Indian Springs Pond Watershed Project

#9002-001

January 2010 – May 2013

Final Project Report

X _____

Lynn Stock, Allamakee SWCD Chairman

Financial Accountability

In the 1,280 acre Indian Springs Pond Watershed, a total of **$104,671.98** of the $201,660.00 Watershed Improvement Funding awarded to the Indian Springs Pond Watershed Project has been spent during the three-year term of the project. The funds were used on the following practices (Table 1): terraces, grade stabilization structures, improved grazing management, rain gardens, rain barrels, prairie planting, and educational signs as well as for salary and information/education. The total amount of funds previously requested during the project was **$98,447** which leaves an additional **$6,224.98** to request from WIRB as reimbursement for final expenses during the last reporting period of the project.

Table 1. WIRB budget for the Indian Springs Pond Watershed Project

Grant Agreement Budget Line Item	Total Funds Approved ($)	Total Funds Approved – Amended ($)	Total Funds Expended ($)	Available Funds ($)
Information/Education	$1,500	$1,500	$1,500	0
Educational Signs	$12,500	$12,500	$8,849.22	$3,650.78
Salary/Benefits	$105,000	$105,000	$84,594.56	$20,405.44
Terraces	$37,500	$36,000	$2,112.55	$33,887.45
Grade Stabilization Structures	$22,500	$22,500	$2,432.32	$20,067.68
Rain Barrels	$4,455	$4,455	$1,526.68	$2,928.32
Improved Grazing Mgmt	$4,480	$4,480	$920.94	$3,559.06
Filter Strips	$2,600	$2,600	$0	$2,600
Prairie Planting/Plugs	$500	$2,000	$1,418.78	$581.22
Infiltration Cell	$10,625	$10,625	$1,316.93	$9,308.07
Totals	**$201,660**	**$201,660**	**$104,671.98**	**$96,988.02**
Difference				**$96,988.02**

The total cost of the Indian Springs Pond Watershed Project was **$586,471.64**, of which **$39,472.31** was used for practice installation. The approved application originally called for leveraging WIRB funds with EQIP. In the initial application, 24.67% of the total project funds ($201,660 out of $817,540) were budgeted to come from WIRB (**Table 2**). The actual WIRB contribution to the project was **17.8%**. Of the money budgeted for practice installation **($294,040** including contributions from WIRB, EQIP, landowners, the City of Waukon, and the DOT), **28.1%** was planned to come from WIRB funding. When initially determining the WIRB contribution to projects, it was estimated that EQIP funds would cover 50% cost-share on all eligible practices and WIRB would cover the remaining 25% to get the total cost-share up to 75%. On practices (such as rain gardens and rain barrels and any work done on city or state property) that are not eligible for EQIP funding, it was planned that up to 75% of the total cost would come from WIRB. Approximately **42.9%** of the practice budget was planned to come from EQIP funding, **21.8%** from landowners, **2.2 %** from the City of Waukon, and **1.5%** from the IDOT. The actual WIRB contribution for practices accounted for **47.1%.** EQIP funding accounted for **31.7%**, landowners accounted for **16.2%**, the City of Waukon accounted for **5.3%**, and the DOT accounted for 0**%** of the practice payments.

The biggest differences between the approved budget and actual amounts expended from WIRB funds were due to a lack of implementation of filter strips, and reduced implementation of terraces. An additional 2,250 feet of terraces were planned for construction in 2012, but were unable to be built due to the drought. The project was extended through spring 2013, but once again the weather prohibited construction. The grade stabilization structures that were installed were smaller than the large structures that had been planned in the application, and EQIP funds covered more than 50% of the cost-share on two of these projects. A few sites were looked at for additional grade stabilization structure installation but were found to be incompatible with the landowners'/producers' desires or were not suitable for construction. Also, fewer rain gardens were installed, but due to the high infiltration rates of the soils, they could be built for much less money. The economy also likely affected the landowners and producers willingness to install additional conservation practices, even with the availability of up to 75% cost-share.

At the start of the project, a goal of 30 acres of pasture management was set. Fewer acres of pasture management were installed due to two of the producers selling most of their cattle or moving them to a site outside of the watershed, thus drastically reducing the amount of pasture acres and the need for pasture management practices. Of the remaining pasture acres, 24.1 acres are horse pastures that are not intensively grazed (Figure 2). Since 17.6 acres are now managed through rotational grazing, that leaves 13 acres of cattle pasture without a pasture management plan through this project.

Table 2. Pre-project and post-project breakdown of the funding sources for the entire project.

Funding Source	**Cash**		**In-Kind Contributions**		**Total**	
	Approved Application Budget ($)	Actual ($)	Approved Application Budget ($)	Actual ($)	Approved Application Budget ($)	Actual ($)
WIRB (admin. /practices)	201,660 (106,500/ 95,160)	104,671.98 (86,094.56/ 18,577.42)	0	0	201,660 (106,500/ 95,160)	104,671.98 (86,094.56/ 18,577.42)
Landowners	63,985	6,395.91	0	0	63,985	6,395.91
EQIP	126,020	12,506.80	0	$0	126,020	12,506.80
Waukon Econ. Development	0	0	315,000	315,000	315,000	315,000
City of Waukon	6,375	2,964.18	20,500	66,932.77	26,875	69,896.95
NRCS	0	0	60,000	60,000	60,000	60,000
IA DNR	0	0	15,000	15,000	15,000	15,000
IA DOT	0	0	4,500	0	4,500	0
RC&D	0	0	1,500	0	1,500	0
Allamakee SWCD	0	0	3,000	3, 000	3,000	3,000
Totals	**398,040**	**126,538.87**	**419,500**	**459,932.77**	**817,540**	**586,471.64**

Watershed Improvement Fund contribution – Approved Application budget: **24.7**%
Actual: **17.8**%

Environmental Accountability

Initial water sampling was conducted about 150 feet downstream of where Big Paint Creek enters the Indian Springs Pond from May 20, 2009 to September 9, 2009. Samples were taken bi-weekly and after rainfall events. One of the samples was an "event" sample, meaning it was taken after a rainfall of more than an inch of rain in a 24-hour period. In this case, the sample was collected the day after a three-inch rainfall event. Monthly water samples were taken at two locations from March 16, 2011 to November 29, 2011. One site was just downstream of a housing development and the second site was near the original sampling site. Water quality values were compared between the two sites and the two sampling years. No event samples were taken during the 2011 sampling, but several samples were taken within two days of a rainfall event.

Results of the 2009 and 2011 sampling have shown a varied range of *E. coli* values (Figure 7). In 2009, sample values ranged from 690-12,000 CFU/100mL. In 2011, samples on the upstream site ranged from 41-13,000 CFU/100mL, while the values on the downstream site ranged from 41-1,800 CFU/100mL. The recommended *E. coli* one-time maximum for primary contact streams is 235 CFU/100mL. Although this portion of Big Paint Creek does not have a use designation, based on its location in a city park, there is a strong likelihood that people could come into contact with the water through various activities. All of the samples from 2009 exceeded the recommended value. In 2011, 61% of the samples exceeded this value, with the higher values recorded on the upstream site. When comparing the values from the 2009 site to the values from the downstream site in 2011 (same location), the 2009 site generally had higher values. When comparing the 2011 upstream and downstream sites, the upstream site had considerably higher values on many of the sampling days. This is interesting because there is a pasture with rotationally grazed cattle between the two sites and the cattle have access to the stream in one of the paddocks. There is also at least one spring that enters the stream between the upstream and downstream site, so it could be diluting the downstream values to some degree.

The values for Nitrate+Nitrite as Nitrogen ranged from 4.3-8.6 mg/L in 2009 and 2.6-9.5mg/L in 2011 (Figure 8). The typical range for Iowa's streams is 3-8.5 mg/L (based on 2000-2009 data collected by the Iowa DNR), however, the recommended level for this ecoregion is 1.73 mg/L. All of the values from the two years of sampling were higher than the recommended value, but most were in the normal range for Iowa. When comparing the 2009 to 2011 data, the values are fairly similar. In 2011, the upstream site usually had higher values, likely due to the proximity to crop fields.

In 2009, Total Suspended Solids was measured and in 2011 turbidity was measured (Figure 9). In both years, the values were fairly low except when associated with rainfall events or land disturbance activities upstream such as construction. The levels for the downstream site in 2011 were often higher than for the upstream site, possibly due to cattle presence in the stream or land disturbance in the new development areas.

When looking at the water sampling data, it does not look like the installation of the conservation practices in the first half of the project had much impact on the water quality in the pond. It often takes many more years to show water quality improvements than the two years between sampling as part of this project. It would take long-term data to show an improvement. The city

does plan to dredge the pond within the next few years, which will likely have huge implications for water quality. Some pollutants could be bound to the sediments at the bottom of the pond. Also, a construction site erosion control ordinance could have a large impact on the water quality of the pond, especially if strictly enforced. This shows that there is continued work that needs to be done in the watershed to protect the water quality in the pond.

Practices and Activities

The practices that were planned to be completed in comparison to what was installed can be seen in Table 3. Also shown are the estimated reductions in sediment delivery, phosphorus, or the amount of runoff captured as well as the acres treated by the different practices.

Practice or Activity	Unit	Approved Application Goal	Accomplishments	Percent Completion	Acres Treated	Sediment Reduction (t/y)	P Reduction (lb/y)	Runoff Reduction (gal/yr)
Terraces	Ft.	30,000	1,900	6.3%	12	38.9	50.6	*
Grade Stabilization Structures/ Sediment Basins	No.	3	3	100%	25	75.2	98.6	*
Infiltration Basins (Rain Gardens)	No.	6	2	33%	4	*	*	213,125
Rain Barrels	No.	45	16	36%	0.2	0	0	64,543
Fencing	Ft.	2000	0	0%	0	0	0	0
Alternate Water Source	No.	1	1	100%	0	0	0	0
Filter Strip	Ac.	13	0	0%	0	0	0	0
Prescribed Grazing	Ac.	30	17.6	58.7%	17.6	40	52	*
Heavy Use Protection	No.	2	1	50%	0			*
Prairie Planting	Ac.	5	9	180%	9	9	12	*
Educational Signs/Kiosks	No.	5	9	180%	0	0	0	0
Total								

*Practice may reduce this pollutant, but amounts not reported.

The main goals of the project were to install practices that would reduce/filter stormwater runoff from the urban and agricultural land and to educate the public on ways to improve water quality in both urban and rural settings. One specific goal was to reduce the amount of water entering storm drains by 20% through the installation of six infiltration basins (rain gardens) and forty-five rain barrels. We did look at two additional sites for rain gardens, but due to large drainage areas and therefore high costs, the landowners decided not to install them. We did have several inquiries about rain barrels from members of the community, and while many of these people purchased rain barrels for land outside of the watershed, it was a good educational opportunity for the community. The value of rain barrels was especially apparent in 2012, a drought year, when any rain that could be collected was appreciated by the landowners.

