

LANDFIRE Product Application Summary

Fire Management in the National Wildlife Refuge System: A Case Study of the Charles M. Russell National Wildlife Refuge, Montana

Citation

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Authors

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Application Location: Geo-Location: 47°40'23.90"N, 107°13'27.17"W (Charles M. Russell National Wildlife Refuge, Montana)

Objective:

The objective of this project was to examine the fire regime of the Charles M. Russell National Wildlife Refuge (CMR) over the previous 28 years and compare it to historical fire regime reconstructions using LANDFIRE. We were interested in seeing how recent fire management had impacted the landscape and how it might be improved going forward.

Project description:

The use of graphs and tables will always be important, but it is easy to dismiss the importance of numbers. The figures we were able to create during this project provide a clear picture of what has happened to this landscape since European settlement and subsequent fire exclusion.

By comparing the refuge records to what was available through LANDFIRE, we determined that a large majority of the refuge was moderately or highly departed from the historic fire regime. The average mean fire return interval for the refuge based on LANDFIRE reconstructions was 48 years compared to 134 years as calculated based on refuge records from 1980-2008.

We used LANDFIRE for this project because the refuge had limited historical fire data that could be used for this sort of analysis, complete records only dated back to 1980. While we were conducting this project, another project was in progress to create a fire history for the

landscape so we would have been able to use this data eventually though it would not have been as easy to manipulate. Additionally, most properties do not have the benefit of having a fire history researched and created just for them; LANDFIRE is an excellent alternative.

LANDFIRE Products used

This project utilized the LANDFIRE National Fire Regime Condition Class, Fire Regime Group, and Mean Fire Return Interval layers. There was no modification done to the layers except clipping them to the extent of the CMR.

Value of the work to the natural resource management/conservation community

This project provides an excellent example of how LANDFIRE can be used to evaluate the current condition of a landscape and help create objectives for managing the land in the future.

The visual products that can be achieved using LANDFIRE are quite powerful. Based on the LANDFIRE data we were able to provide strong recommendations for future fire management on the refuge.

Online resource:

There is not a website to this specific publication but my bio website is <http://www.talltimbers.org/bio-reid.html>

Photos by Angela M. Reid



