



Red River Center
For Watershed Education

Environmental Science Career Guide

for the Red River Basin of the North



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 **International Water Institute**
Flood research and watershed education for the **Red River Basin**

How to get started?

This career guide has been developed to help you explore career fields in Environmental Science. The guide focuses on current and future job opportunities within the Red River of the North Basin. It also provides a connection to the colleges and universities that have educational degrees related to Environmental Science. Photos and information in this guide refer to real people doing real work in this region.

If you are interested in a career in Environmental Science visit with your high school career counselor. They can provide you with career planning help and tools, arrange for job shadow experiences, and identify school and volunteer activities that will also help you develop your career interests.

Acknowledgments

This career guide is a product of the International Water Institute – Center for Watershed Education. Funding was provided through the National Science Foundation – ITEST program, contract # ESI 0423459. Opinions expressed herein do not reflect the position of the National Science Foundation, and no official endorsement should be inferred.

The Innovative Technology Experiences for Students and Teachers (ITEST) program provides opportunities for both school-age children and teachers to build the skills and knowledge needed to advance their study and to function and contribute in a technologically rich society.

We would like to thank the following people who served as a review panel for this publication:

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Introduction

Job trends are showing a possible worker shortage in environmental and natural resources jobs in the future. No other career field offers the flexibility to be a professional making a difference in the world while enjoying the health benefits of being outdoors.

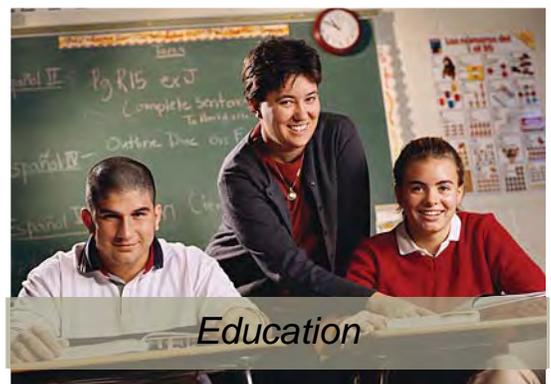
With the growing interest in natural resource conservation, environmental health and sustainable development careers in the environmental area are as vast and diverse as the earth itself. Specialists will be needed to better understand how ecosystems work, assess environmental impacts, establish management plans, educate the general public, and develop and manage healthy communities.

*If you like the thought of combining a love for the outdoors with a possible career, there are abundant opportunities and some great college programs to keep you connected to the natural world. Right: Programs that teach outdoor skills like summer wilderness trips are valuable experiences for future career planning. Many environmentally related employers will use these skills as hiring criteria. Photo by **Joe Courneya***



Career Pathways

Let's get started! Environmental science careers are divided into six pathways. Something for every interest is a way you could sum up the possibilities in the field of environmental science.



Job Titles for Environmental Careers

Remember these are only examples to give you ideas and get you started. Some career opportunities are not even invented yet.

Agriculturist
Air Quality Field Technician
Biologist
Chemist
City Planner
Conservation Planner
Ecologist
Eco Tourist Manager
Environmental Compliance Inspectors
Environmental Consultant
Environmental Educator
Environmental Scientist
Fisheries Manager/Researcher
Fire Management Specialist
Forester
Geologist
GIS Remote Sensing Specialist
Green Building Consultant
Groundwater Protection Specialist
Hazardous Waste Technician
High School Science Teacher
Hydrogeologist
Industrial Safety Technician
Landscape Architect
Land Use Planner
Law Enforcement Officer
Limnologist
Marine Scientist/Oceanographer
Meteorologist
Microbiologist
Mining Engineer
National Park Service Technician
Natural Resource Manager/Planner
Park Naturalist
Photogrammetrist



Pollution Prevention Specialist
Property Assessment Consultant
Quality Control Engineer
Safety Sanitation Technician
Solar Engineer
Solid Waste Engineer
Soil Tester/Conservationist
Surveyor/Cartographer
Toxicologist
Transportation Planner
Urban Planner
Wastewater Treatment Operator
Water Quality Specialist
Water Resource Specialist
Watershed Coordinator
Wetland Specialist
Wildlife Biologist
Wind Energy Engineer
Zoning/Wetland Technician
Zoologist

Career Examples

Agriculture

If you thought agriculture was only for those interested in farming, you might be surprised to realize that in an agricultural region like the Red River Valley many careers from business to science can be found here.

Agronomist

Agronomists deal with field crops and soil management. They develop new varieties of crops, analyze soil structure, investigate soil chemistry and study the physics of water movement in soil. Agronomists are concerned with the environment. You will find agronomists teaching, conducting business and doing research in all parts of the food industry.

Agronomists work for the USDA, state departments of agriculture, Soil Conservation Service and as agriculturists in foreign countries. They work for banks, farm co-ops and crop management companies. Agronomists are hired as crop consultants by

farmers or seed, fertilizer and agrichemical companies. Some are forecasters, environmentalists, analysts or teachers.

To be an agronomist, you should have an interest in science and a bachelor's degree. You should enjoy working with people and should have a keen interest in applying science to the food industry.

Farm experience can be helpful, but it is not necessary [1].



Feeding the world is a huge task requiring some of our best and brightest to become the research scientists of the future. If you think you got what it takes, the job outlook is excellent. Left: NDSU Potato Breeder Dr. S. Thompson discusses potato research and development. Photo by Ashley Taylor

Career Examples - Agriculture

Range Manager

Range managers care for our country's vast rangelands. From these lands, they produce a sustained yield of such things as plants for forage, red meat, wildlife for aesthetics and hunting, and clean water.

Range managers work for federal and state agencies, colleges and universities, private industry and on foreign assignments. Those working for federal or state agencies may plan and direct public and private land use. Others are researchers, teachers and Extension agents with colleges and universities. Private industries hire range managers as ranch managers, agricultural product sales and service representatives, land reclamation specialists and environmental consultants.

To be a range manager you need a bachelor's degree in range science, management or ecology. You need a graduate degree if you plan to do research, teach or advance in some fields. Experience in agriculture (4-H and FFA) is desirable [1].

*From farmer to wildlife manager, range scientists in this region do important work to keep rangeland healthy for man and animal. With so much attention being given to our energy needs, managing our lands holds great promise for future range scientist careers. Right: Range scientists A. Gearhart and P. Nyren evaluate the health of rangeland at the Central Grassland Research Center, Streeter, North Dakota. Photo by **Rick Bohn***



Career Examples - Agriculture

Horticulturist

Remember that golf course or ball field you played sports on? Someone with a horticulture background was most likely in charge of making it playable for you and your team.

The Latin words hortus (garden plant) and culture (culture) form the word horticulture, which is classically defined as the culture of garden plants. Today, horticulture is more than garden plant culture. Horticulturists work in crop production, breeding and genetic engineering, physiology, biochemistry, storage, processing, and transit of fruits, berries, nuts, vegetables, flowers, trees, shrubs and turf. Horticulturists improve crop yield, quality, nutritional value and resistance to insects, diseases and environmental stresses. They make plants more adaptable to different climates and soils and better fit for food uses or processes. They also grow and improve plants used for medicines or spices.

You will find horticulturists in offices, laboratories, greenhouses and out in production or research fields. For many careers you must have a master's or doctoral degree [1].



*You want to help design the next Jack Nicklaus golf course or be in charge of the field for a professional ball team? Then you will need to become a grass expert. Right: A Plant Science student assesses plants at North Dakota State University. Photo by **Dan Koeck***

Life Science

Ecologist

Ecologists ask scientific questions about life in oceans, deserts, forests, cities, grasslands, rivers and every corner of the world.

More and more, ecologists are teaming with physical and social scientists, policy makers, and computer programmers to better understand how organisms interact with each other and with the environment. Ecologists can be educators, technicians, field scientists, administrators, consultants and writers. The main traits all ecologists share are curiosity, creativity, passion for observation and scientific inquiry and, judging by these profiles, boundless enthusiasm for asking and answering hard questions.

It is a good idea to sign up for an environmental science class or join an after-school ecology club. Ecology is incorporated

in many scouting and boys and girls club programs. Community colleges and universities offer summer and school-year programs for high school students.

Volunteering or internship opportunities exist at parks, nature centers, wildlife refuges, government research labs, museums, zoos, aquariums, conservation organizations, field stations and consulting firms. All are great places to learn new skills, become involved with interesting issues, establish contacts for future jobs and learn something not taught in class - what ecologists do on a day-to-day basis.



Workers, who discover federal jobs like those with the fish and wildlife service, do critical environmental work and have opportunities to work and live in both small and large communities. Left: S. Maneval, Detroit Lakes Wetland Management District, works on a wet blade mower. Photo by Scott Kahan

Wildlife Biologist

Wildlife biologists do research that helps us better manage our resources.

They may specialize in fields such as physiology, genetics, ecology, behavior, disease, nutrition, population dynamics, land-use, and pollution. They are curious, patient, and persistent. They collect, analyze, and interpret facts objectively and skillfully, and they can report them clearly to other people.

Most wildlife positions are civil service jobs with state, provincial, or federal agencies. Some city, town, and county agencies hire wildlife management specialists. Universities and colleges offering wildlife curriculums hire wildlife professionals with advanced degrees to teach and do research. After the enactment of the National Environmental Policy Act of

1969, engineering and other consulting firms began employing more wildlife specialists. Private employment with large firms dealing in timber, ranching, mining, energy production, paper production, and chemical production is also increasing. Each year opportunities increase in community nature or conservation centers, zoos, and a growing number of private and public conservation-related organizations around the world.

To be a wildlife biologist, you need a college education. Since most wildlife resources and conservation problems relate to people, you need courses in English, psychology, history, geography, statistics and economics, as well as in physical and biological sciences. Communication skills, especially speaking skills, must be part of your training.

In high school take as much math, physics, English, chemistry, and biology as possible. If you can, get experiences working with committees, conducting meetings, and writing for high school publications [1].



*So where can those River Watch, Envirothon or water recreation skills get you? How about a career in watershed science? Left: SDSU researcher C.-A. Hayer collaborates with the North Dakota Game and Fish Department on a fish survey project. Photo by **Mandy Thomas***

Forester

Our forests are owned and managed by a wide range of individuals, private organizations and public agencies. Foresters may manage timberlands for private industry or may scout and buy timber from other landowners for their companies.

Some foresters are private consultants who advise landowners on the multiple-use management of their timberlands. Many work in management, administration or research for public agencies, such as the U.S. Forest Service.

