

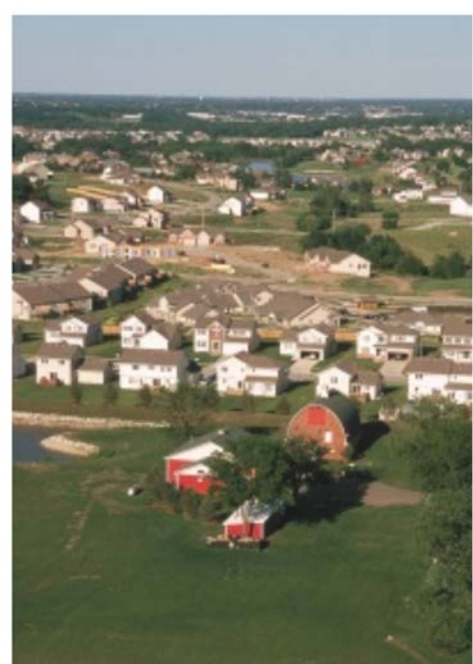
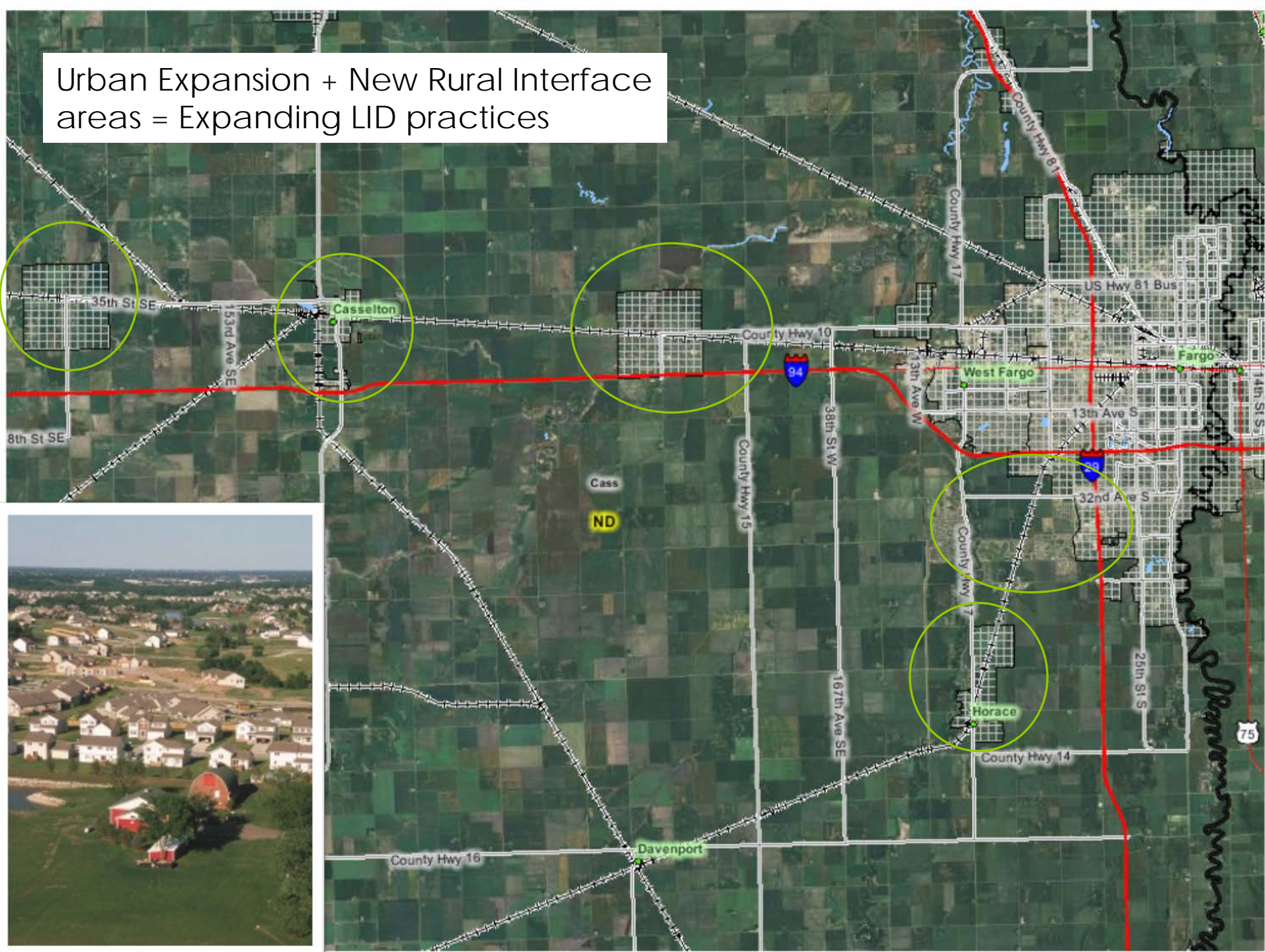
# Rain Gardens & LID Practices in the Red River Valley of the North



