DEEP CREEK WATERSHED MANAGEMENT PLAN

Molly Ramsey,
Watershed Coordinator,
Dept of Planning,
Garrett County Government

WHAT IS A WATERSHED?

WHY A WATERSHED MANAGEMENT PLAN?

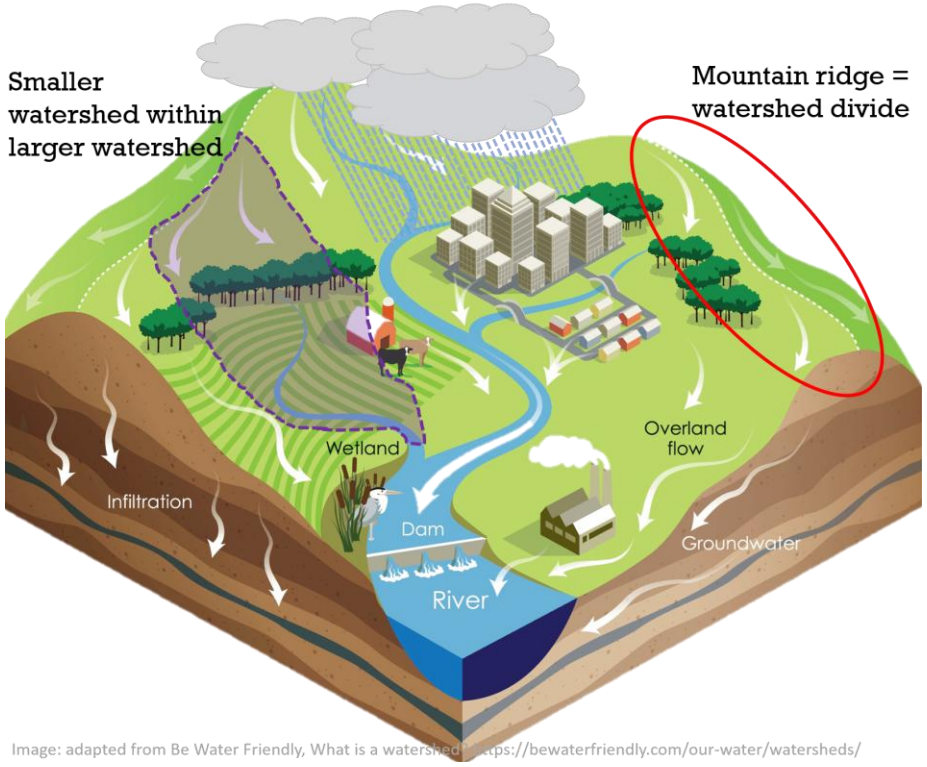
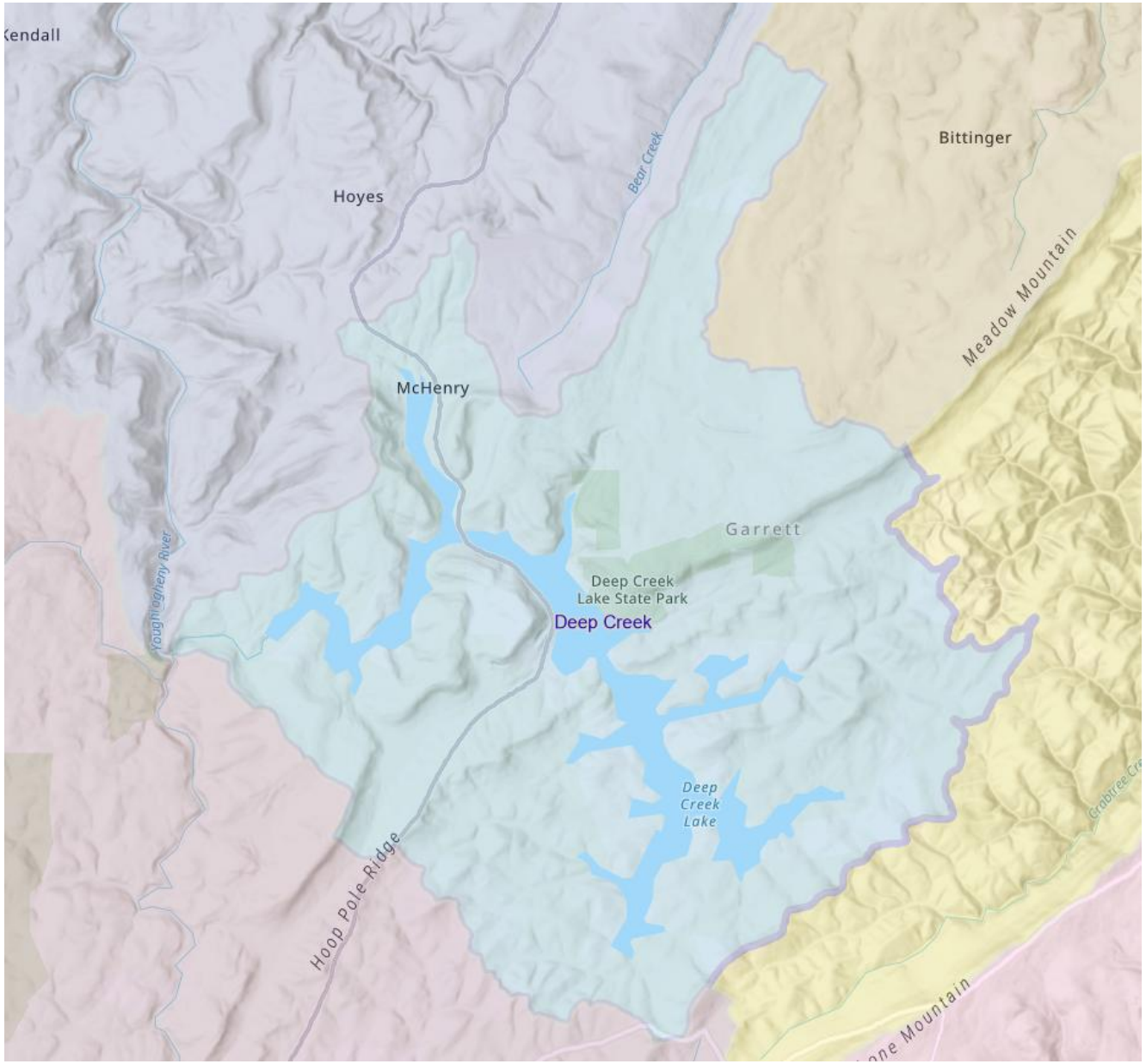


