Using remote sensing for controlling brush growth on rangeland

Background:

The 2003 season was far from normal. The spring started out very wet with good growth of grass and hay crops. Likewise, the undesirable brush also had a good start. The brush spraying project that rancher Bob Rumney started was going very well and he was looking forward to monitoring the progress with the IKONOS and possibly the Landsat images.

In June the weather did a complete turn around. It stopped raining and got very hot. The alfalfa hay started going backwards very rapidly prompting producers in the area to start cutting early. Bob sprayed as much snowberry brush as possible until the hot weather reduced the effectiveness of the chemical enough to make it unfeasible to do more.

Use of Data:

When spraying the brush, Bob used the August 9, 2003 SPOT image to see the spray coverage and to measure the number of acres. Image 1 shows a 5 acre area that was sprayed in 2003. It is quite easy to see an improvement.

Bob was able to use last year's images to plan his spraying strategy. Bob was amazed how hard it was to see what needs to be done from the ground. He says, "If I did not have these images, I would not have started my brush spraying project. The satellite images are so helpful in deciding where to

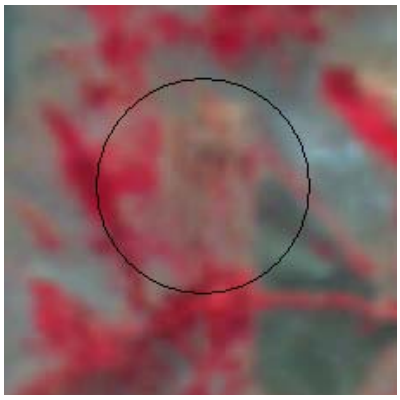
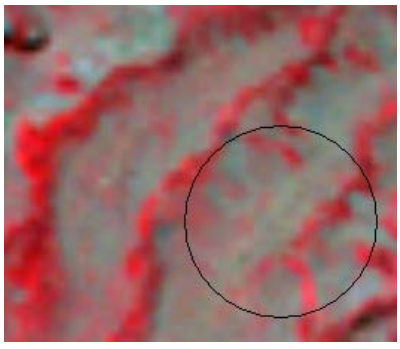


Fig 1: Spot image, August 9,

Economic and Environmental Benefits:

Bob sprayed approximately 90 acres recovering about $18,000 worth of pasture land (figured at $200 per acre). The environment also benefited from this exercise as spraying was done only over the required areas and hence minimal amount of chemicals were sprayed.

One of Bob's goals last year was to eliminate enough brush to be able to see a difference in the Landsat images. Says Bob "I am happy to report that I can see a result in this year's images." The narrow strip inside the circle on the August 8, 2003 image was measured at approximately 50 acres.



Landsat image: August 8, 2003

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