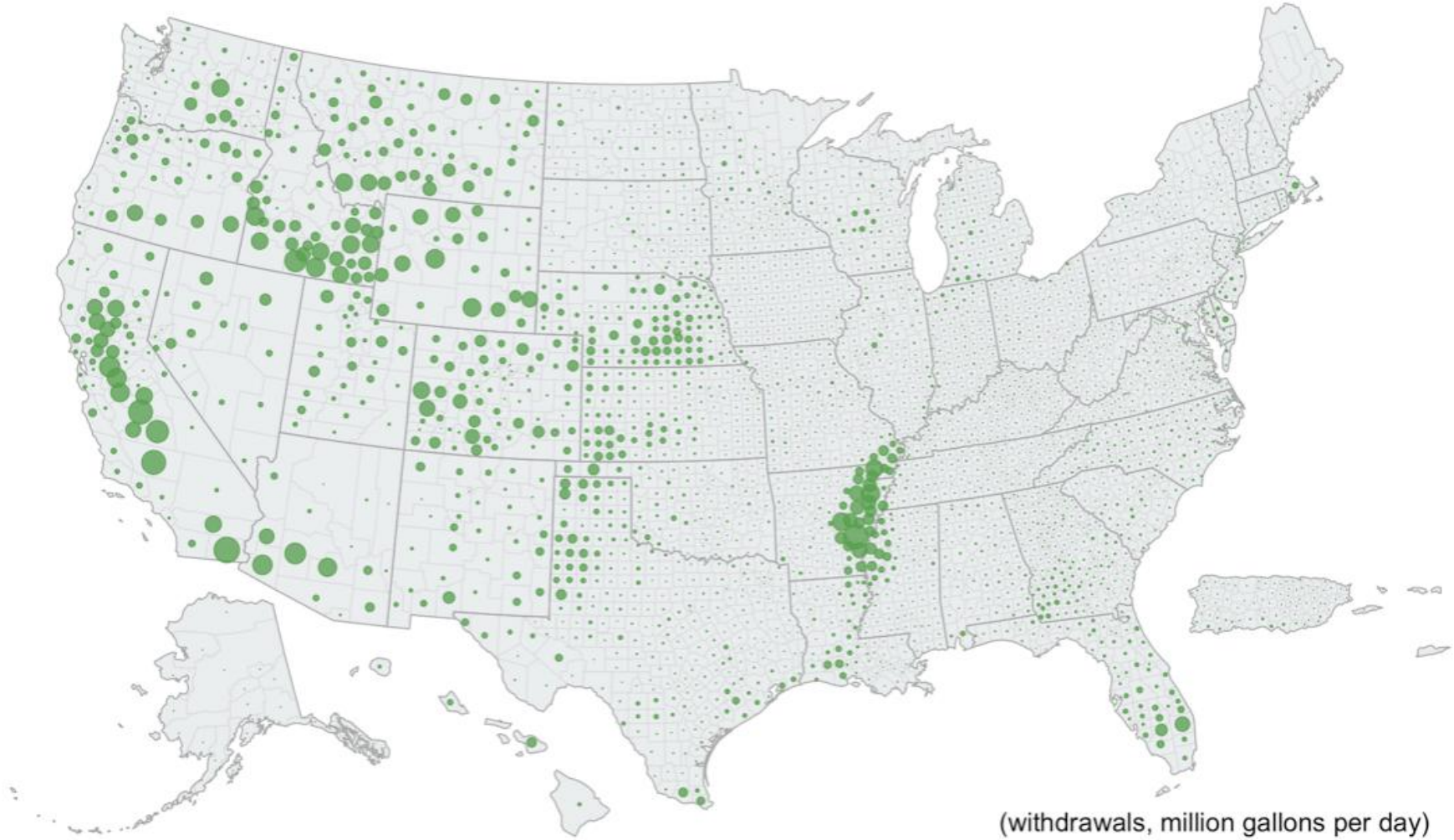


Alabama Irrigation Initiative

National Association of State Conservation Agencies – 10/2022

