



# 2015 Livestock Assessments

Eastern Washington Livestock and Water Quality

# Livestock & Water Quality History

- Began in 2001 in response to EPA overflights
- Partnered with CDs to help livestock producers be proactive and 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
- Impaired waterbodies

# 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

# Visual Indicators Affect These Water Quality Parameters

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



# 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

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# Geotagging Photos (GPS location of every photo)

The screenshot displays the GeoSetter application interface. The main window is divided into three primary sections:

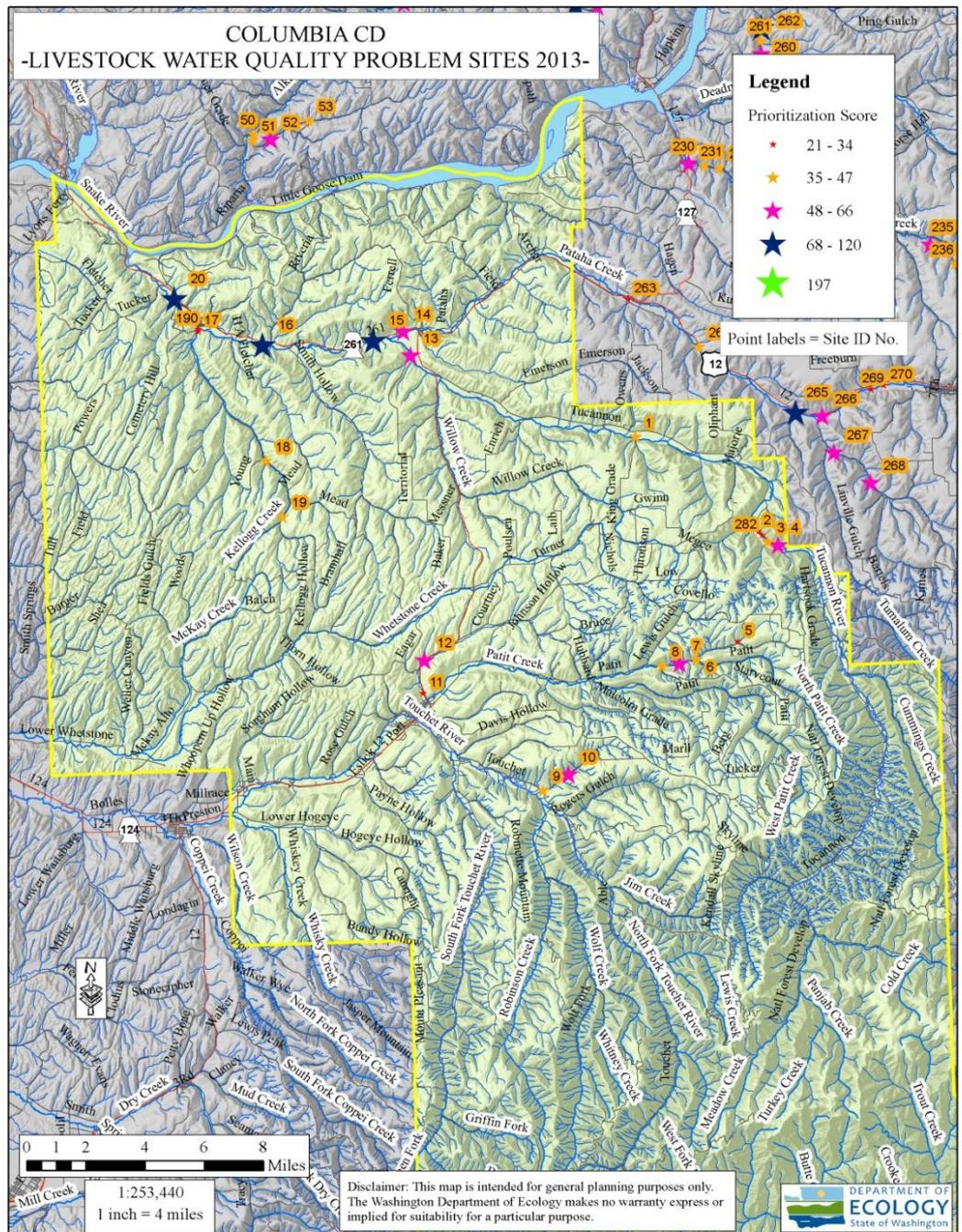
- Image Grid:** A grid of 75 small photo thumbnails, each with a star rating and a starburst icon. The thumbnails are arranged in three rows. The first row contains 12 photos, the second row contains 12 photos, and the third row contains 12 photos. The 8th photo in the first row is highlighted with a blue border.
- Image Preview:** A large window at the bottom left showing a detailed view of a photo. The photo depicts a herd of brown cows grazing in a green field, with a steep, rocky hillside in the background.
- Map View:** A large window on the right side showing a topographic map of the same area. The map features a river, roads, and various terrain elevations. Several blue location pins are placed on the map, corresponding to the geotagged photos. The 8th photo's location is highlighted with a yellow circle.

The application's title bar reads "GeoSetter". The menu bar includes "File", "Images", "Search & Filter", "Map", "View", and "Help". The status bar at the bottom indicates "75 Images (75 with Geo Data) - 1 selected".

# Nonpoint Database

- 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.

