Restoration in the Sonoran Upland: Saguaro National Park

Danielle Foster, Restoration Ecologist

Saguaro National Park

Restoration Program Overview

- Officially created with base funding increase in FY2000
- Two components:
  - exotic plant eradication/control
    - Comprehensive mapping and monitoring system
    - Extensive surveys for buffelgrass, fountaingrass
    - Mechanical control now, chemical control 8/03
  - revegetation/restoration (rest of talk)

Revegetation/Restoration Data Collection and Tracking

- Access database
  - includes initial assessment and restoration
- GPS
  - Garmin, Trimble ProXR
- ArcView
  - Tracks
  - Waypoints

File Edit View Insert Format Records Tools Window Help

Location Code: KINGCANY Site Name: KINGCANY1

Initial Assessment | Restoration Event

Date: 18-Dec-01 Surveyor: Danielle Foster

Rover File: R121816A Feature Type: Line

Site Description: Old mining road just N of junction with Sendero Esperanza Trail, between King Canyon Trail and King Canyon Wash

Length (meters): 33 Width (meters): 1

Disturbance Type: Old Road Orphan Site?: No Photos?: Yes

Before Photos | Plants Estimate | Labor Estimate | Other Expenses Estimate

Frame Number	Storage Location	Photo label
5	Restoration Office	
6	Restoration Office	

Record: 1 of 2

Plants Subtotal:

Labor Subtotal:

Other Expenses Subtotal:

Total Cost Estimate:

Comments:

rd: 1 of 1

View

NUM

File Edit View Insert Format Records Tools Window Help

Location Code: KINGCANY Site Name: KINGCANY1

Initial Assessment | Restoration Event

Date: 18-Dec-01 Surveyor: Danielle Foster

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Before Photos | Plants Estimate | Labor Estimate | Other Expenses Estimate

Quantity	Type	Cost	Unit	Total

SubTotal:

Record: 1 of 1

Plants Subtotal:

Labor Subtotal:

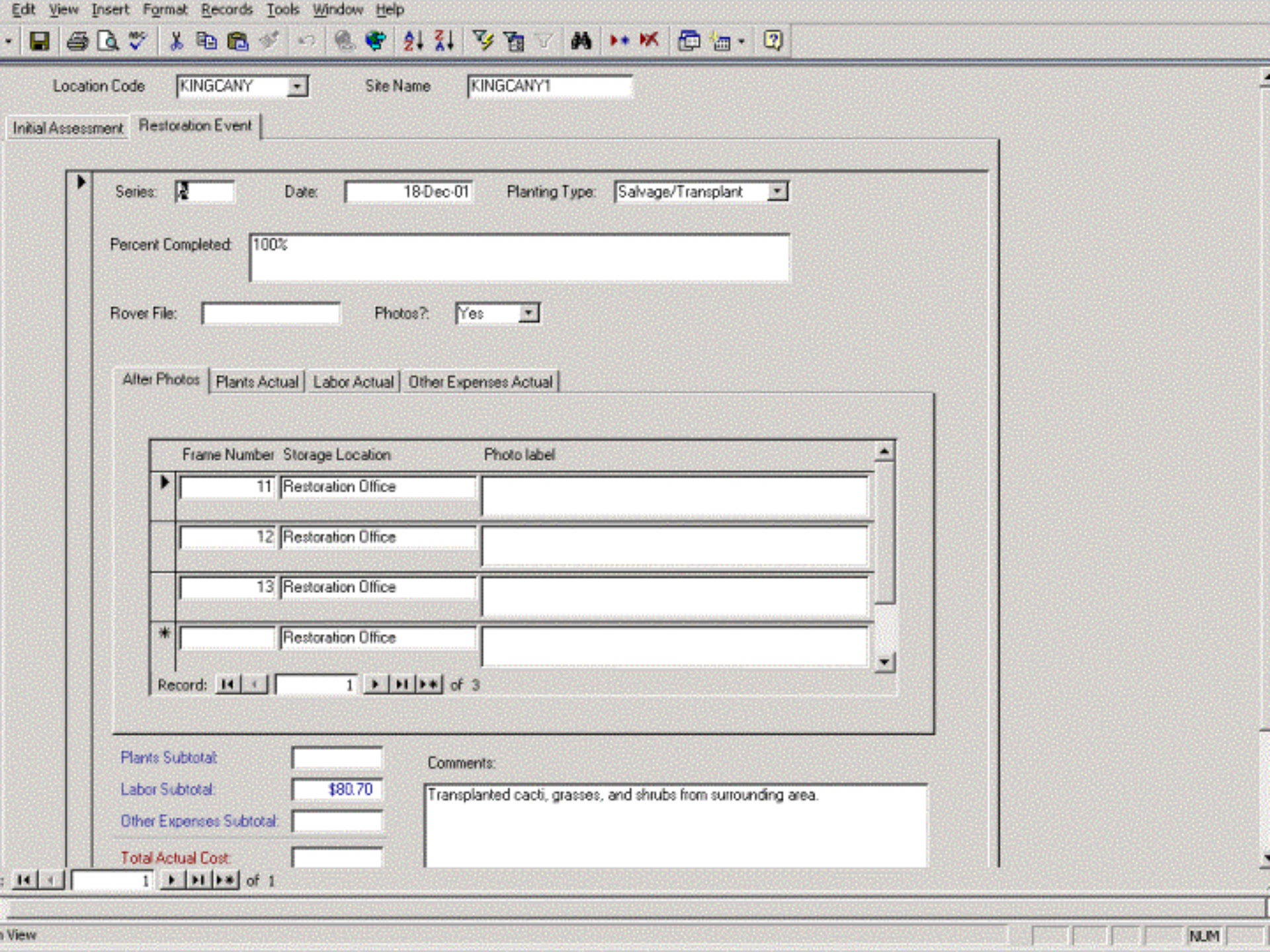
Other Expenses Subtotal:

