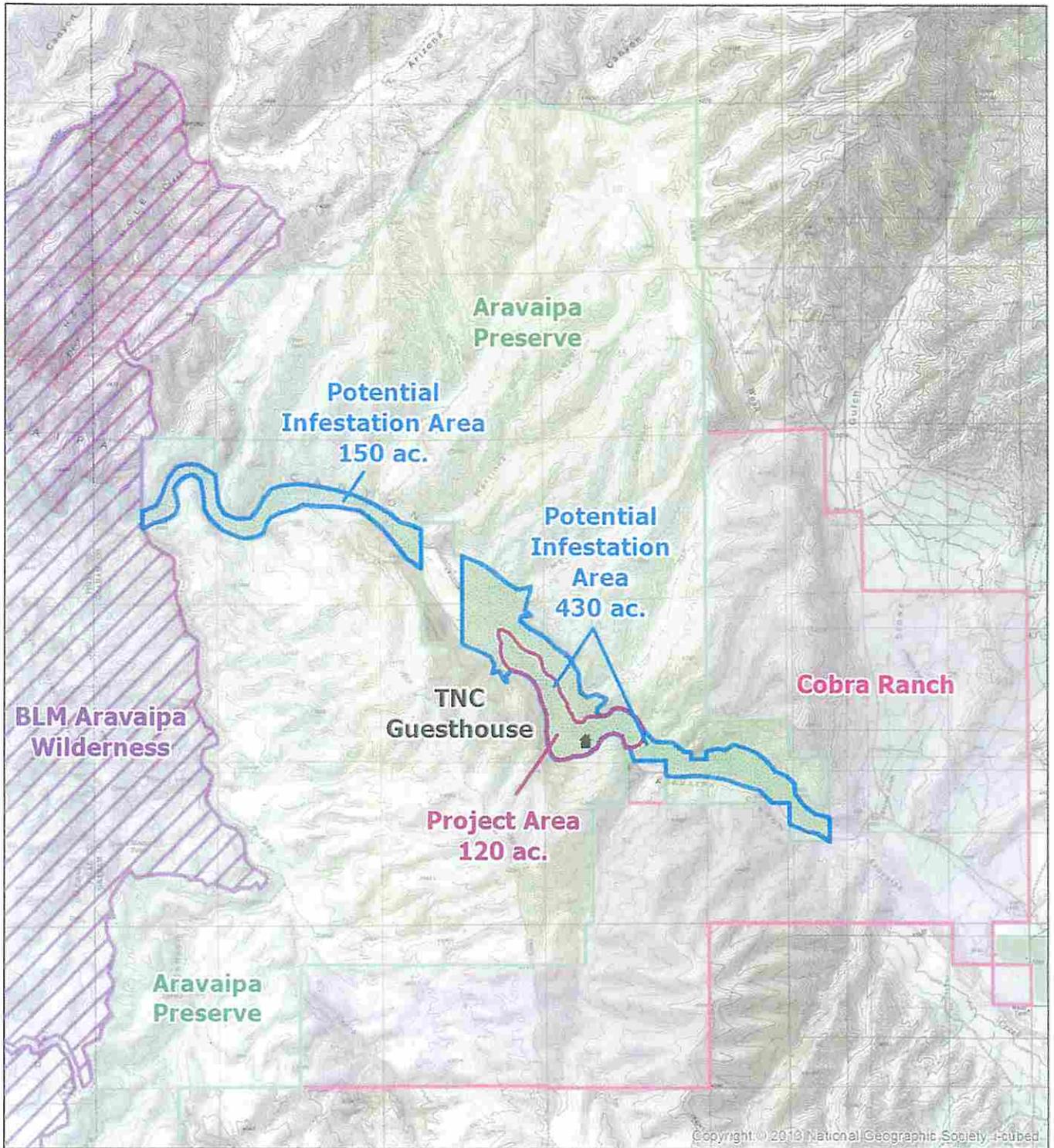
- |                         |                           |                   |
|-------------------------|---------------------------|-------------------|
| Aravaipa Preserve       | Bureau of Land Management | Private           |
| BLM Aravaipa Wilderness | Reservation Lands         | State             |
| Cobra Ranch             | Military                  | US Forest Service |
|                         | National Park Service     |                   |



Projection: UTM Zone 12N  
Datum: NAD 1983

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0 5 10 20 Miles



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## TNC Aravaipa Preserve Vinca Removal Project

- Project Area (120 acres)
- Potential Infestation Area (580 acres)
- Cobra Ranch
- BLM Aravaipa Wilderness

Aravaipa Preserve

Projection: UTM Zone 12N  
Datum: NAD 1983

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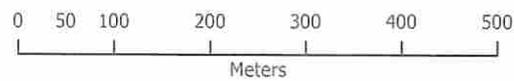


1:50,000



## TNC Aravaipa Preserve Vinca Project

 Project Area (120 acres)  Vinca Patches (8.03 acres)



Scale 1:7,000  
Projection: UTM Zone 12N  
Datum: NAD 1983 HARN  
Date: 3 April 2015

## *9) Supplemental Information*

## STATE HISTORIC PRESERVATION OFFICE Review Form

In accordance with the State Historic Preservation Act (SHPO), A.R.S. 41-861 *et seq*, effective July 24, 1982, each State agency must consider the potential of activities or projects to impact significant cultural resources. Also, 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. Therefore, it is understood that **recipients of state funds are required to comply with this law** throughout the project period. All projects that affect the ground-surface that are funded by AWPf require SHPO clearance, **including those on private and federal lands.**

The State Historic Preservation Office (SHPO) must review each grant application recommended for funding in order to determine the effect, if any, a proposed project may have on archaeological or cultural resources. To assist the SHPO in this review, the following information **MUST** be submitted with each application for funding assistance:

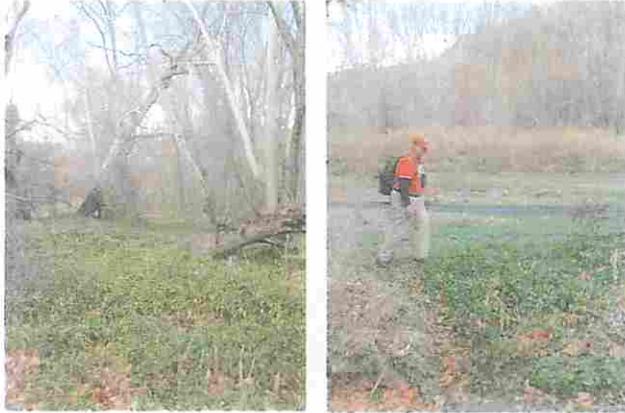
- A completed copy of this form, and
- A United States Geological Survey (USGS) 7.5 minute map
- A copy of the cultural resources survey report if a survey of the property has been conducted, and
- A copy of any comments of the land managing agency/landowner (i.e., state, federal, county, municipal) on potential impacts of the project on historic properties.  
NOTE: If a federal agency is involved, the agency must consult with SHPO pursuant to the National Historic Preservation Act (NHPA); a state agency must consult with SHPO pursuant to the State Historic Preservation Act (SHPA),  
**OR**
- A copy of SHPO comments if the survey report has already been reviewed by SHPO.

**Please answer the following questions:**

1. Grant Program: Arizona Water Protection Fund
2. Project Title: Restoring Wildlife and Pollinator Resources in Aravaipa Canyon
3. Applicant Name and Address: Sky Island Alliance; 300 E. University Blvd, Suite 270, Tucson, AZ 85705
4. Current Land Owner/Manager(s): The Nature Conservancy
5. Project Location, including Township, Range, Section: T 6S R19E, portions of Sections 19, 20, 21, 27, 28, 34, 35
6. Total Project Area in Acres (or total miles if trail): approximately 38 acres within a larger area of 580 acres
7. Does the proposed project have the potential to disturb the surface and/or subsurface of the ground?  YES  NO

8. Please provide a brief description of the proposed project and specifically identify any surface or subsurface impacts that are expected: Sky Island Alliance proposes to remove an invasive groundcover vine called vinca from the flood channel of Aravaipa Creek. Work requires the use of hand tools such as picks and shovels to remove the root material which extends 6 – 8 inches below the ground surface. Once removed, native seeds and plants will be installed.

9. Describe the condition of the current ground surface within the entire project boundary area (for example, is the ground in a natural undisturbed condition, or has it been bladed, paved, graded, etc.). Estimate horizontal and vertical extent of existing disturbance. Also, attach photographs of project area to document condition: The ground within the proposed project area is within an active flood channel and adjacent overbank of Aravaipa Creek, where natural flooding occurs periodically. Below are representative photos.



10. Are there any known prehistoric and/or historic archaeological sites in or near the project area?  YES  NO  UNKNOWN
11. Has the project area been previously surveyed for cultural resources by a qualified archaeologist?  YES  NO  UNKNOWN

**If YES, submit a copy of the survey report. Please attach any comments on the survey report made by the managing agency and/or SHPO**

12. Are there any buildings or structures (including mines, bridges, dams, canals, etc.), which are 50-years or older in or adjacent to the project area?  YES  NO

**If YES, complete an Arizona Historic Property Inventory Form for each building or structure, attach it to this form and submit it with your application.**

13. Is your project area within or near a historic district?  YES  NO

**If YES, name of the district:**

**Please sign on the line below certifying all information provided for this application is accurate to the best of your knowledge.**

Carianne Campbell / 11 May 2015 Carianne Campbell  
 Applicant Signature /Date Applicant Printed Name

**FOR SHPO USE ONLY**

-

SHPO Finding:

Funding this project will not affect historic properties.

Survey necessary – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*)

Cultural resources present – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*)

SHPO Comments

For State Historic Preservation Office:

Date:

## *Key Personnel*

SIA has assembled a diverse team for this project, with extensive experience in restoration in remote areas such as Aravaipa Canyon. Our team includes SIA professional staff, the Arizona Conservation Corps, and our cadre of capable volunteers.

