U.S. Office of Personnel Management
Division for Human Capital Leadership & Merit System Accountability
Classification Appeals Program

Dallas Field Services Group
Plaza of the Americas, North Tower
700 North Pearl Street, Suite 525
Dallas, TX 75201

Classification Appeal Decision
Under section 5112 of title 5, United States Code

Appellant:	[appellant]
Agency classification:	Research Hydrologist GS-1315-14
Organization:	[appellant's activity] U.S. Geological Survey Department of the Interior [city and state]
OPM decision:	Research Hydrologist GS-1315-14
OPM decision number:	C-1315-14-02

Marta Brito Pérez
Associate Director
Human Capital Leadership
and Merit System Accountability

March 3, 2005
Date

As provided in section 511.612 of title 5, Code of Federal Regulations, this decision constitutes a certificate that is mandatory and binding on all administrative, certifying, payroll, disbursing, and accounting officials of the government. The agency is responsible for reviewing its classification decisions for identical, similar, or related positions to ensure consistency with this decision. There is no right of further appeal. This decision is subject to discretionary review only under conditions and time limits specified in the *Introduction to the Position Classification Standards*, appendix 4, section G (address provided in appendix 4, section H).

Decision sent to:

[appellant's name and address]

Personnel Officer
[name] Region
U.S. Geological Survey
[address]

Director of Personnel
U.S. Department of Interior
Mail Stop 5221
1849 C Street, NW.
Washington, DC 20240

Introduction

The Dallas Field Services Group of the U.S. Office of Personnel Management (OPM) accepted a classification appeal from [appellant] on June 29, 2004. His position is currently classified as Research Hydrologist, GS-1315-14, and is assigned to the [appellant's activity], U.S. Geological Survey (USGS), Department of the Interior, in [city and state]. The appellant believes it should be classified at the GS-15 grade level. We have accepted and decided this appeal under section 5112 of title 5, United States Code (U.S.C.).

Background

The appellant appealed the findings of USGS's Research Grade Evaluation Panel dated October 28, 2003, to the Department of Interior (DOI). The Department's decision, dated June 4, 2004, sustained the panel's grade level determination. He subsequently filed an appeal with this office, questioning the levels credited for all four factors.

Position information

The [appellant's activity] is one of 17 science centers within the USGS. [Center's] area of science focuses on ecosystem responses to natural processes and human activities in the desert, mountain, and semi-arid West. The scientists study and advise on a large range of topics dealing with plants, fisheries, and wildlife; changes to the ecosystems; predictive modeling of invasive species; ecological effects of fire and fire management practices; etc. These scientists serve all DOI land management agencies and other natural resource agencies. Most of their work is done in partnership with the Fish and Wildlife Service (FWS); National Park Service; the Bureaus of Land Management, Reclamation, and Indian Affairs; and tribal governments. They also share resources and expertise with a variety of other Federal agencies in relation to natural resource issues and have extensive working relationships with many universities.

The appellant's position is assigned to the [assigned organization] and reports to the Program Director, an interdisciplinary position currently classified as a Supervisory Biologist, GS-401-14. There are 15 staff scientists assigned to the Branch, representing a variety of occupations; i.e., ecology, fishery biology, fish and wildlife biology, botany, hydrology, economics, and civil engineering, with grade levels ranging from GS-12 to GS-14. Three of the positions are classified as Research positions.

The appellant is responsible for conducting research in surface water hydrology with an emphasis on technologies and strategies to quantify resource impacts in managed river and reservoir ecosystems. The studies include river basins with multiple reservoir systems and multi-purpose uses in order to best manage and protect a variety of concerns; e.g., recreation, fish and habitat preservation, hydropower generation, endangered species, and others. The appellant conducts research in systems analysis methods, computer modeling, simulation, decision support systems (DSS), multi-criteria decision analysis (MCDA), and adapts these methods into a decision making tool for use by resource managers. He has adapted these methods into a user friendly model System Impact Assessment Model (SIAM) for the [river in two states]. His

studies have included areas of the Missouri River, Colorado River Basin, Klamath-Trinity River, and most recently, the Green/Yampa Rivers.

