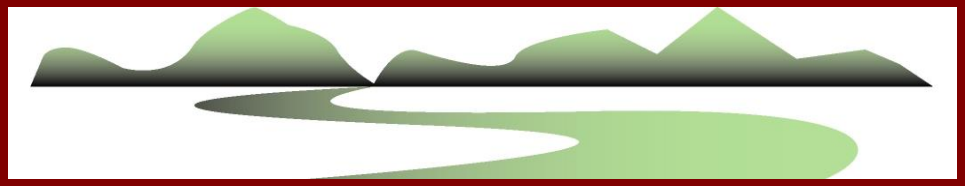
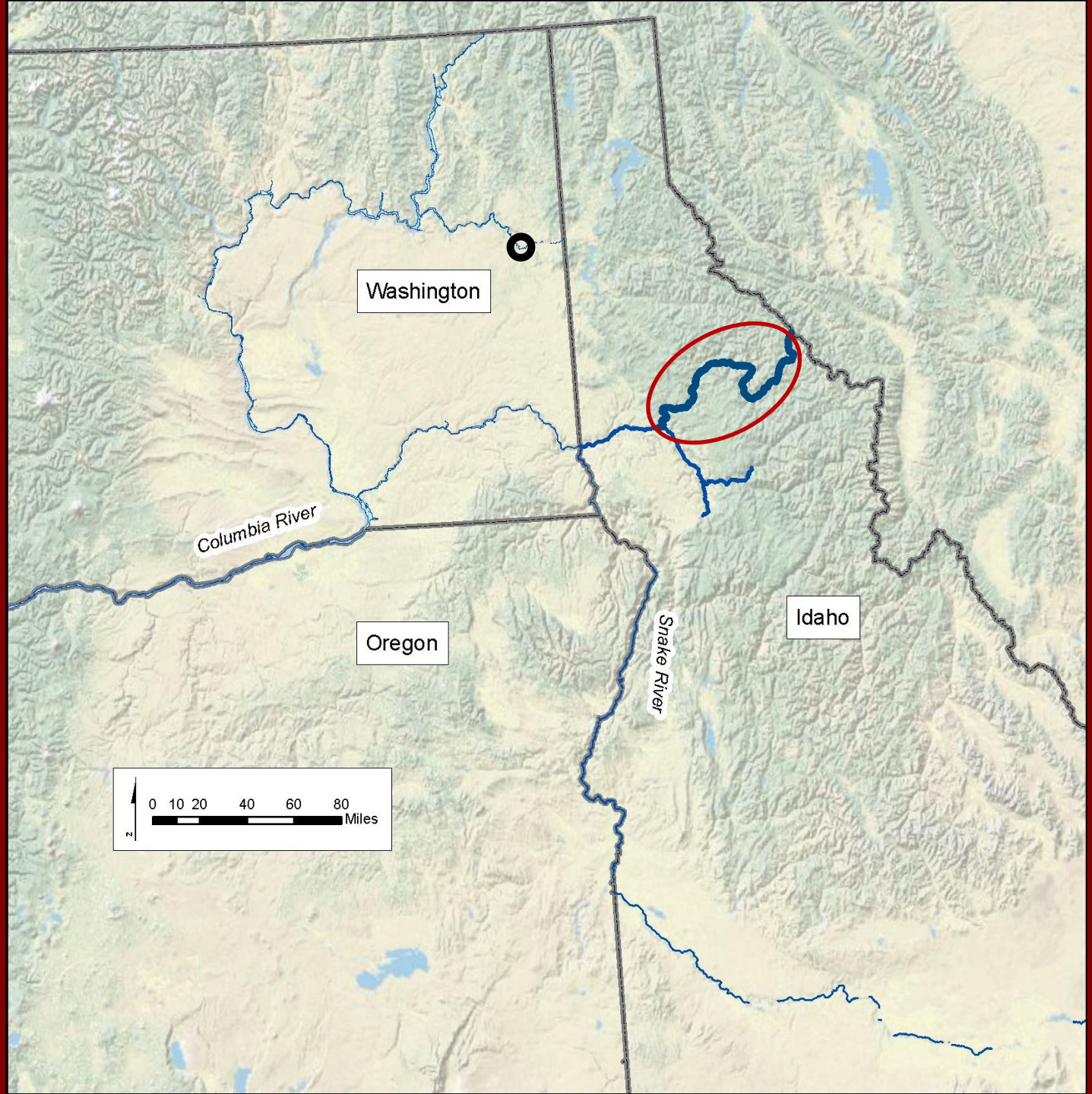
Middle and Late Holocene Land-use Intensification on the North Fork of the Clearwater River