It is estimated that there are approximately 19.2 acres of impervious surface in roads and parking lots that could flow to storm drains. This does not even take into account roofs or sidewalks. If 1" of rain on an acre of impervious surface equals 27,154 gallons of water, and assuming

approximately 90% of all rainfall has the potential to runoff, that equals approximately 14,076,634 gallons of water in a year assuming annual rainfall of 30 inches. The two rain gardens that were installed in the city park capture runoff from parkland and/or crop ground and can infiltrate up to 213,125 gallons of water annually. The sixteen rain barrels installed throughout the watershed can capture up to 64,543 gallons of water annually. The rain gardens and rain barrels installed in the watershed can capture up to 277,668 gallons of water annually, which is 2% of the total runoff. In order to capture 20% of the runoff, it is likely that more than 6 rain gardens and 45 rain barrels would be needed.

The second goal was to minimize direct water flow into sinkholes and the stream through the installation of 13 acres of filter strips. These filter strips would have the potential to reduce non-point pollution of surface waters by 40% for total nitrogen and 45% for total phosphorus. No filter strips were installed through this project, although there is grass (waterways, lawn grass, and native grass) along 56% of the stream length. Native grass prairie is planted along 19% of the stream length in the stream corridor. Although lawn grass doesn't function as well as a filter strip at removing nitrogen and phosphorus, it still protects the soil from erosion.

The third goal was to fence livestock from 40% of the grazed stream corridor and to set up rotational grazing systems on 30 acres to reduce the amount of sediment, and the associated nitrogen and phosphorus and bacteria contributions to the stream by 10%. No livestock were fenced from the stream, but two of the pastures along the stream were converted to row crop production. A rotational grazing system was set up on 17.6 acres of pastureland bordering the stream. One of the paddocks allows access to the stream, but the two other paddocks utilize a watering system and heavy use protection area for the cattle to obtain water. The same landowner installed a total-containment hoop building on the same property to eliminate manure runoff from his lot through the EQIP program. As mentioned previously, the number of pasture acres decreased dramatically. The water sampling data does not definitively indicate whether sediment, nutrients, and bacteria contributions were reduced by 10%. However, due to the reduction in number of cattle in the watershed, it is likely that bacteria values will continue to go down.

The fourth goal was to reduce soil loss by 40% through the installation of 30,000 feet of terraces and three grade stabilization structures/sediment basins. Three sediment basins were installed and a survey was conducted for a fourth grade stabilization structure, but the project was not constructed. During the survey, it was determined that a large amount of stormwater from the nearby city street would also have to be accounted for in the storage of the structure, which would make the structure too large to work well for that site. Only 1,900 feet of terrace were installed through this project. Due to having a large drainage area, two proposed terraces were built as sediment basins. Three terrace estimates were completed for other landowners totaling an additional 8,800 feet of terrace. Unfortunately, the landowners decided not to go through with these projects.

The fifth goal was to educate the public on conservation practices and other conservation issues in both urban and rural settings. This was accomplished through the installation of eight educational signs throughout the Waukon City Park. Several practices, including a sediment basin, two rain gardens, and two rain barrels, were installed in the park for functional purposes as

well as to serve as demonstration models. Additionally, a park open house event to highlight the newly completed walking trails on October 27, 2012 also gave us to opportunity to showcase these practices.

Many press releases were written for the local newspaper (Figure 10) covering topics such as the conservation practices available, rain gardens, rain barrels, and the educational signs along with pictures of the completed projects from the park. Numerous articles about the project were also written for the Allamakee SWCD website. A prairie area was planted along the new walking trail for educational purposes and to return the area to an oak-savanna type of system. The district's annual 6th Grade Conservation Education Day is held in the park where educators cover topics such as watersheds/water quality, conservation, tree planting, native animals, fish, and more. This is always a great opportunity for the students to learn more about the park and the Indian Springs Pond Watershed by participating in activities. Powerpoint presentations about the watershed and the watershed project were given to a Waukon Biology Class as well as the Waukon Lions Club.

Contour lines were marked out on 107 acres in the watershed to ensure that the producers would be farming following the topographic contour. Also, approximately 17% of the farmland acres in the watershed are under no-till management.

A final project survey was sent out to all landowners in the watershed to determine how opinions about the watershed differ from those in the initial project survey. The final project survey also had questions regarding conservation practices that were installed and demonstration/education projects in the city park.

When asked the most important resource concerns in the watershed, most respondents marked some combination of soil erosion, surface water quality, and groundwater quality, This shows they see a link between soil erosion and water quality and also between surface pollution and groundwater pollution. Most people thought that the project has had a positive impact on these specific resource concerns. When asked if the water quality of the Indian Springs Pond is getting better or worse, most said better, but then wrote that it doesn't appear to be much better. The city plans to dredge the pond in the next year or two. It is likely that people will then think the water quality has improved.

All of the respondents said they had seen at least one of the demonstration/education projects in the city park. One of our commissioners said he has seen many people looking at the educational signs and other projects when he's been in the park.

They were asked their opinion about several statements about the pond or watershed. Almost all of the respondents thought water contamination was an important issue. Many were unsure whether agricultural and lawn fertilizers were significantly impacting water quality in the pond. This may mean there is a need for more education. When looking at the urban conservation questions, most thought that new construction has increased soil loss and that runoff from paved surfaces affects water quality in the pond. This indicates a greater need for education regarding the management of urban runoff. I also plan to continue to work with the city on a construction site erosion control ordinance to address the issue of soil loss on new construction sites. Lastly,

when asked about the impact of livestock on water quality, most said that livestock have an impact or that they were unsure. This may be because the amount of livestock in the watershed has decreased dramatically in recent years. Comparing the answers from this section to that from the pre-project survey, the answers were very similar indicating that these issues are still present or that there needs to be more education about some of them.

When asked what factors limit adopting specific practices on their land, most of the respondents said that the practices were not applicable to their land except for "minimal use of lawn and garden fertilizers/pesticides". For those people who decided not to participate in the project, most determined they didn't need any of the practices we had funds for and that they had everything under control on their properties.

Program Accountability

News articles covering the project accomplishments appeared in the Waukon Standard Newspaper, the Allamakee County Soil and Water Conservation District annual report, the district's annual newsletter, and the Allamakee SWCD website. Monthly reports were presented to commissioners at each meeting of the Allamakee SWCD commissioners. Semi-annual reports were submitted to the WIRB at the appropriate times.

Letters were sent to landowners at the start of the project explaining the goals of the project and the different practices that had available funding. Additional letters were mailed out regarding specific practices and a postcard was sent out encouraging landowners to sign-up during one of the general CRP sign-ups.

A public informational meeting was held early in the project immediately before a city council meeting with members of the council and the public in attendance. The main topic of the meeting was urban conservation, but all of the components of the watershed project were discussed including the agricultural conservation practices. This meeting provided the opportunity for open dialogue between members of the community and representatives of the SWCD regarding the project and its potential impact. In addition, a member of the city council and the city's zoning administrator along with the Indian Springs Watershed Coordinator attended a Low Impact Development Workshop in Dubuque that focused on urban conservation.

The impact of this project will not only continue through the continued use of the conservation practices, but also through the educational components of the informational signs in the Waukon City Park.

One challenge that we ran into with this project was that several sites we looked at for grade stabilization structures were deemed unsuitable due to large drainage or the structure would have been bigger than the landowner wanted. The current economic climate also influenced the numbers of people who signed up as well as those who cancelled practices.
Another challenge we faced in the last year of the project (2012) was lack of soil moisture. We had one terrace project planned, but the soil was too dry to build terraces with structural integrity. Obviously this is not something we could have anticipated, but it does show that it is best to encourage work to be done in the first few years of the project rather than waiting until

the last minute because unexpected circumstances could arise that would put construction on hold.

The big concern with the Indian Springs Pond is that in the approximately 20 years since construction, the 16-foot pond has silted in to have only a 3-foot average depth. Now that this watershed project is nearing completion, the City of Waukon plans to get bids to dredge the pond to return it to its original depth and then stock it with game fish. While the upland treatment installed through this project and the stormwater ordinance that is still being worked on will help to reduce the rate of siltation on this pond, it is still very probable that it will need to be dredged again in the future. The pond is far too small for the size of drainage area to have a very long lifespan.

