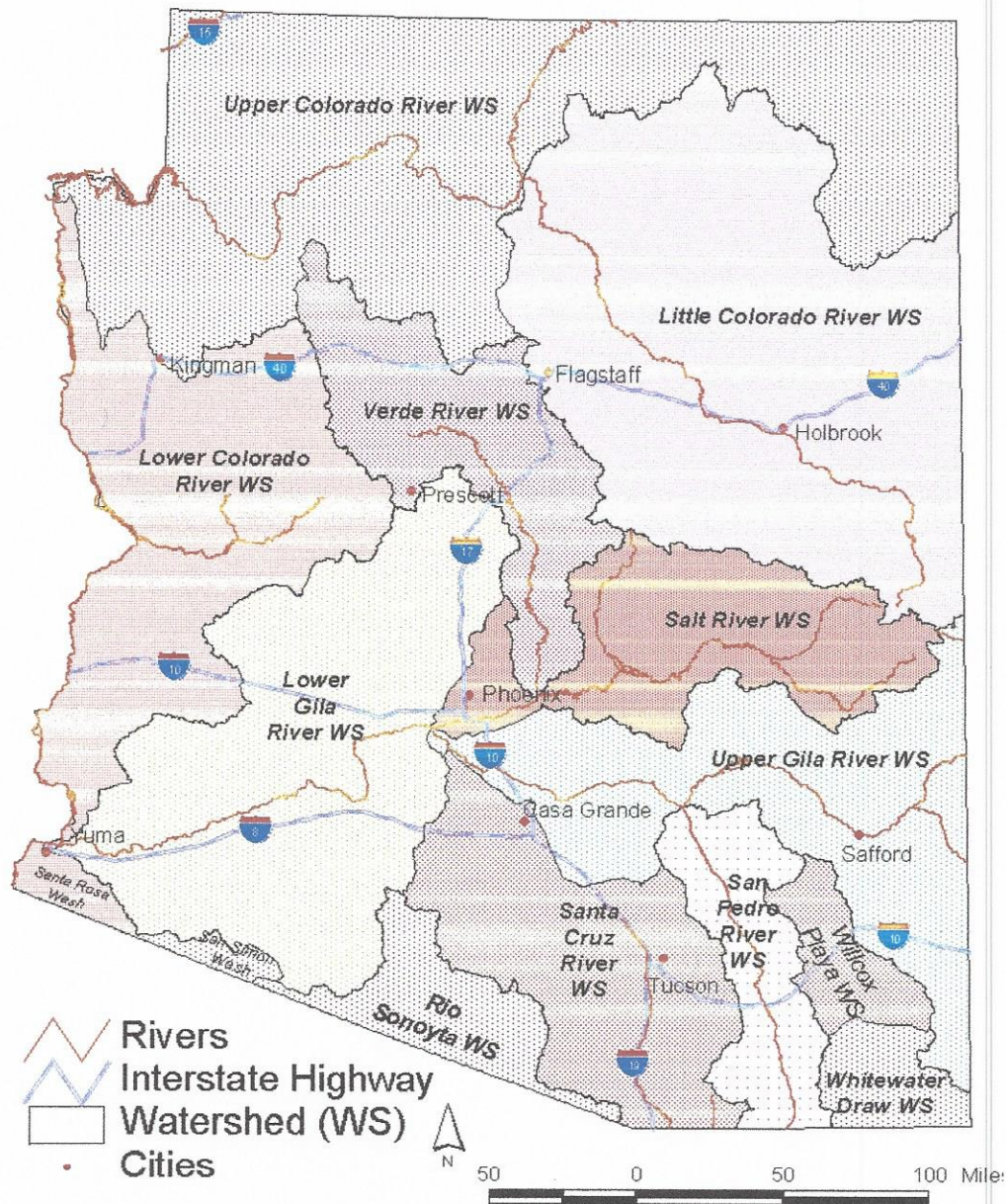


Arizona Water Protection Fund
Application Cover Page
FY 2019

Title of Project: Rainbow Lake Nutrient Control													
Type of Project: <input checked="" type="checkbox"/> Capital or Other <input checked="" type="checkbox"/> Water Conservation <input checked="" type="checkbox"/> Research		Stream Type: <input type="checkbox"/> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral											
Your level of commitment to maintenance of project benefits and capital improvements: <input type="checkbox"/> < 5 years <input type="checkbox"/> 5-10 years <input type="checkbox"/> 11-15 years <input checked="" type="checkbox"/> 16-20 years													
Applicant Information: Name/Organization: Little Colorado River Plateau RC&D Area, Inc. Address 1: PO Box 672 Address 2: 611 W. Florida St. City: Holbrook State: AZ ZIP Code: 86025 Phone: 928.524.2912 Fax: 928.524.2910 Tax ID No.: XXXXXXXXXX			Inside an AMA: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, which AMA: <input type="checkbox"/> Phoenix <input type="checkbox"/> Tucson <input type="checkbox"/> Prescott <input type="checkbox"/> Pinal <input type="checkbox"/> Santa Cruz										
Contact Person: Name: David M. Newlin Title: Executive Director Phone: 928.524.2912 Fax: 928.524.2910 e-mail: david@littlecolorado.net			Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation Any Previous AWPf Grants: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please provide Grant #(s):										
Arizona Water Protection Fund Grant Amount Requested: \$50,000.00 If the application is funded, will the Grantee intend to request an advance: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Matching Funds Obtained and Secured: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Applicant/Agency/Organization:</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>Amount (\$):</u></th> </tr> </thead> <tbody> <tr> <td>1. Applicant</td> <td>2,500.00</td> </tr> <tr> <td>2. Rainbow Lake Coalition</td> <td>10,000.00</td> </tr> <tr> <td>3. The Shores at Rainbow Lake</td> <td>5,000.00</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total: 17,500.00</td> </tr> </tbody> </table>		<u>Applicant/Agency/Organization:</u>	<u>Amount (\$):</u>	1. Applicant	2,500.00	2. Rainbow Lake Coalition	10,000.00	3. The Shores at Rainbow Lake	5,000.00	Total: 17,500.00	
<u>Applicant/Agency/Organization:</u>	<u>Amount (\$):</u>												
1. Applicant	2,500.00												
2. Rainbow Lake Coalition	10,000.00												
3. The Shores at Rainbow Lake	5,000.00												
Total: 17,500.00													
Has your legal counsel or contracting authority reviewed and accepted the Grant Award Contract General Provisions? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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.													
David M. Newlin		Executive Director, 928.524.2912											
Typed Name of Applicant or Applicant's Authorized Representative		Title and Telephone Number											
		David M. Newlin Executive Director Little Colorado River Plateau RC&D Area, Inc. 928.524.2912 Cell: 928.322.6146 www.littlecolorado.net											
Signature													