A Framework for Future Work

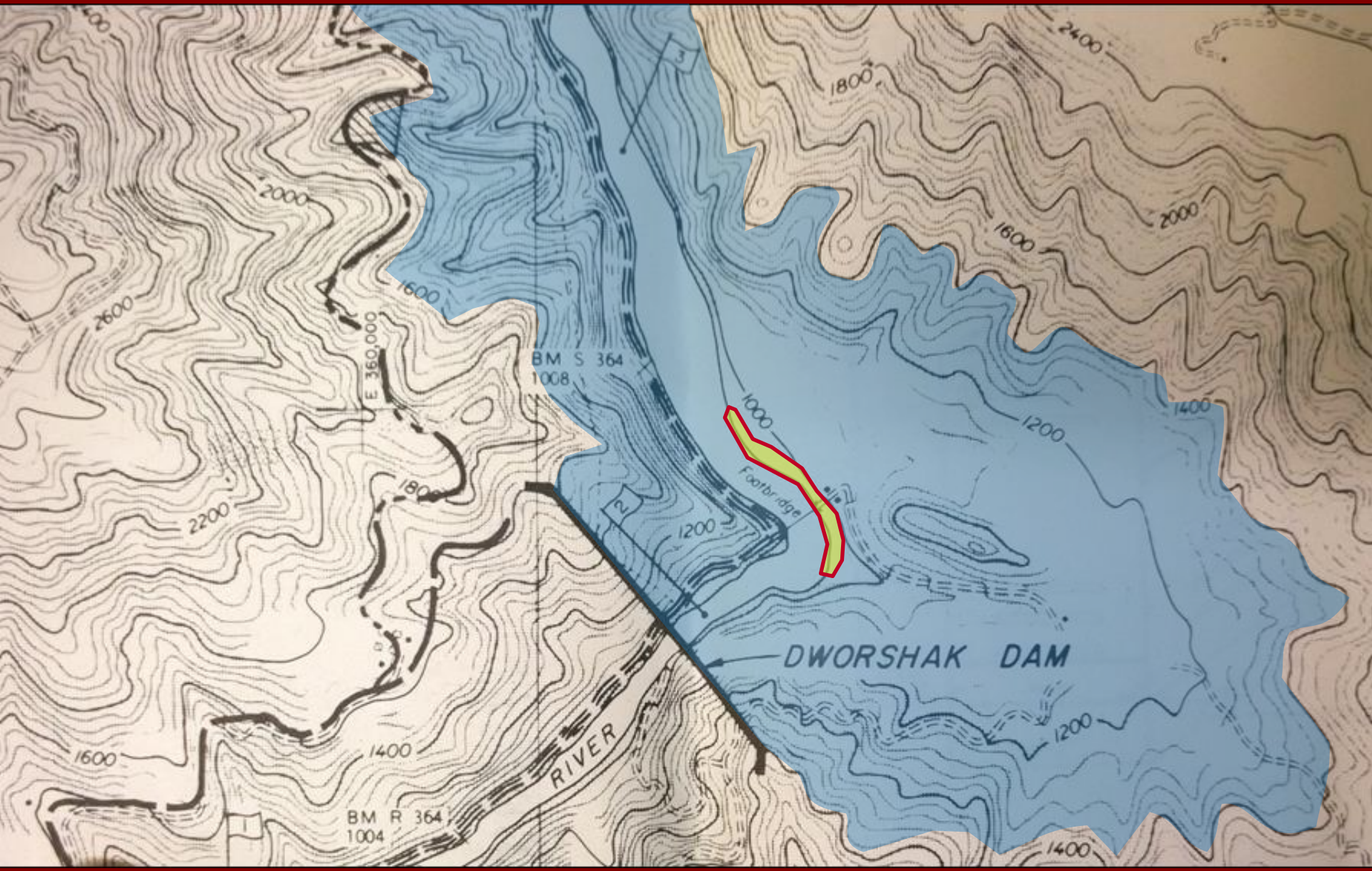
Paul S. Solimano

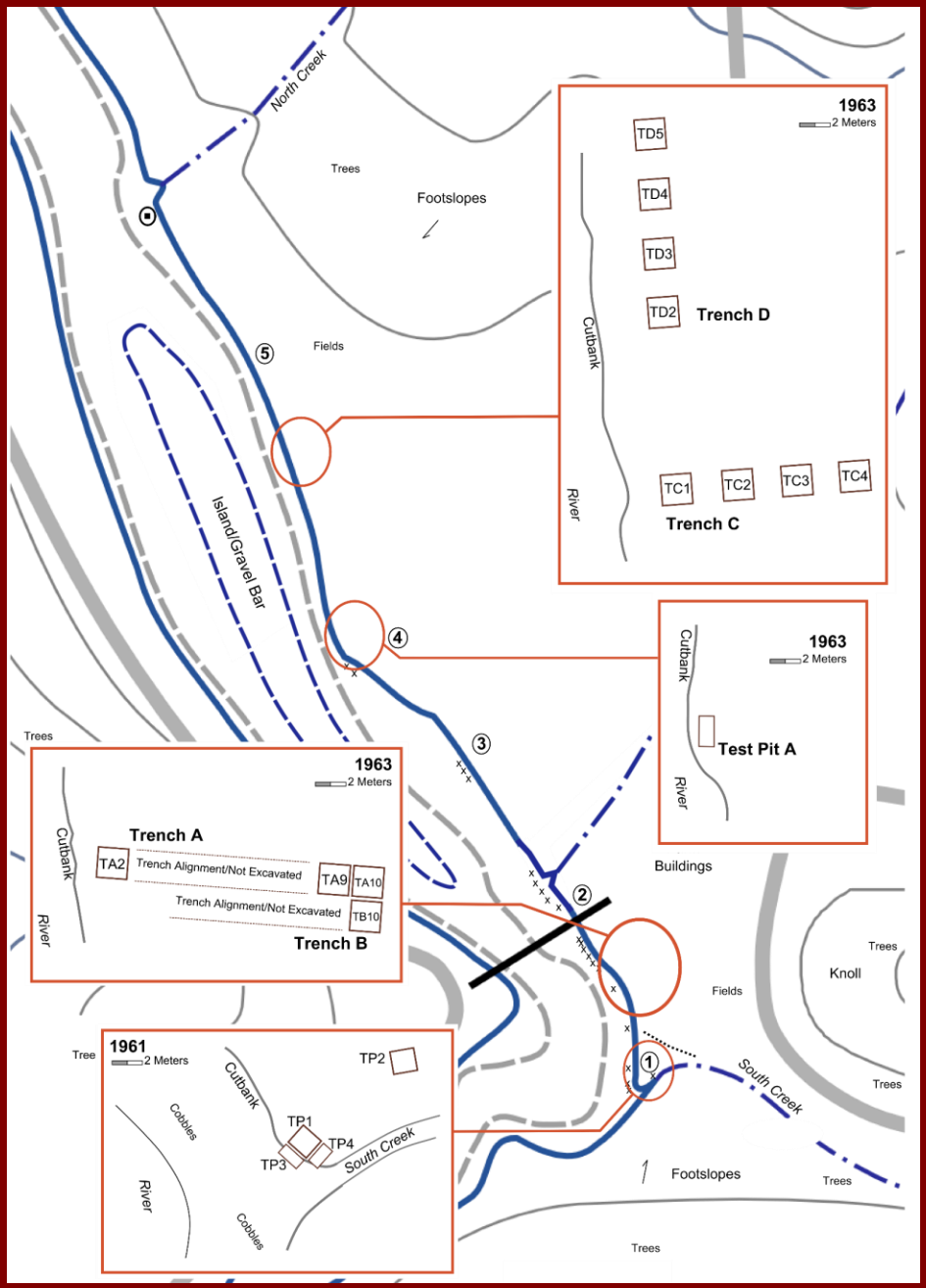


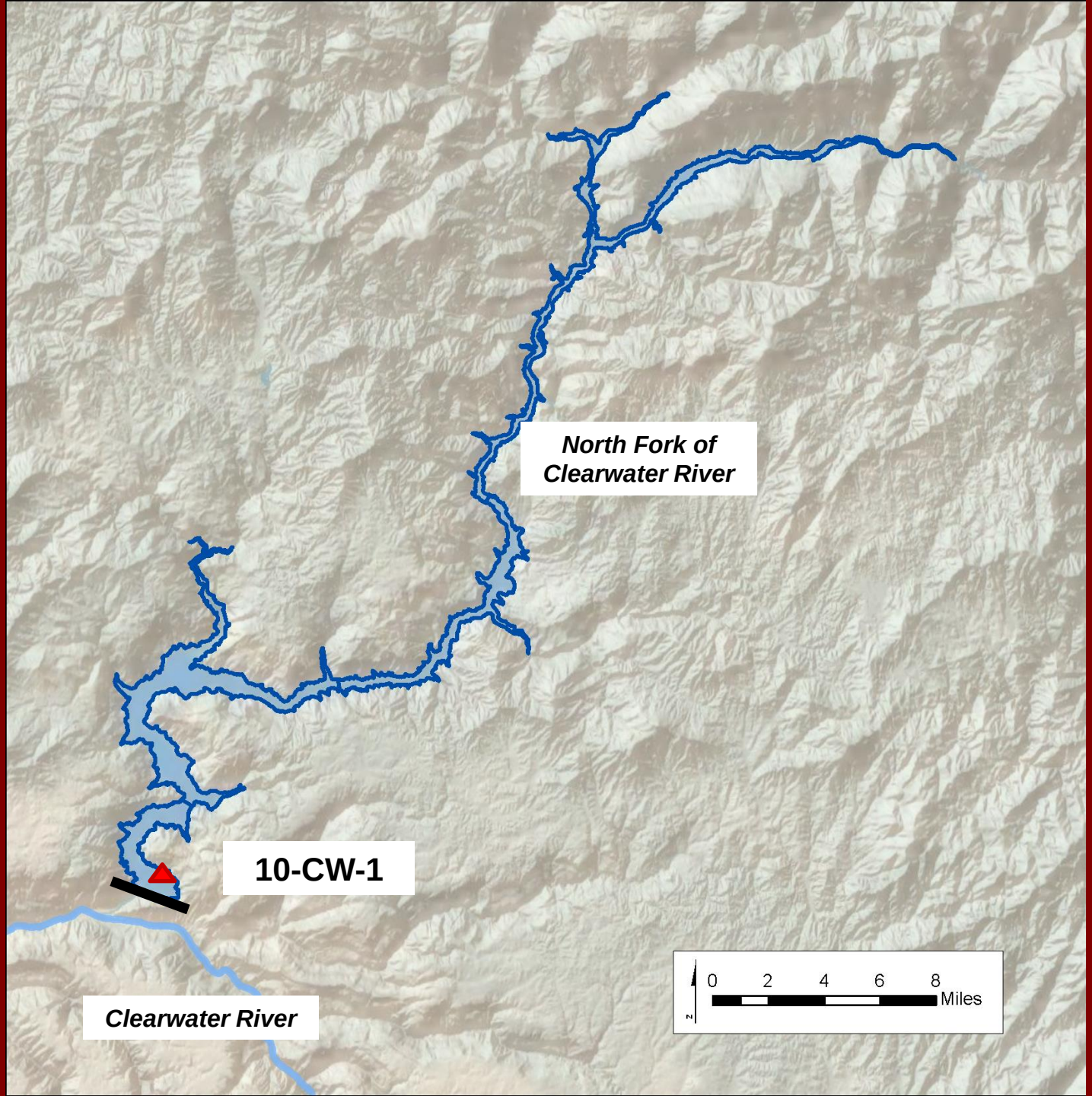
Willamette Cultural Resources Associates, Ltd.,
Portland and Seattle


Washington
Columbia River
Oregon
Snake River
Idaho
0 10 20 40 60 80
Miles

1963 Excavations at 10-CW-1

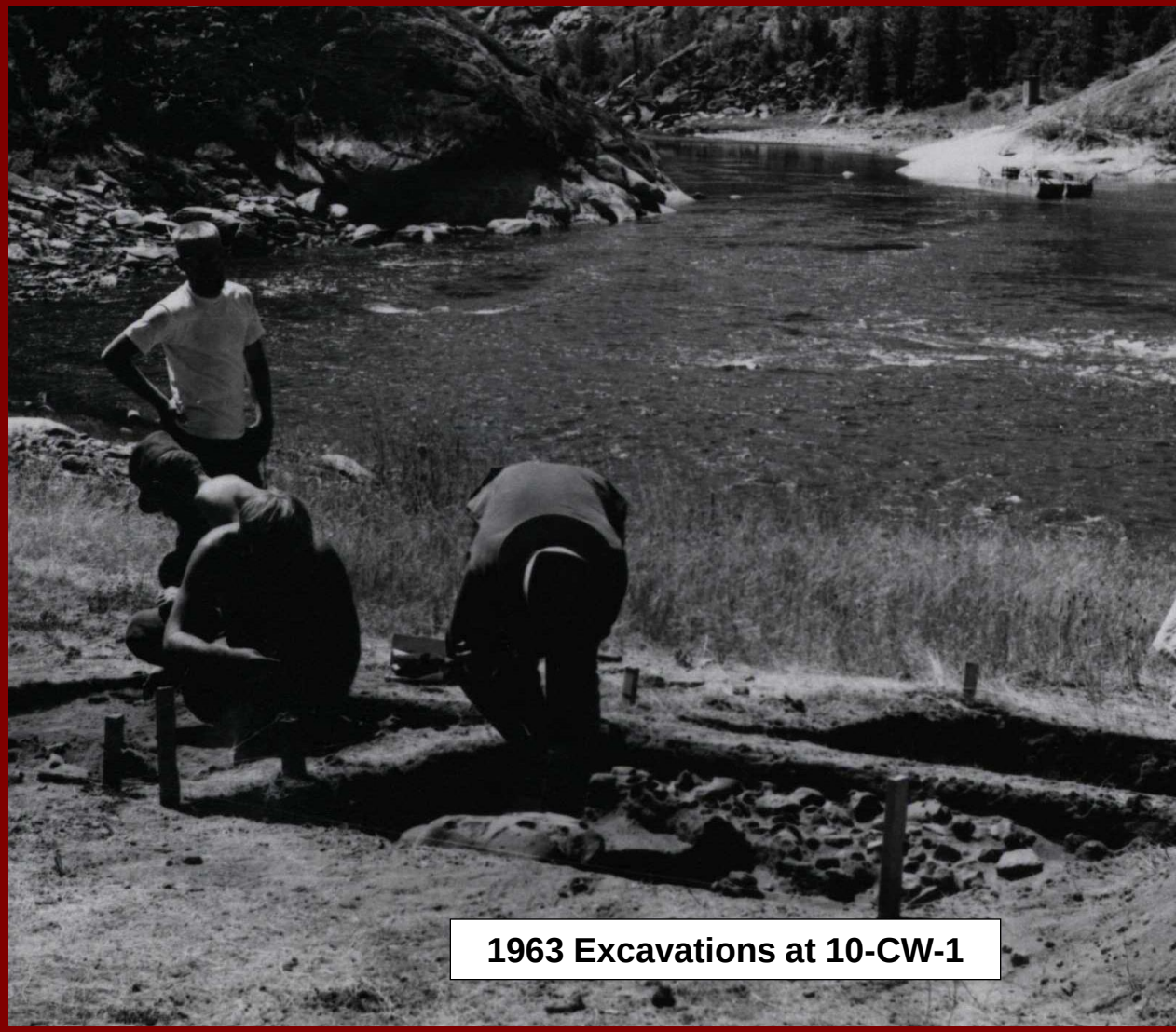

DWORSHAK DAM
Footbridge
BM S 364
1008
BM R 364
1004
E 360,000
RIVER
1000
1200
1400
1600
1800
2000
2200
2400
2600


North Creek
Trees
Footslopes
Fields
Island/Gravel Bar
1963
2 Meters
TD5
TD4
TD3
TD2
Trench D
Cutbank
River
TC1
TC2
TC3
TC4
Trench C
Cutbank
1963
2 Meters
Test Pit A
River
Buildings
Trees
1963
2 Meters
Trench A
TA2
Trench Alignment/Not Excavated
TA9
TA10
Trench Alignment/Not Excavated
TB10
Trench B
Cutbank
River
Trees
Knoll
Fields
Tree
1961
2 Meters
TP2
Cutbank
Cobbles
TP1
TP4
TP3
South Creek
River
Cobbles
South Creek
Footslopes
Trees
Trees
Trees
1
2
3
4
5


North Fork of
Clearwater River
10-CW-1
Clearwater River
0 2 4 6 8
Miles

Outline

- Introduction.
- Data Used.
- Results.
- Future Work.



