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**NATIONAL PARK SERVICE
BENCHMARK POSITION DESCRIPTION**

Botanist
GS-430-12

Introduction

The incumbent serves as a senior principal advisor for one or more parks in botany and vegetation management. The botanist is responsible for the development and implementation of resources programs dealing with the management and protection of flora, plant communities, and landscapes that are pertinent to the parks resources and themes.

Major Duties (80-100%)

Directs an intricate program of botany and related activities that involve sensitive and complex issues that may impact a wide variety of park issues.

Represents the superintendent when working with others on botanical matters. Develops and maintains liaisons and effective working relations with related groups and individuals, agencies, and the public in order to encourage and facilitate cooperative regional management strategies. Attends management and professional conferences and other events for the purpose of exchanging information, presenting technical and policy information, and advancing advocacy for park stewardship.

Develops and prepares major sections of the resources management plan dealing with vegetation management. Prepares specific action plans needed to manage the flora component of natural systems and managed landscapes, and controversial, sensitive, endangered or exotic species.

Represents park on NPS regional task groups or similar organizations. Makes presentations in the parks, in public gatherings, and at professional meetings.

Assists natural resources management staff in parks, centers, and support offices by providing direct professional and programmatic advice and support.

Carries out program management duties by developing work plans and schedules, scopes of work, cost estimates, and proposals and/or grants to justify funding requests and accomplish goals. May administer and track project funds and prepare accomplishment reports, as needed. Maintains awareness of applicable funding sources within NPS and outside.

Develops and implements long range plans for the inventory, evaluation,

documentation, preservation, research, and interpretation of the botanical and other vegetation resources within the appropriate mission, objectives, and resources contexts.

Develops guidelines to deal with the more complex or unusual problems, or with novel, undeveloped or controversial aspects of botany and other natural resources and their management.

Coordinates park strategies and programs with those on adjacent land for the purpose of achieving broad ecosystem protection strategies and to prevent human activities that may impact resources. Develops and maintains peer relationships with researchers, subject matter experts, and resources managers of other agencies, cooperating universities, and others in order to encourage and facilitate cooperative regional strategies.

Negotiates cooperative and interagency agreements and other cooperative instruments needed to effectively carry out resources stewardship goals.

Identifies research needs, prepares requests for research proposals or statements of work, and provides oversight for research projects. Serves as Contracting Officer's Technical Representative for projects conducted through contracts, interagency agreements, and cooperative agreements.

In cooperation with appropriate staff, researchers, and partners, the incumbent designs, develops, tests, and implements scientific monitoring protocols to identify, evaluate, and conduct long-term monitoring of flora and plant communities. This includes conducting inventories to determine statistically valid plot distributions and design. Writes new monitoring documents that define monitoring techniques and develops methods for future refinements of protocols.

Based on results of inventories, in-depth studies, and monitoring, the incumbent develops and conducts scientifically credible protection, mitigation, and restoration projects needed to prevent resource damage, restore and/or maintain critical habitats, plant and animal communities, and managed landscapes, and minimize human impacts.

Develops and carries out statistically valid data collection protocols. Performs data collection using advanced technology such as electronic data collectors when appropriate. Performs data entry and carries out quality control checks on data collection and entry performed by others. Conducts analysis of complex data. Determines and documents the significance of findings.

Prepares management and scientific reports regarding the results of protection, mitigation, restoration, inventory, monitoring, and research activities. Summarizes new information for use by the scientific community, park staff, cooperators, and partners.

Prepares environmental assessments (EAs) related to park projects in compliance with the National Environmental Policy Act. Evaluates EAs and environmental impact statements prepared by other federal agencies for projects that may effect park resources.

Works closely with the park education staff to incorporate new information into park and partner education programs.

Prepares and maintains botanical specimens in the park herbarium. Maintains records on the collection.

Acquires and maintains equipment and supplies necessary for field activities.

