

Expert Review and Questionnaire (PART II)

Thank you for participating in this SDSU/NASA project to assist habitat conservation and resource managers. This document will introduce two user scenarios for evaluating the prototype of a web-based GIServices and remote sensing set of tools for Natural Habitat Conservation and Management. Please help us improve these tools by filling out the questionnaire and providing your comments to our research team after the tutorial exercises. Thank you for helping us refine these on-line tools and web user interfaces. This project will benefit from evaluation by experts like you.

System Requirement for accessing the Web-based Tools: (<http://map.sdsu.edu/arc>)

- o *Hardware:* Standard PC or Mac. 300MHz CPU or above recommended,
- o *Operating Systems:* Windows 95, 98, Me, 2000, or XP. Mac 9.0 or X. Linux.
- o *Web Browser:* IE 5.5 or above, or Netscape 6.0 or above.
- o *Screen Resolution:* 1024 x 768 or above Recommended.

Before we begin...

Please indicate what type of machine you are working on?

Windows(PC) Mac Linux Other_____

Please indicate what type of Web Browser you are working on?

Internet Explorer Netscape Communicator Other_____

Please indicate the display resolution are you using (1024x768 or above is recommended)?

640x480 800x600 1024x768 1280x960 Other_____

Where is your test site? _____

What is your job title? _____

What is today's date? _____

Please write down the time you begin this tutorial. _____(Hour): _____ (minutes)

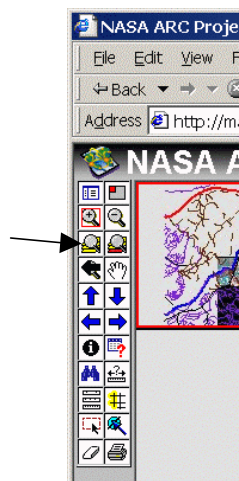
SECTION 1 – USER SCENARIO ONE – Equestrian Facility Development (15-20 minutes).

The major goal of this user scenario is to evaluate the functions of the prototype tool for natural resource management. This hypothetical scenario is to mimic a real-life situation for management of the MTRP. The proposed location of the equestrian staging areas is hypothetical.

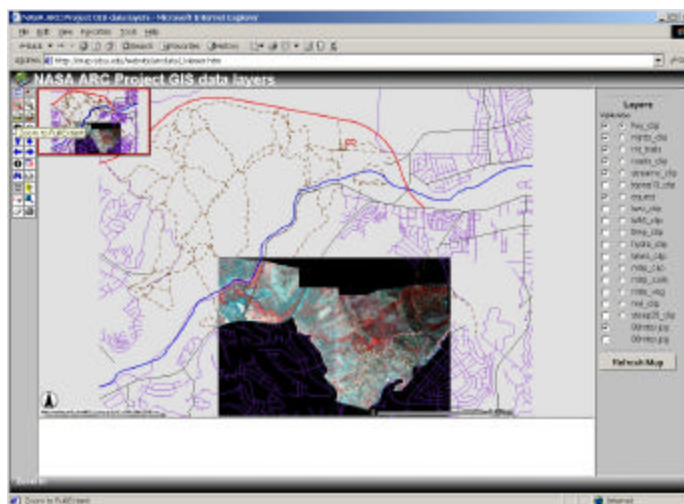
Task: Mission Trails Regional Park Foundation is planning to create a new equestrian staging area. The designers of the new staging area will need to consider several factors and criteria about the management of MTRP and the balances between recreation activities and nature resource conservation. The task is to identify these sensitive areas near the equestrian area and evaluate the land form change after the construction of the new equestrian facility.


The first step is to launch your Web Browser.

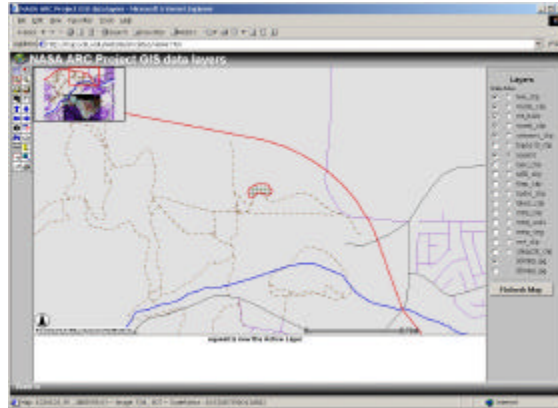
1. Type <http://map.sdsu.edu/arc> on the URL address window.
2. Click on the **Interactive Map** tool first to open the Interactive Mapping Window.
3. Click on the “**Vector GIS layers**” hyperlink.
4. A new ArcIMS window will pop up. Click on the “Zoom to Full Extent” button”.