1963 Excavations at 10-CW-1

Data Used

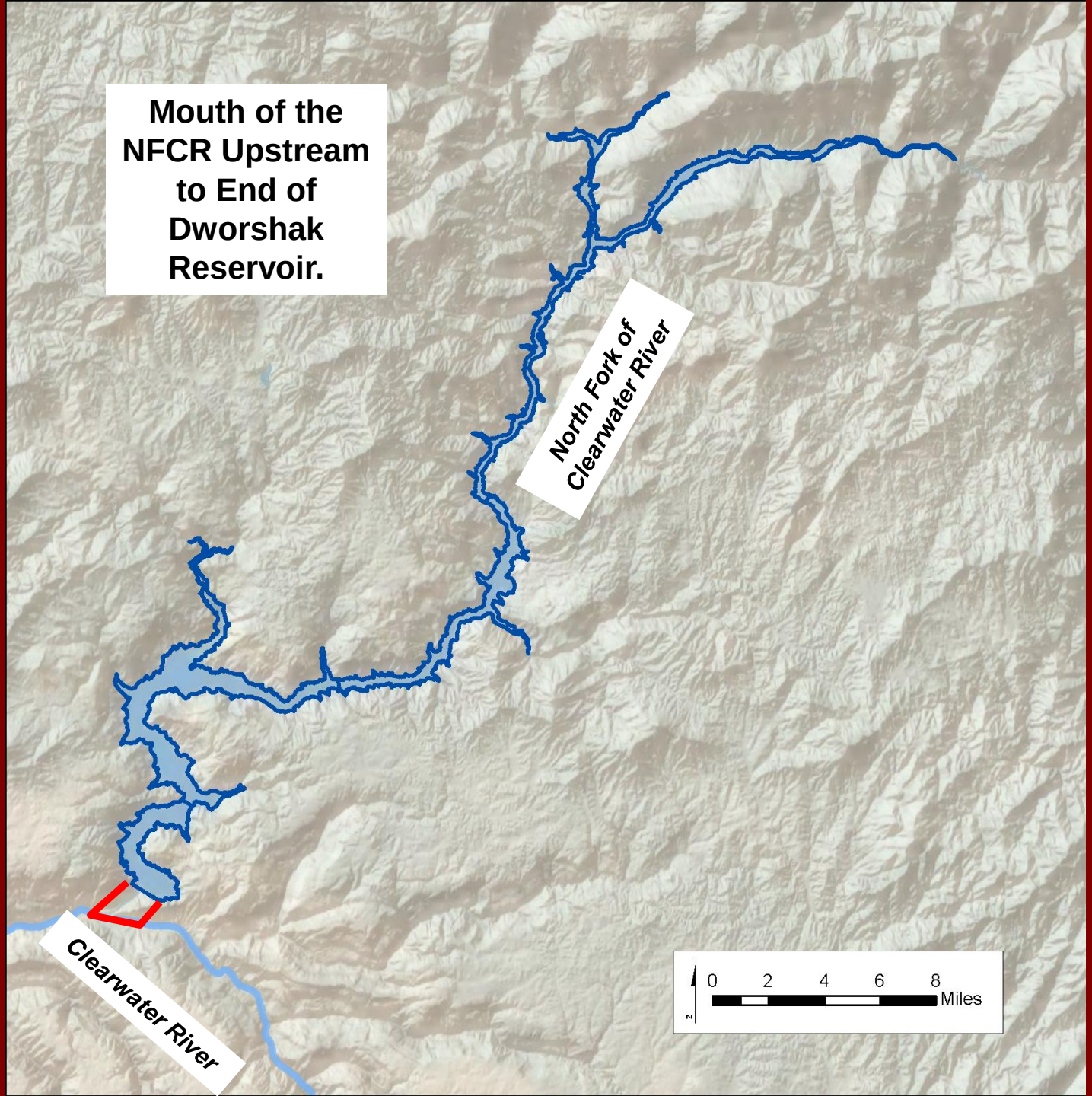
1. Area and Landscape.

2. Chronological Structure.

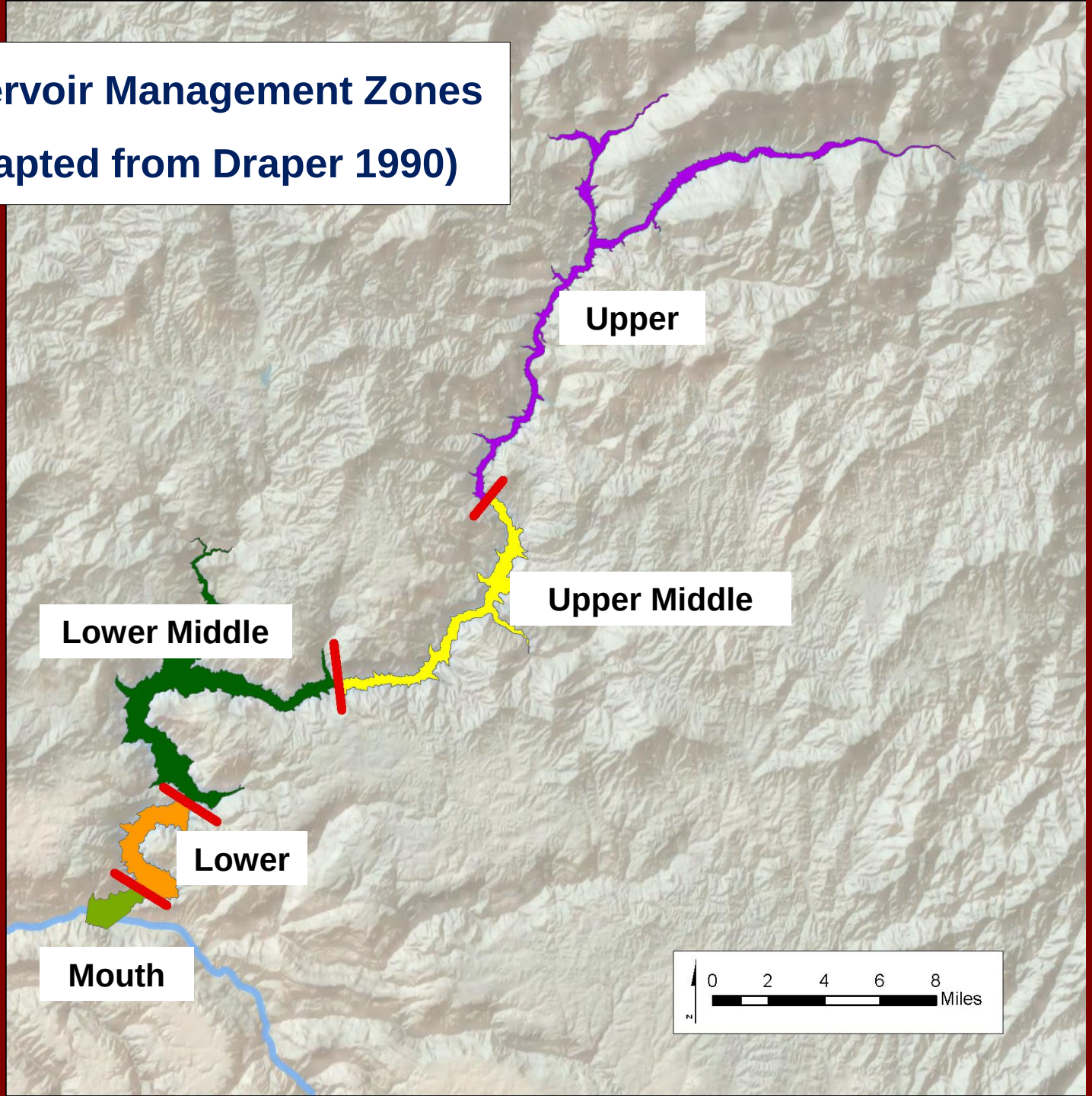
3. Excavation Data.

Data Used

1. **Area and Landscape.**
    - **Reservoir Management Zones (adapted from Draper 1990).**
2. **Chronological Structure.**
3. **Excavation Data.**


Mouth of the NFCR Upstream to End of Dworshak Reservoir.
North Fork of Clearwater River
Clearwater River
0 2 4 6 8
Miles

Reservoir Management Zones (adapted from Draper 1990)