Image: adapted from Be Water Friendly, What is a watershed? https://bewaterfriendly.com/our-water/watersheds/



DEVELOPMENT OF THE PLAN

Issues of Concern

Accountability, agency coordination, public understanding

Water quality (sedimentation, SAV, and others)

Impacts from growth (incl. recreational uses of watershed and lake)

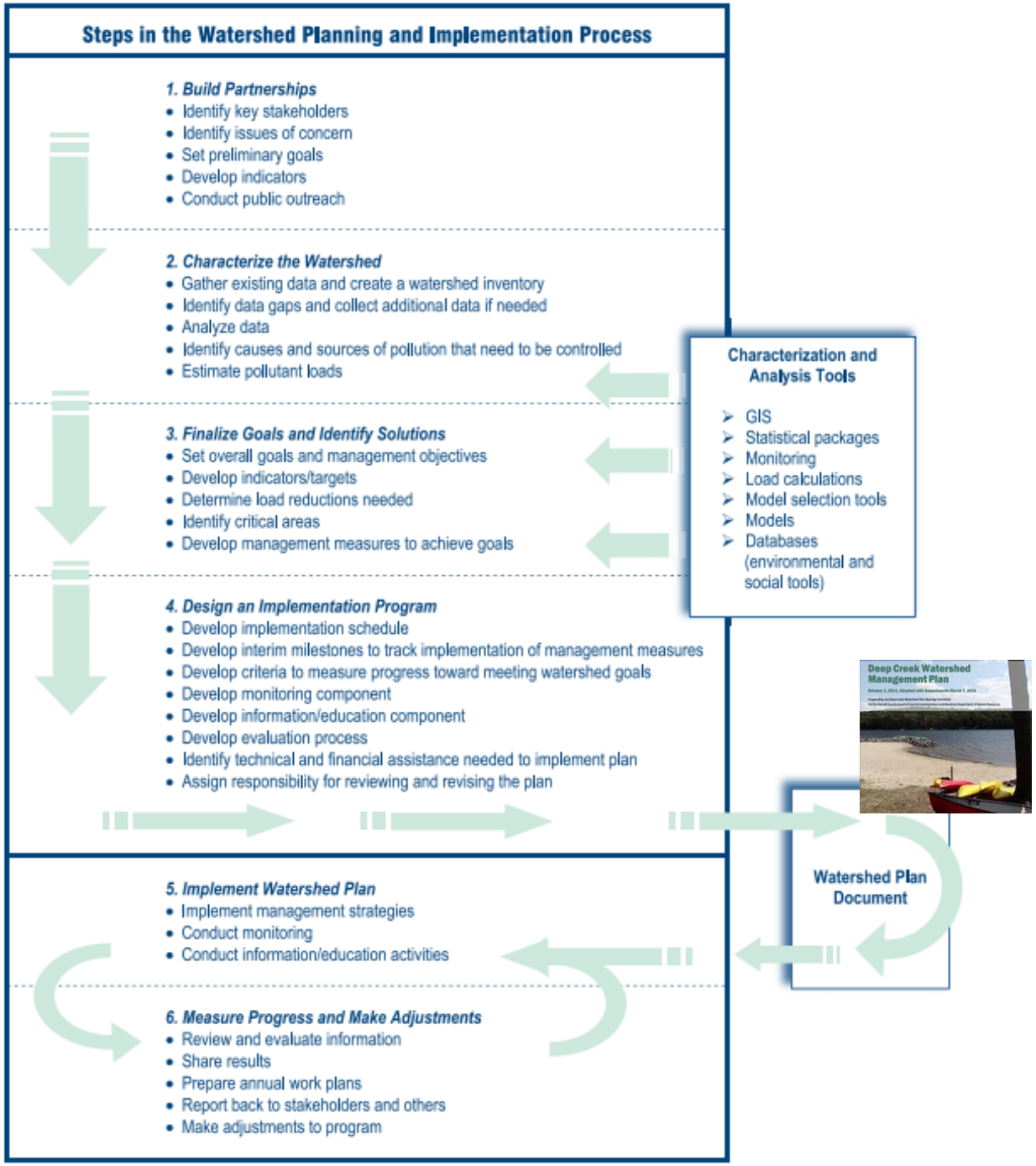
Lake levels

