



# 2015 Livestock Assessments

Eastern Washington Livestock and Water Quality

# Livestock & Water Quality History

- Began in 2001 in response to Federal EPA overflights
- Partnered with CDs to help livestock producers access technical and financial assistance
- Worked with over 100 livestock producers to implement more than 300 miles of riparian protection
- Work focused in Asotin, Garfield, Columbia, Whitman, Adams, and Lincoln Counties

# Livestock & Water Quality Keys

- Partner at a local level
- Perform outreach
- Offer technical assistance
- Utilize cost-share
- Support the operation
- Patient approach
- Use compliance tools only as a last resort

# Livestock Assessments

- Why do we assess specific watersheds?
  - Impaired (polluted) streams and rivers
  - Known livestock & water quality issues
- Evaluate conditions in the stream corridor
- Performed from public right-of-ways

# Visual Indicators

- Areas of bare ground and exposed soil
- Contaminated run-off (active or potential)
- Slumping streambanks and erosion
- Moderate to heavy grazing
- Confinement areas near streams
- Absence of woody vegetation due to livestock action
- Manure accumulations
- Extended access to surface water
- Livestock paths and trails

# Water Quality Parameters Associated with Visual Indicators

- Nutrients
- Temperature
- Dissolved Oxygen
- Turbidity/Sediment
- pH
- Fecal Coliform Bacteria

# Assessment Overview

Field

Office

- Site Folders:
- File Notes
  - Photos
  - Score Sheet, etc.

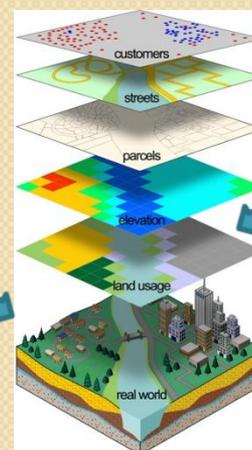
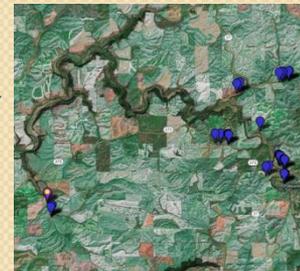


- Database:
- Location
  - Owner
  - Problems
  - Staff Assigned
  - Follow up, etc.

Photos

**PIMS**

Geotag Photos



Sync Date & Time



## Standard Operating Procedures

**ERO Watershed Evaluation Standard Operating Procedures**  
 By: Mike Bland, Jr.  
 4/17/2013  
 Equipment Checklist:  
 • GPS  
 • Digital Camera  
 • Clipboard  
 • Field Data collection form (or best 20 sheets)  
 • Data Profile  
 • Data  
 • Laptop computer with GPS software (optional)  
 Equipment preparation:  
 • "Check that the date and time settings on the GPS and camera are synchronized."  
 GPS:  
 1. Create user request file with description in user's name (username\_aid)  
 2. Create user tracking file named by date.  
 Digital Camera:  
 1. Review the camera's user manual to ensure proper photos are deleted.  
 2. If camera supports it, turn the photo timestamping on so it links in order to match electronic field data forms in the office. Note: Camera timestamp (EXIF) will timestamp each individual photo of one after another for the camera roll if "File Naming" is set to "Auto-Ren" when a photo requires "Bracketing" or "merge" to better details to meet a number one. If the method is not used, the camera will continue to capture photos until the battery/GPS location fails.  
 Field operation:  
 GPS: start GPS's location prior to beginning the watershed evaluation and leave it running for a few minutes after the evaluation is completed.  
 Digital Camera: if the camera supports it, enable GPS logging of the photos locations.  
 Field forms: fill out field forms as completely as possible and include hand-written notes to record additional information as needed.

ERO Watershed Evaluation Field Data Sheet		Ecology Staff		Date	
(Ver. 2 - 4/1/2013)					
GPS Use	Water Body	Problem Category	Response Code	Observations	Photo Number(s)
		<input type="checkbox"/> Livestock Grazing <input type="checkbox"/> Livestock Feeding <input type="checkbox"/> Fertilizer <input type="checkbox"/> Pesticide <input type="checkbox"/> Herbicide <input type="checkbox"/> Other	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> Non-erosion/soil <input type="checkbox"/> Erosion/soil (not active or potential) <input type="checkbox"/> Shading, overabundance and erosion <input type="checkbox"/> Shading of grasses <input type="checkbox"/> Shading of woody riparian vegetation <input type="checkbox"/> Shading of shrubs <input type="checkbox"/> Shading access to surface water <input type="checkbox"/> Shading paths and trails in riparian area <input type="checkbox"/> Other	
		<input type="checkbox"/> Livestock Grazing <input type="checkbox"/> Livestock Feeding <input type="checkbox"/> Fertilizer <input type="checkbox"/> Pesticide <input type="checkbox"/> Herbicide <input type="checkbox"/> Other	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> Non-erosion/soil <input type="checkbox"/> Erosion/soil (not active or potential) <input type="checkbox"/> Shading, overabundance and erosion <input type="checkbox"/> Shading of grasses <input type="checkbox"/> Shading of woody riparian vegetation <input type="checkbox"/> Shading of shrubs <input type="checkbox"/> Shading access to surface water <input type="checkbox"/> Shading paths and trails in riparian area <input type="checkbox"/> Other	
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Field Data Sheet

