GROUNDWORK
BY FIELDDOC

PREPARED FOR THE CHESAPEAKE BAY COMMISSION

Conservation Concierge®: using technology to improve agricultural conservation

Remote sensing and AI that help farmers, conservation districts, and technical service providers find the right practice, in the right place, and the programs to fund it.

John Dawes, The Commons · **Alex Echols**, The Campbell Foundation

Remote sensing | ACPF siting | Funding navigator | Bay outcomes

THE OPPORTUNITY

Agriculture is the Bay's biggest lever — and its tightest bottleneck

Farms are the largest source of the nutrients and sediment reaching the Chesapeake. That makes agricultural conservation the single biggest opportunity to meet the Bay's goals — if the practices can get planned and funded fast enough.

~46%

of the nitrogen reaching the Bay comes from agriculture — its largest single source.

3 states

Maryland, Virginia, and Pennsylvania deliver conservation through local districts and TSPs.

The bottleneck

Those offices are asked to plan and document more — often with no GIS specialist on staff.

Nutrient loads from 2024 Chesapeake Bay Program modeling. Agriculture is also the largest source of sediment.

THIS SESSION'S QUESTION

Can technology help us accelerate adoption, put the right practice in the right place — and pay for it?

How can recent advances — remote sensing and AI-powered tools — help farmers, conservation districts, and technical service providers:

Identify where conservation practices are — and where they should be

Across a farm or a whole watershed

Find the programs available to implement them

Federal, state, and private funding

Conservation Concierge is built to answer both — in plain language, no GIS required.

THE TOOL

Accelerating conservation planning

An AI planning assistant that gives any conservation professional — whatever their GIS background — satellite-backed analysis through conversation. Draw a boundary, ask a question, get a defensible answer in minutes.

Draw or attach an area

A farm, field, or watershed

Ask in plain language

No ArcGIS, no GIS training

Get defensible results

In minutes, not weeks

WHERE IT CREATES VALUE

Conservation Policy

Maximizing the value of every dollar

Ecosystem Service Markets

Quantifying results

Built for the three groups that deliver conservation

Farmers & landowners

See what fits their land and what it's worth

Technical service providers

Assess, site, and document at speed

Conservation districts

Plan more acres without adding GIS staff

WHERE PRACTICES SHOULD BE

USDA's ACPF, behind a chat interface

The Agricultural Conservation Planning Framework uses LiDAR terrain, soils, and land cover to site practices to the acre. Running it normally takes ArcGIS and days of analyst time; Concierge runs it from one plain-language command.

THE FULL TOOLBOX ACPF SITES

- **Grassed waterways**
- **Drainage water management**
- **Water & sediment control basins**
- **Saturated buffers & bioreactors**
- **Nutrient-removal wetlands**
- **Contour buffers — and more**



Targeted to the acre

ACPF sites the full toolbox — in-field, edge-of-field, and drainage water management — to the specific acres that deliver, not just land taken out of production. It pairs with the farm assessment to reach nutrient and input management.

No ArcGIS license · hours, not days

REMOTE SENSING

Grounded in what the land is actually doing

Satellite-backed analysis puts real conditions behind every recommendation — and connects directly to the FieldDoc tracking the Bay Program already uses.

Vegetation health

NDVI / EVI trends over seasons

Flood risk

Flood-prone zones & buffer siting

Land cover & change

Sentinel-2 · wetland & forest loss

Watershed analysis

Drainage, soils & erosion

AI farm assessment

Practices scored to the operation

Cost-share match

Programs the practices qualify for

WHERE PRACTICES ARE

A living record of what's on the ground

Sited and installed practices become farm, tract, field, and practice rec
— so a district can see what's already done, what's planned, and what
practice is worth to the Bay.

Farm

The whole operation

Tract

A parcel within the farm

Field

An NRCS management unit

Knowing where you stand

- See installed vs. planned practices at a glance
- Roll outcomes up field → tract → farm
- Feed the same records into the plan and the report
- Publish to ArcGIS, Felt, and FieldDoc

THE PROGRAMS TO IMPLEMENT THEM

From a sited practice to a funded one

Navigating Farm Bill, state cost-share, and private programs is often the biggest barrier to getting a practice installed. Concierge turns the site analysis a user already ran into a funding path.



