

Lentic Riparian Monitoring Focused on Objectives

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Criteria for Success

- Focuses management on priorities
- Practical



Elko BLM District has assessed PFC on about half of 3500+ lentic riparian areas

PFC assessment	Number of Springs etc.	Number of Acres
Properly functioning	14%	71%
Functional-at-Risk-Trend up	10%	3%
Functional-at-Risk Trend not apparent	6%	2%
Functional-at-Risk Trend Down	46%	16%
Nonfunctional	21%	6%

Why will agencies be held accountable?

- Protection of Wetlands Executive Order
- Agency riparian area management policies
 - E.G. Fish and Wildlife 2000 Program
- RAC Standards and Guidelines – “Riparian and wetland areas exhibit a properly functioning condition”
- Sage Grouse
- PFC is the foundation for resource values

Monitoring 1600 lentic areas individually is a distant dream,






Managing
them for
functionality
is a legal,
policy,
sustainability,
sage grouse &
common
sense
requirement

If we are not monitoring
we are not managing



A landscape photograph showing a grassy hillside in the foreground and middle ground, overlooking a valley. The sky is blue with some light clouds. The text is overlaid on the top half of the image.

If we are not monitoring
we are not managing

So, where and how should we
monitor?

First, monitor what is important!


- Monitor functions where at risk



First, monitor what is important!

- Monitor resource values where essential



A photograph of a riparian area. In the foreground, there is a stream with a small waterfall or drop. The stream is surrounded by lush green grass and some yellow wildflowers. To the left, there is a large pile of brush and dead branches. The background shows a grassy field extending to a line of trees.

Monitor to answer
important questions

For riparian areas to sustainably
provide important resource values,
they must function properly.

PFC Assessment by ID Team

--> Knowing about areas functioning at-risk due to soil, vegetation, or hydrologic attributes or processes.



1923



Changing
Water
Supply,

1966



Burnt Mill Creek
Snake Range, NV

Inability to Retain Water



Changes to Flow Patterns <-> Erosion



Watershed Perturbations that Alter Water or Sediment Supply,



Prioritize At-risk if Trend is Downward or Not Apparent.



