**Connecting for Conservation**

**Climate Change Discussion 05/20/14**

**Facilitators: Marcie Bidwell (MSI) and Kara (USACE)**

**Introductions and How Work Relates to Climate Change**

Derek Padilla – San Juan National Forest

* Working with Karina Wellborn in developing strategies/tools for adaptive management strategies for climate change

Jimbo Buickerood – San Juan Citizen’s Alliance

* Watershed issues, grazing issues, many projects correlated with climate

Cara Gildar – San Juan National Forest

* New forest plan with specifics of adapting to changing climate
* Make sites more resilient to a changing climate
* Academic background in plant ecology and biology
* Wants specific on-the-ground strategies for climate change: is biochar an option, mycorhyzae, etc.
* Partnership with CSU extension and SW seed
* Want partners who are on the ground (ranching, extractive industries, etc)

Jim Friedley – Bureau of Indian Affairs Forester

* Management planning process, hoping to use adaptive strategies
* Could provide funding
* Curious about impact on local forest (pinyon and juniper) on tribal lands

Rob Blair – BOD MSI

* Geomorphology specialist – interaction of climate with crust (eolian, depositional, fluvial), geomorphological signatures of climate changes
* Provides ideas and consulting

Paul Morey – Wildlife manager at Mesa Verde

* how will climate change affect species?
  + Springs drying?

Shannon Manfredi

* here to learn and be inspired

Chris Rasmussen – Riparian restoration ecologist

* Colorado River impact
* Working with TU for an adaptive management plan for cold water fish
* Strategic planning for trout management: identifying sites at risk
* Manage cold water fish – both native and non-native

Chaska Huayuaca – CSU

* see a gap in collaborative efforts
* What is happening in collaborative efforts in SW CO

Jeff Organ – Ecographic analysis

* Interdisciplinary ecology background
* Interested in monitoring in flora/fauna, management programs

Ben Martinez – San Juan National Forest

* Here to learn common terminology amongst the group

Heidi Steltzer – FLC professor (Environmental Biology)

* Research focuses on environmental change: warming and elevated CO2, impact of early snowmelt from dust on snow events
* How do we start to organize data sets to tell us more about the changes of our region
* How to share info from successful study to a broader audience
* Ecological resilience through climate change
* *Elevated CO2 further enhances growing season length under warming conditions* article
* Need to better understand natural system balances
* Provide scientific and grant writing expertise, equipment, and students

Marcie Bidwell

* Publications: synthesis of 2012 research (currently being updated), assessment of historic trends, sensitive wildlife species assessment for vertebrates
* Bring partners together to leverage for funding
* Intern program and restoration generation: work with young minds to inspire youth to take on future challenges

Kara - USACE

* Need assistance on how to identify and create sustainable wetland mitigation and how aquatic resources will change over time

**What is happening now? Existing**

* Plant and animal species inventory of at risk species via Barry Rhea and Marcie Bidwell
* Ecosystems report CNHP – still in progress
* Adaptive silviculture climate change workshop, USFS, Pagosa Springs
* San Juan climate initiative started in 2006 and ended in 2010
* Nature Conserancy study on Colorado main stem comparing diversity amongst tributaries
* Climate Smart Workshop – adaptation training in San Juans

**Needs:**

* Solutions
* Project based ground level tools
* Science/statistical analysis
* Tech assist fro range/ranch private partners
* Adaptive management plan
* Science/research
* Common vocabulary
* Connecting pieces, partners
* Share existing knowledge, build frameworks, data
* Relevant applied questions
* Ecosystem resilience
* Establish permanent set of field sites as hub for research
  + Need large community buy-in
  + Need to be accessible for best logistics
* Connect doers with students
* Research complexity of systems dynamics
* Aquatic resource/water survey interactions for permitting
* Climate speaker series
* Control hydrology impacts

**Addressing Needs:**

* Development of model and tools for on-the-ground applications
* Spatial data clearinghouse (DEM, shp, etc.);
* Process (how to) guide clearinghouse
* Clearinghouse for all research
* Long-term data set research (North Central Climate Science Center)
* Landscape climate cooperative
* USFS research reference sites
* Peer to peer assistance with land owners
* Create citizen science opportunity with recreationists and have a website repository for materials taken
* Incorporating micro studies
* Translating ecological/environmental effects to economical effects
* adaptive management = science
* environment affects w economics – models to
* non traditional photo points
* eco resilience thinktank
* process and disturbance history museum origin and process collection database
* incorporate climate into water plan
* part climate consultant/economy think tank
* restoration/resilience generation/training

**Data collection (assemble existing data), synthesis and analysis, and sharing**

* Assemble existing data:
  + Identify “high grade” data
  + Data call for existing data
  + Add metadata
  + Determine data needs:
* Synthesis and Analysis:
  + Establish framework for info
  + Project call – existing projects
  + Establish think tanks – cara, heid, jeff, chris, Marcie, rob, jimbo, chaska
* Sharing:
  + Repository, for info and tools
  + Develop dissemination tools
  + Econ think tank – biomass, business roundtable

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