7 September 2018

Arizona Watershed Map FY 2019



Title of Project: RAINBOW LAKE NUTRIENT CONTROL

Location (include UTM's & Township/Range/Section): T9N R22E SEC 22+26
(Location must include at least one Section delineation for large scale projects)

34°09'12.09"N 109°59'03.84"W

Project Location & Environmental Contaminant Information FY 2019

Project Location Information			
1. County: <u>Navajo</u>	2. Section(s): <u>23, 26</u>	3. Township: <u>T9N</u>	4. Range: <u>R22E</u>
<p>5. Watershed: <u>Little Colorado</u></p> <p>6. 8 or 10 Digit Hydrologic Unit Code (HUC): <u>150200050101</u></p> <p>7. Name of USGS Topographic Map where project area is located: <u>L</u></p> <p>8. State Legislative District: <u>VI</u> (Information available at: http://azredistricting.org/districtlocator/)</p> <p>9. Land ownership of project area: <u>AZGFD, private</u></p> <p>10. Current land use of project area: <u>106 acres</u></p> <p>11. Size of project area (in acres): <u>106 DIRECT</u></p> <p>12. Stream Name: <u>Walnut Creek, Billy Creek,</u></p> <p>13. Length of stream through project area: <u>6</u></p> <p>14. Miles of stream benefited: <u>1 miles</u></p> <p>15. Acres of riparian habitat: <u>250 acres</u> will be:</p> <div style="margin-left: 400px;"> <input checked="" type="checkbox"/> Enhanced <input checked="" type="checkbox"/> Maintained <input type="checkbox"/> Restored <input type="checkbox"/> Created </div>			
<p>16. General description and/or delineation for the area of impact of the project within the watershed. <u>Along Walnut and Billy Creeks to Woodland Lake thence Walnut Creek throught the Big Springs Environmental Area to and including Rainbow Lake and environs.</u></p>			
<p>17. Provide directions to the project site from the nearest city or town. List any special access requirements: <u>To and through town of Pinetop-Lakeside to Neisl Hansen Lane, just before the juntion of AZ Highway 260 and Penrod Road (Lakeside Rnager Station, Apache-Sitgreaves national Forest), then southerly to both Rianbow Lake Road (to the Rainbow Lake Dam) and/or the entrance to The Shores at Rainbow Lake HOA. On the opposiute side of Rainbow Lake, to AZGFD Public Landing, located on Rainbow Lake Drive just before the Rainbow Lake Dam.</u></p>			
Environmental Contaminant Location Information			

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: The issue is environmental contaminants that may be the source of nutrients for the growth of invasive weeds, particularly Eurasian Milfoil and Coontail.
3. Are you asking for Arizona Water Protection Fund monies to identify whether or not environmental contaminants are present? ☒ YES ☐ NO

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 2019 Cycle
2. Project Title: Rainbow Lake and Nutrient Management
3. Applicant Name and Address: Little Colorado River Plateau RC&D Area, Inc., PO Box 672, Holbrook, AZ 86025
4. Current Land Owner/Manager(s): AZ Game and Fish, private homeowners
5. Project Location, including Township, Range, Section: T9N, R22E, Sections 23+26

6. Total Project Area in Acres (or total miles if trail): 200
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: Additiona of sterile WHite Amur Carp to Rainbow Lake; sampling of runoff into Rainbow Lake for update of ADEQ yr 2000 TMDL Study.
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: Ground is in a constantly disturbed situation from 1903 when Amos Reservoir (previous name of Rainbow Lake) was built for the local irrigation company (the lake and water are now owned by the Pinetop-Woodland Lake/Show Low Creek Irrigation Company, Inc.). Dwelings and businesses have been built throughout the Rianbow Lake area. The Woodland Lake area is owned by the US Forest Service and has served as a public park for 30+ years. The area inbetween Woodland Lake and Rainbow Lake on Walnut Creek includes the Big Springs Riparian Area; however, there are numerous trails and public areas. It is doubtful that there are ANY undisturbed areas in the Project Area.
10. Are there any known prehistoric and/or historic archaeological sites in or near the project area? ☐ YES ☒ NO
11. Has the project area been previously surveyed for cultural resources by a qualified archaeologist? ☐ YES ☐ NO ☒ UNKOWN
- 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.

 7 SEPT 2018
Applicant Signature /Date

App

David M. Newlin
Executive Director
Little Colorado River Plateau RC&D Area, Inc.
928.524.2912
Cell: 928.322.6146
www.littlecolorado.net

FOR SHPO US

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:

STATE OF ARIZONA HISTORIC PROPERTY INVENTORY FORM

Please type or print clearly. Fill out each applicable space accurately and with as much information as is known about the property.