Through a cooperative agreement with [state name] State University [SU], the appellant serves as a team leader for research projects and maintains a faculty affiliate appointment. He supervises students at various levels and with faculty members on research pertaining to multi-purpose water management issues. We understand the level of activity varies according to funding available. He may work with two or three student projects during a good funding year, however, there are no active research projects with [SU] at this time. The appellant does remain active in his advisory capacity with various boards and working groups at [SU]; e.g., Information Technology in Civil Engineering Education, Industrial Advisory Board, and the Editorial Board for Water Resources Papers, providing direction and advice on curriculum needs, review of papers, and publication requirements.

The appellant's position description (PD) number [number] and Research Scientist Record, dated April 15, 2003, were submitted as part of the appellant's research evaluation case write-up prepared for the research panel. Both were certified as accurate by the appellant and his supervisor. The appellant updated his Research Scientist Record on June 16, 2004, prior to filing his appeal with our office. These documents provide additional details on the appellant's work and will be considered to the extent they clarify the appellant's PD of record.

In reaching our classification decision, we considered information submitted in writing by the appellant and his agency and information obtained by telephone from the appellant, on October 12, 2004, his supervisor on October 20, and the Project Chief for River and Stream Modeling and Decision Support Systems on November 8. Additionally, as part of our fact-finding process, we contacted ten additional scientists familiar with the appellant's work, including those recommended by the appellant and his supervisor.

Series, title, and standard determination

The agency has classified the position to the Hydrology Series, GS-1315. The majority of the appellant's work involves research duties and responsibilities as defined in the Research Grade Evaluation Guide (RGEG). The appellant does not question the series or title of his position. We agree with the agency's determination that the position is assigned to the GS-1315 series with a title of Research Hydrologist. The position is evaluated by comparison with the RGEG.

Grade determination

Part I of the RGEG is used to evaluate positions at GS-11 through GS-15 that are engaged in basic or applied research in the sciences when the functions involve the personal performance, as the highest level function and for a substantial portion of the time, of professionally responsible research. Part I includes four factors which are considered and rated separately, with the total point value then being converted to a grade level by use of the grade conversion chart provided in the RGEG.

Each factor is evaluated at one of five degree levels. Three of these levels (A, C, and E) are defined in the RGEG. An intermediate level (B or D) may be assigned when a position is evaluated between levels A and C or levels C and E, respectively. Each factor also includes a description for an "In Excess of Degree E" level.

Factor I, Research situation or assignment

This factor deals with the nature, scope, and characteristics of the studies being undertaken by the employee. It is intended to reflect the situation or assignment in the current job, rather than a summation of the employee's assignments over a long period of time.

At Degree C, the scientist is responsible for formulating and conducting a systematic research attack on a problem area of considerable scope and complexity. Problems of this scope must be approached through a series of complete and conceptually related research studies carried out by the scientist or by a team led by the scientist. Complexity is such that problems are typically difficult to define, require unconventional or novel approaches, require sophisticated research techniques, and/or present other features of more than average difficulty. Research studies of this scope will result in a series of publishable contributions to knowledge that will (1) answer important questions in the scientific field, account for previously unexplained phenomena, and/or open significant new avenues for further study; (2) represent an important contribution to the validation or modification of scientific theory or methodology; (3) result in important changes in existing products, processes, techniques, or practices; and/or (4) be definitive of a specific topic area.

Three types of research situations are described at Degree E. The first describes responsibility, ordinarily as a team leader, for formulating and guiding a research attack on problems in applied research which have been recognized as critical obstacles to progress or development in areas of exceptional interest. The solution of these problems would represent a major advance, opening the way for extensive related development. The second describes basic research which has been recognized as exceptionally difficult and a solution would represent an advance of great significance. The third situation involves team leadership in attacking problems of such scope and complexity as to require subdivision into separate phases of which several are characteristic of Degree D. Positions of this type involve substantial supervisory responsibility.

The appellant cites his role as a team leader, both through USGS and CSU, in addressing problems of exceptional interest within the Department, the environmental community, and non-profit environmental and user groups as the basis for fully meeting Degree E. He states that other researchers are trying to adapt methods for formulation of metrics for resource values used in the Green/Yampa river project for use on FWS wildlife refuge lands and the Bureau of Reclamation for possible use on the Missouri River in conjunction with the Corps of Engineers operations. He states his work is being evaluated for use by USGS and the Nature Conservancy for use on the Upper Delaware River Basin. He believes he has served as team leader in attacking complex and controversial problems related to water management and has used creative insights to modify or adapt and applied models for water operations in the solution of problems of exceptional interest that are politically sensitive to the Department.

