Honey-Lindsey- Dry Run Creek Watershed Project
1234-016
Final Project Report- Funding Source Analysis

Funding Source	Cash		In-Kind Contributions		Total		
	Approved Appl. Budget ($)	Actual ($)	Approved Appl. Budget ($)	Actual ($)	Approved Appl. Budget($)	Actual ($)	% of Appl. Budget
WIRB	100,000	100,000			100,000	100,000	100%
USDA-EQIP	956,371	1,427,172			956,371	1,427,172	149%
Land owners	318,791	1,103,443			318,791	1,103,443	346%
IA DNR			18,000	18,000	18,000	18,000	100%
Delaware SWCD	10,000	2,810			10,000	2,810	28%
FSA-CRP	0	78,305			0	78,305	Extra
IFIP	0	1,117			0	1,117	Extra
Totals	1,385,162	2,712,847	18,000	18,000	1,403,162	2,730,847	195%

The Project used all of its allotted WIRB funds to staff a full-time coordinator to promote and implement conservation practices that work to reduce nutrient delivery to the Mississippi River Basin. This coordinator worked for the Delaware SWCD, and also relied on other SWCD personnel, IDALS technicians, and NRCS staff to complete this project.

This Project was funded to implement a federal EQIP project, specifically the Mississippi River Basin Initiative for the Honey-Lindsey-Dry Run Creeks Watershed in Delaware and Clayton counties. The goal of the MRBI is to reduce nitrogen and phosphorous delivery to the river system, using a variety of land-treatment practices and nutrient management planning, which was linked to all contracts. This Project is estimated to have saved 2416 tons of sediment annually, leading to a yearly drop in phosphorous delivery to the stream of 3144 pounds. This does not include the savings produced annually by the manure storage that was constructed, as well as the benefits from following the recommendations of nutrient management plans in the hands of farmers. Bacteria delivery to the stream is undoubtedly improved after the project has caused farmers to close feedlots or collect the runoff from their lots.

The Project had projected that it would use $956,371 of EQIP funds from NRCS. By the end of the two years, $1,427,172 of federal funds were used for a wide range of conservation

practices. While many of the practices were funded with substantial cost-share incentives, landowners still bore some major expense in installing what they did. This was most prevalent in the ag waste improvements that were made. NRCS provided a fixed rate per unit of manure storage constructed, or per square foot of livestock housing built to get animals off of open lots. It was up to the landowner to then grade and prep the site, and to provide gates, fencing, bunks, waterers, and electrical components to allow the system to function as a production unit.

Water sampling was done with IA DNR assistance during the two years of the Project. 220 samples were analyzed during the life of the project at 19 sample points. Honey Creek segments #4, #5 and #6 have a history of very high bacteria counts showing the influence of livestock lot run-off; major ag waste improvements were made in the #4 and #5 segments. Livestock operations in #6 were also targeted for improvements, but the economics of the cattle markets caused 2 producers to decline to participate in the project.

Water sampling also highlighted the presence of nitrates in the stream system, particularly during the late spring and early summer timeframe after crops have been fertilized and planted. With the prevalence of lighter soils in this watershed, nitrogen movement down through the soil profile is a substantial risk, and the manure management plans written with project assistance recommended the accounting for manure credits and split application of nitrogen timed for the crop's usage of nitrogen. The coordinator spent time reviewing these plans with producers at the time of certification for following these plans, a requirement of these EQIP contracts. Time will tell the effect this will have on nutrient levels in the stream.

FSA-CRP became a substantial contributor in the project area. This was for rebuilding existing CRP waterways that were up for renewal; several new, major waterway contracts; and some recent enrollments of large tracts of land into CRP-SAFE, a grass-based seeding; and CRP-Pollinator, seeded to forbs and bee-friendly vegetation. IFIP was used for a cover crop application. Delaware SWCD funded a fraction of the salary for the Coordinator.

Honey-Lindsey- Dry Run Creek Watershed Project #1234-016
Delaware Soil and Water Conservation District
Project Project Length: 7-1-13 to 12-31-15

Summary: Watershed Improvement Funds			
Grant Agreement Budget Line Item	**Total Funds Approved ($)**	**Total Funds Expended ($)**	**Available Funds ($)**
Salary/ Benefits	100,000	100,000	0
Totals	100,000	100,000	0
Difference	0	0	0

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Final Project Report- Line Item Analysis

The Watershed Improvement Review Board funded only salary and benefits for this project. Enabled by these funds to staff a full-time coordinator for its Mississippi River Basin Initiative (MRBI) Project, the Delaware SWCD was able to promote the federal project, and to install an array of conservation practices using EQIP to an extent greater than originally planned. All of the funds for salary and benefits were used.

