

Fescue grassland restoration in Waterton Lakes National Park

Cyndi Smith – WLNP
Joyce Lapp – Glacier NP
Anne Naeth, Sarah Wilkinson – University of Alberta

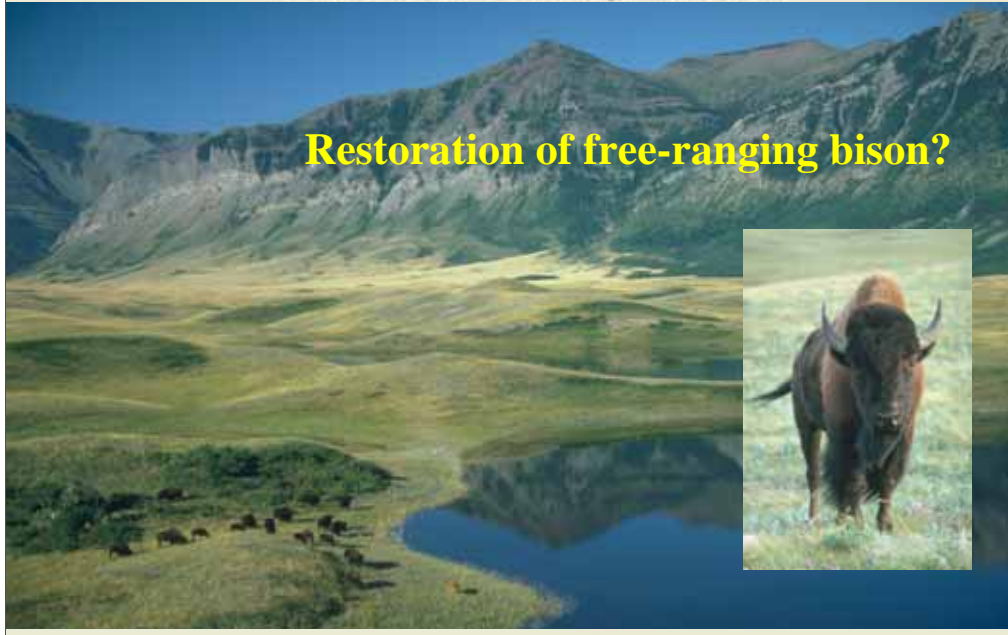
Management plan direction

- Eskerine complex ~4,000 ha of Festuca/Danthonia grassland ... Environmentally Sensitive Site (PMP)
- Reduce or eliminate the impact of the Trade Waste Pit on the ESS
- Restore at least 50% of long term fire cycle (~7 yrs in the Foothills Parkland Ecoregion) – have lost ~25%
- Assess feasibility of reintroducing plains bison during fall and winter to the Blakiston & Waterton valleys

Eskerine Complex prescribed fire - 2006



Restoration of free-ranging bison?



Bison restoration

- Investigations to date:
 - Ecological role of bison in Waterton
 - Feasibility study
 - Economic feasibility study
 - Range assessment of the existing summer/winter paddock and nearby grassland
- Work in progress or planned:
 - Further range assessment
 - Interactions with elk and increasing deer population
 - Public consultation

Trade Waste Pit issues

- Continually disturbed areas provide ideal sites for non-native plant infestations to begin, to perpetuate and to spread into surrounding native vegetation
- Removes or reduces wildlife habitat – particularly for our wintering elk herd (~800)
- A registered contaminated site
- Possibility of continuing to contaminate surface and ground water

PMP direction for the TWP

- Implement the contaminated site strategy, focusing on the clean up of priority sites
- Reduce or eliminate the impact of the TWP on the Festuca/Danthonia grassland, an Environmentally Sensitive Site
 - Actively manage vegetation (e.g. fescue grassland) ... to promote resistance to exotic pathogens or invasive species
 - Actively promote research into restoration techniques for native fescue grassland

Restoration of the Trade Waste Pit



Trade Waste Pit – 2004



Contaminant testing



Seed collection



Glacier's greenhouse and nursery



Increase fields – NRCS Plant Materials Center, Bridger, MT



Site cleanup 2005



Site preparation 2006



Transporting plant material across the border



TWP planting fall 2006



Monitoring 2007



Weed invasion ... of course



Native plants grew too!



Aster conspicuus



Grindelia squarrosa

What has been accomplished?

- Received \$115K from national EI Innovation Fund:
 - Burn pit moved from the TWP to the Upper Compound
 - Assessed contamination; no issues, but 4 monitoring wells
 - TWP filled in and re-contoured, native species planted
- Ecological integrity slowly being improved:
 - Park management practices and human disturbance were 2nd and 3rd ranked stressors in 1999 SOPHA report; significant contribution to reducing these stressors
 - Knowledge gained will help us to reduce costs in other park projects and transfer the knowledge to other field units and agencies restoring fescue grasslands

What's next?

- Adaptive management as we go:
 - 2007 drought probably had a big impact
 - Analyse the data collected in 2007
 - Aggressive control of perennial invasives needed
 - 3000 plants in production, more planting in 2008; involve volunteers or service groups in planting if possible
 - Continue with media involvement
 - Move the fence corners in to reduce elk impact

Trade Waste Pit - 2004



Trade Waste Pit - 2007