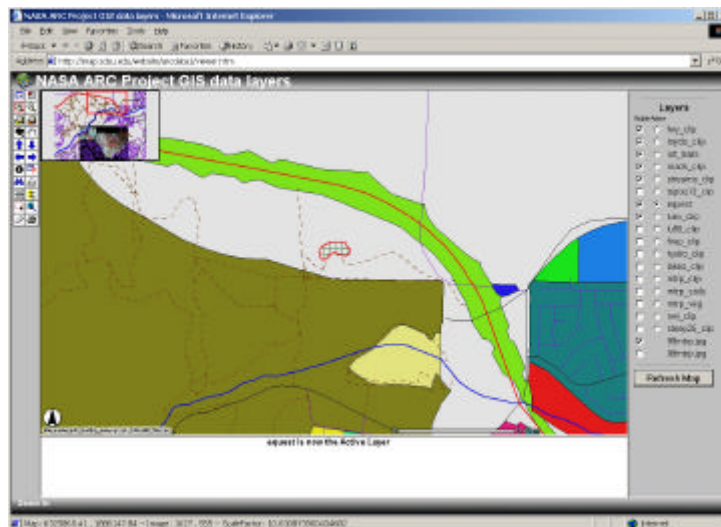
5. Now you can see the new ArcIMS application as follows. The red line is the highway [52], the dash lines are the park trails, and the purple lines are roads.




6. The proposed new equestrian staging area is the **red circle** on the top of map.
7. Next, zoom in to the red circle area by using the  Zoom-in button.



8. Check on both the **luex_clip** box and radio button. Then click on “**Refresh map**” button. *Luex_clip* is the Land Use type generated by SANDAG in 1999. The **land use** types around the proposed site are now displayed on the map. Also, the radio button sets the *luex_clip* as the active layer.




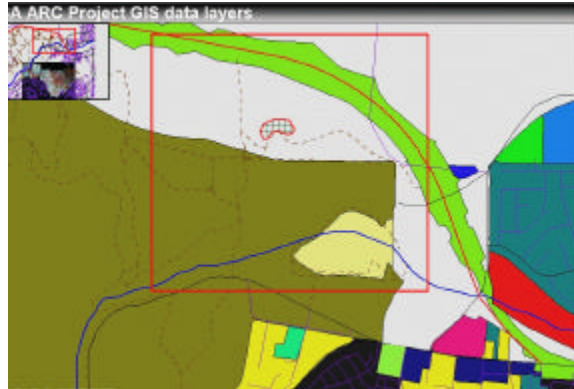
9. Click on the **identify** button , then click on the **green** color area. Write down the **LU** number: _____
10. Next click on the proposed area (the red circle) and write down the LU number: _____
11. Click on the brown color area and write down the LU number _____

You can find out the meaning of the landuse number from SANDAG’s website: http://www.sandag.cog.ca.us/ris/gis/metadata/Land_Use_Codes.html Here are some examples:

- **1000** – Spaced Rural Residential **1100** – Single Family Residential
- **2301** – Junkyard/Dump/Landfill **4112** – Freeways
- **7204** – Golf Courses
- **7603** – Open Space Reserve, Preserves
- **9101** – Vacant, Not Graded Land **9202** – Lakes, Reservoirs,

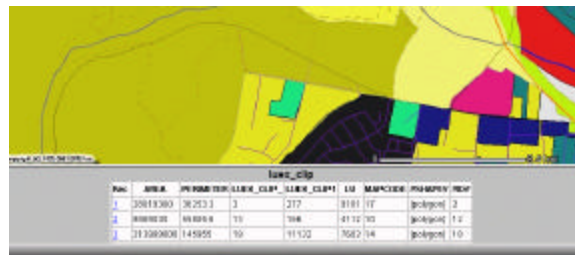
12. Can you identify what type of land use is within the proposed equestrian facility area? _____


13. Next, use the rectangle selection tool  to select the nearby area of the proposed staging site (see the picture below). The area will become yellow after the selection.