**Carianne Campbell** is the Restoration Director at Sky Island Alliance and will serve as the **Project Coordinator** for this project. Carianne has accomplished projects similar in scope to this proposed project in the past both as Principal Investigator and as a team member.

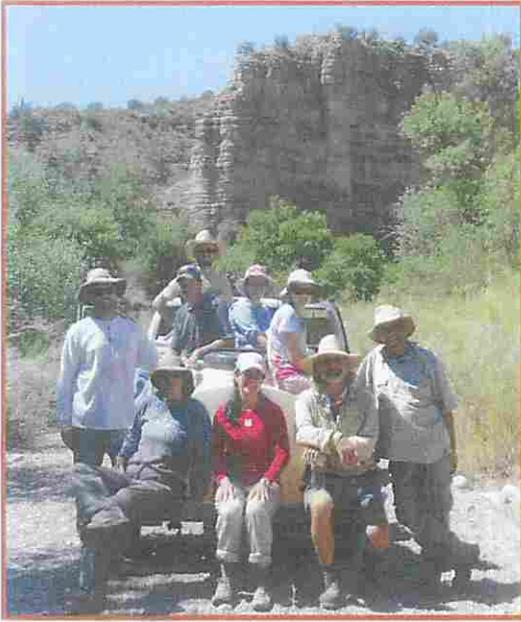
Carianne Campbell brings over 15 years of experience in documenting natural resources, and specializes in developing vegetation ecology methodologies and designing habitat restoration projects that incorporate novel and low-tech approaches to restoration to achieve conservation goals. She has extensive experience surveying and documenting plant and wildlife species and communities in the southwestern US and northwestern Mexico. She makes appropriate native plant landscaping recommendations, prepares invasive species management plans, and designs maintenance and monitoring plans. Campbell holds a BA in Botany, and currently serves as the Vice President of the Southwest US Chapter of the Society for Ecological Restoration, as well as an active grant committee member for Tucson Water's Conserve to Enhance Program.

**Samantha Hammer** is a Conservation Coordinator with Sky Island Alliance, and will be directing the mapping effort associated with this project. She coordinates the Adopt-A-Spring monitoring program, leads restoration weekends, and conducts spatial analysis and mapping. Samantha has a Bachelor of Science in Biology from Trinity University and a Master's degree in Natural Resources from The University of Arizona. Her Master's thesis explored how the vegetative, hydrological, and geomorphological characteristics of ephemeral and intermittent streams influence their use by wildlife species of concern.

**Brian Gold** is the Regional Director for the Arizona Conservation Corps (AZCC) and is located in their Tucson office. Brian will be coordinating AZCC staffing and crews to complete the initial treatment of vinca for this project. He holds a Bachelor's degree in International Politics from the University of New York at New Paltz. His many years of experience in roles such as Veteran's Fire Corps Coordinator make him uniquely suited for organizing this effort.

**SIA volunteers.** Over the past 20 years, SIA has developed a corps of volunteers that are dedicated to on-the-ground actions to protect the natural resources of the Sky Island Region. SIA's capable corps of volunteers has reached over 500 individuals; many of whom have joined us in our previous years' of work in Aravaipa Canyon. SIA volunteers have a special connection to this place, and we are always able to recruit sizeable groups to join us in Aravaipa Canyon, ensuring adequate turn-out to accomplish restoration tasks as described in this proposal. This diverse set of volunteers includes university students from Arizona and Sonora, private landowners, natural resource professionals, and retired professionals from all walks of life. We also work with youth and veterans/active military groups to accomplish our goals. In addition, The BLM and TNC often supplement our work crews with staff and interns.

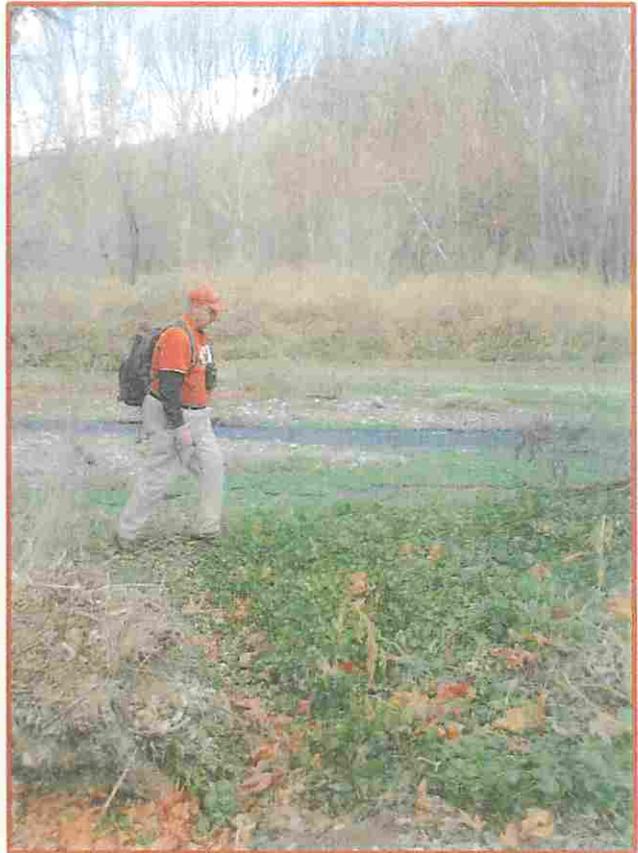
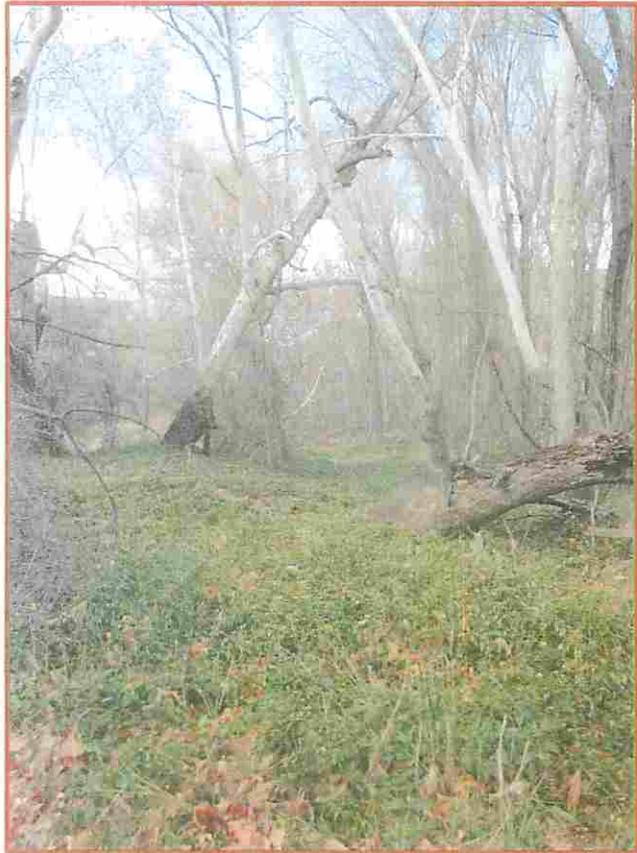




*Recent volunteer groups at Aravaipa Canyon, excited to do restoration in such a beautiful place!*

## Project Site Photographs

February 1, 2014 during preliminary mapping in the vicinity of the TNC Guesthouse:





*Volunteers remove a patch of vinca near the TNC Guesthouse entrance in January 2015.*



*The same patch in April 2015, showing re-sprouting of vinca (as well as many spring annuals). These resprouts were easily removed and native plants will be installed in May 2015.*



*Example of how much vinca biomass can be removed in 2 hours with a group of 8 volunteers.*



*Vinca is loaded into the TNC truck for disposal at Cobra Ranch.*

## *Discussion of Plans - Monitoring and Documentation*

SIA has been working with TNC since early 2015 to test the feasibility of vinca removal in the Aravaipa Canyon Preserve. This work is funded by the US Fish and Wildlife Service's Partners for Wildlife Program, and has informed greatly our approach for requesting funding from the Arizona Water Protection Fund. USFWS was able to provide assistance with the environmental compliance for these activities within the 120-acre project area surrounding the TNC Guesthouse.

We have held 2 volunteer weekends so far in 2015 (January and April) and have another planned in late May, and then at least 2 more before the end of the year. We have learned that effectively removing vinca is very hard work, and that it could be possible to exhaust volunteers with the effort. That is why we have structured the tasks in this proposal such that the difficult initial removal is conducted by the Arizona Conservation Corps, and SIA volunteers then are assigned with the physically easier tasks of re-treatment of areas and installation/maintenance of native plants. We have been very successful in attracting large groups to conduct work in the canyon, and we look forward to working with groups such as the Boy Scouts, Team Red, White, and Blue (US armed forces veterans), United Way, and student groups.

We have already devised a method to collect and organize spatial data to track this work. Below is an excerpt from a data table that will be used in the field - the numbers on the left hand column correspond to the numbers on the field map polygons. We always have our sub-meter accuracy GPS unit in the field with us, loaded with this data layer so that we can track where we are working and produce accurate maps of areas that have been treated and/or planted.

### ***Vinca Patch Removal Tracking (120 acres near TNC Guesthouse)***

Map #	Initial Size	First Removal	Second Removal	Planting	Notes
34	0.657	May-15			
35	2.422	May-15			
36	1.018	Apr-15	May-15		
39	0.011	1-Jan-15	Apr-15	May-15	
40	0.033	1-Jan-15	Apr-15	May-15	
41	0.034	1-Jan-15	Apr-15	May-15	



We have also developed a preliminary plant palette for the project, based on field observations as well as research through the SEINet database of herbarium specimens from Aravaipa Canyon and its tributaries. This has allowed us to choose species that are appropriate for the project

area, and filter our choices further to include species that provide pollinator resources (such as milkweeds for Monarch butterflies and desert honeysuckle for hummingbirds) as well as species that are likely to be hearty competitors for potential vinca resprouts (such as canyon grape and Goodding’s verbena). Our draft palette is presented below, and we have already been able to collect seeds of several species that are already being propagated at the Borderlands Restoration Nursery in Patagonia, AZ.

