Karey Claghorn
Short Bio

Iowa's Deputy Secretary of Agriculture, Karey Claghorn, was appointed to the position in January of 2007 by Bill Northey, Iowa's Secretary of Agriculture. In this position, Karey is continuing her lifelong involvement in agriculture that started as she grew up on a livestock farm near Bloomington, Indiana.

Karey has traveled worldwide to learn more about different farming practices and see first hand the importance of trade to agriculture. Her travels have taken her to Australia, New Zealand, Great Britain, Brazil, Iceland, Mexico, Canada, Aruba, Cuba, China, South Korea, Japan, Taiwan, Hong Kong, and the Philippines.

Karey graduated from Indiana University in Bloomington and later moved with her family to Iowa. She currently lives on a farm in rural Warren County, growing row crops, hay and running a small cow-calf operation. Her husband Alan is also actively involved in raising thoroughbreds. She has 3 children.

Urban Conservation
Key Points

Sustainable storm water management: Stormwater management has focused on flood control in the past (managing runoff from big rains). Today, we're trying to add water quality protection to these strategies by managing water from small rains (90% of rainfall has come as ~1" events or less in the past). We focus on infiltrating runoff from frequent, small rains. We reduce the volume of surface runoff that enters streams which reduces the amount of pollutants that are delivered to receiving water. Infiltrated water will move through a microbially rich soil matrix where pollutants are captured and broken down. Infiltrated water usually become groundwater flow, which moves much more slowly to receiving streams than surface runoff that enters storm sewers (buried pipe) which dump directly into streams. Restoring groundwater flow stabilizes stream flows and reduces pollutant loading.

Infiltration-based Urban Conservation practices:

- Bioretention (rain gardens) – shallow depressional gardens that capture runoff, temporarily impound it and allow runoff to infiltrate into the soil.
- Bio-swales – like grassed waterways in farm fields but with engineered subgrades to facilitate infiltration of runoff from small rains while conveying runoff from big rains. Runoff that is conveyed through a bioswale receives vegetated filtering.
- Permeable pavement – 60% to 70% of the impervious surfaces in urban areas are transportation related surfaces (i.e. roads, parking lots, driveways, etc.). Permeable pavement allows water to move through the pavement and into a rock chamber designed to provide bearing strength and storage of water in the pore space between the aggregate. Water can then move out into surrounding soil and become groundwater flow.
- Soil Quality Restoration – as we do urban development, land grading activities alter and compact soils. Compacted soil lacks pore space for water to move down into so more runoff occurs. Breaking up compacted soils and adding compost helps the soil absorb and infiltrate more rainfall. Soil quality restoration should be a part of finished landscaping on all new development. Soil quality restoration can also be done on existing landscapes that don't absorb rain adequately.
- Native landscaping – using deep rooted native plants in our landscaping schemes will help restore and maintain soil quality which helps absorb more rain and reduce the volume of runoff.

Urban conservation priorities:

- Construction site erosion and sediment control
- Water quality protection
- Stream corridor stabilization
- Reducing flood potentials

Urban-rural coalitions: Providing urban conservation services gives the Iowa Department of Agriculture and Land Stewardship the opportunity to better serve the majority of Iowans, who reside in our cities and towns. Reaching out to the urban sector lets us educate many people on conservation needs of in both urban and rural settings and gives us the chance to grow more support for the conservation work we do and build urban-rural coalitions for conservation and watershed protection.

Flash flooding: Most Iowa cities have local streams that have watersheds that are urbanizing. Fourmile Creek in Polk County is a good example. Fourmile Creek drains agricultural lands before taking urban runoff from Ankeny and the Des Moines metro area. About 36% of the watershed is urban lands and development is rapidly occurring in the watershed. As development occurs and impervious urban surfaces increase - flash flooding potentials will increase in Pleasant Hill and East Des Moines. Urban conservation practices can mitigate the impact of creating large volumes of runoff as urban growth occurs.

Urban Conservation
Quotes

Iowa Secretary of Agriculture Bill Northey

"The Department has years of experience working with farmers and rural land owners and now urban conservation allows us to assist urban areas with the same goals of prevention erosion and protection water quality."