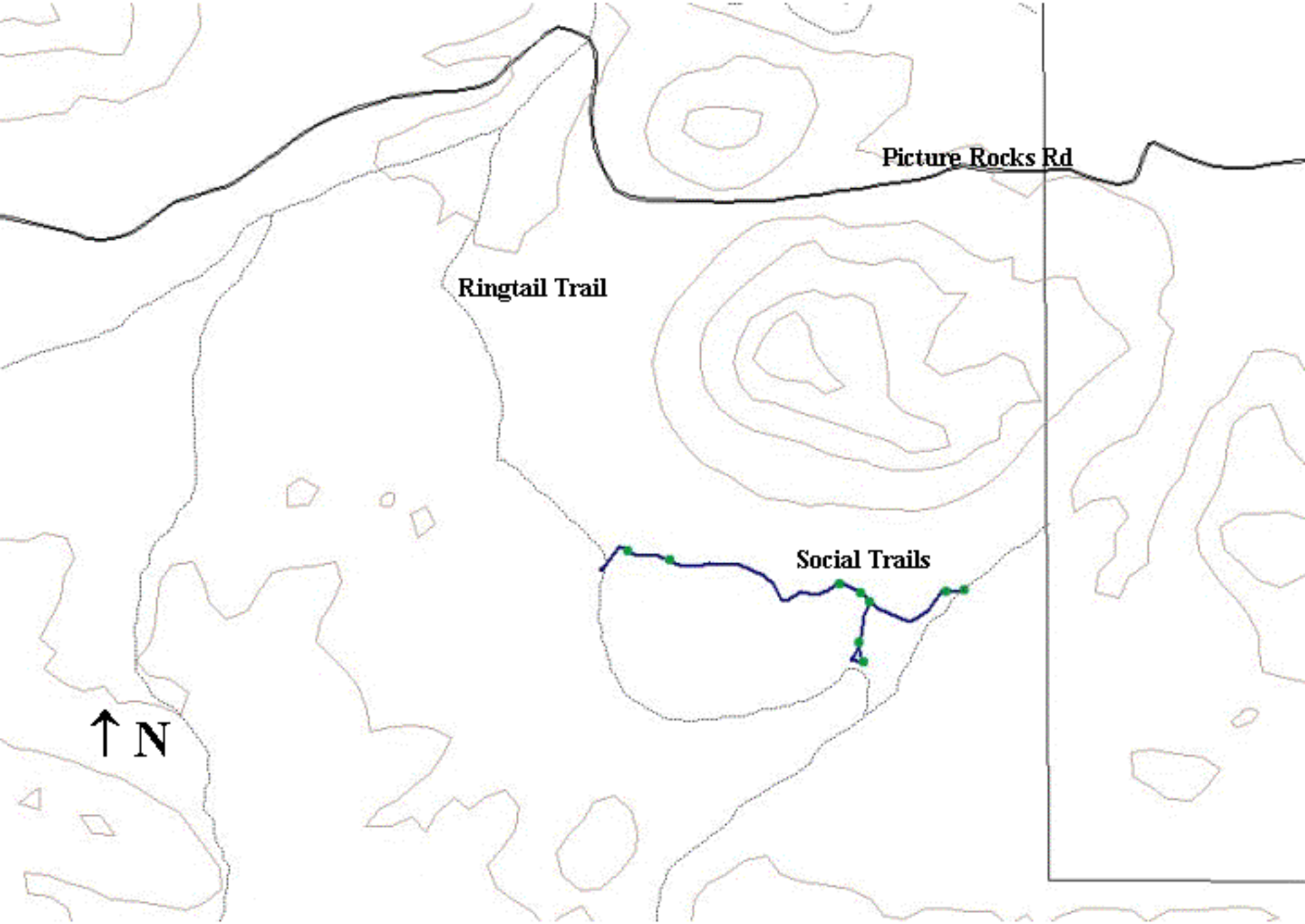
Total Cost Estimate:

Comments:

Record: 1 of 1

Form View NUM


Edit View Insert Format Records Tools Window Help
Location Code KINGCANY
Site Name KINGCANY1
Initial Assessment
Restoration Event
Series: 2
Date: 18-Dec-01
Planting Type: Salvage/Transplant
Percent Completed: 100%
Rover File:
Photos?: Yes
After Photos
Plants Actual
Labor Actual
Other Expenses Actual
Frame Number
Storage Location
Photo label
11 Restoration Office
12 Restoration Office
13 Restoration Office
Restoration Office
Record: 1 of 3
Plants Subtotal:
Labor Subtotal: $80.70
Other Expenses Subtotal:
Total Actual Cost:
Comments:
Transplanted cacti, grasses, and shrubs from surrounding area.
1 of 1
NUM


Picture Rocks Rd
Ringtail Trail
Social Trails
N

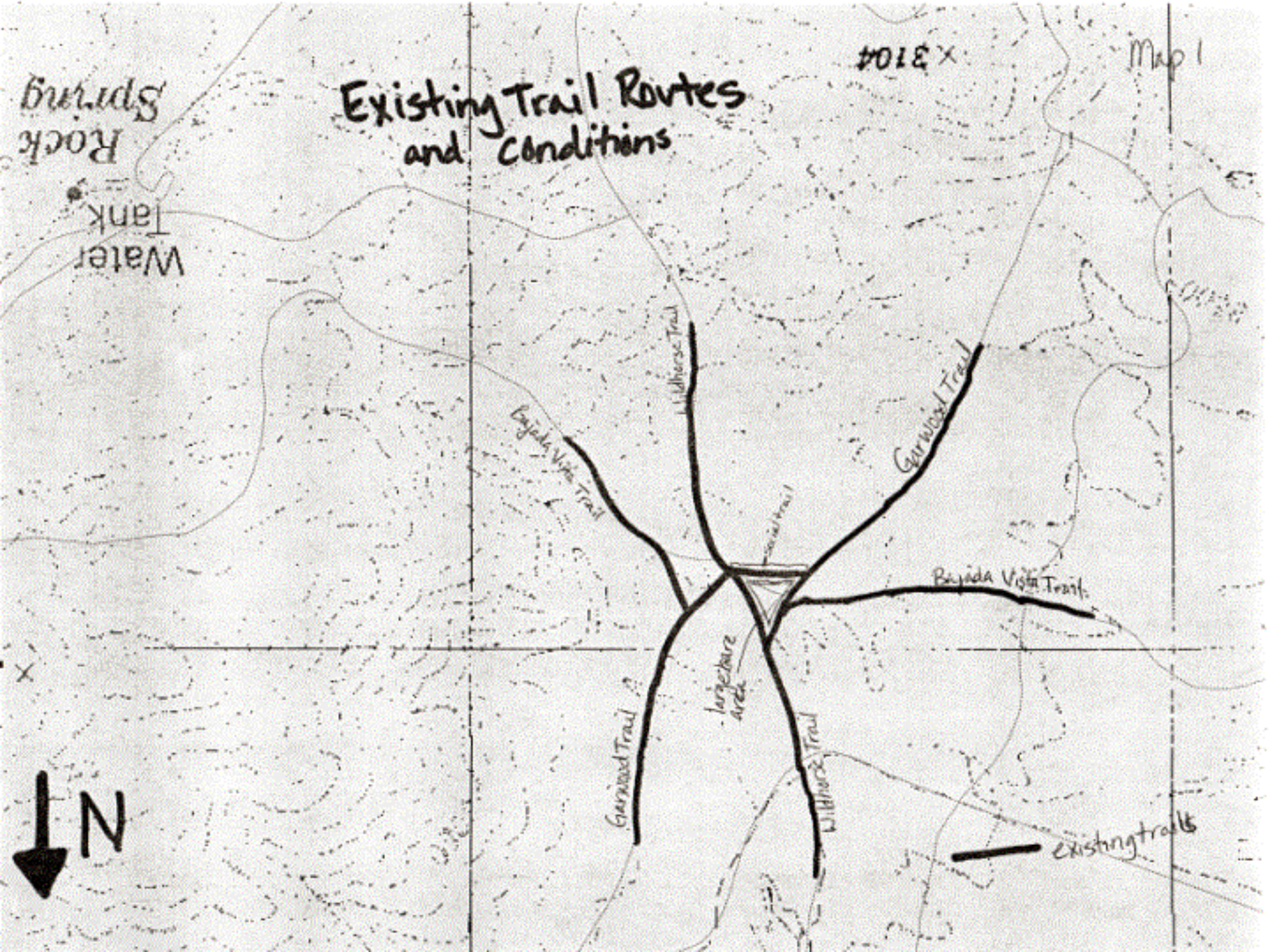
Site Restoration Methods

- Nursery grown plants
  - modified tall ones and shorties
- Salvaged material
  - Cacti, grasses, small shrubs
- Debris
  - horizontal and vertical mulch
- Natural barriers

