

Testimony of John Larson
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Hearing on the Importance of Soil Health
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Good morning, Chairman Thompson, Ranking Member Walz, and members of the subcommittee. Thank you for the opportunity to testify on the important topic of soil health. I am John Larson, chief executive officer of the National Association of Conservation Districts (NACD). I have worked directly with conservation districts for more than 18 years, prior to which I worked full-time as an agriculture producer, running my family's irrigated farm in Royal City, Washington.

NACD is the nonprofit organization that represents America's 3,000 conservation districts, their state and territory associations, and the 17,000 men and women who serve on their governing boards. Conservation districts are local units of government established under state law to carry out natural resource management programs at the local level. Districts are the local government part of the conservation delivery system and work with millions of cooperating landowners and operators to help them manage and protect land and water resources on all private lands and many public lands in the United States.

The association was founded on the philosophy that conservation decisions should be made at the local level with technical and funding assistance from federal, state and local governments and the private sector. As the national voice for conservation districts, NACD supports voluntary, incentive-based natural resource conservation programs that benefit all citizens.

I like to think of conservation districts as the original pioneers of soil health. Soil health is, and has been, one of the top priorities of conservation districts across the nation since their creation in the 1930s. In fact, soil health is the very reason why districts came into being.

In the early 1930s, along with the greatest depression this nation ever experienced, came an equally unparalleled ecological disaster known as the Dust Bowl. Following a severe and sustained drought in the Great Plains, the region's soil began to erode and blow away, creating huge black dust storms that blotted out the sun and swallowed the countryside. Thousands of "dust refugees" left the black fog to seek better lives.

But the storms stretched across the nation as soil blown from the Great Plains reached east to New York. Dust even sifted into the White House and onto the desk of President Franklin D. Roosevelt.

On Capitol Hill, while testifying about the erosion problem, soil scientist Hugh Hammond Bennett threw back the curtains to reveal a sky blackened by dust. Congress unanimously passed legislation declaring soil and water conservation a national policy and priority and creating the Soil Conservation Service to fight it. Because nearly three-fourths of the continental United States is privately owned, Congress

realized that only active, voluntary support from landowners would guarantee the success of conservation work on private land.

In 1937, President Roosevelt wrote the governors of all the states recommending legislation that would allow local landowners to form soil conservation districts. Today, nearly every county in the U.S. and several territories, are served by a conservation district.

As many of you will remember, two years ago, our nation experienced a drought of proportions we haven't seen since the 1930s and '50s. However, despite this extreme drought, we didn't enter into a modern-day Dust Bowl situation. There's a good reason for that – and it's something that all of us in the conservation community can be proud of: careful, long-term nationwide conservation and production practices that started mainly in response to the Dust Bowl of the 1930s. The implementation of these practices has resulted in better protection of our precious soil and water resource base – the foundation of our nation's food supply.

While we can't control weather conditions, strong, locally-led conservation planning can help alleviate the impacts of extreme weather events in the future. Conservation districts play a key role in this process by working with local producers and landowners to implement critical conservation practices on the ground.

For example, in Indiana, districts are key members of the multi-partner Conservation Cropping System Initiative that has vaulted the state to a leading position in the soil health movement. In North Dakota, the Burleigh County Soil Conservation District adopted soil health as its major focus 20 years ago; today, national and international visitors have come to the district for soil health tours and workshops. Other districts are renting no-till drills, supplying cover-crop seed, helping to organize aerial seeding of cover crops, facilitating farmer-led soil health cadres, providing no-till test plots, and much more.

Through these and other efforts, conservation districts across the nation are helping producers and landowners get the tools they need to continue caring for the land and providing food, feed, and fiber for the world. We firmly believe that it's better to invest in long-term conservation measures today, than to be forced to pay for the escalated costs of repair in the future. Without question, we believe that soil health is the key to the future productivity of agriculture and the protection of our natural resources.

“Soil health” is defined as “the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans.” Healthy soil ecosystems allow for increased water infiltration, improved water-holding capacity, enhanced nutrient cycling and sequestration, and increased biodiversity.

Historically, soil management activities focused on the physical and chemical functions of the soil. Today's emphasis on soil health recognizes the critical importance of biological function in the soil. “Soil Ecology” emphasizes that soil is a living ecosystem. This ecosystem is impacted by chemical (i.e. fungicides), biological (monocultures) and physical disturbance (tillage) that diminish soil function.

