Revised Professional Certification Program
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Introduction

A fisheries professional is an individual with specialized education in the sciences and technologies involving the structure, dynamics, and interactions of habitat, aquatic organisms, and humans. He or she may be a generalist in fisheries resource management or a specialist in one or more allied disciplines, such as aquatic biology, limnology, oceanography, aquaculture, biometrics, physiology, pathology, genetics, economics, and engineering among others. Although areas of specialization may be varied, the individual's professional responsibilities must involve fish. Fisheries professionals are dedicated to high quality service and the achievement of specific goals and objectives. They promote conservation--optimization of benefits for society while maintaining the integrity, diversity, and sustainability of aquatic systems--through research, education, management, and administration. Fisheries professionals strive for high standards of competence and integrity in order to establish mutual confidence and respect and to bring credit to their profession, employer, and community.

Certification is widely practiced by the professions as one means of setting standards and guidelines for professional competence. It serves to upgrade the professional image and is a mark of accomplishment. Certification also is a mechanism to demonstrate responsible peer evaluation. The specific objectives of certification are as follows: (1) to provide governmental and nongovernmental agencies and organizations, private firms, courts, and the general public with a definitive standard of experience and education for fisheries professionals; and (2) to foster broader recognition of fisheries professionals as well-educated and experienced, acting in the best interest of the public.

The American Fisheries Society has worked to advance conservation of fishes and aquatic resources in North America for more than a century. With more than 8,000 members, the society promotes educational, scientific, and technological development of all facets of fisheries science and management.
Program History

The Certification Program of the American Fisheries Society got its start at the AFS 93rd Annual Meeting in 1963, when attendees approved suggested standards developed by the Professional Standards

Committee. Although the Certification Program has been modified and refined several times (Hutchcroft 1999), the most significant changes were adopted by the AFS Governing Board at its midyear meeting in March 1997 (Adelman et al. 1997). These changes included the integration of a re-certification requirement for all FP-C professionals. Program implementation began July 1, 1998 and was complete on July 1, 2002. This document describes the current certification program, including minor changes adopted by the AFS Governing.

Certification Description

The American Fisheries Society (AFS) offers professional certification to anyone who meets specific education and experience requirements. Three tiers of certifications are available:

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Tier I - Fisheries Professional Associate (FP-A) - an applicant who satisfies coursework degree requirements (indicated below) but has insufficient or no experience may become an Associate Fisheries Professional;

Tier II - Fisheries Professional Certified (FP-C) - in addition to satisfying coursework and degree requirements, an applicant must have the requisite number of years of qualifying experience and the requisite number of professional development quality points (PDQPs) to become a Certified Fisheries Professional;

Tier III - Fisheries Professional Emeritus (FP-E) - an applicant who has held the FP-C designation for at least twenty (20) years (need not be consecutive) and is employed less than full time or is retired, may become a Fisheries Professional Emeritus (FP-E). This allows them to maintain their FP-C status without the renewal requirement.

Although the same application form is used for FP-A or FP-C, applicants must designate their choice of the certification for which they are applying. If uncertain (because of coursework variances, questions about qualifying/non-qualifying experience, professional development, etc.) as to the tier for which they qualify, a third choice may be indicated. This choice means that the applicant accepts the level of certification (FP-A or FP-C) granted by the AFS after its review.

There is a separate application for FP-E. Applicants for FP-E must verify their employment status and information on their status as FP-C.

Associate Fisheries Professional certification may be retained for a maximum of eight (8) years, at which time the requirements for a Certified Fisheries Professional must be met and applied for in order to retain any AFS certification. The FP-A must submit a new application with all requested information, with the exception of the course list and transcripts (unless further education has been acquired).

Certification renewal was added to the program with the 1998 revision. To retain competency in any field, professionals must remain active in that field and stay abreast of current developments. Most other professional fields that have a certification or licensing program require periodic recertification to demonstrate continued professional competency. Therefore, through renewal, certified fisheries professionals are required to demonstrate continued enhancement of knowledge and skills throughout their career. Every five years an FP-C must submit evidence of continued activity and professional development to maintain their certification.

Minimum Degree and Experience Requirements for Certified Fisheries Professionals

The number of years of full-time qualifying experience required is dependent on the highest level of education acquired by the applicant.

