



## Suitable Backcountry Campsite Locations for Grand Teton National Park

Wendy Koelfgen

### Project Goals

- To identify areas appropriate for camping based on regulations and suitable conditions
- To examine current use patterns to determine how well users are following the regulations
- To compare available ideal camping locations with designated carrying capacities

## Current Management

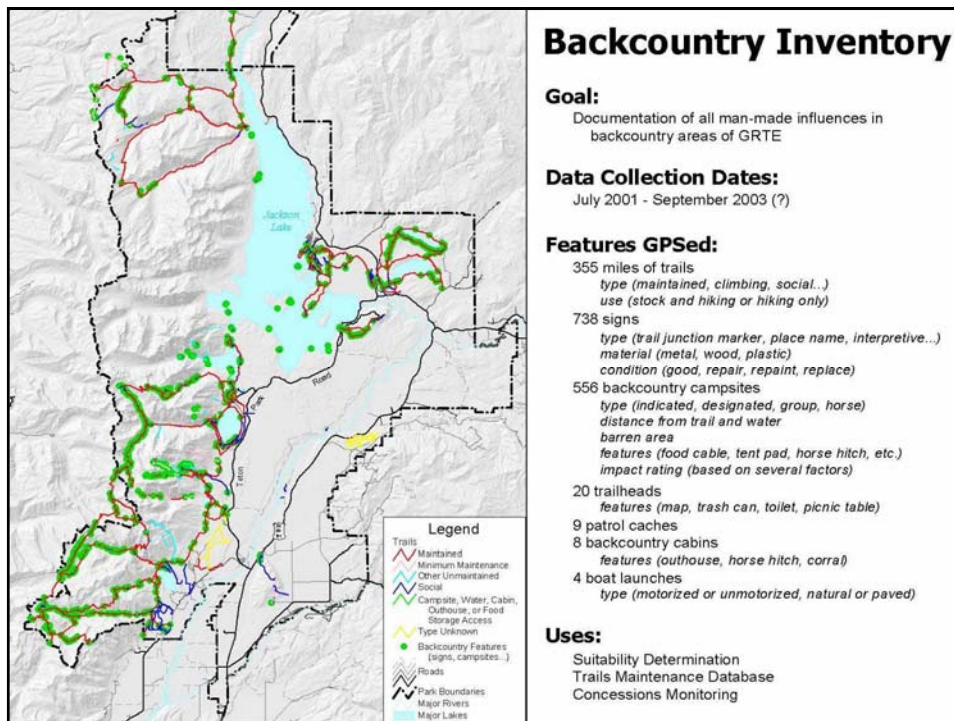
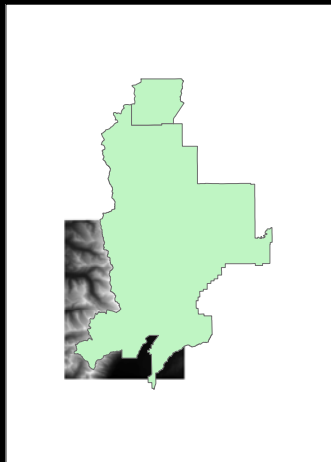
- Designated site or designated zone
- Zones have predetermined carrying capacity
- Users are instructed to follow a set of parameters in selecting a campsite within a zone including: 100 feet from water, out of sight of trail and other campers and on previously impacted sites
- Managing for Wilderness Values