GIS

# Collect Site Information

ERO Watershed Evaluation Field Data Sheet (Ver. 4 – 10/8/2014)			Ecology Staff		Date
GPS Wpt	Water Body	Problem Cause(s)	Riparian Code	Observations	Notes
		<input type="checkbox"/> Livestock Grazing <input type="checkbox"/> Livestock Feeding <input type="checkbox"/> Feedlot <input type="checkbox"/> Tillage <input type="checkbox"/> Stormwater <input type="checkbox"/> Other _____	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> Bare ground/exposed soil <input type="checkbox"/> Contaminated runoff (active or potential) <input type="checkbox"/> Slumping streambanks and erosion <input type="checkbox"/> Overgrazing of grasses <input type="checkbox"/> Absence of woody riparian vegetation <input type="checkbox"/> Manure accumulations <input type="checkbox"/> Livestock access to surface water <input type="checkbox"/> Livestock paths and trails in riparian area <input type="checkbox"/> Other:	<input type="checkbox"/> Data copied to database <input type="checkbox"/> Photos copied to site folder <input type="checkbox"/> Photos uploaded to PIMS
		<input type="checkbox"/> Livestock Grazing <input type="checkbox"/> Livestock Feeding <input type="checkbox"/> Feedlot <input type="checkbox"/> Tillage <input type="checkbox"/> Stormwater <input type="checkbox"/> Other _____	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> Bare ground/exposed soil <input type="checkbox"/> Contaminated runoff (active or potential) <input type="checkbox"/> Slumping streambanks and erosion <input type="checkbox"/> Overgrazing of grasses <input type="checkbox"/> Absence of woody riparian vegetation <input type="checkbox"/> Manure accumulations <input type="checkbox"/> Livestock access to surface water <input type="checkbox"/> Livestock paths and trails in riparian area <input type="checkbox"/> Other:	<input type="checkbox"/> Data copied to database <input type="checkbox"/> Photos copied to site folder <input type="checkbox"/> Photos uploaded to PIMS
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Riparian Code: 1 = Full protection, 2 = Moderate protection, 3 = Minimal protection, 4 = No protection

Page    of

# Photos and Location Information

GeoSetter

File Images Search & Filter Map View Help

Y:\TMDL\_Unit\Nonpoint\_Water\_Quality\_Tracking\Watershed Evaluations\4-3-2013\_Columbia\_Co\_Palouse\_R\_Cow\_Ck\Columbia Co 2013

Thumbnail	Timestamp	Coordinates	Rating
001.JPG	4/2/2013 9:01:14 AM	46.51331; -117.944	☆☆☆☆
002.JPG	4/2/2013 9:16:50 AM	46.45434; -117.821	☆☆☆☆
003.JPG	4/2/2013 9:17:12 AM	46.45516; -117.820	☆☆☆☆
004.JPG	4/2/2013 9:32:09 AM	46.40840; -117.738	☆☆☆☆
005.JPG	4/2/2013 9:32:25 AM	46.40628; -117.737	☆☆☆☆
006.JPG	4/2/2013 9:33:20 AM	46.40421; -117.735	☆☆☆☆
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009.JPG	4/2/2013 9:35:53 AM	46.39775; -117.726	☆☆☆☆
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036.JPG	4/2/2013 11:51:52...	46.51160; -117.983	☆☆☆☆