Vision

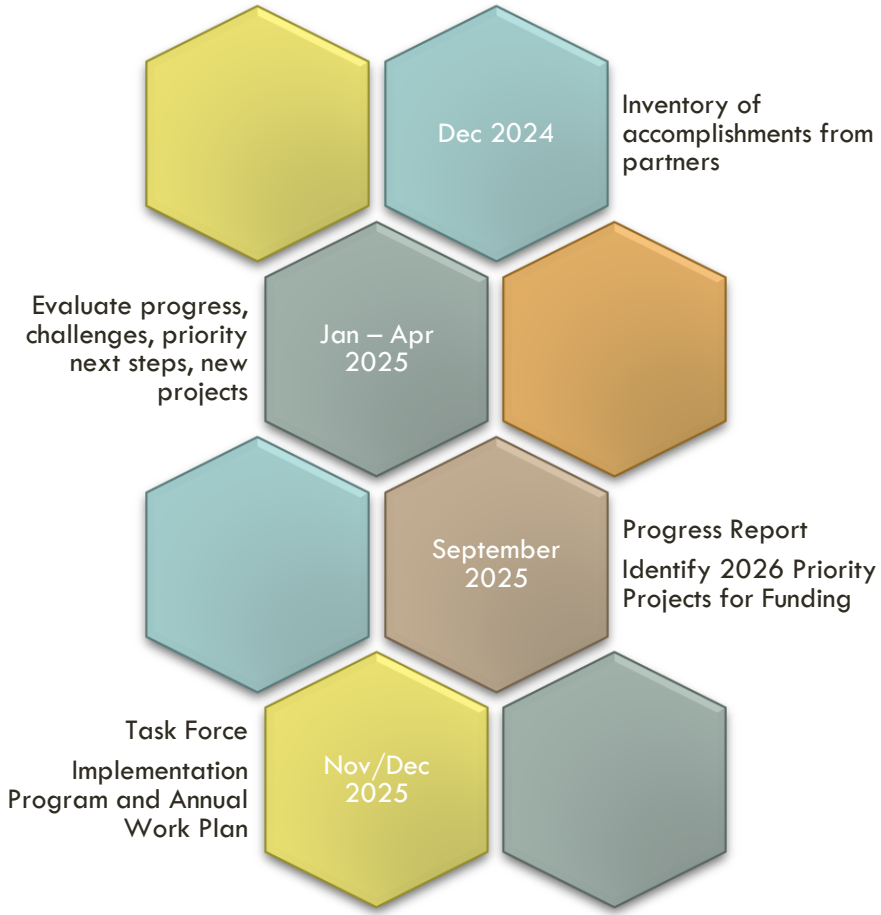
"Through partnerships with private landowners and government agencies, the Deep Creek watershed will improve its environmental stability and economic viability while retaining its rural landscapes and natural beauty so that, for generations to come, local citizens and visitors have a special place to live, work, and play."