PROPERTY IDENTIFICATION

For properties identified through survey: Site No. _____ Survey Area: _____

Historic Names (enter the name(s), if any that best reflect the property's historic importance): _____

Address: _____

City or Town: _____ ☐ Vicinity County: _____ Tax Parcel No.: _____

Township: _____ Range: _____ Section: _____ Quarters: _____ Acreage: _____

Block: _____ Lot(s): _____ Plat (Addition): _____ Year of plat (addition): _____

UTM Reference – Zone: _____ Easting: _____ Northing: _____

USGS 7.5' quadrangle map: _____

ARCHITECT: _____ ☐ not determined ☐ known Source: _____

BUILDER: _____ ☐ not determined ☐ known Source: _____

CONSTRUCTION DATE: _____ ☐ known ☐ estimated Source: _____

STRUCTURAL CONDITION

- ☐ Good (well maintained; no serious problems apparent)
☐ Fair (some problems apparent) Describe: _____
☐ Poor (major problems; imminent threat) Describe: _____
☐ Ruin/Uninhabitable

USES/FUNCTIONS

Describe how the property has been used over time, beginning with the original use: _____

Sources: _____

PHOTO INFORMATION

Date of photo: _____

View Direction (looking towards): _____

Attach a recent photograph of property in this space.
Additional photographs may be appended.

SIGNIFICANCE

To be eligible for the National Register, a property must represent an important part of the history or architecture of an area. The significance of a property is evaluated within its historic context, which are those patterns, themes, or trends in history by which a property occurred or gained importance. Describe the historic and architectural contexts of the property that may make it worthy of preservation.

A. HISTORIC EVENTS/TRENDS – Describe any historic events/trends associated with the property: _____

B. PERSONS – List and describe persons with an important association with the building: _____

C. ARCHITECTURE – Style: _____ ☐ no style

Stories: _____ ☐ Basement Roof Form: _____

Describe other character-defining features of its massing, size and scale: _____

INTEGRITY

To be eligible for the National Register, a property must have integrity (i.e. it must be able to visually convey its importance). The outline below lists some important aspects of integrity. Fill in the blanks with as detailed a description of the property as possible.

Location - ☐ Original Site ☐ Moved: Date: _____ Original Site: _____

DESIGN

Describe alterations from the original design, including dates: _____

MATERIALS

Describe the materials used in the following elements of the property:

Walls (structure): _____

Walls (sheathing): _____

Windows: _____

Roof: _____

Foundation: _____

SETTING

Describe the natural and/or built environment around the property: _____

How has the environment changed since the property was constructed? _____

WORKMANSHIP

Describe the distinctive elements, if any, of craftsmanship or method of construction: _____

NATIONAL REGISTER STATUS (if listed, check the appropriate box)

☐ Individually Listed; ☐ Contributor; ☐ Non-contributor to _____ Historic District

Date Listed: _____ ☐ Determined eligible by Keeper of National Register (date: _____)

RECOMMENDATIONS ON NATIONAL REGISTER ELIGIBILITY (opinion of SHPO staff or survey consultant)

Property ☐ is ☐ is not eligible individually.

Property ☐ is ☐ is not eligible as a contributor to a listed or potential historic district.

☐ More information needed to evaluate.

If not considered eligible, state reason: _____



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Email: info@littlecolorado.net

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www.trailofmanytracks.com, www.rainbow-lake.net

Arizona Water Protection Fund 2019 Grant Application – Executive Summary

The objective of this 2019 grant application is to investigate the causes of and eliminate, clear and determine methods to reduce nutrients causing invasive weed conditions in Rainbow Lake and upstream environs, including Walnut Creek, Big Springs Environmental Area and Woodland Lake. The effect the invasive weeds have shown below, have been the subject of significant efforts. These issues have been the subject of the efforts of various groups, all included in this application, for over 20 years.

Invasive Eurasian Milfoil and Coontail have created innumerable problems for recreation, fishing, and boating and other water activities as the two reservoirs have gradually silted in since construction in the early 1900. The original sources was nutrient runoff from septic systems; however, extensive efforts, primarily use of sterile White Amur Carp, have only barely kept up with weed control. Other NPS have continued to feed the invasive species.

Efforts to monitor and identify the nutrients feeding the invasive species have been thwarted by lack of funding, lack of rainfall, climate change, population growth, construction, increased use of chemicals, pavement, curbing, excessive runoff and other undetermined factors since the late 1950's when septic systems were installed in most (but not all) of the area.



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Email: info@littlecolorado.net

www.littlecolorado.net, www.swsfp.org, www.winterwatershedconference.net

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Arizona Water Protection Fund 2019 Grant Application – Project Overview

Objective 1: Reduce, control, eliminate invasive weeds in Rainbow Lake (and, by interpolation, Woodland Lake, upstream)

Objective 2: Update ADEQ yr 2000 TMDL Study of nutrients causing invasive weed problem

Rainbow Lake and its upstream counter-part, Woodland Lake, suffer from issue of invasive weed infestation. The original sources of the weeds are unknown. The sources of the nutrients were initially shown to be septic runoff remaining in the soil before installation of modern sewer systems in the later 1950's.

The current drought also affects the problem. There is insufficient water from winter run-off and summer rain to keep the lakes full to the "normal" high-water mark. Sunlight penetrates the lower depths of the lakes to a greater degree, thereby increasing the photosynthesis that might not normally occur if the lakes were full.

Because of this, weed infestation cause major issues in any type of sport, water or recreation activities, thus adversely affecting Arizona's major industry, tourism, and its related benefits. A secondary issue is the lack of water for irrigation purposes although, as is well known, irrigation use in northeastern Arizona (and particularly in Navajo County, where the project is located) is diminishing.