### ***Preliminary Plant Palette for Riparian Understory Vinca Removal Areas***

<b><i>Latin Name</i></b>	<b><i>Common Name</i></b>
<i>Anisacanthus thurberi</i>	desert honeysuckle
<i>Ambrosia confertiflora</i> *	slimleaf bursage
<i>Artemisia ludoviciana</i>	white sagebrush
<i>Asclepias latifolia</i>	broadleaf milkweed
<i>Asclepias linaria</i>	pine leaf milkweed
<i>Bothriochloa barbinodis</i> *	cane beardgrass
<i>Bouvardia ternifolia</i>	firecrackerbush
<i>Brickellia sp.</i> *	brickell bush
<i>Clematis drummondii</i> *	virgin's bower
<i>Datura wrightii</i>	sacred datura
<i>Elymus arizonicus</i>	Arizona rye grass
<i>Glandularia gooddingii</i>	Goodding's verbena
<i>Lobelia cardinalis</i>	scarlet lobelia
<i>Maurandella antirrhiniflora</i> *	snapdragon vine
<i>Mirabilis longiflora</i>	long-flowered four o'clock
<i>Muhlenbergia rigens</i> *	deergrass
<i>Passiflora mexicana</i>	Mexican passionflower
<i>Silene laciniata</i>	cardinal catchfly
<i>Sporobolus sp.</i>	dropseed
<i>Stachys coccinea</i>	Texas betony
<i>Vitis arizonica</i>	canyon grape
<i>Zizyphus obtusifolia</i>	graythorn

\*Seeds have been collected and plants are in propagation for species marked with an asterisk.

Once we begin planting, we will GPS each plant and produce maps of plant locations with species identities so that we will be able to maintain the plants (i.e., water them) during subsequent visits.

In the final report for this project, we will include the following:



- Map(s) of treated areas.
- Analysis of level of effort needed to clear, retreat, and restore native plant diversity to vinca infested areas in Aravaipa Canyon; we will calculate an accurate per-acre cost to associate with our efforts, which will be tremendously helpful for future phases of the project.
- Map(s) of specific plant locations.
- Analysis of plant species placement and survival by microhabitat.
- Repeat photographs of treatment areas.

### *Existing Plans, Reports, Information*

See attached TNC Landowner Agreement prepared for the USFWS Partners For Wildlife grant.

### *Community Support*

See following letter of support from Jeff Conn of the Bureau of Land Management Safford Office. SIA intends to involve other private landowners within the canyon and garner additional local community support as the project progresses. Many of the neighboring ranches are likely to be very supportive of the removal of a plant that is toxic to livestock.



## United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Safford Field Office  
711 14<sup>th</sup> Avenue  
Safford, Arizona 85546  
(928) 348-4470



May 4, 2015

Arizona Water Protection Fund  
3550 North Central Avenue  
Phoenix, Arizona 85012

RE: FY 2015 Grant Application

Dear Grant Review Committee,

The BLM Safford Field Office has had a long and productive relationship with Sky Island Alliance, working together on habitat and watershed improvement projects. Please accept this letter of strong support and commitment for Sky Island Alliance and their application for funding for the *Restoring Wildlife and Pollinator Resources in Aravaipa Canyon* project. Sky Island Alliance brings a wealth of natural resource management expertise with their dedicated staff and volunteers to every project they are involved with. BLM will continue to support the project goals and objectives, and will collaborate to expand Sky Island Alliance's work from private lands in Aravaipa Canyon onto BLM lands to ensure that the project will be successful in eliminating the invasive vinca from Aravaipa Canyon and restoration of native understory vegetation. The project goals include mapping and treatment of vinca and replacing it with native pollinator plants in Aravaipa Canyon. This effort, in combination with BLM's ongoing work to eliminate tamarisk from the watershed, will help to eliminate two of the most invasive perennial plant species in the canyon. This effort will result in improved riparian understory plant diversity not only improve habitat for threatened and endangered species, but improve botanical diversity while working across landownership boundaries.

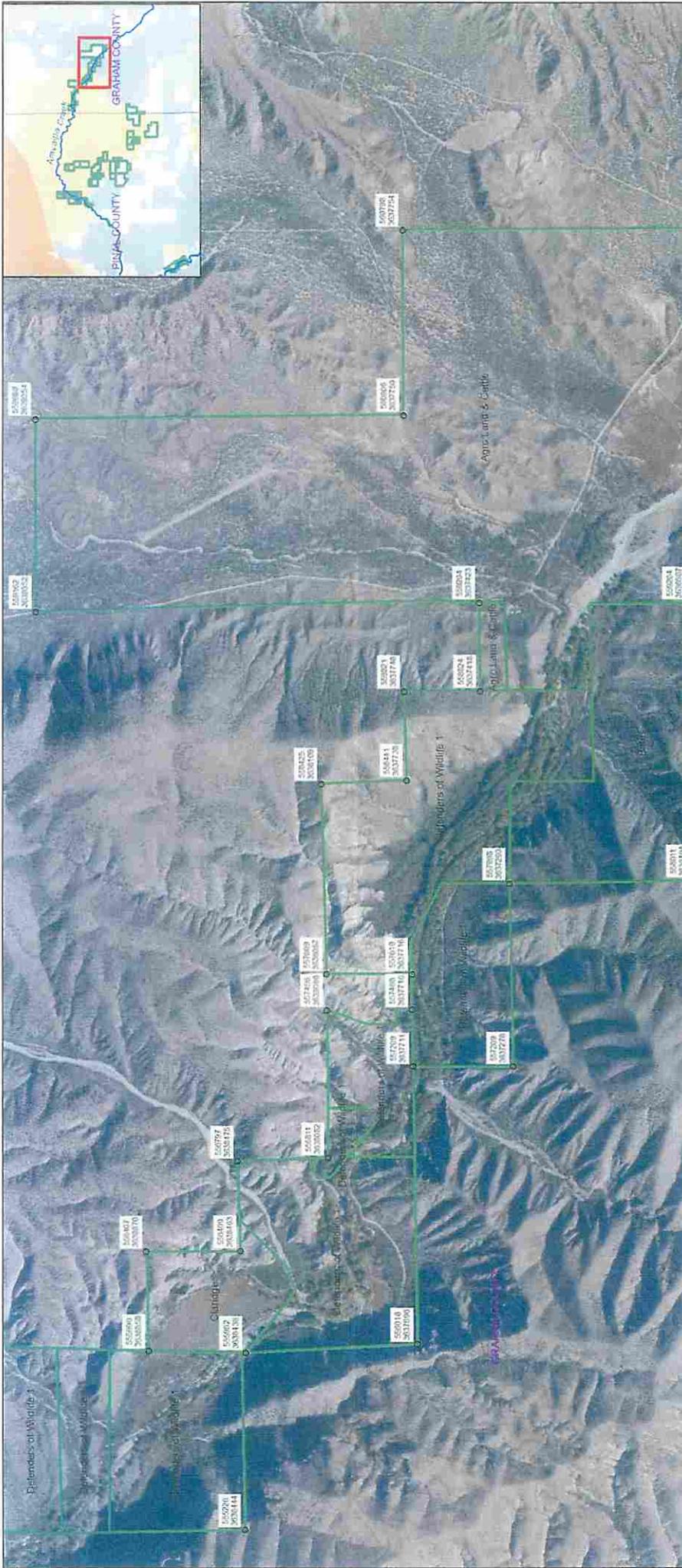
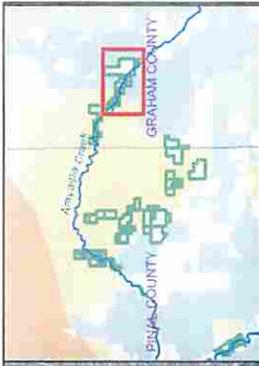
Sincerely,

Jeff Conn  
Natural Resource Specialist

## *Evidence of Control, Tenure of Land Including Legal Access, and Narrative of Project Permission*

The following maps, provided by Then Nature Conservancy (TNC), demonstrate the tenure of the lands included in this proposal as deeded to TNC (from Defenders of Wildlife). There is one section of private inholding land included on the maps; this area would be excluded from survey and vinca eradication activities under this grant. SIA will pursue separate funding to treat the vinca present in that section of the creek. TNC has provided SIA access to these parcels for many years to conduct volunteer-based watershed improvement projects. Sky Island Alliance and TNC already have a landowner agreement in place to conduct vinca removal on the Aravaipa Canyon Preserve through a USFWS Partners for Wildlife grant that was signed on December 5, 2014. The agreement expires 10 years after the signature date, and demonstrates TNC's commitment to maintaining the vinca removal project in the long term.

TNC has also provided a letter of support for this project, which includes in-kind support to cover lodging for work crews as well as disposal of the vinca biomass once it has been removed.

