CASE STUDY: INVASIVE WEEDS

Kelly Cooley – CoolPro Solutions Environmental Consulting

Transboundary Grasslands Workshop, Elkwater, AB January 19-20, 2016

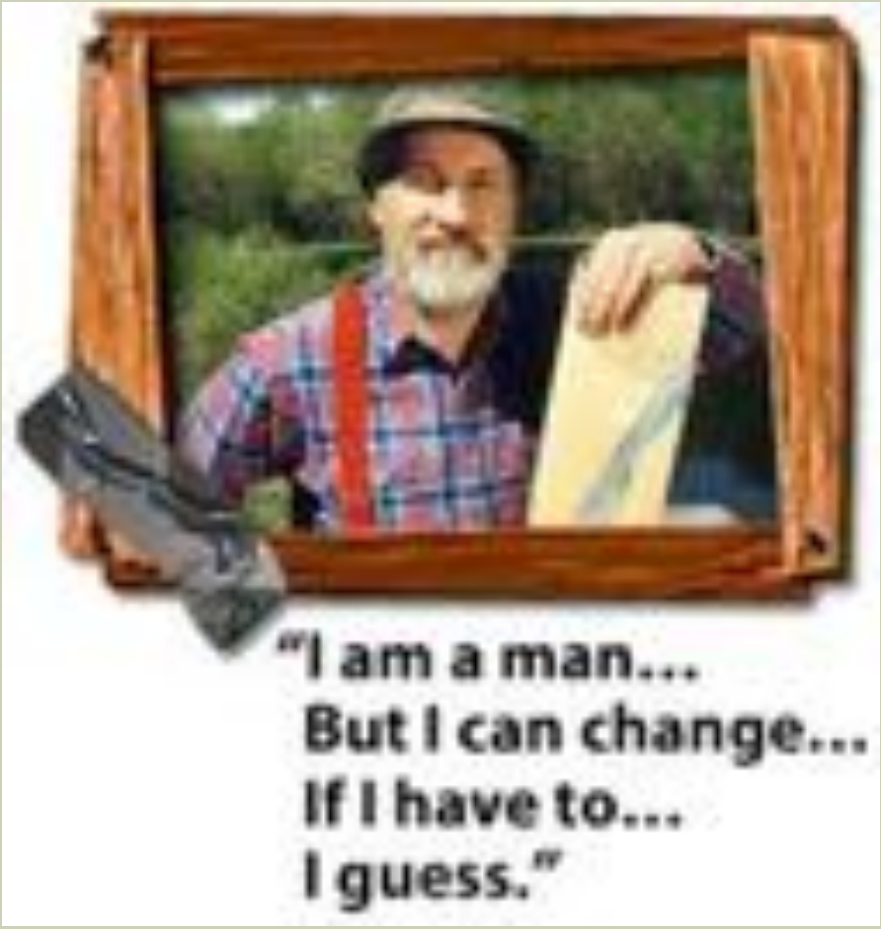
OVERVIEW *(IF I HAVE TO…I GUESS)*

Personal Perspective: Grasslands

Perspectives On Grass 'Management'

Invasive Weeds: What's Worked (And Not Worked)?

Lessons: Must Avoid Must Have



PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop, Elkwater, AB January 19-20, 2016

PERSONAL PERSPECTIVE: GRASSLANDS

Grew Up On 'Mixed' Farm & Ranch East Of Pincher Creek

'Mixed' Meaning We Raised Cattle On Lands My Dad Or His Farming Predecessors Couldn't 'Improve' Into Farm Production

Scotts Coulee (Native Prairie) Ran Through Our Home Place Just South Of Piikani

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop, Elkwater, AB January 19-20, 2016

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

PERSPECTIVES: GRASS 'MANAGEMENT'

Grasslands 'Managed' For Centuries By Elemental Forces & Nature (Including Us)

'Management' Has Slowly Shifted From The LONG View To The Short View

For The Past Century Or So Grassland Has Been Managed In Increasingly Fragmented Parcels Rather Than Natural Contours

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop, Elkwater, AB January 19-20, 2016