Over 20 years ago, a group of concerned citizens began efforts to determine the causes of the weed infestation. These efforts were supported by a 2000 ADEQ WQIP Study that recommended dredging as the first line of defense. However, the cost (\$2M+) and the issue of dredged material disposal raised considerable concerns. It is important to note that Woodland Lake has been dredged and no significant improvement in weed infestation has been noted (and the weed infestation has returned).

These efforts ground to a halt in the late 2000's when personnel, funding, lack of support and structure began to diminish. The Little Colorado River Plateau Resource, Development and Conservation District (RC&D), a Federally authorized Arizona 501(c) IRS-certified non-for-profit corporation, agreed to become the sponsor of the Friends of Show Low Creek Watershed.

The primary focus of the group was then decided to be weed control, as noted above. The current unofficial name of the group is the Rainbow Lake Coalition. The co-Chairs are retired Major General Al Crawford (the group's founder) and LCRP RC&D Executive Director David Newlin.

The primary purpose of this Grant application is for weed control in Rainbow Lake through (a) study of the run-off nutrients and (b) direct control of weed with sterile White Amur Carp.

Carp are utilized throughout Arizona for weed control by the US Forest Service, Arizona Game and Fish and the Salt River Project. They have been proven to be the most cost-effective means of weed control.

The purpose of this grant application is two-fold:

1. To support additional sterile White Amur Carp in Rainbow Lake
2. To enhance monitoring and sampling efforts in Rainbow Lake for an updated ADEQ TMDL Study

Depending on funding, the grant may extend from one to five years. NOTE: The project has been sustained locally for 20+ years, mostly by private donations, a record unexcelled.

Financially, all funds are accounted for by the RC&D and its accounting staff. Over 70% of the funds raised in the past 10 years for Rainbow Lake have come from private donations. A number of small grants have been received; however, the citizens in the area have carried the major burden of efforts supported by the scientific data and guidance from ADEQ and AZGFD.

This is an exceptional record of citizen involvement.

The run-off sampling efforts are necessary as an update to the 2000 ADEQ Report.

This has led to the sampling program requested through citizen's volunteers to measure runoff and the possible sources of nutrients (noted below) that feed the invasive weeds.

There is also the possibility that the invasive weeds are self-sustaining. However, the complete ADEQ study needs to be updated.

Citizen volunteer efforts have been greatly assisted by the establishment of the ADEQ Citizens Water Watch in 2016.

Arizona Game and Fish have acted as primary partner and great in-kind support. They have completed a large number of weed and fish surveys. The weed surveys show clearly that the addition of carp are having positive effect and reducing the weed count (in other words, "catching up"). Those full studies available upon request.

The only confirmed source of nutrients (although many are suspected) is the 2016 305B Report from ADEQ and the 2016 ADEQ Rainbow Lake Draft Management Plan, which show the suspected nutrients (please see pps. 52 and 53 of the 305B report). The probable nutrients are ammonia, nitrites, nitrates, nitrogen and phosphorus. The nutrient composition was originally suspected to have come from the leaching septic systems before the area was sewerred; however, this happened over 50 years ago.

Their current source is unknown. It is hoped that these sources may be found in the runoff samples being taken as noted.

Ongoing monitoring is being accomplished through volunteers currently enrolled and trained in the Arizona Water Watch Citizen Water Monitoring efforts.

Perhaps the most amazing consequence of the 2017 season was the fact that rains did come, not to the degree or in the time frame desired; however, two consecutive years of drought resulted in the rain soaking into soils so quickly that there was no run-off to be measured. Personnel were on hand to take run-off samples IAW the Arizona Citizens Water Watch; however, there were none.

The 2018 summer season is proving to be somewhat better. Two sets of samples have been taken at the time of this application (7 Sept). More is hoped for.

ADEQ TMDL studies have been accomplished and show the lake not attaining status.

The current situation may be closely related to any of the following:

1. Community runoff consisting of local-generated nutrients
2. Excessive use of community-based fertilizers and weed-killers
3. Excessive animal waste
4. A life-cycle slowly created by the death and regrowth of the invasive specifics - Eurasian Milfoil and Coontail
5. The tremendous amount of paving and concrete work that has occurred in the last 50+ years (even more so in the past 20), thus forcing runoff into the reservoir instead of seeping into the surrounding forest lands.
6. The amount of tree clearing that has occurred in construction, particularly in the past 20 years
7. Studies have shown that is not likely that wildlife have a significant bearing on the nutrients

The Little Colorado River Plateau RC&D Area, Inc. has an Agreement with the Pinetop-Woodland Lake/Show Low Irrigation Co., Inc., owner of the water and land under the lake ("to the high water mark", per deed) for the efforts of the Coalition. The irrigation company benefits from the efforts to reduce invasive weeds as well.