ALII
ALABAMA
IRRIGATION
INITIATIVE



U.S. Water Use, 2015

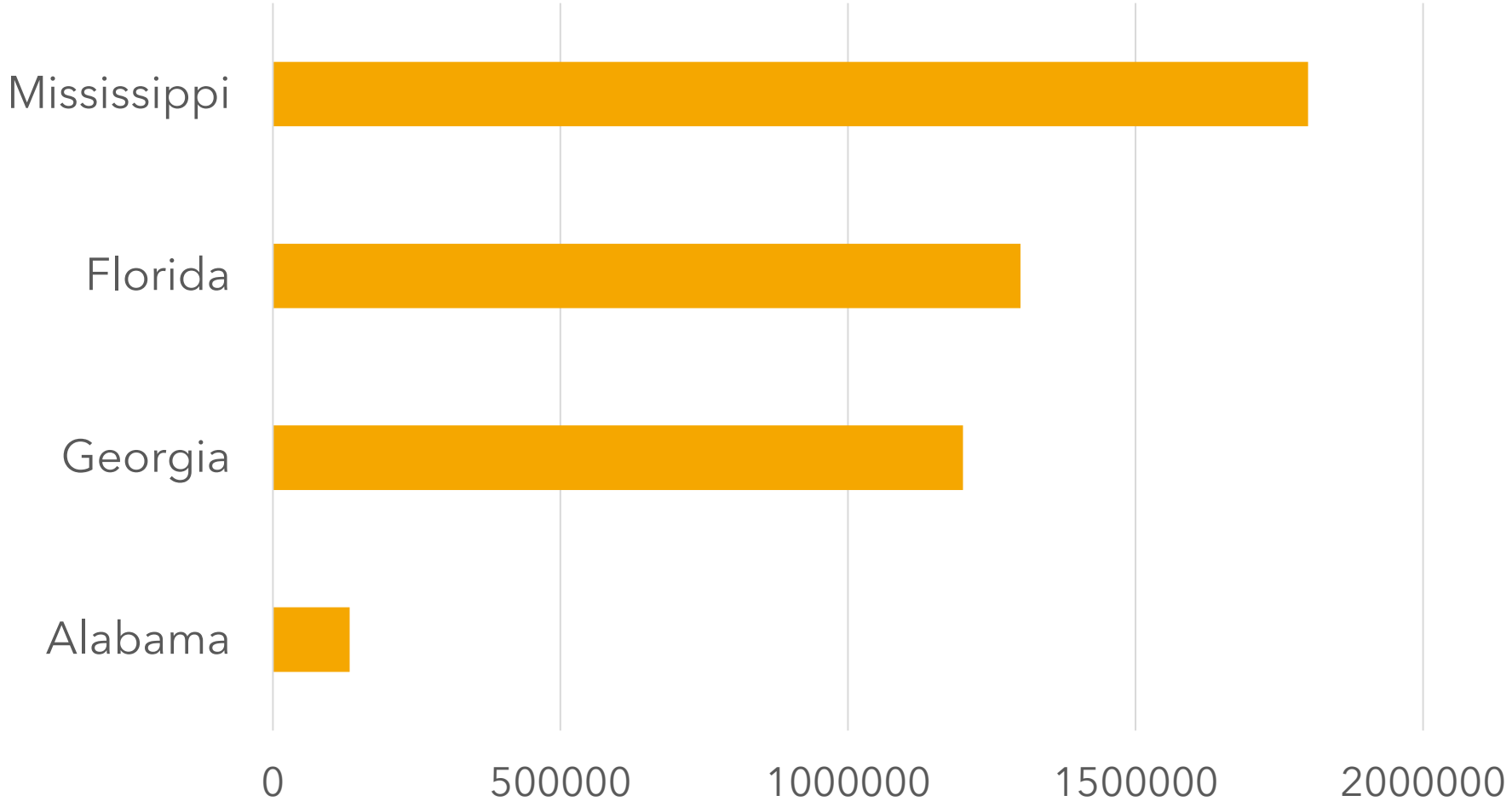
(withdrawals, million gallons per day)

