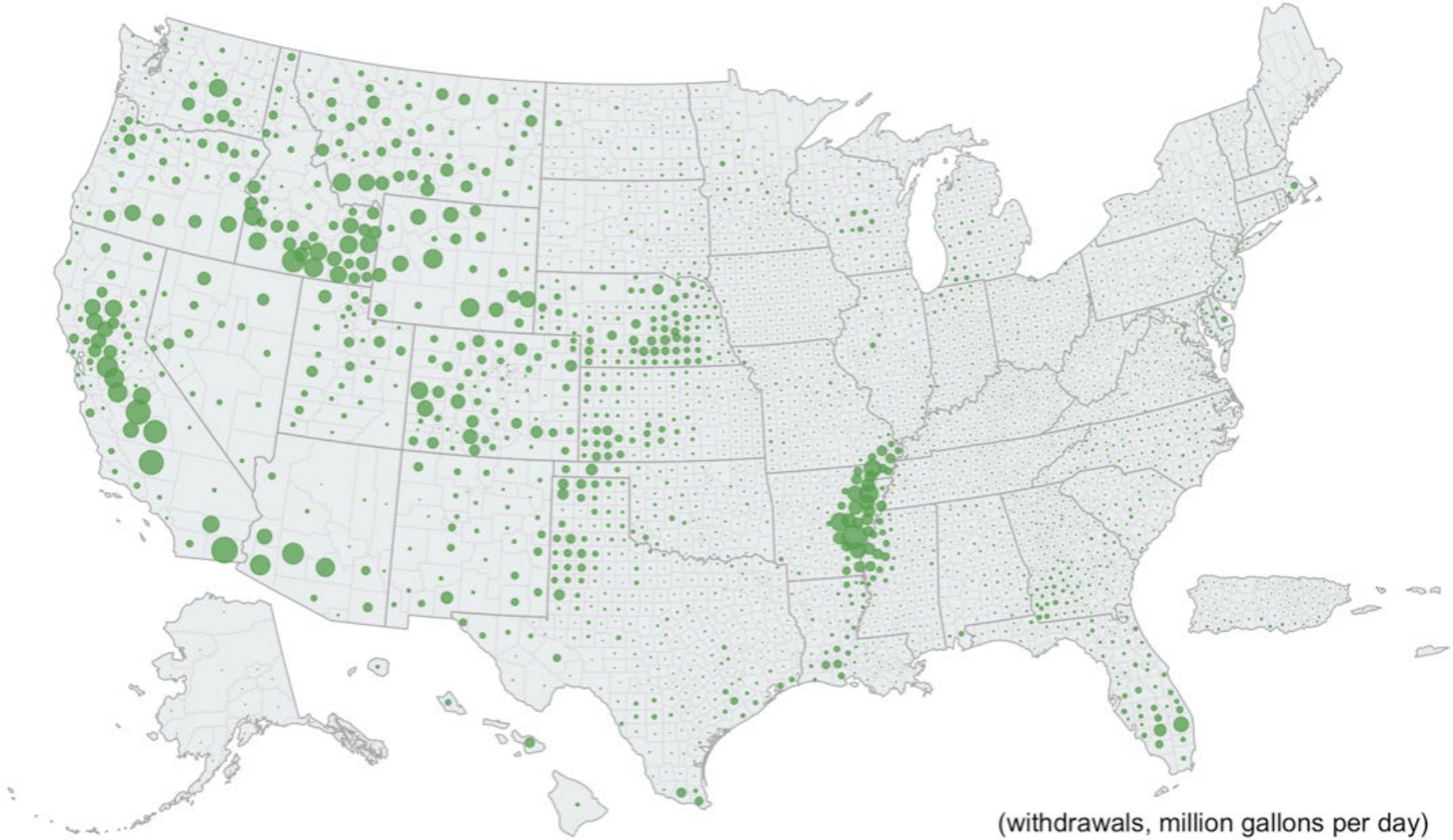
# Alabama Irrigation Initiative

**National Association of State Conservation Agencies – 10/2022**

ALII
ALABAMA
IRRIGATION
INITIATIVE



# U.S. Water Use, 2015

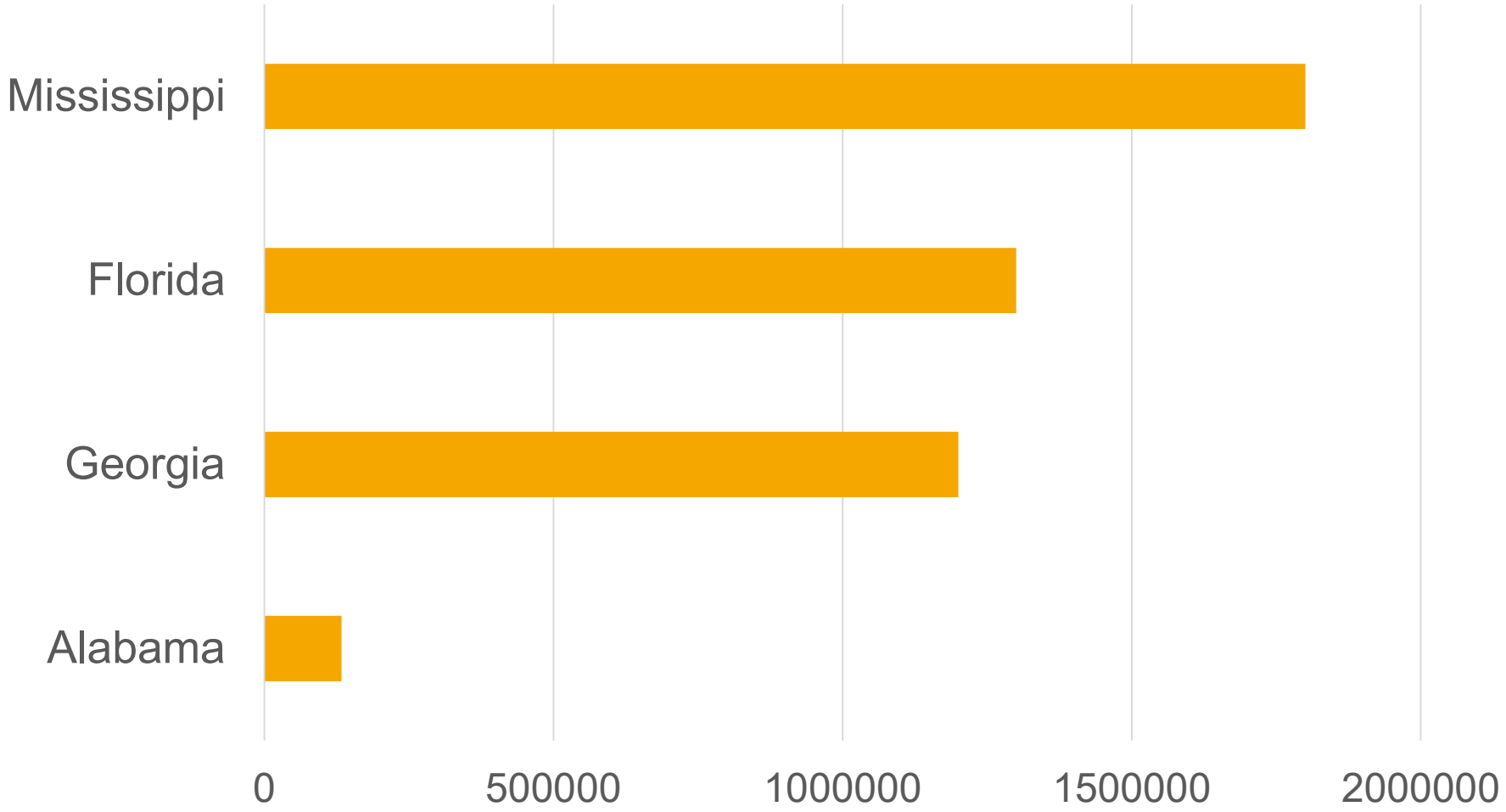
(withdrawals, million gallons per day)

| | |
|---|---|
| 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

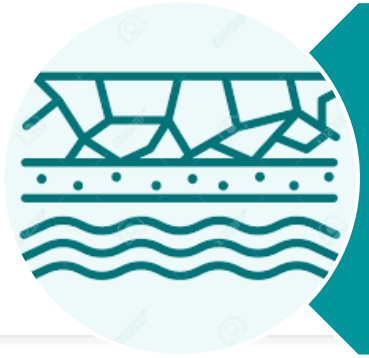
Cost share rates are **60%** and **75%** for underserved farmers, with a cap of **$250,000**

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.