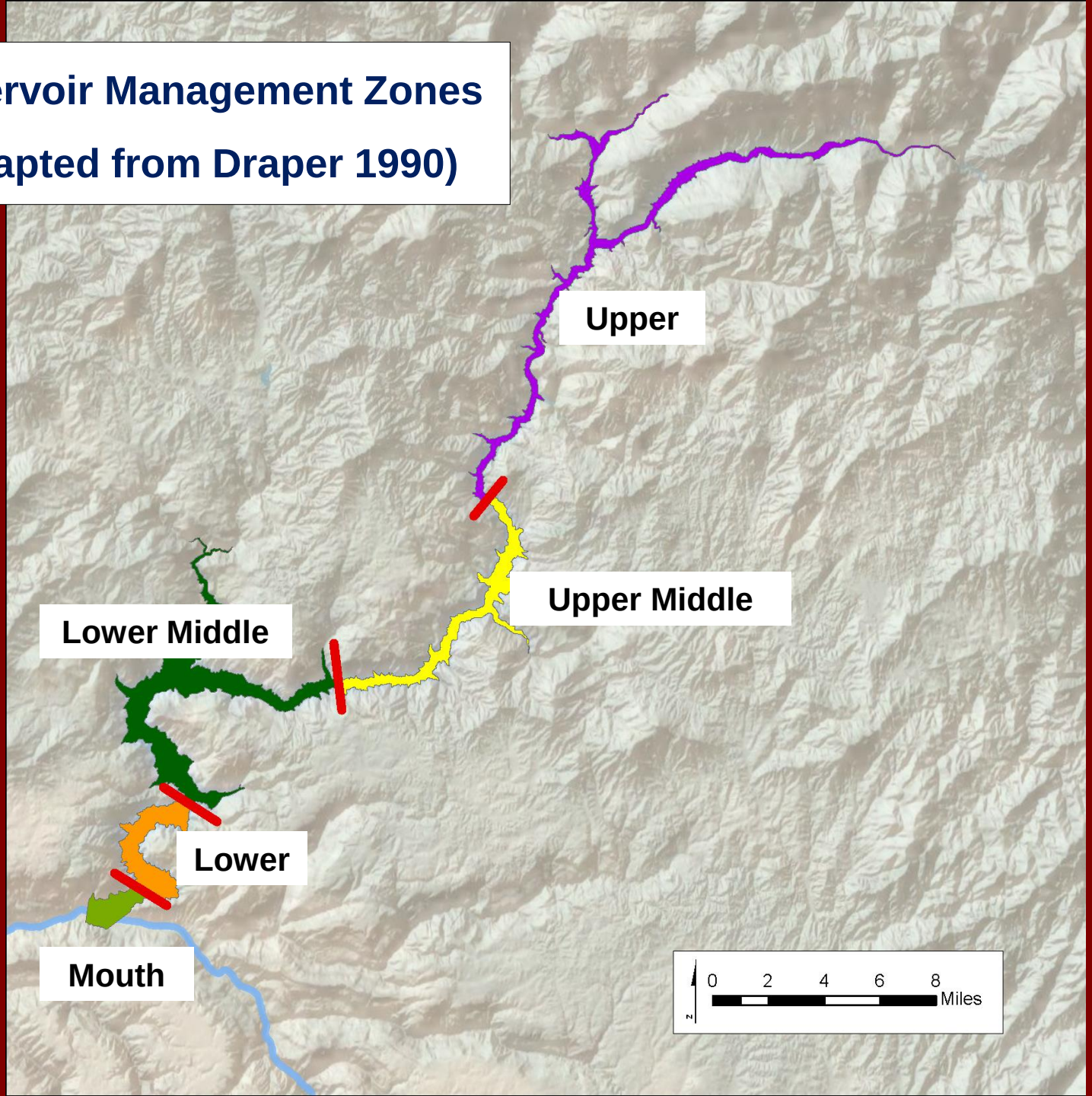


Reserv

(adap

Reservoir Zones	Characteristics
Mouth	Two Wide Rivers Wide Valley Large Terraces Large Confluence
Lower	One Wide River Wide Valley Large Terraces No Major Confluences
Lower Middle	One Wide River Wide, But Variable Valley Variable Terraces Several Large Confluences
Upper Middle	One Narrow River Narrow, But Variable Valley Variable Terraces Several Smaller Confluences
Upper	Two Narrow Rivers Narrow Valley Small Terraces Small Confluences, One Moderate Confluence

Reservoir Management Zones (adapted from Draper 1990)



Data Used

1. Area and Landscape.
    - Reservoir Management Zones (adapted from Draper 1990).
2. **Chronological Structure.**
    - **Projectile Points (~500).**
    - **Typed using Lohse 1985, Lohse and Shou 2008.**
3. Excavation Data.

Series	Type	Age (Years BP)			Age Group	Points		Approximate Age Group Time Span
		Max	Min	Mean		Cnt	Perc.	
Shouldered Lanceolate	Windust / Western Stemmed	12,000	8,500	10,250	I	9	2	Pre-8,500
Lanceolate	Cascade	8,500	4,000	6,250	II	6	4	8,500 to 5,000
Side-Notched Triangular	Cold Springs SN	7,600	4,000	5,800	II	17		
Corner-Notched Eared	Hatwaii Eared	5,000	3,000	4,000	III	15	40	5,000 to 3,000
Corner-Notched Triangular	Columbia CN A	5,000	2,500	3,750	III	192		
Corner-Removed Triangular	Rabbit Island Stemmed A / B	4,000	2,000	2,750	IV	23	6	3,000 to 2,000
	Quilomene Bar CN A / B	3,000	2,000	2,500	IV	7		
Basal-Notched Triangular	Wallula Rectangular Stemmed	2,000	1,500	1,750	V	4	48	2,000 to 200
	Quilomene Bar BN A / B	2,000	1,500	1,750	V	11		
	Columbia CN B	2,500	200	1,350	V	74		
	Columbia Stemmed A, B, C	2,000	200	1,100	V	62		
	Plateau SN	1,500	200	850	V	97		
					Totals	517	100	

Series	Type	Age (Years BP)			Age Group	Points		Approximate Age Group Time Span
		Max	Min	Mean		Cnt	Perc.	
Shouldered Lanceolate	Windust / Western Stemmed	12,000	8,500	10,250	I	9	2	Pre-8,500
Lanceolate	Cascade	8,500	4,000	6,250	II	6	4	8,500 to 5,000
Side-Notched Triangular	Cold Springs SN	7,600	4,000	5,800	II	17		
Corner-Notched Eared	Hatwaii Eared	5,000	3,000	4,000	III	15	40	5,000 to 3,000
Corner-Notched Triangular	Columbia CN A	5,000	2,500	3,750	III	192		
Corner-Removed Triangular	Rabbit Island Stemmed A / B	4,000	2,000	2,750	IV	23	6	3,000 to 2,000
	Quilomene Bar CN A / B	3,000	2,000	2,500	IV	7		
Basal-Notched Triangular	Wallula Rectangular Stemmed	2,000	1,500	1,750	V	4	48	2,000 to 200
	Quilomene Bar BN A / B	2,000	1,500	1,750	V	11		
	Columbia CN B	2,500	200	1,350	V	74		
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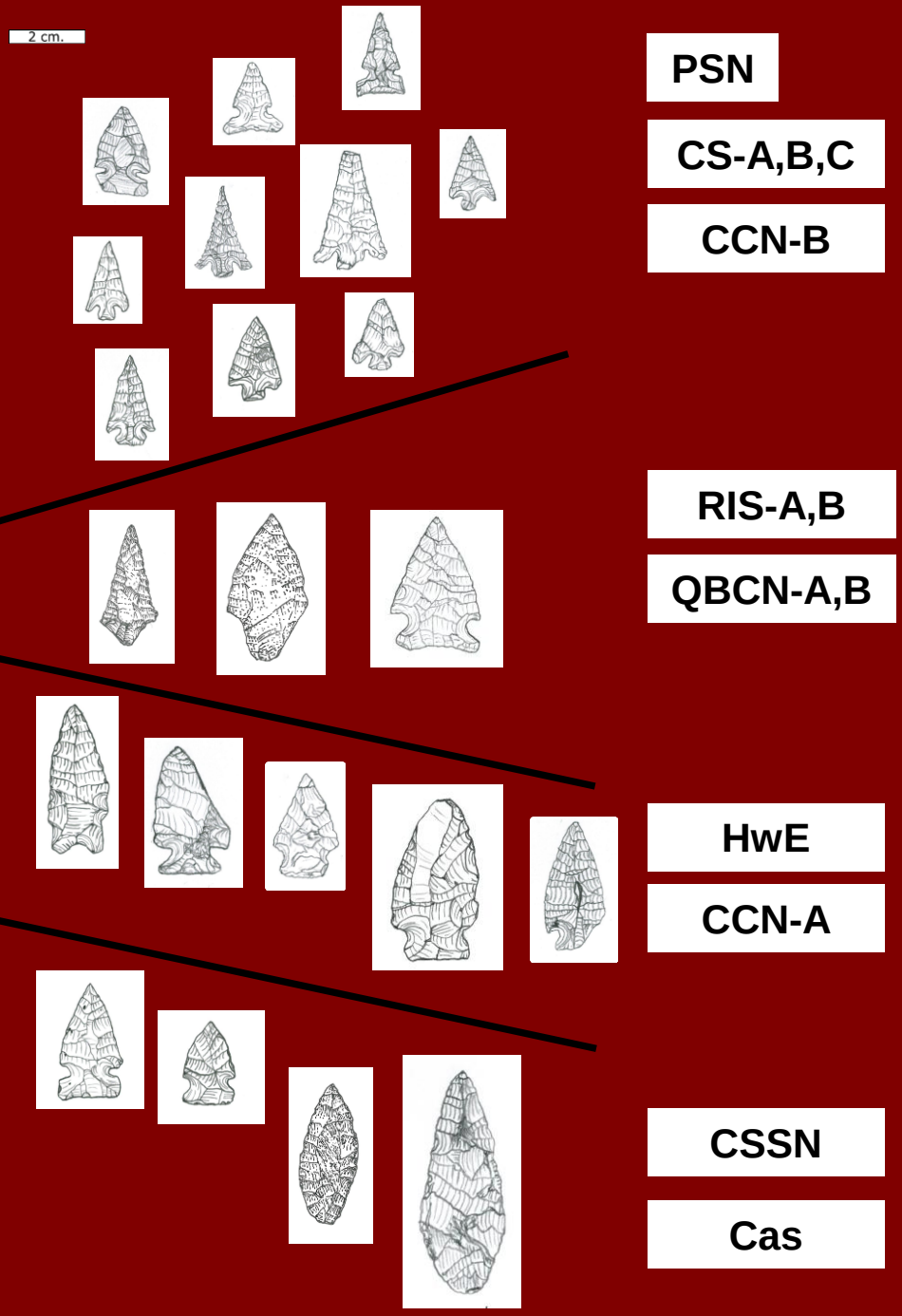
	Plateau SN	1,500	200	850	V	97		
					Totals	517	100	

Series	Type	Age (Years BP)			Age Group	Points		Approximate Age Group Time Span
		Max	Min	Mean		Cnt	Perc.	
Shouldered Lanceolate	Windust / Western Stemmed	12,000	8,500	10,250	I	9	2	Pre-8,500
Lanceolate	Cascade	8,500	4,000	6,250	II	6	4	8,500 to 5,000
Side-Notched Triangular	Cold Springs SN	7,600	4,000	5,800	II	17		
Corner-Notched Eared	Hatwaii Eared	5,000	3,000	4,000	III	15	40	5,000 to 3,000
Corner-Notched Triangular	Columbia CN A	5,000	2,500	3,750	III	192		
Corner-Removed Triangular	Rabbit Island Stemmed A / B	4,000	2,000	2,750	IV	23	6	3,000 to 2,000
	Quilomene Bar CN A / B	3,000	2,000	2,500	IV	7		
Basal-Notched Triangular	Wallula Rectangular Stemmed	2,000	1,500	1,750	V	4	48	2,000 to 200
	Quilomene Bar BN A / B	2,000	1,500	1,750	V	11		
	Columbia CN B	2,500	200	1,350	V	74		
	Columbia Stemmed A, B, C	2,000	200	1,100	V	62		
	Plateau SN	1,500	200	850	V	97		
					Totals	**485**	100	