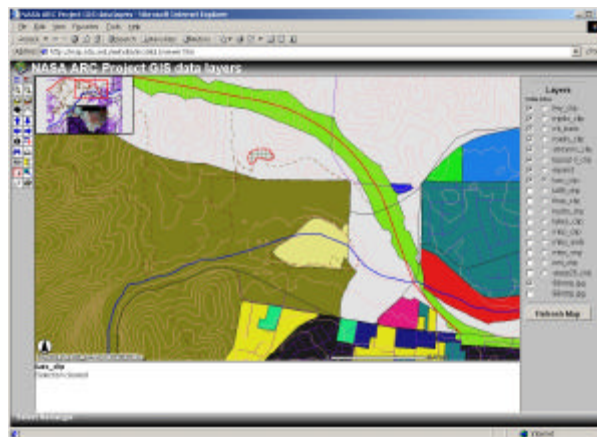


14. After the selection. How many land use polygons have been selected? _____

15. Write down their land use code (LU) and check out their meanings.

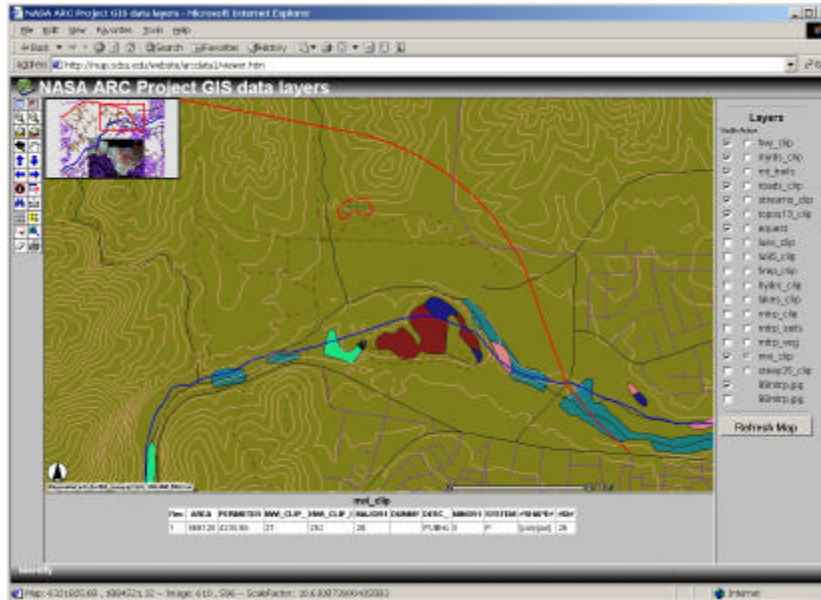


16. Click on the clear selection button  next. Check on the **topoq13_clip** layer and “Refresh map” button.



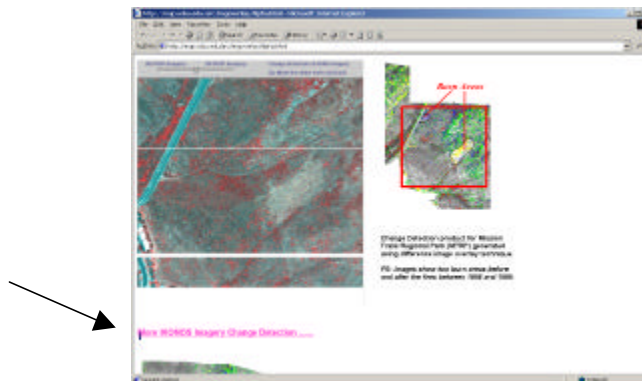
17. Topoq13 portrays topographic contours. Can you tell whether the proposed site is located on a steep or flat area? _____

18. Now uncheck the **luex_clip** box and radio button.
19. Check on the **nwi_clip** box and radio button. **NWI** is the National Wetlands Inventory for San Diego Region (generated by SANDAG).
20. Use the Identify tool to check out the related NWI areas and their description (DESC_).



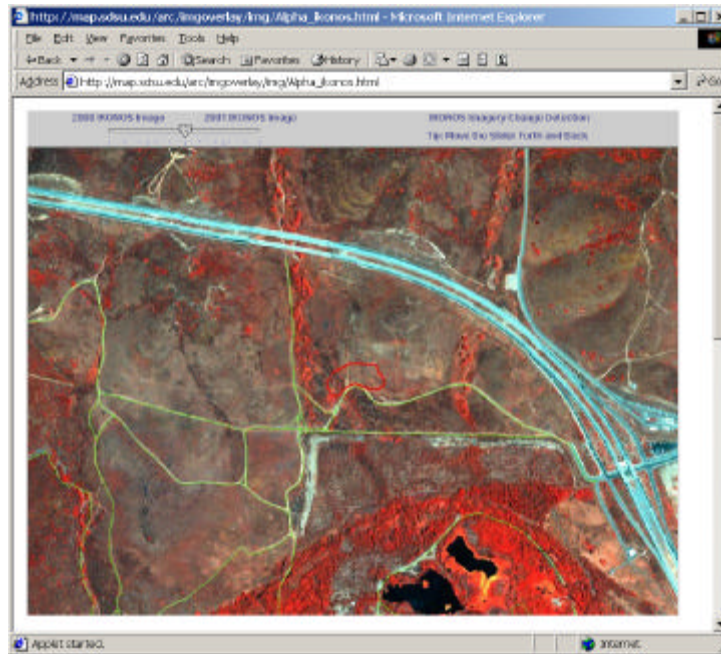
After using the ArcIMS tool, one can identify several sensitive areas near by the proposed site. The next step is to use the remote sensing tool to evaluate the land form change after the construction of a new facility.

