



STATE OF ALASKA

Position Description

**Position Control
Number (PCN):**

112239

Class Title:
GIS Analyst III

Recruitment Type: Normal

1. Position Control Information	
Class Title: GIS Analyst III	Code: K0104 Range: 19
Bargaining Unit: General Government - Personal Leave	Bargaining Unit Code: GP
Department: Fish & Game	Department Number: 11
Division: Wildlife Conservation	
Region/Section/Unit: Wildlife Region III	
Location: Fairbanks	Location Code: JBA
Position Type: Full Time OMB Authorized	Position Type Code: SACL
FLSA Exempt: Yes	Strike Class: 3
Position requires possession of a Commercial Drivers License (CDL):	No
Position requires possession of, or access to, firearms or ammunition:	Yes
AKPAY Organizational Routing Code: 11012040	
Physical Work Address: 1300 College Road, Fairbanks	
Work Phone: 907-459-7200	
Supervisor Information	
PCN: 112032 Title: Fish And Game Regional Supervisor	
Physical Work Address: 1300 College Road Fairbanks	
Work Phone: 907-459-7222	

Type of Action:	Reclass Up, FLSA Change
Effective Date:	04/03/2013
Division of Personnel Section:	Classification
Reviewed By:	Anna Argenti, Human Resource Specialist I, on 03/29/2013
Approved By:	Kathy Peterson, Human Resource Specialist II, on 04/03/2013
Closed out by:	Sandra Tagaban, Human Resource Technician II, on 04/08/2013

2. Duties

2.1. In one or two sentences, state the main purpose of the position.

Works closely in cooperation with regional biological, programming and biometric staff to design and develop GIS methodologies, tools, applications, and databases to directly support regional management and research activities. Serves as the principal GIS technical resource for the region for consultation on, collecting, processing, and analyzing complex GIS data sets. Serves as a cooperater on regional management and research projects with GIS components. Cooperatively establishes, maintains, and improves procedures and software tools for data quality, documentation and archival of regional GIS data sets. Provides training and technical support for regional staff on the use of GIS related software and hardware.

2.2. Starting from the most to the least important, list the functional areas assigned to the position. Within each functional area, describe the duty statement associated; estimate the percentage of time spent performing the duties; and define each area as essential (E) or marginal (M).

Functional Area Title: GIS Analysis and Database design and support		
E/M	% of Time	Duty Statement
E	40 %	<p>The incumbent works under general direction to directly support regional management and research GIS analytical, data management, and data sharing needs.</p> <ul style="list-style-type: none"> • Identifies and scopes regional needs for GIS analytical, data management, and data collection software tools. • Identifies areas where regional GIS analytical and data management needs overlap with similar needs in other regions or statewide programs. • Works closely with regional programming and biometric staff to plan, and develop GIS analytical, data management, and data collection software tools for use by regional management and research staff. Where appropriate, works with other regional and statewide staff to develop tools with statewide application. • Applies basic programming skills to the maintenance and enhancement of existing GIS analytical, data management, data sharing, and data collection software tools. • Works with regional programming and biometric staff to develop, improve, and maintain relational databases used to archive GIS related data. • Uses higher level query languages to develop and maintain spatial models, analyses, and presentations of complex spatial data sets. • Provides direct support for management and research projects in acquiring, processing, sharing, and utilizing complex GIS data such as remote sensing and image georectification, classification, and analysis (e.g. feature extraction, change detection, etc.)