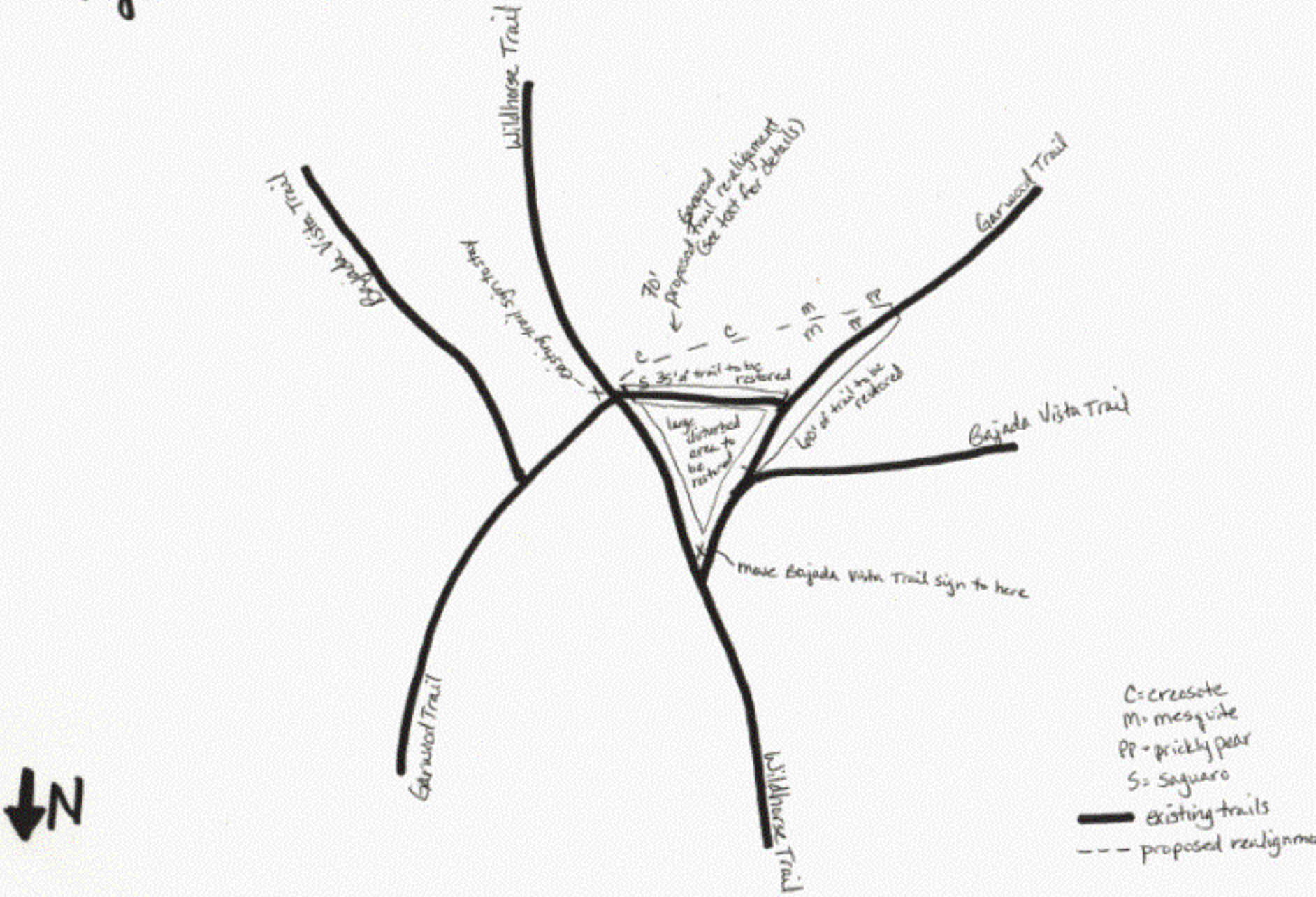
8 Gallon
4 Gallon
4 Gallon
Round
2 Gallon
3 Gallon
"Short One"
"Tall One"