07/24/2003

"Our rows were 40 inches wide … that's what it took for the horses [to walk] through…That way you could cultivate north and south or east and west. And weeds were a big problem because they didn't have herbicides, so if you could go both ways then you could get most of your weeds." -- ***Dean Buller, Wessels Living History Farm – Farming In The 1920's***

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo Taken From Google Earth; Data From AESRD Staff And Kelly Cooley, SAWC

Nodding Thistle
Hays Provincial Grazing Reserve (Hays Maze)
MD of Taber

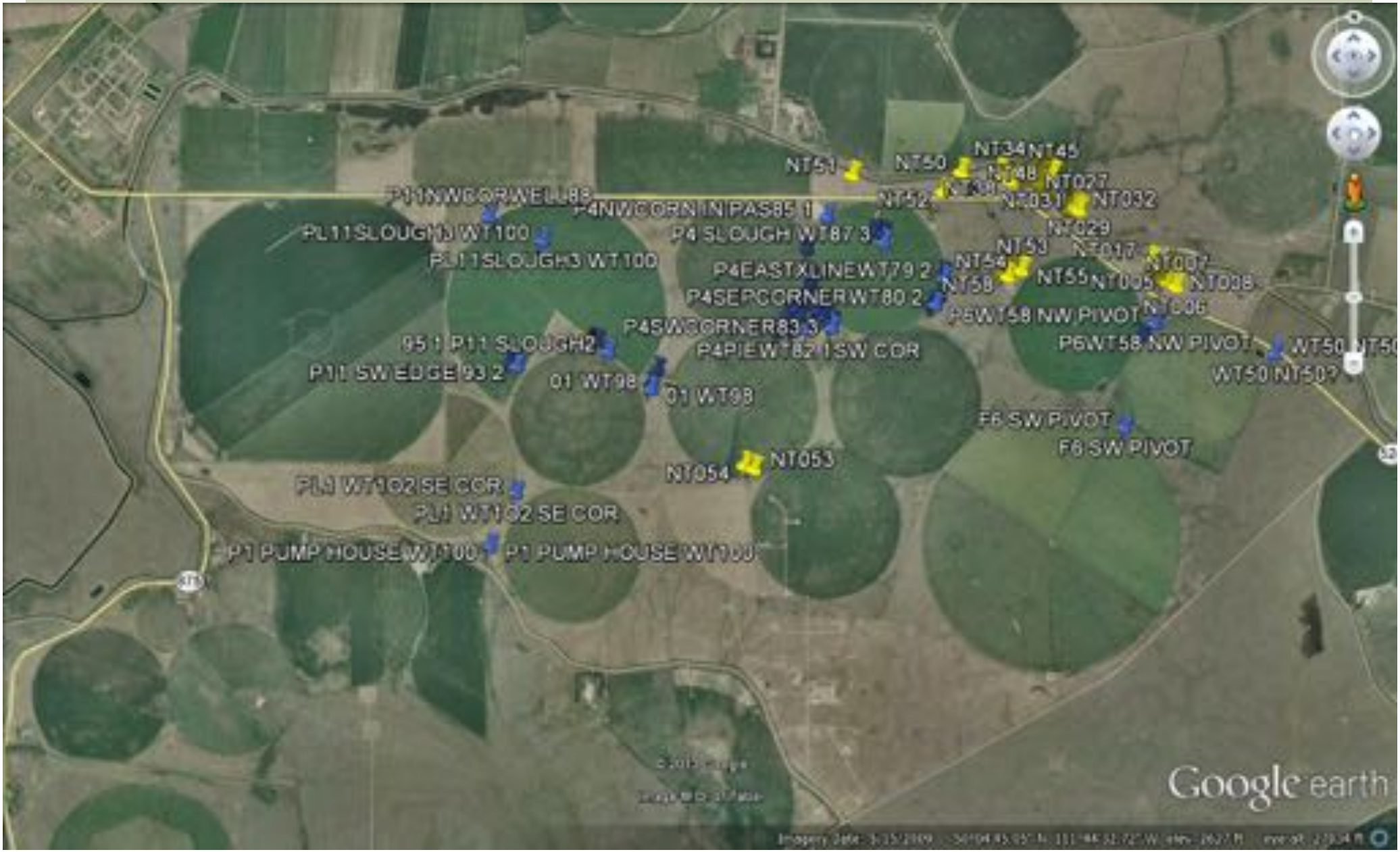


Photo By Kelly Cooley – CoolPro Solutions - kcool@platinum.ca

July 4 2013

Spotted Knapweed 2014 – Photo By Kelly Cooley – coolprosolutions@gmail.com

Spotted Knapweed

Photo By Kelly Cooley – coolprosolutions@gmail..com

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photos: Terry Hood, Alberta Public Lands

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Leafy Spurge
North American Distribution And Native Range

Source: http://www.uni-potsdam.de/ausstellung-biologische-invasionen/big/03/map-07-2.jpg

Introduced In 1827, Leafy Spurge Has Rapidly Spread Across The United States And Canada, Infesting Nearly 3,000,000 Acres In 29 States And At Least 4 Provinces.

Source: Saskatchewan Watershed Authority

Photo By Kelly Cooley – CoolPro Solutions@gmail.com

Tall Hawkweed (Left)
Yellow Devil Hawkweed (Right)

At This Point, It's NOT EDRR
Photo: Phil Schermeister

WHAT HAS WORKED WELL AND WHY?

Many Tools Developed
To Prevent & Manage Grassland Weeds!

Prevention

Weed Free Forage, Gravel, Soil

Seed & Equipment Cleaning

Ecological Grazing Management Principles

Improved Riparian Management (Cows & Fish)

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop,
Elkwater, AB January 19-20, 2016