There are four key management principles to improve soil ecosystem function: 1) minimize the chemical, biological, and physical disturbance in the soil; 2) keep the soil covered as much as possible throughout the year; 3) maintain a living root, growing for as long as possible, to feed the soil microbes and transfer more solar energy into the soil; and 4) increase crop diversity above ground to add biological diversity to the soil. These basic management activities are central to improving soil health.

The benefits of improved soil health reach far beyond the farm. Healthy soils lead to higher water quality, by allowing for better nutrient cycling and reducing sediment runoff; a better ability to manage water and reduce flood damage; and an increase in the amount of carbon sequestered in the soil itself.

Due to its increased water-holding capacity, healthy soil is more resilient against drought; it is also naturally less prone to disease and pest problems, thereby allowing farmers to optimize their use of crop protectants. And because healthy soil requires fewer petroleum-based products for tillage it also saves on energy use and costs.

In the past several years, NACD, and its member conservation districts and associations, have been working hard to put a renewed national focus on soil health. These efforts include partnering with the USDA Natural Resources Conservation Service on an integrated campaign to increase the adoption of soil health management practices by America's farmers and private landowners. We anticipate conservation districts providing guidance to determine their local soil health needs and finding ways to best implement a suite of practices aimed at improving soil health. It is important that districts remain the boots on the ground to help solve local natural resource issues. By increasing the health of our soils, the campaign ultimately seeks to produce systemic, continental-scale improvements in water, air, and wildlife – all while enhancing long-term agricultural productivity and providing the best return on the nation's conservation investment over the long term.

NRCS and conservation districts are not alone in this effort – we're seeing an increasing interest from a wide range of stakeholder groups, organizations and businesses that recognize the potential benefits of healthy soil to production improvements, sustainability, profitability and resource protection – all of which are advantageous to their stakeholders. Many of these organizations are poised to help spread the word about the basics and benefits of soil health and to encourage their adoption.

NACD also recently was awarded, a \$750,000 Conservation Innovation Grant to promote soil health over a three year period. Through this project, we seek to significantly scale up the number of farmed acres nationwide that are managed for soil health. The project addresses two main barriers: a shortage of economic and cost-benefit information on soil health management; and insufficient transfer of knowledge to farmers of available, innovative practices and technologies for local conditions.

Through the formation of a national "farmer advocate" network—organized by NACD and facilitated by its local districts, and state and territory associations—this project will raise awareness of and increase the adoption by farmers and landowners of soil health practices. This includes farmer-to-farmer information on the use of new soil testing procedures, timing of cover cropping practices, considerations on what practices to use for wet and cool soils, on-farm demonstrations, and the development of strategies to broaden and accelerate action. The project will also provide a series of economic case studies to serve as the basis for an expert-reviewed economic analysis on the value of soil-health practice implementation.

Through these and other efforts, conservation districts are proud to be leading the way in soil health.

However, while we are seeing improvements nationwide in both the recognition of the need for, and the adoption of, best management practices for soil health, there is still work to be done. Specifically, we

see five main areas of need for the future: 1) developing specific soil health conservation practice criteria; 2) increasing soil health research – both scientific and economic; 3) training NRCS, district and partner employees; 4) ensuring Farm Bill programs facilitate soil-health adoption; and 5) communicating the benefits of soil health to both agriculture and urban audiences.

In summary, to make measurable improvements in soil health at the national level will require a locally-led, voluntary, coordinated effort. Because of their strong relationships with local landowners, as well as their strong reputation as a trusted source of conservation planning and implementation at the local level, conservation districts are well poised to continue to play a leading role in these efforts, in close partnership with local, state and federal partners.

Mr. Chairman, if population growth projections are correct, in a few short decades our population will hit nine billion. To feed this many people will require a significant increase in food production, and we will have to do it while coping with erratic weather conditions and while still conserving our natural resources. We believe that the widespread adoption of soil health practices is what will make us successful. If we act now, we have a chance to make a difference on the land that will last for generations.

A recent resolution, H.Con.Res.95, underscores this very point – expressing the sense of Congress that voluntary, incentive-based, private land conservation, provided in partnership with local soil and water conservation districts, is necessary to sustain natural resources, meet the needs of a growing population, and ensure safe, abundant, and adequate resources for current and future generations. We are extremely pleased to see our representatives in Washington expressing support for locally-led, natural resource conservation and its critical value to our nation’s economic and food security. The cause of conservation crosses geographic, political and economic boundaries; it is truly something that everyone can support. Caring for our soil and other natural resources is one of the greatest legacies we can leave for our future generations. We urge all of you to support this commonsense, bipartisan resolution.

Thank for you the opportunity to be here today and for holding this hearing to help shine a spotlight on the important issue of soil health. I look forward to your questions.