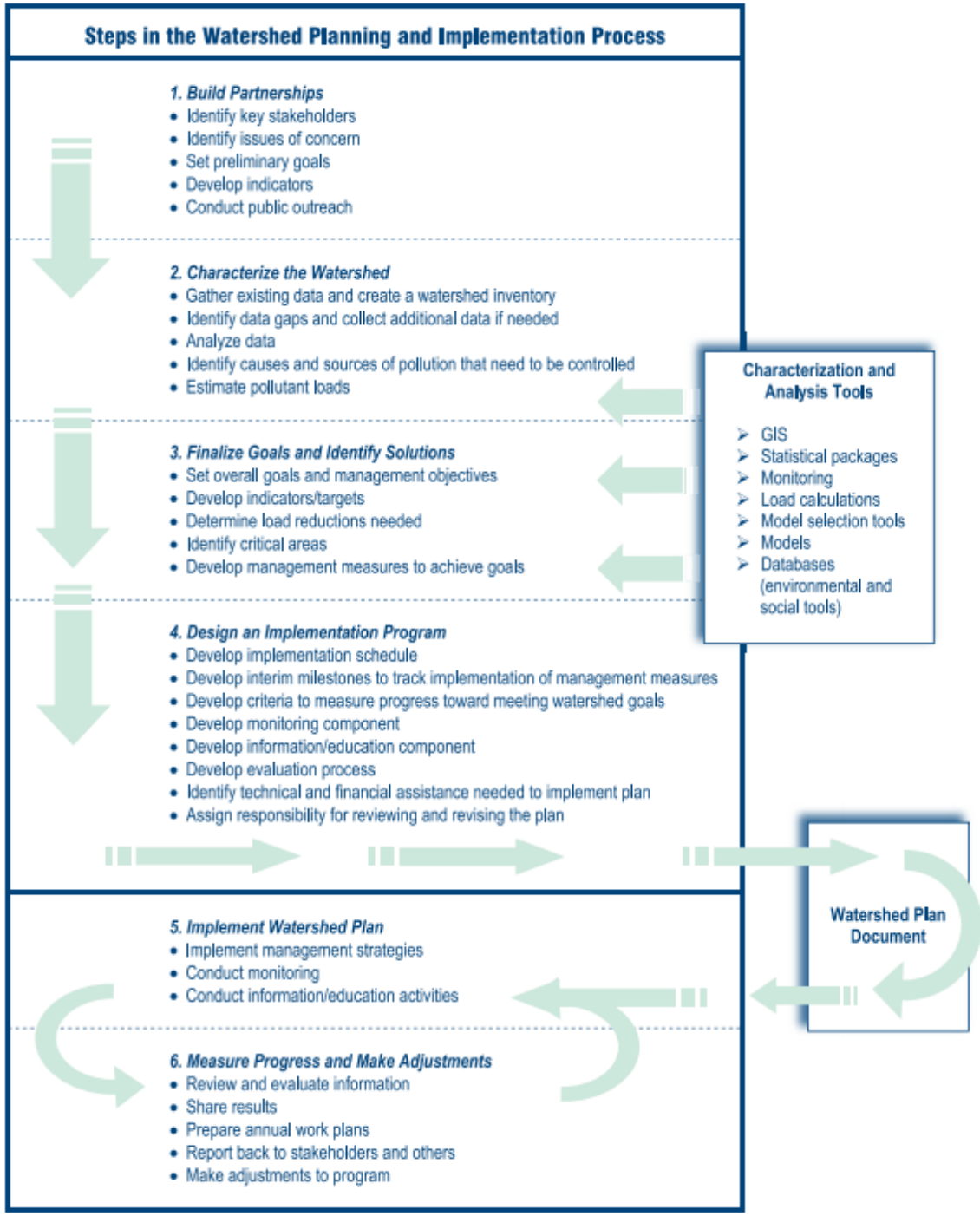
13 Goals

1. Management, Funding, Coordination
2. Educated and Informed Watershed Citizens
3. Watershed Data Collection
4. Manage Land Use
5. SAV manage for native, nuisance, & invasive species
6. Control sedimentation
7. Economic and Environmental Sustainability
8. Stormwater Management
9. Sewerage Management
10. Recreational Opportunities
11. Forest Retention
12. Lake water-level regulation
13. Access to navigable lake waters