BEST DEFENSE INSIDE YOUR FENCE

CERTIFIED FORAGE

Prevent noxious weeds

Sources: Montana, Ohio, Idaho Departments of Agriculture

Weeds Across Borders 2008

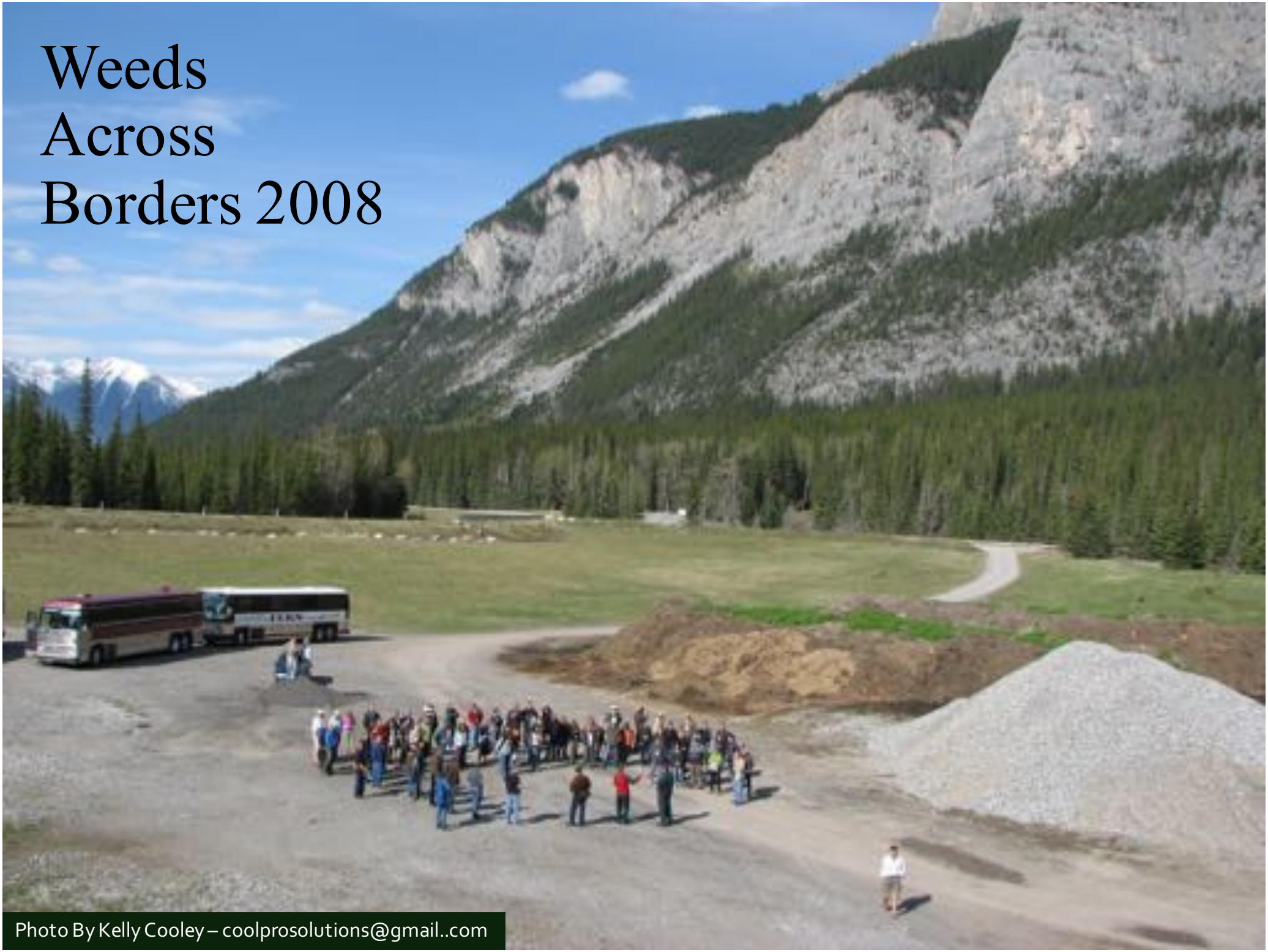


Photo By Kelly Cooley – coolprosolutions@gmail..com

STOP INVASIVE SPECIES IN YOUR TRACKS.

PlayCleanGo.org

WORK. CLEAN. GO.

Give Invasive Species The Brush Off.

Help Prevent The Spread
Of Invasive Plants And Animals.

Play Clean Go

WORK. CLEAN. GO.

Give Invasive Species The Brush Off.

Help Prevent The Spread
Of Invasive Plants And Animals.

- Clean your gear before entering and leaving the recreation site.
- Remove mud and seeds from clothes, pets, boots, gear and vehicles.
- Burn only local or certified firewood.
- Use only local or certified weed free hay.
- Stay on designated trails.

Play Clean Go

STOP INVASIVE SPECIES
IN YOUR TRACKS.

Photo By Sheilah Kennedy, S-K Environmental - http://s-k-enviro.com/index.htm

Photos By NewPark Mats

WHAT HAS WORKED WELL AND WHY?

Many Tools Developed
To Prevent & Manage Weeds!

Early Detection Rapid Response (EDRR)