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Cass County,  
North Dakota

Urban Expansion + New Rural Interface  
areas = Expanding LID practices

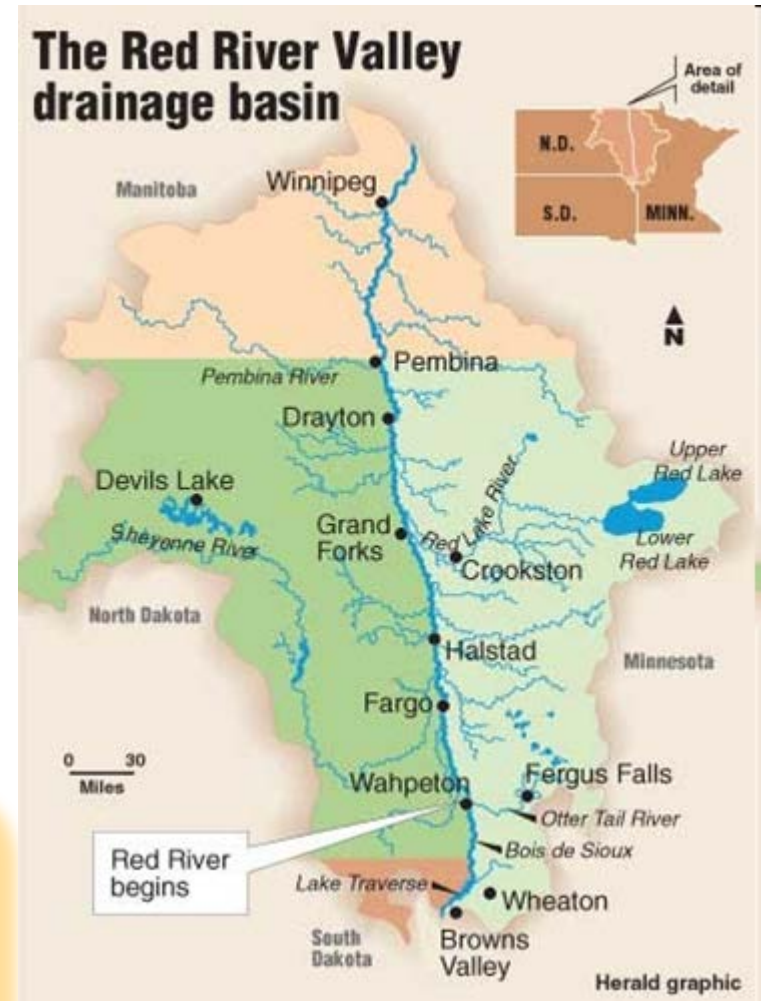




# Water Quality & Quantity Issues

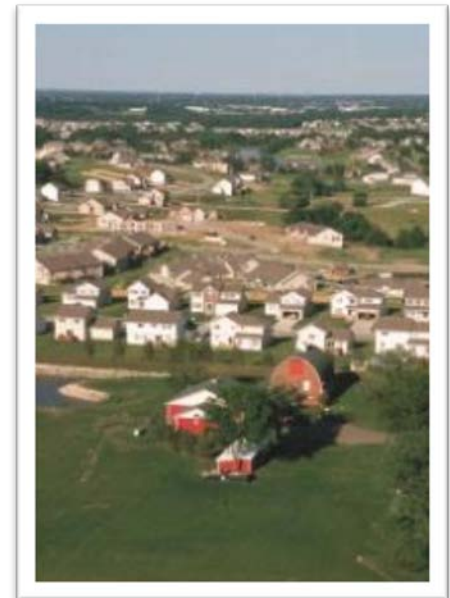


**14,150 inlets and catch basins**  
**84 river outfalls and**  
**counting...**



# The result...

- An urban conservation program with the goal to address urban, interface, and rural resource issues concerning,
  - Soil
  - Water
  - Energy
  - Air quality
  - Quality of life



# Promoting & Creating Interest: where we started

- Residential rain gardens: trial cost share
- Demonstration rain gardens funded by District
- Educating the community on practices that enhance knowledge of rain gardens and other LID practices
  - Compost tumblers - workshops
  - Rain Barrels - workshops
  - Homeowner education on how to evaluate rain gardens materials and adapt for their unique soil conditions
  - Monitoring of progress
- Water quality monitoring in urban area to back-up practices
- Use of and development of new publications
- Publications – living on a river, rural living, riverbank dumping campaign.



# Creating Interest

- Technical Assistance
- Demonstration Sites & Tours for Educational Purposes
- Community Education Workshops
- Youth Education
- Public Presentations & Forums
- Trade & Home Shows
- Newsletter & Website
- Homeowner Surveys
- Developer & Homebuyer Education
- Partner Education Campaigns
- District events
- Partner & co-hosted events
- Working with existing customers  
(tree customers, NRCS customers)



# Helping Landowners & Organizations

**Starting October 2013: Cost share program for Cass County landowners and organizations.**

- Rain Gardens: 60% cost-share rate, with a maximum reimbursement rate of \$500.00 per site.
  - *Applicants must be within Cass County, ND.*