The appellant's assignments generally include research involving a team of multi-disciplinary scientists. The work involves surface water resources primarily pertaining to water flow and reservoir management as they relate to a variety of interests, e.g., power generation, agriculture, habitat protection, protection of endangered species, and recreation. This research involves development of a DSS using a series of models to address the specific problems of the situation to attempt to quantify the variables and assist the responsible parties in their decision making. His major work in the past ten years has involved the [name] River where he had primary responsibility for the development of a water quantity/routing model portion of the team project. He developed the model and adapted data and model components to analyze the conflicting uses of the water, e.g., power generation, irrigation, commercial and recreational fishing, endangered or threatened species, and community water supply. Work still continues on the [name] River and he continues to make presentations based on new issues relating to drought conditions, possible removal of dams, restoration of salmon and steelhead trout habitat, and the Federal Energy Regulatory Commission (FERC) relicensing process. The [name] River project was worked by a group of scientists operating as a self-directed, multi-disciplinary work team. Team leadership was rotated with the appellant elected to serving as team leader for a four year period of the project.

The more recent project involves the [two names] Rivers of the Upper Colorado River Basin. This project involves similar issues to those of the [named river], e.g., two reservoirs, recreational access through [name] National Monument, power generation, fish habitat, etc. Scientists consulted advised that this project was not as significant as the [named river] in terms of the population affected and political sensitivity.

We find the appellant's current assignments fully meet, and in some aspects, exceed Degree C. The research done by the appellant involves problems which are difficult to define, require novel approaches, and present problems of more than average difficulty, as typical at Degree C. While the water flow models have been in use for some time, introduction of the environmental factors are of a more recent concern and increase the complexity of the work. The appellant has worked in this area of research for many years and his work has resulted in changes in the systems developed. However, at Degree E, the scope and impact of the research problems are significantly increased above those encountered at C. Additionally, situations 1 and 3 of Degree E describe responsibility as a team leader, i.e., required in situation 3 and ordinarily performed in situation 1. While the appellant has served as team leader for a period of time for the [named river] Project and in his work with [SU], this factor is intended to capture the current research assignment. The level of team lead/supervisory responsibility typical situation 3 is not met in the present assignment. Situation 2 involves basic research and is not appropriate for the appellant's assignment.

Situation 1 describes responsibility, ordinarily as a team leader, for problems which have been recognized "critical obstacles" or "areas of exceptional interest." While the Guide does not define these terms, they would necessarily involve problems significantly beyond those described at Degree C, i.e., accounting for previously unexplained phenomena, opening significant new avenues for further study, or contributing in an important way to validating or modifying scientific theory. Seeking to quantify data to assist in resolving conflicting interests presented by specific water management areas requires working with multi-disciplinary teams to

resolve complex problems. Our contacts indicate the appellant's work has involved adapting/modifying and combining existing tools and models, resulting in important changes for management support systems for weighing alternatives, rather than the major advances typical of Degree E. Degree C is fully met and Degree E is approached in terms of leadership and complexity. Degree D is credited for 8 points.

Factor II, Supervision received

This factor deals with the supervisory guidance and control exercised over the researcher in the current job situation.

At Degree C, the researcher is assigned a broad problem area and is allowed substantial freedom in identifying, defining and selecting problems for study. The researcher is responsible, with little or no supervisory assistance, for formulating hypotheses, developing and carrying out the plan of attack, coping with novel and difficult problems, analyzing and interpreting results, and preparing comprehensive reports of findings. The supervisor is kept informed of general plans and progress and approves plans which call for considerable involvement of time and equipment and final decisions concerning the directing of the work and changes in direction and/or discontinuance of lines of investigation. The researcher's professional judgment is relied upon and his recommendations are ordinarily followed.