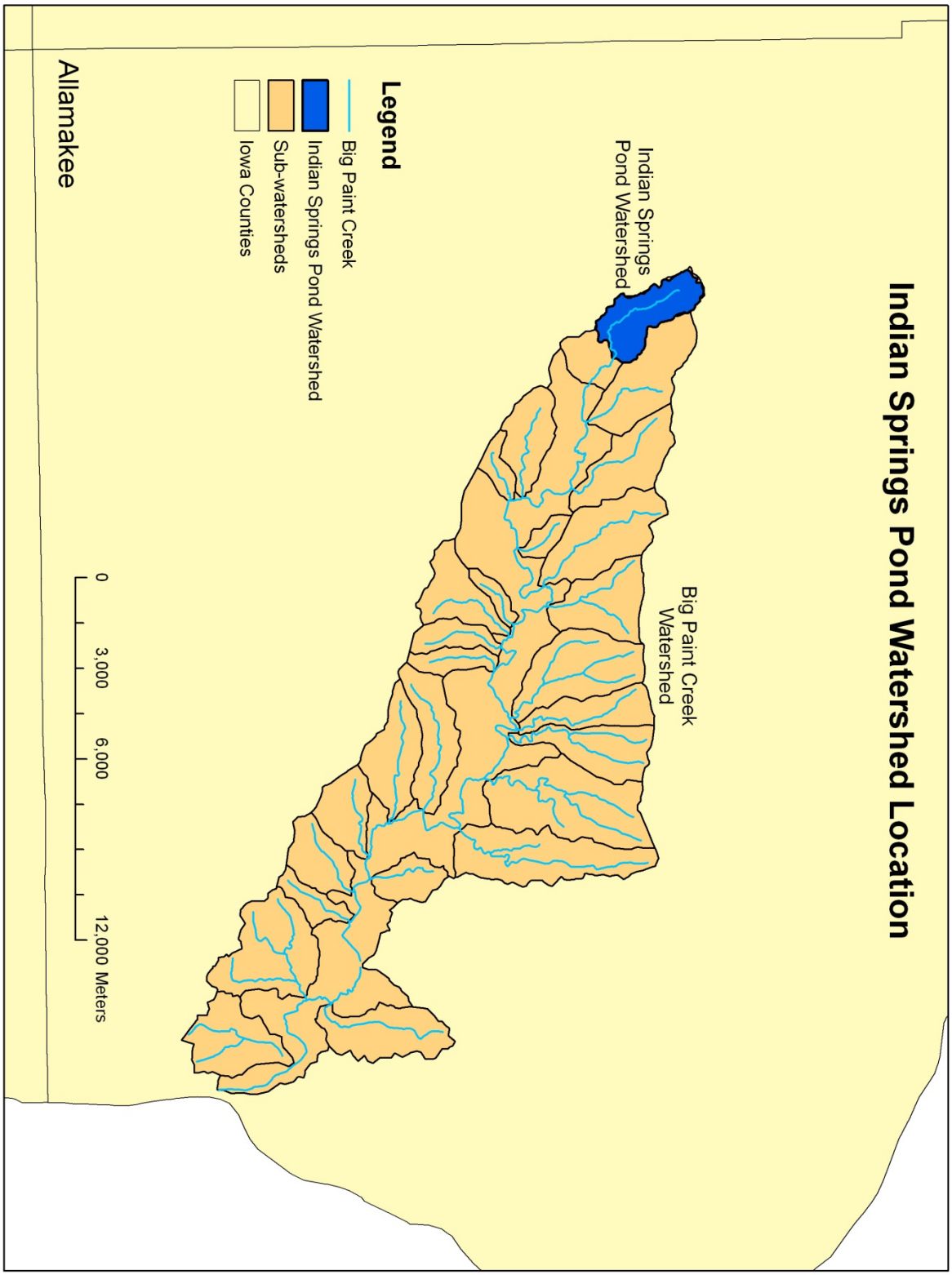
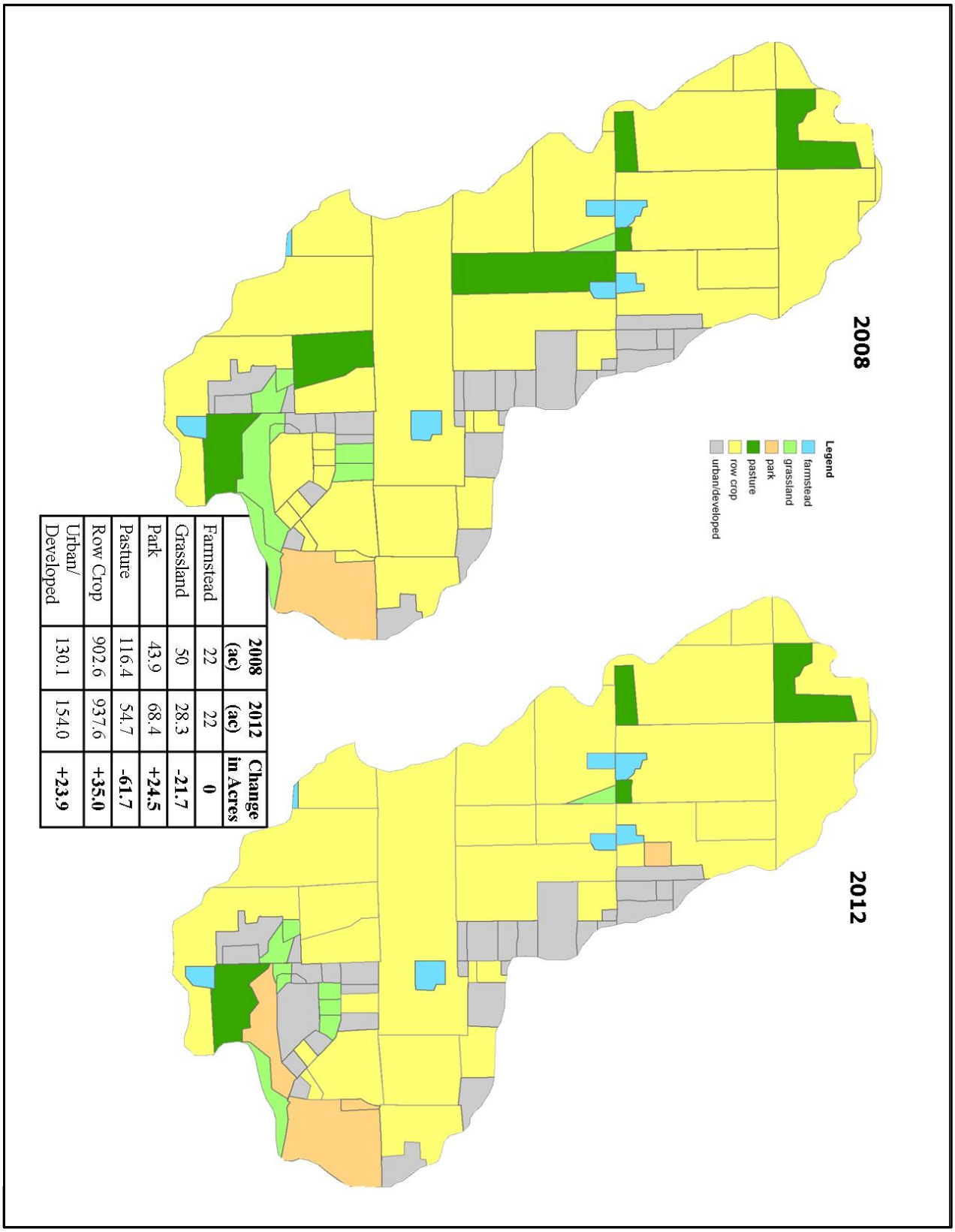


Figure 1. Indian Springs Pond Watershed Location.



	2008 (ac)	2012 (ac)	Change in Acres
Farmstead	22	22	**0**
Grassland	50	28.3	**-21.7**
Park	43.9	68.4	**+24.5**
Pasture	116.4	54.7	**-61.7**
Row Crop	902.6	937.6	**+35.0**
Urban/ Developed	130.1	154.0	**+23.9**

Figure 2. Land use change from 2008 to 2012.

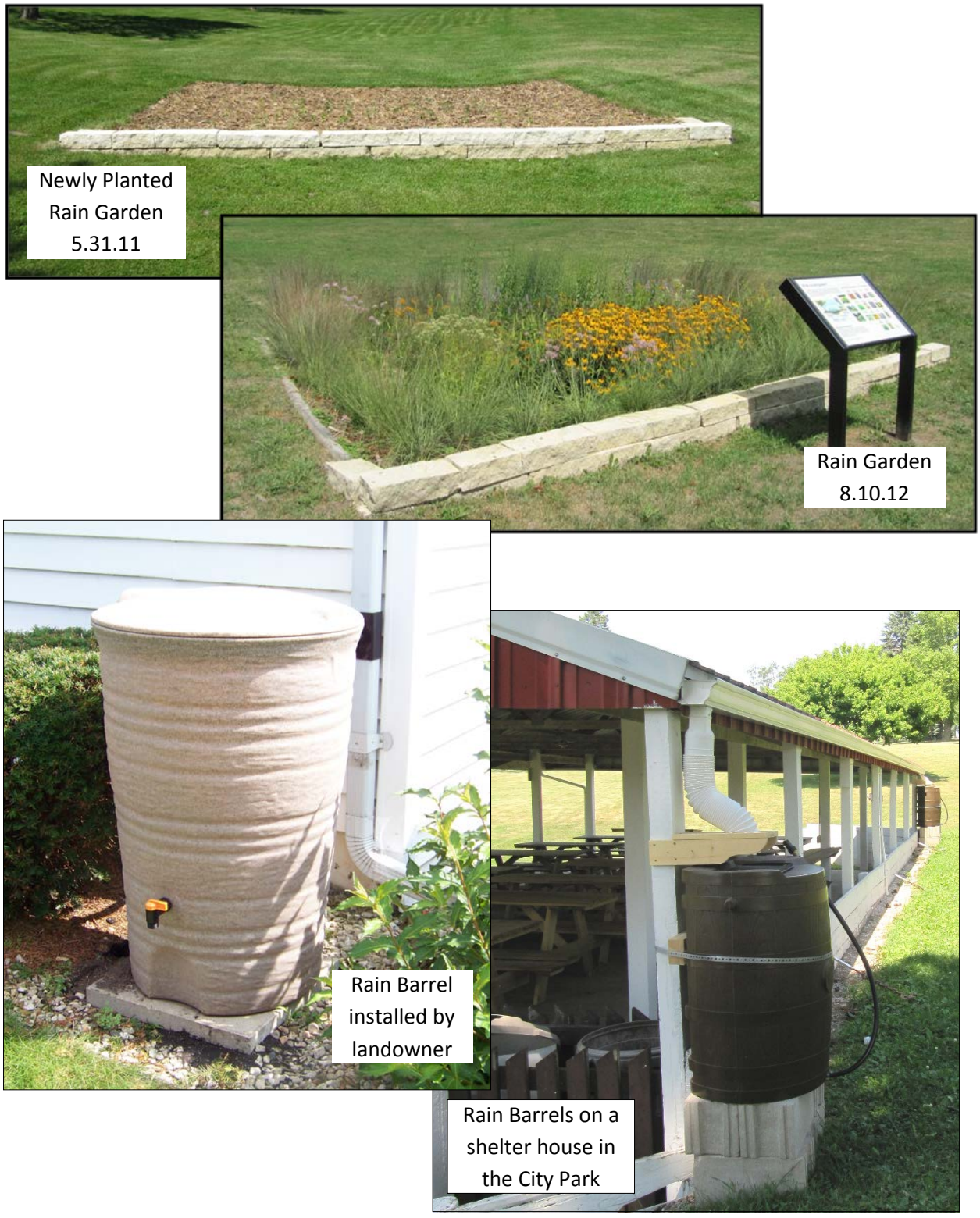


Figure 3. Photos of the two urban practices funded through this project. The rain garden is in the Waukon City Park and is shown just after being planted, and again near the end of the first growing season.

Figure 4. Photos of a new terrace, a sediment basin after the seeding has come in, and a heavy use protection and watering facility associated with a rotational grazing system.