LSR	Clearwater	RCYBP
Leonhardy and Rice 1970	Sappington 1994	
Numipu	Koosia	0
		500
Harder	Ahhanhka	1000
		1500
		2000
		2500
		3000
Tucannon	Hatwai	3500
		4000
		4500
		5000
Late Cascade	Cascade	5500
		6000
		6500
		7000



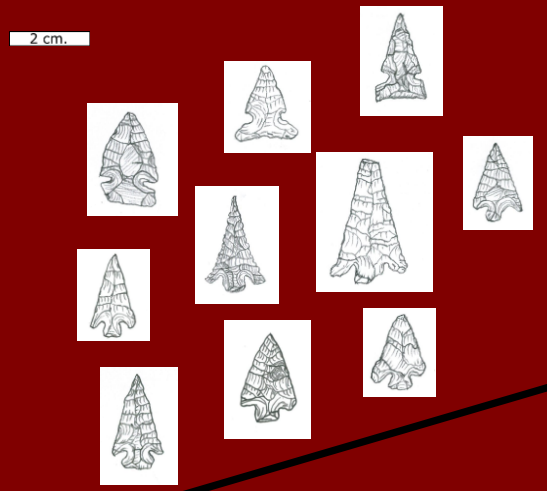
LSR	Clearwater	RCYBP
Leonhardy and Rice 1970	Sappington 1994	
Numipu	Koosia	0
		500
Harder		1500
	Ahbaphka	2000
		3000
Tucannon		3500
		4500
		5000
Late Cascade	Cascade	6500
		7000

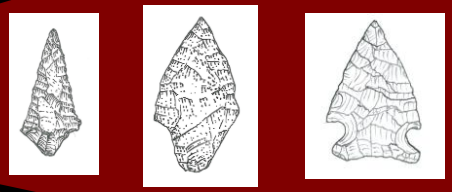
2,000 to ~200

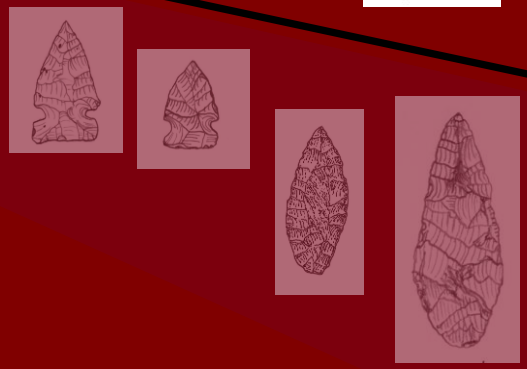
3,000 to 2,000

5,000 to 3,000

Pre 5,000







PSN

CS-A,B,C

CCN-B

RIS-A,B

QBCN-A,B

HwE

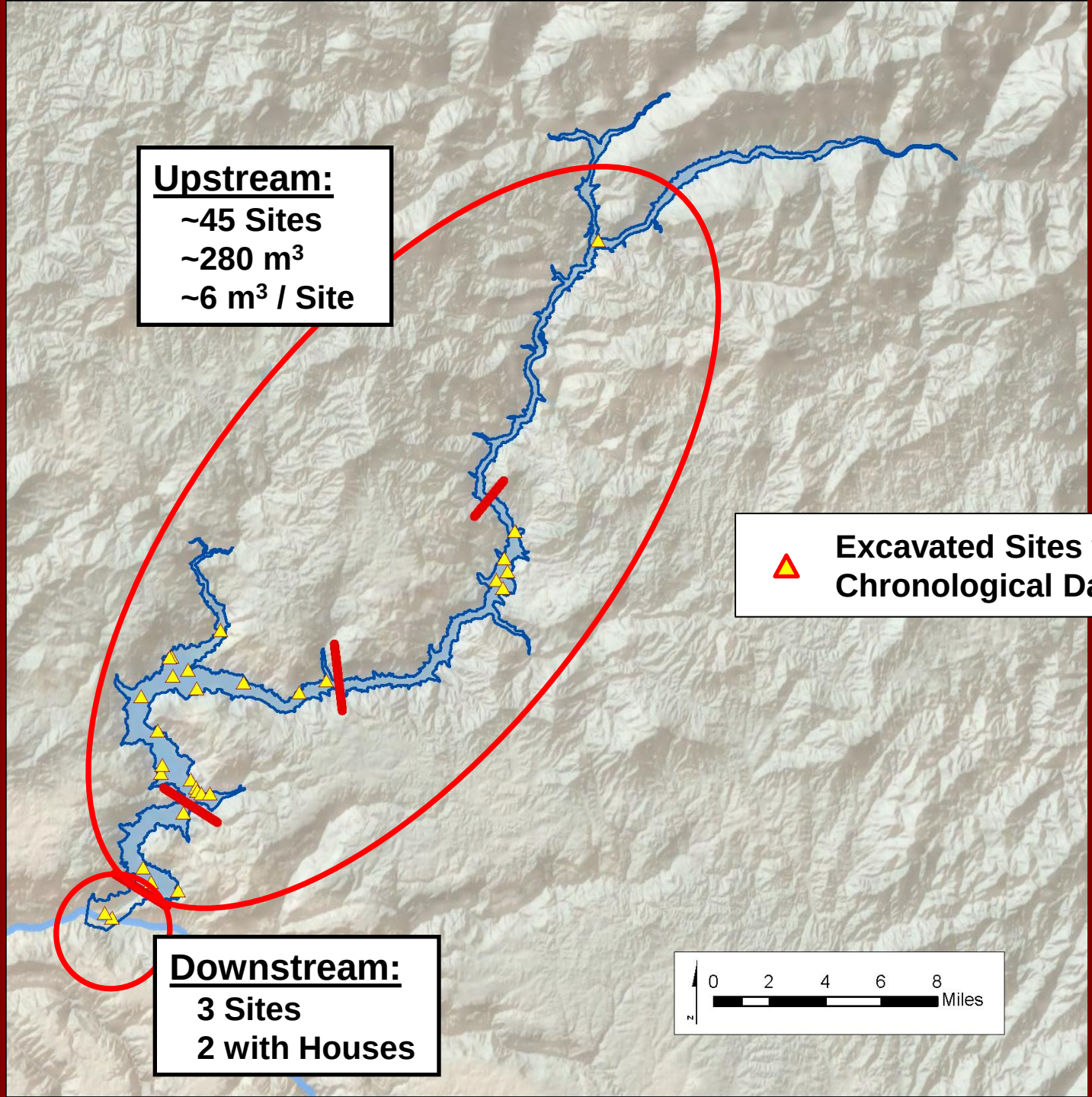
CCN-A

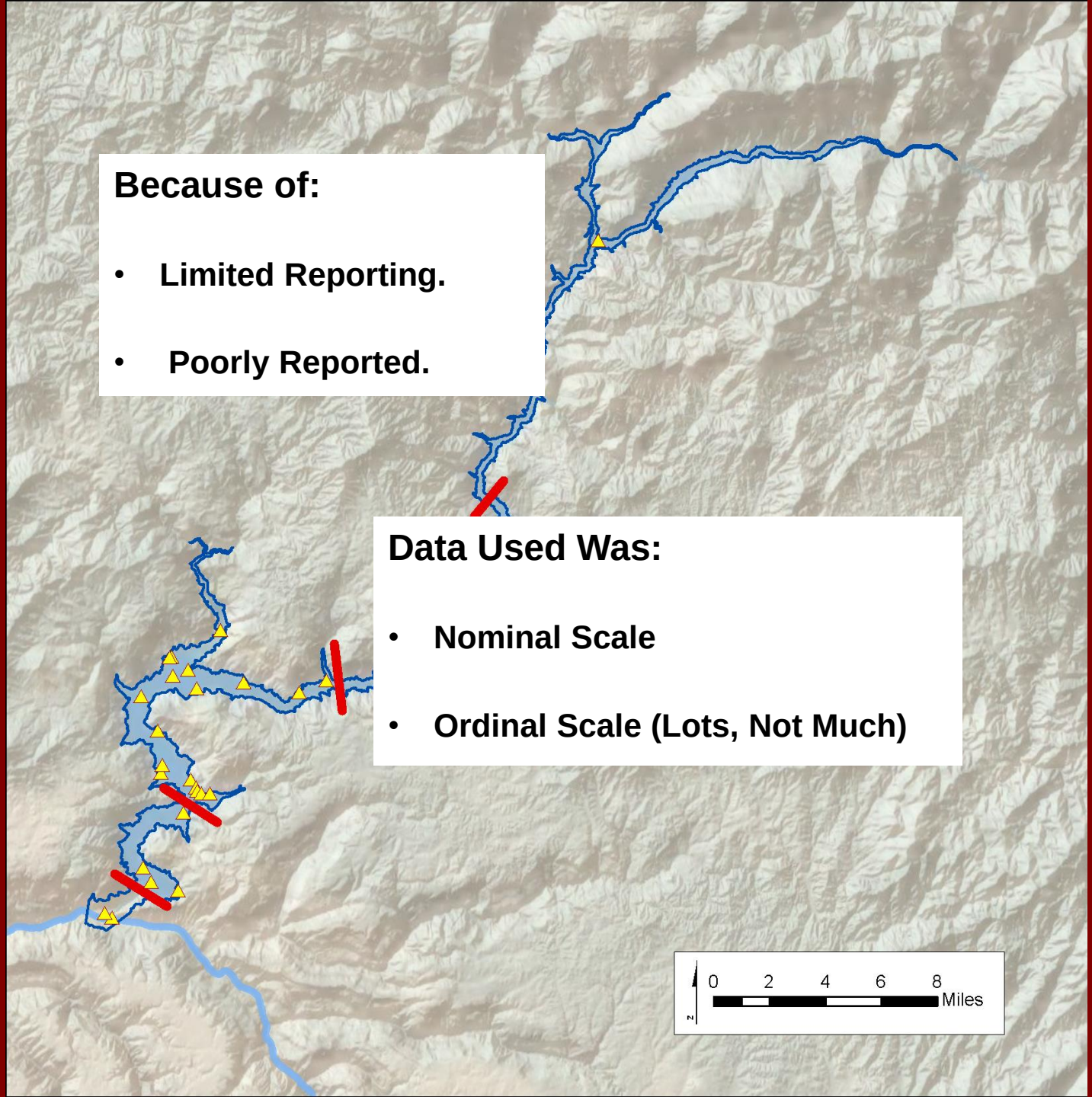
CSSN

Cas

Data Used

1. Area and Landscape.
    - Reservoir Management Zones (adapted from Draper 1990).
2. Chronological Structure.
    - Projectile Points (~500).
    - Typed using Lohse 1985, Lohse and Shou 2008.
3. **Excavation Data.**
    - **1970s survey and excavation along NFCR.**
    - **1980s/1990s excavations at confluence of CR and NFCR.**


