

Finding Of No Significant Impact
For
Middle Alabama River Basin Sustainable Irrigation Adoption Project
Butler, Dallas, Clarke, Lowndes, Marengo, Monroe, Perry, and Wilcox Counties
of Alabama

Introduction

The Middle Alabama River Basin Sustainable Irrigation Adoption Project is a federally assisted action authorized for planning under Public Law 83-566, the Watershed Protection and Flood Prevention Act. This act authorizes the Natural Resources Conservation Service to provide technical and financial assistance to local project sponsors. The local sponsor of the Middle Alabama River Basin Sustainable Irrigation Adoption Project is the Alabama Soil and Water Conservation Committee.

An environmental assessment was undertaken in conjunction with the development of the watershed plan. This assessment was conducted with local, State and Tribal Governments; Federal agencies; and interested organizations and individuals. Data developed during the assessment are available for public review at the following location:

www.alabamasoilandwater.gov/middlealabama

Recommended Action

Proposed is the installation of irrigation practices on approximately 3,050 acres used for agricultural production within the project area, which encompasses 1,425,869 acres. The proposed action supports the modernization of agricultural production by helping to minimize crop losses due to drought by supplementing soil water holding capacity during periods of uneven rainfall distribution. For the purposes of assessment, it is predicted that the irrigation adoption rate in the basin without this project will continue at 175 acres per year which was the average annual adoption rate over 15 years from 2006 to 2021. The plan projects that with federal funding, irrigation acreage adoption will increase to 763 acres per year until available program funds are expended. Conservation measures will be planned and applied based on the Natural Resource Conservation Service's 9 step planning process, which includes onsite environmental evaluation to avoid, minimize, and/or mitigate possible impact on the surrounding environmental resources. The Sponsoring Local Organization will conduct a sign-up, rank applications, and fund approved applicants. The irrigation practices proposed for cost-

share include Low Pressure Center Pivots, Micro-Irrigation, Linear/Lateral Irrigation, Tow/Traveler Irrigation, Plasticulture, and Hand-Moved/Solid Set Sprinklers. Power systems available for cost-share may include but are not limited to phased electricity and power units. The sources of water that will potentially be used for the diffused irrigation systems include surface stream and/or groundwater, depending on what sources are available at the specific site level. The type of irrigation infrastructure and necessary practices (pipes, pumps, power, application equipment, well development) and water source selected will vary depending on site specific conditions.

Effect of Recommended Action

The recommended action would support the sustainable expansion of irrigation within the watershed. Depending on farmer application needs, this action will allocate funding for the development or additions to water delivery/supply infrastructure and/or irrigation application equipment at the farm level.

In consideration of the analysis documented in the Environmental Assessment (EA) completed December 2024, the preferred alternative will not have a significant impact on the quality of human or natural environment.

The EA evaluated both the beneficial and adverse impacts of the proposed action. However, there may at times be minor site-specific adverse environmental effects that primarily will be short term and occurring during the implementation period. Because there is potential to adversely affect one type of resource while improving the condition of another resource, there may at times be minor site-specific adverse environmental effects that primarily will be short term and occurring during the implementation period. NRCS policy at 7 CFR part 650.3(b)(4) requires that NRCS plans minimize adverse effects before NRCS provides technical or financial assistance. In addition, NRCS has in the past, and will continue to prepare documentation of a site-specific environmental evaluation, and will consult with the appropriate organizations to avoid, minimize, or otherwise mitigate adverse impacts on natural resources. As part of this process, NRCS also complies with requirements for protecting unique geographic features and other resources, as well as NRCS policies protecting natural resources. Thus, any adverse effects that may result from this program will occur at a much lower threshold than the environmental impact statement (EIS) threshold.

Irrigation adoption can increase crop yields and thus contribute to agricultural sales and associated shifts in income in rural communities. Efficient irrigation adoption allows for producers to utilize inputs (water, fertilizer, labor, energy) more efficiently. Project implementation is predicted to provide crop damage reduction benefits of \$290,093 per year, sediment damage reduction benefits of \$359 per year, and nitrogen loss reduction benefits of \$93,526 per year for the Middle AL Basin for a total of \$383,978 of benefits over a 24-year period.