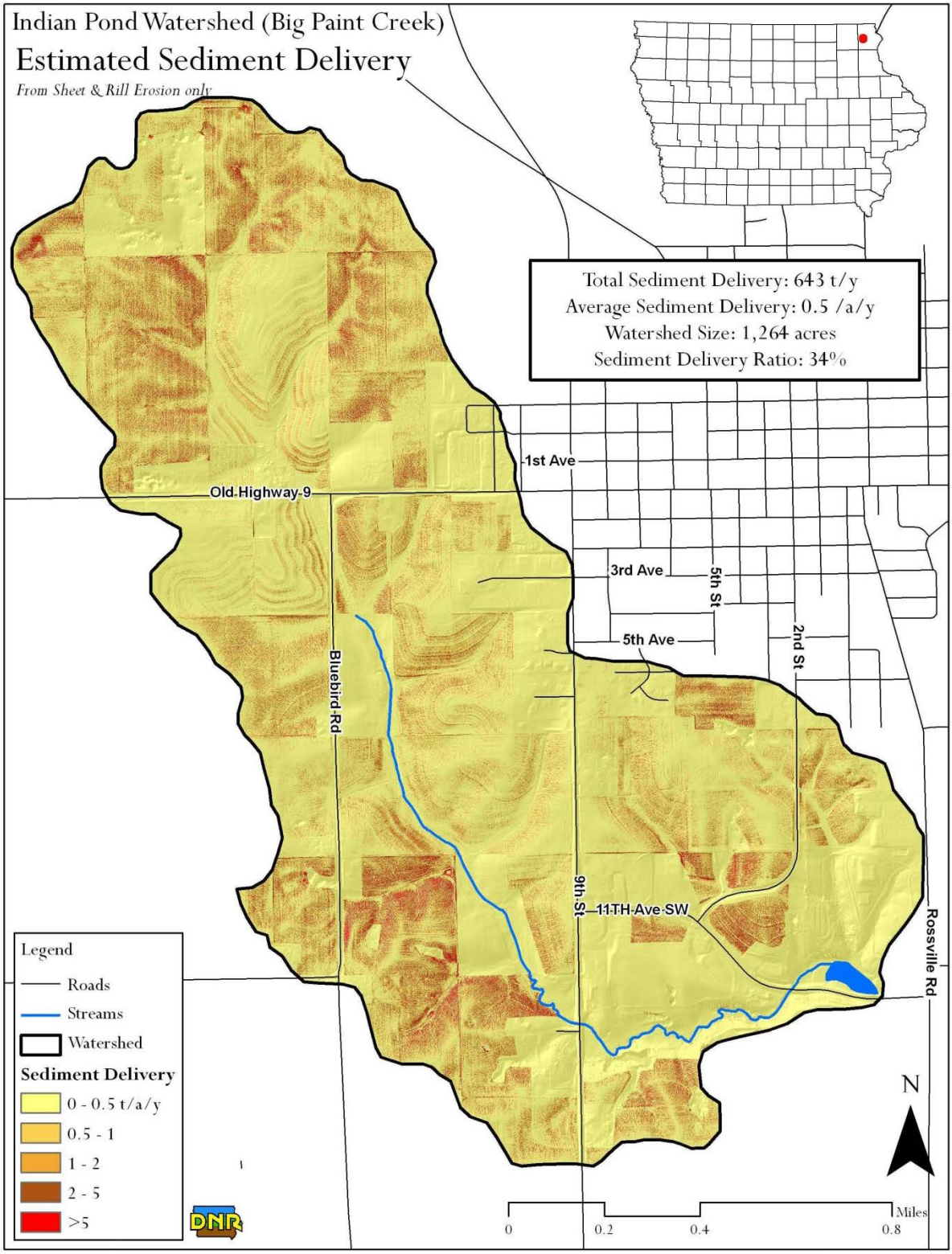


Figure 5. Pre-project sediment delivery.

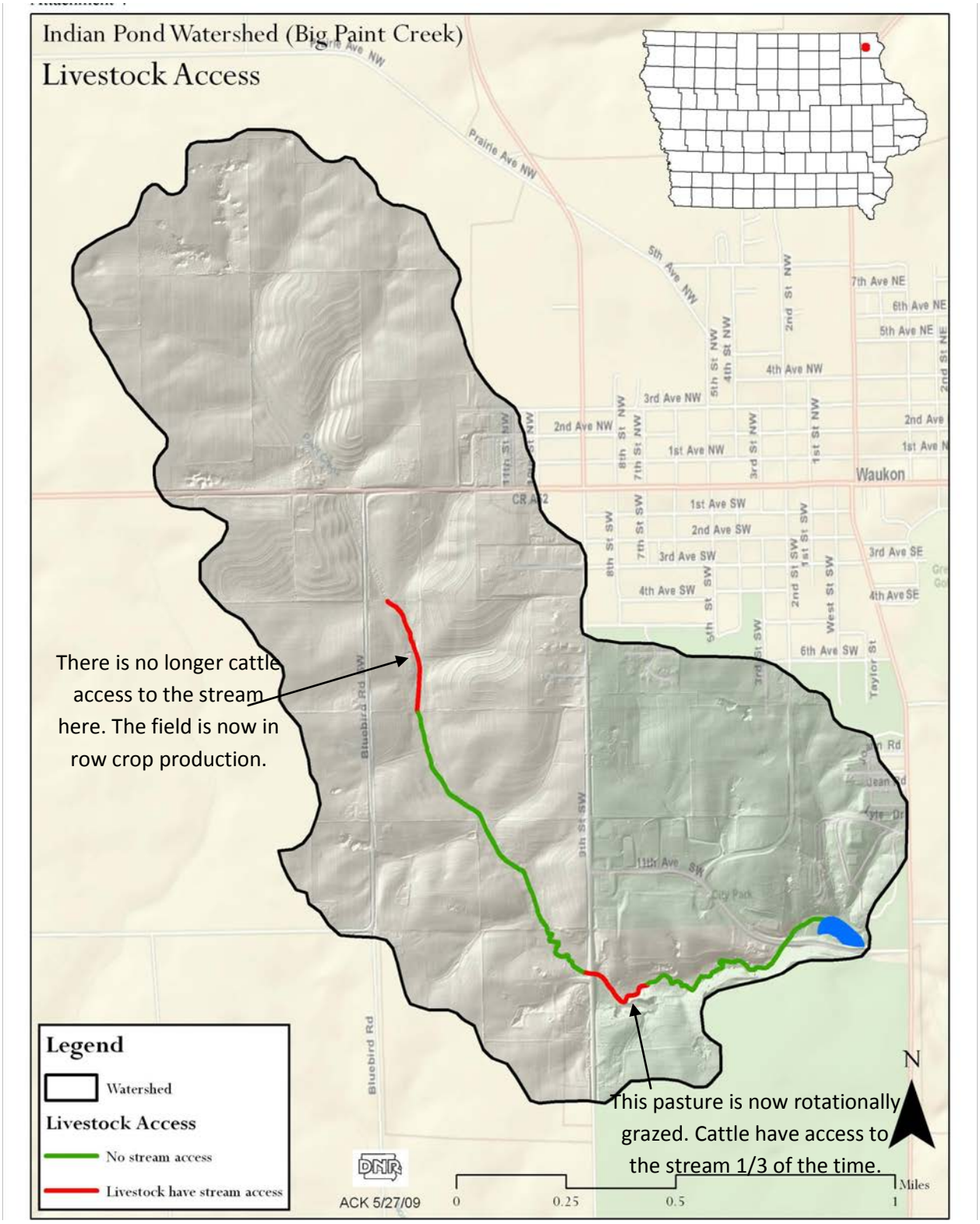


Figure 6. Livestock Access Map.

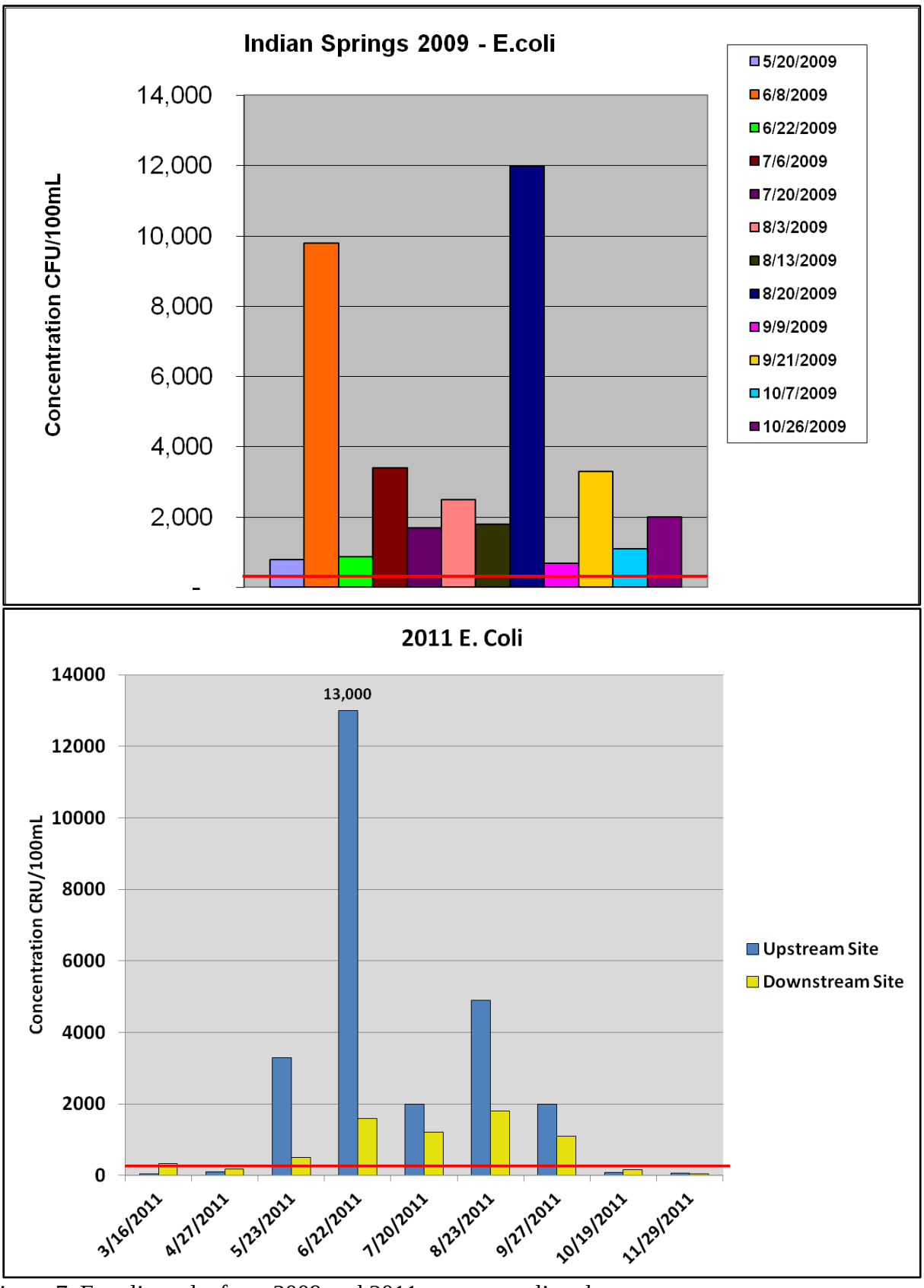


Figure 7. E. coli results from 2009 and 2011 water sampling data.