Functional Area Title: Technical GIS Support for Management and Research Staff		
E/M	% of Time	Duty Statement
E	30 %	<p>Under general direction, the incumbent assists management and research staff with technical aspects of their projects.</p> <ul style="list-style-type: none"> • Provides technical support to the management and research staff on the management, analysis, and modeling of spatial data. • Provides consultation on the use of GIS and other geo-spatial tools to achieve project objectives. • Works closely with biologists and biometricians to develop appropriate modeling or

- statistical analyses of GIS data, performs analyses, and advises biologists on the outcomes of such analyses.
- Works directly with biometricians on specific management or research projects that involve exchanging data and results (intermediate and final) between GIS and statistical software for the purposes of statistical analysis and effective presentation.
 - Participates as a cooperator on regional management and research projects associated with a variety of wildlife species including bear, moose, wolf, wolverine, caribou, sheep, muskox, and furbearers. Provides consultation on the design of data collection, storage, and analysis methodologies for geospatial data collected, assists in the collection and geospatial analysis of these data, and provides accurate written and verbal reports of these activities for inclusion in project reports, presentations, and publications.
 - Provides technical support to management and research staff tasked with the publication of GIS thematic data and maps for field operations, reports, and Board of Game presentations.
 - Provides guidance, scoping of work, and assistance with quality control for project leaders hiring temporary GIS support staff for project specific GIS tasks.
 - Assists project leaders in defining GIS related requirements for work performed by outside contractors or cooperators. Assists project leaders in evaluating the completeness and correctness of such work.
 - Ensures quality control for spatial data collection, processing and analysis for wildlife applications.

Functional Area Title: GIS Data Archiving/Documentation

E/M	% of Time	Duty Statement
E	9 %	<p>The incumbent works under general direction in coordination with statewide and regional GIS and data management staff to establish and maintain procedures and standards for documenting and archiving GIS datasets.</p> <ul style="list-style-type: none"> • Works with regional and statewide GIS and data management staff to develop recommendations for regional GIS metadata standards consistent with statewide standards and regional requirements. • Documents project methodologies, analyses, and results related to geospatial data collection and analysis in reports, summaries, and publications for management and research projects in the region. • Works to develop procedures and tools to encourage and support incorporation of metadata creation into the regular workflow for GIS data sets by regional management and research staff. • Works with statewide and regional GIS and data management staff to develop software tools and procedures for systematically storing, archiving, and retrieving regional management and research geo-spatial datasets in a manner compatible with other division data archiving efforts. • Work with statewide and regional GIS and data management staff to develop tools for enhancing management and research staff access to archived data sets.

Functional Area Title: GIS Software Training

E/M	% of Time	Duty Statement
E	5 %	<p>The incumbent assists management and research staff with learning basic GIS operations.</p> <ul style="list-style-type: none"> • Provides basic training for staff on the use and application of vector and raster GIS software and in the production of high-quality digital graphics and other cartographic products • Provides training and develops end user documentation for GIS analytical and data

- management software tools developed for use by regional staff.
- Maintains high level of technical skills and knowledge in current developments pertaining to GIS, GPS, database management, and related technologies through review of literature, attendance of training and seminars, and contact with GIS professionals in other agencies/organizations.

Functional Area Title: Field Data Projects		
E/M	% of Time	Duty Statement
M	5 %	<p>The incumbent participates as an assistant on management and research field operations.</p> <ul style="list-style-type: none"> • Assists in the acquisition of field data on projects in which GIS technical expertise is required. • Assists in the training and supervision of staff in the necessary requirements for proper data collection during field operations including the use of automated or electronic data collection tools. • Participates as part of the development team for the application of new spatial data collection methods or technologies. • Helps field test new GIS applications prior to deployment on specific projects. • Participates in various other field activities as needed to gain/maintain an understanding of the practical constraints associated with data collection processes in field environments.

Functional Area Title: Meetings and Workshop Participation		
E/M	% of Time	Duty Statement
E	5 %	<p>The incumbent acts as the region's technical expert on GIS and geo-spatially explicit data for internal and external interactions.</p> <ul style="list-style-type: none"> • Participates in regional or statewide self-directed work teams or task forces as assigned. • Provides formal and informal presentations to regional and statewide staff on methodologies, analyses, and tools developed. • Participates as a member of regional and statewide research and technical teams. • Attends and participates in local, federal and international wildlife and/or GIS meetings and workshops.

