Defining Critical Areas

Hogan Creek Watershed Project

Upper Anderson River Watershed Project

Tanners Creek Watershed Project

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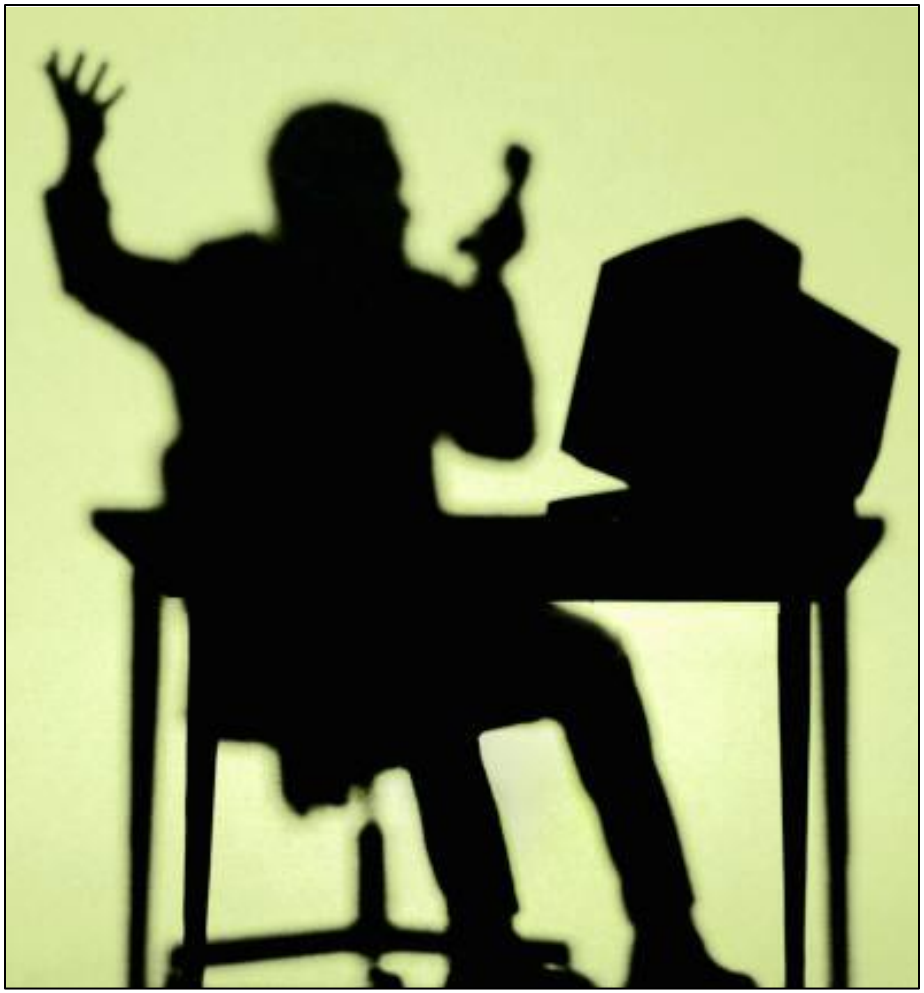
Why not the whole watershed?



It's all about getting our biggest bang for the buck!

Critical Area - Areas in the watershed where the sources are causing the greatest damage and treatment measures will have the **greatest** effect.

No Access to Waterbody

Direct Access to Waterbody

There are several ways to determine critical areas within your watershed.

Using a dartboard, however, is not one of those ways.