Irrigation increases revenues by \$162 per acre, or \$258,000 per year (annualized cost) across the 3,052 acres. Over the 34-year period of analysis, increased irrigation adoption would be expected to increase agricultural sales by a total of \$9,951,000. A 2013 Economic Impact study found that every \$1 million in sales in the crop, livestock, forestry, and fisheries industries adds 10 jobs to the economy (Fields et al. 2011). This suggests that the preferred alternative would add 100 jobs to the Alabama labor force.

Furthermore, each dollar of agricultural and forestry output is estimated to generate \$0.77 in economic impact to the Alabama economy (Fields et al. 2011). Therefore, increased irrigation expansion is expected to result in \$7,662,000 in economic impact to the state's economy over the project's entirety or \$258,000 per year in annualized benefits.

The proposed action will not result in significant adverse effects on public health or safety. The project will consist of on-farm irrigation and appropriate measures will be taken on a site-specific basis to avoid, minimize or mitigate the potential for adverse effects that might occur to public health and safety during implementation.

There is no evidence indicating there will be any significant adverse effects to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas from selection of the proposed action. Consulting as required with agencies having jurisdiction over these resources also helps NRCS to avoid significant adverse effects on a site-specific basis.

The proposed action will encourage and promote agricultural enterprises in the watershed through increased irrigation. This action will tend to offset pressures to convert important farmland to other uses, such as residential development.

The effects of this action on the quality of the human environment are not controversial. All NRCS conservation practice standards are published for public comment in the Federal Register before being adopted to ensure integration of appropriate science and to identify and resolve any related controversy. It is only through the implementation of these conservation practices that this project would affect the environment. Any controversies that may arise from a site-specific application will be identified during the environmental evaluation process and appropriate mitigation measures applied.

The proposed action will have minor effects on both the surface and groundwater supply. Expanding irrigation will increase withdrawals from both surface and groundwater sources. However, the volume of water use anticipated considering the resources available is considered a minor use of the overall quantity of water available in the basin. To protect stream ecosystems and the overtaxing of surface water supplies, a novel flow duration methodology will be used. Withdrawals within any HUC-12 will be limited to the estimated streamflow volume that is exceeded 90% of the time during the growing season months minus the minimum 7-day, 10-year average flow volume. Additionally, an analysis of groundwater found that basin aquifers, such as the Eutaw and Ripley aquifers, could support 50 to 80 times more

irrigated acreage than currently exists without reducing annual recharge rates by more than 10%, even if all irrigation was sourced from aquifers. The effects, modeled at the 8-digit hydrologic unit (HUC-8) are anticipated to be minor. The Preferred Alternative may have localized impacts on smaller tributaries and watersheds within the project watershed. These effects will be mitigated by providing irrigated acreage density at the HUC-12 level to the NRCS and Sponsoring Local Organization during site selection. Promoting expanded irrigation in HUC-12s that have less than 10 percent of the overall drainage areas as irrigated acres is recommended to protect local water supplies and existing irrigation investments. Additionally, during extreme drought or low stream conditions, landowner agreements will include verbiage to irrigate strategically (water crops during the cooler parts of the day to minimize evaporation), utilize sensors to apply irrigation only when necessary, enhance soil organic matter to boost the soil's capacity to retain moisture, use precision agriculture tools and advanced technologies to optimize water and nutrient management effectively, regularly check stream levels and avoid irrigation during periods of critically low flow to protect aquatic ecosystems, and engage in educational opportunities to stay updated on innovative drought management strategies.

The proposed action is anticipated to have only minor effects on both surface and groundwater quality. These minor site-specific adverse effects will be short term and occurring during the construction period. Water quality could be impacted by increased nutrient runoff into surface waters, increased turbidity due to sediment transport and/or biological productivity, or nutrient leaching into groundwater due to irrigation applied in excess of field capacity. However, best management practices, such as irrigation water management plans will be required. Projections for increased sediments or nutrients carried by surface waters are minor when the soil moisture is maintained at or below field capacity as would be required by NRCS conservation practice standards. As analyzed in the ecosystem services section of the plan, improved plant vigor will improve nutrient use efficiency, resulting in a quantifiable nitrogen loss reduction benefit.

The proposed action is not considered highly uncertain and does not involve unique or unknown risks. Conservation practices implemented under NRCS programs are supported by science and have been demonstrated to improve natural resource conditions.