Honey- Lindsey- Dry Run Creeks Watershed Project
1234-016
Final Project Report- Practice and Activity Analysis

Practice or Activity	Unit	Approved Application Goal	Accomplishments	Percent Completion
CNMPs/ NMPs	No.	8	23	288%
Ag Waste Facilities	No.	7	5	71%
Terraces	feet	10,500	9910	94%
Nutrient Management	acres	2,400	4995	208%
CRP waterways	acres	0	4.4	extra
Waterways	acres	10.6	34.7	327%
Fencing/Livestock Exclusion	feet	4,300	0	0%
Water & Sediment Basins	No.	6	1	17%
GradeStabilization Structures	No.	2	2	100%
Cover Crops	acres	82	1772	2160%
No Till Acres	acres	800	933	116%

As the above chart indicates, this Project was very successful in almost every aspect. The goals established in our initial application were met or exceeded in all but 2 categories. These practices were all funded with dollars from sources other than WIRB, including EQIP, IFIP, CRP, or landowner investment.

All practices funded with EQIP funds through the Mississippi River Basin Initiative (MRBI) required the producer or landowner to develop a Nutrient Management Plan (NMP), or if it involved an ag waste system, a Comprehensive Nutrient Management Plan (CNMP). These plans were written by a qualified agronomist, and provide a blueprint for responsible use of animal manure sources and commercial fertilizers. Once a plan was developed, farmers proceeded with their conservation practice, but also were required to, and were compensated for, documenting that they were following the nutrient recommendations for at least one year and up to three years. By following recommendations from someone who was not trying to sell them more fertilizer, these producers saved money while keeping countless units of nitrogen and phosphorous out of the stream.

The approval process for these Plans was changed drastically prior to the final signup of our MRBI project, which had a major effect on farmer interest and eligibility. Farmers had to have a completed CNMP prior to EQIP ranking consideration, versus the previous policy of being able to contract the CNMP simultaneous with the ag waste practice itself. This extended the timeline to get a practice installed. More importantly, the CNMP previously included suggestions for practices a farmer may want to consider for the betterment of their farm. New policy is that a plan for the entire farm where manure may be hauled must be planned, and all of those practices must be applied by the end of the ag waste contract. Rather than deal with that, most producers opted to walk away from making any improvements to their livestock operation. This was a major setback to the Project.

The Project made a determined effort to address livestock sites that were likely sources of nutrient movement to the stream. Many of these were in the Honey Creek watershed, an area identified in the application as being heavy in livestock with many feeder streams to serve as conduits. One large feedlot had a history of DNR visits- it was closed and the cattle moved to another farm site by assisting with a manure pit under a beef barn. Another site was very near to the stream- the cattle were moved into a monoslope bed pack facility, and additional manure storage was added. All of the sites we treated were contributing to the high nutrients and bacteria in the stream after rain events.

The coordinator was working hard to get several other livestock sites addressed as well. These sites were visited by Area NRCS staff with the coordinator; various scenarios were drawn up and considered before the deteriorating farm prices this season caused the producers to reluctantly decline our assistance. All of our ag waste contracts resulted in the producer investing a sizable amount of their own funds, which also provided them with a more efficient operation when completed.