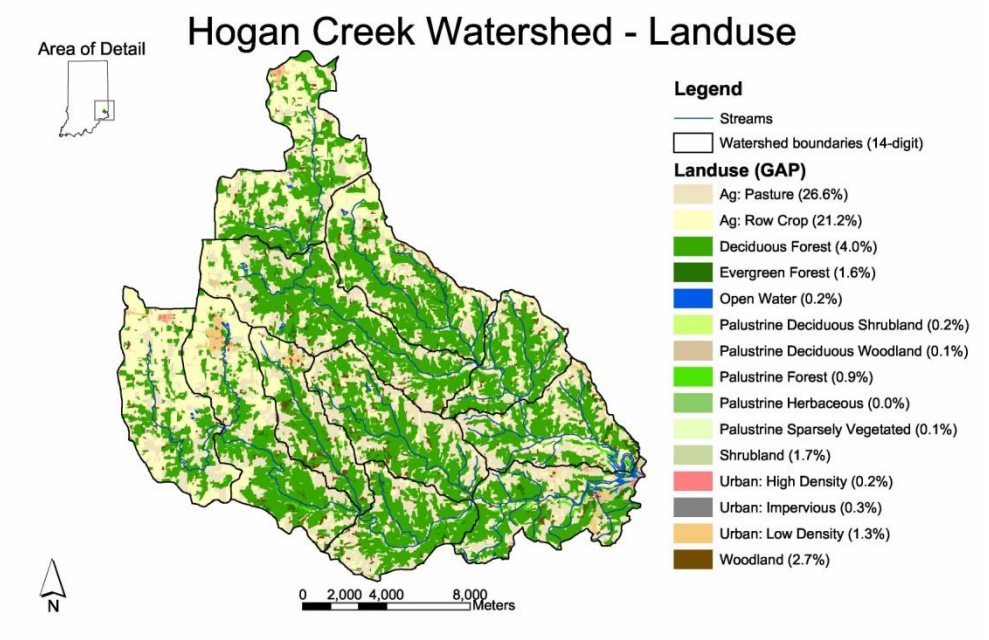
Priority Watersheds

Prioritizing watersheds is based on ranking each of your subwatersheds and **identifying which subwatersheds have the most environmental concerns.**

Priority Watersheds

When we prioritized our subwatersheds, we took into account several different items including but not limited to:

a. Landuse
b. Windshield surveys
c. Water quality data
d. Aerial Photography
e. Soil characteristics
f. NPDES information
g. Recreational areas
h. Etc.



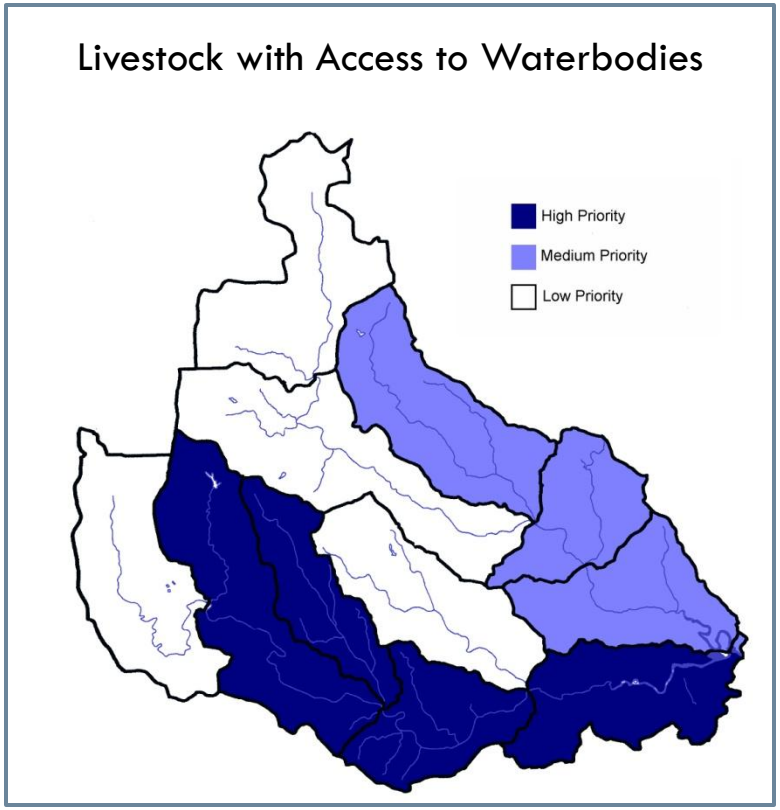
Priority Watersheds

Once you gather and analyze your data, you can start making decisions and prioritizing your subwatersheds.

In the Hogan Creek example, we ranked each subwatershed as High Priority, Medium Priority, or Low Priority.

This means that subwatersheds ranked high would be the target of our cost-share dollars.

Once the high priority watersheds have been addressed, we can move to medium and so on.



