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Solutions in your community

Agriculture in the Deep Creek Lake Water Shed

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Extension Educator – Ag and Natural Resources

University of Maryland Extension

Ag in Garrett County

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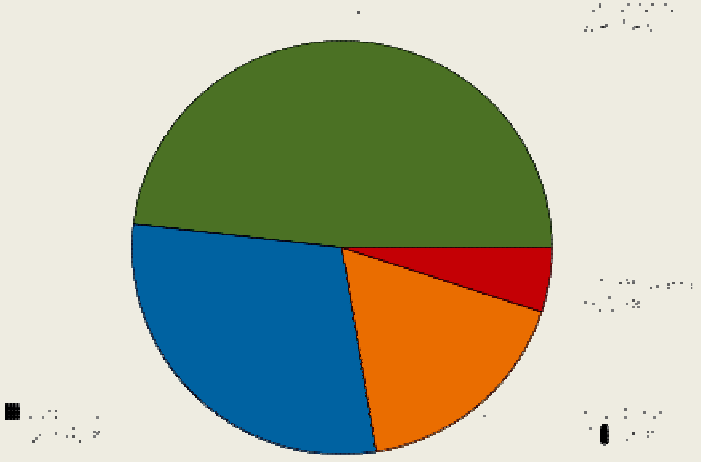
95,514 Acres in Farmland (23%) includes farm woodlots

$25,726,000 in annual farm product sales

- half of this amount was dairy products

- 3,800 Dairy Cows on ~ 80 farms (4TH in the state)
- 17,861 Cattle and Calves (down from 25K in 1997) 3rd
- 7,500 acres of corn
- 1,300 acres of oats (1st in state)
- ~ 1,500 acres of soybeans
- 26,860 acres of forage (hay)
  - 3rd in the state



Agriculture in Deep Creek Lake Watershed

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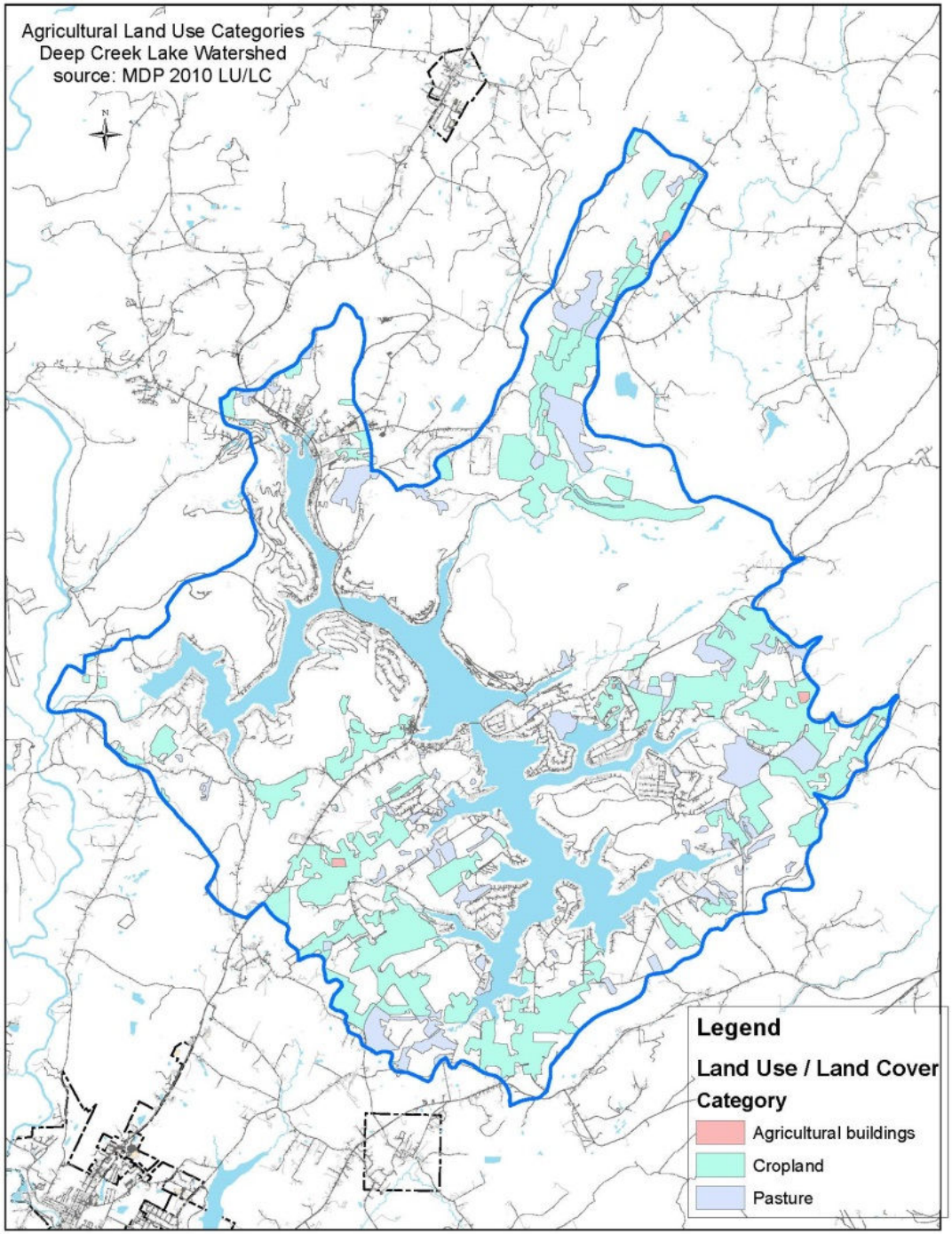
- Maryland Department of Planning

