# ---Fish Biologist (GS-482) Competency Model---

## KNOWLEDGES

Bureau-specific mission, vision, goals, and values
Bureau-specific policies and procedures
Standards of ethical conduct for U.S. Government employees
Theories, principles, and methods of fish biology, conservation biology or related ecosystem sciences
Concepts, principles, and terminology related to analytical methods, modeling and statistics
Methods for creating, exploring, evaluating, and sharing solutions for scientific problems, conditions, and issues
Federal marine resources stewardship statutes, regulations and policies
Assigned program areas, including associated constituent interests and current issues

| SKILL | DEFINITION |
|---|---|
| Analytics and Statistics | *Determine appropriate method to analyze data; analyze data; display data in a fashion to support conclusions; interpret results of analyses.* |

1. Applies qualitative and quantitative methods to evaluate population-related dynamics and demographic parameters.
2. Analyzes catch and bio-mass data.
3. Integrates physical and biological data to understand ecosystem structure and function.
4. Performs quality assurance assessments of current or historical data, including audits and editing.
5. Ensures effectiveness of data checking systems.
6. Evaluates uncertainty in estimates of physical and biological reference values.
7. Compiles and organize data.
8. Manipulates and analyzes large data sets.
9. Applies spatial and temporal statistical techniques.
10. Conducts analyses of large complex data sets of uneven quality or scale.

**Applied Biological and Related Sciences**     *Applies extensive scientific knowledge to design, implementation, review, and critique research or measurements, or to advance assigned programs, and/or to complete assignments.*

1. Applies species-specific knowledge of ecology, biology and habitat.
2. Applies knowledge of aquatic species taxonomy.
3. Analyzes data regarding ecology of aquatic species.
4. Integrates physical and biological data to understand ecosystem structure and function.
5. Evaluates population-related dynamics and demographic parameters.
6. Analyze physical and biological data, including habitat, catch, bio-mass and inventory data.

**Attention To Detail**     *Is thorough when performing work and conscientious about attending to detail.*

1. Keeps a written account of ideas and observations.
2. Records and tracks samples, data and processes.
3. Documents decisions, as well as thinking/reasoning process.
4. Is observant to unexpected results.
5. Employs safe practices in all aspects of work.

**Computer and Information Technology**     *Effectively use IT services and applications to perform job functions.*

1. Apply Database software to store and organize collected data.
2. Apply spatial, analytical, statistical and presentation software to collected data.
3. Document data stored in databases.
4. Implement Federal data quality standards.

**Coordination**     *Facilitate effective work processes by ensuring that roles and responsibilities are understood, synchronizing activities with others, and recommending process improvements.*

1. Connects with others throughout organization to achieve work goals.
2. Prioritizes work and competing projects; coordinates activities with other groups using the same/similar resources.
3. Communicates with others involved in project and schedules work to be done as needed by others, such as ancillary analyses.

**Creative**          *Uses imagination to develop new insights into situations and applies*
**Thinking**          *innovative solutions to problems; designs new methods where established*
                      *methods and procedures are inapplicable or are unavailable.*

1. Identifies application of current research and practices to emerging mission needs.
2. Devises novel ways to apply technical discipline.
3. Develops or applies innovative solutions to problems.
4. Reviews scientific literature to inspire new ideas or directions for examination or research.
5. Integrates the acquisition of knowledge or skills into day-to-day work.

**Customer**          *Works with clients and customers (that is, any individuals who use or*
**Service**           *receive the services or products that your work unit produces, including the*
                      *general public, individuals who work in the agency, other agencies, or*
                      *organizations outside the Government) to assess their needs, provide*
                      *information or assistance, resolve their problems, or satisfy their*
                      *expectations; knows about available products and services; is committed to*
                      *providing quality products and services.*

1. Communicates effectively with customers.
2. Promotes organization's world-class expertise and unique tools/techniques/ capabilities to meet other organizations' needs.
3. Conducts outreach to the general public (e.g. students and special interest groups); explains research and field projects and their significance.
4. Assesses needs of the marine ecosystems community; offers responsive solutions to match requirements.
5. Influences others to believe in the spirit of public service and their commitment to make a meaningful contribution.