Digital Revolution–Species Info Highly Accessible

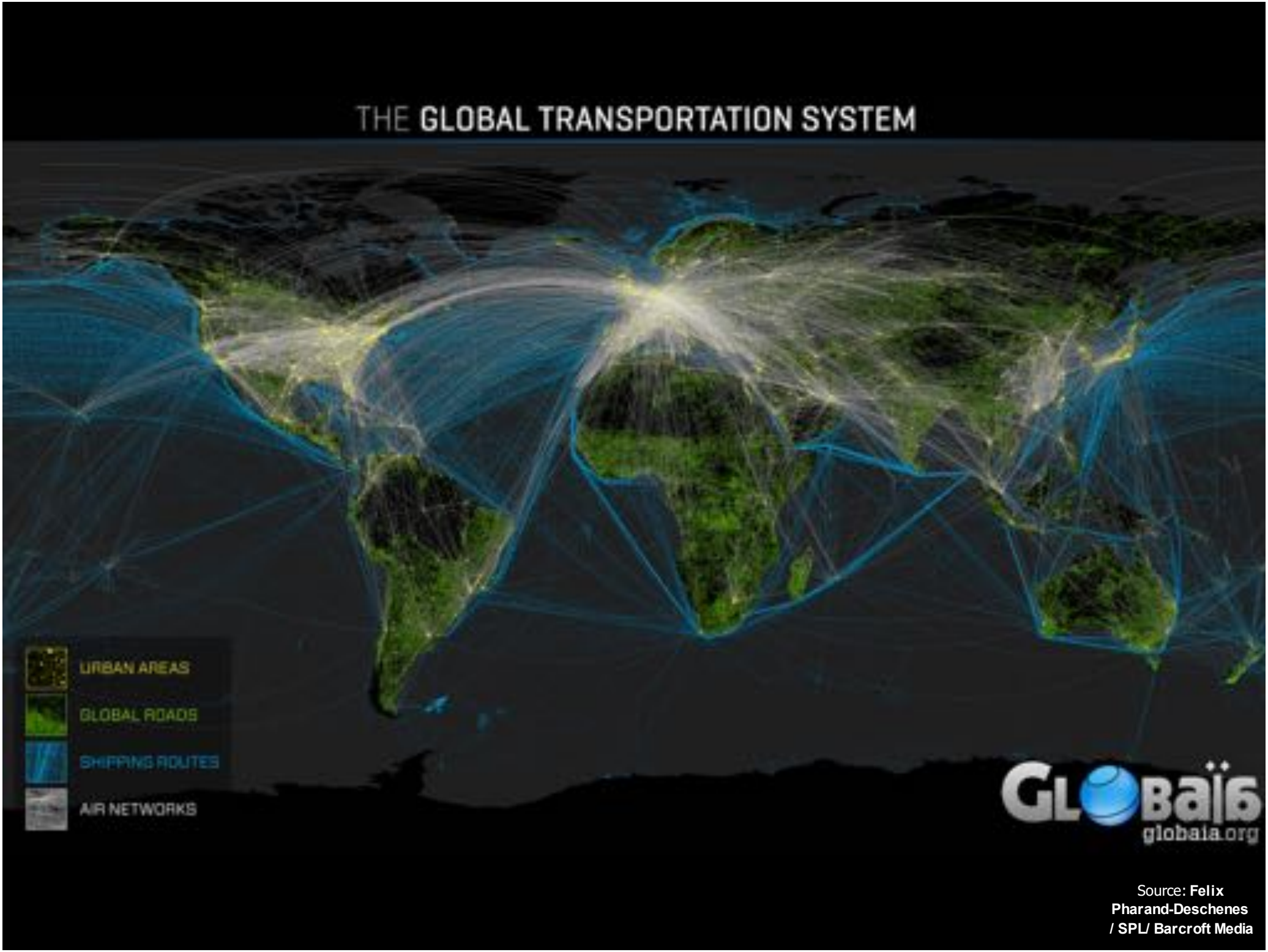
Mapping & Image Technology: Cheap & Easy

Interjurisdictional Communication

Suite Of Management Tools Available

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop,
Elkwater, AB January 19-20, 2016