Functional Area Title: GIS Dataset Coordination		
E/M	% of Time	Duty Statement
E	3 %	<p>The incumbent works under general direction to acquire, distribute, and coordinate the use of GIS datasets in cooperation with other divisional staff.</p> <ul style="list-style-type: none"> • Identifies, acquires, and makes available GIS datasets for use by regional management and research users. • Where appropriate ensures that regional GIS users have available and make use of current versions of Divisional GIS datasets. • Ensures that GIS datasets developed by regional management and research staff are incorporated into divisional GIS data libraries where appropriate. • Coordinates with statewide GIS analyst and regional supervisory staff to provide recommendations to help ensure dissemination of GIS data sets outside the division or department conforms to division, department, and state policies.

Functional Area Title: Regional GIS Software/Hardware Maintenance

E/M	% of Time	Duty Statement
M	3 %	<p>The incumbent works to keep regional GIS software and hardware up to date and compatible with statewide GIS standards.</p> <ul style="list-style-type: none">• Purchases, maintains, and upgrades GIS software and related hardware as needed.• Coordinates with statewide GIS Analyst to on issues related to licensing and use of GIS software.• Provides expert consultation with managers on long term program development needs for GIS.

Percentage Total: 100%

3. Other Work Details

3.1. List the computer software and hardware used to perform the duties described. Estimate how often each is used (e.g. daily, 2-3 times a week, 1-2 times a month, etc.).

Software

Daily; ESRI ArcGIS (ArcMap/extensions), ESRI Arc Server software, ArcGIS Online development tools, ESRI ArcPad, ERDAS IMAGINE, ER Mapper, other current ESRI tools, National Geographic Topo!, ET Geowizards and other geospatial software, Python, Word for Windows, Excel, Power Point, Outlook, Access, MS SQL Server, MS SQL Management Studio, other Microsoft based programs, Worldwide Web browsers, ADF&G website, GIS server and internal network drive access.

1-2 Times Weekly; Adobe Acrobat, FTP software, Cisco VPN client, Remote Desktop, R, SPSS, Visual Sourcesafe.

1-2 Times Monthly; Adobe Photoshop, telemetry software, Global Positioning System (GPS) data management software: DNR Garmin, Mapsource, Delorme, etc., data backup software, TEARS time sheet site, ARLISS State Library,

Hardware

Daily: Desktop workstation with graphic accelerator, database various servers, high resolution video display, laser printer, color laser printer

1-2 Times Weekly; large-format plotter

Periodically throughout the year, particularly during field operations: workstation laptop, weatherproof tablet computer, PDA, portable GPS units, GPS marine chart plotters, Bluetooth GPS units, Aerial camera systems (analog and digital) and related components.

3.2. List the equipment and materials used to perform the duties described, including machinery, tools, instruments, vehicles, etc. Estimate how often each is used (e.g. daily, 2-3 times a week, 1-2 times a month, etc.).

Office Equipment (Daily)

- Operates miscellaneous office equipment such as computers, projectors, printers, fax machines, scanners and copiers.

Outdoor Equipment (1-2 times monthly)

- Operates a variety of large and small equipment inherent to outdoor field projects such as all types of camping equipment (e.g., tents, stoves, packs, snowshoes, foul weather gear, survival equipment); mechanical and electrical hand tools (e.g., drills, saws, pumps, compressors); and firearms (rifles, shotguns, pistols) for protection from aggressive big game, or to dispatch sick or injured wildlife, or to lethally collect specimens for management purposes.

Highway vehicles (1-2 times monthly)

- Operates pickup trucks and tows trailers to transport boats, ATVs, equipment, supplies, animals and personnel.

Boats, ATVs, and snowmachines (1-2 times monthly)

- Operates boats, ATVs and snowmachines, to access field study sites and to transport personnel, field gear and animals.

Aircraft (0-2 times monthly)

- Uses state fixed-wing aircraft and state pilots, or charters airplanes and helicopters to participate in field work such as animal capture, aerial radio-telemetry tracking to locate animals with radio collars,

various aerial surveys of moose, caribou, sheep, bears, wolves, and furbearers and transportation to remote field sites.