Foresters may spend one day in the laboratory and the next in the field. Some days they speak with executives in board rooms, while other days they may talk with tree farmers. Therefore, foresters must be highly trained technically and must be good communicators. They must see themselves as stewards of forest resources and be able to convince others that forests are vital to the welfare of humanity.

Foresters have long-range views on environmental issues. They should be able to visualize a forest's development for many years. They must understand natural history and forest ecology [1].



*Were you good at climbing trees as a kid? How about a career as an expert in tree and forest management? You could work for a city or county, a major company or as a consultant running your own business in this field. Left: District Forester J. Stensing of the Beltrami Soil and Water Conservation District in Minnesota and Conservation Corps workers conduct a spruce budworm evaluation. Photo by **Monte Draiper***



Good pay, important work and a chance to solve environmental issues, that's the career field of environmental engineering. Left: Engineers J. Baackes, E. Toms, J. Landenberger, ND State Water Commission, perform a field assessment of a planned project. Photo by Lee Klaprodt

Career Examples – Physical Science

Physical Science

Water Quality Specialist

Water quality is a global concern. Solutions to these problems demand specialists and technicians with water resource expertise in earth and life sciences, humanities, law or administration.

Typical careers include environmental scientists and chemists, water resource planners, environmental engineers, waste water workers, researchers, educators, policy specialists and computer experts. Typical working areas are the Clean Water Act, TMDL (Total Maximum Daily Load Allotments), pollution prevention and privatization of water issues.

Most professions require at least a bachelor's degree and experience. Complimentary majors, such as biology and law, also are a good choice. Internships and volunteer positions are an excellent way to gain experience in the water quality fields. Many organizations offer paid summer internships. Students should be able to relate science and policy. Being able to communicate effectively, both orally and in writing, is highly desirable to employers.

Natural Resource Manager

Natural resource management, often categorized with the agricultural or environmental sciences, provides an understanding of how natural living systems function and how the systems can be managed to provide benefits to people.

Common specializations are water and land resources, wildlife or fisheries. Career Examples – Physical Science

Natural resource managers may perform the following tasks:

- Monitor components of the environment, such as soil, water and air
- Organize geological, plant and animal surveys
- Develop practical solutions for ecologically sustainable development and use of vital land and water resources
- Assess techniques for flora and fauna conservation
- Carry out plant and animal pest management
- Provide community education programs
- Develop resource management policy
- Work with government and environmental groups

Natural resource managers may specialize in water and soil resources where they apply their skills to areas such as irrigation, drainage, water supply, pollution control and rehabilitation after mining activities.

Natural resource managers focusing in land and biological resources work in agencies where they can apply ecological and planning principles to the management of renewable resources, such as forests and crops.

A bachelor's degree is sufficient for most advanced technician positions in a wide variety of organizations. Many careers do not require a specific major, but rather a wide range of demonstrated skills and accomplishments. Practical (internship) experience and the development of basic computer application competency in the field are required.



Whether it has fins, fur or feathers state agencies like the MN DNR hire wildlife specialists to help maintain healthy populations of all wildlife species. Right: Fishery Specialist, MN Department of Natural Resources, releases Sturgeon back into the Red River Watershed. Photo by Joe Courneya

Environmental Compliance Inspector

Environmental compliance inspectors inspect and investigate sources of pollution to protect the public and environment and ensure conformance with federal, state and local regulations and ordinances.

Possible tasks are:

- Inspecting solid waste disposal and treatment facilities, wastewater treatment facilities or other water courses or sites for conformance with regulations
- Inspecting establishments to ensure that handling, storage and disposal of fertilizers, pesticides and other hazardous chemicals conform with regulations
- Conducting field tests and collecting samples for laboratory analysis
- Examining permits, licenses, applications and records to ensure compliance with licensing requirements
- Evaluating label information for accuracy and conformance to regulatory requirements
- Advising individuals and groups about pollution control regulations, inspection and investigation findings, and encouraging voluntary action to correct problems or issue citations for violations

Hazardous waste specialists assist in the development, implementation, and monitoring of programs for an emergency response and for the safe handling and disposal of hazardous chemicals in accordance with all government regulations.

Most occupations require training in vocational schools, related on-the-job experience or an associate's degree. Some may require a bachelor's degree [2].

*High School is the time to explore and build science and technology skills that will be needed in college and in the world of work. Right: Former Fertile River Watch student C. Wilkens investigates bacteria.
Photo by **Wayne Goeken***



Environmental Health Specialist

The field of environmental health focuses on the preservation and improvement of environmental factors affecting the health and safety of our community.

The impact of mankind on the environment increasingly threatens the quality of our air, water, land and protecting food. Maintaining these essential resources is a national priority.

Environmental health specialists enforce health and safety standards relating to food and other consumer products. They conduct routine inspections of establishments open to the public to ensure that minimum health and safety standards are met. They investigate leaking underground storage tanks and

oversee mitigation efforts for cleanup. They conduct water quality sampling to ensure that drinking water supplies are potable and palatable. They inspect industrial plants, detention facilities and perform inspections of public pools and recreational areas to ensure the public's safety.

Environmental health specialists also prepare inspection reports and issue notices of violation and needed corrections.

Environmental health specialists mostly work for the government. They spend much of their time outside the office conducting field inspections and investigations and often are exposed to health and accident hazards.

A bachelor's degree in science or a degree that includes specific science course work is needed to become an environmental health specialist trainee. Applicants for work with the U.S. Public Health Service must have a master's degree in environmental health science [3].



*Programs like 'River Watch' have proven that the skills you can develop will start you on a path to a career in environmental science. It pays to get involved and learn whatever you can from these opportunities. Left: Former River Watch students A. Gravalin and A. Fish monitor biological water quality. Photo by **Wayne Goeken***

Earth Science

Hydrologist

Hydrologists help protect our water supplies and water quality. Hydrologists concerned with water supplies manage surface and ground water to avoid problems caused by floods, droughts and population growth.

Hydrologists working on water quality problems deal with the chemical, physical, biological and radiological properties of the water we use for drinking, irrigation, industrial cooling or swimming.

Hydrologists work for public and private institutions. The federal agencies that manage our natural resources all hire hydrologists. These agencies include the Geological Survey, National Weather Service, Bureau of Land Management, Bureau of Indian Affairs, Bureau

of Reclamation, Soil Conservation Service and Forest Service. State agencies and watershed associations dealing with natural resources also employ hydrologists. Many hydrologists work for private consulting firms.

To be a hydrologist, you should appreciate natural resources and enjoy working with people. It helps to get experience with leadership skills, natural resources and public speaking through organizations, such as 4-H, FFA or scouting [1].



Most of today's jobs require teamwork skills. Biologists from the North Dakota Game and Fish Department carry out electro fishing as part of their fish research in the Wild Rice River. Photo by Mandy Thomas

Soil Scientist

Soil scientists map and classify soils. They conduct research on soil degradation or decomposition, or the movement of substances, such as nutrients and pesticides, through the soil profile.

Sometimes they identify problems, such as wetness and erosion that limit soil use. They often write soil descriptions and prepare information about soils.

Universities, private industries, USDA agencies, chemical companies, petroleum companies and consulting firms hire soil scientists.

To be a soil scientist, you need a college degree in soil science or a related biological, physical or earth science. People who become soil scientists usually enjoy studying the sciences, especially physics, chemistry, geology, environmental science and biology. Try to get practical experience in these areas [1].

Climatologist

Are we in a drought? Could there be a flood? Ask a climatologist.

Climatologists study climate change, climate variability, and the biosphere. Some use computer software to predict the effect of weather or climate on the growth and development of grain, vegetables, fruit, and other crops.

A climatologist might drill holes in arctic ice, travel to the bottom of the ocean or journey to the tops of mountains to get data. You might be working with marine animals and fitting them with sensors; sampling plankton, fish, and insects; or maintaining sensor buoys out in the middle of the ocean.

If you like computer science, you could do climatological studies using geographic information systems. You also might write computer programs to model changes in climate or develop new ways of doing it.

Studying physics, meteorology, biology, zoology, botany, paleontology, geology, entomology, microbiology, oceanography, astronomy, math, computer science and, of course, climatology will give you solid grounding for climatological research, which requires gathering and analyzing a lot of data on ocean water temperatures, current changes, atmospheric conditions, solar conditions, plant and animal species and more [1].



*Remember the kid who knew about every kind of dinosaur? He or she may now be an expert in the field making important discoveries about past life in our region. Left: Paleontologist J. Hoganson, North Dakota Geological Survey, leads a group at a fossil dig site. Photo by **Joe Courneya***

Geographic Information System (GIS) Specialist

GIS professionals use GIS to visualize, analyze and model systems to help in the planning and decision-making processes of their organizations.

They make geographic information accessible to scientists, planners, decision-makers and the public. GIS careers exist in every imaginable discipline, from environmental science to mining to urban planning to commercial businesses to defense and beyond.

GIS careers typically include positions such as cartographic designer, computer programmer, database administrator or project manager.

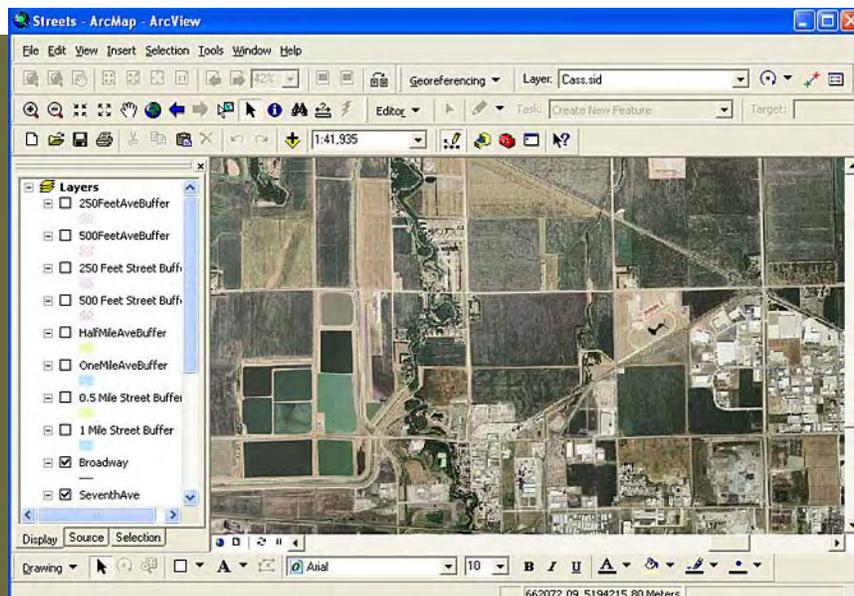
Necessary technical skills include:

- Strong GIS skills with two or more GIS packages
- Strong Macro / C / C++ / Visual Basic programming skills
- Understanding or willing to learn math and statistical analysis
- Strong Oracle or related RDBMS skills, including development skills

- Excellent verbal/written communication skills
- Good analytical / problem-solving skills
- A basic understanding of the concepts behind data management in a relational database

Preparation for a GIS career involves taking classes in cartography, GIS, database management and programming. Internships are extremely popular in GIS. To find internships check with your school's geography or urban planning department. Companies and agencies looking for student help often will advertise there [5].