MEASURING PROGRESS STEERING COMMITTEE



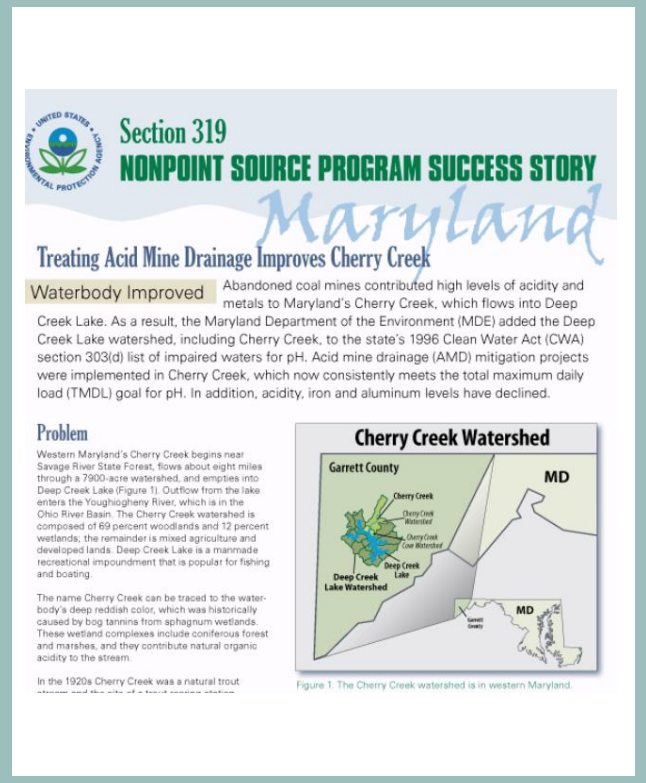


WATER QUALITY AND HEALTH PROTECTION

DNR and DCWF:
Publicly-available water quality data for coves, lake, and tributaries of watershed

Health Dept: safe swimming at DC State Park

MDE and DCWF: AMD treatment at Cherry Creek reduce acidity, iron, and aluminum



Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Maryland

Treating Acid Mine Drainage Improves Cherry Creek

Waterbody Improved

Abandoned coal mines contributed high levels of acidity and metals to Maryland's Cherry Creek, which flows into Deep Creek Lake. As a result, the Maryland Department of the Environment (MDE) added the Deep Creek Lake watershed, including Cherry Creek, to the state's 1996 Clean Water Act (CWA) section 303(d) list of impaired waters for pH. Acid mine drainage (AMD) mitigation projects were implemented in Cherry Creek, which now consistently meets the total maximum daily load (TMDL) goal for pH. In addition, acidity, iron and aluminum levels have declined.

Problem

Western Maryland's Cherry Creek begins near Savage River State Forest, flows about eight miles through a 7900-acre watershed, and empties into Deep Creek Lake (Figure 1). Outflow from the lake enters the Youghiogheny River, which is in the Ohio River Basin. The Cherry Creek watershed is composed of 69 percent woodlands and 12 percent wetlands; the remainder is mixed agriculture and developed lands. Deep Creek Lake is a manmade recreational impoundment that is popular for fishing and boating.

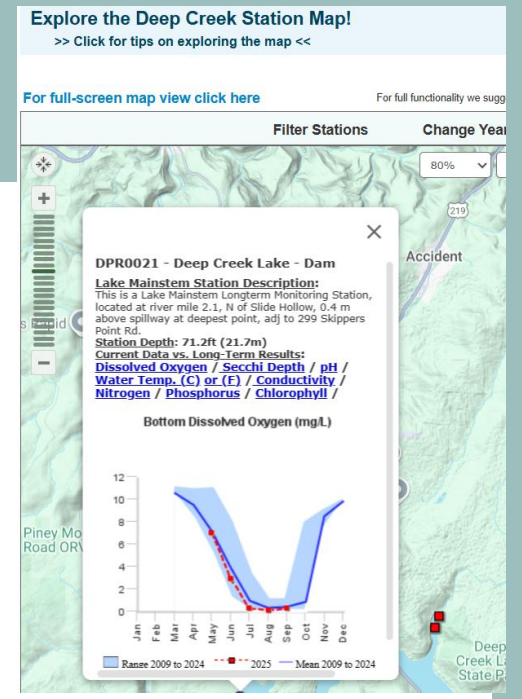
The name Cherry Creek can be traced to the water-body's deep reddish color, which was historically caused by bog tannins from sphagnum wetlands. These wetland complexes include coniferous forest and marshes, and they contribute natural organic acidity to the stream.