Upstream:
~45 Sites
~280 m3
~6 m3 / Site
Excavated Sites with Chronological Data
Downstream:
3 Sites
2 with Houses
0 2 4 6 8
Miles


Because of:
• Limited Reporting.
• Poorly Reported.
Data Used Was:
• Nominal Scale
• Ordinal Scale (Lots, Not Much)
0 2 4 6 8
Miles

Results I

Upstream

Results I

Upstream

Relative Frequency of Projectile Points by Site and Reservoir Zone

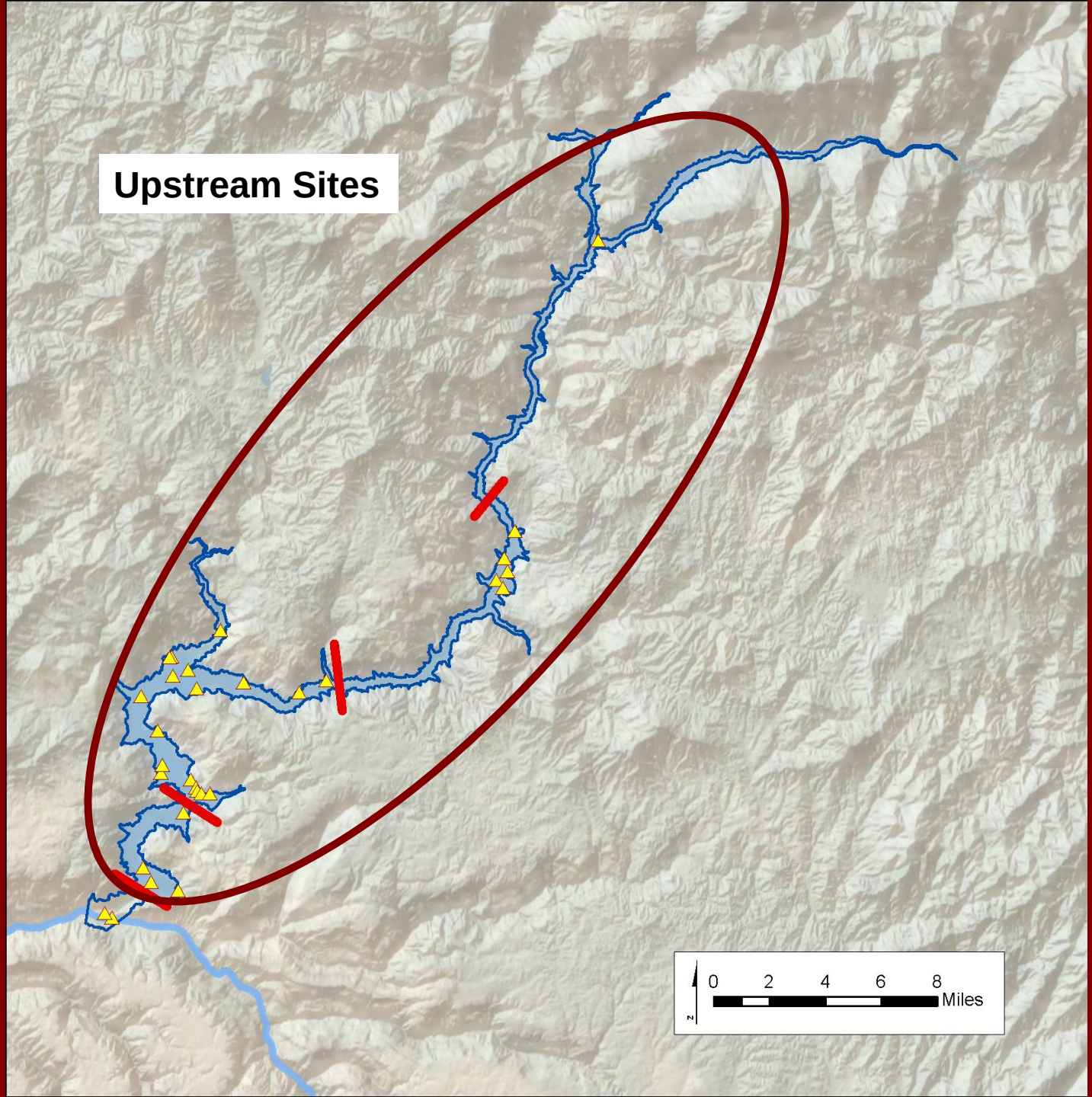
Age	Mouth		Lower				Lower Middle																Upper Middle				Up
Pre 8500		1																						100			14
8500 - 5000		1	5		12			29	43									100						25		100	
5000 - 3000	16	59	13	50	29			33	29	33	80	100	50	100	100	100	33			100		100		100		75			100	86
3000 - 2000	4	6	3		6		100	14	14		20		50				33						100						
Post 2000	80	33	78	50	53	100		24	14	67							33	100			100				100				

Results I

Upstream

Relative Frequency of Projectile Points by Site and Reservoir Zone

Age	Mouth		Lower				Lower Middle															Upper Middle				Up
Pre 8500		1																						100		14
8500 - 5000		1	5		12			29	43									100					25		100	
5000 - 3000	16	9	13	50	29			33	29	33	80	100	50	100	100	100	33			100		100		100		75			100	86
3000 - 2000	4	6	3		6		100	14	14		20		50				33							100					
Post 2000	80	33	78		53	100		24	14	67							33	100			100				100				


Upstream Sites
0
2
4
6
8
Miles

Results I

Upstream

Relative Frequency of Projectile Points by Site and Reservoir Zone

Age	Mouth		Lower				Lower Middle															Upper Middle				Up
Pre 8500																								100		14
8500 - 5000			5		12			29	43							100						25		100		
5000 - 3000	16	59	13	**50**	29			**33**	29	33	**80**	**100**	**50**	**100**	**100**	**100**	**33**		**100**		**100**		**100**		**75**		**100**	**86**
3000 - 2000			3		6		100	14	14		20		50				33						100				
Post 2000	80	33	**78**	**50**	**53**	**100**		24	14	**67**							**33**	**100**		**100**				**100**			

Results I

Upstream

Relative Frequency of Projectile Points by Site and Reservoir Zone

Age	Mouth	Lower				Lower Middle															Upper Middle				Up
Pre 8500																									14
8500 - 5000		5		12		29	43								100						25		100		
5000 - 3000	16	59	13	50	29		33	29	33	80	100	50	100	100	100	33		100		100		100		75		100	86
3000 - 2000			3		6	100	14	14		20		50				33							100				
Post 2000	80	33	78	50	53	100		24	14	67						33	100		100					100			

Relative Frequency of the Amount of Archaeological Material at Upstream Sites

Primary Use	Amount of Archeological Materials		
	Low	Mod	High
5000 - 3000	70	10	20
3000 - 2000	100		
Post 2000	22		77

Results I

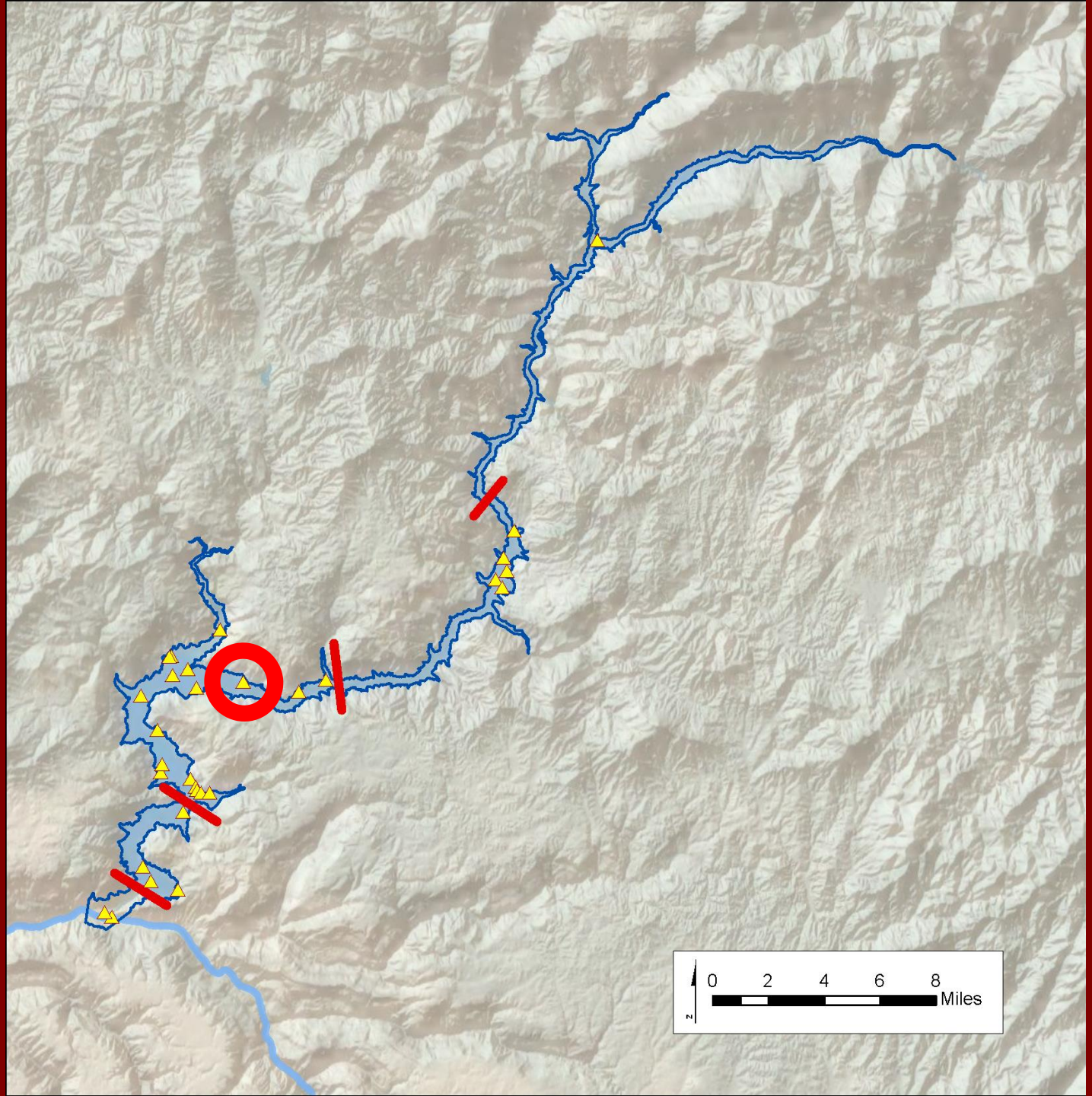
Upstream

Relative Frequency of Projectile Points by Site and Reservoir Zone

Age	Mouth	Lower				Lower Middle														Upper Middle				Up
Pre 8500																						100		14
8500 - 5000		5		12		29	43								100					25		100		
5000 - 3000	16	59	13	50	29		33	29	33	80	100	50	100	100	100	33		100		100		100	75		100	86
3000 - 2000			3		6	100	14	14		20		50				33						100				
Post 2000	80	33	78	50	53	100		24	14	67						33	100		100				100			