Electronic Communication and Positioning Equipment (1-3 times monthly)

- Operates two-way radios for air-to-air and air-to-ground communication, satellite phones, aerial and ground-based radiotelemetry receiver/scanners and radiocollars, and GPS receivers to record field locations for data analysis and reporting purposes.

3.3. List the guides and references regularly used to perform the duties described. Examples include federal and state laws and regulations, professional standards, building codes, trade practices, contracts, and policy and procedure manuals. Explain how and why these guides and references are used. Estimate how often each is used (e.g. daily, 2-3 times a week, 1-2 times a month, etc.).

Occasionally; Alaska Department of Fish & Game Writers Guide, Standard Operating Procedures, Alaska Administrative Code, Division of Wildlife Conservation Policy Manual, Alaska Statute Title 16, State bargaining unit contracts, and various equipment/software operational manuals.

3.4. Describe the level of authority and independence the incumbent of the position exercises. List the actions the incumbent takes or the decisions the incumbent makes on a regular basis without obtaining prior approval from a higher level employee. For example, explain how the position has the authority to commit the organization, or any parts thereof, to a course of action.

- Responsible for the design and programming of GIS analyses and tools for management and research staff throughout the region without higher approval;
- Develops and makes specific recommendations to project leaders for the design and implementation of geospatial data collection protocols and methods, geospatial data analyses, and integration of project data and results into regional and divisional archives;
- Responsible for the assignment of duties to lower level support staff as warranted by work requirements.
- Responsible for evaluating the scope and level of work required for lower level GIS work associated with research and management projects. Provides recommendations to project leaders for the classification level and skills required of temporary staff hired by those projects to complete project GIS work.
- Recommends specific GIS tasks required to meet project objectives.;
- Prioritize/organize daily and long-term assignments such as fieldwork (e.g. surveys) and data compilation, analysis, and reporting;
- Modify or adapt state-of-the-art methods and devise strategies to overcome unanticipated problems;
- Authorized for discretionary purchases under \$2500.

3.5. Describe the nature of the contacts the incumbent has with other people in order to perform the duties described. Include who is contacted, the reason for the contact, and how often the contact is made.

- This position requires daily communication with divisional management and research biological staff working as a cooperator on wildlife management and research project and handling requests for support, consultation and training;
- Coordination with the statewide GIS analyst (monthly basis) is necessary to ensure staff access to current and accurate statewide GIS datasets, licensing, and software;
- Consultation with regional programming staff and biometric staff on daily to weekly basis to plan, and develop GIS analytical, data management, and data collection software tools;

- Consultation with IT support staff on monthly or more frequent basis to address general computer and networking issues, as well as standard IT purchasing procedures;
- Consultation with regional management on weekly to monthly basis to provide information on GIS program directions and needs;
- Interacts with regional administrative staff on a daily to weekly basis to obtain support for purchasing, leasing, budget coding and tracking, equipment inventory, time sheet completion, and travel;
- Interacts with supervisor on weekly basis to obtain general direction for duties that include GIS analysis and database design and support, writing reports and publications, technical GIS support for management and research Staff, GIS data archiving and documentation, GIS dataset coordination, GIS training, participation in development and implementation of field projects, participation in meetings and workshops, and other duties;
- Provides written and oral summaries of ongoing program activities to supervisor and other regional staff;
- GIS specialists from other state and federal agencies, military personnel, cooperative agencies as well as telemetry, GIS, and GPS-related equipment companies for the purpose of acquiring and/or sharing GIS datasets, researching GIS software and hardware program improvements, and evaluation of GIS tools and methods in use in other resource management agencies.

3.6. Describe the consequence of an error made by a prudent employee in the performance of the essential functions assigned to the position. What is the consequence of that error to individuals, operations, and programs?

