

# Transboundary Grasslands Partnership (TGP) - Workshop Notes 2018

## Tuesday Feb 13, 2018- Day 1: Big Picture Challenges

Opening Welcome - Linda Cerney (TGP Chair 2017-19)

Overview of the Grassland partnership

- Formed in 2014
- Provide information and collaboration between Alberta, Saskatchewan and Montana
- 3 principles: Enhance, connect and preserve

### World Wildlife Fund- Plowprint Report: Tracking land conversion in the northern Great Plains

Kevin Ellison, World Wildlife Fund

[www.plowprint.org](http://www.plowprint.org)

- Keywords
  - Track annual loss
  - Identify intact habitat
  - Develop conservation plan with the use of the Plowprint
- Take away
  - Plowprint is used to track loss and gain for grasslands
  - Can be used to develop conservation plans
  - Used to identify priority areas to prevent grassland conversion
- Notes
  - Plowprint is used to ID intact habitat for Grasslands
  - Track annual loss for grasslands
  - In 2016, loss of 2.5 million acres to being plowed (Great Plains)
  - Perennial cover within the plowprint is +-50%
  - Soils based conversion risk was also included in the report
  - Was used to ID 45 focal counties to focus on preservation
  - Used to Quantify water quality and quantity benefits of avoided grassland conversion
  - New breaking are 60% Moderate or poor soils in NGP
  - Tool can be used to rationalize work
    - What to restore, enhance and conserve

### State and change of land cover in the grassland and parkland regions of Alberta; an analysis from 1984 to 2016

Ron McNeil, Alberta Prairie Conservation Forum

- Keywords
  - State of the prairie project (Alberta)
  - Compare changes in land cover
- Take away
  - Analysis of loss and gains for Alberta prairies
  - Help to understand where and why there were losses
  - Areas that are being lost
- Notes
  - Objectives to compare and utilize land cover using remote sensing and data

already collected

- Find out the percentages of wetland, grassland and native over 17 eco regions
- Cultivation has increased and become more dense in areas of historic cultivation
- Losing connectivity in the grasslands
- Seeing both loss and gains in the prairie
- Help to understand where losses have been and why they were lost
- Private land ownership 75% in most regions but barriers greatly
- Parkland (Upper region in Alberta) .4% loss due to conversion on average, 9-12% from 1995-2015
- Grassland (lower region of Alberta) loss less than parkland.2% loss 1995-2015

## Grassland Ownership Trends and Community Resilience

Julia Haggerty, Montana State University

- Keywords
  - Agglomeration
  - Community resilience
- Take away
  - Majority of intact grasslands are controlled by private ranchers
  - High barriers for new producers
  - Land values are of biggest concern
  - Need to rethink local and regional institutions, build up the community so its more of a group effort and more people are invested in the outcome.
- Notes
  - 90% of intact lands are privately owned, ranchers control 80% of intact lands
  - High reliance on agriculture for income and survival, very volatile income with ag
  - High barriers for new producers, high rate of land turn over, high degree of conglomeration
  - Less new producers
  - Land values: single biggest concern
    - Agglomerations poses risk to rural community resilience
    - Increased pressure on emerging ranchers could lead to more intensification
    - Rethink partnership as community resilience
  - Local and regional institution
    - Landowner groups, conservation district, natural resource collaboration groups
  - Rethink old roles
    - Emerging, established, transitioning
  - Questions at hand
    - Direct capital (human, financial, social)
    - Build and strengthen bridges between groups
    - Lead to lasting informal institutions

## Climate Challenges Facing Northern Grasslands and Ranches

Paul Stoy, Montana State University

- Keywords
  - Connective precipitation
  - Flash Drought
- Take away
  - The cooling trend in the northern great plains could be being caused by a change in land use, with less bare ground
  - The 2017 flash drought was preceded by a breakdown in land-atmospheric feedback
- Notes
  - Cooling trend centered around the Dakotas in the mid spring and early summer
  - Great Plains should be getting wetter and warmer in the future
  - Have been getting more rain in May, possibly due to land use change
  - Decreased cloud height due to less bare ground
    - Decrease in the number of acres left bare or fallow
    - Changing convection precipitation, means more rain
    - Changes the heat and moisture that is added to the air
    - CRP loss impacts these components as well
  - Flash drought 2017
    - Was predicted to be a wet year, but was driest on record
    - Should have looked at convection water available to predict rainfall
    - Convective precipitation is coupled to land surface function early in growing season
    - Drought was preceded by breakdown of land-atmosphere feedback
    - Response to land management to climate and vice versa should be furthered explored
    - Forecast in May 2017 was horribly wrong W/drought, likeliness of convective precipitation already low in March 2017, soil dryer than it would be on average in August.