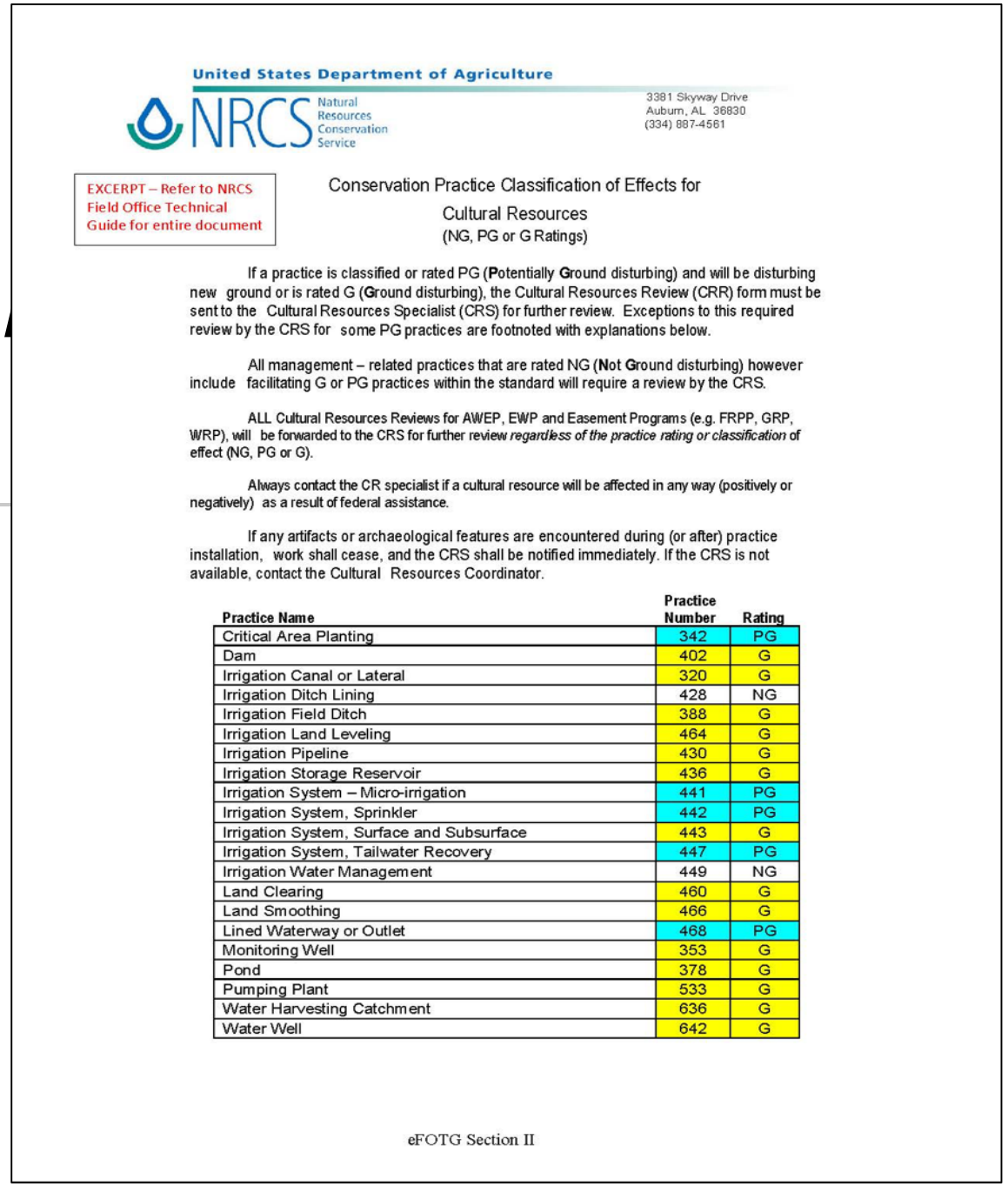
Streams were ranked by Strahler Stream Order and compared to Irrigation Potential Index developed UAH to confirm ranking.

# ON FARM ENVIRONMENTAL A
# 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

3381 Skyway Drive
Auburn, AL 36830
(334) 887-4581

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**

Ashley L. Henderson, PE
Alabama Soil and Water Conservation Committee
Ashley.Henderson@swcc.alabama.gov

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