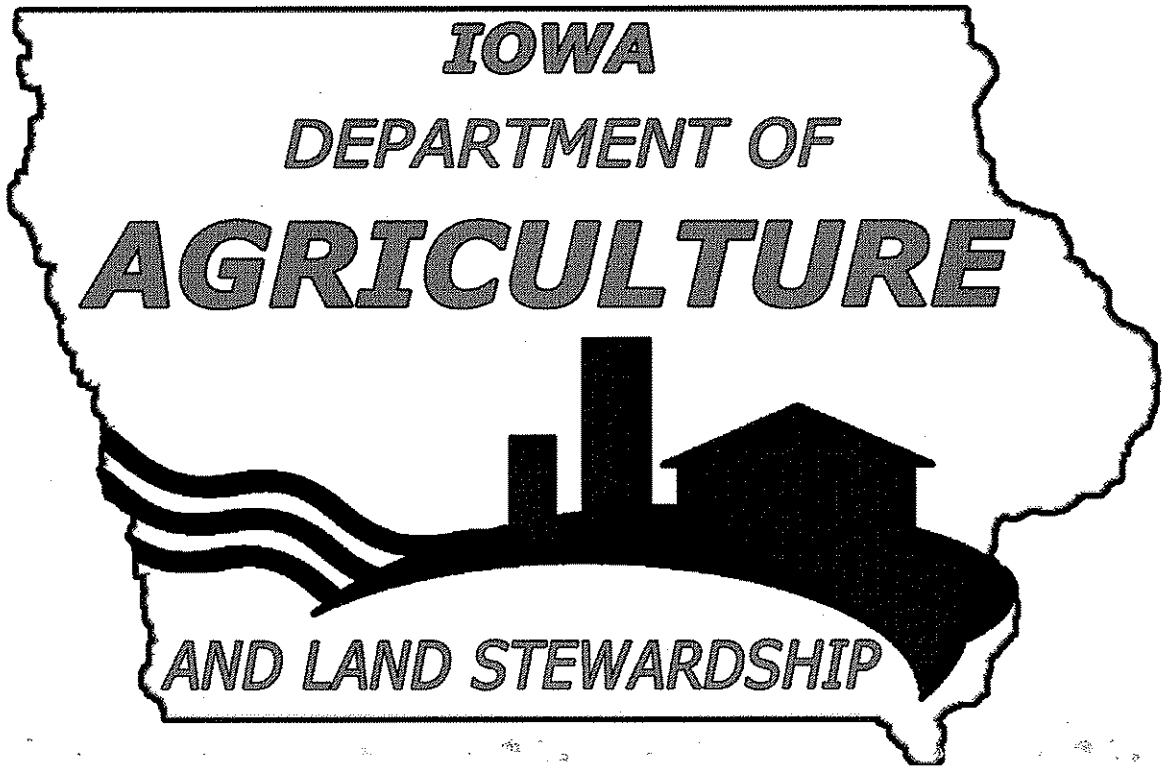
"Urban conservationists will help communities install new systems and retrofit existing infrastructure in a way that will move the water off our streets while keeping soil and pollutants out of our waterways."

"Our goal is to have our urban and rural areas working together to protect our soil and improve water quality in our state."

Iowa Deputy Secretary of Agriculture Karey Claghorn

*"We're the Iowa Dept of Ag **and** Land Stewardship not 'Ag Land Stewardship.' We prioritize ag land because it constitutes the primary land use in most watersheds, but there are natural resource related needs and concerns in urban areas and the umbrella of Land Stewardship extends our services to both ag and urban property owners."*

"Reaching out to the urban sector lets us educate many people on conservation needs of in both urban and rural settings and gives us the chance to grow more support for the conservation work in all parts of the state."