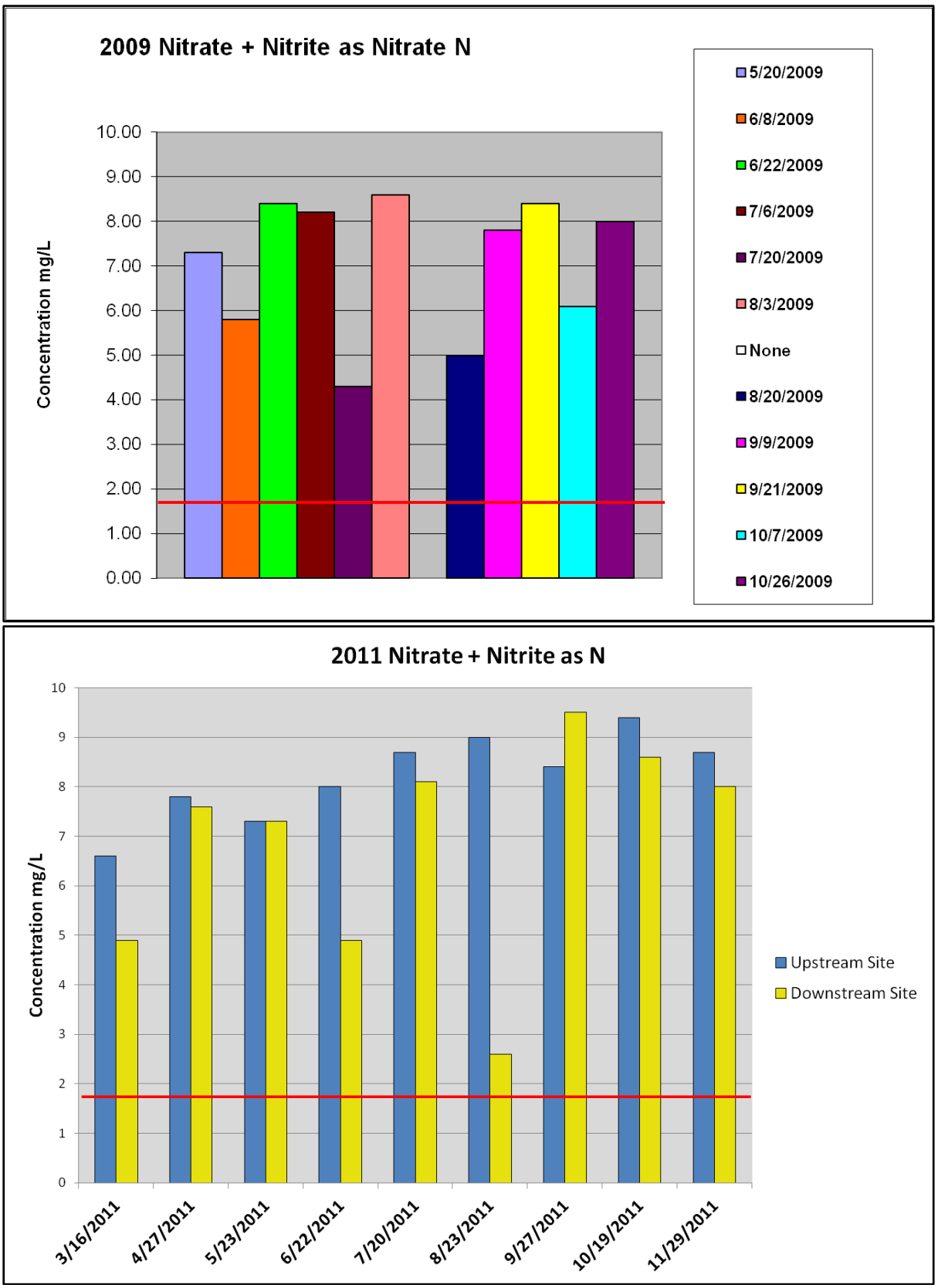


Figure 8. Nitrogen results from 2009 and 2011 water sampling data

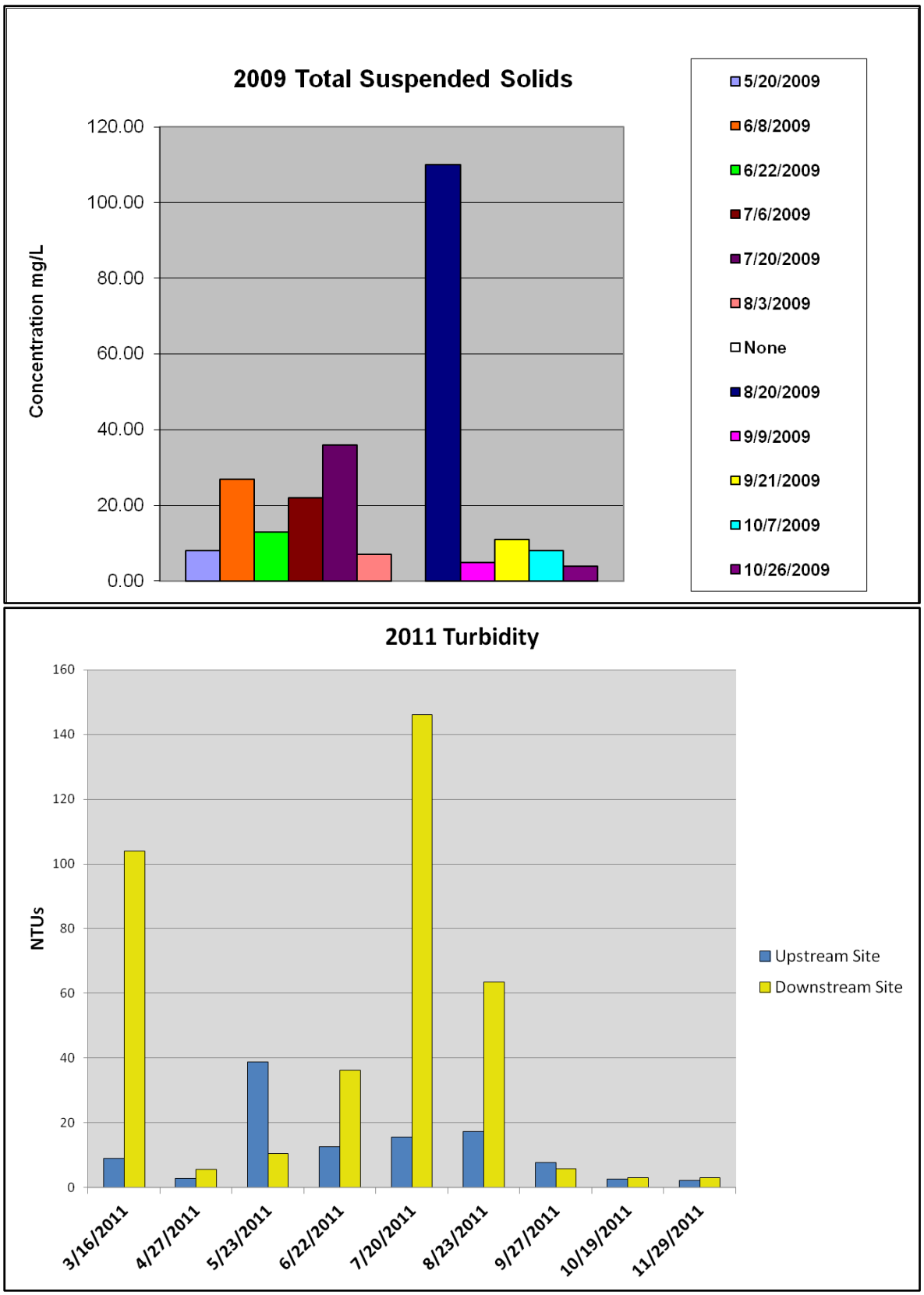


Figure 9. Total suspended solids and turbidity data.

ALLAMAKEE COUNTY
The STANDARD
Serving Waukon & Surrounding Allamakee Communities Since 1858
Wednesday, February 24, 2010

Cost-share available for rain barrels in Indian Springs Pond Watershed

Wednesday, February 24, 2010

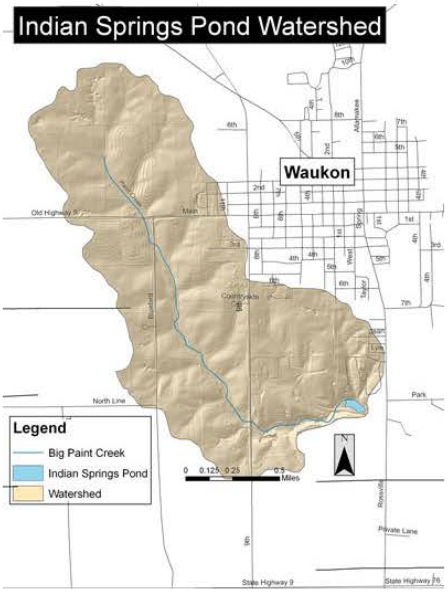
Free water is available through the use of rain barrels that can be used to collect and store rain water. The concept has been around for hundreds of years and works by capturing run-off from a building's roof using the gutter and downspout system. A typical house has a roof area of 1,200 square feet and four downspouts. According to calculations, a three-tenths of an inch rainfall would fill a 55-gallon barrel at one of the house's downspouts. Barrels can be connected together so that even more rainfall is captured during heavier rains.

Advantage of purchasing a rain barrel include reducing water bills by using the free and chlorine-free water from a rain barrel to water gardens and fill bird baths. However, the water is not meant to be used as drinking water.

Rain barrels also reduce the volume of water running off lawns to the storm sewers. By reducing run-off, there is a reduction in the velocity of water and the amount of pollutants entering local streams. A hose can be connected to the overflow valve so that excess water is carried away from the building's foundation, which could reduce the likelihood of getting water in the basement.

Rain barrels can be purchased locally or made from 55-gallon barrels and a few hardware pieces. Those who live in the Indian Springs Pond Watershed are eligible to receive 75% cost-share.

Contact the Allamakee County Soil and Water Conservation District at 563-568-2246 if interested in the rain barrel cost-share or to have questions answered about rain barrels. Or stop by the NRCS/SWCD office, located at 635 Ninth Street NW in Waukon, to look at an example of a rain barrel.



Related Links:

Waukon City Council to discuss Indian Springs Pond Watershed

4-14-10

The Waukon City Council will be having a special meeting with the Park Board, the Planning and Zoning Commission, and representatives from the Allamakee County Soil and Water Conservation District Monday, April 19 at 6 p.m. to discuss the Indian Springs Pond Watershed Project and future urban conservation opportunities for the city of Waukon.

The Indian Springs Pond Watershed is part urban and part rural and some of the conservation practices are different than the terraces and ponds that most people are familiar with. The two main urban conservation practices are rain barrels and rain gardens (or infiltration gardens). The Waukon City Park is located in the southeast corner of the watershed.

