

**POSITION DESCRIPTION** (Please Read Instructions on the Back)

1. Agency Position No.  
S000369

2. Reason for Submission  
 Redescription  New  Hdqtrs  Field  
 Reestablishment  Other  
 Explanation (Show any positions replaced)

Standard Position Description approved for Service-wide use.

4. Employing Office Location  
 7. Fair Labor Standards Act  
 Exempt  Nonexempt

5. Duty Station  
varies  
 8. Financial Statements Required  
 Executive Personnel Financial Disclosure  Employment and Financial Interest

6. OPM Certification No.  
 9. Subject to IA Action  
 Yes  No  
 13. Competitive Level Code

10. Position Status  
 Competitive  
 Excepted (Specify in Remarks)  
 SES (Gen.)  SES (CR)

11. Position Is  Supervisory  Managerial  Neither  
 12. Sensitivity  
 1--Non-Sensitive  3--Critical  
 2--Noncritical Sensitive  4--Special Sensitive

14. Agency Use  
BUS : 8888

15. Classified/Graded by	Official Title of Position	Pay Plan	Occupational Code	Grade	Initials	Date
a. Office of Personnel Management	FPL: GS-13					
b. Department, Agency or Establishment						
c. Second Level Review	Cartographer	GS	1370	13		
d. First Level Review						
e. Recommended by Supervisor or Initiating Office						

16. Organizational Title of Position (if different from official title)  
GIS Specialist

17. Name of Employee (if vacant, specify)

18. Department, Agency, or Establishment  
Department of the Interior

c. Third Subdivision  
ARD - Science Applications

a. First Subdivision  
U.S. Fish & Wildlife Service

d. Fourth Subdivision

b. Second Subdivision  
Region \_\_\_\_\_

e. Fifth Subdivision  
Org. Code

19. Employee Review-This is an accurate description of the major duties and responsibilities of my position.

Signature of Employee (optional)

20. **Supervisory Certification.** I certify that this is an accurate statement of the major duties and responsibilities of this position and its organizational relationships, and that the position is necessary to carry out Government functions for which I am responsible. This certification is made with the knowledge that

this information is to be used for statutory purposes relating to appointment and payment of public funds, and that false or misleading statements may constitute violations of such statutes or their implementing regulations.

a. Typed Name and Title of Immediate Supervisor

b. Typed Name and Title of Higher-Level Supervisor or Manager (optional)

Signature \_\_\_\_\_ Date \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

21. **Classification/Job Grading Certification.** I certify that this position has been classified/graded as required by Title 5, U.S. Code, in conformance with standards published by the U.S. Office of Personnel Management or, if no published standards apply directly, consistently with the most applicable published standards.

22. Position Classification Standards Used in Classifying/Grading Position  
OPM Job Family PCS for Professional Work in the Physical Sciences, GS-1300, dated 12/97

Typed Name and Title of Official Taking Action  
Cecilia E. King, Acting Chief

**Information for Employees.** The standards, and information on their application, are available in the personnel office. The classification of the position may be reviewed and corrected by the agency or the U.S. Office of Personnel Management. Information on classification/job grading appeals, and complaints on exemption from FLSA, is available from the personnel office or the U.S. Office of Personnel Management.

Branch of Classification & Pay  
Signature *Cecilia E. King* Date 12/30/09

23. Position Review	Initials	Date								
a. Employee (optional)										
b. Supervisor										
c. Classifier										

24. Remarks  
Drug Testing=No; Risk Designation=Moderate; Financial Disclosure=No (See PD#s S000370)

25. Description of Major Duties and Responsibilities (See Attached)

CARTOGRAPHER GS-1370-13  
Standard Position Description  
S000369

INTRODUCTION

This position is located within the Assistant Regional Director for Science Applications, U.S. Fish and Wildlife Service (Service), \_\_\_\_ (insert Region name/location) \_\_\_\_\_. The Service seeks to engage in the functional elements of a landscape approach to conservation using *Strategic Habitat Conservation* (SHC) in a specific geographic area by working with the State conservation agencies, sister bureaus in the Department of Interior (Department or DOI), Tribal Nations, and engaging other partners in a more science intensive, landscape-oriented, outcome-driven, partner-involved context. The Service is committed to working cooperatively in the development of a shared vision to support and sustain fish and wildlife populations, cooperate in its implementation, and collaborate in its refinement. The Service envisions a collaborative and strategic approach to integrating the conservation goals and objectives of international, national, regional, state and non-governmental organizations' priority fish and wildlife conservation plans.

The incumbent serves as a senior staff advisor and as Cartographer for an assigned Landscape Conservation Cooperative (LCC) geographic area, responsible for providing leadership and technical expertise for the Geographical Information System (GIS) program, developing various GIS analyses and tools, and working in close cooperation with the Landscape Conservation Cooperatives (LCCs) Coordinator, Service staff within regional program offices and field offices, and with partners within the Landscape Conservation Cooperatives (LCCs) and throughout the cooperative conservation community. The incumbent manages large GIS databases, researches, designs and develops GIS databases and processes, documents software and data standards (metadata), writes computer programs for special analysis projects and the design and development of application system interfaces.