The proposed action will not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural, or historical resources. As stated in the EA, NRCS follows the Advisory Council on Historic Preservation's regulations for implementation of section 106 of the National Historic Preservation Act of 1966 and related policy guidance to ensure historic properties are considered during project and program planning. NRCS also has a programmatic agreement with the Alabama Historical Commission to ensure appropriate steps are taken to identify and avoid adversely affecting these resources as conservation practices are implemented.

The proposed action will not adversely affect endangered or threatened species, marine mammals, or critical habitat to any significant degree. NRCS regularly consults with the U.S. Fish and Wildlife Service, to ensure these species are not jeopardized, adverse effects are minimized, and that there are no adverse modifications to designated critical habitat. For State species or their habitat, NRCS will evaluate the habitat and determine if the proposed action will have “no adverse effect” or “may adversely affect”. If the NRCS determination is that the federal action may have an adverse effect, and the action cannot be modified to avoid the adverse effect, NRCS will consult with the Alabama Department of Conservation and Natural Resources.

The proposed action does not threaten to violate Federal, State, or local requirements imposed for protection of the environment. The NRCS Environmental Evaluation (EE) Worksheet identifies requirements for protection of the environment to ensure they are considered and that adverse effects are addressed during the EE process, normally by consultation with the agency having jurisdiction. As a result, the proposed action is consistent with the requirements of these laws and related policies.

Alternatives

The planned action is the most practical means of increasing irrigation acreage in the watershed in a sustainable, environmentally conscious manner. Because no significant adverse environmental impacts will result from installation of the measures, the only other alternative considered was the future-without-project alternative.

Consultation-Public Participation

Public meetings were held throughout the planning process to keep all interested parties informed of the study progress and to obtain public input to the plan and environmental evaluation.

A scoping meeting with Tuskegee University to discuss potential partnerships and outreach opportunities in the Basin took place on September 23, 2020, via Zoom.

A meeting with the NRCS District Conservationists in the Middle Alabama River Basin was held on October 14, 2020, via Zoom. This was a scoping meeting to identify potential resource concerns, alternatives and specific agencies to invite for cooperation throughout the planning process.

On October 28, 2020, a meeting was held via Zoom with the Agriculture and Natural Resources Coordinator, Tuskegee.

On November 2, 2020, a meeting was held via Zoom with the with Alabama Cooperative Extension System County Extension Coordinators to introduce them to the program.

On March 16, 2021, a meeting was held via Zoom with the Alabama Farmers Federation (ALFA) to provide an update on the project and discuss opportunities in the Middle AL Basin.

On March 25, 2021, a scoping meeting was held via Zoom with local stakeholders and leaders.

On April 23, 2021, a meeting was held at Marion Junction Alabama to scope farmer interest, needs, and concerns regarding water availability and agricultural water demand in the Middle AL Basin area.

On May 19, 2021, a meeting was held in Camden Alabama to scope farmer interest, needs, and concerns regarding water availability and agricultural water demand in the Middle AL Basin area.

On July 1, 2021, a meeting was held at Marion Junction Alabama to scope farmer interest, needs, and concerns regarding water availability and agricultural water demand in the Middle AL Basin area.

In February 2024, NRCS, in a government-to-government consultation, shared the Preliminary Draft Watershed Plan-EA with 21 Tribal Governments to provide the opportunity to identify historic properties and any areas tribal concern within the basin.

The following groups attended at least one of the above-mentioned meetings: state agencies (ADAI, ASWCC), nongovernmental entities (ALFA, AACD, The United Christian Community Association (TUCCA), Federation of Southern Cooperatives), landowners, business interests (lenders, irrigation professionals), Alabama Cooperative Extension and academic institutions (AU/ACES, UAH, Tuskegee University).

Agency consultation and public participation resulted in improvements to the plan and environmental assessment to ensure that implementation of the selected plan does not result in significant impacts to the basin. Comments included important concerns to be analyzed at the site-specific level.

Conclusion

Based on the environmental assessment summarized above, and according to the National Environmental Policy Act and the Natural Resources Conservation Service Regulations (7 CFR Part 650), I find that the Proposed Action is not a major Federal action significantly affecting the quality of the human environment. Therefore, no environmental impact statement will be prepared.

Ben Malone

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STATE CONSERVATIONIST

USDA-NRCS

Alabama

12/20/24