In the 1920s Cherry Creek was a natural trout

Cherry Creek Watershed

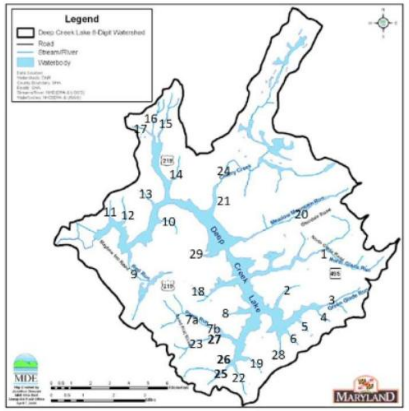
Garrett County
MD
Cherry Creek
Cherry Creek Watershed
Cherry Creek Cove Watershed
Deep Creek Lake
Deep Creek Lake Watershed
MD

Figure 1. The Cherry Creek watershed is in western Maryland.



Explore the Deep Creek Station Map!
>> Click for tips on exploring the map <<
For full-screen map view click here
Filter Stations
Change Yea
80%
Accident
DPR0021 - Deep Creek Lake - Dam
Lake Mainstem Station Description:
This is a Lake Mainstem Longterm Monitoring Station, located at river mile 2.1, N of Slide Hollow, 0.4 m above spillway at deepest point, adj to 299 Skippers Point Rd.
Station Depth: 71.2ft (21.7m)
Current Data vs. Long-Term Results:
Dissolved Oxygen / Secchi Depth / pH / Water Temp. (C) or (F) / Conductivity / Nitrogen / Phosphorus / Chlorophyll /
Bottom Dissolved Oxygen (mg/L)
12
10
8
6
4
2
0
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Range 2009 to 2024
2025
Mean 2009 to 2024
Piney Mo
Road ORV
Deep
Creek L
State P

ages of Cherry Creek showing the presence of iron



LAND STEWARDSHIP, EROSION REDUCTION AND HABITAT GAINS

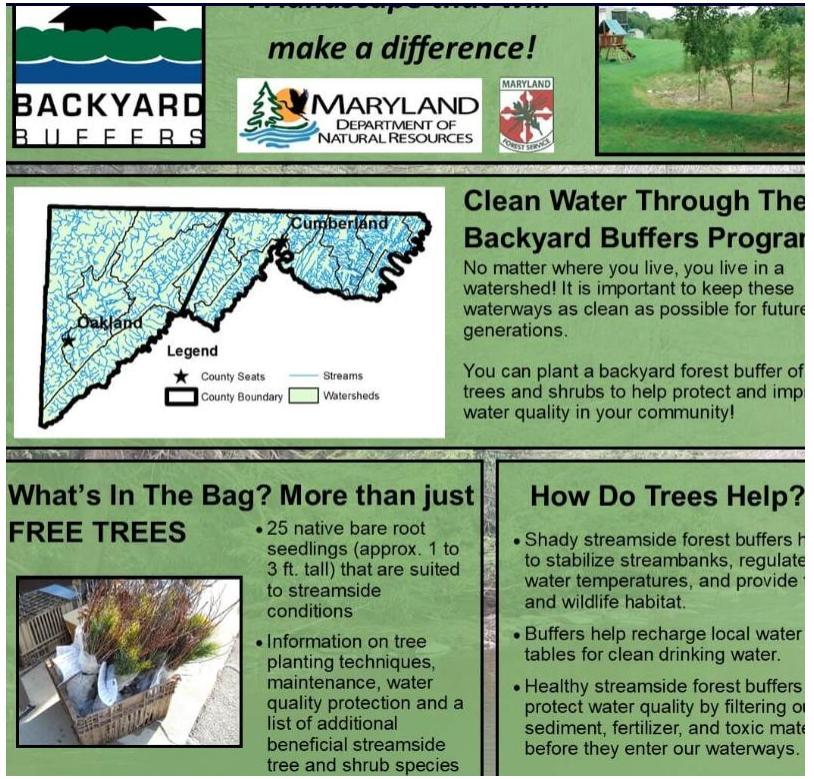
DCWF, DNR, UMd Extension, POA:
Reforesting lake buffer filtering runoff and stabilizing shoreline, 10in10