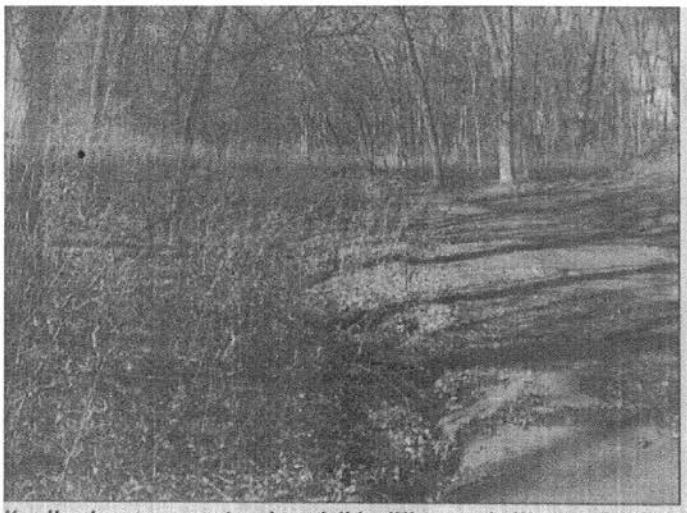
Anyone who wants to learn more about the watershed project or urban conservation is welcome to attend, even if their home or business is not located in the watershed.

Black Hills Energy community service project helps City Park ...

Black Hills Energy's Iowa management team held its annual three-day conference this year in Decorah. Held in a different location each year, the three-day conference includes a half day dedicated to area community service projects, which this year included projects in Decorah, Ossian, Calmar, Cresco and Waukon. In Waukon, seven members of the Black Hills Energy Iowa management team worked with City of Waukon employees Wednesday morning, September 15 to clear brush near the campground in Waukon's City Park. Standard photo by Bob Beach.

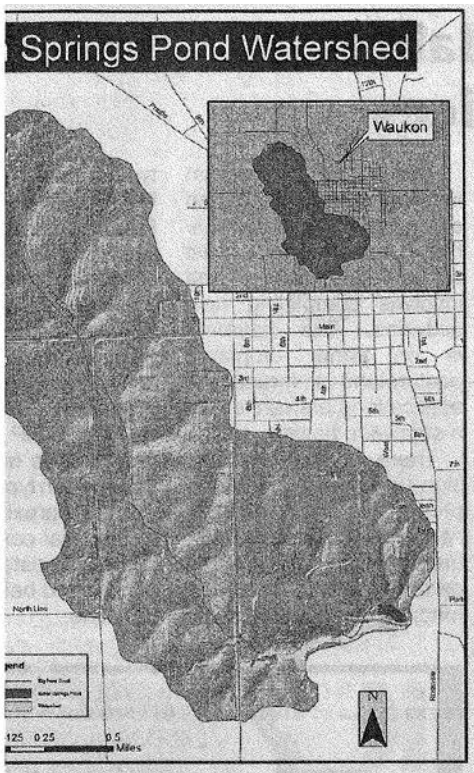
9-22-10

Figure 10. Press Releases from the project.



Woodland management makes visible difference in Waukon City Park woodland area ...

As evident in above before (left) and after (right) photos, many visible changes are being made to the seven-acre woodland area in the Waukon City Park. Over the years, the woodland as become overgrown with invasive tree and shrub species such as common buckthorn and honeysuckle that have out-competed the native hardwoods, shrubs, and woodland plants. Iowa Department of Natural Resources (DNR) District Forester Dave Asche wrote a woodland management plan for the park area that proposes managing the area as an oak savanna landscape by removing these unwanted plant species by cutting and treating the stumps and using controlled burning. Earlier this fall, volunteers from Black Hills Energy helped remove some of this vegetation. November 9, volunteers, park staff, and Luster Heights inmates also worked to cut and remove the majority of the undesired trees and shrubs and sprayed the stumps with herbicide to ensure that they do not re-sprout. An anonymous donor provided funds so that most of the cut plants could be chipped and then taken to the fair grounds to be used in compost. Submitted photos.



Indian Springs Pond Watershed

by Sara Berges

The Indian Springs Pond Watershed Project is nearing the end of the first year of the three-year water quality project funded by the Watershed Improvement Review Board (WIRB). This is a unique project because it is utilizing both rural and urban conservation practices to improve the water quality of Paint Creek and Indian Springs Pond, which is located within the Waukon City Park. There is a great need for conservation in this watershed because the pond is filling in at a rate of six to eight inches per year. Twenty years ago, when the pond was constructed, the initial depth was approximately 16 feet but has since been reduced to three feet due to sedimentation.

The rural practices funded through the project are terraces, sediment basins, pasture management, and filter strips. These common practices help to reduce the amount of sediment that erodes off agricultural ground or traps it before it reaches the stream.

Rain barrels capture rainwater from down-spouts and contain it for future use.

Urban conservation is a new field that focuses on collecting and infiltrating rainfall rather than allowing it to run off of the many impervious surfaces found in cities such as streets, roofs, and driveways. The two urban practices that are funded through this project are rain gardens and rain barrels. Rain gardens often look like a regular flower garden, but are designed to increase the amount of water that infiltrates or soaks into the soil. A rain garden is planned to be installed next year in the city park. Rain barrels capture rainwater from downspouts and contain it for future use. This reduces the amount of water and pollutants that enter streams during storm events. Water from rain barrels is not meant for drinking but can be used for household tasks such watering plants and washing cars, which can save you money. Several rain barrels were installed this summer and the owners were amazed at how much water they could capture to use around their yards.

Landowners in the watershed have the opportunity to take advantage of this grant to receive up to 75% cost-share on these conservation practices. If you live or farm within the Indian Springs Pond watershed and are interested in any of these practices, please contact me at the Allamakee SWCD at 563-568-2246 ext. 115.

Rain garden planted in Waukon City Park

Wednesday, June 15, 2011

Members of the Sixth Grade Conservation Club at East Elementary School in Waukon helped plant native grasses and wildflowers at the rain garden recently completed near the Thompson Shelter in the Waukon City Park. According to Sara Berges, Watershed Coordinator for the Allamakee County Soil and Water Conservation District, rain gardens capture rainfall and surface run-off from the surrounding land and then hold it until it infiltrates, which is usually within 12 hours. The native plants have deep root systems that help increase infiltration and percolation rates and can also survive a wider range of weather conditions than non-native plants. The location in Waukon City Park was chosen so that run-off from the small valley above nearby playground equipment could be captured. Berges admits the garden "may not be too pretty" this first year, but next year should flower and be an attractive and functional addition to the park. It was funded with 75% cost-share from the Indian Springs Pond Watershed Project along with City funds. Berges and her husband also helped complete planting and installation of the rain garden during the Memorial Day weekend. Submitted photo.

Indian Springs Pond Watershed

by Sara Berges

The Indian Springs Pond Watershed Project is near the end of the second year of the three-year water quality project funded by the Watershed Improvement Review Board (WIRB). The goal of this project is to improve the water quality of Paint Creek and the Indian Springs Pond, located in the Waukon City Park. The Indian Springs Watershed is approximately 1,300 acres and is comprised of the western and southern boundaries of the city of Waukon as well as several agricultural fields. The practices funded through this project are terraces, sediment basins, pasture management, filter strips, rain gardens, and rain barrels.

Since the project started in 2010, 2,300 feet of terrace, two sediment basins, and 17.6 acres of prescribed grazing have been completed. Several urban practices have also been installed including five rain barrels and one rain garden. The rain garden is located in the Waukon City Park and is north of the Thompson Shelter.

Waukon 6th graders help with the watershed project.

The urban practices focus on capturing storm water and storing it for future use or allowing it to infiltrate rather than run off.

The Waukon sixth grade Conservation Club has helped in the watershed this year. The students helped measure several different water quality parameters in the pond using IOWATER test kits. While sampling, they verified the shallow depth of the pond near the dock by jumping in and were surprised to find that the water only came up to their waists. They also learned about rain gardens by helping to plant the rain garden in the park.

In the last year of the project, we expect to install more conservation practices. We will also be installing educational signs throughout the park with information on karst topography, conservation practices, urban conservation, watersheds and more. A few rain barrels will be installed at the Thompson Shelter to show the community how they work and how much water they can collect.

Landowners in the watershed have one more year to take advantage of this grant opportunity to receive up to 75% cost-share on these conservation practices. If you live or farm within the Indian Springs Pond Watershed and are interested in any of these practices, please contact me at the Allamakee SWCD at 563-568-2246.

Rain barrels are used for collecting rain to help conserve water.

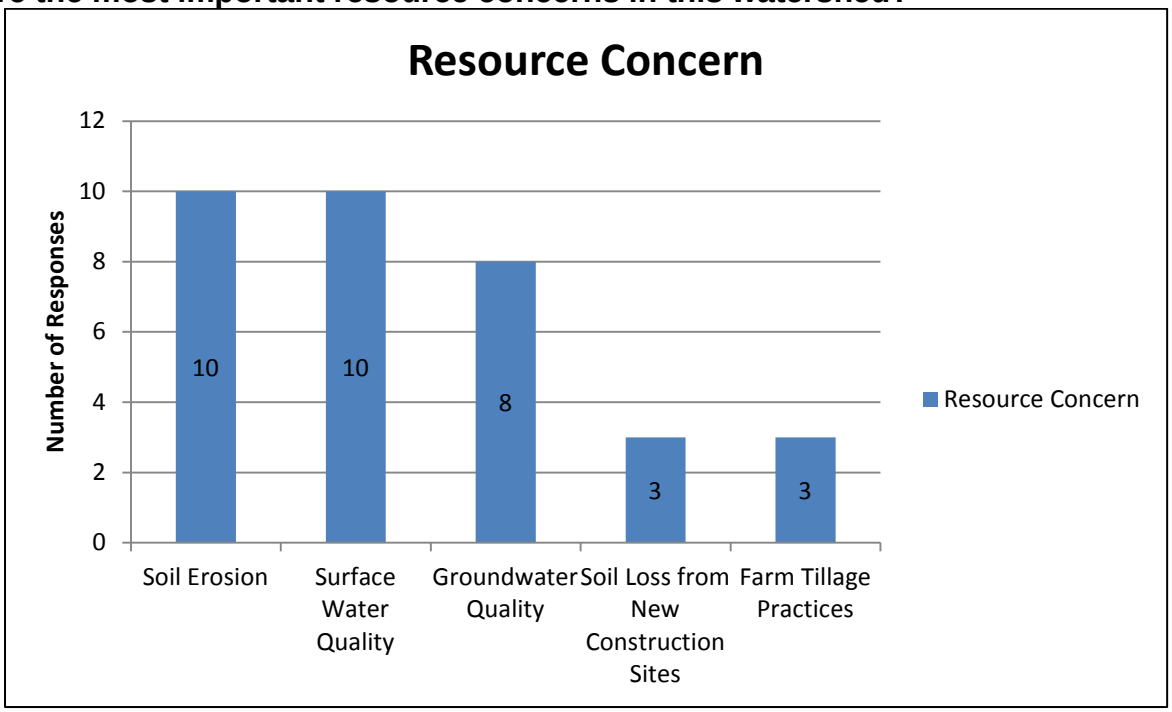
Rain Garden

The rain garden pictured above in the header of this report is located in the Waukon City Park. It is planted with two native grass species and 12 wildflowers. The rain garden was planted in May 2011. Most of the plants grew very well this year. A few of the species take a little longer to get established and should be visible next year.