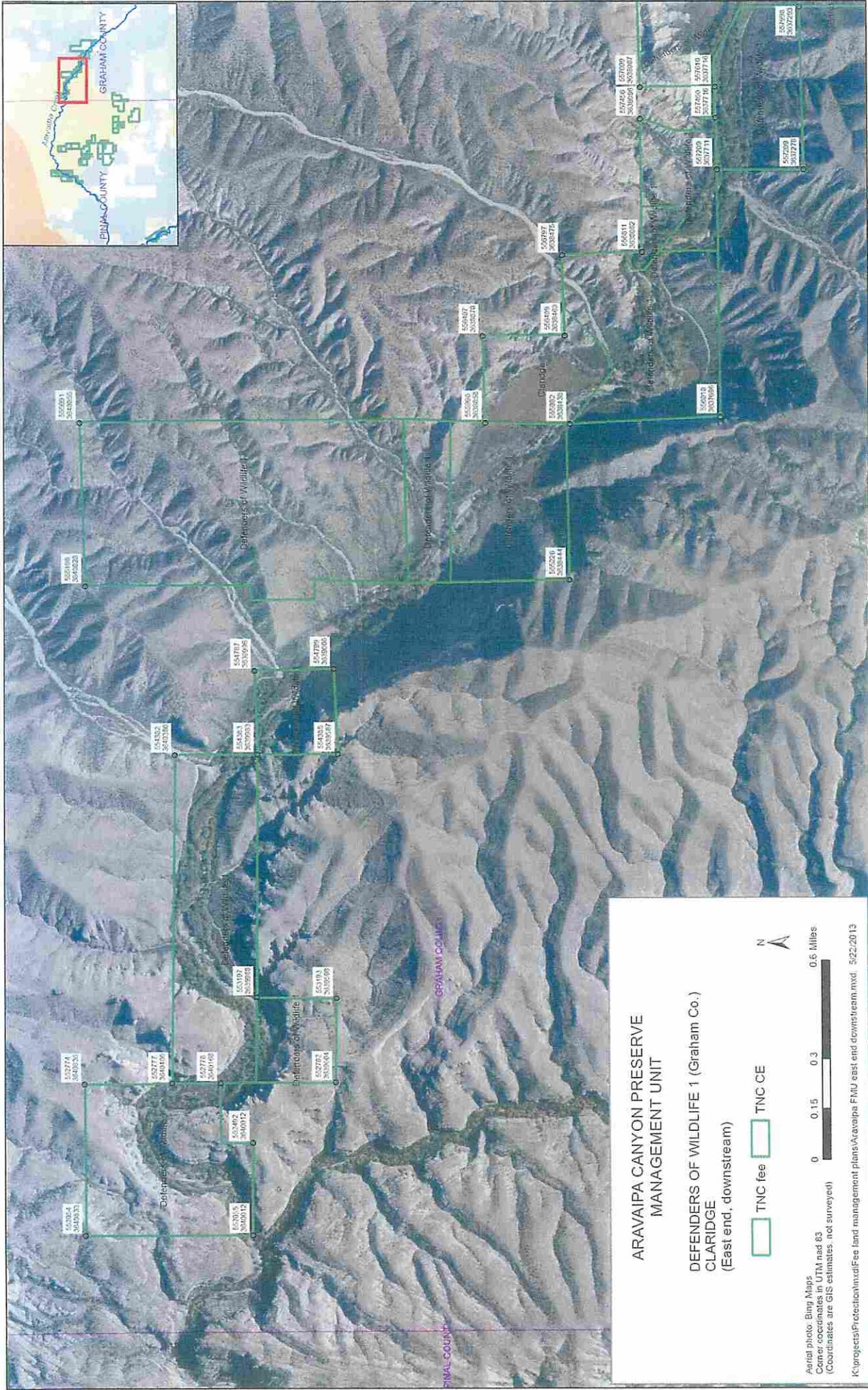


**ARAVAIPA CANYON PRESERVE  
MANAGEMENT UNIT**

DEFENDERS OF WILDLIFE 1 (Graham Co.)  
CLARIDGE  
AGRO L&C and BATES (COBRA RANCH)  
(East end, upstream)



Aerial photo: Bing Maps  
Corner coordinates in UTM nad 83  
(Coordinates are GIS estimates, not surveyed)  
K:\projects\Production\Map\Fee land management plans\Aravaipa FMU east end upstream.mxd, 5/22/2013



**ARAVAIPA CANYON PRESERVE  
MANAGEMENT UNIT**

**DEFENDERS OF WILDLIFE 1 (Graham Co.)  
CLARIDGE  
(East end, downstream)**

TNC fee
  TNC CE



0 0.15 0.3 0.6 Miles

Aerial photo: Bing Maps  
Corner coordinates in UTM nad 83  
(Coordinates are GIS estimates, not surveyed)

K:\projects\Protection\nd\Fees land management plans\Aravaipa FIMU east end downstream.mxd 5/25/2013



## *Letter from Matching Funds Pledges*

See enclosed letter from The Nature Conservancy.

## *Evidence of Physical and Legal Availability of Water*

TNC has rights to instream water flow through the Aravaipa Canyon Preserve, and has agreed to allow water to be taken from the creek (by hand, with buckets) to water native plants. See enclosed letter from TNC.

*"Flows in the upper reaches of Aravaipa Creek are intermittent. Within the preserve lands the flow becomes perennial, fed by springs, seeps, and tributary streams. A limited amount of groundwater is pumped along the creek from privately owned reaches for farming and grazing, at times drying short segments. The Nature Conservancy and the BLM have instream-flow rights that are used to maintain base flows for conservation purposes."*  
[http://www.azheritagewaters.nau.edu/loc\\_aravaipa\\_creek.html](http://www.azheritagewaters.nau.edu/loc_aravaipa_creek.html)



SAVING THE LAST GREAT PLACES ON EARTH

May 8, 2015

Arizona Water Protection Fund Commission  
3550 North Central Avenue, Suite 200  
Phoenix, AZ 85012

Dear Commissioners:

I wish to express The Nature Conservancy's support for the grant proposal that the Sky Island Alliance (SIA) has submitted to remove vinca from Aravaipa Canyon. The Nature Conservancy owns about 6 miles of important riparian habitat at the headwaters of Aravaipa Creek. We strive to manage all of our property as diverse natural habitat, for the benefit of wildlife and people. Aravaipa Creek supports the state's best native fishery, including two endangered species, and Aravaipa Canyon is well known as a wilderness hiking destination.

For several years now we have been working with SIA to control erosion and restore natural stream meander. Most of our projects involve shovel work and hand planting. SIA can bring a large number of motivated volunteers, willing to camp out, and provide numerous hours of physical labor.

Vinca or periwinkle, was introduced as a hearty ornamental around many of the old homesteads. It spread into irrigation ditches used to divert water for small farms and orchards. When these ditches were eventually abandoned the vinca was able to persist, eventually becoming entangled in the understory of otherwise healthy riparian forest. For this reason mechanical removal is not an option, and herbicides have proven ineffective.. Over the past several months, Sky Island Alliance staff and volunteers have initiated a pilot vinca removal project at the preserve through a USFWS Partners For Wildlife grant. Sky Island Alliance and The Nature Conservancy have a cooperative agreement in place for this work, and it is attached to their application. We feel that hand removal may be the only option for controlling this persistent weed, and SIA has shown an ability to provide the manpower for the task.

The Nature Conservancy will provide the use of our facilities, water for new planting of native species, and our staff will properly dispose of all vinca that is removed.

We hope this project receives full funding, and eagerly look forward to the results.

Sincerely,

Mark Haberstich



Preserve Manager, Aravaipa Canyon Preserve  
The Nature Conservancy of Arizona  
41099 W. Aravaipa Cyn Rd.  
Willcox, Az. 85643  
[mhaberstich@tnc.org](mailto:mhaberstich@tnc.org)



**USFWS PARTNERS FOR WILDLIFE PROGRAM  
SUB-RECIPIENT LANDOWNER AGREEMENT**

*Aravaipa Canyon Restoration*

This agreement is made this 5 day of December, 2014, between Sky Island Alliance, a not for profit organization with its address at 300 East University Blvd, Suite 270, Tucson, AZ 85705, (hereinafter "SIA") and The Nature Conservancy, not for profit organization with its address at 41099 W. Aravaipa Canyon Rd, Willcox, AZ (hereinafter the "TNC") hereinafter collectively called the "Parties". This agreement is for the purpose of restoring and protecting riparian habitat through invasive species removal and installation of understory plants on land owned by the Property Owner ("Subject Property"), as described in the description below.

The proposed project is located at the Aravaipa Canyon Preserve East (the Property). The Property is located in Graham and Pinal counties, approximately 50 miles northeast of Tucson, Arizona (155 miles by vehicle). The location is shown on the attached maps (Exhibit A). The project site is bisected by a perennial stretch of Aravaipa Creek, a tributary of the San Pedro River.

SIA has worked extensively with TNC over the past several years at the east side of the Aravaipa Preserve on projects related to improving watershed health. This project is a new effort to increase the wildlife value of the understory along Aravaipa Creek in areas that are currently heavily infested with the invasive plant vinca.

**L. Project Description:**

**Project Objectives**

1. Improve the watershed condition and biological diversity at the project site.
2. Map extent of vinca infestation on the Preserve<sup>1</sup> and begin control efforts within a 120-acre area near the TNC Guesthouse.
3. Increase value of the understory for wildlife, especially pollinators.
4. Secure additional funding to continue this work over a more extensive area; this first phase will provide an important opportunity to leverage additional funding opportunities.

**Proposed Work**

- Remove vinca in a step-wise manner that does not exacerbate the infestation (i.e., work from the outside in, or other strategy) upstream and downstream of the TNC Guesthouse. This work will occur within the area identified as "Phase 1" on the maps in Appendix A.
- Conduct vinca removal activities with large groups of volunteers according to the plan (includes re-visiting treated areas to ensure full removal). Removal will be with hand tools and no herbicides will be used during this phase of the project. Removal will begin at the easternmost portion of the infestation and progress westward as far as possible with the budget herein.

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<sup>1</sup> Mapping of vinca infestation will be undertaken by SIA with separate funding, provided by the BLM.

- o **Encourage establishment of a diverse array of native plant species to benefit a wide variety of wildlife and pollinator species.**
  - o **Develop a site-appropriate seeding and planting palette using site observations and historical records (e.g., SEINet).**
  - o **Increase diversity and density of native plants through augmentation.**
  - o **Promote vigor of native plants through proper selection, placement, and maintenance.**
  - o **Necessary tools and supplies for this task will include plant materials, seeds, shovels, gloves, buckets, Dri-Water irrigation supplement, and heavy-duty trash bags.**
- o **Treated areas will be GPS'd and mapped so that the effort can be measured. SIA estimates that between 5 and 20 acres will be treated with this project.**

The term the Agreement is ten (10) years.