Degree	Experience Requirements
Bachelor of Science, Bachelor of Arts or equivalent degree	five years of full-time qualifying experience, post-bachelor's degree.
Master of Science, Master of Arts or equivalent degree	four years of full-time qualifying experience, post-bachelor's degree.
Doctor of Philosophy or equivalent degree	two years of full-time qualifying experience, post-bachelor's degree.

Qualifying experience is that in which the candidate applies current knowledge in the fisheries sciences within the context of fisheries management, research, education, or administration. Qualifying experience generally requires that the candidate use independent judgment and action. Because the fisheries profession is so varied in specialization, identifying qualifying experience cannot be easily generalized. Below are types and examples of qualifying experience in each area:
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Management involves the application of fisheries science principles (e.g. population dynamics, aquatic biology, limnology, habitat assessment and manipulation, human dimensions, fish culture, biometrics) toward the accomplishment of specific fisheries management goals and objectives. The candidate should have responsible charge or supervision over the planning, implementation, and assessment of projects. Responsible charge or supervision is defined as the direction of work such that the successful completion of the work is dependent on decisions made by the professional with limited oversight, direction, or approval of others. Projects include recreational and commercial fisheries investigations and management, fish culture, environmental assessment, habitat restoration or enhancement, and fish disease management. Qualifying experience requires that the candidate use independent judgment and action.

Research involves responsible charge or supervision of field or laboratory fisheries research projects. Qualifying experience includes oversight responsibility for design, implementation, analysis, and report writing. Research projects should either be published in a recognized peer reviewed journal or used by the employer for the purpose of improved scientific methodology, regulatory decision-making, or resource management practices.

Education involves college-level teaching of various facets of fisheries management, research, and administration. Education may also involve development and delivery of educational programs in fisheries for dissemination to the general public or particular stakeholders.

Administration involves direct-line authority over other fisheries professionals engaged in activities or programmatic responsibilities over activities that qualify for certification described under headings of management, research, and education given above. Candidates must have responsibility and decision-making authority of such magnitude as district, regional, statewide, or national fisheries programs. Independent judgment and consequences of actions must be present.

Education Requirements (Required for FP-A and FP-C status)

Subject Area	Graduate before July 1, 2002*	Graduate after July 1, 2002
A. Fisheries and Aquatic Sciences.	Four (4) courses; two of which must be directly related to fisheries science.	Four (4) courses; two of which must be directly related to fisheries science and at least one must cover principles of fisheries science and management. 12 semester or 18 quarter hours
B. Other Biological Sciences.	When added to the above courses must total 30 semester or 45 quarter hours.	When added to the above courses must total 30 semester or 45 quarter hours.
C. Physical Sciences.	Must total 15 semester or 22 quarter hours.	Must total 15 semester or 22 quarter hours.
D. Mathematics and Statistics.	Must include college algebra or calculus and one course in statistics. 6 semester or 9 quarter hours.	Must include one calculus and one statistics or two statistics courses. 6 semester or 9 quarter hours.
E. Communications.	Must total 6 semester hours.	Must total 9 semester or 13 quarter hours. Three semester or five quarter hours may be taken in communication intensive courses if officially designated as such by the college or university.
F. Human Dimensions.		6 semester or 9 quarter hours

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* The revised educational requirements for certification apply to those who complete their B.S./ B.A. (or equivalent) degree on or after July 1, 2002. Those who graduated prior to that date will be evaluated based on the earlier criteria regardless of when they apply for certification. Those graduating on or after July 1, 2002 may only apply under the new criteria. Applicants who graduated prior to July 1,2002 may choose to apply under either criteria. In no case may applicants select parts from each system.

A minimum grade of C is required to receive credit. If courses are taken as pass/fail (S/N or P/F), the applicant must provide a course syllabus that indicates that an S or P grade is equivalent to a C or better.

Because university programs at non-U.S. institutions sometimes differ in the structure of their courses and curricula, applicants with courses from such institutions will be evaluated on an individual basis. There may be occasions when the Certification Board will not be able to accept these courses from non-U.S. institutions.

Individuals who have established themselves as active fisheries professionals may become Certified Fisheries Professionals without satisfying the minimum course requirements. In such cases, qualification for the FP-C is based solely on experience and professional development. The experience requirement is five years of full-time qualifying experience with a Ph.D. (or equivalent), seven years with an M.S. or M.A. (or equivalent) or nine years with a B.S. or B.A. (or equivalent). The professional development requirement is 40 PDQPs over the previous two years or 100 PDQPs over the five years prior to application. The education-dependent experience requirement was implemented July 1, 1998, before then it required 20 years of full-time qualifying experience to waive coursework requirements.