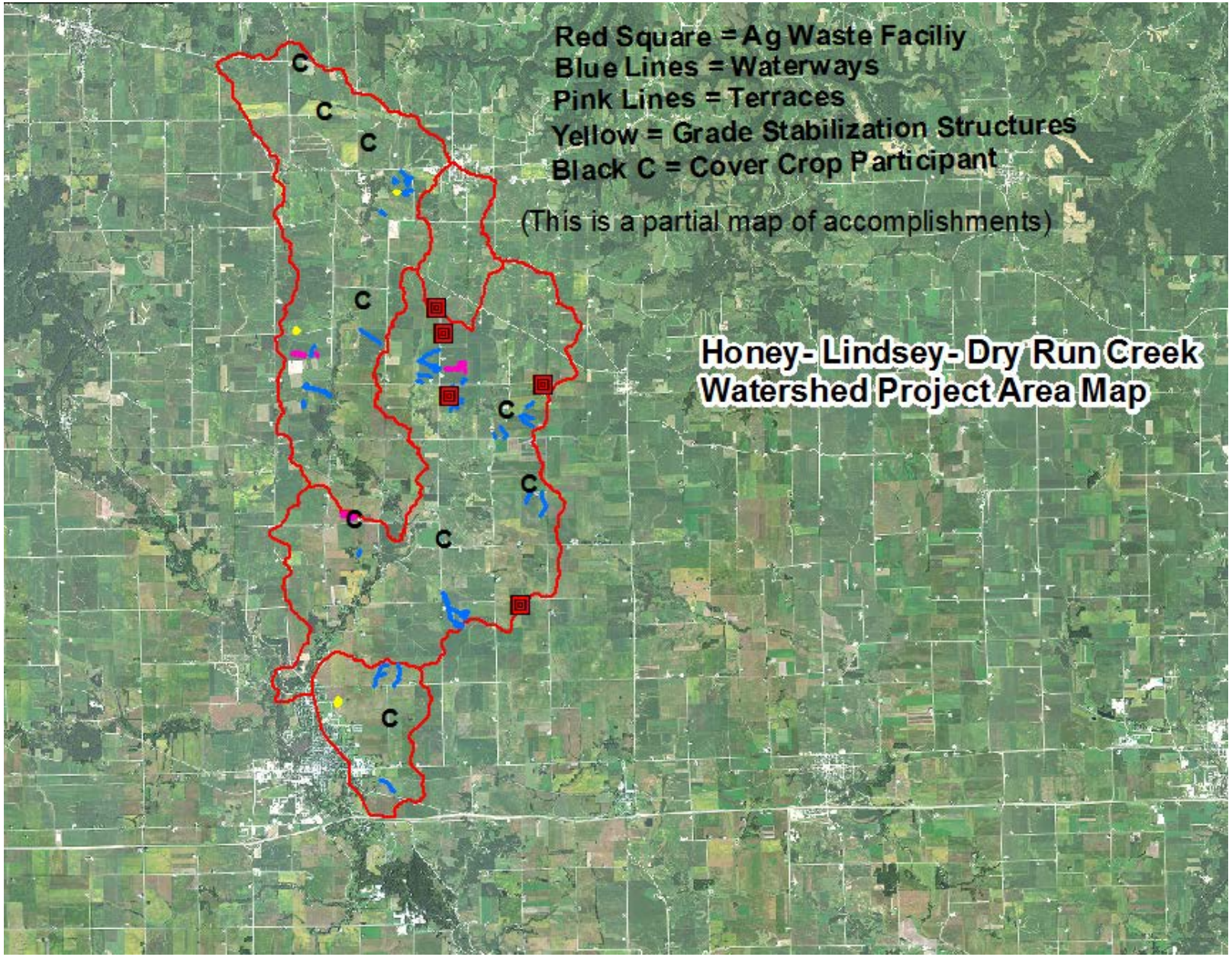
Waterways were a major product of this project. Nearly 35 acres of waterways were built with primarily MRBI funds; about half of those were new waterways. 4 acres of new CRP waterways were built in the project area; another 10 acres of CRP waterways were signed back in and re-shaped

Terrace footage came in about as planned. Soils and topography limit their usage in many parts of the watershed. Basins and grade stabe structures were used where applicable. Cover crops have really gained in usage in the area. Four producers used EQIP to fund three consecutive years of cover crops. One of those is a major seed corn sales rep in the area, offering lots of positive exposure for the cover crop concept going forward. Several producers used WQI or IFIP rather than commit to a contract. No-till acres came in about as planned; this could have been better had NRCS maintained its incentive rate at its original level.

Fencing, pasture improvements, and livestock exclusion were not funded with the project. One creek pasture that we investigated improving is likely to go into marginal pasture CRP, the longtime renter did not have his lease renewed. Another above it has been platted for houses. Another 40 acres would have been a breeze to sub-divide into paddocks with a watering system- the owner declined. Another field along the creek higher in the watershed was seeded to pollinator habitat.

The project built about as many water and sediment control basins, and grade stabilization structures, as planned. These were spread throughout the watershed.