## Identification, Challenges and opportunities in Wildlife Connectivity across the Northern Great Plains Region

Andrew Jakes, National Wildlife Federation

- Keywords
  - Connectivity- structural and functional
  - Corridor- distinct component of connectivity
  - Connectivity network
- Take away
  - A balance is needed between economics and wildlife needs, people still need to be able to make a living on their land
  - Connecting habitat patches with corridors to make the most out of the habitat that is being used
  - Pronghorn fence modifications can be used to help them on their migration routes
  - Plan for multi species benefit to get the most out of conservation resources, like pronghorn and sage grouse migration routes

- Notes
  - Long distance migration is decreasing across the globe
  - A balance needs to be found between economics and wildlife needs
  - Connectivity network, habitat patches and corridors of most importance
  - Need more information on wildlife interactions with fences
  - Pronghorn interactions with fences
    - Goat bar: no change in use, Cattle spent a lot of time at goat bars messing with them, DO NOT USE!
    - Smooth bottom wire 38% more successful crossings
    - Clips positive for better crossing success but not as good as smooth wire
    - Does take the pronghorn time to learn to use/habituate to the changes
    - Pronghorn can have up to 1000 interactions with fences in a year
    - Fences can cause direct mortality, stress and injuries (hair loss and scaring), barrier to movement
  - Overlap between sage grouse and pronghorn migration routes
  - Look for the overlap between species to make the most out of conservation efforts

#### Plenary Address

##### Errol Rice, Montana Stockgrowers Association

- Building partnerships and addressing conflict problems
- Building relationships with stakeholders is very important
- Multi-generational trends are not happening
- Need partnerships with government and other agencies to enhance sage grouse habitat
- Complex business managing soil health, water, economy, consumer demand, transition
- Jd.com

### **Wednesday Feb 14, 2017: Day 2: Solutions**

#### Jurisdictional update from Montana, Marisa Sather

- 2017 severe drought, ongoing
- USFWS obtained 713,000 acres into easements
- Conservation districts are seeking coordination on management of bison and predators
- NEW
  - FWP grassland initiative
  - RSA conservation committee
  - TNC-USFWS Candidate Conservation Agreement with Assurances (CCAA)
    - If species is listed, the producer would face no new regulations if they are already practicing conservation for that species on their own.
- New approaches
  - Sage-Grouse Initiative (SGI) mesic site restoration focus
  - Bureau of Land Management (BLM) crested wheatgrass restoration work
  - Pheasants Forever (PF) interested in helping with Pollinator habitat conservation
  - WLA developing concept of habitat
- Planning Prairie Pothole Joint Venture (PPJV) grassland assessment project

- Research and monitoring needed
- Planning Tools- HAPET-multi-species tool
- Research and Monitoring-grassland songbird habitat quality
- Opportunities for Transboundary Collaboration- connectivity, communications, data sharing