Description of Course Categories

The Fisheries and Aquatic Sciences category must include four (4) courses related to understanding or manipulating aquatic ecosystems. Courses such as fisheries science, limnology, oceanography, fisheries management, ichthyology, aquaculture or fish culture, taxonomy of aquatic organisms, and aquatic ecology are acceptable. Courses such as vertebrate biology, wildlife management, ornithology, general ecology, etc. do not belong in this category. The course designated as fulfilling the principles of fisheries science/management requirement must include fisheries population dynamics and habitat assessment and management. It must be an upper division course (i.e. junior, senior, or graduate level), must be at least 3 semester or 4 quarter hours. All combined fisheries and wildlife courses, count as if they were 100% fisheries.

Physical Sciences category courses include chemistry, physics, soils, geology, hydrology, earth science, astronomy, and meteorology.

Mathematics and Statistics category courses must include one course each in calculus and statistics or two statistics courses.

The Communications category includes courses such as composition, technical writing, and verbal communication. Literature, foreign language, other humanities courses, and seminars do not count. Communications-intensive courses are defined as those whose primary subject matter is not communications but which have intensive communications requirements and are officially designated as such by the university. "Officially designated" means that the university has a formal listing of courses as "communications intensive" or a similar title, and that certain criteria have been met by those courses to receive such designation. Officially designated communications-intensive courses, credited in this category, may also be counted in another category. For example, if a fisheries management course is designated as communications intensive, the course may count for full credit in both the Fisheries and Aquatic Science category and the Communications category.

Human Dimensions category courses deal with social aspects of natural resource science and management. They include courses such as named courses in human dimensions of natural resources and

courses in policy, planning, administration, law, ethics, public relations, leadership, conflict resolution, natural resource economics, etc. if related to natural resource management. Introductory social science courses, such as sociology and psychology, do not qualify. Courses in this group may be double-counted as fulfilling course requirements in the Fisheries and Aquatic Sciences category but the credit hours must be apportioned between the two categories based on the percentage time devoted to the human dimensions topic.
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Professional development (required for new and renewing FP-Cs)

Professional development is required of all FP-Cs to keep abreast of developments in the field and to ensure continued enhancement of knowledge and skills throughout their career. Consequently, an FP-C must submit evidence of professional development activities to achieve and maintain certification.

A point system is used to evaluate professional development. Prior to initial certification as an FP-C and every five years thereafter, an FP-C must submit evidence of continued activity and development by accumulating a minimum number of professional development quality points (PDQPs). Whereas a minimum number of PDQPs must be obtained in activity Categories I and II (continuing education), the remaining PDQPs must be distributed among at least two of the remaining three activity categories. These categories and specific activities within the categories are listed below.

Summary of PDQP distribution among categories for certification renewal.

Category	PDQP Requirements
I or II	Minimum 35, maximum 60, combined
III	Maximum 35
IV	Maximum 35
V	Maximum 35
Total	Minimum 100

Professional development should be undertaken through a variety of activities. The minimum requirement in Category I or II combined is to insure that a portion of the PDQPs are acquired through continuing education as opposed to professional activities. The maximum requirements in the other categories insure that some PDQPs are obtained in at least three categories.

PDQPs are required to both achieve and maintain status as an FP-C. PDQPs are not required to achieve FP-A status because only formal education is needed. At the time of application for the initial FP-C, the

candidate must have accumulated 30 PDQPs during the previous two years. These must be accumulated in at least two of the five categories. If the first-time applicant for the FP-C category is an established professional (education requirements waived), then she/he must accumulate 40 PDQPs during the previous two years in at least two categories or 100 PDQPs over the previous five years, distributed as per the table above. To maintain FP-C status, 100 PDQPs must be accumulated, as per the table above, during the previous five years and an application for certification renewal must be submitted during the fifth year after previous certification.

Category I. Continuing education—fisheries

Includes subjects directly related to fisheries science or management. Examples include fisheries management, habitat management, fisheries economics, fish diseases, aquaculture or fish culture, fisheries policy and law, aquatic ecology, etc.