# Map Sites



# Score Sites to Prioritize

## LIVESTOCK AND WATER QUALITY PROBLEM SITE PRIORITIZATION INSTRUCTIONS

Fill in the information at the top of the sheet. Be sure to include the ID Number (ID No.) from the ERO Livestock and Water Quality Problem Database (in development) if available.

### Answer questions 1-5 using GPS field data and Ecology's GIS.

- Is the site located in a watershed with other water quality problems? If yes, award one point.
- If the problems on the site are addressed will significant water quality improvements occur, or are there so many other problems in the watershed that this site is only one of many that must be corrected to improve water quality? Award points based on the magnitude of improvement expected (sliding scale five points for major benefits down to one point for minor benefits).
- What class of beneficial uses are impacted (i.e. how clean should the water be)?
  - Extraordinary is equivalent to Extraordinary Primary Contact Recreation and Char/Salmon Spawning and Rearing.
  - Primary is equivalent to Primary Contact Recreation and Char/Salmon Spawning and Rearing.
  - Secondary is equivalent to Secondary Contact Recreation and Salmon Spawning, Rearing, and Migration.
- How long is the stream reach impacted by the site? Assume that land is managed the same for all parcels in common ownership unless known otherwise. Use the parcels layer if available. Otherwise, use the apparent property lines in the most current aerial photographs. Measure the stream length from one property line to the other. If the owner owns both sides of the stream, double the length of stream impacted. Award one point per 500 feet of stream impacted.
- Are Endangered Species Act listed fish present in the stream? If yes, award one point only — even if multiple ESA listed fish species are present.

### Answer questions 6-9 based on an Ecology Staff Watershed Evaluation.

- How many water quality standards is the operation potentially violating? The parameters would include: fecal coliform, temperature, dissolved oxygen, turbidity or TSS, and pH. Award one point per potential violation up to a total of five points.
- How many livestock in Animal Units (AU = 1,000 lb animal) are present on the site? Enter the number of livestock observed, or estimate based on damage to the riparian corridor. Award one point per 10 Animal Units— Minimum of one point even if less than 10 AUs are present.
- What is the livestock use near the stream (Year-round feedlot = 8 pt, Winter Feeding = 4 pt, or Grazing = 1 pt).
- How has the operation affected riparian vegetation? Award points as specified in the table.

### Answer questions 10-15 based on Ecology Staff Knowledge

- Does the owner own more than one problem site? If yes, award one point.
- Have there been repeat problems or are there currently multiple problems at the site? If yes, award one point.
- Is cost share available to help pay for the needed BMPs? Score as specified in the table.
- Is the site located in a TMDL or STI priority watershed? If yes, award one point.
- Is Ecology prepared to take enforcement action if voluntary compliance is not successful (consider staffing capacity, politics, etc.) Score as specified in the table.

- Is the owner likely to implement and maintain the BMPs needed to protect water quality? Do not score, but characterize as high, medium, or low based on likelihood of success.

## LIVESTOCK AND WATER QUALITY PROBLEM SITE PRIORITIZATION SHEET

Owner	Address		
WRIA & Water Body	Latitude/Longitude (Decimal degrees—5 decimal places)		
Conservation District	Identified by: Complaint or Ecology Staff (Name)		
ID No.	Criteria – See Instructions	Answer	Score
<b>From GIS</b>			
1	Site in close proximity to other problem sites (subwatershed/stream). Yes = 1 pt, No = 0 pt		
2	Significance of problem in watershed context (i.e. major source, or one of many sources). Sliding scale (5-1): Major benefits = 5 pt, Minor benefits = 1 pt		
3	Beneficial uses impacted. Extraordinary = 3 pt, Primary = 2 pt, Secondary = 1 pt.		
4	Length of stream bank impacted (both sides). 1 pt/500 ft		
5	ESA listed fish affected. Yes = 1 pt, No = 0 pt		
<b>From Field Evaluation</b>			
6	Number of potential water quality violations. 1 pt/livestock influenced impact (i.e. fecal coliform, Temperature, DO, Turbidity/TSS, pH).		
7	Number of livestock present in Animal Units (AU = 1,000 lb animal) (i.e. cattle and horses > sheep, goats, and Llamas). 1 pt/10 AU.		
8	Livestock use near stream. Year-Round Feedlot = 8 pt, Winter Feeding = 4 pt, Grazing = 1 pt.		
9	Riparian vegetation condition: <ul style="list-style-type: none"> <li>Bare eroding banks without overstory = 5 pt</li> <li>Bare eroding banks with overstory = 4 pt</li> <li>Ground cover but no shrubs and overstory = 3 pt</li> <li>Ground cover with overstory = 2 pt</li> <li>Ground cover, shrubs, and overstory = 1 pt</li> </ul>		
<b>From Ecology Staff Knowledge</b>			
10	Owner of multiple problem sites. Yes = 1 pt, No = 0 pt		
11	Repeat or multiple problems at site. Yes = 1 pt, No = 0 pt		
12	Cost share available to assist implementation. Full funding = 5 pt, Partial funding = 3 pt, No funding = 0 pt		
13	Located in TMDL or STI priority watershed. Yes = 1 pt, No = 0 pt		
14	Ecology prepared for enforcement if needed (capacity, politics, etc.). Sliding scale (5-1): Definitely = 5 pt, No = 1 pt		
15	Likelihood to succeed. High, Medium, Low		
<b>Note: Press Ctrl+A, then F9 to refresh total.</b>		<b>Total</b>	<b>0</b>

# 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 30 sites from 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

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