Geography, Yeah right! If you develop GIS skills, you can pretty much lock up that dream job before the ink dries on your college diploma. GIS skills are among the top skills employers in all fields of employment are seeking to help manage and make decisions in the workplace.





*Today's computers come in all shapes and sizes. If you have the skills to run GPS units and GIS programs, you can write your career ticket. Good skills in this area are always in high demand. Left: Fargo based Butler Machinery Company staff utilizing GPS technology as part of precision dozer work. Photo by **Butler Machinery, Inc.***

Career Examples – Earth Science

Remote Sensing Specialist

Remote sensing specialists interpret and analyze many types of aerial photographs and satellite images.

They may use color infrared photos to map forest types, areas of irrigated cropland or to determine areas of insect or disease infestation in forests or croplands. They use thermal infrared scanners to locate and monitor forest fires and to define areas of thermal pollution in rivers and lakes. They use computers to analyze satellite scanner data and create maps of land cover and changes in land use, such as deforestation.

Many state agencies and federal agencies, such as the U.S. Forest Service, Geological Survey, Fish and Wildlife Service, National Park Service, Bureau of Indian Affairs, Bureau of Land Management, Corps of Engineers and

Defense Mapping Agency, hire remote sensing specialists. Many commercial companies also hire remote sensing specialists to analyze data and produce maps and other products for themselves or government agencies with whom they have contracted.

Remote sensing specialists usually are people who enjoy working with maps and computers. Most have earned college degrees in disciplines such as geography, forestry, civil engineering, geology, wildlife management, or agronomy, and then have specialized in remote sensing. Today, most remote sensing specialists also have taken course work in geographic information systems (GIS) [1].

Providing water to the region, protecting against flooding, and creating better wildlife habitats are all tasks that might be part of a water resource engineer's job. Right: Water Resource Engineers Gunsch, Johnson, Steele from Houston Engineering Inc. perform a site assessment for a water management project. Photo by Mark Deutschmann



Career Examples – Planning & Surveying

Planning & Surveying

Urban and Regional Planner

Planners help to further the welfare of people and their communities by creating convenient, equitable, healthful, efficient, and attractive environments for present and future generations.

They analyze the physical, social and economic aspects of communities and examine the connections between them. They deal with issues such as transportation, land use, housing, recreation and open space, natural and cultural resources, community services, population, and economic development. Planners consider problems, visualize futures, compare alternatives, and describe implications so public officials and citizens can make knowledgeable choices.

- Planners must be technically competent and creative and show both hardheaded pragmatism and an ability to envision alternatives
- Planners work with the public to develop a vision of the future and build on that vision
- Planners often function as mediators among conflicting community interests and also may become facilitators by using their professional judgment to help identify the best resolutions to the issues creating conflicts

Planners use computers all the time. They make reports and draw maps. City planners spend much of their time in offices. They also have evening meetings with the people whose neighborhoods will be changed.

Most employers seek people who have a master's degree in city planning or urban design.

Local government planning offices often hire college students to work during the summer. Students can learn a lot before they get their first job after they graduate. Planners must be able to speak and write well.

Courses in related disciplines, such as architecture, law, earth sciences, demography, economics, finance, health administration, GIS, communications management and technical writing are highly recommended. Because familiarity with computer models and statistical techniques are important, courses in statistics and computer science also are recommended.

Surveyor & Cartographer

Surveyors, cartographers, and photogrammetrists are responsible for measuring and mapping the earth's surface.

Surveyors select known survey reference points and determine the precise location of features in the field. They research legal records and analyze the data to determine the location of boundary lines. They also record the results of surveys, verify the accuracy of data and prepare plots, maps, and reports. Cartographers compile geographic, political

and cultural information and prepare maps of large areas. They analyze spatial data, such as latitude, longitude, elevation and distance, and nonspatial data. For example, population density, land-use patterns, annual precipitation levels and demographic characteristics. Photogrammetrists measure and analyze aerial photographs that are subsequently used to prepare detailed maps and drawings. Surveying and mapping technicians assist these professionals in their duties by collecting data in the field and using it to calculate mapmaking information for use in performing computations and computer-aided drafting.

Cutting-edge technology, such as the global positioning system (GPS), laptops, and robotic total stations, are the preferred tools of surveyors. Advanced computer software known as geographic information systems (GIS) are an invaluable tool to surveyors and cartographers.

Surveyors and surveying technicians usually spend a lot of time outdoors standing or walking and climbing hills with heavy packs of instruments. Cartographers and photogrammetrists spend almost all of their time in offices using computers and seldom visit the sites they are mapping.

As technology advances, a four-year college degree is increasingly becoming a prerequisite. A number of universities now offer four-year programs leading to a bachelor's degree in surveying [4].



An accurate eye and attention to detail are critical skills of a survey expert. Left: D. Felber, former NDSU Geosciences student, works with a surveying tripod. Photo by Allan Ashworth

Turf Scientist

Turf scientists must be scientists and people persons. In their first jobs, they often work outside caring for lawns, golf courses, park sites, athletic fields or grounds around corporation headquarters.

They may operate computer-controlled irrigation equipment or mowing machines. Turf scientists often advance to become foremen, coordinators, managers or assistant and branch managers in corporations. They may then spend more time indoors managing a business and working with people.

Turf scientists can be golf course superintendents, turf managers for football or baseball stadiums, park site managers, grounds managers for corporate headquarters, sod producers, lawn care professionals, sales representatives for companies that produce lawn care products or teachers in two- or four-year educational institutions.

You need a college education to be a turf scientist. Take courses such as turf management, soil fertility, weed science, plant pathology, entomology and horticulture. You also should take courses in management, business, technical writing and communications to improve your business and people skills [1].

*So you still want to be a member of a sports team? Whether it is your favorite college team or one of the pros, turf specialists keep our sports community running on solid ground. Below: P. Hayes uses a Dakota topdresser to make the turf perfect. He learned those skills as a graduate of the Turfgrass Management program at NDSU. Photo by **Deying Li***



Education

Environmental Educator

Environmental educators, also known as interpreters or naturalists, design and teach programs about natural resources to people of different ages. They develop displays and brochures about the natural world, guide others through activities and take on administrative duties, such as scheduling school groups.

Environmental educators may teach outside while hiking, canoeing or sitting around a campfire. They often work for the government, schools and nonprofit organizations (e.g. Audubon Society) in camps, parks, nature centers, environmental programs and museums. The pay is usually lower than that of other environmental jobs, but working in beautiful settings and participating in outdoor activities often make up for the pay.

To become an environmental educator, you should enjoy the sciences. You need to be outgoing and enthusiastic and have good spoken and written communication skills. You should be comfortable working with people of all ages. You also should have a good grounding in the life sciences, such as biology and ecology, and the physical sciences, such as math and chemistry. Special skills, from playing guitar to life guarding to speaking a second language, will make it easier to find work.

Preparation for a job as an environmental educator usually involves a four-year degree in a natural science, such as biology, botany, zoology, geology, meteorology, ecology or natural resource management. It is a good idea to start gaining hands-on experience early. For example, join an environmental or outdoors club at your school or volunteer for a government agency, such as the National Park Service or a nonprofit group, such as the Sierra Club.



If you dream about ducks, deer or pheasants, a career in environmental education might be the perfect fit. What other line of work offers you the chance to get paid to become an expert in an area you enjoy as recreation. Left: Wildlife Biologist Shawn May, Detroit Lakes Wetland Management, leads a wetland excursion. Photo by Les Peterson

Park Ranger

For park rangers there are three primary options: Naturalist/Interpreter (see Environmental Educator), Generalist/Fee Collector, and Law Enforcement.

Generalists/fee collectors collect camping and entrance fees. They also may be partly responsible for maintenance, trail scouting, fire control (such as changing the fire hazard level signs) and resource management.

Law enforcement rangers are the police force on park lands. They are responsible for writing tickets, arresting people, issuing fines, etc. They also may have other more “mundane” duties including maintenance and firefighting. All rangers (except some interpreters) will do back-country patrols and search and rescue.

To get a fulltime job as a ranger in the National Park Service (NPS) requires that you work 2 to 5 years as a seasonal ranger and requires a four-year college degree. To get a seasonal job, you should be in a degree program of some sort. You also should have certifications in CPR and advanced first aid. Emergency medical technician, first responder or paramedic certifications will rank you even higher in the hiring process.

Seasonal law enforcement rangers in the National Park Service must have a seasonal law enforcement certification (approx. 300 hours). These can be obtained at various community colleges throughout the country. Contact the NPS for the location nearest you. Seasonal law enforcement experience can be very useful if you want to become an environmental investigator with the Environmental Protection Agency.

Applications for seasonal positions in the NPS can be obtained from the National Park Service. Applicants may apply to a maximum of two parks for the summer season.

You can improve your chances for being hired by taking a wide range of science courses or picking up a minor. For example, if you are in biology, get a geology minor. A master’s in environmental education or similar field will greatly improve your job choices. There also are two-year programs and some shorter certification programs for park rangers. Those might be worth looking into in addition to studying for your degree [10].



Water, our most important natural resource, opens also interesting careers in the Red River Basin. Left: R. Ironroad and Extension Educator D. Crompton of the University of Minnesota sample macroinvertebrates in the Buffalo River near Hawley, Minnesota. Photo by Grit May

Science High School Teacher

If you are interested in science and have a gift for explaining it to others, you might think about a future in science teaching.

Science teachers answer questions, such as why the sky is blue. They challenge students in the classroom with lab experiments to interest young minds in natural phenomenon. Science teachers design classroom presentations and organize nature field trips. It helps to be comfortable with technology and hands-on learning because science education uses a lot of both.

A teaching career in science will keep your mind as stimulated as those of your students, especially in a world where science and technology constantly are progressing. Science teachers need to keep up-to-date with the latest curriculum and scientific results. A good way to do this is to become a member of the National Science Teachers Association. Being a science teacher can be very rewarding because you teach kids how to discover answers on their own. As a science

teacher, you can be the catalyst to improve student learning and accomplishment.