- Providing inaccurate geospatial and cartographic information could result in the public unknowingly violating regulations;
- Poorly managed geospatial data archives could result in incorrect analyses as well as the irrevocable loss of many hours of staff effort and project funding;
- Erroneous analyses and conclusions could lead to detrimental actions being taken in regard to the wildlife resources being managed, and some species could require lengthy periods for recovery;
- Conversely, overly conservative conclusions could result in a loss of opportunity to otherwise appropriate hunting and other non-consumptive activities;
- Failure to adhere to Standard Operating Procedures could result in the injury or loss of life of an employee or member of the public (e.g., helicopters, boats), loss or damage to state equipment, and loss of project data integrity;
- Failure to adhere to the rules and regulations of the State of Alaska and the Department of Fish & Game could potentially cause legal action to be taken against our department.

3.7. List critical requirements of the position not previously described (e.g., skills in keyboarding, writing, negotiating, communications, etc.).

- Must possess and maintain extensive knowledge of existing and emerging Geographic Information Systems software and hardware;
- Must possess ability to interface multiple computer platforms and programs as well as associated hardware;
- Must possess skills for visual presentation and layout, and be capable of creating information-dense cartographic products that are easily interpreted;
- Must have a working knowledge of ecological and wildlife biology principles and procedures.
- Must have a working knowledge of general statistical concepts;
- Must possess excellent written and oral communication skills to work closely with biometric, programming, management and research staff in developing GIS applications and analyses specific to ongoing management and research activities;
- Must be able to communicate the results of data and statistical analysis to management and research staff clearly and effectively in both formal and informal settings;
- Must be self-motivated and capable of prioritizing a complex workload supporting multiple projects independently or under general direction;
- Necessary to be comfortable with long hours of sitting in meetings, writing reports, analyzing data,

and dealing with personnel and budget challenges, but also necessary to be comfortable living and working in challenging conditions such as small aircraft, river boats, off-road vehicles, and hiking and camping in cold, wet buggy environments near potentially dangerous animals;

3.8. List licenses, certifications, registrations, physical or other standards required by state or federal law or regulation to perform the duties described. Cite the specific authority (e.g. law or regulation, such as the OSHA Bloodborne Pathogens Act).

- Valid Alaska Driver's License
- Ability to legally carry a firearm (no felony or misdemeanor domestic violence convictions);
- Firearm proficiency certification;
- First Aid/CPR certification;

4. Work Demands

The following identifies some of the physical and mental demands and potential hazards typically encountered by this position. These are job demands which can be ***reasonably anticipated and are an expectation of the job***.

Keeping in mind the essential functional areas and duty statements described in section 2, select the rating that best matches the requirement of this position according to the following descriptions:

Rating **Description**

Not Required (N): Not required of this position.

Present (P): Requirement **is** present, but **is not** essential to the position. (For example, a receptionist may encounter aggressive or angry people, but this is not an essential assignment.)

Occasional (O): Required 33 percent of the time or less **and** essential to the position. (For example, a lifeguard swims only occasionally, but it is essential that a lifeguard be able to swim; a correctional officer must control aggressive/angry people who are life threatening.)

Frequent (F): Required over 33 percent of the time **and** essential to the position.

Items checked below must be consistent with the duty statements listed in section 2.

4.1 Physical Requirements

Title	Rating			
	N	P	O	F
Sitting				F
Walking			O	
Standing			O	
Running		P		
Jumping		P		
Bending or twisting			O	
Squatting or kneeling			O	
Crawling		P		
Reaching above shoulder level		P		
Reaching below shoulder level			O	
Ascending or descending using a ladder or other conveyance	N			
Climbing stairs		P		
Driving cars, light duty trucks			O	
Driving heavy duty vehicles	N			
Using floor mounted foot controls to operate equipment (e.g., not driving a car)	N			
Repetitive motion of hands/fingers (e.g., keyboarding, turning pages)				F
Fine manipulation with fingers		P		
Pinching with fingers		P		
Grasping with hand, gripping			O	
Load, unload, aim, and fire handguns, shotguns or other firearms			O	