Source: **Felix Pharand-Deschenes / SPL/ Barcroft Media**

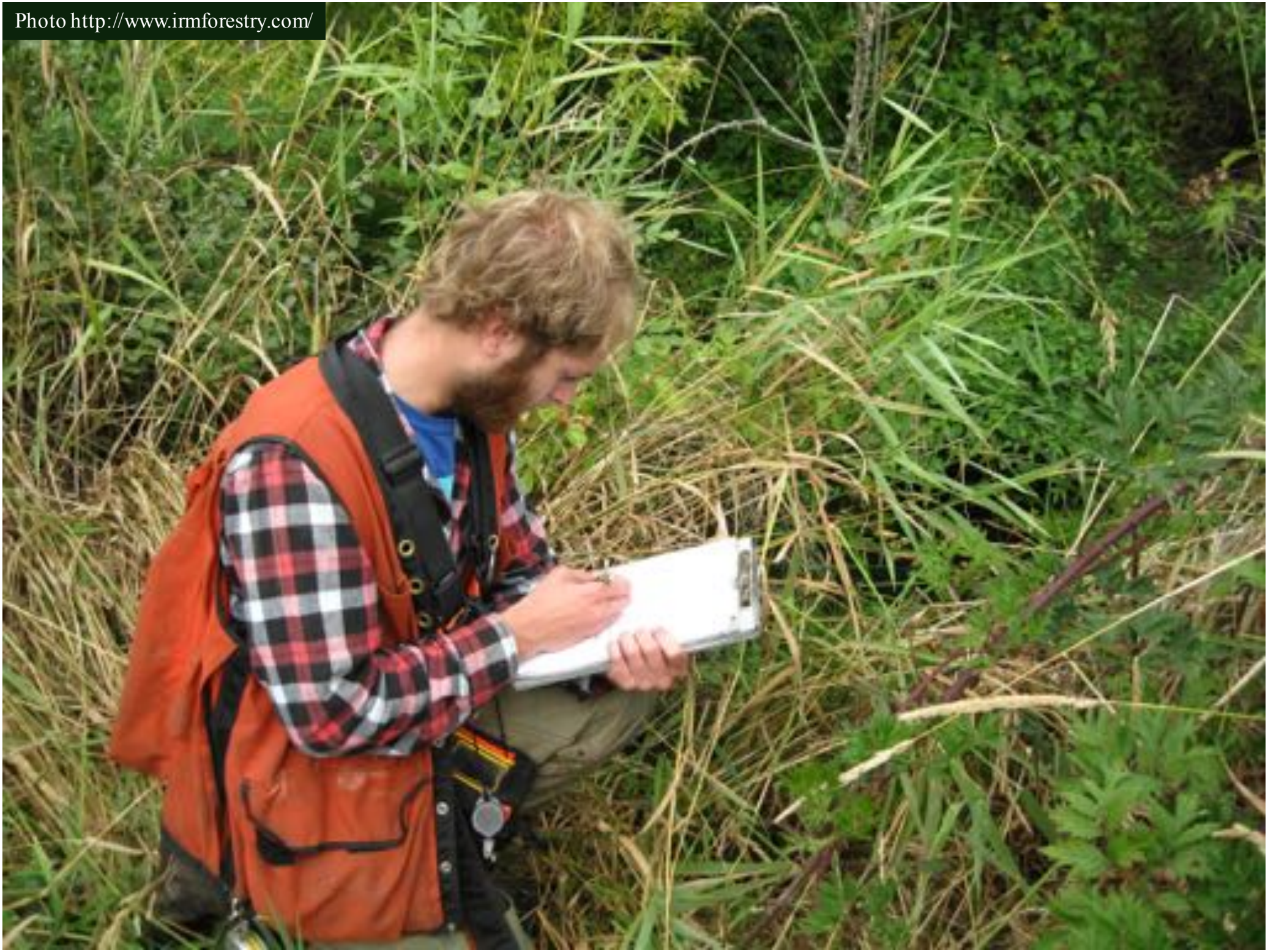


Photo http://www.irmforestry.com/

WHAT HAS WORKED WELL AND WHY?

Tools To Contain – Reduce - Eradicate (?)

Mechanical Control (Large & Small Equipment)

Cultural Control (Grazing, Fertility, Competitive Planting, Fire)

Biological Control (Insects, Mammals, Biota)

Herbicides (No Longer Viewed As Magic Bullet)

Key Is To Use These Tools Individually And In Combination On A Site Specific Basis

(Integrated Management)

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop, Elkwater, AB January 19-20, 2016