10 5 01

Root Cause Analysis →

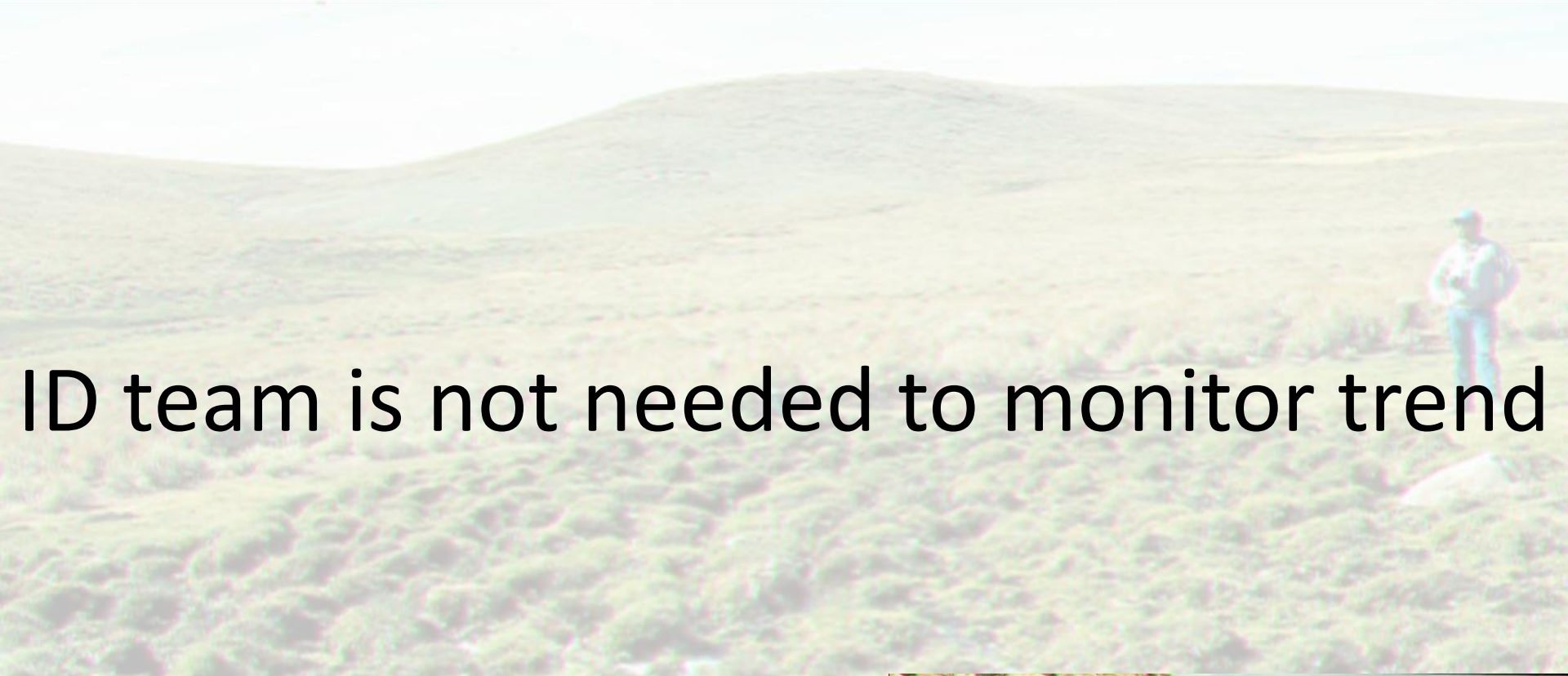
Resource Objectives →

Prescribed Management w/Monitoring →

Functionality →

Resource values





ID team is not needed to monitor trend



To Determine Trend, Monitor Key Attributes

- That need improvement
- could undermine system functions



More good than bad

- **Good**

- Early
- Short duration
- Avoid hot season
- Rotate use areas and timing
- Light to moderate use
- Long recovery periods
- Regrowth before winter
- Occasional rest
- Stutter deferred (willows grow taller for two years, then a late year)
- More offsite water
- Well scattered salt/supplements
- Cleaned pastures and closed gates

- **Bad**

- Season-long
- Long season of use
- Hot season grazing in big pastures with limited riparian
- Few waters and only riparian water
- Heavy use too often in the system
- Little or no regrowth before winter
- Use at same time every year – repeating stress
- No rest – little recovery with long seasons use
- Salt on creeks
- Little or no riding
- Stragglers

Short-term Monitoring

• **Strategies**

- Early
- Short duration
- Avoid hot season
- Rotate use areas and timing
- Long recovery periods
- Re-growth before winter
- Occasional rest
- Stutter deferred (willows grow taller for two years, then a late year)
- More offsite water
- Well scattered salt/supplements
- Cleaned pastures and closed gates
- Light to moderate use

• **Monitor**

- On and off dates (note phenology)
- On and off dates (note phenology)
- On and off dates (note shift to riparian)
- On and off dates (note phenology)
- On and off dates (note phenology)
- On and off dates (endpoint indicator)
- On and off dates (note phenology)
- On and off dates (woody utilization)

- Water availability (use map)
- Salting location (use map)
- Periodic checks for stragglers

- Stubble height & woody utilization

Good Resource Objectives for Long-term Monitoring

Describe the continuing resource attributes
that should be achieved by management