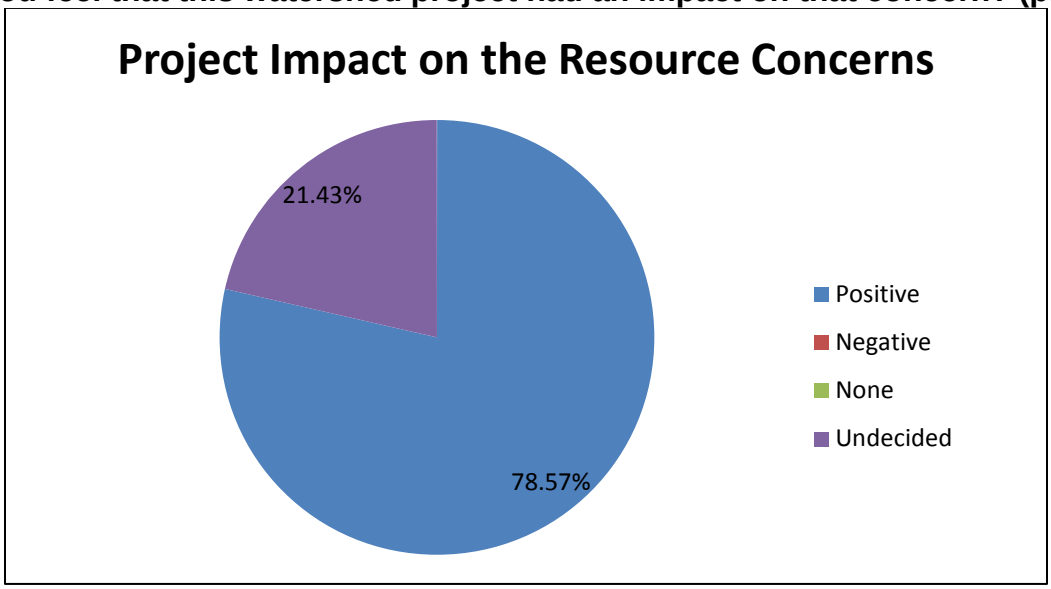
A rain garden is a depressional area landscaped with perennial flowers and native vegetation. It is designed to have water temporarily pond and then infiltrate into the ground within 24 hours rather than run off into a storm drain or water body. The plants also absorb nutrients and filter the water. Rain gardens are located to intercept run-off. They are placed in areas where soils have good percolation rates, not swampy areas where water sits for several days. Rain gardens add beauty and habitat to a yard and help to improve water quality by trapping sediment, fertilizers, and other pollutants. They help to improve water quality by capturing the water and allowing it to infiltrate rather than run off.

Indian Springs Pond Final Survey

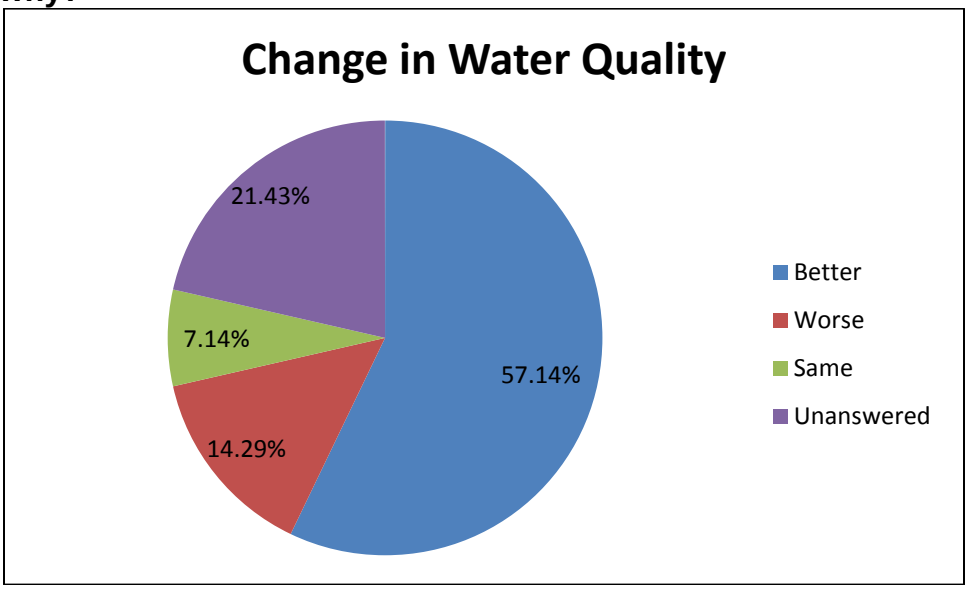
1. What are the most important resource concerns in this watershed?



2. Do you feel that this watershed project had an impact on that concern? (please pick one)

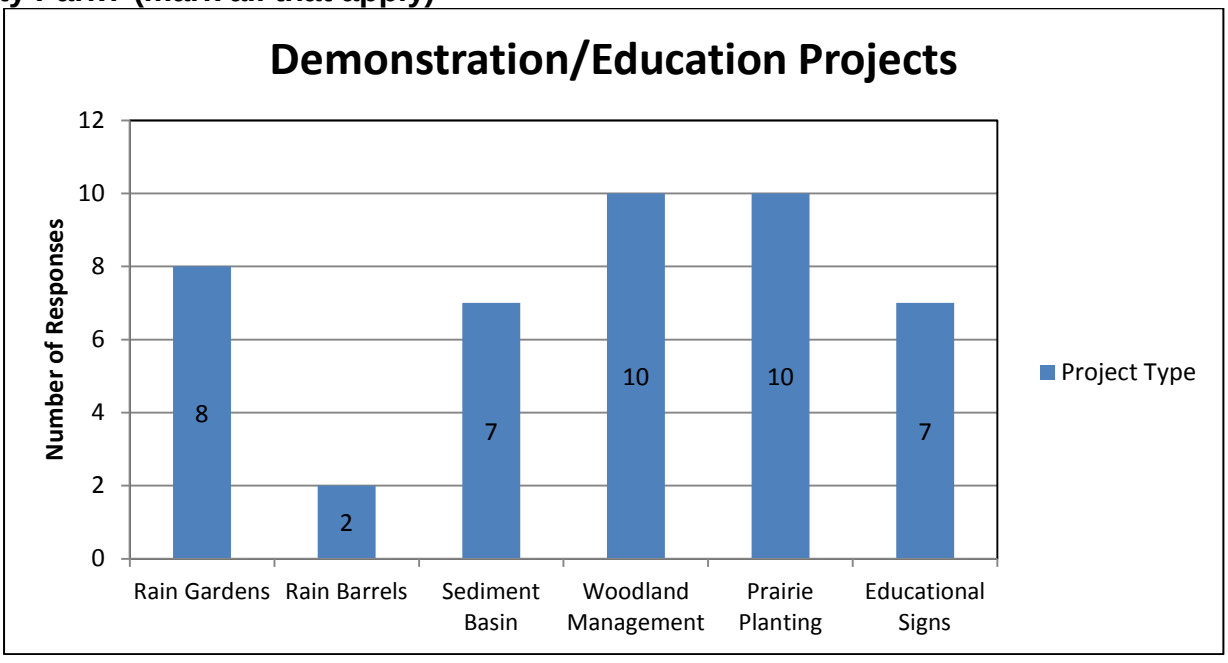


3. Do you believe that the water quality of Indian Springs Pond is getting better or worse currently and why?

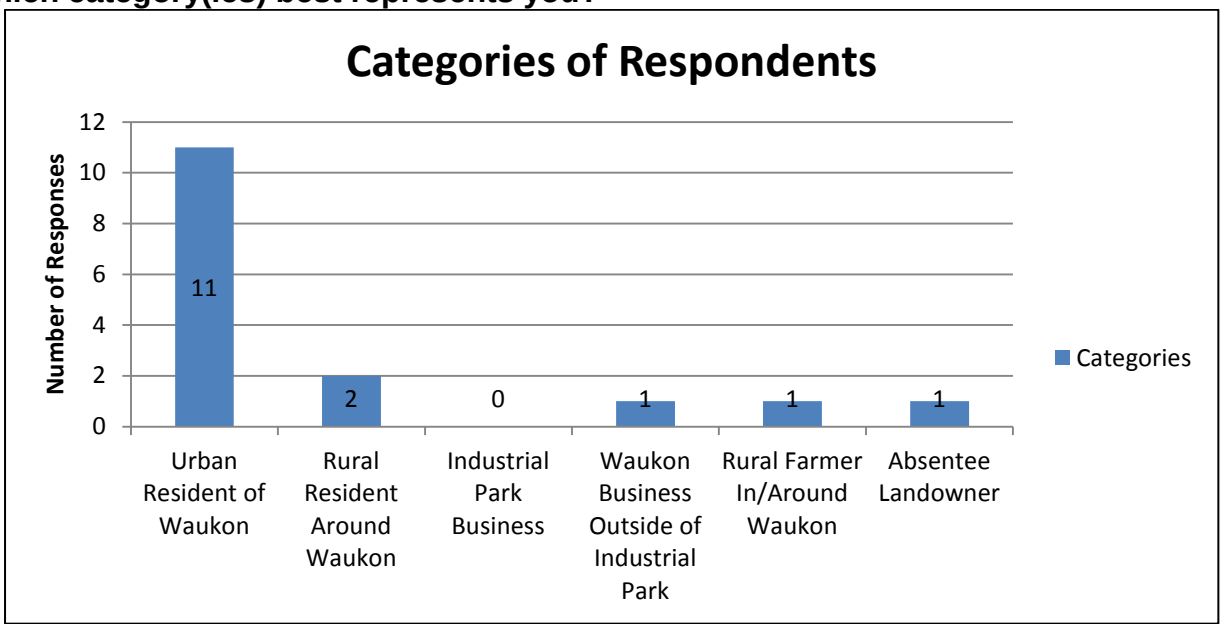


Additional information from people who said water quality is better:
"Somewhat, need more farm participation"
"Can't see much change"
"It seems about the same"
"It doesn't look as scummy as it did"
"Still need to work at erosion during lot development"
"Because of more terraces and ponds"