#### Jurisdictional update from Alberta, Linda Cerney

- Transboundary Partners
  - Federal Government- Canadian Wildlife Service (CWS)
  - Alberta Environment and Parks (AEP)
  - Agricultural and Forestry (AF), Environmental Stewardship Branch
  - Municipal government
    - County of Warner
    - County of Forty mile
    - Cypress county
  - Not for Profit (Prairie Conservation Association- PCF, Milk River Watershed Council of Canada-MRWCC, South East Alberta Watershed Alliance- SEAWA, The Nature Conservancy of Canada -NCC, Alberta Conservation Association-ACA, Alberta Wilderness Association-AWA, Waterton Biosphere)
  - Individual Grassland Stewards
- Alberta partner project highlights 2017
  - AEP Planning- South Saskatchewan Regional Plan (SSRP)
  - AEP Policy- Conservation site assessments
  - AEP Parks- Transition to active large-scale native grassland restoration project
  - AEP Fish and Wildlife- Directives for wind and solar development
  - AF- Programming, Funding, GIS Prairie Timescan
  - CWS- South of the Divide Multi-species action plan
  - County of Warner- Milk River Ridge Reservoir water quality initiative
  - PCF- State of prairie renewable energy, BMF, habitat connectivity
  - NCC- Landowner engagement on grasslands
  - ACA- MULTISAR program
  - AWA- Northern Plains Conservation Network partnering
  - MRWCC- Water Resiliency and Restoration Program
  - SEAWA- SSRP implementation
  - Waterton Biosphere Reserve Association- Carnivores and Communities program
- Future Collaborative Opportunities
  - Footprint planning
  - Largescale restoration projects
  - Solar and wind energy, translocation of sage grouse
  - Prairie habitat joint venture
  - Environment and Climate change (ECCC) strategic plan
  - State of prairie condition
  - Pronghorn project
  - Improved monitoring and reporting and potential coordination grassland stewardship credit program

- Threats to the region and conservation opportunities
- Large carnivore conflict mitigation projects

### Jurisdictional update from Saskatchewan, Tom Harrison

- Dealing with drought and low snowpack and fires
- Prairie conservation action plan
  - Large amount of work being done from a diverse group of partners and groups
- New cycle of agriculture programs in Saskatchewan
  - 5 year cycle
  - Environmental climate
  - Research education
  - Public trust
  - Multi species protection act, fed signed
- Provincial pastures transition to private operation and management
  - Still crown owned
- Wind energy interests, lots of interest from wind industry but solar still active
- 31 partners (update posted on website)

### Lessons learned in collaborative, landscape-scale conservation

#### Greg Neudecker and Jim Stone, Blackfoot Challenge/Partners for Conservation

- Keywords/ take away
  - Invite everyone to the table, build relationships
  - Art and science
  - Conservation is a group effort
- Notes
  - Have to get rid of Ego to work together well and effectively
  - Listen instead of talking to understand the whole of the issue
  - Blackfoot river (top 10 endangered rivers in the 1990's)
  - All things combined, no silver bullets to solve conservation issues
  - Bull trout were listed as endangered
  - Twist the bad to try make it better, one step at a time to find the good/better
  - Science and art have to go hand in hand to be able to get along
    - The art of talking to people to find a better solution to the problem at hand
  - Work on people skills to better do conservation work
  - Invite everyone to the table, work with everyone, do not isolate or alienate as much as possible
  - Collaborative process: Grounded (science) → Partners → Structure → coordination (CYCLE)
    - Use the proper pacing to the best of your ability
    - Natural resources, Social and Economics all must come into play to work effectively
  - Focal landowners can make or break a project, can ground a project and make it work or they can sand bag it
  - Solve issues at a landscape scale

- Coordinate to make sure everything is in the right order
- Try not to go too fast or too slow when working on a project
- Don't take sides! Engage all partners
- Must find a way to tell the story, must connect the dots to show the benefit of conservation practices and implementation

## SOLUTIONS SESSIONS

### Solutions session #1: Bringing community and conservation together in Montana

#### Leo Barthelmess, Ranchers Stewardship Alliance

- Keywords
  - Partnerships
  - Collaboration
- Take Away
  - Collaborative conservation is a big deal
  - Partnerships- cannot do without them
  - Community support is key
  - Cooperative conversations
- Notes
  - 501(c)(3) in North central MT began in 2003
  - Committed to strengthen rural communities and landscapes
  - Build partnerships
    - Provide education
    - Tools for developing stewardship
    - Practices and principles
  - Bring people together
  - Species advocates can get in the way of the conservation of the whole ecosystem
  - Partnerships
    - Key to success is partnerships
    - NFWF grant \$300,000 for cost share to develop enhanced grazing systems and restore native pasture for the benefit of livestock, wildlife and birds
    - 70% of farm and ranch operations don't make it to the next generation
    - Address economics for transfer of property and or the knowledge for the land to the next generation of farmers
  - Wildlife/bird conservation efforts
    - Pronghorn and prairie dogs