75 Images (75 with Geo Data) - 1 selected

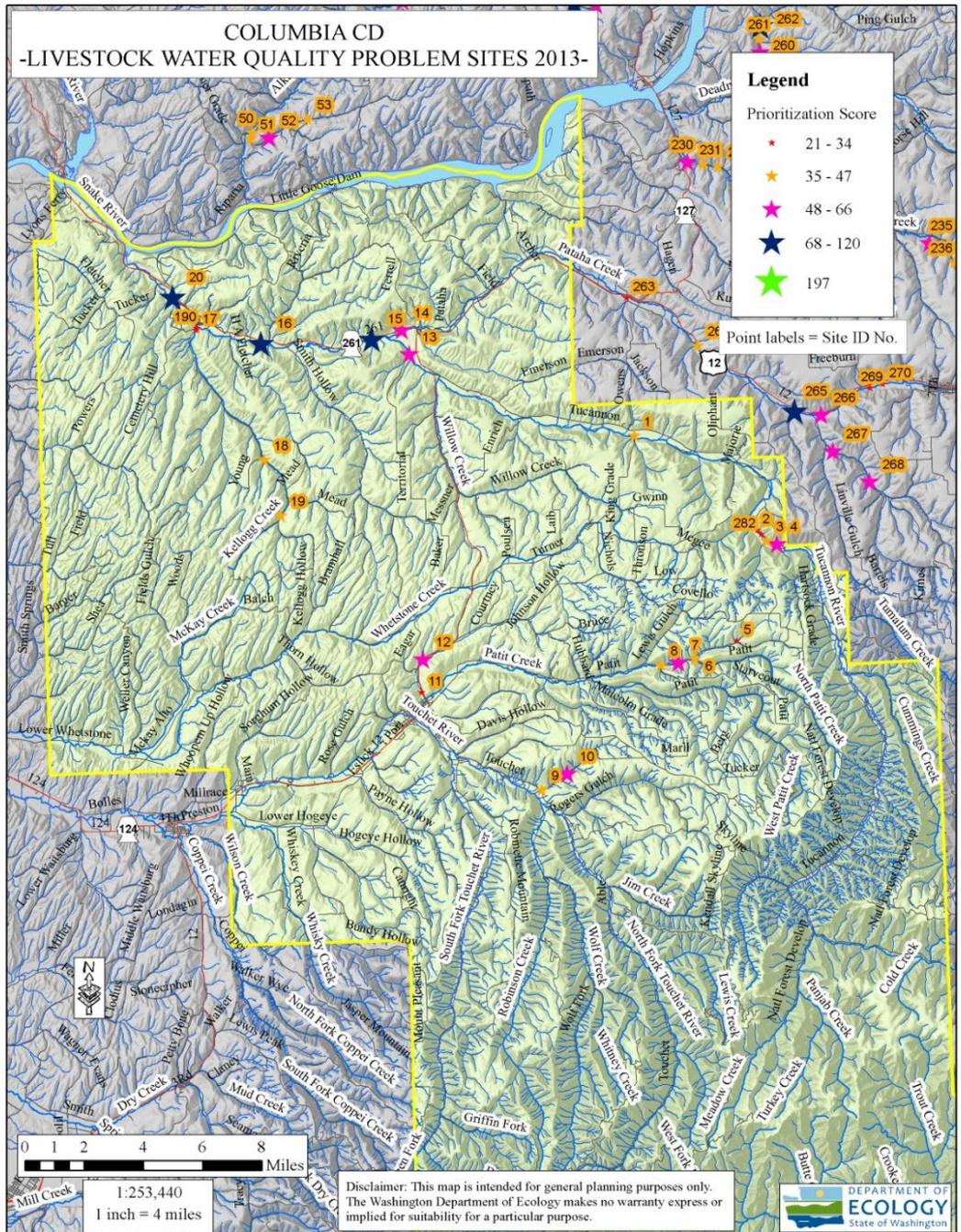
Image Preview

Fit Fit Automatically 100% Center

# Information Management

- Location
- Date Identified
- Date Last Evaluated
- Waterbody Affected
- WRIA
- Conservation District
- Problem Cause
- Observations
- Field Notes
- Staff Assigned
- Status
- Last Contact Date
- Follow up Status
- BMPs Implemented
- Photos, Documents, etc.

# Prioritize Sites



# Contact Priority Sites

- Contact CDs
- Letters Offering Technical and Financial Assistance
- Site Visits as Requested by Producers
- Follow-up

# Ten Key Changes

**Key Change #1:** Ecology will increase education and outreach efforts in watersheds where we work.

**Key Change #2 :** Ecology will look for ways to increase communication efforts with willing CDs and committee members.

**Key Change #3:** Ecology will increase engagement with producer groups when conducting education and outreach.

# Ten Key Changes

**Key Change #4:** Letters will include specific information on the problem observed at the site.

**Key Change #5:** Letters will include a clear timeline for producers to contact Ecology.

**Key Change #6:** Letters will include an offer for the producer to access the documentation related to their operation.

**Key Change #7:** Letters will include an offer for Ecology staff to make a site visit.

# Ten Key Changes Cont.

**Key Change #8:** Ecology will send letters to prioritized sites within 60 days.

**Key Change #9:** Ecology will provide 30 days for individuals to contact Ecology and/or set up a site visit.

**Key Change #10:** Ecology will send the first communication to the lessee if known.

# 2015 Assessment Areas

- Blue Mountain Streams (Asotin, Alpowa, Deadman, Meadow)
- Whitman County Snake River Tribs (Including Alkali Flat Creek)
- North Fork & South Fork Palouse River
- Hangman Creek
- Walla Walla River

# 2013 Watersheds

- Follow-up on the sites we contacted in 2013
- Determine if water quality problems are fixed
- Follow-up as necessary with landowner/producer

# Technical Assistance Letters

- We will contact up to four priority sites in each of the five areas.
- In addition, we plan to contact 2013 sites if problems are still present.
- Two types of letters

# Contacts

- Chad Atkins:
  - [Chad.atkins@ecy.wa.gov](mailto:Chad.atkins@ecy.wa.gov)
  - (509) 329-3499
- Mike Kuttel, Jr:
  - [Mike.kuttel@ecy.wa.gov](mailto:Mike.kuttel@ecy.wa.gov)
  - (509) 329-3414
- Martyn Quinn:
  - [Martyn.quinn@ecy.wa.gov](mailto:Martyn.quinn@ecy.wa.gov)
  - (509) 329-3472