21. Close the ArcIMS window.
22. Back to the NASA ARC Homepage.
23. Click on the On-line Tool.
24. Click on **Image Overlay** button.
25. Scroll down the window and click on the More IKONOS Imagery Change Detection.



26. The new image overlay example will pop up on the window.

27. Slide the bar to compare the differences between the **2000** IKONOS image and **2001** IKONOS images. Let's assume that the proposed site was built during summer 2000. What you see here indicates that after the construction, there are a few land areas were changed due to new construction. (*Note: This is just a hypothetical description for justifying this scenario. The IKONOS images are selected for purposes of demonstrating this hypothetical scenario.*)



28. Close this window and back to the home page of NASA ARC project.

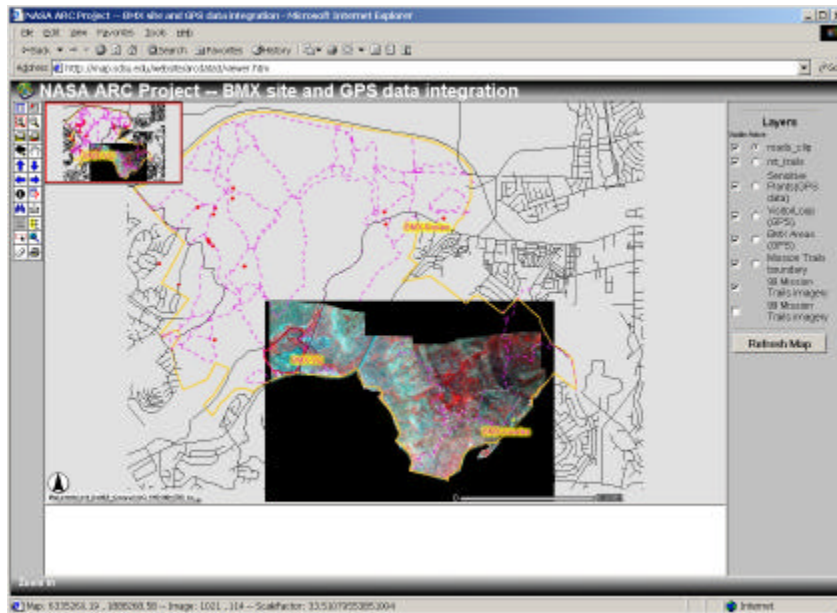
SECTION 2 – USER SCENARIO TWO – BMX sites and Trails Management (10 minutes).

The second user scenario is to use on-line mapping tools for the management of BMX site and trails with the GPS data gathered from Park Rangers.

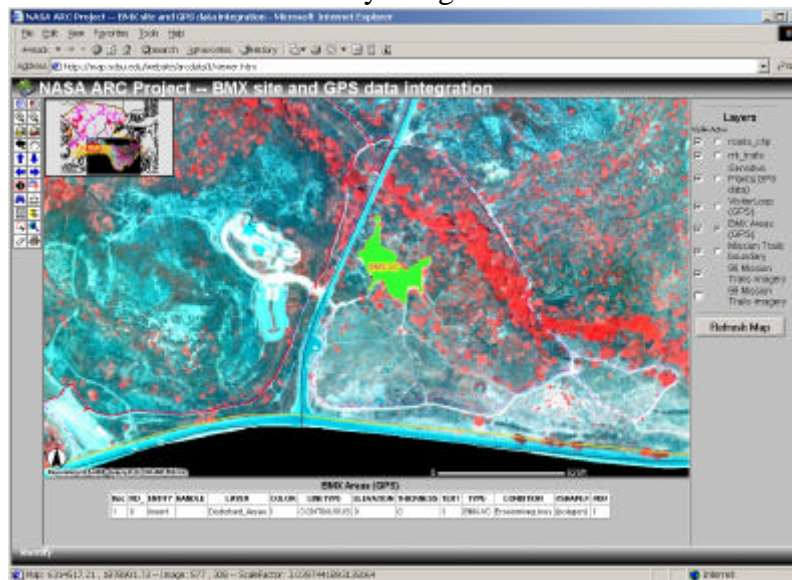
Task:

The MTRP is planning to open multiple motor-cross bicycling (BMX) sites for the residents of San Diego. It is important to monitor the use of BMX and nearby trail condition and management. This task will use the ADAR 98 and ADAR 99 images to evaluate the BMX sites. Also, the sensitive plant area identified by the park rangers using GPS (Global Positioning Systems) will be integrated in the mapping tools.