### Solutions Session #2: Multiple approaches to habitat conservation: Finding the right fit encourages producers to manage for Species at Risk habitat

#### Tom Harrison, SODCAP (South of the Divide Conservation Action Program INC)

- Key words
  - Short term easements
  - Producer based conservation
  - Niche branding
- Take Away
  - Let producers know what you want and they can figure out the best way

- to get that outcome on their land
  - Producers would be more interested in easements if they were for shorter terms than perpetuity
  - Focus of preserving the whole ecosystem instead of just one specie
- Notes
  - Established to bring together groups in response to multi-species at risk in SW Saskatchewan
  - Species at risk on an agricultural landscape
    - Multi-species approach to habitat conservation
    - Find the right fit for the producer to manage species at risk
  - Easements, more receptive to terms instead of perpetuity
    - 30 years
    - Length of a generation
  - Producers wanted to know what we want and then let the producers figure out the best way to make that happen on their land
  - Results based conservation agreements
    - Non-prescriptive
    - Producers making the decisions and taking responsibility for the outcomes
    - Provide technical experience and monitoring from the group
  - 80,000 acres in the program
  - \$200,000 in annual payments
    - Incentive to manage land like at the Matador grass bank
    - Asking to target areas without the use building more fencing
  - Lessons learned
    - Acceptance
    - Refinement of targets
    - Valuation
      - \$3.50 per acre based on literature reviews
      - Actual costs: reduced SR/rest
      - Creation of additional understanding of habitat needs and monitoring
  - Influence of drought- 7/10 did not meet targets
  - Multiple species at risk
    - Imbed small into the large to cover more ground in conservation
  - Habitat management/restoration agreements
    - Prescriptive
    - SR/grazing plans
    - Infrastructure
    - Rejuvenation
    - Cropland conversion
    - Invasive species control
    - Avoidance of destructive activities
    - Monitoring information
  - Build extra cost into the agreement
    - Forgone income for not building new roads or more time/money into transporting livestock
  - Hire birders to see what birds are on the land



- Intervention is sometimes required
- Document what is currently being done, active intervention required
- Restoration vs. rejuvenation
- Niche product branding
  - Beef that was grown with conservation in mind and with all the native aspects of the land
- Term conservation easements
  - 4 producers interested, valuation, SSGA foundation

### Solutions Session #3: The Nature Conservancy Matador Ranch Grassbank: Conservation and Collaboration

#### Charlie Messerly, TNC (The Nature Conservancy)

- Key words
  - Dynamic conservation
  - Conservation to help build communities- bring community back to the ranch
  - Conservation conversations in the field
  - Goal setting
- Take away
  - Matador and grassbank has brought people together, brought communities back to ranches
  - Be dynamic in continuing conservation, one thing doesn't work every time all the time
  - Success takes time to build and maintain
  - Sitting around a table doesn't always work
- Notes
  - Started during drought with neighbors of the ranch needing grass, has become successful
  - Conversations in the field is where a lot of the success has come from
    - Informal type conversations rather than large group meetings
  - Time is needed to build successful relationships
  - Established ranches gave up some grass to allow newcomers to have ranch to graze, continually having people looking for grass
    - Building the future communities and conservation
  - 1 on 1 talks in field is where opinions and thoughts begin to flow
  - Cattle are used as a tool to manage habitat on ranch
  - Grassbank
    - Discount the cost of forage for conservation practices on participating ranches
      - Lease grass to ranchers based on conservation values on their "home" ranch
    - TNC manages grazing on Matador
    - Ranchers manage livestock, healthy bulls and such
    - Facilitates community involvement
    - Ranch plans are important
  - Matador and grassbank has brought people together, brought communities back to ranches
  - Be dynamic in continuing conservation, one thing doesn't work every time

- all the time
- Success takes time to build and maintain
- Sitting around a table doesn't always work
  - People not wanting to speak up in a group
  - In the field you can see what it is that needs to be worked on or is currently working
- Multi owners in groups means less fences, less expenses, better for wildlife