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www.trailofmanytracks.com, www.rainbow-lake.net

Arizona Water Protection Fund 2019 Grant Application – Scope of Work

The Scope of Work for the Rainbow Lake Nutrient Control Project falls into the following areas:

Capital Projects:

- Purchase of sterile White Amur Carp over the life of the grant award at a cost of approximately \$20,000 per year, in the following areas:
 - Direct benefits to intermittent streams
 - Protect and restore native riparian vegetation and habitat
 - Restore proper hydrological conditions and functions
 - Protect and restore habitat need for fish and wildlife
 - Decrease negative impacts of non-native species to riparian areas

Research:

- Data collection costs associated with run-off collection samples and support for same, i.e.:
 - Website notification of rainfall events
 - Telephonic notification of volunteers
 - Transportation, transmittal and coordination of samples

Water Conservation:

- Maintaining, enhancing and restoring river resources

Task No. 1:

- Addition of sterile White Amur Carp to Rainbow Lake
- Title: As above
- Description: As above
- Task Objective/Purpose: Control of invasive weeds in Rainbow Lake
- Responsible Personnel: Co-Chairs of Rainbow Lake Coalition, Al Crawford, David Newlin
- Deliverable Description: Placing sterile White Amur Carp in Rainbow Lake
- Deliverable Date: 1 May 2019 and as many succeeding years as funding will support

- Task Cost: \$20,000 per year

Task No 2:

- Volunteer Sample Collection
- Title: as above
- Task Description: as above
- Task Purpose/Objective: Provide data to ADEQ for updated ADEQ TMDL Study
- Responsible Personnel: Co-Chairs Al Crawford, David Newlin
- Deliverable Description: Runoff samples at ADEQ-designated locations (see map)
- Deliverable Date: Summer Season 2019 (and as far forward as possible)
- Task Cost: \$1000 per season



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Arizona Water Protection Fund 2019 Grant Application – Budget

Funds Requested (two-year cycle):

\$50,000

Budget:

Task No. 1: 2019, 2020 Carp Purchase: **\$40,000**

Task No. 2: 2019, 2020 Sampling Collection Support (volunteers through Arizona Citizens Water Watch): **\$2,000**

NOTE: Balance of any excess funds provided to be included in task no. 1 and carried over into year no. 3

Administrative Costs: 5% of requested \$50,000: **\$2,500** (adjusted based on grant award)

Matching Funds:

- Volunteer time: \$10,000
- ADEQ Citizens Water Watch in-Kind Support: \$5,000 (to be revised as appropriate)
- AZ Game and Fish Reports, In-Kind Support \$10,000
- Volunteer mileage, travel, meetings, supplies: \$5,000
- Total: \$30,000

NOTE: Financial Reports from RC&D for the previous 10 years to support these amounts are available



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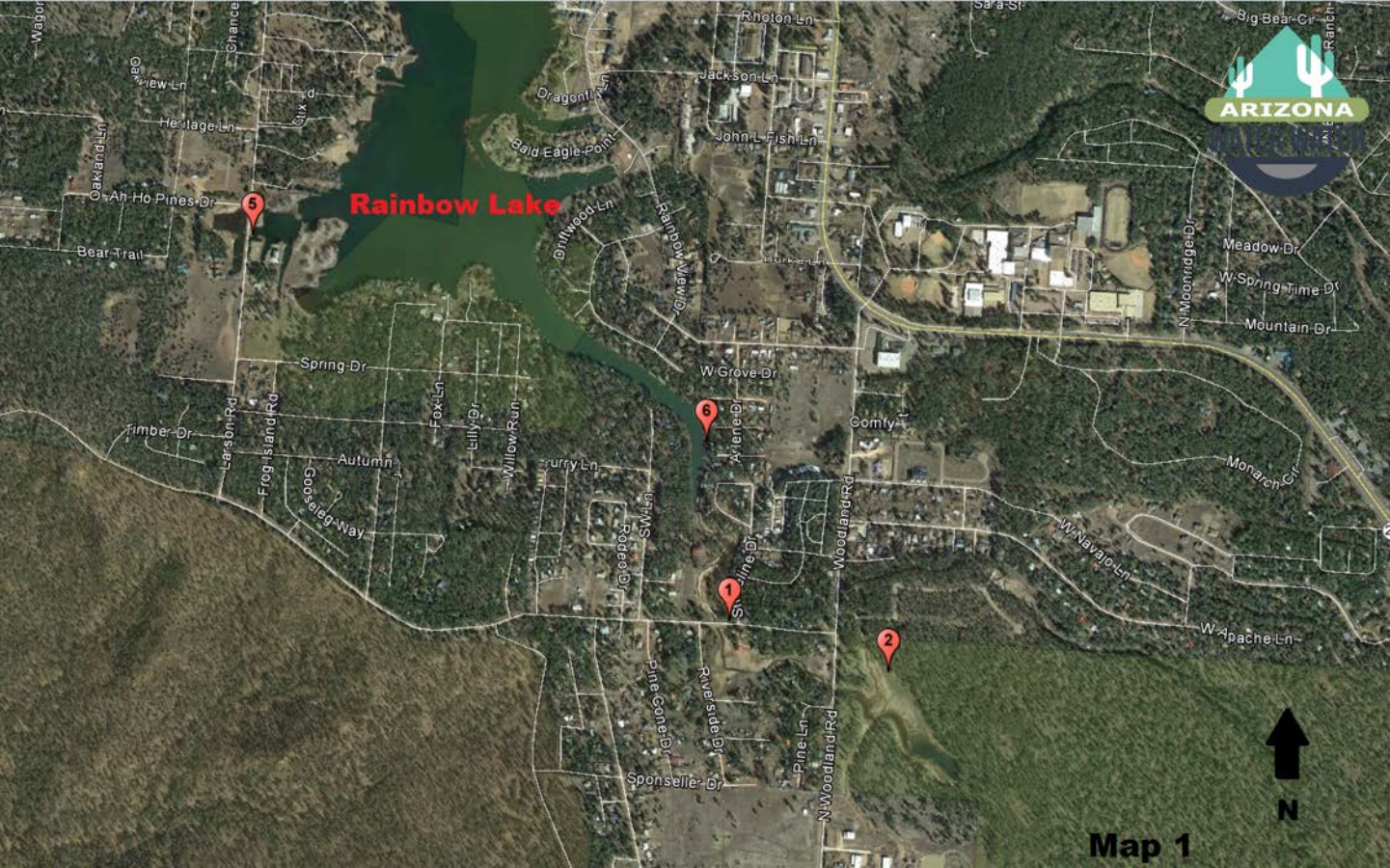
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Arizona Water Protection Fund