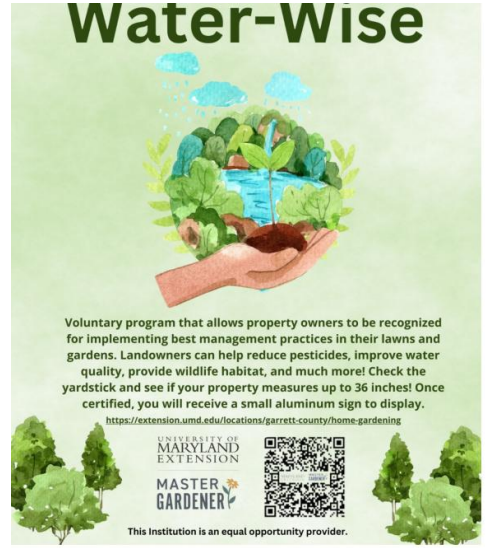
DNR and POA:
Filtering runoff to streams and lake, Backyard Buffer program

DCWF, POA, UMD-Extension:
Reducing erosion, reduced peak storm flows, rain gardens/barrels

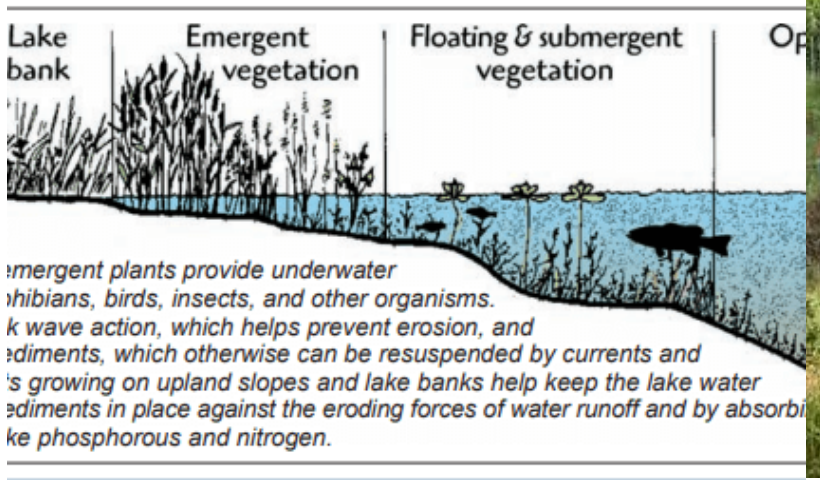
UMD-Extension:
Reducing erosion and runoff, local models for best management practices for land management; WaterWise

DNR:
Expanded canopy, habitat, and resilience on public and private lands; forest Stewardship plans and plantings.
64 plans covering ~7,400 ac (~18% of watershed); 43,225 trees





Articles contributed by Ashley Bodkiins, University of MD Extension



SHORELINES, SEDIMENT, AND NAVIGATION

10in10, Backyard Buffer, Forest Conservation Plans…

DNR:
SLPR-funded shoreline cost-share program lowering private barriers for shoreline stabilization ~ 1000 feet of rock armor installed

DNR:
Erosion studies guided demonstration project for cove dredging

DNR:
Arrowhead dredging restored navigable depths and improved habitat; roadmap for future projects

DNR:
Permitting and incentives for shoreline protection streamlined and buffer-strip maintenance responsibilities of private property owners clarified

AQUATIC VEGETATION & INVASIVE SPECIES

DNR:

-Survey of SAV drone (2023)

-Timely hydrilla control constrained spread in key coves; posted MSDS improved risk communication.

-Options testing for treatment of nuisance SAV; Mechanical removal pilot study

DCWF, Garrett College NWRT, and Brookfield Renewable:

Reduce and prevent aquatic invasive species (hydrilla and zebra mussels) risk at state park boat ramp; Launch Stewards

DNR and POA:

Investigation and education of nuisance SAV treatments; Nuisance SAV Removal Workshop 2024

WATER ALLOCATION **OPERATIONS, RULES, AND ADAPTIVE MANAGEMENT**

Clearer rule-band expectations balanced ecological and downstream needs

Operational flexibility (within permit) enabled project windows (e.g., dredging

MANAGEMENT, FUNDING, COORDINATION, & ACCOUNTABILITY

Governance, coordination, and transparency

- Memorandum of Understandings DNR, MDE, and Garrett County committing to management plan implementation
- Full-time Watershed Coordinators, active Administrative Council, and now Steering Committee meeting regularly (launched Dec 2024)
- Policy & Review Board meetings, important public forum and public-private partner management of lake