Priority Watersheds

Ranking Example for E. Coli from cattle with access to creek:

Subwatershed A:	Subwatershed B:	Subwatershed C:	Subwatershed D:
• 90 % pasture	• 50% pasture	• 35% pasture	• 40% pasture
• 10 sites identified with access to waterbodies	• 20 sites identified with access to waterbodies	• 3 sites identified with access to waterbodies	• 33 sites identified with access to waterbodies
• E.Coli tests revealed occasionally mid-high levels – averaging between 235 and 600 colonies/100 mL	• E.Coli tests revealed high levels – averaging 1,500 colonies/100 mL	• E.Coli tests revealed very low levels– averaging 100 colonies/100 mL	• E.Coli tests revealed high levels – averaging 600 colonies/100 mL

Priority Watersheds

Ranking Example for Streambank Fencing:

	Pasture	Access to Creek	E.Coli
Subwatershed A	90	10	235-600
Subwatershed B	50	20	1,500
Subwatershed C	35	3	100
Subwatershed D	40	33	600

	Pasture	Access to Creek	E.Coli	TOTAL
Subwatershed A	4	2	2	8
Subwatershed B	3	3	4	10
Subwatershed C	1	1	1	3
Subwatershed D	2	4	3	9

Priority Watersheds

Ranking Example for Streambank Fencing:

	Pasture	Access to Creek	E.Coli	TOTAL
Subwatershed A	4	2	2	8
Subwatershed B	3	3	4	10
Subwatershed C	1	1	1	3
Subwatershed D	2	4	3	9

The group decided:

- any subwatershed with a ranking of less than 4 would be a low priority
- any subwatershed with a ranking between 4-9 would be a medium priority
- any subwatershed with a ranking higher than 9 would be a high priority

Priority Watersheds

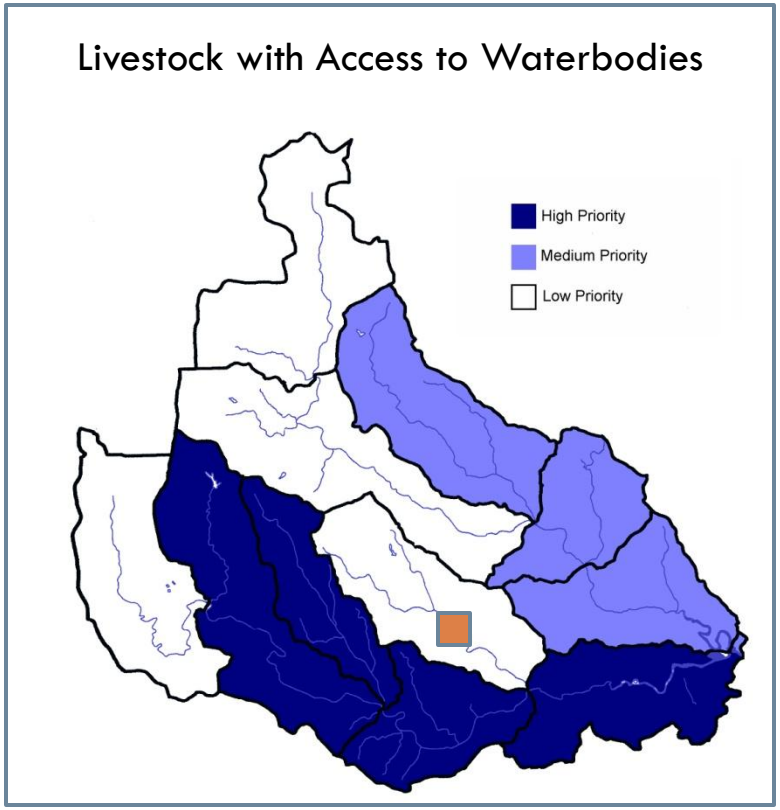
Selecting "priority watersheds" is not a bad way to identify critical areas, but it's not necessarily the best either.

CONCERNS:

1. Because this is a voluntary program, landowners within the priority subwatershed may not want to address their environmental issues.

2. A subwatershed may not be listed as a priority in the management plan, but land use may change over time, making it a priority

3. Let's be honest, you aren't going to see EVERYTHING in a windshield survey and data collection.



Source Identification

Source Identification is based on **identifying critical areas by pollutant source.**