## Carrying Capacity

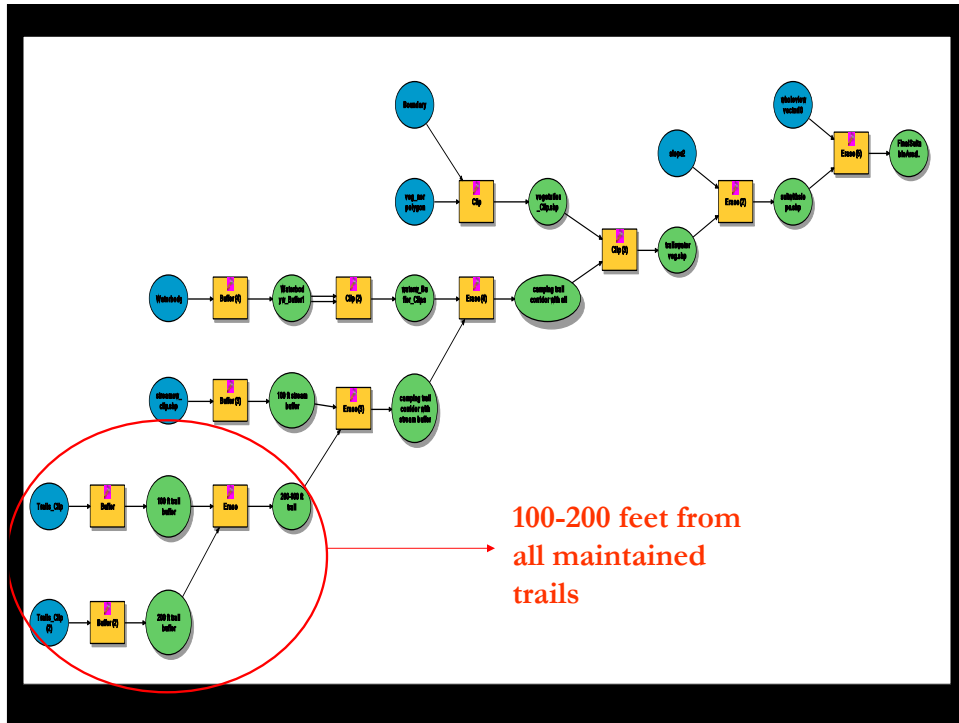
Zone	Party Limit	Person Limit
Lower Granite	5	14
Middle/South Fork Granite	15	42
North Fork Granite	6	17
Mt Hunt – Granite	2	6
Open Canyon	3	9
Death Canyon	11	31
Death Canyon Shelf	7	20
Cascade South Fork	9	26
Cascade North Fork	8	23
Upper Paintbrush	6	17
Lower Paintbrush	4	21
Surprise Lake	3	9

# First Project Challenge

- DEM only available in four sections







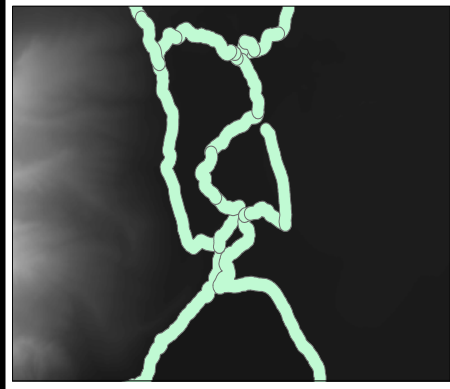
## 100-200 feet from all maintained trails

- Source = based on minimum and maximum of comparable designated campsites
- Data = trails, campsites
- Methods: 1) 100 and 200 foot buffer 2) Erase 200 with 100

CAMP_ZONE	Count	Minimum	Maximum	Average
Bradley	1	125	125	125
Cascade	34	60	201	113
Death	18	50	201	128
Garnet	10	30	201	90
Granite	6	15	100	86
Leigh_Lake	11	0	0	0
Paintbrush	13	80	201	169
Phelps_Lake	3	0	75	25
Surprise_Lake	4	100	100	100
Total	100	0	201	93