## Cows and Fish: Lessons learned from supporting 25 years of Proactive riparian stewardship

### Norine Ambrose, Cows and Fish

- Keywords
  - Elements of Stewardship
  - New tools for success
  - Show vs tell
- Take Away
  - Natural resource management is about people more than habitat
  - How you perceive something depends on where you sit and how it is presented
  - Find new ways to get the best result rather than just relying on what you have always done
- Notes
  - What is natural resource management
    - NOT habitat, but People!
  - Elements of stewardship
    - Awareness
    - Ethic
    - Action
  - Awareness → build common language → building a community → tool building → community based action → monitoring → awareness (cycle)
  - Not everyone learns the same things (this is a good thing!)
  - What you see depends on where you sit
    - Perspective
    - History
    - How you learn/absorb information
  - Finding a way to mesh skills and knowledge
  - Bringing new tools to the address challenges
  - Communities MUST be involved in order to succeed
    - There has to be interest in the project for it to work
  - A sense of responsibility
    - Motivation to make the change
  - Lack of communication and trust is a huge barrier that needs to be overcome in order for a project to be successful
  - Look at what you have done and what is left to go
  - Be there long term
  - Principles vs. practices
    - What you want to have happen vs how to get them to happen
  - Do this vs do think about this

- Help people to think about what they are doing rather than telling them how to think, Show vs tell
- It Takes Time!

New and emerging solutions panel: Farm link/grass link, FWP working grasslands initiative, USFWS-TNC Candidate Conservation Agreements with Assurances (CCAA)

Catherine Wightman, Montana Fish Wildlife and Parks,

Annie Carlson, FarmLink,

Kelsey Molloy, The Nature Conservancy (TNC)

### **Montana Fish Wildlife and Parks**

- Working Grasslands Initiative
- Landscape planning
  - Targeted approach
  - Landscape focus
  - Mapping
- Protection of existing native rangelands
  - 30 year conservation leases
    - No conversion
    - Some public access
    - \$30 per acre one-time payment
    - Can combine with Block Management for added income
  - Cost share opportunities
    - Provide up to 75% cost-share for projects to help with conservation practices on public land

### **Farm Link Montana**

- Most work is centered around Missoula and the western half of the state but starting to move east
- Trainings
- Financing
- Run from Farm Link website
- Connecting Montana's beginning farmer and experienced ranchers
  - Kind of like a dating website
  - Help find land to buy, lease or to find a mentor to learn from
- Grass link
  - Partnership with Ranching Stewardship Alliance to connect beginning land owners with those whose land is coming out of CRP, or those who have extra grass
- FarmlinkMontana.org

### **TNC Candidate Conservation Agreements with Assurances (CCAA)**

- Voluntary agreement between USFWS and TNC (The Nature Conservancy)
- Encourage conservation to prevent listing of species

- They won't face more regulations if they do get listed
- Ranching and agriculture practices are both covered under agreement
- Agreements last 20 years
- Flexible on species
- Habitat Loss and Fragmentation is the biggest threat to these lands
- Conservation measure required
  - No breaking up of the land

#### Open discussion

##### Themes

- Challenges- Finding the right fit, what are the tools that will help producers for conservation; preserve agricultural land; building relationships
- Future Success/How to get there/vision- bring tools and resources together, expand across the state (FarmLink)/looking for connecting people and ranches; continued partnership and buy-in from landowners
- Monitoring of programs (esp. easements)- yearly compliance and biological assessments
- Funding- Working grasslands Initiative- 75% Federal, 25% State

#### Transboundary Grasslands Partnership Work Plan Development- Facilitator- Jennifer Boyer

Outcome: 1) Affirm Role of this Partnership, 2) Identify ways to advance transboundary efforts beyond communication at these workshops, and 3) Action Items for the work plan (12-18 months).