To become a science teacher, you need a bachelor's degree in science. Decide if you want to focus on specific subject areas, such as chemistry, or want to teach general science because there are different requirements.

Once you have your bachelor's degree or higher, you need to obtain teacher certification from the Department of Education in the state in which you plan to teach. You need to be licensed to teach certain grades and/or subjects. There also is an alternative teacher certification program that was created in response to fears of science teacher shortages nationwide. These alternative teacher certification routes provide teaching opportunities for people with both a bachelor's degree and real life experiences.



There is probably no more important career than that of a teacher, whether that is a school science teacher or an educator working for a university or business. Left: Science teacher G. Kotts, Stephen/Argyle High School, instructs students at a field project. Photo by Joe Courneya

Science College Professor

College professors coordinate and perform the functions of higher education. They engage in a variety of activities, from supervising graduate student research and running laboratory experiments, grading exams and papers to conducting large undergraduate lectures.

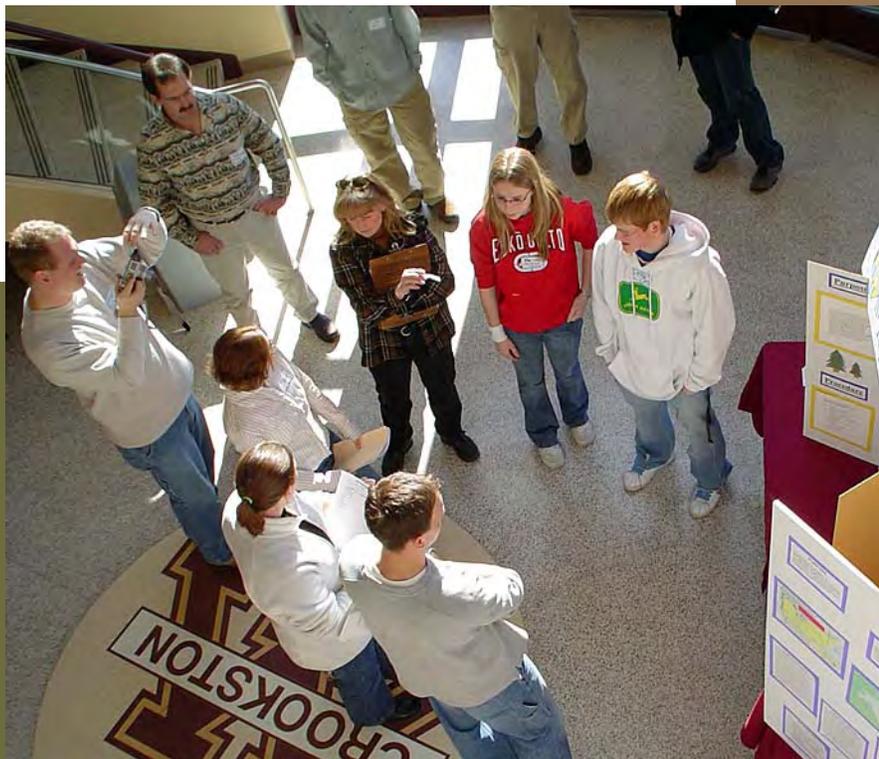
They usually teach several different related courses in their subject. Faculty keeps up to date of developments in their field by reading current literature, talking with colleagues and participating in professional conferences. The majority of faculty members serve on academic or administrative committees that deal with the policies of their institution, departmental matters, academic issues, curricula, budgets, equipment purchases, and hiring. Tenured professors have relatively high job security and professional freedom. The most difficult years of being a professor are the early ones, when there is great pressure to write numerous publications to establish the credentials that lead to tenure.

Most college and university professors extensively use computer technology, including the Internet, e-mail, CD-ROMs, and software programs. They often use

computers in the classroom as teaching tools and may post course content, class notes, class schedules and other information on the Internet. The use of e-mail, chat rooms and other techniques has greatly enhanced communications between students and teachers and among students.

While a master's degree may be sufficient to qualify to teach in a two-year college, a doctoral degree is required to teach in four-year colleges and universities. Doctorate degrees generally take four to seven years to complete. After finishing two to three years of course work, the graduate student usually will teach classes and write a dissertation. In addition, post-doctoral experience is very common.

College is the time in a student's life to develop skills that will help you become an expert in your field of interest. River Watch students have a unique opportunity to connect to college experiences while in high school. Right: Educators R. Wald and J. Courneya get a chance to learn about research results that high school students are discovering as part of a River Watch forum at the University of Minnesota, Crookston. Photo by Ruth Danielson





*Skills in machinery operation and maintenance are critical in many environmental related careers.
Photo by Butler Machinery, Inc.*

Job Outlook

Agriculture is the leading industry in North Dakota. Minnesota and North Dakota are major producers of small grains, corn, soybeans, dry edible beans and numerous other economically important crops. Although crop and animal production is not projected to increase, support and research activities for agriculture and forestry are expected to grow about 18 percent from 2004 to 2014 in North Dakota, according to Job Service North Dakota [6] and U.S. Department of Labor [4]. Agricultural scientists will be needed to balance increased agricultural output with protection and preservation of soil, water and ecosystems and to encourage the practice of “sustainable agriculture” by developing and implementing plans to manage pests, crops, soil fertility, erosion, and animal waste.

The Minnesota Department of Employment and Economic Development estimates a growth of 15 percent for agricultural equipment from 2002 until 2012 [7].

Life, physical and earth science occupations are predicted to grow between 5 percent and 15 percent in North Dakota until 2014 [6]. In Minnesota, there is growth of about 17 percent expected for occupations in life sciences and a growth of about 33 percent for occupations in physical/environmental science from 2002 until 2012 [7]. Demand will be spurred by a continuing emphasis on the need for energy, environmental protection, responsible land management and water-related issues.

There is a particular need for **science educators**. The number of postsecondary teachers is predicted to grow about 20 percent in North Dakota and 34 percent in Minnesota. The growth comes mainly from an expected increase in college and university enrollment during the next decade due to the expected rise in the population of 18- to 24-year-olds and from the increasing number of high school graduates who choose to attend these institutions.

Job opportunities for middle and secondary science teachers will be rather stable or decreasing through 2014 because student enrollments in elementary, middle, and secondary schools are expected to rise more slowly than in the past as children of the baby boom generation leave the school system [6], [7].

Jobs for **planners, architects and surveyors** are predicted to grow about 10 percent from 2004 until 2014 in North Dakota and about 32 percent in Minnesota from 2002 until 2012. Employment growth will be driven by the need for state and local governments to provide public services such as regulation of commercial development, the environment, transportation, housing, land use and development for an expanding population [6], [7].

Potential Employers

Have we got a job for you? You can bet on that, below are some potential employers. If you see something interesting you might explore job shadowing or intern experiences while in high school.

Private Sector

Environmental Consulting Firms
Groundwater Firms
Forest Product Companies
GIS Software/Products Companies
(e.g. ESRI, EarthWatch, ERDAS, Miner)
Geo-Processing Service Organizations

State/City Government Agencies

City/County GIS/Nat. Res. Division
City Wastewater Treatment Plants
State Parks
Science Museums
Universities & Colleges

Public Sector

Department of Agriculture

Natural Resource Conservation Service
US Forest Service

Department of Interior

Bureau of Reclamation
US Fish & Wildlife Service
National Park Service
Bureau of Land Management
US Geological Survey

Department of Health

Department of Natural Resources

MN Pollution Control Agency

Other Federal Agencies

Environmental Protection Agency
National Oceanic & Atmospheric
Administration
National Marine Fisheries Service
National Imagery and Mapping Agency
Army Corps of Engineers
Peace Corps

Non-Profit Organizations

Environmental Defense Fund
Clean Water Action
Greenpeace
Land Trusts
National Resources Defense Council
Sierra Club
Student Conservation Association
The Nature Conservancy
World Wildlife Fund
National Wildlife Federation
Environmental Learning Center

Recommended High School Courses

Believe it or not, High School is the place to start planning for your future. Want to get ahead of the crowd? Then read below how to plan for your future while still in high school.

Typical admissions requirements for four-year colleges include:

- Four years of laboratory science (biology, chemistry, physics)
- Four years of English (grammar and composition, American literature, English literature, world literature)
- Three to four years of mathematics (algebra I and II, geometry, trigonometry, precalculus, calculus)
- Two to three years in geography and history

In addition, depending on the planned environmental career, it is useful to take:

- Any courses involving communication skills, such as speech, journalism, and debate
- Courses in earth science, environmental science, or geology (if offered)
- Courses in statistics and computer science

Science is about learning by doing. If you like getting outdoors and working with your hands, you may be a perfect fit for a career in environmental sciences. Right: At a science summer camp, Stephen/Argyle High School offers students opportunities to practice real world science skills. These are skills that are important extensions of what you learn in your classroom science experiences. Photo by Joe Courneya



Universities & Four Year Colleges												
	Minnesota					North Dakota					Manitoba	
	MSUM Moorhead	UMC Crookston	BSU Bemidji	CC Moorhead	NDSU Fargo	UND Grand Forks	VCSU Valley City	MSU Mayville	UW Winnipeg	UM Winnipeg		
Career Feild												
Agriculture		BS / AAS			D / MS / BS / Min					D / MS / BS / Dip		
Crop Science/Horticulture		BS / Min			D / MS / BS / Min					D / MS		
Animal Range Science		BS			D / MS / BS / Min / Cert					D / MS		
Biology / Ecology	BA / Min		BS / BA	BS / Min	D / MS / BS / Min / Cert	D / MS / BS / Min	BS / BA / Min	BS / Min	BS	BS		
Botany/Zoology	Min				D / MS / BS / Min					D / MS / BS		
Microbiology				BS / Min	MS / BS	D / MS / Cert				D / MS / BS		
Biotechnology	BS				BS / Min					BS		
Environmental Sciences			BS	BS / Min	D / MS / BS / Min / Cert	MS / BS / Cert	BS / BA / Min		BS / BA	MS / BS		
Natural Resource Mngmt		BS			D / MS / BS					D / MS		
Chemistry	BS / BA		BS / BA	BS / Min	D / MS / BS / Min / Cert	D / MS / BS / Min	BS / BA / Min	BS / Min	BS	D / MS / BS		
Geology/Earth Science	BS / Min		Min		D / MS / BS / Min / Cert	D / MS / BS / Min	BS / BA / Min	Min		D / MS / BS		
Atmospheric Sciences						D / MS / BS / Min						
Geographic Info						Cert						
Urban Planning						Min			BS	MS / BA		
Landscape Architecture					BA / Min					BA		
Recreation/Turf Mngmt		BS	Min		BS					BA		
Geography	BS		BS / BA		Min	MS / BS / Min	BS / BA / Min	Min	BS / BA	D / MS / BS / BA		
Life Science Education	BS Edu		BS Edu	BS Edu	BS Edu / Cert		BS Edu / Min	BS Edu / Min				
Earth Science	BS Edu					Min		BS Edu				
Education Phys.	BS Edu		BS Edu	BS Edu	BS Edu / Cert		BS Edu / Min	BS Edu / Min				
Science Education		BS Edu			MS / BS Edu / Cert							