1. On the home page of the NASA project, click on the Interactive map.
2. Click on the “BMX site and GPS integration” hyperlink.

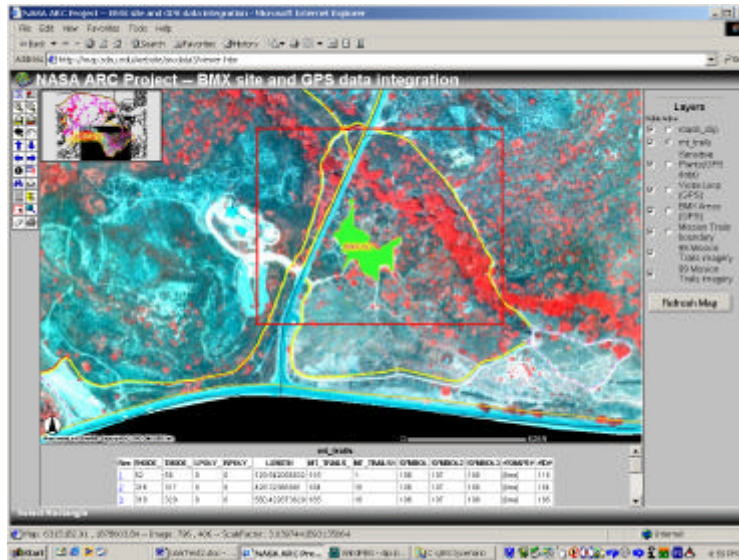



3. From this map, three BMX site are displayed with their name: BMX-VC, BMX-Cowles, BMX—Simian. **These data are converted from the GPS data gathered by MTRP Park Rangers.**
4. Now, zoom in to the BMX-VC site by using the Zoom-In button.



5. Check on the radio button to make the BMX layer active. Click on the Identify tool, then click on the BMX-VC site. Please write down the CONDITION of this BMX site _____.
6. Uncheck the box of BMX site and click on the “Refresh map” button.
7. Now you see the 1998 image on the map.
8. Uncheck the 1998 image and check the 1999 Mission Trails imagery.
9. Click on the Refresh map. Did you see any change of BMX-VC site?

10. How about the trails near by the BMX-VC site?
11. Now check on the box of BMX-VC site again. But check on the radio button of “**mt_trails**.” Use the rectangle selection tool to draw the box, such as is shown in this picture below. Eight trails were selected within this rectangle. These trails need to be monitored closely for the BMX activities.



12. Now click on the zoom-to-full-extend  button.
13. Activate the “Sensitive Plants (GPS)” layer by clicking on its radio button.
14. Click on the identify tool, click on one the sensitive spot (red spot on the map).
15. What’s the ID#? _____
16. Zoom-in to the BMX-Simian area.
17. Try to identify the three sensitive plant spots near the BMX-Simian area. What information is presented in this layer? _____

Now you have completed the second scenario. Please feel free to use the tool on your own in the future. Thanks again for helping us.

SECTION 3 – Questionnaire (15-20 minutes).

How long did it take you finish the two user scenarios? _____

1. Are the two scenarios similar to one of your own tasks? Yes / No.
If No, Please give one example of your daily tasks. (briefly description)

2. What kinds of functions are useful for your own tasks?
 - Identify sensitive areas
 - Evaluation the change of land use (Image overlay)
 - Identify land use type
 - Identify the topographic features.
 - Measure some areas and distances on the maps.
 - All of them.

3. How do you like the Web site user interface (overall)?
 - Extremely easy to use
 - Easy to use
 - No preference
 - Difficult to use
 - Extremely difficult to use

4. What do you like about the ArcIMS (mapping tools)?
 - Extremely easy to use
 - Easy to use
 - No preference
 - Difficult to use
 - Extremely difficult to use

5. What do you like about the Image Overlay tools?
 - Extremely easy to use
 - Easy to use
 - No preference
 - Difficult to use
 - Extremely difficult to use

6. Please write down top three important functions of Internet Map Server for the two scenarios? (Zoom-in/Zoom-out, Pan, Identify, Multiple-layers on-off, measure distance, Attribute query, others.)

7. Can you think of any system functions you would like to add for your own tasks?

8. What do you like about the two scenarios and questionnaire?

9. Is there anything you do not like about the two user scenarios and questionnaire?