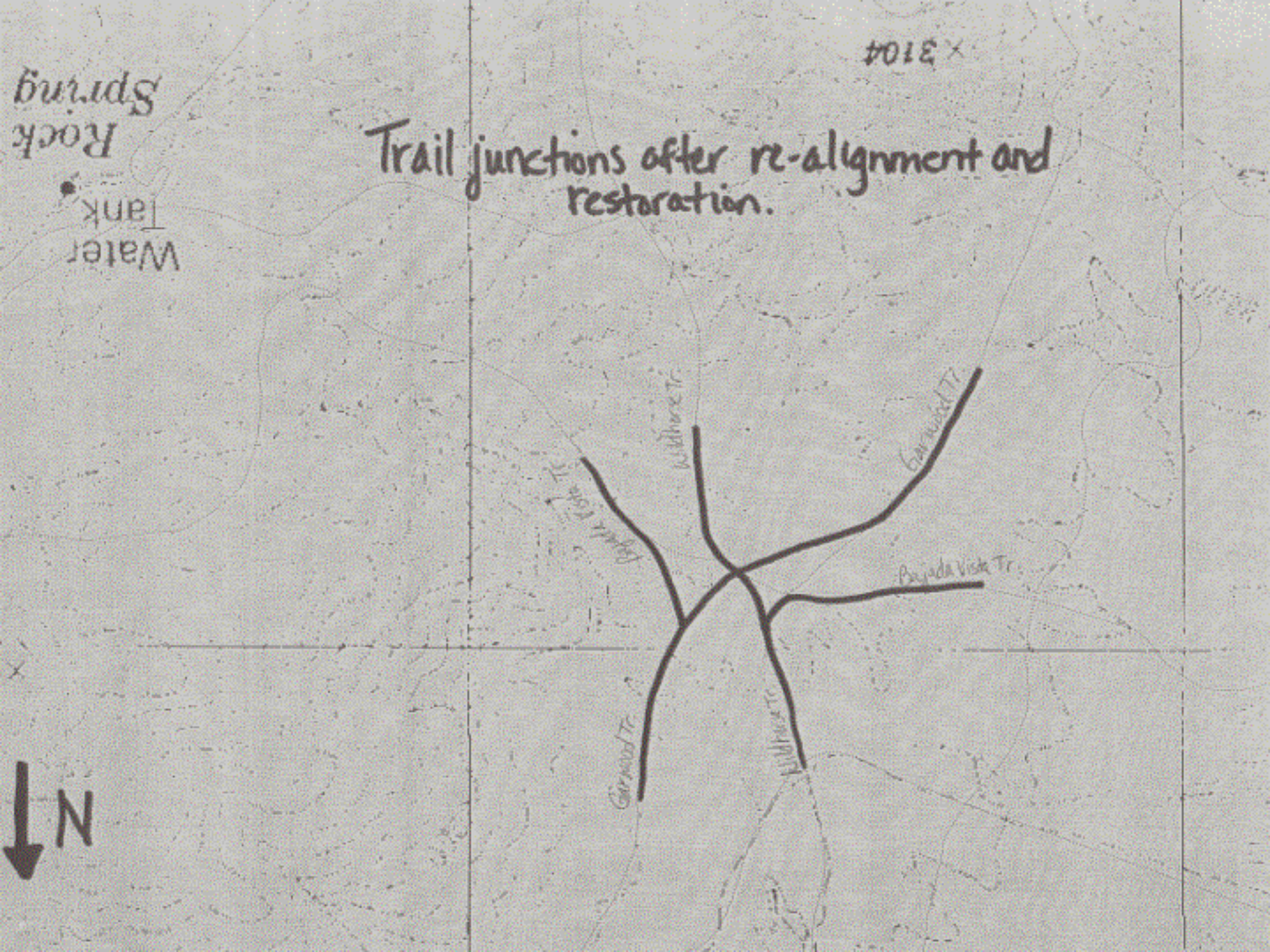
5-Point Junction

- Re-align trail
- Nursery grown plants
- Salvage material/Transplants
- Debris on site
- Natural barriers
- Debris in cages
- Cages held in place with staples


Existing Trail Routes
and Conditions
Map 1
Rock Spring
Water Tank
Bajada Vista Trail
Wildhorse Trail
Garwood Trail
Bajada Vista Trail
Garwood Trail
Wildhorse Trail
large bare area
existing trails
N

Project Details




Trail junctions after re-alignment and restoration.
Rock Spring
Water Tank
3104
Wildhorse Tr.
Garwood Tr.
Bajada Vista Tr.
Garwood Tr.
Wildhorse Tr.
N

Ringtail Trail - Social Trail

- Salvage material/Transplants
- Debris
- Natural barriers

Ringtail Trail - Old Roads

- Nursery grown plants
- Salvage material/Transplants
- Debris on site
- Natural barriers
- Debris in cages
- Cages held in place with staples

Things to keep in mind

- Photos
  - Take pre-project photos well in advance (lighting)
  - Take photos into field to match up
- Document people and progress, not just before and after
- Work cooperatively with others in your organization, neighbors, volunteers, etc.

Still under development

- Monitoring techniques
  - Photopoints, individual plants, transects
  - Slides vs. digital format
- Seeding (for large disturbances)
  - Predation, microsites
- Digging method
- Restoration on exotic plant eradication sites
- EA/EIS for road removal projects

Acknowledgements

- Maggie Drechsler
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