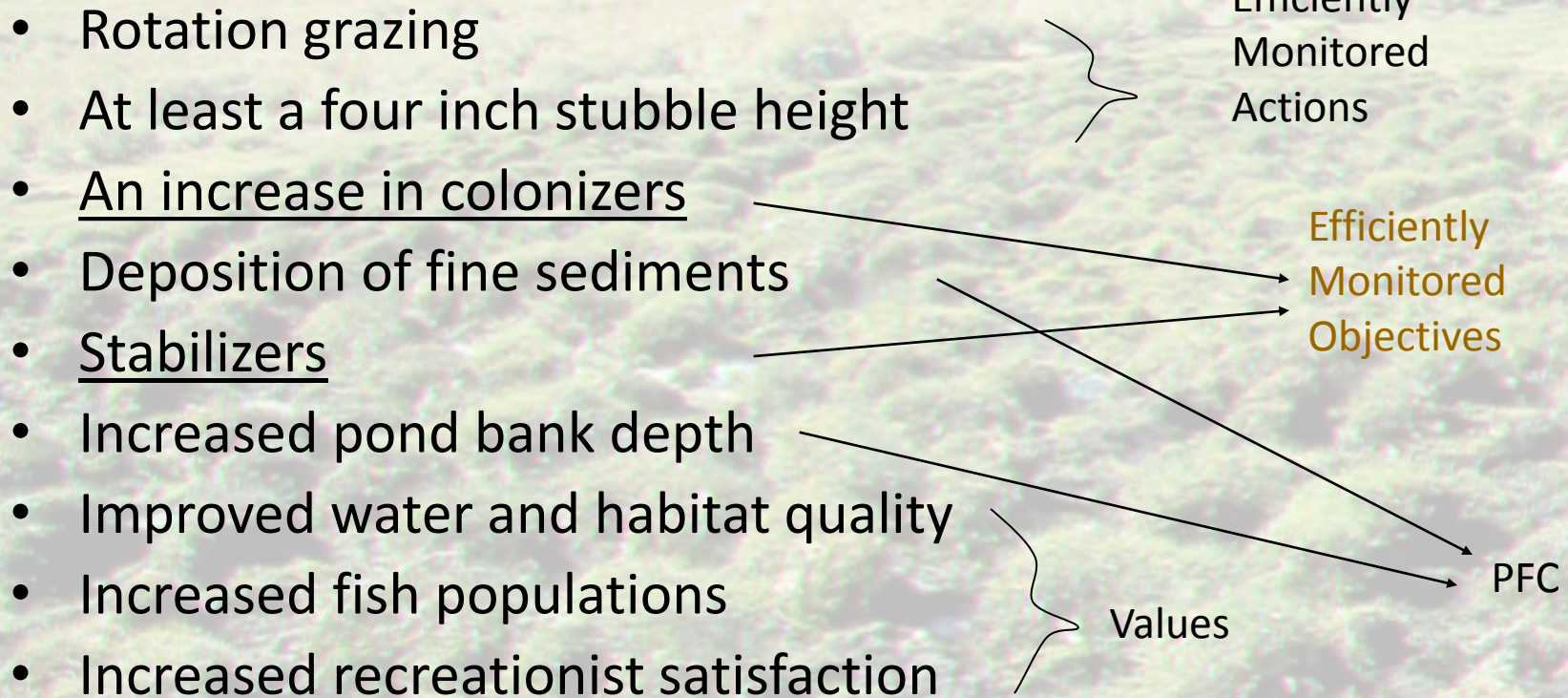
Are achievable, measurable,
and worthy of the management and monitoring needed

A Management Chain Reaction

- **Rotation grazing for three weeks (or other strategy) leads to**
 - **At least a four inch stubble height leads to**
 - **An increase in colonizers leads to**
 - **Deposition of fine sediments outside the pond leads to**
 - **Maintained or increased stabilizers leads to**
 - **Increased pond bank depth leads to**
 - **Improved water and habitat quality leads to**
 - **Increased fish, bird, or snail populations leads to**
 - **Increased recreationist satisfaction**
-
- **So, where is the resource objective?**

A Management Chain Reaction

Where is the objective?



Objectives Should Be:

- **S**pecific – What will be achieved, where, and when
- **M**easurable – With recognized monitoring methods
- **A**chievable – With likely management and budget
- **R**elevant – Connecting management actions to results
- **T**rackable – Within law, policy, plans, and issues

Usually, monitor vegetation in key places, where vegetation filters sediment coming from uplands and/or stabilizes banks or slopes



Often monitoring vegetation also records changes in water availability or water quality




6 15 '00

Occasionally, monitor a fix to the structure holding water in place.