<b>Project Summary</b>	<b>Restoration</b>	<b>Enhancement</b>	<b>Establishment</b>	<b>Total</b>
<b>Upland Acres:</b>				
<b>Wetland Acres:</b>	<b>5-20</b>			<b>5-20</b>
<b>Stream Miles:</b>				
<b>Number of Structures:</b>				

**III. Respective Responsibilities of the Parties:**

**In addition to the specific tasks and contributions to this effort as identified in I. Project Description hereof, the parties further agree as follows:**

**a. Sky Island Alliance:**

- 1. Assumes responsibility for securing any permits needed to carry out the project described in this agreement.**
- 2. Ensures all appropriate federal, state and local permits and authorizations are obtained and the habitat improvement project is in compliance with all applicable state and federal laws prior to commencing work under this agreement.**
- 3. Agrees to oversee and coordinate the practices specified in this agreement, thus enhancing the value of the area for resident and migratory wildlife species.**
- 4. Agrees to manage the budget and financial information specific to this project and will request reimbursement for this project through the US Fish and Service's Partners for Fish and Wildlife Program.**
- 5. Agrees to inspect the work periodically and be responsible for the implementation and management of activities described in this agreement.**
- 6. Agrees to provide technical assistance in developing a monitoring plan for the purpose of evaluating treatment success.**

7. Agrees to evaluate the management techniques and provide guidance regarding their success and modify the management guidelines as necessary to ensure maximum benefits to wildlife.

**b. The Property Owner:**

1. Guarantees ownership of the above-described land and warrants that there are no outstanding rights, including the current enrollment of the land in a federal conservation program, that interfere with this habitat improvement agreement. A change of ownership shall not change the terms of this agreement, which shall remain in effect on the described property for the duration of the period specified in Section IV, below. The Property Owner agrees to notify SIA of planned or pending changes of ownership at least 30 days in advance.
2. Agrees to cost-share in the works of improvement for the Property, as described in Section III below. Agrees to maintain the project improvements for the maximum benefit of wildlife for the term of this agreement.
3. Agrees to allow monitoring of the treatment to evaluate effectiveness.
4. Agrees to read and follow the applicable pesticide product labels and to comply with all federal, state, and local laws and regulations relating to the use of such pesticide product. Before using any pesticide product, ensure it is registered for use.

**c. Sky Island Alliance and the Property Owner mutually agree:**

1. To cooperate with each other and with any land management agency that may be affected by this habitat improvement project, to ensure that all participants successfully and satisfactorily fulfill their commitments as set forth in this Agreement.
2. That nothing in this Agreement shall be construed as obligating SIA to any obligation for the future payment of money in excess of appropriations authorized by law.
3. Notices. All written notices concerning this Agreement shall be delivered in person or sent by certified mail, return receipt requested, to the Parties as follows:

For Sky Island Alliance:  
Recipient: Sky Island Alliance  
Name: Carianne Campbell  
Address: 300 East University Blvd, Suite 270  
City/State/Zip: Tucson, AZ 85705  
Phone: 520-624-7080  
Email: carianne@skyislandalliance.org

For the Property Owner:  
Recipient: TNC Aravaipa Canyon  
Preserve  
Name: Mark Haberstich  
Address: 41099 W. Aravaipa Canyon  
Rd  
City/State/Zip: Willcox, 85643  
Phone: (928) 828-3443  
Email: mhaberstich@tnc.org

4. Modifications within the scope of this Agreement shall be made by mutual consent of the Parties, by the issuance of a written modification, signed and dated by all Parties, prior to any changes being performed. The Parties are not obligated to fund any changes not approved in advance.

**III. Estimated Costs:**

Practice Description	Service Cost F12AC00516	Service Cost F13AC00516	TNC Cost- share	SIA Match
remove invasives	\$3,200	\$6,400	\$1,800	\$25,505
plant natives	\$1,200	\$3,200		\$12,753
Expenses and Travel	\$4,285	\$1,765		
<b>Totals</b>	<b>\$8,685</b>	<b>\$11,365</b>	<b>\$1,800</b>	<b>\$38,258</b>

**Remove Invasives**

Volunteer events to include at least 1152 hours of volunteer effort (at \$22.14/hr).

TNC Guesthouse use donation, 12 nights @ \$150

**Plant Natives**

Volunteer events to include at least 576 hours of volunteer effort (at \$22.14/hr).

**Expenses and Travel**

Native plants, Driwater irrigation supplement, tools.

Mileage and Per Diem at the current federal rate.

**IV. Project Schedule:**

Funded practices identified above will be commenced within 6 months and must be completed within 24 months unless otherwise scheduled. SIA reserves the right to terminate this agreement in accordance to Section VI. Termination Provisions of this agreement if this provision is not met. Should the Landowner be unable to commence or complete the project within the time identified in this agreement, then the Landowner must notify SIA a minimum of 30 days prior to request an Extension of Time.

Task	2015						
	Jan	Feb	Mar	Apr	May	June	July
Environmental Compliance Complete							
Volunteer Events for Invasives Removal							
Volunteer Events for Plant Installation							
Monitoring and Maintenance							

**V. Term of this Agreement:**

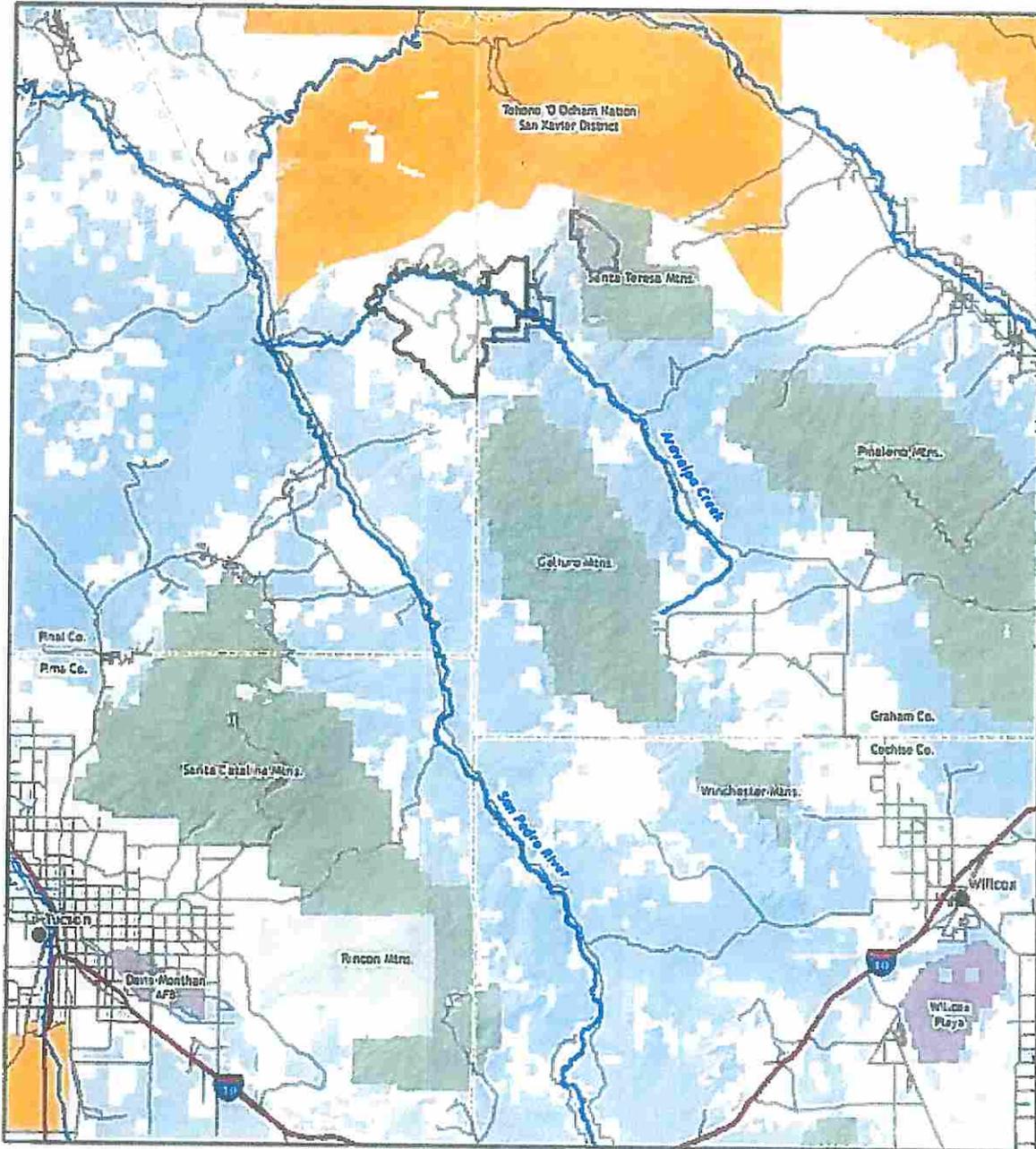
This Agreement is effective as of the last signature date and expires ten (10) years from that date. The habitat improvements placed on the Landowner's property by SIA shall become the property of the Landowner at the satisfactory completion of the term of this Agreement, unless terminated under conditions specified in this Agreement.

**VI. Termination Provisions:**

Either Party may terminate this Agreement upon thirty (30) days advance written notice to the other Party. Upon termination, all work performed pursuant to this Agreement shall cease. If the Landowner terminates the agreement prior to expiration of its term, the Landowner will reimburse SIA for the cost of the wildlife habitat developments. If SIA terminates this agreement, SIA may at its option remove any wildlife developments placed on the property.