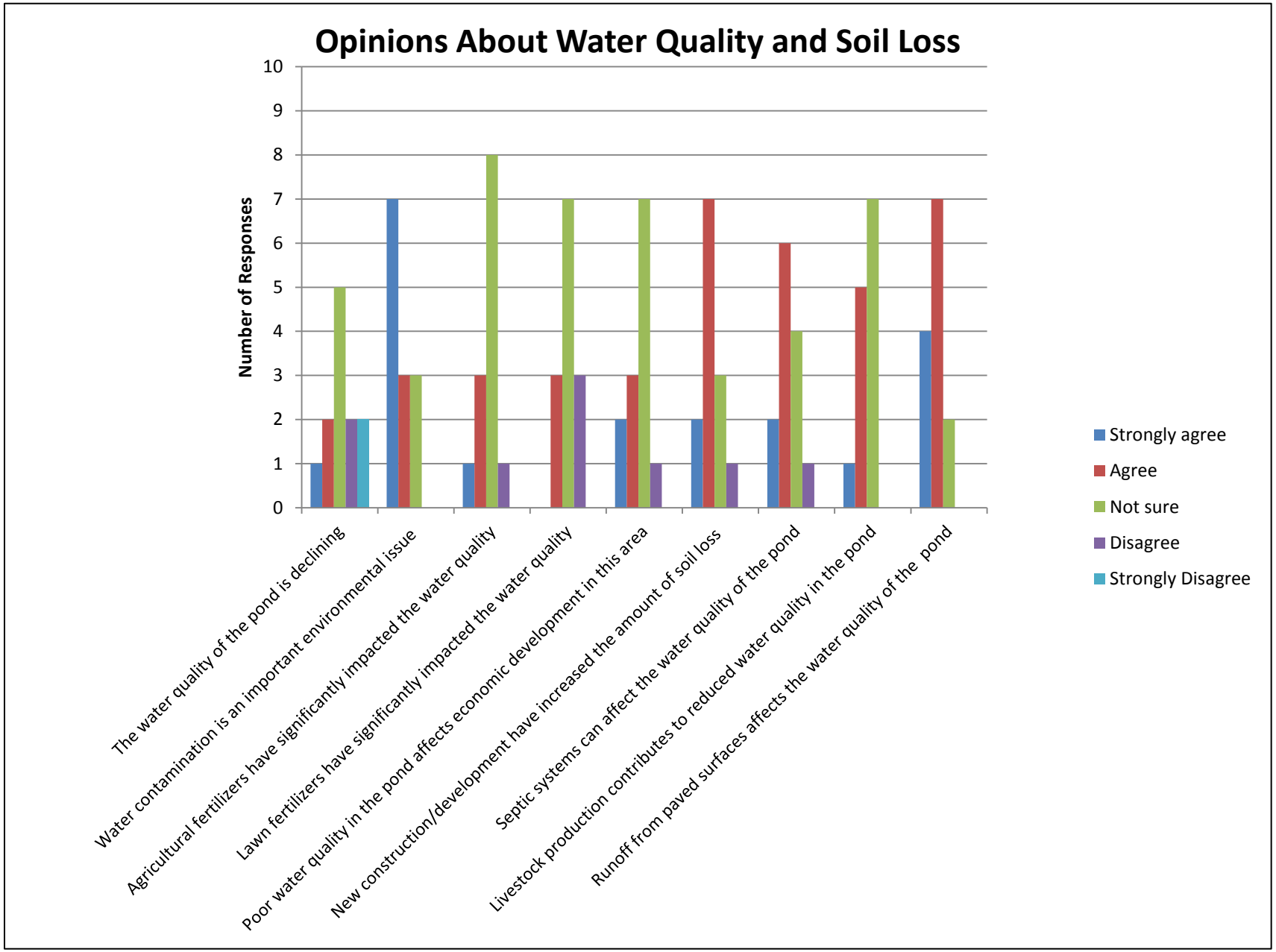
4. Have you seen any of the following demonstration or educational projects in the Waukon City Park? (mark all that apply)



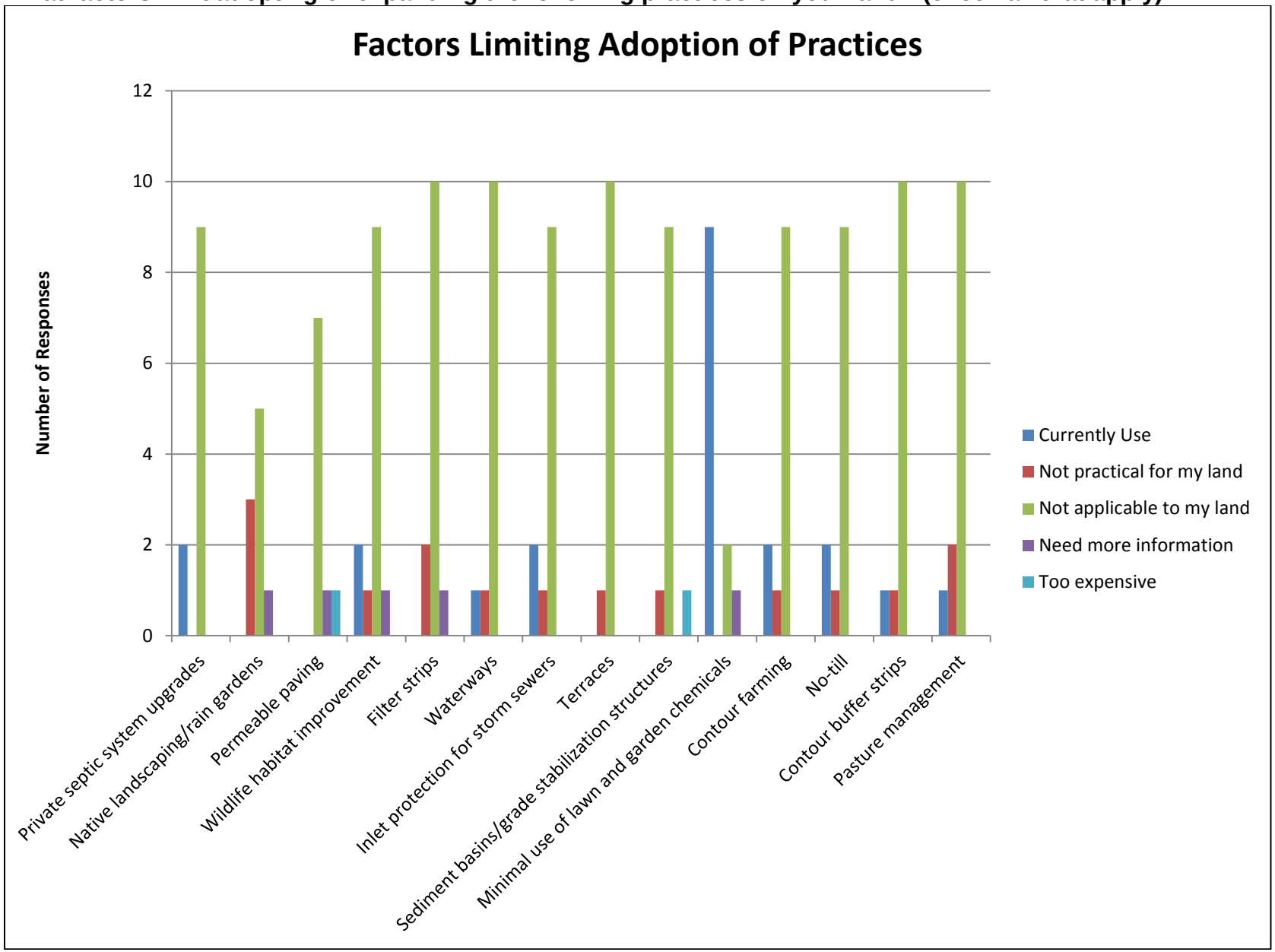
5. Which category(ies) best represents you?



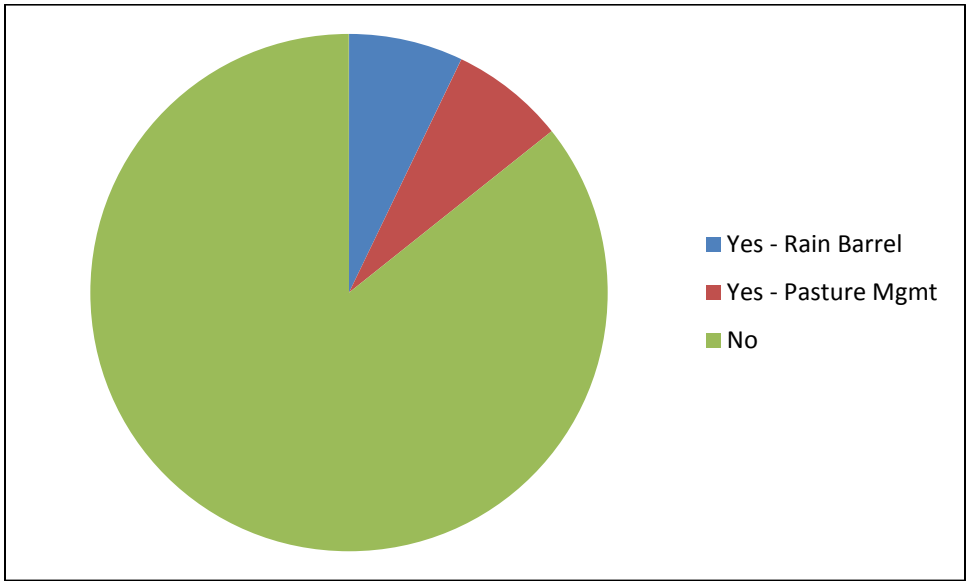
6.Indicate your opinion about the following statements pertaining to the Indian Springs Pond and/or watershed



7. What factors limit adopting or expanding the following practices on your land? (check all that apply)



8. Did you receive funding for a conservation practice through this project? If so, which one(s)?



9. If you received funding through this project, please indicate your opinion about the following topics.

	Strongly Dissatisfied	Dissatisfied	Undecided	Satisfied	Very Satisfied
Function of the installed conservation practice				1	1
Cost of conservation practice				1	1
Cost-share available for the conservation practice				1	1
Project cost-estimates compared to actual cost				1	1
Working with agency staff on the project				1	1
The conservation practice meets my goals for protecting my land				1	1
Turn-around time from initial planning to project completion				1	1

10. If you chose not to receive funding for a conservation practice through this project, please explain why not.

"The runoff from my home is fairly well controlled, so rain barrels not needed"
"Don't need it"
"N/A"
"Land is rented"
"No need"
"Not needed"
"Not necessary"

11. What changes would you suggest for a watershed/water quality project in the future in your watershed or another watershed?

"Sewer systems to replace septic systems"
"Get more participation"
"More ponds"