Degrees

BS
Min
BA
BS Edu
MS
D
Cert
AAS
Dip

(Bachelor of Sciences)
(Minor)
(Bachelor of Arts)
(Bachelor of Science in Education)
(Master of Science)
(Doctor of Philosophy)
(Certificate)
(Associate in Applied Science Degree)
(Diploma = Two Year Degree)

Universities & Colleges

MSUM
UMC
BSU
CC
ND
UND
VCST
MSU
UW
UM
Minnesota State University Moorhead, Moorhead
University of Minnesota, Crookston Campus
Bemidji State University, Bemidji
Concordia College, Moorhead
NDSU = North Dakota State University, Fargo
University of North Dakota, Grand Forks
Valley City State University, Valley City
Mayville State University, Mayville
University of Winnipeg, Winnipeg
University of Manitoba, Winnipeg

Community & Technical Colleges									
	Minnesota					North Dakota			Manitoba
Career Field	MSCTC Fergus Falls Moorhead	ATC Alexandria	NCTC East Grand Forks Their River Falls	NTGMN Red Lake	NDSGS Wahpeton	LRST Devils Lake	RRC Winnipeg	WTC Winnipeg	
Agriculture					AAS / AS	Co			
Crop Science/Horticulture					AAS				
Animal Range Science									
Biology / Ecology	AS / Co	Co	AA / Co		AS	Co	Dip		
Botany/Zoology									
Microbiology		Co	Co			Co			
Forestry		Co		Cert					
Biotechnology					AS				
Environmental Sciences			AA / Co		AS	Co	Dip		
Natural Resource Mngmt			AA		AS				
Chemistry	Co	Co	AA / Co		AS	Co	Dip		
Geology/Earth Science			Co						
Atmospheric Sciences									
Geographic Info System				Co			Dip		
Urban Planning									
Landscape Architecture									
Recreation/Turf Mngmt							Dip		
Geography									
Science Education									

Agriculture

Life Science

Physical Science

Earth Science

Planning & Surveying

Education

Degrees

- Cert
- AS
- AAS
- AA
- Dip
- Co

- (Certificate)
- (Associate Science Degree)
- (Associate in Applied Science Degree)
- (Associate in Arts Degree)
- (Diploma = Two Year Degree)
- (Credited Course with 1-5 Credits)

Community & Technical Colleges
MSCTC Minnesota State Community & Technical College, Campus at Fergus Falls & Moorhead
ATC Alexandria Technical College, Alexandria
NCTC Northland Community and Technical College, Campus at East Grand Forks & Their River Falls
NTGMN Northwest Technical College, Campus Bemidji and Red Lake
NDSGS North Dakota State College of Science, Wahpeton
LRST Lake Region State College, Devils Lake
RRC Red River College of Applied Arts, Science and Technology, Winnipeg
WTC Winnipeg Technical College, Winnipeg

		Tribal Colleges				
		Minnesota		North Dakota		South Dakota
Carrier Field		WETCC Mahnomn	LLTC Cass Lake	TMCC Belcourt	CCCC Fort Totten	SWC Sisseton
Agriculture	Agriculture			AAS / Co	AS / Co	
	Crop Science/Horticulture			Co		
	Animal Range Science			Co	Co	AAS / Co
Life Science	Biology / Ecology	Co	Co	AS / Co	Co	AS / Co
	Botany / Zoology Microbiology	Co	Co	Co		Co
	Forestry		Co			
	Biotechnology		Co			
Physical Science	Enviromental Sciences	AA / Co	Co	AS / Co	Co	AS / Co
	Natural Resource Mngmt	Co	Co	AS / AAS / AA / Co	AS / Co	
	Chemistry	Co	Co	Co	Co	AS / Co
Earth Science	Geology/Earth Science	Co		Co	Co	Co
	Atmospheric Sciences					
	Geographic Info System	Co	Co			
Planning & Surveying	Urban Planning					
	Landscape Architecture					
	Recreation/Turf Mngmt					
	Geography	Co	Co			
Education	Science Education		AA			

Degrees

AS (Associate Science Degree)
AAS (Associate in Applied Science Degree)
AA (Associate in Arts Degree)
Co (Credited Course with 1-5 Credits)

Tribal Colleges

WETCC White Earth Tribal & Community College, Mahnomn
 LLTC Leech Lake Tribal College, Cass Lake
 TMCC Turtle Mountain Community College, Belcourt
 CCCC Cankdeska Cikana Community College, Fort Totten
 SWC Sisseton Wahpeton College, Sisseton

What is the earning potential?

Here is a “real world” look at pay rates in various career fields. If you are good at what you do, here is what you can expect an employer in our region to consider paying for your skills.

Remember the median wage is the middle wage. It means that 50 percent of the wages will be less and 50 percent greater than this value. [6] [8] [9]

Occupations	Eastern North Dakota Median Data From 12/2006	Growth ND predicted 2004-14	Northwestern Minnesota Median Data From 9/2007	Growth MN predicted 2004-14
Agriculture				
Agronomist (Plant Scientist)	\$72,681	11 %	\$44,814	15 %
Animal Scientist	\$55,943			9 %
Agricultural Engineer	\$63,940	34.5 %	\$66,144	15 %
Agricultural Technician	\$32,592	13.5 %	\$29,389	3 %
Life Science				
Biologists / Ecologist	\$51,725	12 %	\$51,214	9 %
Zoologist & Wildlife Biologist	\$59,538	2 %	\$54,321	5 %
Biological Technician	\$26,128	5 %	\$42,003	4.5 %
Microbiologist	\$35,110	16 %		
Forester		3 %	\$50,807	11 %
Forest Technician	\$33,048	3 %	\$37,560	7 %
Physical & Environmental Science				
Environmental Scientist	\$56,386	11 %	\$50,322	14.5 %
Chemist	\$49,924	7 %	\$56,707	-3 %
Conservation Scientist (Nat. Res.)	\$55,776	-1 %	\$60,168	5 %
Environmental Engineer	\$60,199	15 %	\$55,610	32 %
Environmental Science Technician	\$43,663	9.5 %	\$39,651	44.5 %
Earth Science				
Soil Scientist	\$55,943	11 %	\$44,814	15 %
Hydrologist	\$55,797	16 %	\$64,584	16 %
Atmospheric Scientist	\$68,909	11 %		
Planning & Surveying				
Urban & Regional Planner	\$53,665	7 %	\$53,010	10 %
Surveyor	\$45,622	10 %	\$48,292	25 %
Cartographer	\$28,765	5 %	\$48,477	25 %
Landscape Architect	\$43,841		\$53,872	
Education				
Environ. Science Teacher (College)	\$57,552	20.5 %	\$43,245	21 %
Agricultural Science Teacher (College)	\$77,188		\$77,393	25 %
Biological Science Teacher (College)	\$52,136	19 %	\$45,805	19 %
Earth Science Teacher (College)	\$60,315	14 %	\$46,741	21 %
High School Teacher	\$42,150	4 %	\$45,732	1.5 %

Sources

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- [3] Employment Development Department of California
<http://www.calmis.ca.gov/file/occguides/ENVHLTH.HTM>
- [4] Us. Department of Labor
<http://www.bls.gov/oco/>
- [5] http://www.gis.com/careers/geospatial_career.html
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- [6] North Dakota Career Resource Network
<http://www.ndcrn.com/students/occupations/>
- [7] Minnesota Department of Employment and Economic Development
<http://www.deedstate.mn.us/lmi/tools/projections/>
- [8] Job Service North Dakota: 'Wages for North Dakota Jobs' - 2007 Edition, North Dakota Employment Projections
<http://www.ndworkforceintelligence.com/gsipub/index.asp?docid=339>
- [9] Salary Tool at Minnesota Department of Employment and Economic Development
<http://www.iseek.org/sv/41012.jsp>
- [10] Ubiquity Environmental Careers Page
<http://www.ag.ohio-state.edu/~envjobs/env5.htm>

Links

Have we got you interested? The more you search and learn about the opportunities that await you, the better off you will be. Remember though, that some jobs in the environmental sciences have not yet even been discovered. So do your leg work but be prepared for additional new and exciting opportunities.

General College and Career Planning Links

www.mapping-your-future.org
www.careeronestop.org
www.collegenet.com

Environmental Career Planning Links

Complete Guide to Environmental Careers for the 21st Century <http://www.eco.org/Guide>
Oceanography, Marine Science & Marine Biology <http://scilib.ucsd.edu/sio/guide/career.html>
Career Guide: Nature & The Environment <http://www.saludos.com/cguide/nguide.html>
Careers That Care http://www.panda.org/about_wwf/jobs/index.cfm
Outdoor Action Guide to Outdoor and Environmental Careers
<http://www.princeton.edu/~oa/careeroe.html>

Job Links

Environmental Jobs and Careers <http://www.ecoemploy.com/>
Earthworks <http://www.earthworks-jobs.org>
Green Dream Jobs <http://www.sustainablebusiness.com>
Greenbiz <http://www.greenbiz.com/jobs>
National Environmental Health Association Job Center <http://www.neha.org/CareerOp.html>
Environmental Organizations Web Directory www.webdirectory.com
Environmental Protection Agency on-line internet recruitment system www.epa.gov/ezhire
Environmental Career Center <http://environmental-jobs.com/>
Environmental Jobs and Careers <http://www.ejobs.org>
Environmental Careers Bulletin <http://www.eceajobs.com>
Cyber-Sierra's Natural Resources Job Search <http://www.cyber-sierra.com/nrjobs/read.html>
Wetland related jobs <http://www.sws.org/jobs>
Water quality positions <http://www.wef.org/careeropp>

Internship Links

North Dakota Internships <http://www.teamnd.org/index.cfm>

The Student Conservation Association-internships and job listings <http://www.thesca.org>

Internships <http://www.oriononline.org/pages/ogn/ics.cfm>

Professional Associations Links

National Environmental Health Association <http://www.neha.org>

Environmental Protection Agency <http://www.epa.gov/>

National Association of Environmental Professionals <http://www.naep.org/>

Ecological Society of America <http://www.esa.org/>

Local Government Environmental Assistance Network <http://www.lgean.org/>

American Water Works Association <http://www.awwa.org/>

Society for Conservation Biology <http://conbio.net>

Association for the Advancement of Sustainability in Higher Education <http://www.aashe.org>

On the next page are examples for job announcements in the Red River Basin

Ok - so here are some real jobs, being done by real people. If you see one you might like, check out the job duties, the pay and the possibility to take advantage of your great skills.