IOWA
DEPARTMENT OF
AGRICULTURE
AND LAND STEWARDSHIP

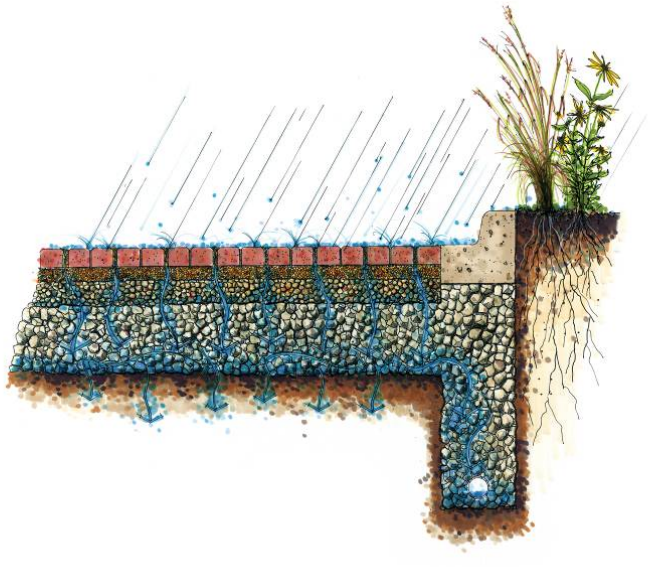
Photos

A rain garden in Okoboji takes street runoff through a curb cut. Runoff that used to go directly into West Okoboji Lake now gets infiltrated, cleaned, and slowly released – as groundwater flow to the lake.

A rain garden in Coralville takes street runoff through a curb cut. Note the storm sewer intake in the background. Most of the time dirty runoff won't get to the storm sewer.

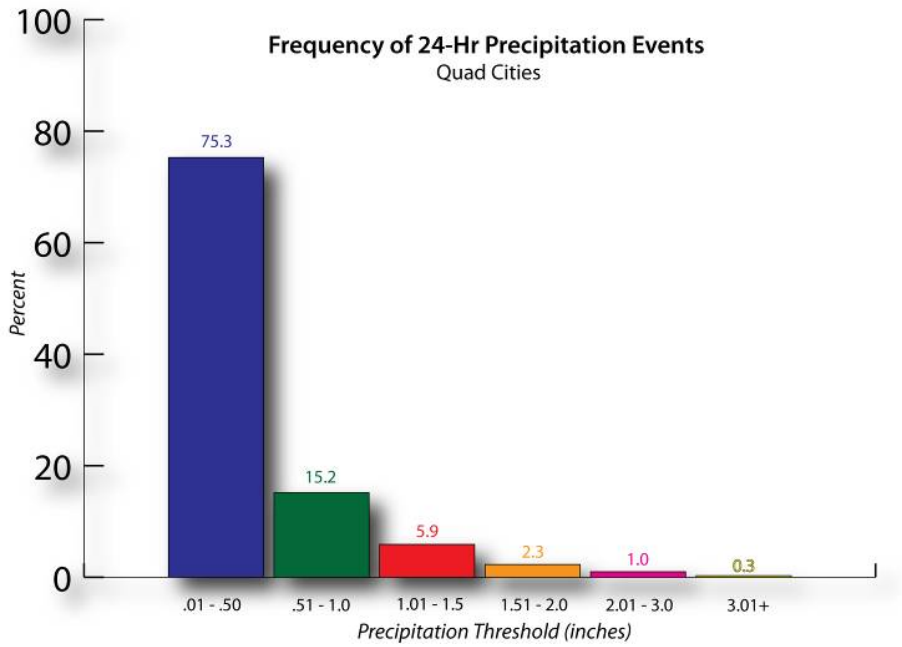
A rain garden in the back of Woodard Insurance - a downtown business in West Union. Roof runoff enters the rain garden through the downspout (seen in the lower left corner of the picture). Permeable pavers are to the right of the rain garden and a rain barrel takes roof runoff from the garage in the background – making this a three practice project.

A bio-swale in place of curb and gutters and storm sewers.



The below ground rock base with a subdrain under a permeable pavement. Water will percolate into the surrounding soils if it can. If it can't it will move to the subdrain and be slowly released.

Permeable pavers cover this parking lot and eliminate direct runoff to East Okboji Lake.



A bar chart showing rainfall patterns from 1948 through 2004 in the Quad Cities. Note that about 90% of the time when it rained in the past it was less than a 1" event. This same pattern holds true for the rest of the state. Infiltration based practices are design to capture runoff from about 1 inch of rain. We are seeing more rain and more large rainfall events in recent years so we might want to design for larger storms in the future…which would also help reduce flood potentials.