# EXHIBIT A Project Maps



## Vinca Removal Project Area Overview

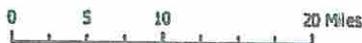


- |                         |                           |                   |
|-------------------------|---------------------------|-------------------|
| Aravaipa Preserve       | Bureau of Land Management | Private           |
| BLM Aravaipa Wilderness | Reservation Lands         | State             |
| Cobro Ranch             | Military                  | US Forest Service |
|                         | National Park Service     |                   |

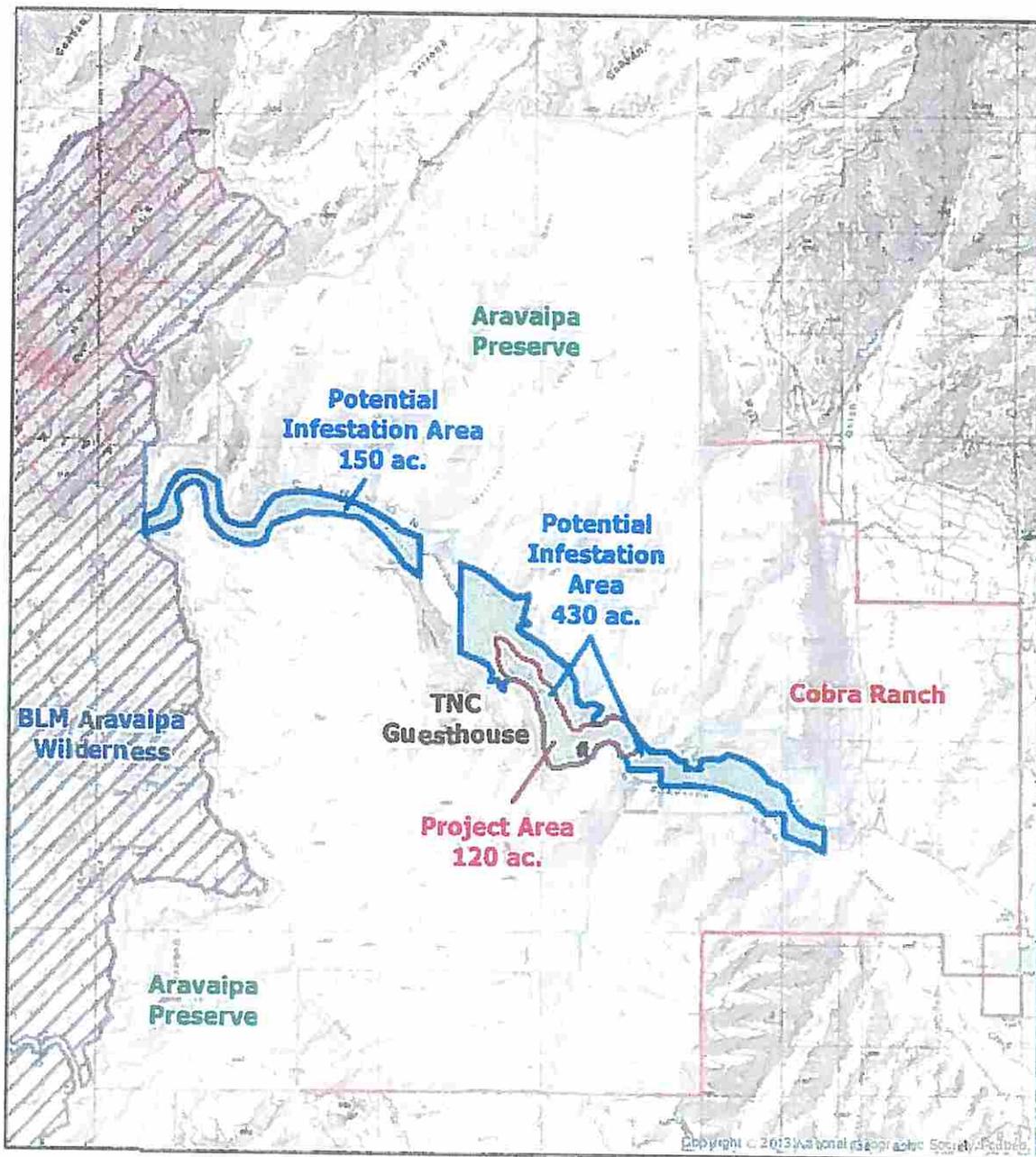


Projection: UTM Zone 12N  
Datum: NAD 1983

...RESTORE\Aravaipa Vinca.mxd Overview map vert.mxd



1:600,000



### TNC Aravaipa Preserve Vinca Removal Project

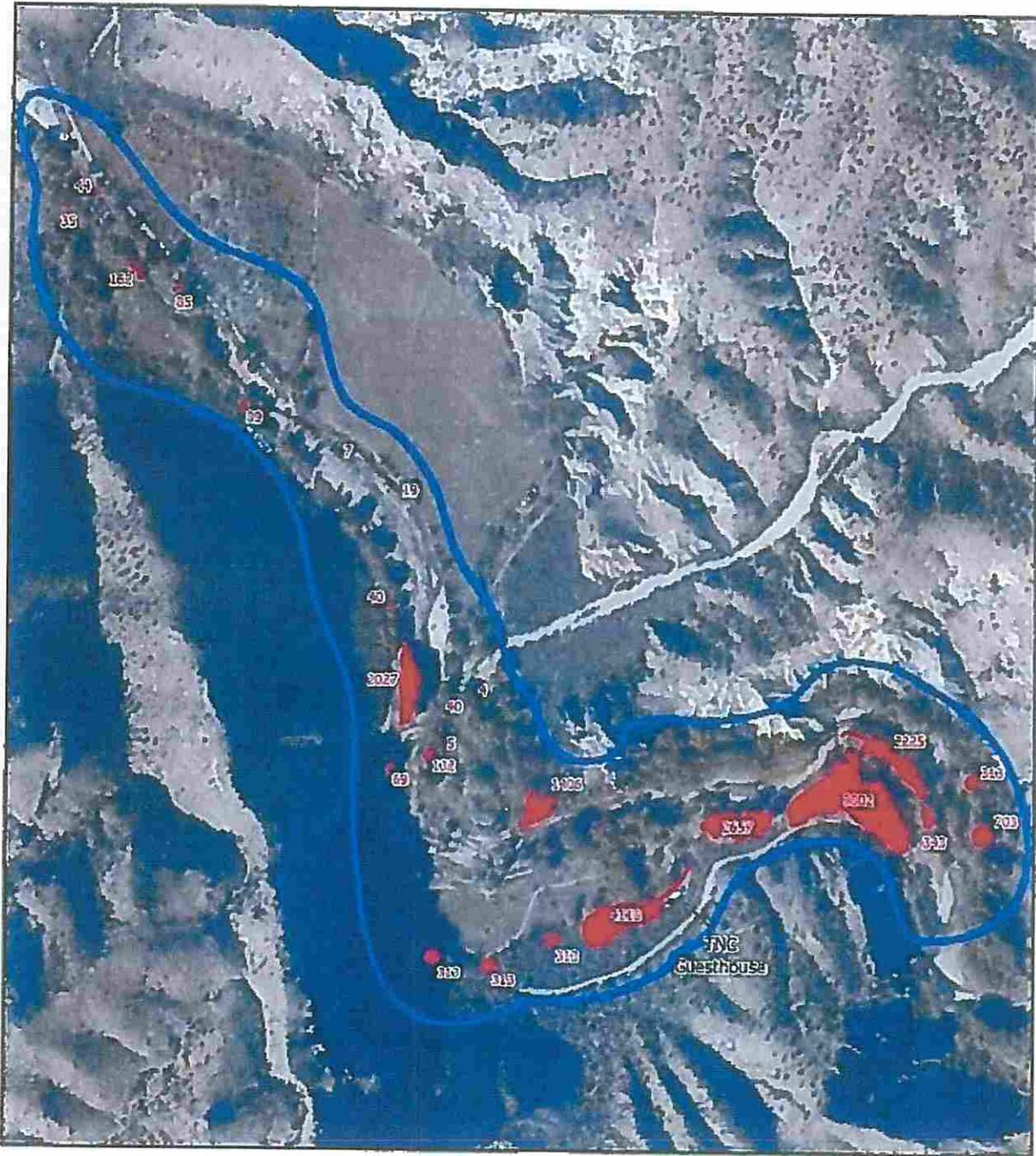
-  Project Area (120 acres)
-  Potential Infestation Area (580 acres)
-  Cobra Ranch
-  BLM Aravaipa Wilderness
-  Aravaipa Preserve

Projection: UTM Zone 12N  
Datum: NAD 1983

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1:50,000



## TNC Aravaipa Preserve Vinca Project



 Project Area (120 acres)
  Vinca (5.2ac/25,000m<sup>2</sup>)  
(labels in square meters)