At Degree E, technical supervision is nominal and consultative in nature. The researcher works under broad administrative supervision, which is generally limited to approval of staffing, funds, and facilities and to broad agency policies. Within the framework of management objectives, priorities, and pressures for results, the researcher is expected to locate and explore the most fruitful areas of research in relation to the agency's program needs and the state of the science involved; to take complete responsibility for formulating research plans and hypotheses and for carrying them through to completion; and to take full technical responsibility for interpreting findings, including interpreting their applicability to activities and interests of the agency, and their broader applicability to basic scientific methodology. Within the agency, these interpretations are accepted as technically authoritative and become the basis for necessary administrative action.

The appellant believes this factor should be rated at Degree E or higher. He cites the PD which indicates that " supervisor . . . functions primarily in an administrative capacity as supervisor of record" and "the incumbent has sole responsibility for preparation of research results, manuscripts, oral or poster presentations . . .". He discusses his combination of skills and training in hydraulics, hydrology, systems analysis, hydrologic modeling, and watershed management. He believes the facts are consistent with item (1) a degree of confidence in and reliance on the researcher's productivity competence, and judgment . . . and (3) recognition of the researcher as both (a) a top technical authority in his field in the agency and (b) a distinguished scientist, as described in the Guide In Excess of Degree E.

The appellant's research involves problems identified by the client agencies. He defines the specific questions to be studied and methods to be used. The supervisor provides broad administrative, budgetary, and policy goals to the appellant. Within the allocated budget, the appellant determines areas of research to be accomplished, collaborating with others inside and

outside the agency and/or CSU, and exploring additional means of funding support. While the supervisor must approve the appellant's purchase card expenses for payment, they are reviewed only to assure that no inappropriate items are purchased. The research questions to be resolved, methods used to resolve them, and research results are accepted as technically authoritative. The supervisor is apprised on progress, potential controversial and political difficulties with clients in other agencies, and other possible applications of the research within DOI. While the appellant operates with a high level of independence, it does not fully meet Degree E. His projects are not as extensive as described in Degree E requiring expenditures of staffing, funds, and facilities. With no current funded projects with [SU], his supervisory role with university staff and students is decreased from the level found on prior reviews. Because of the interdisciplinary nature of the problems, more collaborative work is involved in verifying results. While the appellant has technical responsibility for interpretation of findings, those findings do not become the basis for necessary administrative action by the agency; e.g., agency assigning significant resources, redirecting broader agency efforts to support of complement the research, or appointing him to head important committees, etc. Although the appellant believes he meets aspects 1 and 3 of In Excess of Degree E., all three aspects would have to be met. We find Degree C is fully met and Degree E is approached. Degree D is credited.

Degree D (8 points) is assigned for this factor.

Factor III, Guidelines and originality

This factor deals with the creative thinking, analyses, syntheses, evaluation, judgment, resourcefulness, and insight that characterize the work performed by the employee in the current job situation. Guidelines usually consist of the literature in the field or precedent situations which may be adapted to the current situation. Points to consider are the extent and nature of available written guides, the difficulty encountered in applying/adapting those guides to the current situation, and degree of judgment required in their selection, interpretation, and adaptation. The impact of creativity is assessed by the requirement for original and independent creation and choosing between alternative methodologies; the interpretation of findings and interpretations into a form usable by others; and the impact of theories and approaches developed by the appellant on the scientific field of the research.

At Degree C, applied research typically involves development and application of new techniques and original methods of attack to the solution of important problems presenting unprecedented or novel aspects. This includes application of a high degree of insight to isolate and define the critical features of the problems. It also requires application of a high degree of originality and ingenuity in adapting, extending, and synthesizing existing theory, principles, and techniques into original and non-obvious combinations or configurations and in defining and conducting the specific research studies necessary for the solution of the problems dealt with.

At Degree E, originality is represented by creative extension of existing theory or methodology, or significant contribution to the development of new theory or methodology which is of such scope as to supplant or add new dimensions to a previous framework of theory or methodology. Degree E originality, particularly in applied research, may be represented by responsibility for applying a very high degree of imagination and creativity in the solution of problems of marked

importance; e.g., to the scientific field, national defense, health, major segments of the national economy, etc., for which there is an almost complete absence of applicable guidelines, pertinent literature, and methodology.