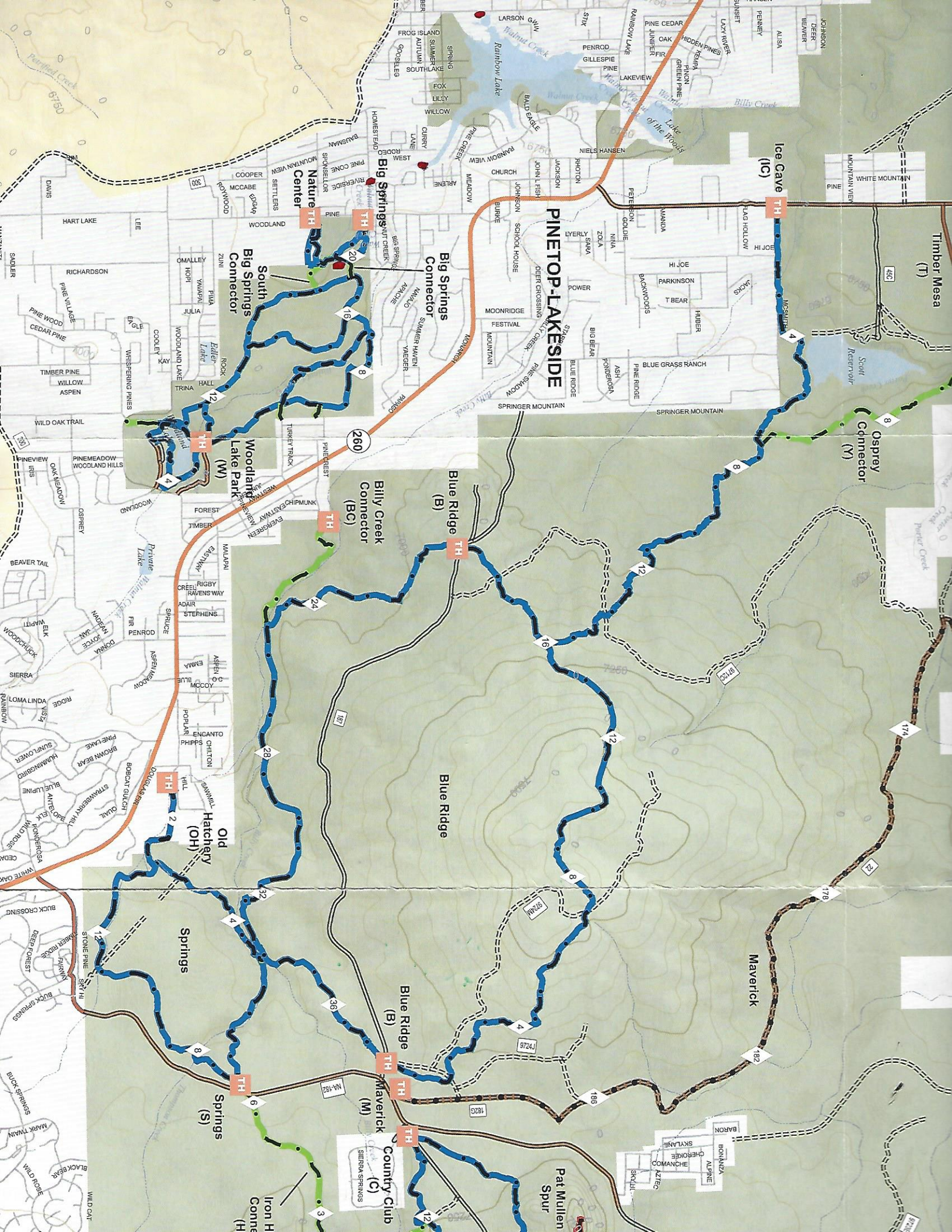
Appendix A

Maps and Schematics

**Grant Application
September 2018**



Map 1



PINETOP-LAKESIDE

Ice Cave (IC) TH

Timber Mesa (T) TH

Osprey Connector (O) TH

Big Springs Connector TH

Nature TH Center

South Big Springs Connector TH

Woodland Lake Park (W) TH

Billy Creek Connector (BC) TH

Blue Ridge (B) TH

Old Hatchery (OH) TH

Blue Ridge (B) TH

Maverick (M) TH

Country Club (C) TH

Iron H Connector (H) TH

Pat Mullen Spur

Maverick

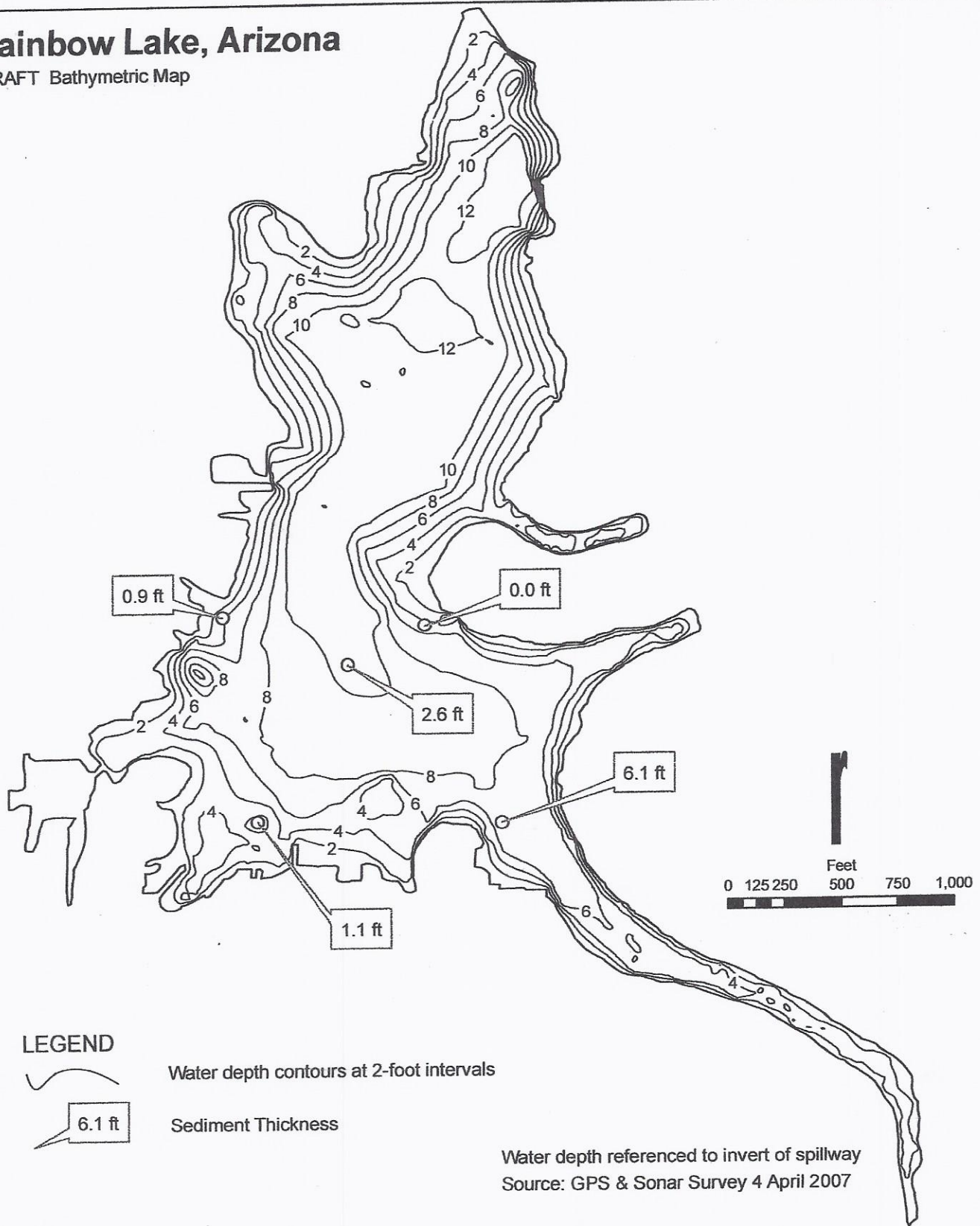