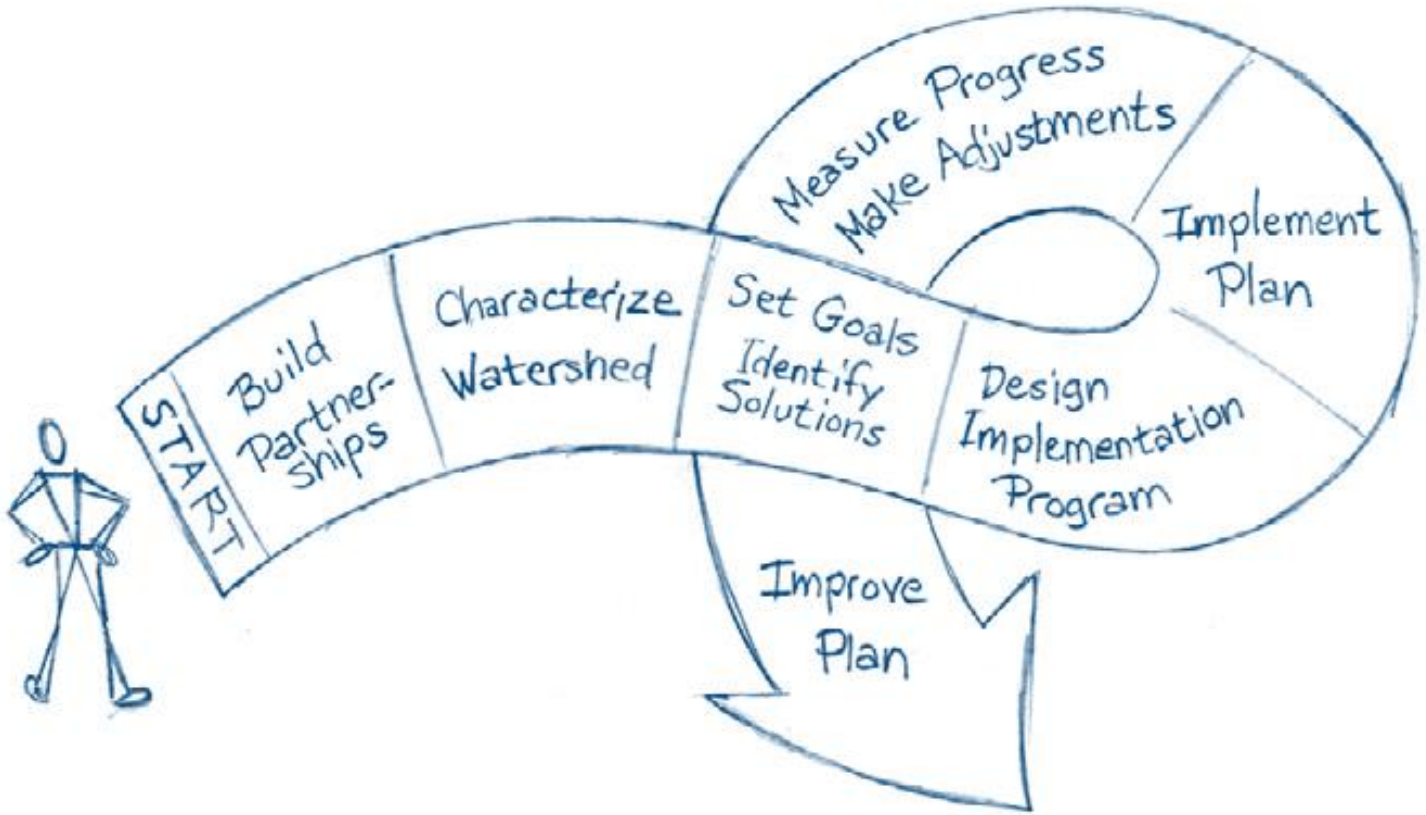
Funding

- State Lakes Protection and Restoration Fund (SLPRF) supported multiple Deep Creek projects
- Deep Creek Watershed Foundation (DCWF), POA, and donors investing in lake health (shoreline erosion, stormwater management, invasive species, water quality monitoring, and education

RECREATIONAL OPPORTUNITIES

Access, recreation, and education

- Better maps, signage, and access points improved safe, informed use of the lake.
- Trail and facility upgrades enhanced visitor experience and stewardship.
- Education programming



EMERGING CHALLENGES AND OPPORTUNITIES

Increasing temperature

Intensity of storms

Increasing frequency and duration of drought

Invasive species

OPPORTUNITIES FOR PARTNERSHIP: YOUGHIGHENY, MONONGAHELA, AND OHIO RIVER WATERSHEDS

Headwaters to the Ohio
Mtn Watershed Association
Ohio River Basin Alliance