Thermoelectric	
Irrigation	118,131
Public supply	
Other	
Industrial	

USGS https://owi.usgs.gov/vizlab/water-use-15/

Acres Under Irrigation

2017 Agricultural Census



Alabama has approximately 160,000 irrigated acres

Irrigation in Alabama

- Alabama significantly affected by drought
- Total crop failure produces a devasting effect on the environment
- Yearly rainfall distribution not reliable for rainfed agriculture
- Riparian Law so irrigation districts do not exist
- On-farm water sources required for irrigation
- Only supplemental water needed. 9" per year is typically upper limit.
- $300 Million in crop insurance payments in AL during 2012-2019
- Alabama crops contribute $5.9 billion to the state economy



USDA-NRCS National Watershed Program

Federal funding PL 83-566 available directly to Alabama farmers to install irrigation infrastructure. PL 83-566 funds will match farmer cost at a 60-75% rate for irrigation practices and on-farm irrigation water development.





Purpose and Need for Action

1. **Develop diffuse, or decentralized, on-farm irrigation systems** suitable for farming practices that adhere to State and Federal law and sustainably use water systems.

2. Provide Federal assistance to support the **modernization and sustainability of agricultural production** in this region.

3. **Improve plant health and vigor, improve soil health, and protect basin water quality**, all of which are resources of concern associated with rainfed farming in Alabama.

Watershed Planning



Input from producers is vital to developing an effective watershed plan and a sustainable, implementable program.

Purpose of scoping is to identify resource concerns, potential obstacles, and interest.

Overview of watershed interest to identify preferred alternative, potential impacts to resources, and if moving forward is feasible.

If determined feasible, a watershed plan is developed. Includes modelling for water quality and quantity.

SWCC COST SHARE RANKING

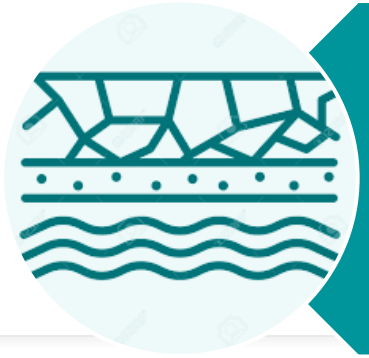
Cost share rates are **60%** and **75%** for underserved farmers, with a cap of **$250,000**

Applicant information:

- Primary application
- Cover crop usage
- Distance to water sources
- Soil properties
- Other conservation practices

Farmer Application Ranking Criteria
Is this the primary application for this program?
Field to be irrigated has current conservation plan with installed conservation practices.
Current tillage method resulted in >= 30% residue on the field to be irrigated
Single species cover crop currently used on the field to be irrigated
Multi-species cover crop currently used on the field to be irrigated
Field has water source developed and ready for hookup to planned irrigation system
Field has water source identified but not developed or ready for hookup to planned irrigation system
Power is available and ready for hookup to planned irrigation system
Distance to water source, < 1/2 mile
Distance to water source, > 1/2 and < 1 mile
Distance to water source, >= 1 mile
If water source for irrigation is a stream, less than 10% of HUC-12 watershed land area is irrigated
No permits (i.e., USCOE, USFWS, ADEM) are required for planned irrigation system, except for Office of Water Resources' Certificate of Use.
Field not limited on irrigation general table in Soil Survey
Field is somewhat limited on irrigation general table in Soil Survey
Field is very limited on irrigation general table in Soil Survey
TOTAL POINTS (0-180)

Ranking- Additional Focus on Water



Existing well or proposed site evaluated by a professional hydrogeologist and ranked as according to aquifer and required depth.