Springs

Springs (S) TH

JOHN H. JARVIS
928-242-9301

Rainbow Lake, Arizona

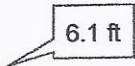
DRAFT Bathymetric Map



LEGEND

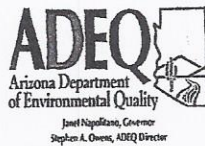


Water depth contours at 2-foot intervals



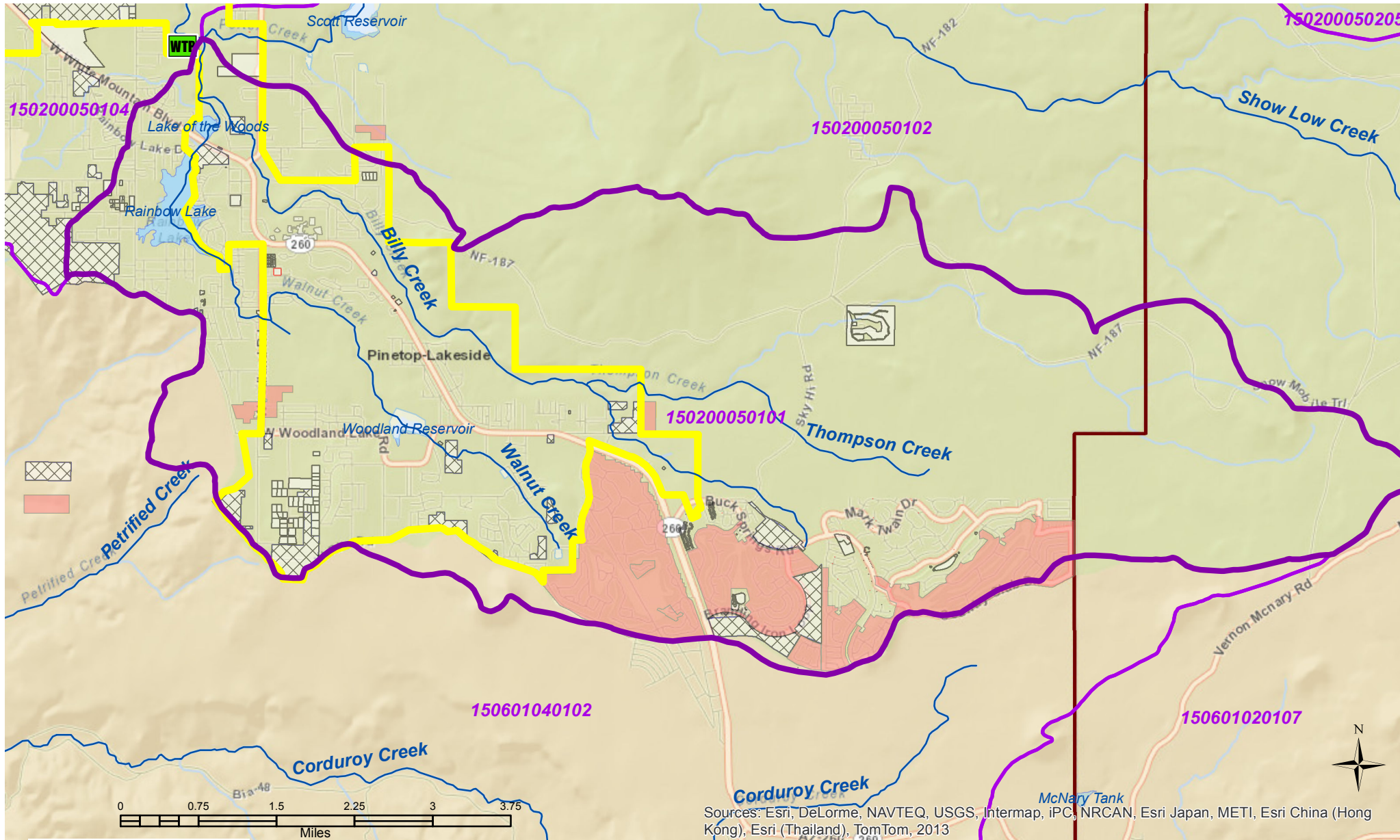
Sediment Thickness

Water depth referenced to invert of spillway
Source: GPS & Sonar Survey 4 April 2007



NORTHERN ARIZONA
UNIVERSITY
College of Engineering & Natural Sciences

Unsewered Areas in the Rainbow Lake Vicinity