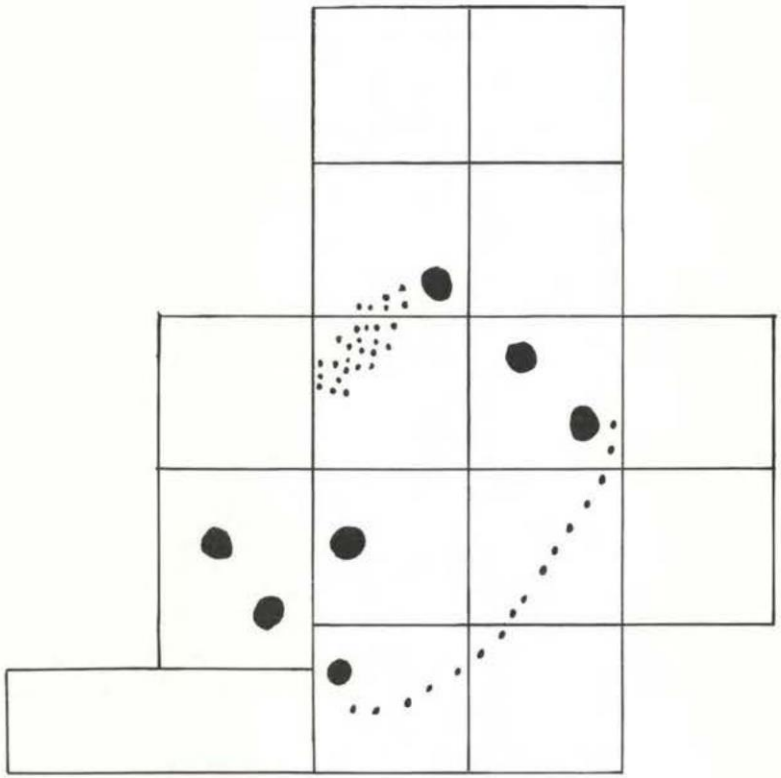
Relative Frequency of the Amount of Archaeological Material at Upstream Sites

Primary Use	Amount of Archeological Materials		
	Low	Mod	High
5000 - 3000	70	10	20
3000 - 2000	100		
Post 2000	22		77


0
2
4
6
8
Miles

BIG SPRING.