The following activities all count for 0.5 PDQPs per hour

Participation in short-courses or training programs sponsored or conducted by commercial organizations, professional organizations/agencies, employers, or universities.

Attendance at annual or semiannual meetings or special conferences of professional societies, educational organizations, etc.

Attendance at in-house meetings of employer involving education on new techniques or developments in the profession.
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Completion of self-instruction audiovisuals.

Attendance at seminars conducted by experts in the subject.

Category II. Continuing education—nonfisheries

Includes subjects that are not primarily fisheries oriented but are professionally enriching to the individual. Examples include computer science and statistics, managerial and leadership skills, public speaking, problem-solving, public relations, marketing, planning, and other related natural resource disciplines such as forestry, wildlife, etc.

The following activities all count for 0.5 PDQPs per hour

Participation in short courses or training programs sponsored or conducted by commercial organizations, professional organizations/agencies, employers, or universities

Attendance at annual or semi-annual meetings or special conferences of professional societies, educational organizations, etc.

Attendance at in-house meetings of employers involving education on new techniques or developments in the profession

Completion of self-instruction audiovisuals

Attendance at seminars conducted by experts in the subject

Category III. Oral communications in fisheries and nonfisheries subjects

Includes the development, preparation, and presentation of activities such as those described in categories I and II. Context is any public meeting that is open to the general public or a select group of invited participants. For fisheries subjects, the audience need not be fisheries professionals. For nonfisheries subjects, the audience must be fisheries professionals. Multiple presentations of the same or similar subject matter can only be credited once during a certification renewal period.

Activity	**PDQPs**
Author/coauthor of an oral or poster presentation at a professional meeting	7
Author/coauthor of an oral or poster presentation to a nonprofessional audience	7
Organizer/instructor of a short course or workshop	20
Instructor of a quarter- or semester-length course	10 points per credit, maximum 30
Author/producer of self-instruction audiovisuals in fisheries	20

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Category IV. Written communications

Developing, writing, editing, reviewing, and publishing fisheries-oriented materials. The written material need not be published, but it must be readily available to professional and nonprofessional audiences.

Activity	**PDQPs**
Author/coauthor of peer-reviewed article or book chapter	15
Author/coauthor of a book/monograph	30
Editor/coeditor of a book/monograph	15

Author/coauthor of non-peer-reviewed article in a magazine, brochure, newspaper, etc.	7
Author/coauthor of an agency publication or report	10
Reviewer or editor of an article that has been submitted for publication	3
Book reviewer for a professional publication	

Category V. Service

Involves membership and active participation in fisheries or aquatic professional societies and organizations, and community service that draws on the individual's professional expertise in fisheries. Community service may include contributions of professional expertise to civic groups, environmental organizations, government, etc. Points are given for each year served in multiple-year appointments.

Activity	**PDQPs**
Holding the highest office in an organization (including subdivisions), (e.g., president, director, chair, journal editor, etc.)	15
Holding the other offices in an organization (including subdivisions), (e.g., secretary, treasurer, associate editor, newsletter editor, Committee chair, etc.)	10
Committee member	4
Mentor in the Hutton Junior Fisheries Biology Program	10

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Certification Renewal

FP-C applicants will be provided with a Professional Development Activity Form for documenting professional development activities for certification renewal. Notification of the need for certification renewal will be sent to each FP-A and FP-C not less than 12 months prior to the renewal date. Applicants are responsible for maintaining their own records and for verifying the accuracy of these records if requested to do so. Copies of meeting agendas, certificates, registrations, etc. should be retained, so they can be supplied if requested. Applicants are encouraged to document activities which they believe most clearly fit the criteria, up to a maximum of 125 points. While the AFS Professional Code of Ethics is

operative in maintaining the integrity of documentation, the AFS may request verification to insure process validity. Denial of certification renewal may be appealed to the Board of Appeals. The applicant should prepare an appeal only if additional information or further clarification of previously stated facts is provided.

In July 1998, all certified fisheries professionals were notified regarding their date for certification renewal. One-third was required to renew in 2001, one-third in 2002, and one-third in 2003. Currently, the program is fully implemented with all certified fisheries professionals having to renew every five years. The application for renewal must be submitted in the calendar year the current certification expires. If not renewed by the end of the expiration year, a $10 per year fee will be added to the renewal fee for each year that certification has lapsed. Renewal will be based on the most recent 5 years.

Reference

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