### **Thursday Feb 15, 2018- Day 3- Focused Sessions (concurrent)**

#### Work plan Development Report-back –Jennifer Boyer

- Communication Networking
  - Goal: Improve connection and shared learning between partners throughout the year, improve participation with landowner and First Nations partners, promote a public message of the importance of grassland health
- Standardize Data Collection and Sharing
  - Goal: Work towards identifying and utilizing data collection and sets that can be shared and applied to compare
- Connectivity
  - Goal- Research to practice to expand on the ground projects and improve connectivity across the landscape

#### Rapporteur/Closing Remarks- Linda Cerney

- Thank you for participating in this year's workshop
- Thank you to the organizing committee
- Overview/Messages heard at this 2018 workshop
  - Building Relationships and Partnerships and Strengthening them
  - Building Community Support and working together
  - Acronyms- not effective in communications, understanding and learning (esp. with people outside each jurisdiction)
  - Science and data sharing
  - Importance of connectivity

- Climate change and Flash Drought 2017
- Tools needed to balance economic, environmental and social needs and type of tools that exist already
- Processes in use
- Inviting everyone to the table
- Changing land ownership patterns and integration of new ranchers into the community
- Connecting people to people to programs to partnerships
- Finally- It's about the people! It Takes Time! And it's about Finding the Right Fit!
- Invitation to reconvene with the Transboundary Grasslands Partnership in Alberta 2019

## **Concurrent Sessions**

### **1. Milk River Watershed Working Group- Coordinator: Tim Romanow**

No notes available

### **2. Science Breakout Session- Coordinator: Kevin Ellison**

Overview of Past efforts: Northern Sagebrush Steppe initiative, Crossing the Medicine Line, Northern Plains Conservation Network, ETC. Discussion of how/why coordination has diminished and how we can do better

- Northern Plains Conservation Network
  - Not very active, only 40 partners left
  - Mostly Non-government organizations (NGO)
  - In limbo
  - Reluctance could be from the beginning favoring of bison and Prairie dogs
- Crossing the Medicine Line Network
  - Was active +- 5years
  - Not much web presence
  - Mostly to exchange GIS data layers
  - Predictive occurrence maps
  - Was overshadowed by other programs/ grouping
    - Picked up by Northern Sagebrush Steppe initiative
- The Northern Sagebrush Steppe Initiative
  - One of the most formalized of the groups, more agency driven
  - Did some funding for meeting and travel
  - Working with transboundary wildlife data collecting
  - Data sharing agreements
  - Focus on sage-grouse, pronghorn and mule deer
  - Focus still meets annually
  - Dialed in a little tighter, building relationships
  - CWD tracking
  - Communication needs to be improved?

Modeling Grassland Bird Habitat Relationships across the Transboundary Area

Marisa Sather, Partners for Fish and Wildlife

- Keywords:
  - Grassland birds

- Data collection across the boundary
  - Go big to see the whole picture
- Take away
  - Data collection needs to be more uniform across boundaries
  - We need to work together to see the bigger picture for conservation studies
- Notes
- Land conversion in the Northern great plains
  - 7.34 million converted
- Grassland birds: canaries in the coal mine
  - Decline of grassland birds, more loss in the wintering ground in the south but there is still a decline in the breeding grounds in the north
- Objective research
  - Evaluate land use and management
  - Regional: hotspots for bird diversity in North East Montana
  - Continental spanning north of the great plains into Canada
- Amount of grassland is crucial for Grassland Birds
- What is the distribution and environmental factors?
- What is the risk of conversion?
- 1. Assembled point count data from many sources
  - Collected in breeding seasons 2007-2012
  - Thinned to 10,000 record by newest and most even distribution
- 2. Assembled environmental predictor layers
  - Broad, long term climate variables
  - Short term climate variables
  - Land use/land cover
- 3. Fit random forest model
  - Its complex nonlinear relationships and accounts for high dimensional interactions
    - Great predictor BUT doesn't explain why it is the way that it is
- 4. Overlaid tillage risk model
  - Habitat selection for cropland
  - Where is most likely to be tilled
- Pipit core populations
  - Most breeding in Canada
  - More than 70% is breeding on private lands
- Tillage
  - Canada didn't have layers available at the time
- Transboundary
  - Capturing across boundary data helps make the most data outcome
  - ID broad scale importance for birds and trends
  - Management recommendations may have greater effect on populations
- Challenges
  - Awareness of who to call for data
  - Willingness to share data
  - Variability in data management
  - Inconsistencies in field methods
- Environmental predictor data
  - Often inconsistent or non-existent across boarder

