



Soil Health Programs

Five Case Studies of State Programs to
Improve Soil Health





California Healthy Soils Initiative



Overview

- Collaboration of state agencies and departments
- Led by the California Department of Food and Agriculture
- Originally started in 2015 and provided funding by legislature in 2016
- Goals are to
 - Improve plant health and crop yields
 - Increase water retention and infiltration
 - Prevent erosion and reduce sediment and dust
 - Sequester carbon and reduce greenhouse gas emissions
 - Improve water quality
 - Improve biological diversity and wildlife habitat



"Soil has the transformative power to help us stabilize our changing climate. By capturing greenhouse gas emissions from the atmosphere and storing them underground, through the assistance of living plants and microbes, we improve both the atmosphere and the soil."

California Healthy Soils Initiative

Inter-Agency Collaboration

- **Healthy Soils Partnership Workshops**
 - stakeholder workshops to develop public-private partnerships to increase healthy soils practices
- **The On-Farm Compost Work Group**
 - 15 federal, state, and regional agencies
 - Committees focused on permitting and regulatory alignment and the net community impact of on-farm composting
- **Healthy Soils Week**
 - November 30 – December 5, 2020
 - Coordinate messaging across state government and with feds
 - Webinars, discussions, instructional videos
 - Ends on World Soils Day

California Healthy Soils Program

- Funded by cap and trade proceeds (\$40.5 million 2016-2019) and CA legislature (\$10 million)
- Two components: Incentives Program and Demonstration Projects
- Incentives Program has funded 576 projects (as of 7/2020)
 - Benefits are estimated using quantification methodology
 - Includes cover cropping, no-till, reduced-till, mulching, compost application, conservation plantings, and 22 more
 - Goals are to sequester carbon, reduce atmospheric greenhouse gases, and improve soil health
- Demonstration Program has funded 47 projects (as of 7/2020)
 - Funds projects to demonstrate benefits and collect data, such as GHG emissions
 - Can fund BMPs currently eligible for incentives (B) or those that could be added (A)



**Montana Rangeland
Improvement Loan
Program**



Description

- Low interest loan program
- Incentives improvements
- “...including but not limited to stock water development, cross fencing, establishment of grazing systems, reseeding, mechanical renovation, sagebrush management, and weed control.” -Montana Code
- Application process
 - Local conservation reviews application and conservation plan
 - Montana Department of Natural Resources and Conservation
 - Rangeland Resource Committee has final say

By the Numbers

- Started in 1979
- Terms
 - Current interest rate = 1.5%
 - Maximum loan amount = \$75,000
 - Repayment=maximum of ten years with annual installments
- History
 - Applications = 272
 - Loans = 161
 - Total Loaned = \$3,588,261.55
 - Total Paid Back = \$3,329,153.96
 - No defaults