Land Use/Land Cover for DCLW

- 34 acres Ag Buildings
- 5928 acres Cropland
- 1842 acres Pasture

Total – 7804 acres (19% of 40,938 acres)

1 or 2 Dairy Farms in the Watershed


Agricultural Land Use Categories
Deep Creek Lake Watershed
source: MDP 2010 LU/LC
N
Legend
Land Use / Land Cover
Category
Agricultural buildings
Cropland
Pasture

Ag Effects on Chesapeake Bay

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- ¼ of land in the CB Watershed is Ag
- Ag is single largest source of nutrient and sediment pollution entering the bay
- "But well-managed agricultural lands can offer the Bay watershed a number of benefits and services, including sustained crop yields, restored rivers and streams, and valuable insect, bird and animal habitat. When effective agricultural land cover occurs year-round, these systems can store carbon, minimize soil erosion and reduce the watershed's vulnerability to flooding and the effects of climate change."

Chesapeake Bay Program Website
http://www.chesapeakebay.net/issues/issue/agriculture#inline

Current Agronomic Practices in Garrett County

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- Increased amount of no-till
  - Reduces soil erosion & less fuel use
- Blending of custom fertilizer mixes to match soil tests and crops
  - Reduces the potential over use of fertilizers
- Use of manure as a crop nutrient – Some farmers complete a Pre Sidedress Nitrogen Test to determine if manure will provide enough Nitrogen before adding additional nitrogen.
  - Test done in house at the Extension Office

Nutrient Management Regulations

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- Water Quality Improvement Act of 1998
- Protect water quality in the Chesapeake Bay and tributaries by ensuring farmers and urban land managers apply fertilizers and animal waste in effective and environmentally sound manner.
- Maryland Nutrient Management Law (8-801)
- Managed and enforced by Maryland Dept of Ag

Nutrient Management Law and Regulations MDA
http://mda.maryland.gov/resource_conservation/Pages/nutrient_management_overview.aspx

Nutrient Management Plan

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- 8-801c. “Nutrient management plan” means a plan prepared under this subtitle by a certified nutrient management consultant to manage the amount, placement, timing, and application of animal waste, commercial fertilizer, sludge, or other plant nutrients to prevent pollution by transport of bioavailable nutrients and to maintain productivity.
- Required by farms with more than eight animal units (1,000 pounds of animal) or $2,500 gross ag income
- Required since Dec. 31, 2001