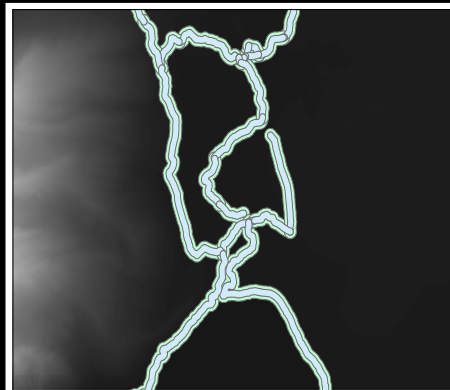
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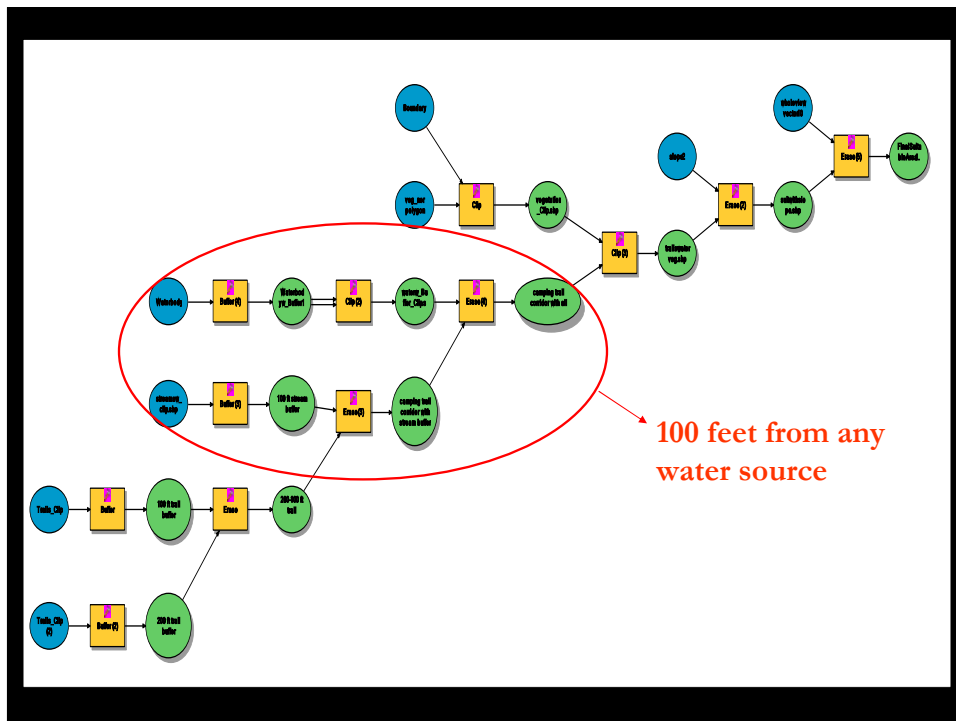
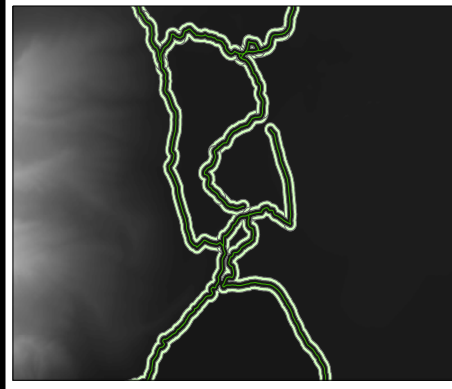
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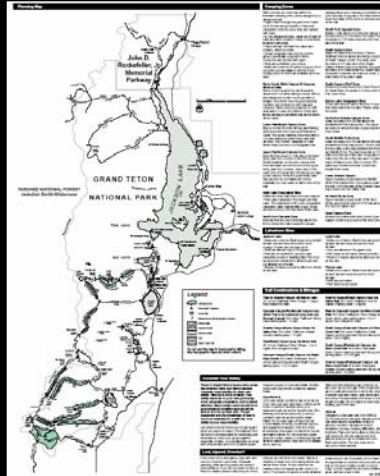
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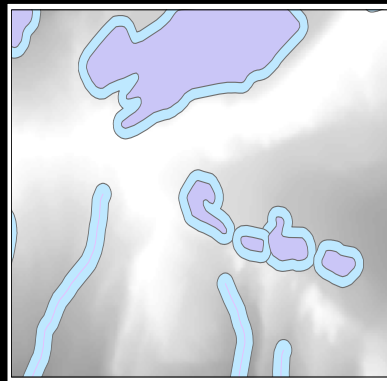
## 100 feet from any water source