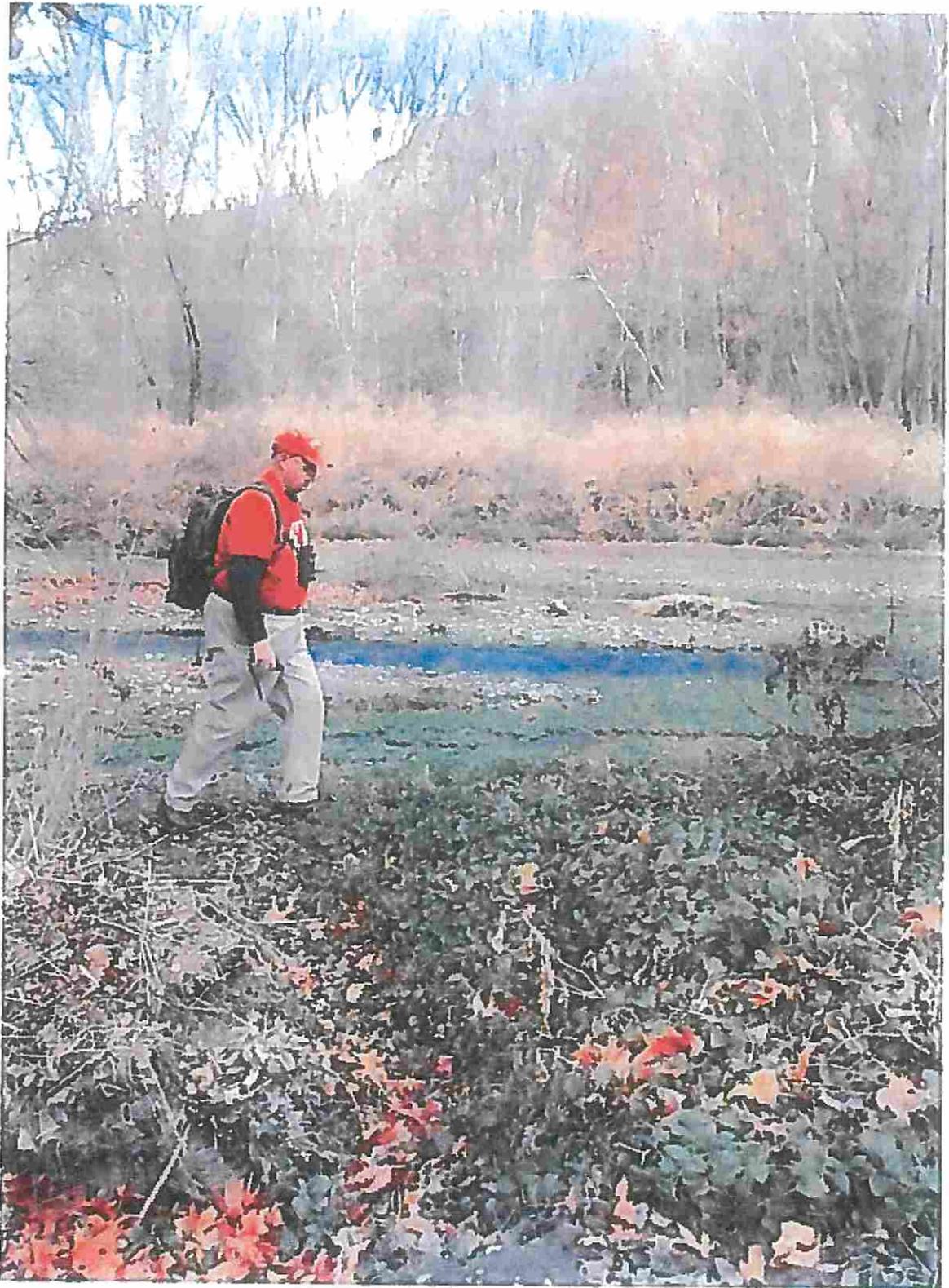


Scale 1:7,000  
 Projection UTM Zone 12N  
 Datum NAD 1983

Z:\GIS\Projects\RESTORZ\Aravaipa\_Vinca\mxd\vinca\_mapping\_10n\_Sep\_2014.mxd

**EXHIBIT B**  
**Representative Photos of Vinca Infestation at Aravaipa Canyon Preserve**  
**February 1, 2014**







**USFWS PARTNERS FOR WILDLIFE PROGRAM  
SUB-RECIPIENT LANDOWNER AGREEMENT**

*Aravaipa Canyon Restoration*

This agreement is made this 5 day of December, 2014, between Sky Island Alliance, a not for profit organization with its address at 300 East University Blvd, Suite 270, Tucson, AZ 85705, (hereinafter "SIA") and The Nature Conservancy, not for profit organization with its address at 41099 W. Aravaipa Canyon Rd, Willcox, AZ (hereinafter the "TNC") hereinafter collectively called the "Parties". This agreement is for the purpose of restoring and protecting riparian habitat through invasive species removal and installation of understory plants on land owned by the Property Owner ("Subject Property"), as described in the description below.

The proposed project is located at the Aravaipa Canyon Preserve East (the Property). The Property is located in Graham and Pinal counties, approximately 50 miles northeast of Tucson, Arizona (155 miles by vehicle). The location is shown on the attached maps (Exhibit A). The project site is bisected by a perennial stretch of Aravaipa Creek, a tributary of the San Pedro River.

SIA has worked extensively with TNC over the past several years at the east side of the Aravaipa Preserve on projects related to improving watershed health. This project is a new effort to increase the wildlife value of the understory along Aravaipa Creek in areas that are currently heavily infested with the invasive plant vinca.

**I. Project Description:**

**Project Objectives**

1. Improve the watershed condition and biological diversity at the project site.
2. Map extent of vinca infestation on the Preserve<sup>1</sup> and begin control efforts within a 120-acre area near the TNC Guesthouse.
3. Increase value of the understory for wildlife, especially pollinators.
4. Secure additional funding to continue this work over a more extensive area; this first phase will provide an important opportunity to leverage additional funding opportunities.

**Proposed Work**

- Remove vinca in a step-wise manner that does not exacerbate the infestation (i.e., work from the outside in, or other strategy) upstream and downstream of the TNC Guesthouse. This work will occur within the area identified as "Phase 1" on the maps in Appendix A.
- Conduct vinca removal activities with large groups of volunteers according to the plan (includes re-visiting treated areas to ensure full removal). Removal will be with hand tools and no herbicides will be used during this phase of the project. Removal will begin at the easternmost portion of the infestation and progress westward as far as possible with the budget herein.

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<sup>1</sup> Mapping of vinca infestation will be undertaken by SIA with separate funding, provided by the BLM.

- o Encourage establishment of a diverse array of native plant species to benefit a wide variety of wildlife and pollinator species.
  - o Develop a site-appropriate seeding and planting palette using site observations and historical records (e.g., SEINet).
  - o Increase diversity and density of native plants through augmentation.
  - o Promote vigor of native plants through proper selection, placement, and maintenance.
  - o Necessary tools and supplies for this task will include plant materials, seeds, shovels, gloves, buckets, Dri-Water irrigation supplement, and heavy-duty trash bags.
- o Treated areas will be GPS'd and mapped so that the effort can be measured. SIA estimates that between 5 and 20 acres will be treated with this project.

The term the Agreement is ten (10) years.

<u>Project Summary</u>	<u>Restoration</u>	<u>Enhancement</u>	<u>Establishment</u>	<u>Total</u>
<b>Upland Acres:</b>				
<b>Wetland Acres:</b>	<b>5-20</b>			<b>5-20</b>
<b>Stream Miles:</b>				
<b>Number of Structures:</b>				

**III. Respective Responsibilities of the Parties:**

In addition to the specific tasks and contributions to this effort as identified in I. Project Description hereof, the parties further agree as follows:

- a. **Sky Island Alliance:**
  1. Assumes responsibility for securing any permits needed to carry out the project described in this agreement.
  2. Ensures all appropriate federal, state and local permits and authorizations are obtained and the habitat improvement project is in compliance with all applicable state and federal laws prior to commencing work under this agreement.
  3. Agrees to oversee and coordinate the practices specified in this agreement, thus enhancing the value of the area for resident and migratory wildlife species.
  4. Agrees to manage the budget and financial information specific to this project and will request reimbursement for this project through the US Fish and Service's Partners for Fish and Wildlife Program.
  5. Agrees to inspect the work periodically and be responsible for the implementation and management of activities described in this agreement.
  6. Agrees to provide technical assistance in developing a monitoring plan for the purpose of evaluating treatment success.

7. Agrees to evaluate the management techniques and provide guidance regarding their success and modify the management guidelines as necessary to ensure maximum benefits to wildlife.

**b. The Property Owner:**

1. Guarantees ownership of the above-described land and warrants that there are no outstanding rights, including the current enrollment of the land in a federal conservation program, that interfere with this habitat improvement agreement. A change of ownership shall not change the terms of this agreement, which shall remain in effect on the described property for the duration of the period specified in Section IV, below. The Property Owner agrees to notify SIA of planned or pending changes of ownership at least 30 days in advance.
2. Agrees to cost-share in the works of improvement for the Property, as described in Section III below. Agrees to maintain the project improvements for the maximum benefit of wildlife for the term of this agreement.
3. Agrees to allow monitoring of the treatment to evaluate effectiveness.
4. Agrees to read and follow the applicable pesticide product labels and to comply with all federal, state, and local laws and regulations relating to the use of such pesticide product. Before using any pesticide product, ensure it is registered for use.

**c. Sky Island Alliance and the Property Owner mutually agree:**

1. To cooperate with each other and with any land management agency that may be affected by this habitat improvement project, to ensure that all participants successfully and satisfactorily fulfill their commitments as set forth in this Agreement.
2. That nothing in this Agreement shall be construed as obligating SIA to any obligation for the future payment of money in excess of appropriations authorized by law.
3. Notices. All written notices concerning this Agreement shall be delivered in person or sent by certified mail, return receipt requested, to the Parties as follows:

**For Sky Island Alliance:**  
Recipient: Sky Island Alliance  
Name: Carianne Campbell  
Address: 300 East University Blvd, Suite 270  
City/State/Zip: Tucson, AZ 85705  
Phone: 520-624-7080  
Email: carianne@skyislandalliance.org

**For the Property Owner:**  
Recipient: TNC Aravaipa Canyon  
Preserve  
Name: Mark Haberstich  
Address: 41099 W. Aravaipa Canyon  
Rd  
City/State/Zip: Willcox, 85643  
Phone: (928) 828-3443  
Email: mhaberstich@tnc.org

4. Modifications within the scope of this Agreement shall be made by mutual consent of the Parties, by the issuance of a written modification, signed and dated by all Parties, prior to any changes being performed. The Parties are not obligated to fund any changes not approved in advance.

**III. Estimated Costs:**

Practice Description	Service Cost F12AC00516	Service Cost F13AC00516	TNC Cost- share	SIA Match
remove invasives	\$3,200	\$6,400	\$1,800	\$25,505
plant natives	\$1,200	\$3,200		\$12,753
Expenses and Travel	\$4,285	\$1,765		
<b>Totals</b>	<b>\$8,685</b>	<b>\$11,365</b>	<b>\$1,800</b>	<b>\$38,258</b>

**Remove Invasives**

Volunteer events to include at least 1152 hours of volunteer effort (at \$22.14/hr).

TNC Guesthouse use donation, 12 nights @ \$150

**Plant Natives**

Volunteer events to include at least 576 hours of volunteer effort (at \$22.14/hr).

**Expenses and Travel**

Native plants, Driwater irrigation supplement, tools.

Mileage and Per Diem at the current federal rate.

**IV. Project Schedule:**

Funded practices identified above will be commenced within 6 months and must be completed within 24 months unless otherwise scheduled. SIA reserves the right to terminate this agreement in accordance to Section VI. Termination Provisions of this agreement if this provision is not met. Should the Landowner be unable to commence or complete the project within the time identified in this agreement, then the Landowner must notify SIA a minimum of 30 days prior to request an Extension of Time.