MAJOR DUTIES AND RESPONSIBILITIES

The incumbent is responsible for:

Researching and adapting databases and database technologies for inclusion in complex GIS application software. Areas of research may include database structure, processing algorithms, recording information associated with map updating and other transactions, interfaces to external databases, modular designs, macro-development and design, and metadata policy and implementation. Writes complex computer programs to bring these and other appropriate database elements to bear on special analysis projects.

Coordinating and providing technical assistance to resource professionals regarding analysis, decision making, and conversion of manual processes to automated procedures using state-of-art GIS technology and related utilities. The incumbent will work closely with all Service programs and with cooperating agencies and landowners to produce maps and conduct spatial and statistical analysis of geophysical (e.g. elevation, hydrography, and geology) and biological natural resource data (e.g. soils and land cover) as necessary to characterize and model ecological communities at landscape and ecoregional scales.

Developing and applying geospatial models for characterizing or predicting the ability of landscapes to support populations of fish and wildlife species and developing landscape-level conservation goals and objectives.

Planning and developing new maps which may require specialized consideration and illustration such as exhibits for legislation and Federal court cases.

Analyzing and interpreting satellite imagery and aerial photography to assess patterns in the extent, distribution, and juxtaposition of land cover/land use.

Coordinating with GIS practitioners in other private, state, federal conservation organizations in collecting, creating, organizing, and maintaining spatial data pertinent to the planning, monitoring, and evaluation of bird

habitat conservation programs.

Prepares and presents reports, briefings, and presentations for both technical and non-technical audiences summarizing the results of natural resource planning and analyses.

Developing standards and procedures for GIS processes including quality control, data input, map registration and geodetic control, cartographic quality, individual project plans, digitizing, map editing, data storage, verification and output.

Serving as senior technical authority and consultant on all aspects of cartography within the assigned LCC and Region, providing expert advice on the interpretation and implementation of technical policy directives and programs and GIS mapping methods, techniques, and/or procedures that will best illustrate those factors which are of interest to parties involved.

Establishing collaborate partnerships and/or relationships with a wide variety of Federal, state, and local organizations and LCC partners especially those with GIS, to coordinate and share information, to plan cooperative efforts, and to minimize duplication of effort and individual project cost.

## FACTOR EVALUATION

### Factor 1 – Knowledge Required by the Position

Mastery knowledge of, and skill in applying, theories, principles, practices, and application of Geographic Information Systems as well as GIS programming, processing, digital cartography, database design and systems design sufficient to serve as a recognized technical authority; apply and modify modern cartographic initiatives and originality in the solution of complex map problems for projects of moderate to large diversified projects; and recommend the establishment of standards concerning database structure, system documentation and shared resources. Knowledge is utilized in the review, evaluation, and application of new developments in GIS, spatial data collection and analysis, and related fields to LCC projects.

Mastery ability to use established GIS, image processing, and statistical software and procedures in applying GIS and remote sensing technologies to natural resource planning and assessment projects.

Knowledge of the theories and principles of natural resource planning with specific emphasis on the role and application of GIS technologies in natural resource planning and assessment.

Extensive knowledge of mapping principles, geographic projections, spherical geometry, error analysis, digital cartography, and remote sensing technologies sufficient to serve as a technical authority and to design and implement GIS projects specific to the assigned LCC.

Knowledge of aerial photography, satellite imagery, Global Positioning Systems (GPS) operations, and other remotely sensed data types sufficient to plan, estimate, schedule and expedite the production of maps of various scales involving manual and automated cartographic methods and to recommend changes in current processes to achieve organizational efficiency and operational effectiveness.

Demonstrated ability and skill in communicating effectively both verbally and in writing with biologists, other professionals, and managers in identifying technical and management issues; resolving or recommending alternative solutions to problem issues; conveying information regarding project status and objectives; and presenting briefings and recommendations concerning long range objectives to the LCC Coordinator and staff as well as senior leadership.

Professional knowledge applicable to a wide range of duties in cartography and the skills sufficient to modify standard practices and adapt equipment or techniques to solve a variety of cartographic problems or make significant departures from previous approaches to similar projects to accommodate specialized requirements for some projects.

Knowledge of cartographic procedures including computer-aided design (CAD), Coalition of Geospatial Organizations (COGO), and ARC/INFO to perform a series of tasks or steps involved in the map preparation, digitizing process and production of maps, within an automated land parcel mapping environment.

Knowledge of the science and art of geodesy and surveying, along with legal procedures associated with the (1) U.S. Public Land Survey System; (2) metes and bounds survey system; and (3) other survey systems, sufficient to interpret land parcel descriptions and map the parcels into the lands status system and other spatial databases.