Agriculture

Biological Science Laboratory Technician (Plants)

USDA Agricultural Research Service, Cereal Crops Research
Fargo, North Dakota

Salary \$34,149 - \$54,300 annually

Duties

The incumbent provides technical support and assistance to a molecular geneticist in a cereals molecular genetics program, and will participate in a project aimed at developing and applying high throughput DNA marker systems to small grains. Major duties include processing DNA and RNA samples; conducting molecular marker analysis; performing polymerase chain reaction (PCR) experiments, recombinant DNA techniques, agarose and polyacrylamide gel electrophoresis; growing, maintain, and harvesting plants; maintaining precise and detailed records of experimental conditions and data; compiling and analyzing data using personal computer; operating and maintaining routine as well as complex analytical laboratory instruments such as autoclaves, centrifuges, spectrophotometers, electrophoresis, pH equipment, robots, and ABI and Licor DNA sequencing systems.

Qualifications

GS-7: 1 year of specialized experience equivalent to the GS-6 level OR 1 full year of graduate level education in a field of study directly related to the work of this position.

GS-8: 1 year of specialized experience equivalent to the GS-7 level OR 1 1/2 years of graduate level education in a field of study directly related to the work of this position.

GS-9: 1 year of specialized experience equivalent to the GS-8 level OR 2 full years of graduate level education in a field of study directly related to the work of this position.

Specialized Experience

- Knowledge of molecular genetics
- Knowledge of molecular markers (e.g., SSR, TRAP, RFLP, AFLP, SNP, STS and CAPS)
- Ability to collect, analyze and summarize data using personal computers and software
- Skill in the operation and maintenance of complex laboratory equipment and instruments

Application Process

Send a resume, Curriculum vitae, Optional Application for Federal Employment to the contact address.

Animal Scientist

*North Dakota State University, Department of Animal & Range Sciences
Fargo, North Dakota*

Salary \$27,000 + annually

Assist in conducting basic and applied research related to program goals of the meat science/muscle biology group. Laboratory management duties include: collect and prepare tissue samples for analysis, prepare complex reagents, perform molecular biology techniques, supervise data collection and entry; supervise undergraduates and graduate students in the laboratory; operate and maintain laboratory equipment including spectrophotometers, chromatography, gel electrophoresis and computerized image analyses equipment; summarize and assist in the preparation of data for publication and grants.

Minimum Qualifications

- B.S. in relevant science field and three years laboratory experience
- Strong computer skills with experience in data management including Microsoft Excel and Word
- Ability to manage day-to-day muscle biology laboratory operations including general equipment maintenance and troubleshooting, inventory control, including monitoring and ordering supplies, as well as general facility upkeep
- Ability to learn, refine and develop new procedures
- Strong work ethic
- Ability to work with different personalities
- Proven ability to work and communicate effectively with subordinates and supervisors

Preferred Qualifications

- M.S. degree or higher
- Strong background in muscle biology and physiology
- Knowledge of meat harvesting procedures and meat animal anatomy
- Experience in laboratory maintenance and operations
- Knowledge of protein chemistry methods including ion exchange chromatography, western blotting, and assays
- Computer skills using SAS statistical analysis software
- General statistics knowledge

Application Process

All interested persons should submit the following supporting documents to the Office of Human Resources of NDSU or Job Service:

1) Standard NDSU application form; 2) cover letter; 3) current resume; and 4) names, addresses, and phone numbers of three professional references.

Farm Bill / SWCD Technician

*Douglas County Soil & Water Conservation District (SWCD)
Alexandria, Minnesota*

Salary \$10.00 per hour

Douglas SWCD is accepting applications for a Farm Bill / District Technician. The position is responsible for promotion and implementation of conservation programs available through the Federal Farm Bill and Douglas SWCD.

Minimum Qualifications

- High School Diploma or equivalent (GED)
- Two years of related experience
- Valid Class D MN Drivers License

Preferred Qualifications

- Two year degree in Natural Resources Management, Soil and Water Conservation Technology, or closely related field, or a combination of related experience and education in the above mentioned fields to total four years.
- Knowledge of conservation implementation.
- Experience with GIS/GPS and other programs.

Duties and Responsibilities

- Promote the conservation programs available to area producers including but not limited to CRP, CCRP, WHIP and EQIP through one on one contact, direct mailings, informational meetings and news releases.
- Assist with implementation of conservation practices.
- Requires occasional lifting up to 50 Lbs. and or carrying articles and equipment over rough terrain in inclement weather.
- Assist NRCS with various programs.
- Other duties assigned.

30 hours per week, Duration is Part Time, Temporary, Day Shift

Application Process

Applicants must submit a completed Douglas SWCD application for employment and resume with references. Individuals selected for interviews will be contacted by phone.

Life Science

NR Forestry Specialist

*Minnesota Department of Natural Resources, Division of Forestry
Various Locations, Minnesota*

Salary \$15.39-\$22.27 hourly, \$ 32,134-\$ 46,500 annually

Duties

- Division of Forestry Programs: Complete field assignments and special administrative assignments in all aspects of Division operations at the Forestry Area administrative level.
- Forest Resource Information and Analysis Program: Implement forest resource information and analysis policy and procedure. Measure state administered lands following Department of Natural Resources Forest Inventory Module (FIM) Program policy and procedure; collect, record and analyze forest resources information.
- Formal Training: Complete the Minnesota Division of Forestry Entry Level Professional Forester (ELPF) Development Program consisting of several field mobility assignments, special project assignments, and formal classroom training, over a twelve month period.
- Operational Support: Direct the work of technicians, laborers, temporary crews, and contractors.
- Extensive travel required throughout Minnesota to complete training and mobility work assignments.

Minimum Qualifications

- Bachelor of Science Degree in Forest Science/Management (or a closely related field of academic study) from a university program accredited by the Society of American Foresters, or comparable accrediting institution.
- Knowledge of the all aspects of the profession of forestry including - forest ecosystem management science, timber harvesting, forest regeneration and timber stand improvement practices, forest survey and data collection and analysis techniques using statistical methods, forest road design and building, fire science, forest plant and shrub identification, and safety practices.
- Human relations; oral and written communication; and listening skills.

Requirements

- Requires occasionally lifting articles such as 50-pound bags of feed maximum and frequently lifting and/or carrying objects such as heavy tools and file boxes.
- This job may require walking or standing to a significant degree on rough terrain or may involve sitting most of the time with pushing and pulling of arm and/or leg controls.
- Requires a Class D Driver's License: a single unit vehicle with a gross vehicle weight of less than 26,000 pounds. This is a basic driver's license. Operators may also tow vehicles/trailers as long as the gross combination weight does not exceed 26,000 pounds.

Preferred Qualifications

Ability to implement public responsiveness techniques.

Selection Process

The selection process includes a resume-based, skill-matching process, as well as an interview, writing skills assessment, and reference check. Your resume will be entered into a database. A software program matches your skills with the skills needed to perform the duties of the position. If your skills match the required skills for this position, the department may contact you.

NR Specialist - Fisheries

*Minnesota Department of Natural Resources, Division of Fish and Wildlife
Various Locations, Minnesota*

Salary \$15.92-\$23.09 hourly, \$33,241-\$48,212 annually

Duties

- Duties include: design, implementation, and supervision of projects.
- Coordinates lake and stream investigations so assessments are completed and data is available for management planning by advising the area supervisor on scope of survey, scheduling surveys, collecting data, analyzing results, formulating conclusions and writing reports.
- Coordinates production and distribution of fish species, assist area supervisor in determining stocking program parameters, implement egg taking and hatchery programs, assess and acquire fish rearing ponds, distribute fry, harvest and distribute fingerlings.
- Develops and coordinates a public relations program to educate and inform the public by encouraging cooperation with projects, providing information on project parameters, consulting on problems, making presentations and writing explanatory material.
- Maintains or oversees maintenance of hatchery equipment, construct or repair equipment and recommends needed equipment and materials.
- Designs and implements habitat improvement projects, evaluates existing habitat, designs methods for improving habitat and supervises crews working on habitat projects.
- Monitors the use of aquatic pesticides, evaluates permit requests, supervises pesticide applications and investigates violations of laws regarding pesticide use.
- Directs the work of laborers, technicians and clerks, determines priorities, assigns work, evaluates work, purchases materials, informs staff of developments and recommends training.

Minimum Qualifications

- Bachelors Degree in biology, fisheries, or closely associated area and meet the following minimum course requirements (with a minimum grade of 'C' or better):
 - A. Fisheries and aquatic sciences courses. A minimum of 4 courses, for a total of 12 semester or 18 quarter hours. Of the 4 courses, at least 2 must be directly related to fisheries science, and at least 1 must cover principles of fisheries science and management.
 - B. Other biological sciences courses that, when added to the preceding courses, total 30 semester or 45 quarter hours.
 - C. Physical sciences courses. Fifteen semester or 23 quarter hours.
 - D. Mathematics and statistics courses. Six semester or 9 quarter hours, including 1 college algebra and 1 statistics course or 2 statistics courses.
 - E. Communications courses. Nine semester or 13 quarter hours (3 semester or 5 quarter hours may be taken in communications intensive courses if officially designated as such by the university or college).
- Must pass a written exam covering the following content areas: Fish Biology/Ecology; Fish Propagation and Distribution; Fish Habitat Improvement and Protection; Fish Surveys and Assessment; and Statistics-Fish Management.

Additional requirements

- Ability to maintain and operate equipment, such as boats, motors, trailers, etc. Writing skills sufficient to draft lake management plans, technical reports, letters, etc.
- Oral communication skills sufficient to inform public and provide general information on fishing seasons and regulations.
- Ability to work in adverse weather and environmental conditions. Computer literacy, including knowledge of databases, spreadsheets, and word processing.
- Requires occasionally lifting articles such as 50-pound bags of feed maximum and frequently lifting and/or carrying objects such as heavy tools and file boxes.
- This job may require walking or standing to a significant degree on rough terrain or may involve sitting most of the time with pushing and pulling of arm and/or leg controls.
- Requires a Class D Driver's License: a single unit vehicle with a gross vehicle weight of less than 26,000 pounds. This is a basic driver's license. Operators may also tow vehicles/trailers as long as the gross combination weight does not exceed 26,000 pounds.