Photo Credit: Lethbridge County

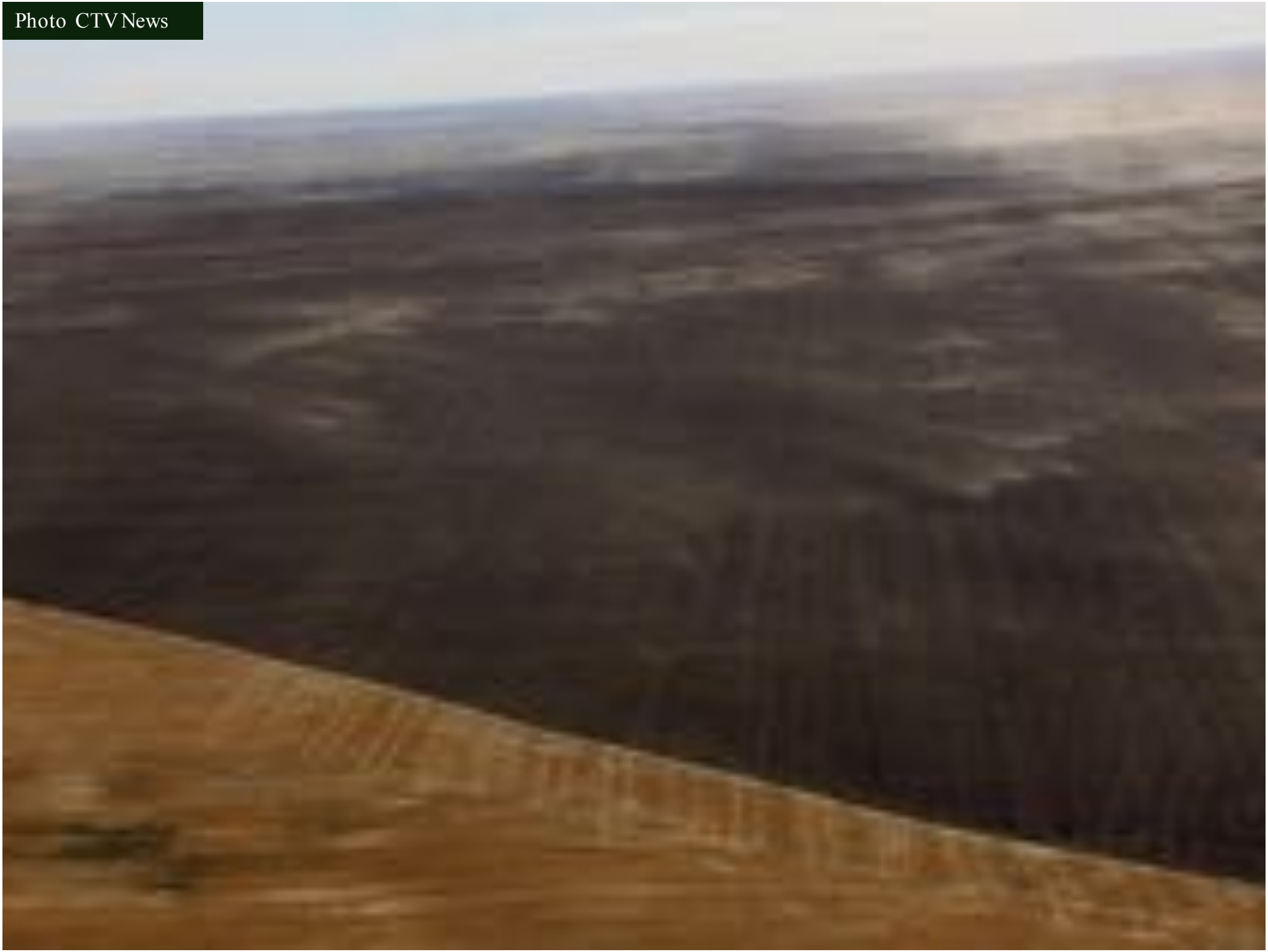


Photo CTV News

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley, CoolPro Solutions

Photo By Kelly Cooley – CoolPro Solutions - coolprosolutions@gmail.com
Diffuse Knapweed – City of Lethbridge August 2012 – Prior to Fire

Photo By Kelly Cooley – CoolPro Solutions - coolprosolutions@gmail.com
Diffuse Knapweed – City of Lethbridge After Sept 2012 Fire

Photo By Kelly Cooley – coolprosolutions@gmail..com

INVASIVE CHEATGRASS (DOWNY BROME): ADAPTED TO FIRE, MOVING NORTH

Tom Heutte, USDA Forest Service, Bugwood.org

WHAT HASN'T WORKED SO WELL AND WHY?