- Limits scope of analysis
- Management implications
  - Management policies vary across boarders
- Differences in methods of data collection where processed with sensitive analysis to the different variables
- Have to go big to see the full picture

## Tracking Wildlife Movements within the Transboundary Area

### Andrew Jakes, National Wildlife Federation

- Key words
  - Imperfections
  - Multi-scale
  - Useable information
- Take away
  - All models are imperfect, do your best to minimize imperfections
  - Focus on the bigger picture
  - Management considerations concerning the migration of pronghorn
- Notes
  - All models are imperfect, but try to minimize imperfection
  - Lots of work to make scales seamless
    - 1/3-1/2 of the work to make his project work
  - Not just spatial but also temporal to be considered in all models
  - Purpose
    - Multi-scale hierarchy nested modelling
    - Big picture that affects the finer scale movements
    - Data that's collected needs to be processed and used not just collected for the sake of collecting
  - What's your question?
    - Build of that question
    - How react to barrier
    - How changes with migration area
    - Can also mix number of points together
    - Differences in data that is collected, multi-year collars vs few months
  - Migrant vs. resident question
    - Can they switch depending on year and age of the animal?
  - Used identical data with different interpretation
  - Broader scales show more useable information for larger ungulates
  - Higher quality forage
  - Lower density of roads and oil pads (selected against)
  - Connectivity within habitat patches
  - Accessing corridor width
    - How many points in that width
    - Gives flexibility to managers
  - Pronghorn do not like underpasses
    - Start using over passes in a number of weeks
    - Maybe just make fences more pronghorn friendly?

## Great Plains Grassland Assessment

### Kevin Barnes USFWS Prairie Pothole Joint Venture

- Wanted grassland assessment from Conoco-Philips
- Questions on Mexico and Canada still
- Native vs. non-native grasses
- Common land unit's that have been digitized using data from FSA
- US workflow
  - FSA, CLU and crop history data
  - Remove non-grass cover classes using cropland data layer and other data sets
  - NDVI time series to ID native grasses within areas
- Still a work in progress

## State and Change of Land Cover in the grassland and Parkland regions of Alberta

### Ron McNeil, Alberta Prairie Conservation Forum

- Comparison focus
  - Native prairie vegetation inventory (NPVI) to grassland vegetation inventory
  - Selected natural regions, sub-regions and eco-districts
  - AB biodiversity monitoring initiative human footprints
- Need to build a way to convert more better
- Eco-district concept
  - Area of generally similar soils, landscape and land use
  - Take care with road allowances
- Directing strategies for the area you are working in
- Time scan → remote sensing layers
- Issues with loss = intensification, loss of isolated native patches
  - 77.76% of human foot print is the parkland nature region
  - 57% human foot print in grassland nature region

## Science Discussion

- Plains and Prairie Pothole LLC
  - Get data before people retire
- Form a science- technical committee to follow-up
- Social science and economics and working together
- Science sub-committee
  - Getting layers to mesh
  - Use of drones for mapping
  - How to connect satellite imagery
  - Develop a process to bring data together- for review and blend data to get a common language
  - Build transboundary GIS portal?
    - Put all in one place
    - Data basin



- Find out links/data on effectiveness modeling after money spent on conservation efforts
- Rangeland monitoring
  - Collect what already been collected by the producer
  - White water Swift fox?

### 3. Sustainable Beef Programs: Coordinator Nancy Labbe

#### Audubon's Conservation Ranching Program

#### Marshall Johnson

- Conserve and restore natural ecosystems
  - Bird friendly communities
  - Climate
  - Working lands
- Great plains focus with North America's grasslands program
- Birds are the flagship but so many factors go into programs and conservation
- If you take care of birds you take care of most of the big problems in the world
- Conservation program
  - Audubon certified beef
  - Conservation groups should consider the burden of spreading awareness about livestock use for conservation
  - Marketing
  - Economic incentives
- Conservation groups buying land not feasible to make landscape scale changes
- Grass-fed beef market is growing like crazy
  - 15-20 % annual growth
- Consumers want different products now, economics
- Certification → marketing → supply chain
- Habitat management → forage to feeding animal health and welfare, environmental sustainability
- Site specific habitat management plan

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