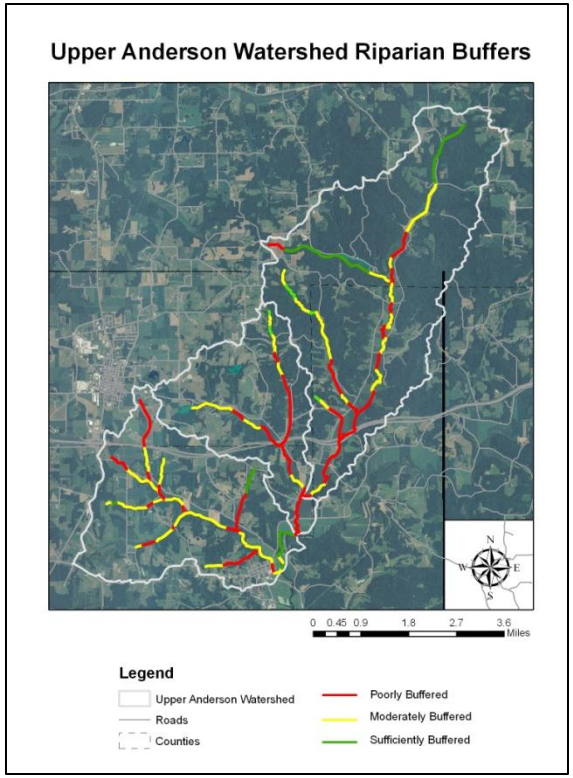
Source Identification

When identifying critical areas using source identification, you aren't singling out a subwatershed AND you aren't identifying the whole watershed as a priority area.

In the Upper Anderson River example, we analyzed our data and determined which areas of the watershed were poorly buffered.

In this case, the critical area could be identified as: Any stream that has less than a 50 foot riparian buffer.

The only areas eligible for cost-share dollars would be areas with less than 50 feet of riparian buffer.



Source Identification

Identifying critical areas based on Source Identification could be one of the best ways to put best management practices in your watershed. But….

CONCERNS:

1. An area with less than 50 feet of buffer may not necessarily be a problem if there isn't another issue.

2. A poorly managed buffer that is over 50 feet may have more environmental problems than a well-managed buffer under 50 feet.

Priority Ranking

Prioritizing ranking is based on ranking the landowners property and **assigning points to environmental concerns** that will be addressed.

Priority Ranking

This is a similar approach in which the Natural Resources Conservation Service uses to determine who receives funding.

In the Tanners Creek example, there is a list of 16 environmental concerns developed by the technical committee

In this case, the technician sits down with the landowner and goes over the list of concerns and gives the landowner points for each concern he or she plans on addressing.

Landowners that receive a score of 50 or higher are considered critical.

TANNERS CREEK COST-SHARE RANKING SHEET

	Yes	No	Points Rec'd
1. Are livestock fenced out of waterbodies?		20	
2. Are you moving your livestock to a different pasture:			
on a 14 day or greater rotational basis?	15		
On a 7-13 day rotational basis?	10		
On a 1-6 day rotational basis?	5		
3. Do you have an adequate water system for livestock?		15	
4. Do livestock currently have access to woodlands?	20		
5a. Do you have a woodland management plan?		20	
5b. If yes, have you implemented the woodland management plan:	10		
6. Are there environmentally sensitive areas on this tract that would benefit from tree planting?	10		
7. Are you currently using a tillage system that leaves less than 30% residue after planting?	20		
8. Are there disturbed areas void of vegetation that cannot be stabilized using normal vegetative measures?	20		
9. Are cultivated crop fields on this tract:			
less than 500 feet to the water?	20		
500-1000 feet?	15		
greater than 1000 feet?	10		
10. Is the cropland:			
HEL	20		
Non-HEL with residue levels less than 30% after planting	15		
11. Do you have existing gullies in crop fields that can't be corrected using conventional seeding?	15		
12. Are you planning on converting current cropland to permanent hayland?	20		
13. Are your haylands currently showing signs of sheet or rill erosion?	20		
14. Do you have streambank erosion that would benefit from biological stabilization plantings?	Go to a.		
a. Greater than 100 feet	15		
b. From 50-100 feet	10		
c. Less than 50 feet	5		
15. Do you have an area that would benefit from wildlife habitat planting?	Go to a.		
a. Greater than 10 acres (warm, cool, legumes)	20		
b. From 2-9 acres (warm, cool, legumes)	15		
c. Less than 2 acres (warm, cool, legumes)	10		
d. Greater than 2 acres (shrubs)	20		
e. From 0.5-1.9 acres (shrubs)	15		
f. Less than 0.5 acres (shrubs)	10		
16. Are you currently implementing a conservation plan addressing resource issues?		15	
YOUR POINTS			

High Score: 50 points or greater
Medium Score: 25 and 50 points
Low Score: From 0 to 25 points

Priority Ranking

Priority ranking is an excellent way to determine critical areas because most often you are fixing more than one concern. But…

CONCERNS:

1. If you give points because the landowner has an environmental issue on their land – they must make a commitment to fix that issue.

2. This is not one of the ways that IDEM has approved defining critical areas

3. May not be a great stand-alone method but may marry nicely with another method.

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QUESTIONS?

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