- Criteria for ranking:
  - Conservation Stewardship
  - **Access to a good source of water**
  - Access to power
  - Soils that benefit from irrigation



Existing pond evaluated by NRCS design team with regards to integrity of structure, size of watershed and size of reservoir versus irrigation need.



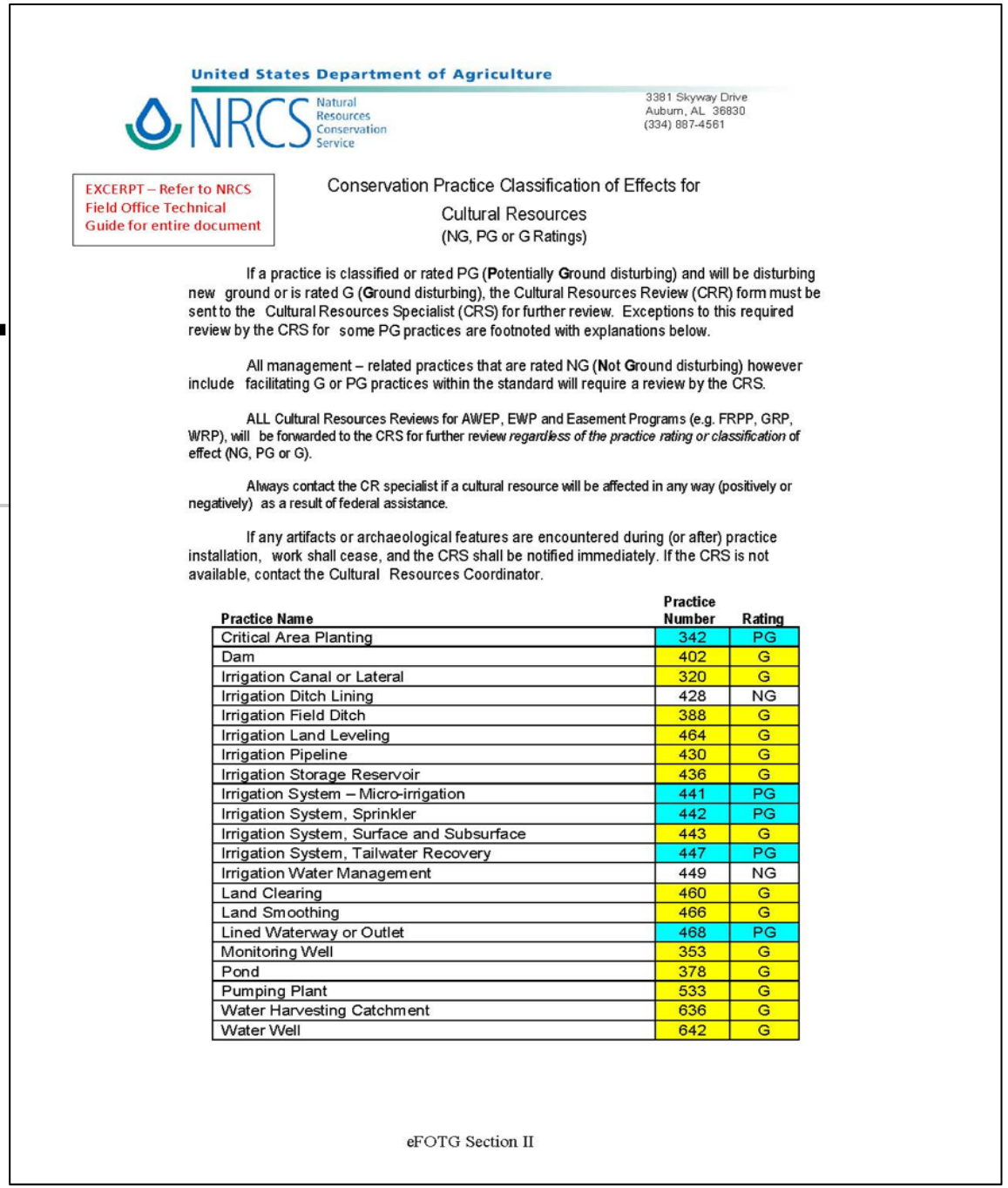
Streams were ranked by Strahler Stream Order and compared to Irrigation Potential Index developed UAH to confirm ranking.