- Source = Backcountry camping regulations
- Data = streams, waterbodies
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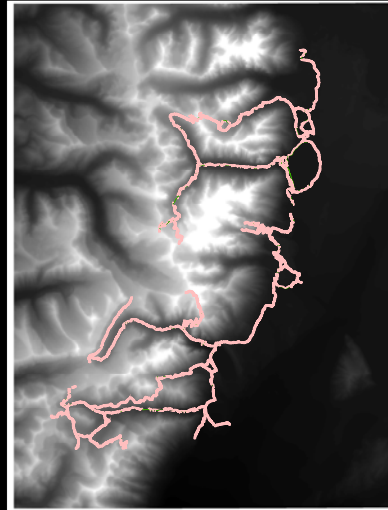
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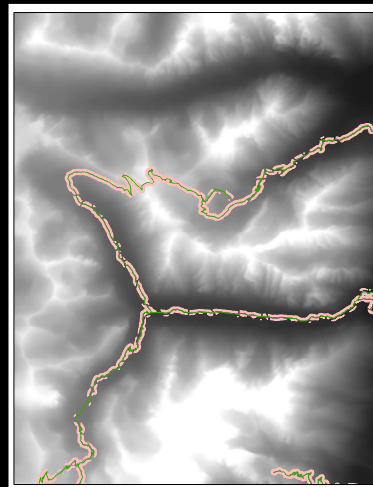
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  - Suitable Corridor
  - Trail

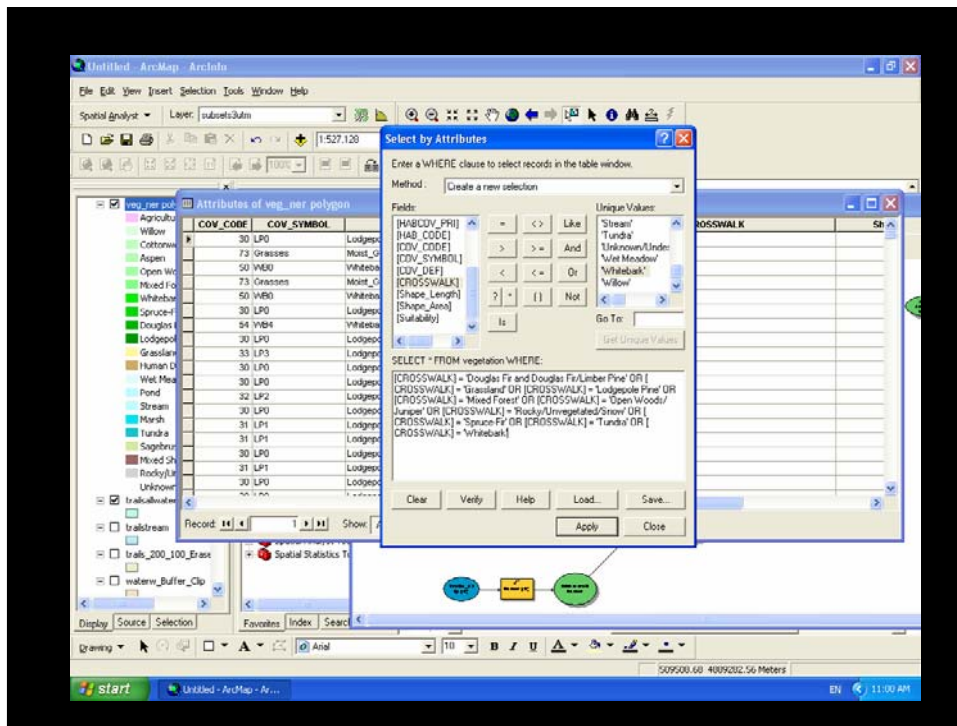


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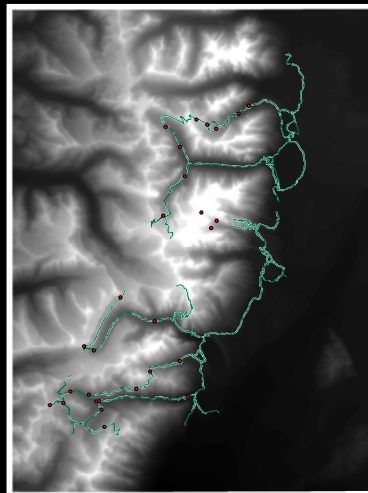