All of these projects led to annual sediment savings of 2,416 Tons, and resulting phosphorous savings of 3,144 pounds annually. There is no formula to estimate the reductions for nutrient reductions from the ag waste structures built and nutrient plans followed, but they without a doubt led to major reductions in nitrogen, phosphorous, and bacteria delivery to the stream, leading to better water quality in the Honey-Lindsey-Dry Run Creek watershed area.


Red Square = Ag Waste Faciliy
Blue Lines = Waterways
Pink Lines = Terraces
Yellow = Grade Stabilization Structures
Black C = Cover Crop Participant
(This is a partial map of accomplishments)
Honey- Lindsey- Dry Run Creek
Watershed Project Area Map
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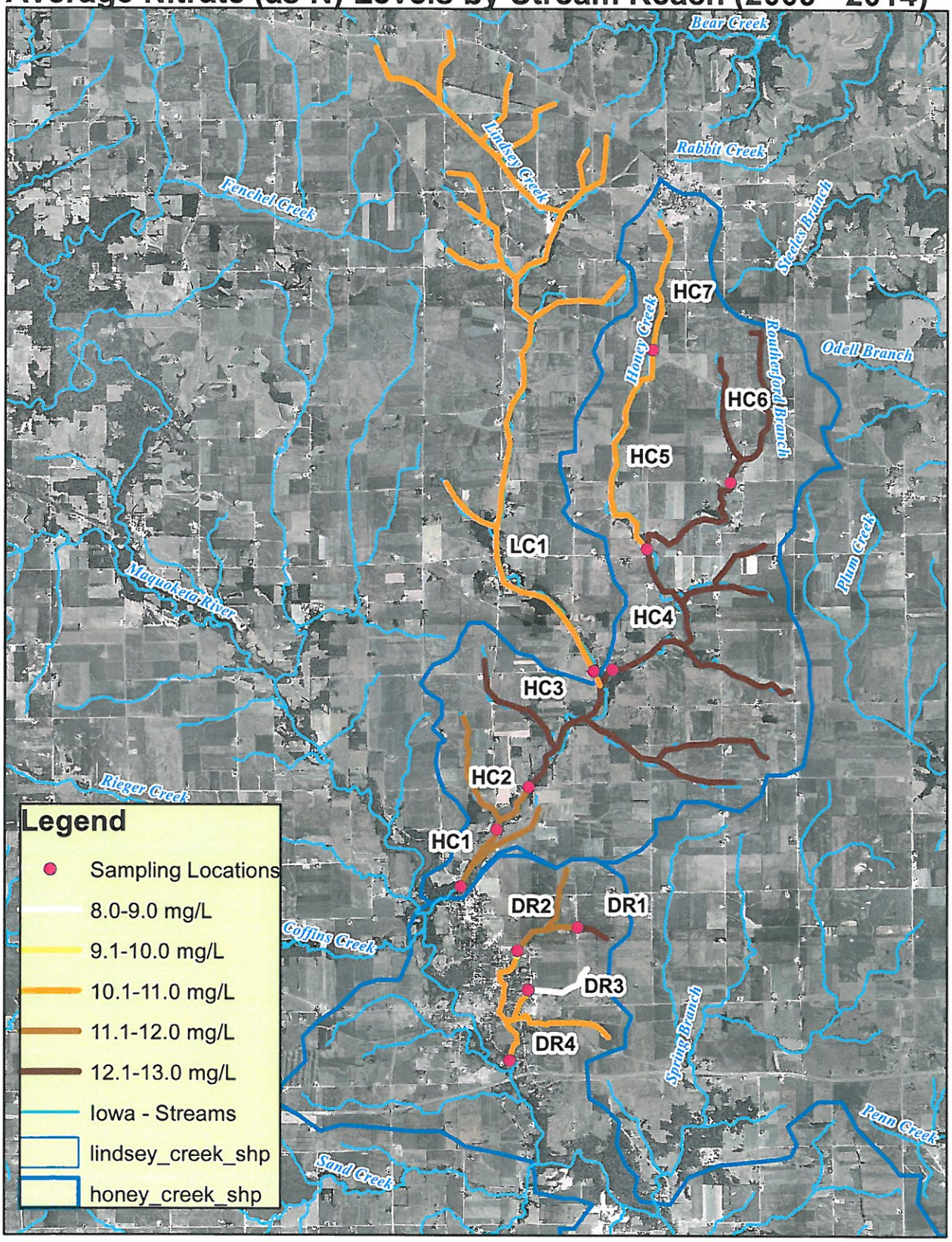
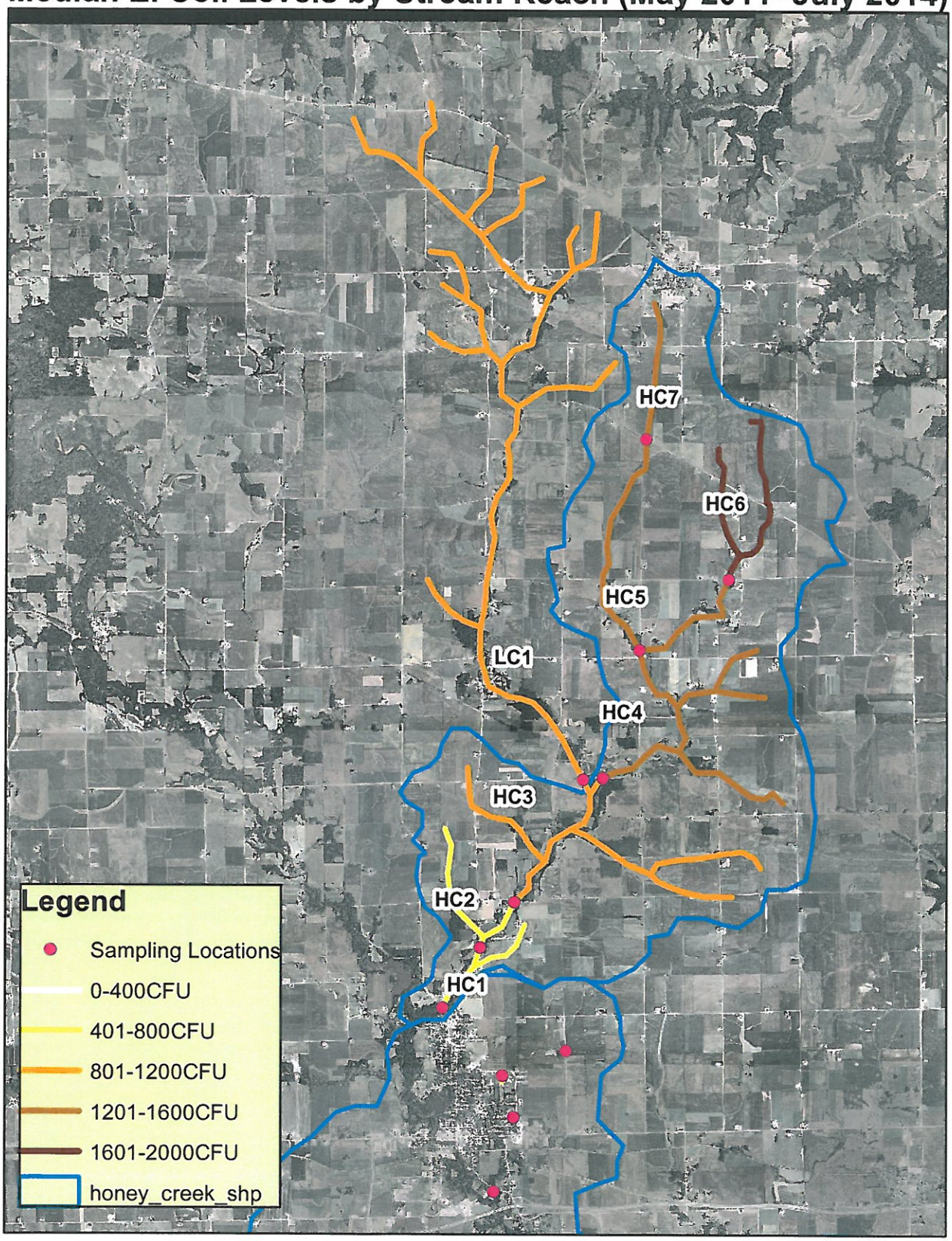
Average Nitrate (as N) Levels by Stream Reach (2009 - 2014)



Median E. Coli Levels by Stream Reach (May 2011- July 2014)



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