**Fishery**           *Apply sound principles and techniques toward managing*
**Resources**         *aquatic resources.  Ensure appropriate financial management.*
**Management**

1. Base decisions on best available scientific and commercial data.
2. Develop and implement conservation/recovery plans.
3. Implement key Federal laws, such as Magnuson-Stevens Fishery Conservation Management Act, Endangered Species Act (ESA), Marine Mammal Protection Act, and others.
4. Apply Federal rules and regulations.
5. Prepare project plans with short-and-long range objectives.
6. Manage logistics for field research.
7. Determine financial needs of proposed projects.
8. Manage budgeted funds.
9. Involve co-managers and public when developing management policies and making decisions, as appropriate.

**Flexibility**          *Is open to change and new information; adapts behavior or work methods in response to new information, changing conditions, or unexpected obstacles; effectively deals with ambiguity.*

1. Focuses on organizational needs, not solely on individual agenda/research program.
2. Demonstrates willingness and ability to learn about other scientific disciplines and techniques.
3. Demonstrates desire to fulfill organizational/stakeholder/agency needs and priorities, recognizing that they will change over time.
4. Embraces and takes advantage of technology changes.
5. Works concurrently on multiple tasks and/or conflicting priorities without losing attention or focus.

**Information Gathering**          *Gathers information from all applicable sources, such as subject matter experts, organizational representatives, manuals and other guidance, published sources, and the internet.*

1. Reviews scientific literature to provide essential information.
2. Evaluates the suitability, relevance and currency of information and sources.
3. Identifies and gathers relevant data from various sources to analyze problems and issues.
4. Confers with people from other technical disciplines, or with other interests in activities.

**Integrity/ Honesty**          *Contributes to maintaining the integrity of the organization; displays high standard of ethical conduct and understands the impact of violating these standards on an organization, self, and others; is trustworthy.*

1. Represents scientific findings appropriately and accurately.
2. Cites others' work and contributions.
3. Serves as an ethical role model for others.
4. Shows willingness to admit mistakes and openly take responsibility for them.

**Judgment and Decision-Making**          *Make sound, well-informed and objective decisions; perceive the impact and implications of decisions; commit to action to accomplish organizational goals.*

1. Uses sound judgment to determine validity of methods and results when recorded data or results disagree.

**Leveraging Diversity**          *Respect, understand and value individual differences to achieve the vision and mission of the organization; hold self and others accountable for achieving results that embody the principals of diversity; leverage the talents of all employees, customers, stakeholders, and other constituents to achieve business and maximum effectiveness.*

1. Demonstrates sensitivity to cultural diversity, race, gender, disabilities, and other individual differences.
2. Respects and collaborates successfully with people with different skills and backgrounds and perspectives.
3. Considers and responds appropriately to the needs, feelings, and capabilities of others.

**Oral Communication** — *Expresses information (for example, ideas or facts) to individuals or groups effectively, taking into account the audience and nature of the information (for example, technical, sensitive, controversial); makes clear and convincing oral presentations; listens to others, attends to nonverbal cues, and responds appropriately.*

1. Presents scientific findings/results at technical conferences.
2. Communicates with people from other technical disciplines.
3. Presents scientific concepts/ideas to non-scientific audiences in a meaningful way (using plain language).
4. Participates in or conducts group meetings, committees, and/or internal reviews. Ensures all participants have equal opportunity to speak.
5. Orients new and other staff; freely shares knowledge.
6. Articulates ideas and research to colleagues and supervisors.

**Partnering** — *Develops networks and builds alliances with customers, vendors, and other external partners; meets mission requirements and provides services and products to partners by collaborating across boundaries.*

1. Participates in external activities such as: conferences, panels, review boards, conference organizational committees, journal reviews.
2. Collaborates and networks with those internally and externally who have special skills for accomplishing job tasks.
3. Collaborates on interdisciplinary teams.

**Planning, Evaluation, And Execution** — *Organizes work, sets priorities, and determines resource requirements; determines short- or long-term goals and strategies to achieve them; coordinates with personnel in other organizations or parts of organization to accomplish goals; executes project, monitors progress and evaluates outcome.*

1. Applies a long term perspective in development of strategies, and plans research agenda and activities.
2. Manages time efficiently and effectively; creates a timeline for accomplishing tasks to meet goals.
3. Designs research and field work by determining what specific approaches will be used:
    - Identifies resources (people, equipment, supplies, etc.) necessary to accomplish goals;
    - Searches literature and consults with experts for best approaches and methods;
    - Evaluates new techniques to see how they compare to older, more established techniques, including those used within organization.
4. Brings projects to completion while continually assessing progress. Evaluates success of outcome.