Lifting/carrying up to 25 pounds			O	
Lifting/carrying 26-50 pounds			O	
Lifting/carrying more than 50 pounds		P		
Pushing/pulling up to 25 pounds			O	
Pushing/pulling 26-50 pounds			O	
Pushing/pulling more than 50 pounds		P		
Balancing on moving surfaces		P		
Balancing on narrow surfaces		P		
Balancing on slippery surfaces		P		
Balancing on uneven surfaces			O	
Restraining/grappling with people in a public protection environment	N			
Seeing objects at a distance			O	
Seeing objects peripherally			O	
Using depth perception			O	
Seeing close work (e.g. typed print)				F
Distinguishing colors				F
Hearing conversations or sounds				F
Hearing via radio or telephone				F
Communicating through speech				F
Communicating by writing/reading				F
Distinguishing odors by smell		P		
Distinguishing tastes	N			

4.2 Work Environment

Title	Rating			
	N	P	O	F
Work in/exposure to inclement weather			O	
Work/in/exposure to cold water		P		
Work/live in remote field sites			O	
Work in confined areas (under desks, in heating vents, etc.)	N			
Exposure to dust, chemicals, or fumes	N			
Exposure to hazardous equipment (e.g., guns, chainsaws, explosives)			O	
Exposure to electrical current (not outlets)	N			
Swimming/scuba diving	N			
Work at heights up to 25 feet (e.g., towers, poles)		P		
Work at heights over 25 feet (e.g. towers, poles)	N			
Work in urban or highway traffic (other than driving)	N			
Work around moving machinery or mobile equipment			O	
Work around moving mechanical parts	N			
Work on and off moving equipment		P		
Work on slippery or uneven surfaces			O	
Work/travel in boat/small aircraft/helicopters			O	

Exposure to high noise levels			O	
Exposure to infection, germs, or contagious diseases (e.g. hospital, lab, clinic, etc.)		P		
Exposure to blood, body fluid, or materials potentially contaminated by blood or body fluids (e.g., hospital, lab, clinic, public protection environment)		P		
Exposure to needles or sharp implements (e.g. hospital, kitchens)		P		
Use of hot equipment (e.g., kitchen ovens, lab equipment)	N			
Exposure to wild/dangerous animals			O	
Exposure to insect bites or stings			O	
Exposure to aggressive/angry people in a public protection environment	N			

4.3 Other Work Demands

Title	Rating			
	N	P	O	F
There are no other work demands.				

4.4. Explain any special physical, mental, or behavioral requirements of the position that have not already been addressed.

There are no other work demands.

5. Supervisory Authority

This page must be completed if PCN **112239** is assigned supervisory or lead level authority (this includes Labor, Trades and Crafts foreman positions). In the chart below, list each position PCN **112239** supervises or leads. Record **112239**'s level of authority for each area of responsibility according to the definitions below. Subordinate positions listed must be consistent with those reflected on the staffing chart, and levels of authority must be substantiated in all other applicable portions of the PD (i.e. duties, guides, actions, decisions).

Note: These ratings are not dependent upon whether the position has actually exercised the authority, but rather what level is assigned.

Level Definition of Level of Authority Assigned

- 1 = Has authority to take action; notification to supervisor may or may not be necessary afterward.
- 2 = Effectively recommends and discusses decision with supervisor; then takes action.
- 3 = Presents recommendations to supervisor; supervisor makes decision and directs position to take action.
- 4 = No authority to take or recommend action.

Is PCN **112239** assigned supervisory or lead level authority for one or more of the responsibilities listed in the chart below? **No** If no, skip this section.

PCN 112239 's Responsibilities and Assigned Level of Authority

Positions Directly Supervised or Led by PCN 112239	Employ (includes authority to hire, transfer, layoff, OR recall)	Discipline (includes authority to suspend, demote, OR issue written warnings)	Discharge	Adjudicate Grievances (includes authority to respond to a first level grievance under a collective bargaining agreement)	Assign Work	Set Task Priorities	Check Quality of Work	Evaluate Performance	Instruct & Train Staff
None									