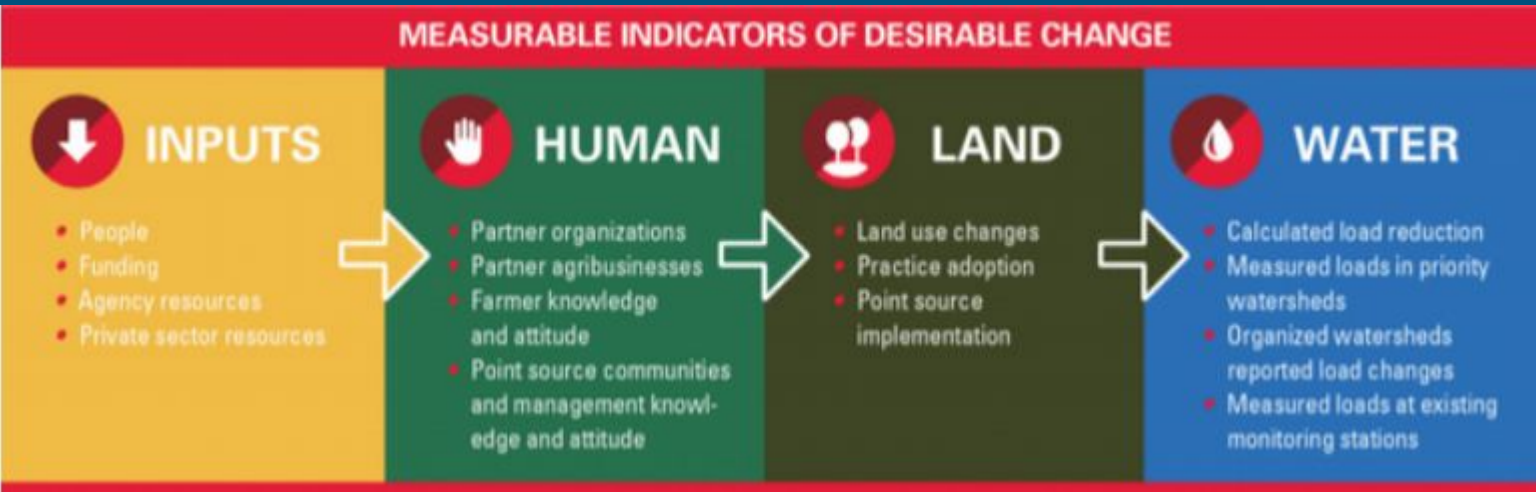




Iowa Water Quality Initiative

Background

- Cost share funds
 - limited to 160 acres per farmer or landowner
- Crop insurance discounts for planting cover crops
- Included practices: cover crops, no-till/strip-till acres or nitrification inhibitors, and more
- Iowa State University, Iowa Department of Natural Resources, and Iowa Department of Agriculture & Land Stewardship are in charge of monitoring



By the Numbers

- Established in 2013
- Goal is to achieve a 4% reduction in nitrogen and phosphorus losses
- Funding for 2021-2029=\$270 million
- Farmers and Landowners enrolled since 2013=18000
- Funds obligated in 2020=\$19 million
- Cover crop acres approved in 2020=585000
- Wetlands under development=44
- Saturated buffers and bioreactors under development=45

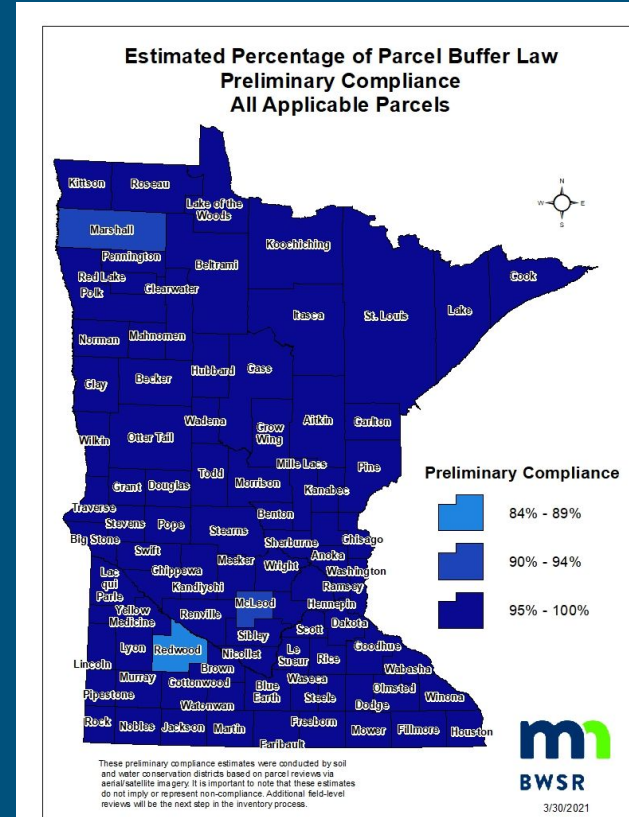



Minnesota Vegetative Buffer Requirements





Minnesota Vegetative Buffer Requirements

- Requires perennial vegetative buffers of up to 50 feet along lakes, rivers, and streams and buffers of 16.5 feet along ditches
- Deadline for full implementation was November 2018
- Can install alternative practices with equivalent water quality benefits, according to NRCS
- As of July 2019, approximately 98% of parcels adjacent to Minnesota waters are compliant with the Buffer Law





North Carolina Mobile Soils Classroom



Overview

- Lessons include:
 - Soil properties
 - Common state soil profiles
 - Understanding soil and water interactions
 - Understanding soil erosion
 - How the soil is a living biosphere
- Run by North Carolina Foundation for Soil and Water Conservation
- Funds raised to date by the Foundation total \$146,500
 - Currently supported by an EPA Region 4 Environmental Education Grant
- Includes 5 regional trailers and 3 rainfall simulators