Components of Nutrient Management Plans

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- Maps of all fields
- Soil Test – every three years
- Manure Application & Manure Test – annually
- Manure Generation and Allocation
- Crop Information – Type and Expected Yield
- Farm Specific Yield Data
- Animal Numbers (type, size and age)
- Fertilizer and Manure Recommendations

Nutrient Recommendations

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- Crop nutrient needs developed by University of Maryland
- Crop Needs
  - Nutrients available in Soil
  - Nutrients in Organics (manure)

  = Nutrient Recommendations

Recommendations are Nitrogen and Phosphorus based

NuMan Pro - Computer Based Program - UMD

Completing Plans

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- Plans must be completed by a certified (by MDA) consultant
  - Private Companies
  - University of Maryland Extension
    - One full time consultant in every county office
    - Plans completed free of charge
    - Reviewed by Ag Extension Agent
    - Provides Continuing Education for Consultants
  - Farmer Training and Certification
    - Can complete their own plan after two day training

University of Maryland, Agriculture Nutrient Management Program
http://extension.umd.edu/anmp

Farmer Responsibilities

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- Farm operator not land owner must have plan
- Provide crop and animal numbers and changes
- Implementing the nutrient management plan
- Submit initial plan to MDA
- Update plan annually
- Submit Annual Implementation Report
  - Summary of crops, animals, fertilizer and manure use
- Attend nutrient training (2 hrs) every 3 yrs

Management by MDA

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- Enforce Nutrient Management Regulations
  - One local inspector – GA, AL and WA counties
  - On farm review of nutrient management plans
- Manage Nutrient Management Data
  - Produce an annual report
- Individual farm plans are confidential and protected by law

2012 MDA Nutrient Management Program Annual Report
http://mda.maryland.gov/resource_conservation/counties/MDANMP2012.pdf

Revised Regulations – May 2012

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- Nutrient Application Set Backs from Streams
  - Effective 10/15/2013
  - 10’ or 35’ depending on type of application
  - No crops except perennial forage crops in 10’ set back area
  - Animals prohibited in 10’ set back area
  - Must use special stream crossing designed to prevent erosion and sediment loss

MDA Revised Nutrient Management Regulations
http://mda.maryland.gov/resource_conservation/counties/Read%20the%20Revised%20Regs.pdf

Application of Nutrient Timing

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- Effective January 2014
- All nutrients must be injected or incorporated within 48 hrs of application
  - Exemptions for: manure deposited by animals, permanent pastures, land used for hay production or highly erodible land
- 2016 – no application of nutrients in winter (Nov 15 to Feb 28) for large livestock operations (+50AU)
- 2020 – no winter application for any operation

Animal Feeding Operations (AFO)

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- Regulated by MDE and EPA
- AFO = Confined animals for 45 or more days per year and vegetative growth not sustained.
- Medium and Large AFO require discharge permits and comprehensive nutrient management plans (CNMP)
- Small AFO do not require permits or CNMP
- All Garrett County animal operations are Small AFO's

MDA – MDE Animal Feeding Operation
http://mda.maryland.gov/plants-pests/Pages/mde_federal_permit.aspx