## Suitable campsite locations that are:

- 100-200 feet from a trail
- 100 feet from water
- in compatible vegetation cover
- Legend:

- Trail
- Suitable Corridor
- Camping Zone
- Boundaries





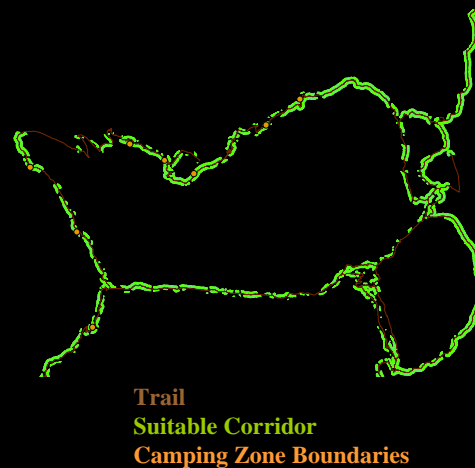
## On relatively level ground

- Source = logic
- Data = DEM
- Methods = 1) Slope  
2) Determine acceptable values (raster calculator) 3) Convert to vector 4) Delete acceptable values 5) Erase

- Con (dem\_slope >= 20, 0, 1)
- Con (dem\_slope >= 20, 1, 2)
- Converted to Vector
- Selected and deleted all Gridcode = 2

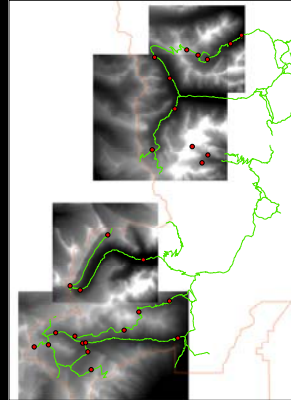
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## Out of sight of trail

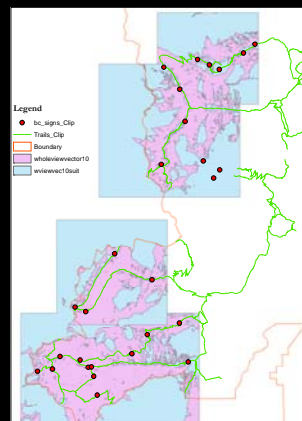
- Source = backcountry regs
- Data = trails, DEM, signs
- Methods =
  - 1) Split DEM in four sections
  - 2) Viewsheds
  - 3) Select acceptable visibility level (Raster Calculator)
  - 4) Convert to vector
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  - 6) Erase



-Trail -Park Boundary  
•Camping Zone Boundary

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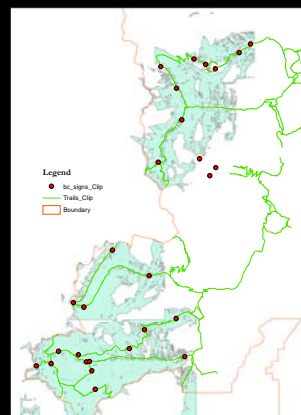
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•Con(dem\_viewshed>=5,1,2)  
•Con(dem\_viewshed>=10,1,2)