Mastery knowledge and skill sufficient to perform standard computations using standard procedures to compute proper scales, exact geodetic positions and the coordinate values for the plotting of corner monumentation.

Knowledge and skill sufficient to understand property and topographic survey terminology and procedures and the proven ability to interpret and display this information in the form of a map, plat, sketch or related visual displays.

Knowledge, skill and experience in photogrammetric techniques, stereoscopic imagery from contact prints, the rectification and use of mosaics, familiarity with obtaining aerial photography coverage and the application of these various products in the production of unusually difficult and complex mapping assignments.

## Factor 2. Supervisory Controls

Works under general supervision of the LCC Coordinator, who sets the overall objectives and indicates the priorities. Specialized assignments may require consultation with the supervisor. The incumbent is responsible for planning, designing, and carrying out all cartographic assignments independently. Results of the work are considered as technically authoritative and are normally accepted without significant change. If work should be reviewed, the review concerns such matters as fulfillment of program objectives or effect of advice and influence of the overall program.

## Factor 3. Guidelines

Very general guidelines are available from drafting texts, manuals and technical publications. General procedures pertaining to mapping work is outlined within the Service manual. The incumbent initiates additions, revisions and readily adapts to changing or inadequate guidelines in dealing with the more complex or unusual assignments. The incumbent uses resourcefulness, initiative and judgment based on experience to deviate from or extend traditional cartographic methods, practices, and techniques in resolving problems where precedents are not applicable.

## Factor 4. Complexity

Assignments are of such breadth, diversity, and intensity that they involve many and varied complex features and requires that the incumbent be especially versatile and innovative in adapting, modifying, or making compromises with standard guides and methods to originate new techniques or criteria. Assignments typically contain a combination of multiple complex features which involve serious or difficult-to-resolve conflicts between cartographic and natural resource management and conservation planning issues/requirements that are themselves complex and often controversial. The incumbent must be equally adept in the principles, philosophies, and policies of natural resource management and in the technical and statistical procedures and processes associated with GIS and remote sensing.

The position confronts substantial technological complexity owing to the LCC embracing the application of geospatial and remote sensing technologies to resource conservation. Accordingly, the incumbent must deal routinely but creatively with emerging geospatial and information management technologies and their application to science-based planning and landscape-level population and habitat monitoring programs.

#### Factor 5. Scope and Effect

The incumbent serves as a technical expert and consultant, responsible for providing expert cartographic and GIS advice and guidance to officials, managers, and other professionals within or outside the Service and assigned LCC in support of planning, implementing, and evaluating of LCC conservation plans that span large geographic regions that may also be of national and/or international scope. Work will have a material bearing on the conservation goals, objectives, and priorities of private, state, and federal conservation partners and will affect the implementation of multiple conservation delivery programs internal and external to the Service. Procedures and methods developed by the incumbent for use within his/her assigned LCC will affect the methods and procedures used by other Service Program/Regional Offices, LCC, and conservation organizations across the country.

The incumbent's determinations affect: (1) accuracy, reliability, and timeliness of projects and/or (2) the design of maps or operations of cartographic instruments, computer hardware and software with regard to economy, efficiency, safety, accuracy, reliability and acceptability of the maps, charts, and data analyses to be produced.

#### Factor 6. Personal Contacts

Contacts are with professional or technical specialists in the same discipline as well as foresters, engineers, hydrologists, and other resource conservation professional in private, local, State, and Federal agencies. Incumbent will frequently be called upon to coordinate with and brief administrators within private, state, and federal conservation organizations. In addition, contacts may be made with the general public and private conservation groups. The incumbent must be equally adept at communicating with conservation professionals and administrators who in many instances will have limited knowledge of the application of GIS and remote sensing technologies and in communicating with specialists in those technical fields.

#### Factor 7. Purpose of Contacts

The purpose of contacts includes collaborating and coordinating with conservation professionals from multiple disciplines and with GIS and remote sensing specialists on the methods, analysis, and results of natural resource planning. Development of the methods and procedures of natural resource planning will often be made in partnership with conservation professionals and GIS practitioners from other agencies and organizations. Contacts will be for the purpose of obtaining data and information, coordinating methods and procedures, and reviewing and explaining results. Incumbent often represents the Service at meetings with Federal, State, and local agencies, industry representatives, conservation groups, and individuals, involving complex and sometimes controversial issues affecting fish and wildlife resources of regional, national, and international concern.

#### Factor 8. Physical Demands

The work requires some physical exertion such as walking over wet, rough, uneven, or rocky surfaces; crouching, stooping, stretching reaching, or similar activities. The work requires average agility and dexterity.

#### Factor 9. Work Environment

The work requires both office and outdoor work. The office is adequately lighted, heated, and ventilated. Temperature and weather extremes may be encountered in the performance of the outdoor work. The incumbent is expected to conduct duties in a safe and orderly manner so as not to endanger self, associate workers, or property with which entrusted.