Urban Nutrient Management

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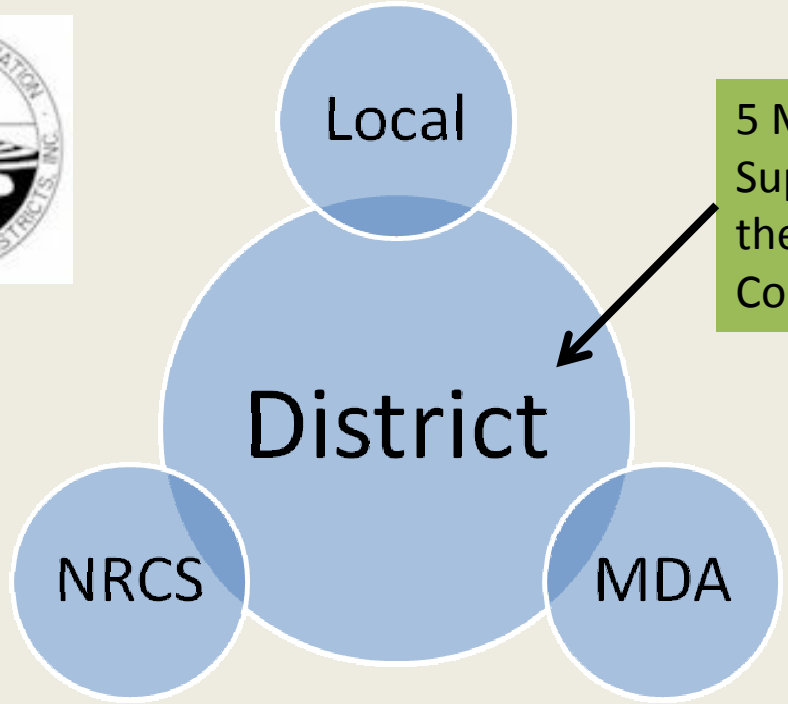
- Non-Ag Nutrient Applicators (lawn care companies, landscapers, golf course manager, etc)
  - Required to take soil sample, keep fertilizer records and follow UM guidelines on applying nutrients.
- Fertilizer Use Act of 2011
  - Urban land managers statewide to be trained and certified by MDA before they can apply nutrients to non-ag properties
  - Lawn care professions and do-it-yourselfers:
    - Obey fertilizer application restrictions
    - Observe fertilizer backout dates
    - Employ best management practices
    - Follow UM recommendations when fertilizing lawns

Lawn Fertilizer accounts for 44% of the fertilizer sold in MD (MDA State Chemist Office)

Maryland's Lawn Fertilizer - http://mda.maryland.gov/Pages/fertilizer.aspx

Garrett County Soil Conservation District

Conservation Districts often referred to as the "Maryland Conservation Partnership"



5 Member Board of Supervisors – appointed by the State Soil Conservation Committee

Funding for Maryland's soil conservation districts comes from State (MDA), Federal (USDA-NRCS) and Local (county government support and fees for services) sources.

Garrett Soil Conservation District Office Staff

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MARYLAND DEPT. OF AGRICULTURE

Shaun Sanders, District Manager

Cheston “Butch” Miller, Soil Conservation Associate.

Charles “Chuck” Hayes, Soil Conservation Associate

Roger Kitzmiller, Soil Conservation Engineering Technician

USDA NATURAL RESOURCES CONSERVATION SERVICE

Chad Bucklew, District Conservationist

Teri Nehls, Soil Conservationist

Kim Meyers, Soil Conservation Technician

DISTRICT

Carrie Colebank, Admin. Asst./Secretary

Conservation Districts operate through a variety of statutes & authorities. The main ones are:

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Agriculture Title 8

- Soil Conservation Act
- Agricultural Land Preservation Act
- MD Agricultural Water Quality Cost Share (MACS)

Environment Titles 4 & 5

- Erosion and Sediment Control Law
- Sediment Pollution
- Small Pond Approval

General Tax Title 10

- Tax-Modification-Conservation Equipment

Best Management Design & Construction

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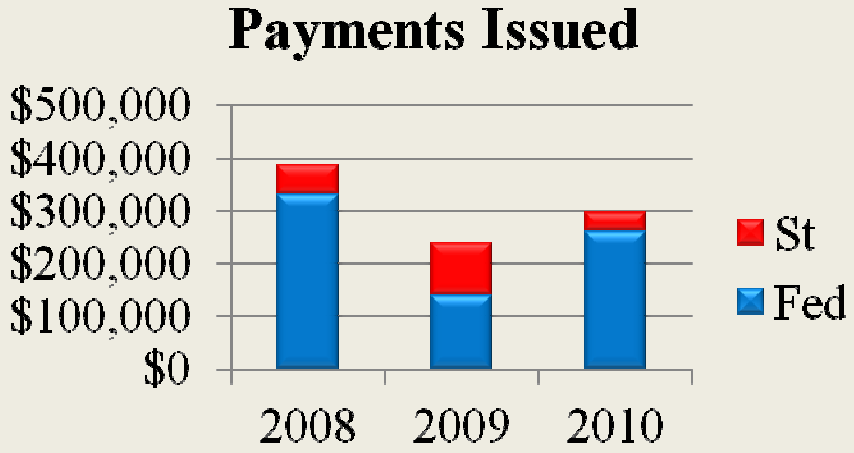
Conservation Planning, Farm Bill & State requirements