The appellant believes this factor should be rated at fully meeting Degree E. He believes he has advanced the application of DSS tools beginning from his original work in the mid 1980's and more recently, with respect to the MODSIM and SIAM models and the ERAS with embedded metrics components. He believes his creative extensions of existing methodology meets item (1) of Degree E. The appellant believes item (2) at Degree E is met as each of his projects has involved solution of problems of "marked" national importance and every river study has involved threatened and endangered fish species, water shortages for municipal or agricultural needs, and more recently drought conditions. The appellant cites the RGE Panel comments related to " . . understanding and resolution of some of the most contentious water allocation debates in North America."

The appellant's research projects are related to river/reservoir management with emphasis on the protection and preservation of natural, cultural, biological, and environmental resources. Project areas have involved multiple reservoirs and multi-disciplinary resource issues. The problems are generally regional in scope, but controversial issues may raise the visibility to national levels. Contested water sharing/treaty agreements may increase visibility, as evident in the [named river]. A component of the appellant's responsibility is to develop methods to quantify these resource issues and incorporate them into a multi-criteria decision analysis tradeoff matrix. He uses and adapts existing models for water flow and factors in other models for water quality, aquatic habitat, and others more specific for the fish/salmon population to provide information to managers to be able to balance out the needs of power generation, agriculture, water for municipalities, recreation, and habitat and endangered species protection. These assignments fully meet and in some aspects exceed Degree C. While the project on the [named river] and earlier projects on the Colorado River were of regional importance and received national publicity, they do not fully meet Degree E in terms of their importance to the scientific field or impact on major segments of the national economy. The appellant states that the Research Panel credited him with strongly contributing to the understanding and resolution of some of the most contentious water allocation debates in North America. We do not question that the water issues were contentious and politically sensitive, however, that alone does not raise the research project to a level of marked importance as described in Level E. To fully meet Degree E, the research must have gone considerably beyond Degree C to extend or develop theory or methodology to the extent that existing theory or methodology is replaced or significantly altered or responsibility for a problem of marked importance for which there is an almost complete absence of guidelines, literature, and methodology. While the appellant is credited with adapting existing models to integrate additional factors for fish habitat, wildlife, and other considerations, we do not find it fully meets Degree E. We find this factor exceeds Degree C and approaches Degree E.

Degree D is credited for 8 points.

Factor IV, Qualifications and scientific contributions

This factor measures the total qualifications, professional standing and recognition, and scientific contributions of the researcher, insofar as these bear on the dimensions of the current research situation and work performance. It is given twice the weight of the other factors. The RGEG instructs that although the total history of accomplishment is to be considered under this factor, recent research is essential to full credit for past accomplishments.

At Degree C, researchers have demonstrated their ability as mature, competent, and productive workers and will typically have authored one or more publications of considerable interest and value to the field. This is typically evidenced by favorable reviews, by citation in the work of others, by presentations of papers to professional societies, and/or will have contributed inventions, new designs, or techniques that are of material significance in the solution of important applied problems. Contributions at this level involve leadership of a productive research team or derive from highly productive personal performance of research, in terms of both quantity and quality. Researchers at this level are considered significant contributors to the field and are beginning to be sought out for consultation by colleagues who are professionally mature researchers. Further evidence of emerging recognition may be selection to serve in important committee assignments in professional groups.

At Degree E, the researcher has demonstrated outstanding attainment in a broad, or in a narrow but intensely specialized, field of research. The researcher will typically have authored a number of important publications, of which at least some have had a major impact on advancing the field, or are accepted as definitive of important areas of the field. The researcher may have contributed inventions, new designs, or techniques that are regarded as major advances in basic or applied research and have opened the way for extensive further developments, or have solved problems of great importance to the scientific field, the agency, or the public. Contributions are of such importance and magnitude that they move the art forward. The researcher is consulted by colleagues who are themselves specialists, invited to address national professional organizations, and receive recognition in the literature through favorable reviews and citations are further evidence of attainment of this level.

The appellant believes credit is appropriate at Degree E or higher. He believes his presentations and publication related to drought water management issues and dam removal in the [named] River meet the criterion of Degree E. The appellant indicated he has received numerous invitations to address national professional meetings and to organize and serve as editor for significant international, national, and Federal interagency professional meetings or workshops. He believes the awards he has received, other technical activities, and more than 100 published reports and 90 technical presentations support a rating of fully at the Degree E level.