**Problem Solving**	*Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and to make recommendations.*

1. Gathers relevant data to analyze problems and issues.
2. Makes connections or sees interrelationships between disparate concepts.
3. Demonstrates broad scientific interests to allow for use of different approaches toward solving problems.
4. Uses innovative yet sound reasoning (i.e., thinks "out of the box" when needed); troubleshoots methodically and with an open mind.
5. Continually evaluates reasoning to ensure that answers are correct and well-reasoned.
6. Applies sound judgment to decide validity of methods and results when results from different experiments disagree.
7. Applies logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

**Quality Focus**	*Conducts reviews of products, services, or processes to evaluate quality or performance.*

1. Reviews lab results, analyses, and conclusions of team members, and/or other researchers; helps troubleshoot problems.
2. Critiques presentations and manuscripts of team members.
3. Participates in quality assurance research programs
4. Reviews data for quality assurance and takes appropriate corrective action where inconsistencies are found.
5. Documents issues such as data limitations so that others can understand.
6. Follows applicable internal quality systems.

**Reading**	*Comprehends and interprets written material, including technical material, rules, regulations, instructions, reports, charts, graphs, or tables; applies what is learned from written material to specific situations*.

1. Keeps up with professional literature/journals, which results in new ideas for research approaches and activities.
2. Reviews and critiques technical research articles and materials (i.e., peer review).
3. Keeps up with organization's rules and regulations.
4. Maintains currency with current events, laws, regulations, procedures, trends and developments, and their impact on the organization.

**Research Design** *Develops and implements a process or strategy to solve a*
**And Execution** *scientific problem or further knowledge using rigorous scientific methods and/or novel approaches; considers available data resources, obtaining additional data when necessary and appropriate.*

1. Conducts field or laboratory inquiries.
2. Collects, records, and inputs data into recording system.
3. Applies quality assurance procedures in collection and maintenance of data.
4. Identifies relationships between data.
5. Draws accurate conclusions from data, and documents reasoning.
6. Develops and applies new measures when necessary.
7. Applies biological and physical sampling techniques.
8. Develops research proposals germane to problems involving aquatic resources.

**Self** *Sets well-defined and realistic personal goals; displays a high*
**Management** *level of initiative, effort, and commitment towards completing assignments in a timely manner; works with minimal supervision; is motivated to achieve; demonstrates responsible behavior.*

1. Demonstrates persistence, patience and a willingness to learn when faced with obstacles, setbacks and frustrations that arise while doing research.
2. Demonstrates focus, drive and intellectual curiosity.
3. Demonstrates willingness to solve problems independently, i.e., works with minimal supervision, but seeks advice and asks questions to learn new things as needed.
4. Sees the big picture and is able to focus on delivering an appropriate result without becoming bogged down in the details; recognizes level of effort (whether lesser or greater) needed to complete a task satisfactorily.
5. Acts decisively on own authority when timely action is needed, even in uncertain situations.

**Teamwork** *Work with others to achieve goals; facilitate cooperation, trust, and group identity; foster commitment and team spirit; manage and resolve conflicts. Shows understanding, friendliness, courtesy, tact, empathy, concern, and politeness to others; develops and maintains effective relationships with others; may include effectively dealing with individuals who are difficult, hostile, or distressed; relates well to people from varied backgrounds and different situations;.*

1. Confers with internal and external scientists and engineers to exchange ideas and explore collaborative efforts.
2. Cultivates and maintains collegial working relationships.
3. Demonstrates respect for the needs of others; recognizes that others have priorities as well as one's own.
4. Manages conflicts, confrontations, and disagreements constructively.
5. Applies appropriate negotiation approaches to find mutually beneficial solutions to problems and/or conflicts.
6. Gains cooperation from internal and external sources to obtain information and accomplish goals.

**Written Communications** *Recognizes or uses correct English grammar, punctuation, and spelling; communicates information (for example, facts, ideas, or messages) in a succinct and organized manner; produces written information, including technical material that is appropriate for the intended audience.*

1. Writes various technical materials, including internal reports, internal and external grants and proposals, cooperative agreements, memoranda of understanding, papers for publication/dissemination, memoranda, and similar.

2. Maintains clear and thorough written records of experiments so that others may confirm results.

3. Reviews other staff members' written work and makes constructive suggestions for improvement.

4. Uses email appropriately and professionally as a means to communicate with customers, colleagues, partners, managers, etc.