Habitat Values.



A person in a blue jacket and hat stands in a vast, open landscape with rolling hills in the background. The foreground is covered in dense, low-lying vegetation. The sky is clear and bright.

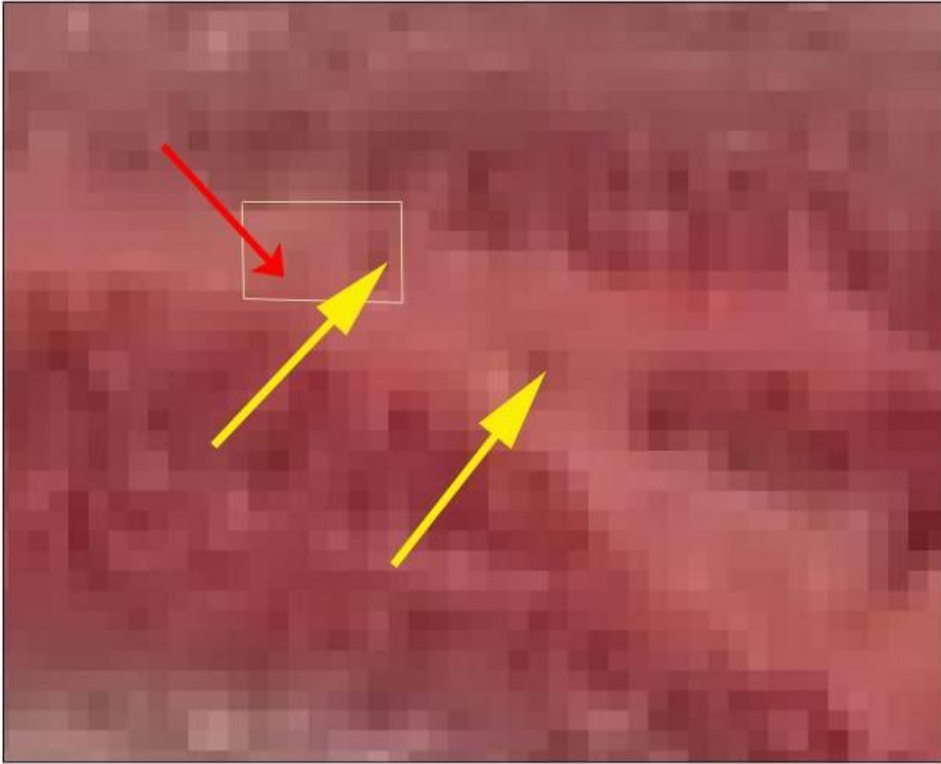
Suggested Techniques:

- 1.) Photos
- 2.) Riparian greenline composition;
- 2.) Greenline to greenline distance
- 3.) Cross-section transects

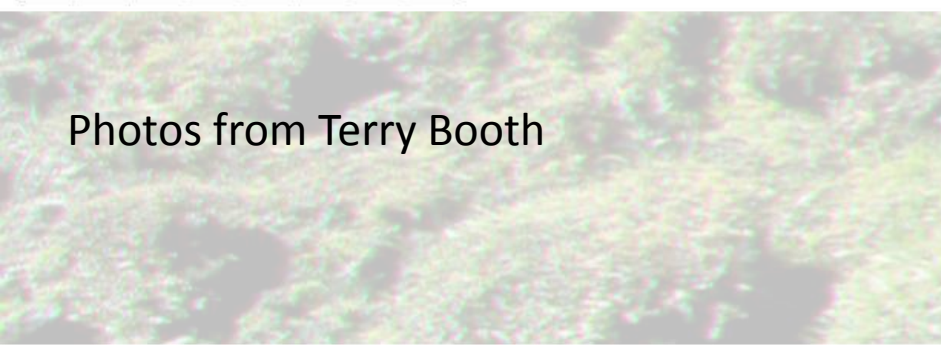
Labeled Photos



High Resolution Aerial Photographs



Photos from Terry Booth



Riparian Greenline Community Type or Dominant Species Composition;



Distances from greenline to greenline;



A photograph of a natural landscape. On the left, there is a pile of dry, tangled brush and branches. A small stream flows through the grassy area, curving from the brush towards the right. The ground is covered in lush green grass, with several small yellow wildflowers scattered throughout. The background shows a continuation of the grassy field under a bright sky.