With regard to qualifications, the appellant has both a bachelors and masters degrees in civil engineering, a PhD in agricultural engineering, and is a registered professional engineer in the states of Colorado and Arizona. He has maintained membership in professional organizations such as American Water Resources Association, American Society of Agricultural Engineers, American Society of Civil Engineers (ASCE), American Geophysical Union, International Society for Ecological Modeling, and the International Water Resources Association. The

appellant is currently most active in the ASCE [state] Section and Northern [state] Chapter, serving on the water resources planning and watershed management committees. He is a participant on the planning committee for the 2005 Environmental Water Resources Institute (EWRI) watershed management conference, was co-chair of the Watershed 2000 ASCE symposium, and assisted in organizing the second and third Federal Interagency Hydrologic Modeling Conferences. The EWRI is a specialty organization within the ASCE.

The appellant has served as team leader through a cooperative agreement with [SU] and maintains an active faculty affiliate appointment. He serves on the Industrial Advisory Board for the Civil Engineering Department, Editorial Board for Water Resources Papers, and serves as an advisor on information technology in civil engineering education.

Throughout his career, he has been invited to make technical presentations at scientific meetings and has authored a number of articles for scientific journals. In 2000 and 2001, he authored one and coauthored a second article for the Journal of Water Resources Planning and Management, ASCE. He has given technical presentations at various ASCE conferences, including one invited presentation for the ASCE 2000 National Engineering Conference and Exposition. Other presentations include the second Federal Interagency Hydrologic Modeling Conference, American Water Resources Association, American Geophysical Union, and the Rocky Mountain Regional Lake and Reservoir Management Conference. Most of these presentations were issued in CD ROM format. He has given presentations and provided training and demonstrations for other Federal agencies, including the BOR and USDA, on subjects related to DSS, water quantity and quality models, and the SIAM system for the [named] River.

Our contacts with scientists indicate that the Federal government's land management organizations are generally looked to as the leaders in this type of research. The Center works on projects on a nationwide basis and works in cooperation and coordination with other bureau's within the Department, State agencies, universities, and private sector organizations. The appellant is skilled in dealing with the various stake holders in explaining options and helping them select the models for use. The appellant has continued to build on his research beginning with the Colorado River systems and the [name] Dam. The research on the [named river] resulted in a PC-based system (SIAM) more user-friendly than existing programs that enable the stakeholders to obtain their data. The project on the [two named] Rivers resulted in a prototype environmental resources analysis system that is a spreadsheet-based decision support system that provides access to historical data sets, scientific information, statistical analysis, model outputs, and comparative methods in a user-friendly format. This results in a simplified decision support system for use by managers and other interested parties.

The appellant's level of professional recognition fully meets Degree C. He serves as an expert in surface water modeling which includes aspects of hydraulics, instream flow, water resources systems analysis, river and reservoir simulation, and management information decision making. This is evidenced by the team demonstrations and training presentations held on the SIAM model. While he has received recognition for his work by invitation to present findings at professional conferences and has published articles in professional journals, the record does not indicate that the presentations and publications have had the major impact on advancing the field as typical of Degree E. He has had limited publications in refereed scientific journals which are

deemed as an indication of the acceptance of the scientific community and are needed to support the higher level. The scientists consulted indicate that conference proceedings may receive some review, but not to the vigorous extent of the primary scientific journals and are therefore, not recognized at the same level. The appellant has been active with professional organizations but these have primarily been at the local or regional level. While the appellant has been active in the research area for many years, both with USGS and his prior employment with NPS, and is beyond the "beginning to be sought out" described at Degree C, he does not approach Degree E in terms of professional standing, recognition in the field, etc. While his work has involved important problems, it is not considered to have a major impact on advancing the field or considered cutting edge by other scientists. The appellant's work fully meets but does not significantly exceed Degree C. 12 points are credited.

Summary

Factor evaluations and points are assigned as follows:

I.	Research situation or assignment:	Degree D	8 points
II.	Supervision received:	Degree D	8 points
III.	Guidelines and originality:	Degree D	8 points
IV.	Qualifications and scientific contributions:	Degree C	12 points
		Total	36 points

According to the grade-determination chart in the RGEG, the total of 36 points falls within the range for GS-14 (36-42). Therefore, GS-14 is the appropriate grade for the appealed position.

Decision

The appellant's position is properly classified as Research Hydrologist, GS-1315-14.