Preferred Qualification

- GIS/GPS skills
- Safety training
- Human dimensions coursework
- Technical experience in fish management and/or fish propagation

Selection Process

This is a three part process. If you pass the transcript review (listed above), you will be scheduled for an oral interview and written exam.

Oral Interview & Exam Portion

- Applicants will be invited to interview after having met the minimum coursework requirements.
- Oral interviews will be held at the Central Office of the Minnesota Department of Natural Resources in St. Paul, Minnesota.
- The oral interview will consist of 6-10 questions covering statistics, biology, management, and situational decision-making.
- Applicants will also take a 40 question multiple-choice exam covering Fish Biology Ecology and Fish Management.
- The oral interview and written exam are conducted on the same day.

You are strongly encouraged to submit your resume through the online Resume Builder

If you wish to apply with a paper copy, submit your resume AND a completed State of Minnesota Employment Application form.

Wildlife Technician I

*ND Game and Fish Department
Lonetree WMA, Rural Harvey*

Salary \$1920 - \$3200 per month

Responsible for performing wildlife development, operations and maintenance activities on District II Wildlife Management Areas in the central part of the state which includes Sheridan, Wells, Foster and Eddy counties. Duties involve biological, mechanical, and chemical control of noxious weeds; fire control; operation and maintenance of heavy equipment; operation of welders and shop power tools; assisting with wildlife surveys and trapping operations; involvement in the Department's wildlife depredation program; and other duties as assigned. Will be required to work independently out-of-doors often in extreme weather conditions. Employee will be required to work at other locations in the state as required.

Minimum Qualifications

- Must have at least a two-year Associates Degree in biology or closely related field or two years of vocational/technical training in an area related to the major job duties.
- Must possess or be able to obtain a valid class A North Dakota drivers license.
- Must be proficient in the use of shop machinery and tools.
- Work experience in heavy equipment operation, basic carpentry, and equipment maintenance is preferred.
- Must attend and successfully complete the first fire control and management training course available after the hiring date.
- Must be able to perform the essential functions of the job. A working knowledge of and experience in wildlife resource and land management is required.
- Must successfully complete the interview process and reference checks.

Essential Functions

1. Must be able to load and move objects weighing up to 50 pounds.
2. Must become certified and licensed for application of chemical herbicides and pesticides.
3. Operate and maintain farm tractors, semi-truck and trailer, dump trucks, grain trucks, flat bed trucks, farm machinery, snowmobiles, 4x4 ATVs, snowmobiles, herbicide sprayers and fire pumps.
4. Operate arc, wire-feed and acetylene welders.
5. Active participation in promotion, sign-up, and monitoring the Private Lands Initiative.
6. Provide assistance to private landowners with prevention activities associated with big game depredation.
7. Coordinate seasonal employee work schedules.

Application Process

1. A letter of interest.
2. A State of North Dakota Application for Employment.
3. A current resume.
4. A written summary that demonstrates the applicant's ability and experience as related to the Minimum Qualifications and Summary of Work.

Applications may also be submitted by fax by email.

Physical Science

Shoreland Specialist

*East Otter Tail Soil & Water Conservation District
Perham, Minnesota*

Salary \$12.50 - \$13.93 per hour

Work with local, state and federal agencies to implement the identified objectives of the Otter Tail County Local Water Plan by providing technical assistance and support to area shoreland owners requesting assistance with shoreland erosion control and stabilization projects. This position will be involved with implementing shoreland BMP's to improve surface water quality, educational activities, and other natural resource protection and planning activities.

Minimum Qualifications

- Associates Degree
- 12 Months Experience
- Class D Driver's License

Benefits

- Health Insurance
- Sick Leave
- Vacation

Wastewater Operator

*City of Fargo,
Fargo, North Dakota*

Salary \$2531-\$2751 per month

Position involves a variety of technical duties in the operation and maintenance of the wastewater treatment plant including inspecting equipment and processes, manually operating equipment, and logging/recording pertinent data. Position involves shift work and requires a valid driver's license. Ability to obtain a CDL (Commercial Driver's License) may be required.

Minimum Qualifications

One year of accredited technical training in either water or wastewater treatment processes or three or more years of previous experience operating or performing operational related duties in a water or wastewater treatment facility or an equivalent combination of education and experience sufficient to successfully perform the essential duties of the job such as those listed above. A valid State of North Dakota driver's license is also required. A Commercial Driver's License (CDL) may be required as a condition of employment by the Water and/or Sewer departments.

Preferred Qualifications

- Knowledge of local, state and federal laws, rules and regulations concerning treatment plant operations.
- Knowledge of the proper operation and maintenance of equipment used in the treatment process including pumps and motors.
- Knowledge of confined space entry and hazardous materials handling as related to treatment process.
- Knowledge of procedures of sampling and sample testing.
- Knowledge of principles of water, wastewater and sludge treatment processes and process control.
- Skill in performing basic mathematical computation such as addition, subtraction, multiplication and division.
- Skill in reading and writing English sufficient to read and write logs and records.
- Skill in observation and interpretation of changes in process control to sufficiently determine necessary adjustments.
- Skill in operation and maintenance of all plant equipment and in the performance of all operating activities.
- Skill in communication, interpersonal skills as applied to interaction with coworkers, supervisor, the general public, etc. sufficient to exchange or convey information and to receive work direction.

Physical Activities/Requirements

- Climbing, balancing, stooping, kneeling, crouching, crawling, reaching, standing, walking, pushing, pulling, lifting, fingering, grasping, feeling, talking, hearing/listening, seeing observing, repetitive motions.
- Heavy Work: Exerting up to 100 pounds of force occasionally, and/or up to 50 pounds of force frequently, and/or up to 20 pounds of force constantly to move objects.

Employment contingent on successful background check, drug screen and pre-placement evaluation.

Environmental Affairs Manager

*American Crystal Sugar Company
Moorhead, Minnesota*

As the nation's largest beet sugar producer, American Crystal Sugar Company is committed to finding ways to continually improve. That's why we reward people who take action, work smart, and reach further.

We are looking for a strategic-minded individual to join our Corporate Headquarters Management Team. This position ensures that the company implements plans and policies to comply with laws relating to environmental control and acts as the lead resource to factory management in providing regulatory guidance, completion of environmental permits as required and review of engineering projects for environmental compliance.

Qualifications

- Bachelor's degree in Environmental Engineering or related field.
- Five to ten years of experience managing the regulatory and environmental function in an industrial setting.
- The ability to effectively communicate with staff at all levels of the organization, state and local officials, business and community leaders and citizen groups is critical, as are effective managerial skills.
- Strong leadership and project management ability required.

Certified Energy Specialist

*Cenex CHS Inc.
Roseau, Minnesota*

Salary \$33,000.00 - \$38,000.00 annually

CENEX, a brand of CHS, Inc, has an immediate career opportunity for a Certified Energy Specialist in the Northwestern, MN (Roseau). The Certified Energy Specialist represents a local cooperative in an assigned territory in a retail sales capacity. The position's focus is on petroleum sales to commercial, agricultural and industrial businesses.

Qualifications

Qualifications for the Certified Energy Specialist position include prior sales experience, excellent communication skills, some knowledge of computer systems, and agricultural or petroleum experience. We are seeking an individual who is interested in increasing sales, is energetic, flexible and self-motivated.

This position offers a competitive base salary, excellent fringe benefits (401K, Dental Insurance, Health Insurance, Holidays, Sick Leave, Vacation), and company vehicle.

To apply for this position or other energy sales opportunities in our 28 State territory please send your resume and salary requirements.

Earth Science

Geologist

*Epoch Well Services
Fargo, North Dakota*

Mudlogging Geologist Epoch Well Services, Inc. is a leading provider of advanced mudlogging services to the oil, gas, and geothermal industries in California, Offshore Gulf of Mexico, Alaska, Rocky Mountains, Texas, and Louisiana. Epoch is recruiting geology graduates for mudlogging positions to staff projects in all of these regions.

Minimum Qualifications

- B.S. Degree Geology or equivalent on-the-job experience.
- Must work exceptionally well in a dynamic, team-oriented environment.
- Computer literacy with strong written and verbal communications skills critical for dealing with industry clients and other contractor field personnel.

Responsibilities

- Responsible for operating computerized logging unit in both onshore and offshore environments in the safest manner possible.
- Responsible for providing client personnel with accurate and timely data and daily written reports.
- Responsible for transmitting live geological data, drilling data, daily reports, and logs via satellite and myWells.com.
- Responsible for evaluating all formations penetrated and reporting any hydrocarbon discoveries.
- Responsible for monitoring all aspects of rig operations and downhole conditions.
- Responsible for reporting any suspected unsafe conditions and keeping rig personnel informed of such conditions.

Requirements

- Willing to work 12 hour shifts with minimal supervision at remote onshore and offshore locations where travel is necessary.
- Ability to adapt quickly to an ever-changing industry environment.
- Must have a valid Driver's License.
- Knowledge of oil and gas industry would be an asset; however, comprehensive on-the job training is offered by Epoch Well Services, Inc.

Benefits

401K - Dental Insurance - Education Assistance - Expense Account - Extended (Family) Sick Leave - Health Insurance - Holidays - Sick Leave - Vacation - Vehicle Allowance - Vision Insurance

Natural Resources Area Hydrologist

*Minnesota Department of Natural Resources, Water Division
Grand Rapids, Minnesota*

Salary \$20.80-\$30.66 hourly, \$43,430-\$64,018 annually

Duties

- Perform hydrologic and/or hydrogeologic monitoring and technical studies, provide technical assistance, and prepare technical reports.
- Perform comprehensive water resource management.
- Delegated permit signature authority to issue most classes of water permits.
- Conduct technical analysis and provide qualify assistance to the general public, local units of government and other resource professionals.
- Review land alteration proposals for conformance with water resources protection rules and local government plans and ordinances.
- Investigate and analyze projects and trends related to: water use, well interference, ground water supply potential, public waters, wetlands, flood plains or shoreland areas.
- Install and maintain water level gauges, piezometers, stream gauging equipment and other specialized water resources data collection equipment.
- Conduct hydrogeologic mapping or watershed delineation, compile borehole logs and interpret aquifer potential and conduct other field studies to address ground water issues.