With no greenline, put a transect
down the wettest curved line

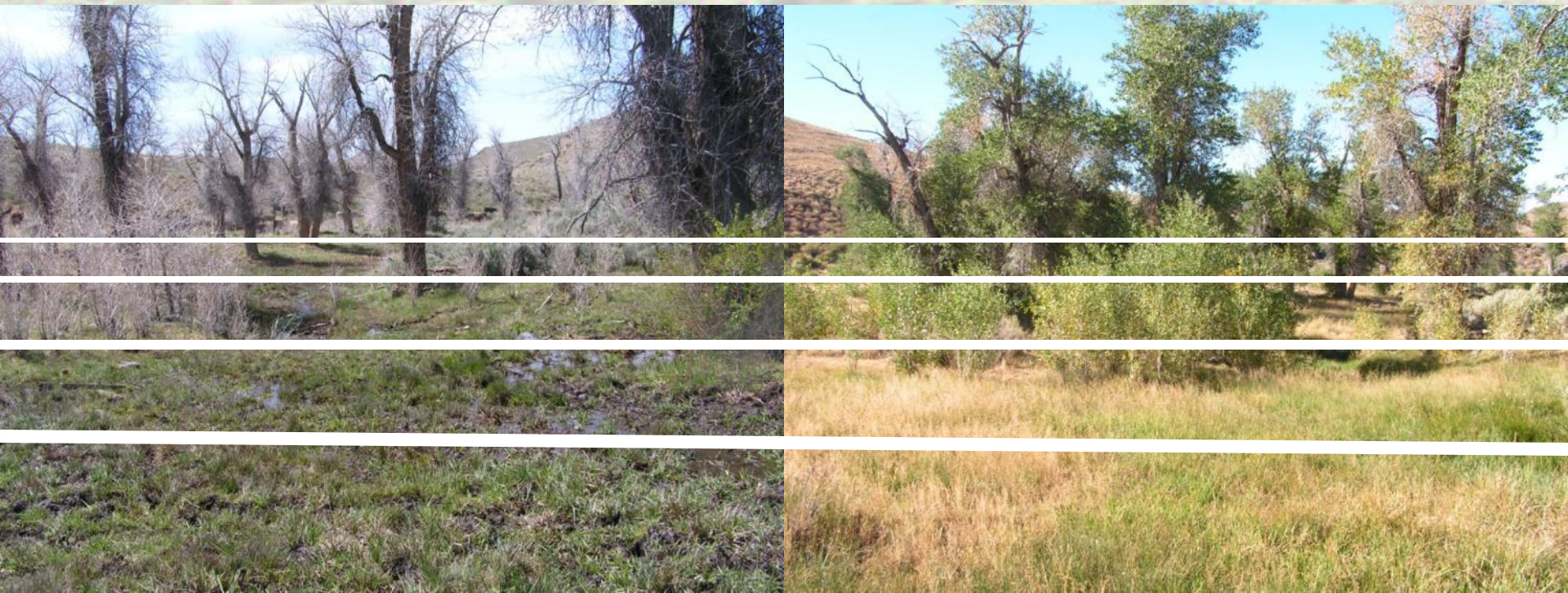
Cross-section Transects

- Woody species regeneration
- Riparian community types or dominant species




Based on ID Team Assessment and Objectives,

Technician Monitored Attainment of Objectives
Can Record
Achievement of PFC



In a pasture or allotment with dozens or hundreds of similar springs,

A landscape photograph showing a dry, grassy field with a small pond in the center. The background features rolling hills and mountains under a clear sky. The text is overlaid on the top portion of the image.

Assess and Monitor a Random Sample

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- Focuses management on priorities



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