HOUSE 1



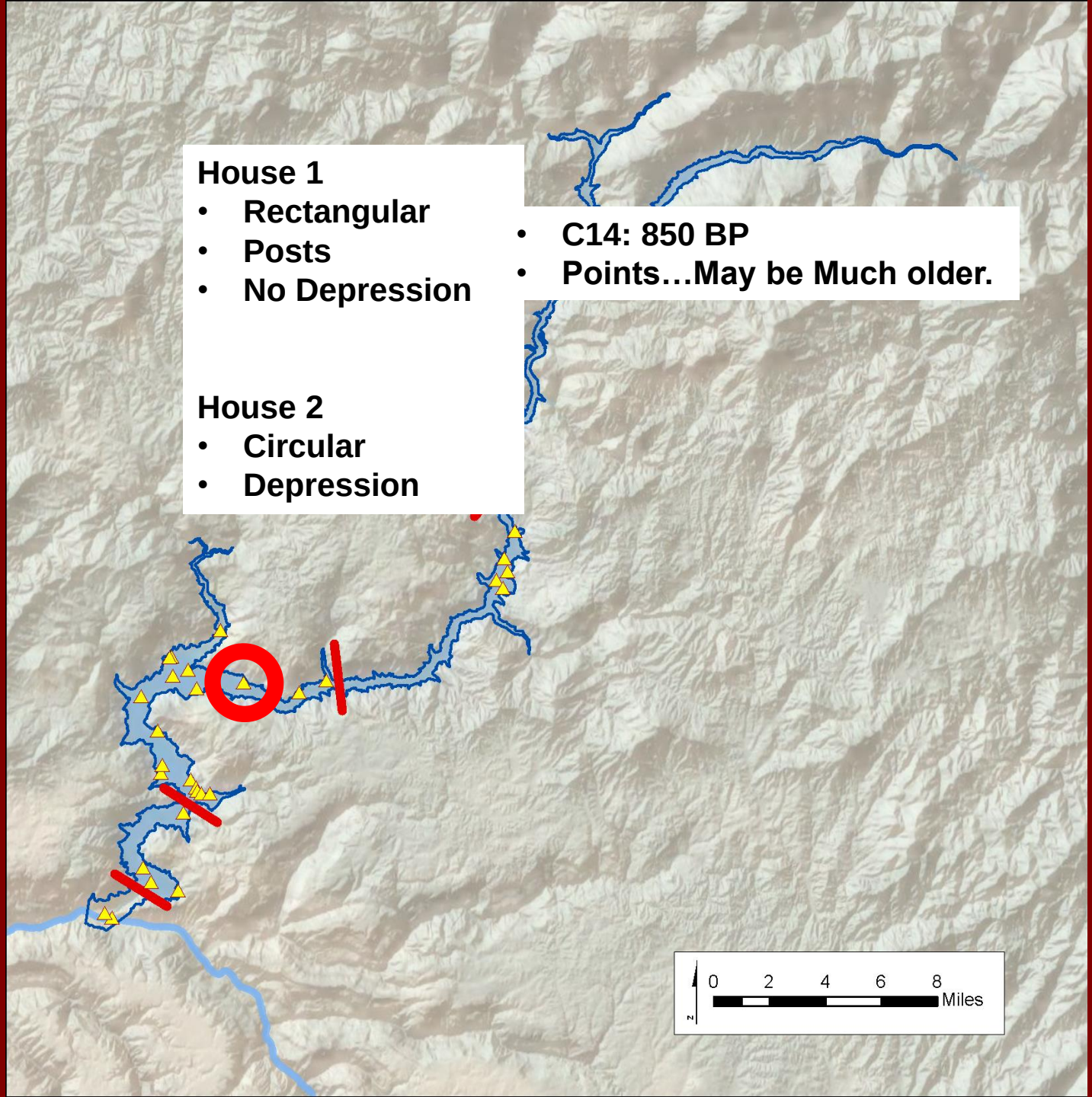
MAP 4

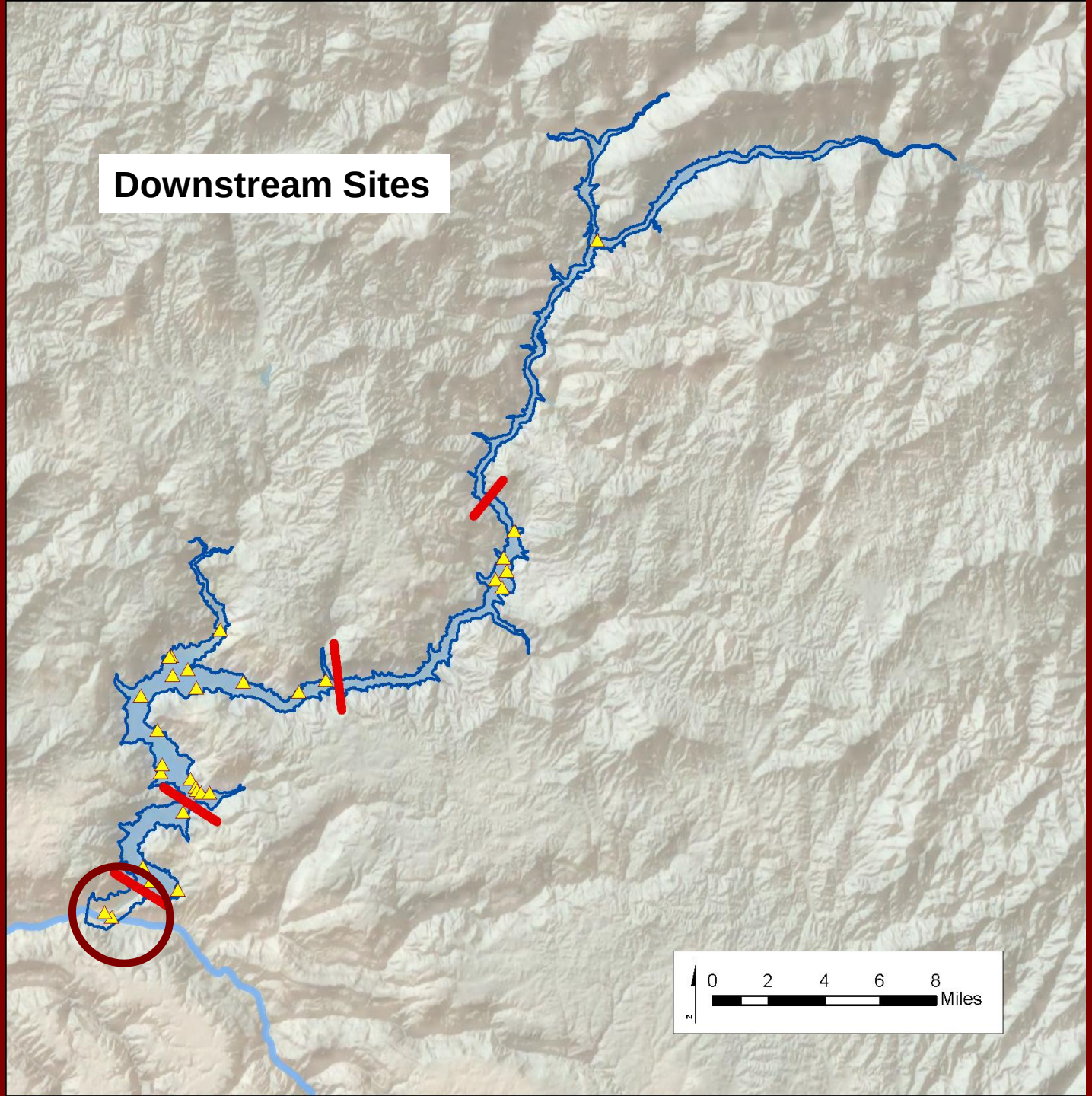
0 2

meters

sketch map

N

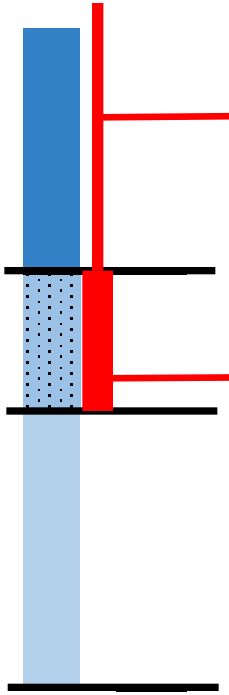

House 1
• Rectangular
• Posts
• No Depression
House 2
• Circular
• Depression
• C14: 850 BP
• Points…May be Much older.
0 2 4 6 8
Miles


Downstream Sites
0
2
4
6
8
Miles

Results I

Downstream

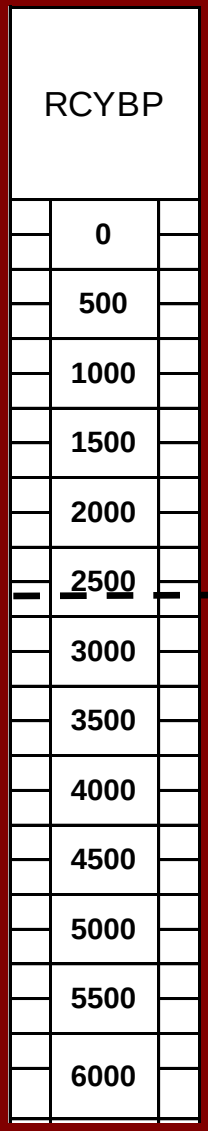
LSR	Clearwater	RCYBP
Leonhardy and Rice 1970	Sappington 1994	
Numipu	Koosia	0
		500
Harder	Ahhanhka	1000
		1500
		2000
		2500
Tucannon		3000
	Hatwai	3500
		4000
		4500
		5000
Late Cascade	Cascade	5500
		6000
		6500
		7000



- More Sites with Structures?
- More Structures?
- More Floors?
- Feature Diversity Low?

- Fewer Sites with Structures?
- Fewer Structures?
- Fewer Floors?
- Feature Diversity Low?

Results II
Putting It All Together



Downstream

- Numerous Robust Structures
- Used More Intensively.

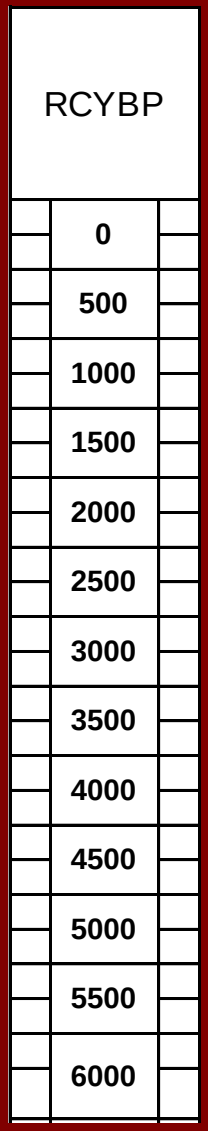
Upstream

- Small Number of Sites.
- Used Intensively.
- Temporary Structures.

- Few Robust Structures
- Used Less Intensively.

- Large Number of Sites.
- Used Lightly.

Results II
Putting It All Together



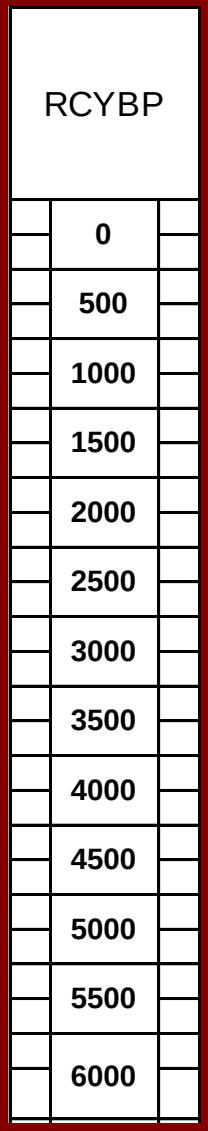
Downstream

- **Increasing Population.**
- **Population aggregation.**
- **Increased Annual Sedentism.**

Upstream

- **Increased Logistical Movement**
- **Change in Landscape Use.**
- **Narrowing Patch Use.**

Results II
Putting It All Together



Downstream

- **Increasing Population.**
- **Population aggregation.**
- **Increased Annual Sedentism.**

Upstream

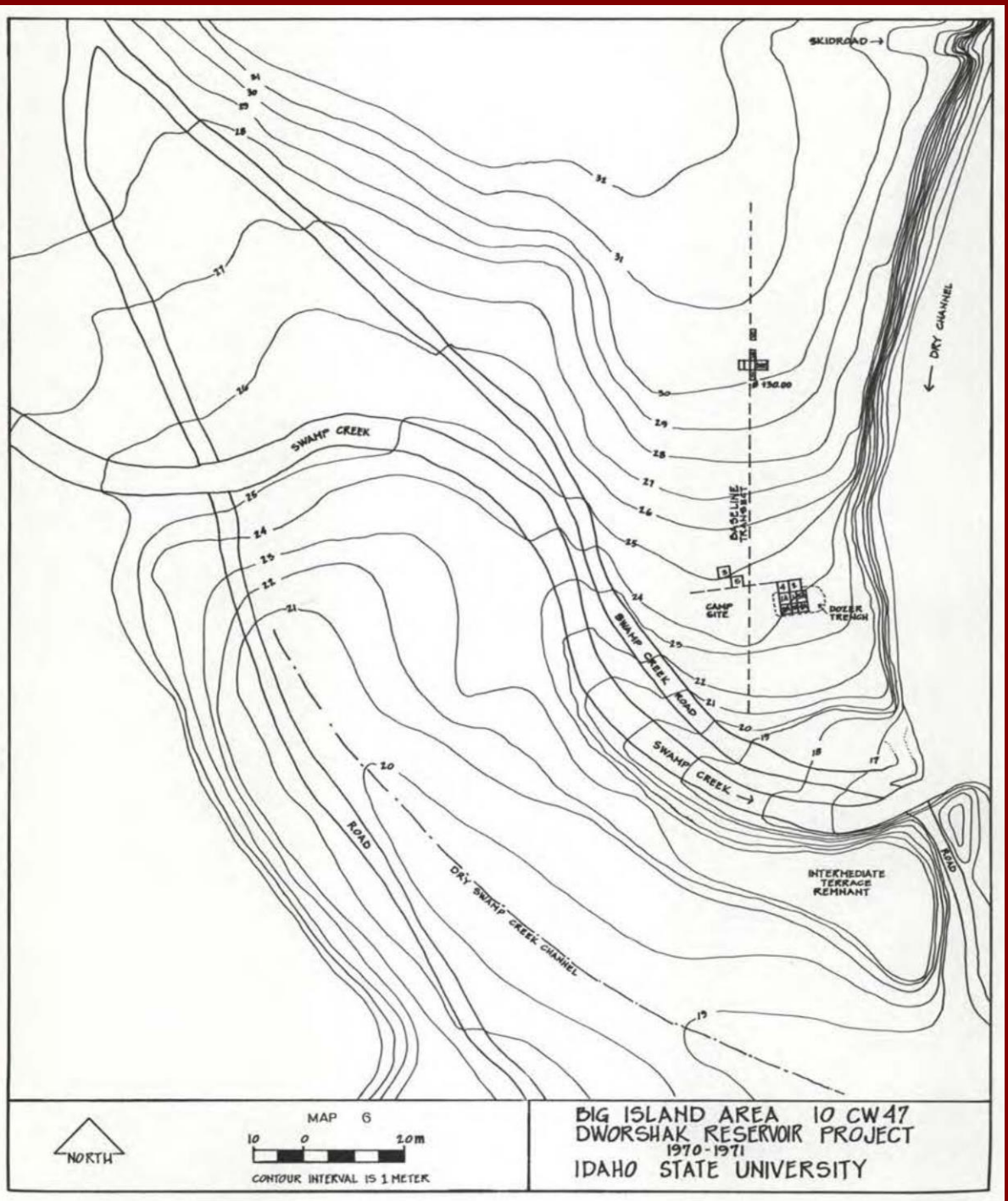
- **Increased Logistical Movement**
- **Change in Landscape Use.**
- **Narrowing Patch Use.**

Next Steps

1. Scratched the Surface.
2. Vast amount of Archaeological information is untapped.
3. We are Completely Wrong.

Next Steps

1. **Landscape Reconstruction**
    - **Landforms.**


SKIDROAD
DRY CHANNEL
SWAMP CREEK
GASOLINE TRANSMISSION LINE
CAMP SITE
DOZER TRENCH
SWAMP CREEK ROAD
SWAMP CREEK
ROAD
DRY SWAMP CREEK CHANNEL
INTERMEDIATE TERRACE REMNANT
ROAD
MAP 6
NORTH
10 0 10m
CONTOUR INTERVAL IS 1 METER
BIG ISLAND AREA 10 CW 47
DWORSHAK RESERVOIR PROJECT
1970-1971
IDAHO STATE UNIVERSITY

Next Steps

a

b

Figure 9.

Next Steps

1. **Landscape Reconstruction**
   - Landforms.

2. **Compile Archaeological Data**
   - Upstream Sites
   - Function
   - Content, Tools, FCR, etc.

2. **Ethnographic Data**
   - Place Names
   - Storyscapes
   - Traditional Use


the end