

## 1 Supporting Statement

### IRRIGATION ORGANIZATIONS SURVEY

OMB No. 0535-NEW

#### **B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS**

- 1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection has been conducted previously, include the actual response rate achieved during the last collection.**

The potential respondent universe for this survey consists of all irrigation organizations which are defined for this survey to include irrigation districts and other entities that supply water (primarily surface water) directly to agricultural users, as well as groundwater management districts that may influence the supply of groundwater for irrigation. This new survey of irrigation organizations will collect local, district-scale information, including the adoption of alternative water allocation institutions and measures and conservation policies that impact farm-level drought resilience and adaptation to long-run water scarcity. The work supports the call for Federal research and data on drought resiliency under the National Drought Resilience Partnership (NDRP) initiative, providing valuable input to Federal agencies and other stakeholders involved in resource assessment, conservation, and analysis. The information collected by the survey will also facilitate knowledge transfer among irrigation organizations, generating valuable information for the surveyed population. The development of this important economic agricultural database serves the best interest of USDA, the agricultural community, and the Nation.

The listing of operations was provided to NASS by the USDA Economic Research Service (ERS). NASS will do some minimal cleaning of the list by sending a post card to the target population asking them to confirm their names, addresses, phone numbers, and best contact person prior to the start of the survey. This list building work will be conducted under the NASS List Frame docket (0535-0140) in late 2019.

The target response rate is set at 80 percent or higher. Initial responses will be sought through mailing and on-line enumeration. Follow-up enumeration will be done through phone or in-person interviews. Operations that are in multiple

States or appear to have a complex operating structure will be attempted by personal interviews if they do not respond to the initial mailings. Priorities for enumeration are based on tiers. In states with fewer than 60 organizations, every one of those organizations is in the top tier regardless of size or type. In addition, all groundwater districts in all states are in the top tier. For water delivery organizations in states with 60 or more organizations, tiers are based on acreage served. Large organizations, defined in most states as more than 100,000 acres, are in the top tier. Small organizations, defined in most states as less than 1,000 acres, are in the bottom tier. Medium sized organizations are in the middle tier.

2. **Describe the procedures for the collection of information including:**
- **statistical methodology for stratification and sample selection,**
  - **estimation procedure,**
  - **degree of accuracy needed for the purpose described in the justification,**
  - **unusual problems requiring specialized sampling procedures.**

The survey list frame will draw from a national geodatabase of irrigation organizations to be developed under a USDA-OCE FY18 cooperative agreement, which will provide organization names, estimated service area acreage, contact lists (including specific contact names, addresses, and telephone numbers), and boundary shapefiles (where available). The survey will focus on the U.S. States where irrigated production is concentrated, specifically on the 24 states that contain 90 percent of irrigated acreage in the country. The states that are included are Arizona, Arkansas, California, Colorado, Florida, Georgia, Idaho, Kansas, Louisiana, Mississippi, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Texas, Utah, Washington, and Wyoming.

The survey will sample 100 percent of identified irrigation organizations in these states using a tiered design, based on three criteria to target enumeration mode and ensure maximum coverage of irrigated acreage in the final statistics:

- 1) The size of the organization (defined by amount of irrigated acreage served). All operations will be attempted by mail or internet response initially. Personal enumeration will be used to contact the larger operations that are non-respondents to the initial contact. The smaller operations will be primarily contacted by phone enumeration for non-respondents.
- 2) The location of the organization. The mode of enumeration follow-up will be designed to ensure that the survey provides adequate representation of irrigated acreage for four multistate regions – the Western Intermountain Region (AZ, CA, CO, ID, MT, NV, NM, OR, UT, WA, and

WY), the Central Plains (KS, NE, ND, OK, SD, and TX), the Lower Mississippi (AR, LA, and MS), and the Southeastern Coastal Aquifers (AL<sup>1/</sup>, FL, GA, NC, and SC).

- 3) The type of organization. The types of organizations are: irrigation districts, private ditch companies (sometimes known as mutuals), associations of districts (e.g. "conservancies"), drainage districts (that deliver water in addition to managing drainage), municipal water districts (that provide at least some water to farms or ranches for agricultural use), and groundwater management districts. Greatest coverage will be sought for public irrigation districts and groundwater districts, which also constitute the large majority of irrigated acreage.

**3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.**

Because this is a new information collection request and the target population may not be familiar with the National Agricultural Statistics Service (NASS) or the Economic Research Service (ERS), NASS will be conducting thorough publicity campaign. Over the past year, while developing the project, ERS has engaged key sector stakeholders including national and regional water district membership organizations. Prior to the start of the survey, NASS will be sending out a Press Release to our Field Offices and other federal partners that they can share with their local and regional news outlets describing the upcoming survey. NASS will also develop Talking Points, an informational brochure, and Marketing Blurbs that we can share with our State and regional association partners. ERS and NASS have identified and are working with a number of organizations to promote the survey at national, regional, state and district meetings in the late fall of 2019 and early 2020. Following this, NASS will mail out the questionnaire along with a cover letter that will explain the purpose of the survey and the importance of the respondents replying to this survey. NASS also plans to send out either a pre-survey post card or a post card reminder and then another mailing of the questionnaire and cover letter to non-respondents. This will be followed up with some phone and field enumeration of non-respondents.

Non-response adjustments will consist of two types of efforts. For large organizations, with publicly available annual reports, supplementary data sources will be consulted to capture value for the most critical variables such as acreage and water quantities. For smaller organizations, primarily ditch

<sup>1/</sup> Alabama is included in the Southeastern Coastal Aquifers Region, but there were no operations sampled for that State.

companies, survey weights will be adjusted on respondents based on acreages to allow for representative summary statistics to be released.

**4. Describe any tests of procedures or methods to be undertaken.**

Qualitative work for the Survey of Irrigation Organizations included a small focus group conducted at the National Water Resources Association Conference in Washington, DC, as well as seven cognitive interviews with irrigation districts, groundwater districts, and a ditch company. Based on this qualitative work, changes were made to the initial questionnaire, including modifying answer options for several questions, changing the order of some questions/sections, and removing questions that respondents were unable to answer. Additional cognitive interviews are being conducted to test the changes made. Respondents generally expressed positive reactions to the content of the survey and the need for the summarized data across the industry.

**5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

NASS is conducting the 2019 Survey of Irrigation Organizations through its Census and Survey Division; the Census Planning Branch Chief is Donald Buysse, (202) 690-8747.

Specifications, sample design, and survey design were developed by the NASS Sampling, Editing, and Imputation Methodology Branch. The Branch Chief is Mark Apodaca, (202) 690-8141.

Data collection is carried out by NASS Regional Field Offices; Eastern Field Operation's Director is Jay Johnson, (202) 720-3638 and the Western Field Operation's Director is Troy Joshua (202) 720-8220.

The NASS survey statistician in Headquarters for this survey is Adam Cline, (202) 690-8747 in the Census and Survey Division. He is responsible for coordination of sampling, questionnaires, data collection, data processing, and Field Office support.

The NASS commodity group in Headquarters is the Environmental, Economics, and Demographics Branch. The Branch Chief is Jody McDaniel (202) 720-3896.

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