Task	2015						
	Jan	Feb	Mar	Apr	May	June	July
Environmental Compliance Complete							
Volunteer Events for Invasives Removal							
Volunteer Events for Plant Installation							
Monitoring and Maintenance							

**V. Term of this Agreement:**

This Agreement is effective as of the last signature date and expires ten (10) years from that date. The habitat improvements placed on the Landowner's property by SIA shall become the property of the Landowner at the satisfactory completion of the term of this Agreement, unless terminated under conditions specified in this Agreement.

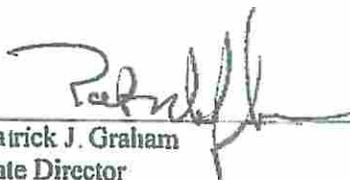
**VI. Termination Provisions:**

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VII. Signatures.

This Agreement was agreed upon between the District and Sky Island Alliance on

\_\_\_\_\_ Date

  
\_\_\_\_\_  
Patrick J. Graham  
State Director

12-5-14  
Date

  
\_\_\_\_\_  
Carianne Campbell  
Sky Island Alliance

12/5/2014  
Date

  
\_\_\_\_\_  
Jennifer Kaplan  
Project Manager  
Partners for Fish and Wildlife

12.5.2014  
Date

**Vinca Removal Project Area Overview**

**SKY ISLAND ALLIANCE**

Projection: UTM Zone 12N  
 Datum: NAD 1983  
 RESTORATION\_Vinca.mxd Overview map vert.mxd

1:600,000

- Aravaca Preserve
- El Alvarado Wilderness
- Cabrera Ranch
- Bureau of Land Management
- Private
- State
- US Forest Service
- National Park Service
- Military
- Rangeland

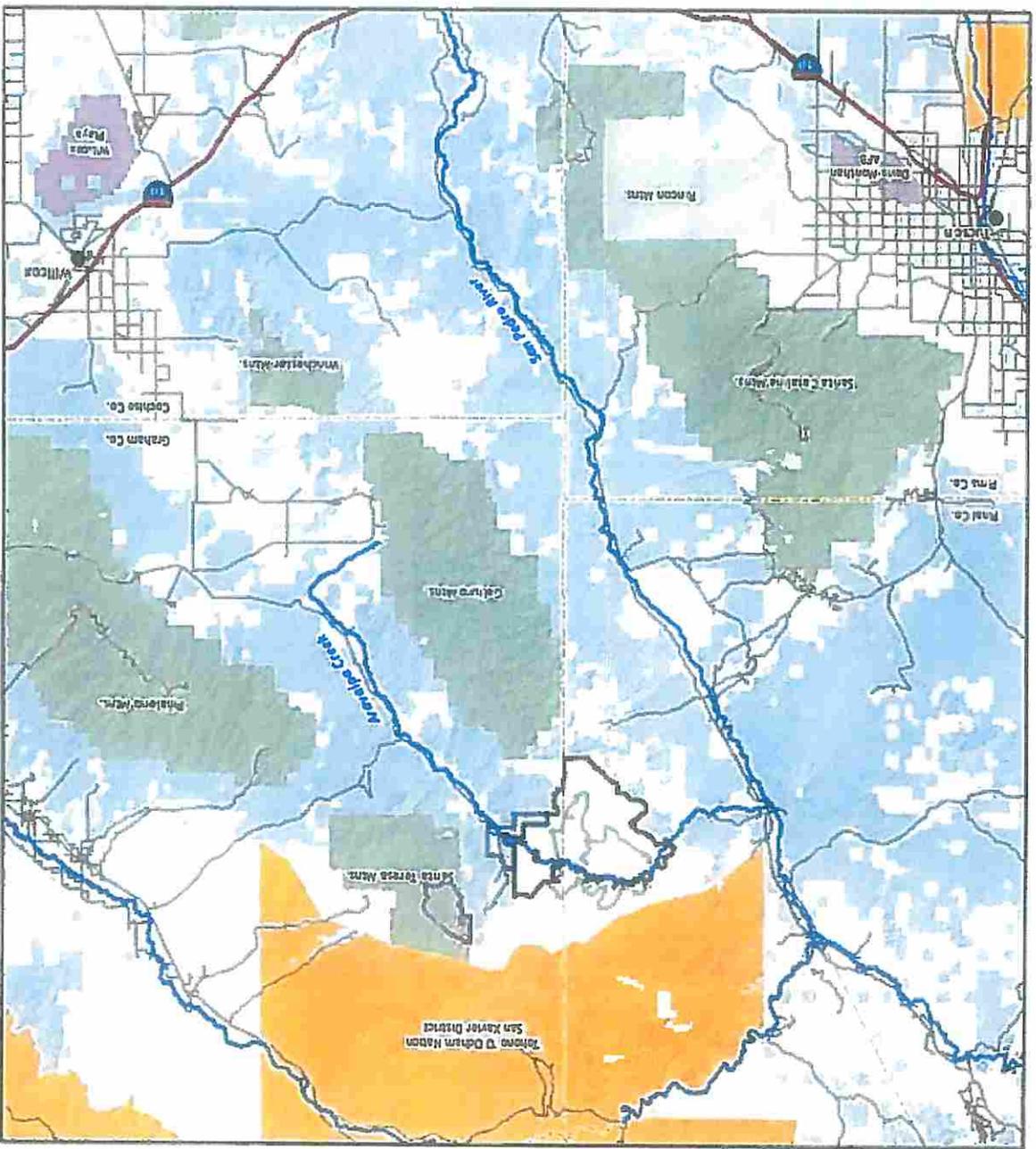
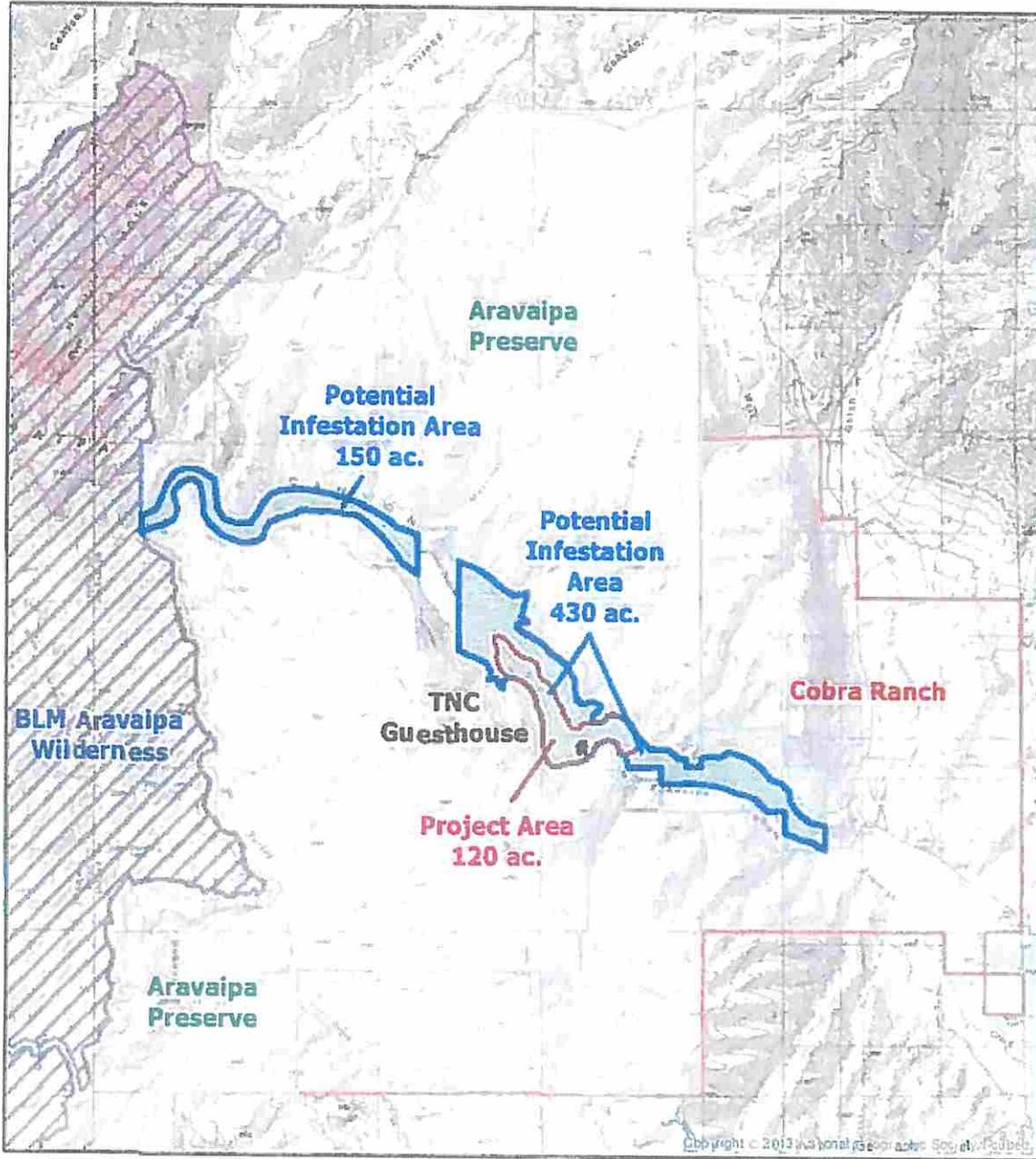


EXHIBIT A  
Project Maps



### TNC Aravaipa Preserve Vinca Removal Project

-  Project Area (120 acres)
-  Potential Infestation Area (580 acres)
-  BLM Aravaipa Wilderness
-  Cobra Ranch
-  Aravaipa Preserve

Projection: UTM Zone 12N  
Datum: NAD 1983

J:\GIS\Projects\RESTORE\Aravaipa\_Vinca\mxds\project\_area2.mxd





**EXHIBIT B**  
**Representative Photos of Vinca Infestation at Aravaipa Canyon Preserve**  
**February 1, 2014**