May supervise seasonal, temporary, permanent, VIP, and other personnel, but less than 25% of the time.

Factor 1. Knowledge Required by the Position Level 1-7; 1250 points

Professional knowledge of both endemic and exotic plant species of the park and surrounding lands in order to design, test, and effectively implement inventory and monitoring programs. An in-depth knowledge of plant taxonomy is required so that the incumbent is able to identify species using a variety of keys. This knowledge is also necessary in order to interpret the findings from the analysis of long-term data sets and define the significance of population and ecological changes that are occurring.

Knowledge of NPS planning and management requirements and guidelines so that plans result in programs that provide adequate long-term protection for resources.

Knowledge of the biological characteristics, conditions, and interrelationships of vegetation resources and ecological systems to define program needs and evaluate results of management programs.

Knowledge of laws, regulations, and NPS policies and guidelines regarding the management and monitoring of flora, including endangered and exotic species, in order to assure that program goals and objectives reflect national priorities and policies.

Knowledge of scientific data acquisition and analysis standards, methods, and recording techniques so that the incumbent can efficiently manage the collection and summation of data, and accomplish data analysis in a way that is highly credible and meets scientifically acceptable standards.

Skill to plan and carry out complex management and science programs so that the

resource stewardship needs of the park are met in a cost effective, efficient, timely, and professional manner.

In-depth knowledge of program management and administration of budget, contracts, and personnel.

Knowledge of principles and techniques associated with measuring plant communities and skill to modify or adapt standard techniques, processes and procedures and to access, select, and apply precedence and devise strategies to achieve program goals.

Knowledge of NPS guidelines, procedures, and techniques required for the preservation, mounting, labeling, storage, and cataloguing of specimens in order to insure that specimens are adequately preserved and properly accessioned into the park's natural history collection.

Knowledge of computer hardware, software and application so that information, primarily field data, can be processed, summarized, and reports generated.

Skill in oral and written communication in order to insure that plans are well written and easily understood; scientific reports and journal articles are of high scientific credibility; pertinent information is shared effectively with others; and oral presentations are well designed, informative, and clearly convey the intended message.

Factor 2. Supervisory Controls Level 2-4; 450 points

The supervisor sets the overall goals and resources available. Guidance is provided only to determine priorities, approve work plans, and assist in working through unprecedented situations that have a bearing on the overall program.

The incumbent independently plans, designs, implements, and oversees the program with a minimum of direct supervision. Independent judgement is required on a regular basis in developing, testing, and refining procedures and methods, and in the application of these methods in the field. The incumbent resolves most problems that arise and coordinates the work both within the work unit and with other park divisions. The incumbent keeps the supervisor informed of progress, potentially controversial problems, and concerns, issues or other matters having far-reaching implications.

The supervisor evaluates the completed work based on general adequacy in meeting program or project objectives, expected results, and compatibility with other work. Work produced is considered technically correct and is normally accepted without significant change.

Factor 3. Guidelines Level 3-4; 450 points

Guidelines include laws, regulations, policies, scientific protocols, plans, practices, procedures, and any additional directions given and defined by the supervisor. Policies and precedents are applicable but are stated in general terms; guidelines are

scarce or of limited use. Guidelines are often inadequate to deal with the more complex or unusual problems, or with novel, undeveloped, or controversial aspects of botany encountered at the field level. These kinds of situations occur when precedents or guides point toward conflicting decisions; recent court decisions or legislation may appear to require a technical decision at variance with existing guides; or there may be relatively few precedents or guides which are pertinent to specific methods; or proven methods are incomplete. The employee uses initiative and resourcefulness in deviating from traditional methods or researching trends and patterns to develop new methods, criteria or proposed new policies.