Match the programs

Surface the federal, state & private programs that fit — EQIP, CREP, RCPP, REAP, and the three states' cost-share.



Understand eligibility

See eligibility, payment schedules, and ranking factors without chasing agency websites.



Draft the paperwork

Generate grant & plan language grounded in the site-specific analysis already completed.



Hit the window

Align outreach to open enrollment — fewer missed opportunities for ready producers.

Putting a funder's priorities where the work happens

Virginia Environmental Endowment

A real Chesapeake tributary

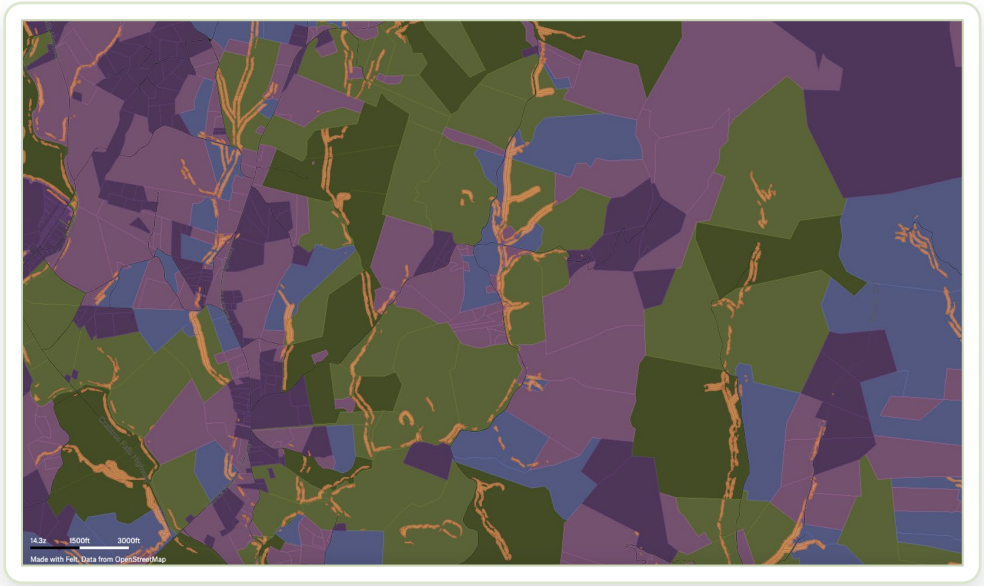
The Virginia Environmental Endowment's James River water-quality priorities, rebuilt in Groundwork.

Priorities become a planner

Grantees draw a project, score it against the funder's tiers, and check eligibility — in seconds.

The model public & corporate funders can use

The same approach fits state cost-share targeting or corporate investment like dairy-conservation partnerships.



The James River planner in Groundwork — parcels scored by water-quality priority, with buffer layers.

FROM PRACTICE TO MEASURABLE OUTCOME

Every practice, tracked toward the Bay's goals

Because planning, funding, and tracking live in one tool, a practice moves from sited to funded to installed to measured — and the outcome can carry market value, not just compliance.

1 **Site**

Where the practice should go

2 **Fund**

Match & apply for the program

3 **Implement**

Install the practice on the ground

4 **Track & quantify**

Nutrient & sediment reductions, in FieldDoc

Quantified outcomes support the conservation markets and "conservation brand" the Commission is exploring — adding value to the practice on top of the public dollar.



The outcome everyone's investing in — a planted riparian buffer, tracked back to the plan.

WHY IT MATTERS FOR THE COMMISSION

More conservation, from the dollars already flowing

Faster progress on Bay goals

More acres planned and more producers enrolled means faster nutrient and sediment reduction.

Capacity for MD, VA & PA districts

Precision planning without adding a GIS specialist to every office.

More return on public investment

Every EQIP, CREP, and state cost-share dollar gets targeted where it does the most good.

Federal science, finally usable

ACPF — among USDA's most rigorous siting science — put in reach of frontline staff.

Market value, not just compliance

Tracked outcomes feed the conservation markets that keep farms viable.

The planner stays in charge

A first draft that cuts desktop time — professional judgment makes the call.

GROUNDWORK
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Right practice, right place — found, funded, and tracked.

Planning, funding, and tracking in one tool — so the Bay states can turn willing producers into practices on the ground, faster.

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