



CAREERS IN CONSERVATION

Career Opportunities with USDA's Natural Resources Conservation Service



SOIL SCIENTIST

As an NRCS soil scientist, you'll map and classify soils. You'll identify problems such as soil moisture and erosion. You'll use digital and satellite imagery to map soils and write descriptions. You'll sample soils and evaluate their quality, and work with information on watersheds, water quality, and changes in land-use patterns. Your work will include scientific work in the investigation of soils, their management, and their adaptation for alternative uses. Such work requires knowledge of chemical, physical, mineralogical and biological properties and processes of the soils and their relations to climate, physiographic, and biological influences.

Qualifications: A bachelor's degree or higher in soil science or a closely related discipline that included 30 semester hours or equivalent in biological, physical, or earth science with a minimum of 15 semester hours in such subjects as soil genesis, pedology, soil chemistry, soil physics, and soil fertility.



SOIL CONSERVATIONIST

As an NRCS soil conservationist, you'll spend most of your time in the field working with farmers, ranchers, foresters, and other land users. You'll offer conservation planning and technical help to everyone from family farmers to local government officials. You'll suggest to them ways to conserve the soil, improve water quality, manage nutrients, restore wetlands, and protect and improve wildlife habitat.

You'll make presentations and demonstrate conservation to clubs and organizations and provide outreach for NRCS programs. You'll assist in setting local conservation priorities and then help carry them out. And you'll be able to see the results of your work on the land.

Qualifications: A bachelor's degree or higher that includes a major field of study (including 300 level courses) in soil conservation or a related agricultural or natural resource discipline such as agronomy, soil science, forestry, agricultural education, or agricultural engineering. The study must include 30 semester hours in a natural resource or agricultural field, including at least 12 semesters hours in a combination of soils and crops or plant science of which three semester hours must be in soils and three semester hours in crops or plant science.



SOIL CONSERVATION TECHNICIAN

NRCS soil conservation technicians work directly with farmers, ranchers, and foresters. You'll advise landowners on the effectiveness of applying soil and water conservation practices or assist in research efforts. You'll survey and design conservation practices, oversee their installation, and ensure they meet our quality standards. Your work is key to the success of NRCS, because most everything you do results in on-the-ground practices that directly improve, conserve, or restore our natural resources.

Qualifications: Knowledge of farm or ranch operations, or work experience that makes you familiar with conservation practices such as installing and maintaining soil and water conservation measures on farms, ranches, or agricultural land. Knowledge of installing and maintaining conservation measures on public or privately owned land including parks, shoreline, refuse waste sites, dams and reservoir areas, water and sewer sites, road embankments, forests, and wildlife habitats.

RANGELAND (GRAZING LAND) MANAGEMENT SPECIALIST

NRCS rangeland management specialists help plan grazing systems that improve the quality of forage and other grazing land functions. You'll suggest ways to use grazing animals as tools to improve and sustain natural resources. You'll offer advice on water management, invasive species control, and sustainable forage production. Whether landowners want to use their rangeland to support livestock, wildlife, recreation, or a combination of these, you'll tailor conservation plans that will help landowners meet their goals.



Qualifications: A bachelor's degree or higher in range management or a related discipline that includes at least 42 semester hours in a combination of plant, animal, and soil sciences and natural resource management, with at least 18 semester hours in range management including courses in such areas as basic principles of range management, range plants, range ecology, range inventories and studies, range improvements, and ranch or rangeland planning; at least 15 semester hours of directly related courses in the plant, animal, and soil sciences, including at least 1 hour in each of these three scientific areas in courses in such as plant taxonomy, plant physiology, plant ecology, animal nutrition, livestock production, and soil morphology or soil classification are acceptable; and at least 9 semester hours of course work in related resource management subjects in subject areas such as wildlife management, watershed management, natural resource or agricultural economics, forestry, agronomy, forages, and outdoor recreation management.

BIOLOGIST

As an NRCS biologist, you'll spend most of your time onsite working with private landowners, other agencies, and units of government. You'll provide technical support and advice on fish and wildlife habitat development or restoration. You'll suggest ways to manage fish and wildlife populations, restore streams and wetlands, and improve habitat.

Qualifications: A bachelor's degree or higher in the biological sciences, agriculture, natural resource management, chemistry, or other related disciplines appropriate to the position.



ENGINEER

NRCS employs a large number of engineers who have specialized skills in erosion control, water management, structural design, construction, hydraulics, soil mechanics, and environmental protection. We also employ those with general engineering skills. Your job assignments may include restoring streams, controlling erosion, developing water systems for livestock, improving and conserving irrigation water, or restoring wetlands. As an NRCS engineer, you will help solve a host of natural resource problems, and may also become involved in helping communities recover from natural disasters.

Qualifications: A bachelor's degree or higher in engineering. To be acceptable, the program must: (1) lead to a bachelor's degree in a school of engineering with at least one program accredited by ABET; or (2) include differential and integral calculus and courses (more advanced than first-year physics and chemistry) in five of the following seven areas of engineering science or physics: (a) statics, dynamics; (b) strength of materials (stress-strain relationships); (c) fluid mechanics, hydraulics; (d) thermodynamics; (e) electrical fields and circuits; (f) nature and properties of materials (relating particle and aggregate structure to properties); and (g) any other comparable area of fundamental engineering science or physics, such as optics, heat transfer, soil mechanics, or electronics. Specialties include agricultural, environmental and civil engineering.



ENGINEERING TECHNICIAN

As an NRCS engineering technician, you'll be involved in planning, design, and construction work. You'll help with surveying the land, plotting survey information, and laying out construction measures. You'll gather data, make computations, and prepare maps and cross sections of profiles. You may serve as a construction inspector on a wide variety of projects.

Qualifications: Experience on a survey crew running levels and transits or on construction layout and inspection. Experience including technical work in: drafting, surveying, construction estimating, physical science, mathematics, aerospace, architecture, chemicals, electrical or mechanical systems, mining, petroleum, or nuclear systems.