ON FARM ENVIRONMENTAL CULTURAL EVALUATION

NRCS conducts Environmental and Cultural Evaluations **(CPA-52)**

Considers on-site impacts to:

- Soil, water, plant, air, animal, and energy resources
- Human social and economic concerns
- Special environmental concerns



United States Department of Agriculture

NRCS Natural Resources Conservation Service

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EXCERPT – Refer to NRCS Field Office Technical Guide for entire document

Conservation Practice Classification of Effects for Cultural Resources
(NG, PG or G Ratings)

If a practice is classified or rated PG (**P**otentially **G**round disturbing) and will be disturbing new ground or is rated G (**G**round disturbing), the Cultural Resources Review (CRR) form must be sent to the Cultural Resources Specialist (CRS) for further review. Exceptions to this required review by the CRS for some PG practices are footnoted with explanations below.

All management – related practices that are rated NG (**N**ot **G**round disturbing) however include facilitating G or PG practices within the standard will require a review by the CRS.

ALL Cultural Resources Reviews for AWEP, EWP and Easement Programs (e.g. FRPP, GRP, WRP), will be forwarded to the CRS for further review *regardless of the practice rating or classification* of effect (NG, PG or G).

Always contact the CR specialist if a cultural resource will be affected in any way (positively or negatively) as a result of federal assistance.

If any artifacts or archaeological features are encountered during (or after) practice installation, work shall cease, and the CRS shall be notified immediately. If the CRS is not available, contact the Cultural Resources Coordinator.

Practice Name	Practice Number	Rating
Critical Area Planting	342	PG
Dam	402	G
Irrigation Canal or Lateral	320	G
Irrigation Ditch Lining	428	NG
Irrigation Field Ditch	388	G
Irrigation Land Leveling	464	G
Irrigation Pipeline	430	G
Irrigation Storage Reservoir	436	G
Irrigation System – Micro-irrigation	441	PG
Irrigation System, Sprinkler	442	PG
Irrigation System, Surface and Subsurface	443	G
Irrigation System, Tailwater Recovery	447	PG
Irrigation Water Management	449	NG
Land Clearing	460	G
Land Smoothing	466	G
Lined Waterway or Outlet	468	PG
Monitoring Well	353	G
Pond	378	G
Pumping Plant	533	G
Water Harvesting Catchment	636	G
Water Well	642	G

eFOTG Section II



DEVELOPMENT OF IRRIGATION SYSTEMS

- Includes wells, intakes, pumps, pivots, drip irrigation, piping necessary to develop a complete irrigation sytems on-farm for irrigation of new fields.
- Must be design by a Certified Irrigation Designer, Professional Engineer and Certified Well Driller and reviewed by NRCS Technical team. Construction and installation observed by NRCS Technical team and ALSWCC staff.
- Payments are made on actual receipts.





In addition to irrigation infrastructure…

Additional equipment **offered and 100% paid for by program** through the Sponsoring Local Organization (SLO) for the purpose of promoting sustainable agricultural and conservative irrigation practices:

3 – Year Irrigation Management Plan & Tools

- **Soil Moisture sensors- 1 per field**
- **Flow meters – 1 per water source**
- **Weather station- 1 per project**
- **Professional Third-Party Scheduling Assistance for 3 years for each field**

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Ribbon cutting ceremony at multi-generational farm in Hillsboro, AL