  - *Applicants must be landowners or show proof of right to install practices on land.*
  - *Applicants must agree to maintain practice for 5 years.*
  - *Applicants are responsible for procuring materials, installation and maintenance.*

**Cost-share program also offers applicants...**

- Technical assistance with planning, installation and maintenance.
- Resources and information to enhance learning outcomes.
- Assistance with monitoring site performance.

**Funding**

- Major source of funding through the District
- Labor and public projects supported through NRCS contribution agreement
- Partner contributions



# Partners & Supporters

- Conservation Districts & ND State Association
- NRCS
- State nursery & Plant Materials Center
- City of Fargo & West Fargo
- Cass County agencies
- Local conservation organizations & agencies (private, state, federal)
- Public health departments
- Local universities & extension services
- Park districts
- Schools & informal educators
- Homeowners, landowners, renters,
- Business owners
- Service clubs
- Developers





# Case Study: Botanic Garden Society





# Case Study: The Living Laboratory





# Case Study: Public Works Retention Basin



# Performance & Lessons Learned

- Promoting maintenance as #1 priority for interested landowners.
- Our variety of soils from heavy clay to sand to “mystery fill” show the importance of soil testing and site specific recommendations for our area.
- No one true formula for our area.
- Rain gardens as improvement for pollinator habitat – high priority
- New plant recommendations
- New soil amendment recommendations
- Natural works better!
- Educating local agencies and officials is key





For more information on our District or Rain Garden Projects  
visit our website at, <http://www.cassscd.org>

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