Factor 4. Complexity Level 4-5; 325 points

The work includes varied duties requiring many different and unrelated processes and methods that are applied to a broad range of activities or substantial depth of analysis. Decisions regarding what needs to be done include major areas of uncertainty in approach, methodology, or interpretation and evaluation processes that result from such elements as continuing changes in program, technological developments or conflicting requirements. The work requires originating new techniques, establishing criteria or developing new information.

Resources issues are often publicly controversial and require substantial initiative and skill in building consensus and obtaining public and cooperating agency support. The incumbent must be able to exercise professional skills in botanical research, evaluation, and writing applied to (1) a broad range of botanical subjects or (2) substantial depth of analysis.

In addition to mastering identification, evaluation, preservation, and related mitigation and monitoring technology, the incumbent is required to perform analysis of information. The incumbent must apply strict quality control measures to assure credibility of findings.

Assignments involve sensitive and complex issues that require solving problems concerned with novel, undeveloped or controversial aspects. The problems are difficult due to the abstract nature of the concepts, or the existence of serious conflicts among scientific requirements, program direction, and administrative requirements. These conditions create major areas of uncertainty in the decision-making process. Information collected must be reorganized, interpreted, and presented to reflect supportable hypotheses and themes. The incumbent must be able to examine separate subject areas to draw upon research and sources of several fields of botany. The incumbent must be especially versatile and innovative in order to recognize new approaches, devise new or improved techniques or strategies for obtaining effective results, or to anticipate future trends and requirements. The person must be able to (1) exercise good professional judgement in ensuring the appropriate consideration of botanical resources in the overall picture of park operations, development, interpretation, and resources management, (2) identify resources, evaluate their significance, develop management options that take into account all levels and areas of concern, and (3) prepare plans to preserve, conserve, mitigate impacts, and manage

the resources.

Factor 5. Scope and Effect Level 5-4; 225 points

The purpose of the work is to develop and implement plans and strategies to protect resources and resolve problems with solutions that achieve management objectives. The successful accomplishment of the duties of this position provides the professional foundation of the program. The work involves establishing criteria, formulating projects, assessing program effectiveness or investigating or analyzing a variety of unusual conditions, problems or questions. The product or service affects a wide range of agency activities, major activities or issues, or the operation of other agencies or entities. Management strategies developed and conducted by the incumbent are essential to maintaining the resources. Information gained through research, inventory, and monitoring provide the scholarly and professionally credible basis for management decisions, thereby directly effecting the current and future integrity of the resources.

The work influences the effectiveness or acceptability of agency goals and programs by program managers or specialists in outside agencies. Programs carried out by the incumbent directly effect the preservation or enhancement the park ecosystems and surrounding landscapes.

Factor 6. Personal Contacts Level 6-3; 60 points

Contacts are made with botanists, resources managers, and subject matter experts of other agencies and tribes, researchers and other members of the scientific community, science and management staff of other parks, conservation organizations, the media, the general public, and other park staff. Contacts typically are not established on a routine basis, and the role and authority is identified and developed during the course of the contact.

Factor 7. Purpose of Contacts Level 7-3; 50 points

The purposes of the contacts are to provide professional advice to managers and other staff; to exchange information; to provide instruction or services; to coordinate and advise on mutual work efforts and research; to insure compliance with laws and regulations; to train; to procure supplies and materials; and to secure cooperation for park programs from other agencies, individuals or interest groups.

Factor 8. Physical Demands Level 8-2; 20 points

The position may require strenuous physical activity including periods of standing, walking, climbing, and lifting and carrying heavy objects. Some activities will occur in physically dangerous areas or settings. Documentary research and report writing work is sedentary, which entails the ability to concentrate and write for long periods of time.

Factor 9. Work Environment Level 9-2; 20 points

Work is performed both indoors and outdoors in all types of weather. Assignments may be performed in potentially hazardous areas including steep slopes, rocky terrain, volcanoes, caves, firelines, arctic environments, swamps, deserts, and forests. Flying in fixed-wing aircraft and helicopters is possible.

Total Points 2850



Resources Careers