Siting Potential Dams at Camp Del Webb, Utah

Presented By: Kyle Wamser
Problem

- Camp Del Webb is Lacking an Onsite Lake
  - High Adventure Bases generally need aquatics
  - Large lake nearby, but transportation is required

- Possible Solution
  - Create a small reservoir on camp land
  - GIS may be useful in identifying possible sites
Data Collection

- Locate the Camp
  - First find the general location
  - Then determine land ownership
- Find Land Information
  - Digital Elevation Models
  - Streets
  - Other lakes
  - Wetlands
  - Historic sites
  - Other available Shapefiles
Data Collection: Locating the Camp

<table>
<thead>
<tr>
<th>Account#</th>
<th>Summary</th>
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</table>
| 0144124 | Parcel #: 1-B  
Situs:  
Acres: 40.00  
Owner: BOULDER DAM AREA COUNCIL BSA  
Legal: S: 19 T: 38S R: 10W SW1/4 SE1/4 SEC 19 T38S R10W SLM  
Version: 06/22/2006 03:33:17-992 PM to: MAX |
| 0144181 | Parcel #: 4-A  
Situs:  
Acres: 120.00  
Owner: BOULDER DAM AREA COUNCIL BSA  
Legal: S: 19 T: 38S R: 10W N1/2 SE1/4; SE1/4 SE1/4 SEC 19 T38S R10WSLM  
Version: 06/13/2006 04:48:35-945 PM to: MAX |
| 0144264 | Parcel #: 9  
Situs:  
Acres: 240.00  
Owner: BOULDER DAM AREA COUNCIL BSA  
Legal: S: 20 T: 38S R: 10W SW1/4; SE1/4 NW1/4; SW1/4 SE1/4 SEC 20T3...  
Version: 06/13/2006 04:49:13-528 PM to: MAX |
| 0144520 | Parcel #: 31  
Situs:  
Acres: 140.00  
Owner: BOULDER DAM AREA COUNCIL BSA  
Legal: S: 28 T: 38S R: 10W S1/2 NW1/4; NW1/4 SW1/4 AND BEG AT SWCOR...  
Version: 06/14/2006 10:01:58-810 AM to: MAX |
| 0144538 | Parcel #: 32  
Situs:  
Acres: 400.00  
Owner: BOULDER DAM AREA COUNCIL BSA  
Legal: S: 29 T: 38S R: 10W E1/2 SEC 29 & BEG AT NW COR SEC 29 T38S...  
Version: 06/13/2006 04:49:53-765 PM to: MAX |
| 0268618 | Parcel #: 33-A-2  
Situs:  
Acres: 1.00  
Owner: BOULDER DAM AREA COUNCIL BSA  
Legal: S: 29 T: 38S R: 10W BEG AT A PT WHICH IS S 11*36'39 E 1014....  
Processing

- DEMs
  - Merged four
  - Filled sinks
  - Found direction and accumulation
  - Created a hillshade

- Finding Possible Lake Locations
  - Added three potential dam sites
  - Calculated watersheds
  - Extended dams through terrain to prevent runoff on the sides
  - Calculated watershed $\leq$ dam elevation, which identified lakes
Potential Lake Sites at Camp Del Webb

Presented By: Kyle Wamsler
03 May 2007
Results

- What GIS can do: Provide Information on Selected Sites
  - Watershed Area: 50.30 square kilometers
  - Lake Area: 21,084 square meters
  - Lake Volume: 135,900 cubic meters

- What GIS can’t do: Recommend Sites based on set Criteria
  - Right now, a user cannot request a lake that will fill to a set volume from a watershed of a certain minimum size and have a GIS output potential dam sites
Conclusion

- Problem
- Data Collection
- Processing
- Results