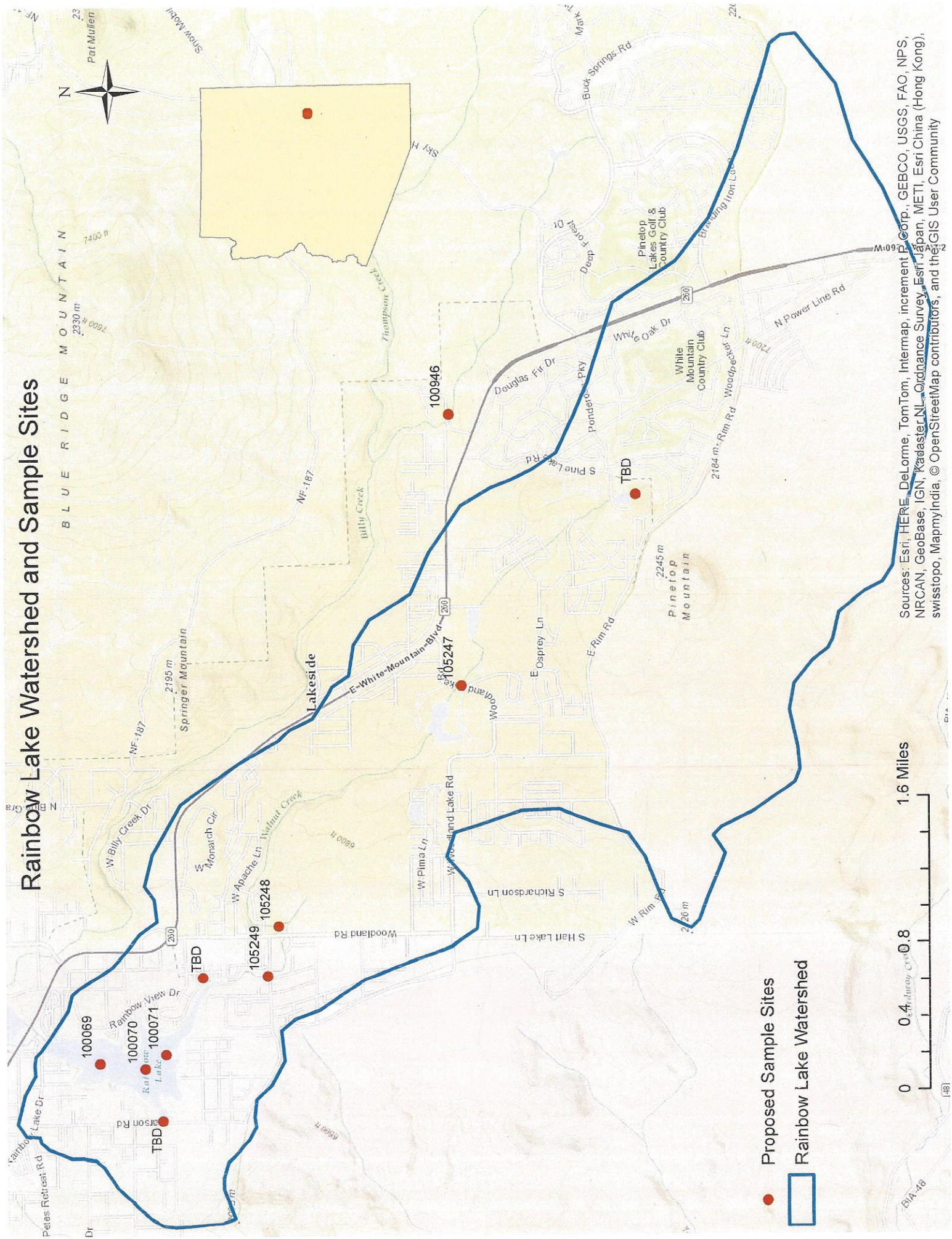
- Wastewater Treatment Plant
- HUC (12 digit)
- Town Boundaries
- CAD Data**
- MARSH
- NOT IN DISTRICT
- UNSEWERED

This map is for general reference only and may not be all inclusive. ADEQ program's data collection efforts are ongoing. More detailed information and specific locations can be obtained by contacting the Arizona Department of Environmental Quality.

DRAFT
Working
Document



Rainbow Lake Watershed and Sample Sites



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