Minimum Qualifications

- Bachelor's degree in one of the following disciplines: Civil, Environmental or Agricultural Engineering; Forest Hydrology; Geography; Geology; Geophysics; Hydrogeology; Hydrology; Natural Resources and Environmental Studies; Soil Science; Water Resources Management; including at least two courses in hydrology, hydraulics or hydrogeology.
- Four years of professional work experience in the areas of soil and water resource management, water planning or regulation, surface or ground water hydrology or related technical or regulatory work.
- Requires occasionally lifting articles such as 50-pound bags of feed maximum and frequently lifting and/or carrying objects such as heavy tools and file boxes.
- This job may require walking or standing to a significant degree on rough terrain or may involve sitting most of the time with pushing and pulling of arm and/or leg controls.
- Requires a Class D Driver's License: a single unit vehicle with a gross vehicle weight of less than 26,000 pounds. This is a basic driver's license. Operators may also tow vehicles/trailers as long as the gross combination weight does not exceed 26,000 pounds.

Preferred Qualifications

- Advanced courses or work experience in hydrology, hydraulics, hydrogeology, geophysics, land surveying, land use planning and zoning, administration of official controls or water resources management programs.
- Experience with water resource planning and management in state, federal or local units of government.

Selection Process

The selection process is a resume-based, skill-matching process. Your resume will be entered into a database. The software program matches your skills with the skills needed to perform the duties of the position. If your skills match the required skills for this position, the department may contact you.

GIS Specialist

*Engineering consulting firm
Fargo, North Dakota*

The qualified candidate will be responsible for completing task management for FEMA county-wide DFIRM update studies. The specific tasks are likely to include the use of GIS software to support engineering modeling activities, managing project tasks, mentoring junior staff, developing and formatting standard ESRI geodatabases, creating cartographic maps, and coordinating field survey activities specific to geodatabase development. The ideal candidate must demonstrate knowledge and experience with FEMA Guidelines and Specifications for Flood Hazard Mapping Partners and use of the Mapping Information Platform.

Minimum qualifications

- B.S. or M.S. in GIS, geography, geology, planning, computer science, or related field.
- Minimum of 2 to 5 years professional experience, preferably in a consulting capacity.
- Familiarity with surface water hydrology and hydraulics and the application of hydrologic and hydraulic (H&H) models and the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP).
- Candidates also must possess 1 or more years experience with the preparation of FEMA Flood studies, DFIRM database and map production experience and project and personnel management experience.
- Experience processing survey and terrain data for FEMA flood studies.
- In-depth knowledge of ESRI GIS software and database concepts.
- Knowledge of relational database systems and spatial database systems; Geodatabases and Coverages.
- Desired Software Experience: Access, AutoCAD, GPS platforms, ESRI (ArcView and ArcInfo), EVS, ODBC, Visual Basic, SQL, XML.

Excellent oral & written communication, with ability to bridge the gap between technical and non-technical staff/management is critical, as well as strong general computer skills. The ideal candidate should be considered a self-starter with the desire and ability to take the lead on multiple tasks and the ability to control and deliver on multiple workloads simultaneously. Certification of a Floodplain Manager is a plus.

Planning & Surveying

Assistant Planner

*City of Fargo
Fargo, North Dakota*

Salary \$3,471-\$3,784 per month

Duties

Assist in planning and implementation of department programs by collecting data, completing research, preparing reports, and providing program administration for the City of Fargo Transit Division. Incumbent is responsible for interpreting applicable rules and regulations and developing plans and strategies for implementation. Persons in this position may be assigned to fixed route scheduling, long range planning, and/or marketing.

Minimum Qualifications

- Graduation from an accredited college or university with a bachelor's degree in urban planning, public administration or landscape architecture
- At least one (1) year of planning experience or internship, or any such combination of education, experience and training as may be acceptable to the hiring authority.
- Must possess or be able to obtain a valid driver's license prior to employment.

Required Knowledge:

- Knowledge of the principles and practices of urban planning.
- Knowledge of computer applications in urban planning and business.
- Knowledge of federal, state and local regulations pertinent to urban planning and development.
- Knowledge of basic bookkeeping.

Required Skills:

- Skill in organization and statistics.
- Skill in developing and interpreting data.
- Skill in interpreting federal and state regulations.
- Skill in performing mathematical computations such as algebraic functions.
- Skill in communication and interpersonal skills as applies to interaction with coworkers, supervisors, the general public, etc., sufficient to exchange or convey information, resolve disputes and receive work direction.

Education

Farm Business Management Instructors

*Northland Community & Technical College
Thief River Falls, Minnesota*

NCTC is seeking two full-time, unlimited Farm Business Management Instructors for (1) Fosston Site & (1) Mahnomen Site to teach courses in the Farm Business Management program.

Minimum Qualifications

- Bachelor or above degree in agriculture and 4000 hours of occupational experience.
- 2000 hours of the occupational experience must be within the last five years.
- Experience in production or operation of plants or animals on a farm or ranch or in agricultural finance or agribusiness.
- Teaching experience may be substituted for up to 1500 hours within the last five years with a ratio of two hours of teaching for one hour of occupational experience.
- Teaching experience substitutions in agricultural education, farm operations and management, veteran's cooperative farm management or farm business management are acceptable.

Please submit letter of interest, resume, copy of college transcripts and names/contact information of three (3) professional references.

Regional Naturalist 3

*Natural Resources Department, Parks & Recreation
Bemidji, Minnesota*

Salary \$18.13-\$26.60 hourly, \$37,855-\$55,541 annually

This position is responsible for directing and administering interpretive, environmental education and information programs for MN State Parks in the northwest region of the state. It is also responsible for implementing regional policies, plans and procedures for the operation of interpretive and information services and contributing to statewide program management and interpretation efforts.

Responsibilities

- Plan, direct and manage regional or statewide interpretive, environmental education and park information programs.
- Develop and monitor program policies and direction.
- Interview, hire, train, assign and evaluate staff.
- Assess, propose, research, develop, coordinate and approve non-personal interpretive services.
- Assess needs and prepare budget recommendations.
- Direct and monitor expenditures.

Minimum Qualifications

- Bachelor's degree in one of the physical sciences such as ecology, zoology, botany, geology OR a cultural resource-focused degree such as American history, anthropology, archaeology, OR parks and recreation management OR the equivalent;
- Two years professional experience identifying, developing, conducting and evaluating a wide variety of personal and non-personal natural/cultural resource interpretive services.

Additional requirements

- Advanced oral communication skills to present information on environmental and cultural values, facts, and theories in a clear and understandable manner to diverse individuals and groups.
- Writing skills sufficient to develop materials, compile reports and write interesting and educational news releases.
- Advanced human relations skills.
- Experience in public speaking, interpersonal communication, interpretation, or education.
- Experience in natural/cultural resource interpretation.
- Understanding of interpretive techniques to include the ability to assess audiences and the effectiveness of interpretive media.
- Skills in historical, cultural and natural resource research and literature search techniques.
- Skills in interpretive exhibit and display standards and techniques.
- Requires occasionally lifting articles such as 50-pound bags of feed maximum and frequently lifting and/or carrying objects such as heavy tools and file boxes.
- This job may require walking or standing to a significant degree on rough terrain or may involve sitting most of the time with pushing and pulling of arm and/or leg controls.
- Requires a Class D Driver's License: a single unit vehicle with a gross vehicle weight of less than 26,000 pounds. This is a basic driver's license. Operators may also tow vehicles/trailers as long as the gross combination weight does not exceed 26,000 pounds.

Preferred Qualifications

- Knowledge of park rules, policies, and facilities.
- Familiarity with Minnesota's natural and cultural resource heritage and stories.
- Understanding of educational curriculum and materials to assess effectiveness and train others.
- Illustration and/or photography skills.
- Problem-solving skills.
- Organization skills.
- Supervisory or lead work experience.
- Knowledge of human resource policies, procedures, and labor contracts.
- Working knowledge of state laws, policies and procedures regarding expenditures and monitoring of funds.
- Experience using various software programs including Microsoft Word, Excel and GroupWise sufficient to develop spreadsheets, power point presentations, charts, graphs, and other documents; research information on the internet; and communicate via e-mail.

All vacancies are filled in accord with applicable union contract provisions. Applicants who have contractual rights to bid must submit a statement of interest during the posting period; they are not required to submit a resume or application.

All other applicants must do one of the following to ensure consideration for this position:

- 1) Apply for this position via online Resume Builder or
- 2) Submit a letter of interest and resume.

Park Manager I

*North Dakota Parks & Recreation Department
Walhalla, North Dakota*

Salary \$2,837 - \$3,300 per month

Will work independently out of the Walhalla, North Dakota Forest Service Field Office, but supervised by Icelandic State Park manager. Responsible for the local coordination of the Pembina Gorge Project which includes:

- assisting in identifying tracts for scenic acquisition,
- coordinating the development of recreation facilities and trail corridors,
- developing relationships with stakeholders in project area,
- assisting with negotiating lease, easement, or purchase terms with willing sellers,
- Providing public relations for the project,
- Extensive relationship building with local landowners to address public accessibility issues.

Minimum Qualifications

Requires a bachelor's degree in parks and recreation, natural resource management, or a closely related field, three years of work experience in a park system that included staff supervision, and eligibility to be licensed as a ND Peace Officer.

Preferred Skills

- Ability to clearly communicate, work with, and maintain effective relationships with a variety of citizen groups, associations, foundations, other agencies, department employees, private landowners and the public, under a variety of circumstances.
- Be a driven person with the ability to work autonomously in a dynamic and goal oriented work environment.
- Be able to understand and communicate technical information to park staff, other resource specialists and non-specialists.
- Work within a "team setting" to achieve goals and objectives relating to public accessibility in the Pembina Gorge.
- Knowledge of legal descriptions, abstracts, deeds, leases and associated land matters.
- Possess an understanding and appreciation for North Dakota natural resources, their protection and management.
- Ability to perform routine maintenance to facilities and equipment.
- Knowledge of and ability to work effectively with computers and Microsoft products in a Windows environment.
- Ability to successfully obtain a ND Peace Officer license.

Applications must be submitted on a State of North Dakota Application for Employment Form along with a resume and a cover letter with a written summary of how past experience is related to the description of the duties and responsibilities, desired traits, and level of work experience for the position.

Requirements

- Required to work outdoors in all types of weather.
- Requires valid ND drivers license with ability to operate motor vehicles to include car, ATV, snowmobile, etc.
- Will require some work on evenings, weekends, and holidays.
- \$1,000 one time sign-on bonus.