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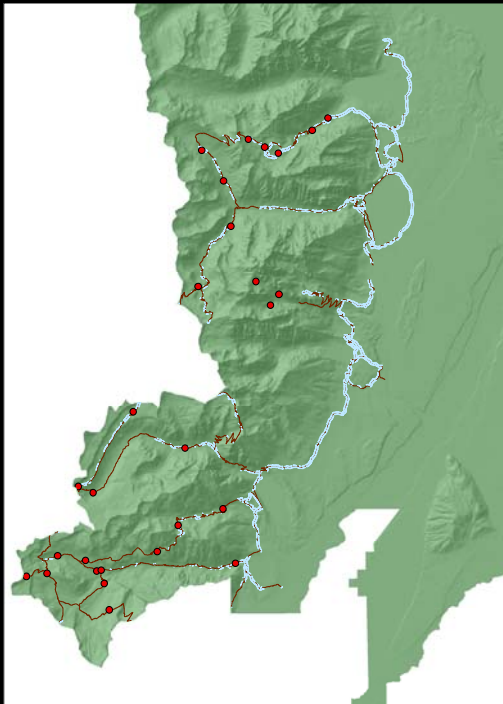


## Out of sight of other campsites

- Source = Backcountry regs
- Data = results of model
- Methods = ?????

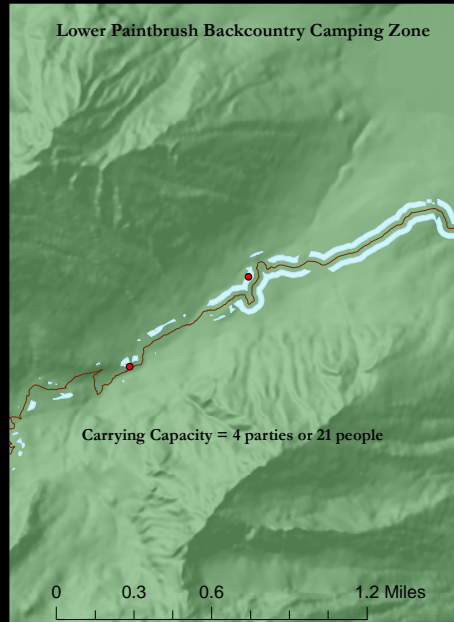
### Final Suitable Camping Areas

Trail  
Suitable camping areas  
Camping Zone Boundaries





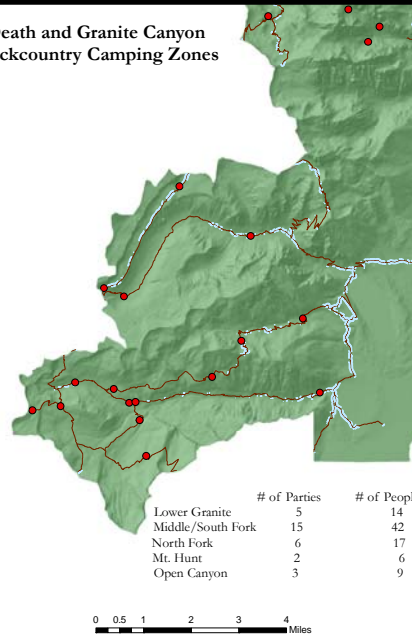
## Final Suitable Camping Areas



Trail  
 Suitable camping areas  
 Camping Zone Boundaries

## Final Suitable Camping Areas

### Death and Granite Canyon Backcountry Camping Zones



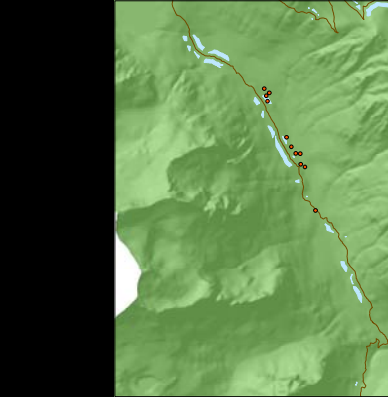
- Viewshed does not take veg cover into consideration

Trail  
 Suitable camping areas  
 Camping Zone Boundaries

## Suitable Areas v. Impacted Areas



Trail



Suitable camping areas



Impacted Campsites

## Possible Uses

- To designate campsites within camping zones
- To recommend campsite locations to backcountry users
- Compare carrying capacity to number of available campsite locations
- Compare locations of impacted sites in zone management to ideal sites as determined by model