Competition For Grassland

Demand For Multiple, Often Incompatible 'Usage'

Pressure To 'Do More With Less'

Overgrazing, 'Cheaper' AKA Weedy Forage

Short Term Economics Trumps Long Term Ecology

Industrial, Agricultural, & Recreational Cohabitation

Failure To Use Suite Of Prevention & Management Tools

Recipe For Introduction & Spread Of Invasives

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop,
Elkwater, AB January 19-20, 2016

LESSONS: "MUST AVOID"

Isolationist Thinking

'Quick Fix' Grassland 'Management'

Ignoring Lessons From Our Past Mistakes

Trying To Convert It All To Cropland

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop,
Elkwater, AB January 19-20, 2016

LESSONS: "MUST HAVE"

Interjurisdictional Approach

Learn, Understand, Remember, Use, Teach Respect For Grasslands

Learn, Understand, Remember, Use, Teach Integrated Invasive Prevention & Management

PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop, Elkwater, AB January 19-20, 2016

"When Dealing With Weeds, Our Failures Are Obvious, And Our Successes Invisible."

Dr. Richard Old, XID Services Ltd.

CASE STUDY: INVASIVE WEEDS

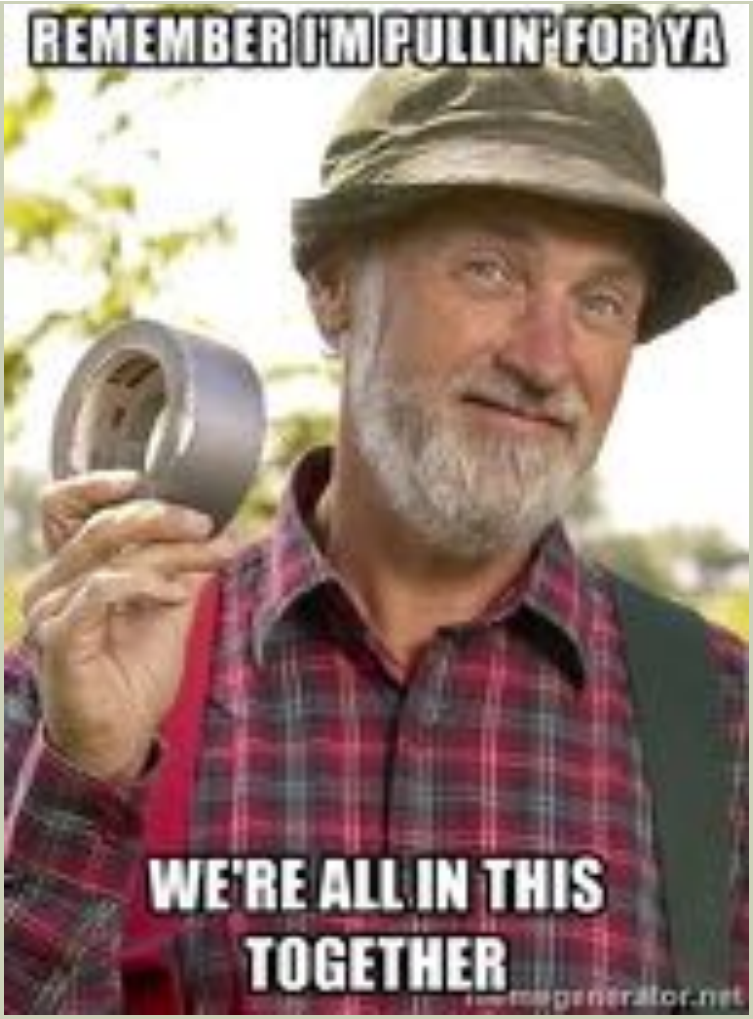
Thank You!

Kelly Cooley

CoolPro Solutions

coolprosolutions@gmail.com

January 20, 2016



PRAIRIE CONSERVATION FORUM

Transboundary Grasslands Workshop, Elkwater, AB January 19-20, 2016