Administer MACS and Federal cost share programs



$1.6 Million in Farm Bill contracts, $674,000 paid

78 active Farm Bill contracts, $20,500 average

Services provided even if not participating in cost share

MDA Cost Share Programs

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- Maryland Agricultural Water Quality Cost-Share (MACS) Program
  - Farmer grants that cover 87.5% of the cost to install best management practices related to soil erosion, manage nutrients and safeguard water in Maryland.

Examples of Best Management Practices

Conservation Cover	Fencing	Waste Storage Structure
Filter Strip	Grassed Waterway	Watering Facilty
Heavy Use Area Protection	Pasture Management	Spring Development
Roof Runoff Structure	Sediment Control Pond	Riparian Forest Buffer

MDA MACS Cost Share Program
http://mda.maryland.gov/resource_conservation/Pages/macs.aspx

MDA Cost Share Programs

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- The Conservation reserve Enhancement Program (CREP)
  - Pays landowners land rental rate to take environmentally sensitive cropland out of production for 10-15 yrs
- The Cover Crop Program
  - Grants to plant small grains on fields in the fall to conserve nutrients, control erosion and protect water quality
- Manure Matching and Transport Program
  - Animal producers transport excess manure off their farm

MDA Financial Assistance Programs
http://mda.maryland.gov/resource_conservation/Pages/financial_assistance.aspx

Garrett County SCD Local Efforts

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- Rental Equipment
  - Lime and Fertilize Spreader
    - More precise application of lime, fertilizer and poultry litter
  - John Deere 1590 No-Till Drill
    - Assist farmers with cover crops and other seedings
- Education
  - Assists with Envirothon training and materials
  - Provides a $1,000 scholarship for a Garrett County Student studying ag, natural resources, or related environmental field

Garrett Soil Conservation District http://www.garrettscd.org/

Soil Conservation and Water Quality Plans

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- Comprehensive Plan – addresses natural resource management on ag land and utilize best management practices.
  - Crop Rotation
  - Strip Crop and Contours
  - Systems which reduce specific erosion and runoff concerns
  - Delineate fields as Highly Erodible Land (HEL)
  - ❑Required for farmers to receive state or federal cost share on BMPs.

Natural Resources Conservation Service (NRCS)

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- USDA Agency
- Provides technical support and funding for conservation programs
- Financial Assistance
  - Environmental Quality Incentives Program (EQIP)
    - Implement conservation practices to address natural resource concerns
      - National Water Quality Initiative
      - Seasonal High Tunnel Initiative
      - Organic Initiative
      - On-Farm energy Initiative

USDA - NRCS Funding Opportunities
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/?&cid=stelprdb1048817

Maryland Ag Land Preservation Program

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- Maryland Ag Land Preservation Foundation purchase the development rights in perpetuity to develop your farm for residential, commercial or industrial use.
  - Minimum of 50 contiguous acres
  - To remain as productive, managed farmland or forestland
- Garrett County Ag Land Preservation District
  - 3 year agreement to protect land from development
  - County Tax Credit on ag lands and woodland real estate

MD Ag Land Preservation - http://www.malpf.info/
Garrett County Ag Land Preservation District
http://www.garrettcounty.org/planning-land-development/land-preservation

Ag Sustainability

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Profitable agriculture in Garrett County will lead to sustainability of farming.

Garrett County Economic Devlopment

Cheryl DeBerry, Natural Resources Business Specialist

- available to help local farmers and natural resource entrepreneurs with all aspects of their rural business ventures

Ag Business Planning

Visiting Our Working Farms Brochure

Barn Quilt Tours and Association

Mountain Fresh Producers Association and Garrett Growers

Garrett Farms.org Website

Garrett County's Local Food and Farm Guide & Food Event

Livestock Feeding Area Improvements

Manure Storage Structures

Livestock Watering Facilities and Grazing System Improvements

Rental Equipment

- No-till Drill
- Lime/Fertilizer Spreader