



MOLLUSK PROFESSIONAL CERTIFICATION

Guidelines and Procedures

Developed by:
Professional Development Committee
Freshwater Mollusk Conservation Society

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Disclaimer: Certification is not intended to certify an individual's ability nor is it an endorsement for an individual's specific knowledge, skills, or competency in any facet of mollusk science. An individual having met Certification requirements indicates that the person has achieved a minimum standard of experience and education as a freshwater aquatic mollusk biologist and/or professional.

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Acknowledgements

The Mollusk Professional Certification has been a long endeavor and was initiated in 2016. The Professional Development Ad-hoc Committee was established at the 2017 Symposium in Cleveland, Ohio to evaluate the efficacy of implementing a professional certification program. As the restructuring of society committees went into effect, the Professional Development Committee was established as a full-functioning committee and the Mollusk Professional Certification was approved by the FMCS Board in March 2025. Committee members have dedicated many hours of information gathering, writing, evaluation, meetings, and collaborative engagement within and outside of FMCS. The Committee acknowledges the FMCS Executive Committee (past and current officers) for their continued support of the Mollusk Professional Certification; the Diversity, Equity, and Inclusion Committee for reviewing guidelines and procedures, the volunteers that helped guide the certification standards, as well as various FMCS Board members for their time to offer suggestions and provide content for inclusion into the current draft.

Mission Statement

The mission of the Freshwater Mollusk Conservation Society (FMCS) Mollusk Professional Certification Program (hereafter, Program) is to provide a minimum standard of experience and education for freshwater aquatic mollusk biologists and professionals.

The program was designed to recognize an individual's education, career, and involvement pertaining to the field of malacology. It is meant to provide a means by which mollusk professionals may be measured and awarded defined levels of certification, thereby promulgating their level of expertise. The program is also meant to encourage participation in the mollusk community and be a source for knowledgeable and proficient mollusk scientists, regardless of one's race, religion, culture, sex, or other factors.

Program Overview

The objectives of the FMCS are to advocate freshwater mollusk conservation, serve as a source and conduit of information on freshwater mollusks, promote science-based management of freshwater mollusks, and facilitate education about and awareness of freshwater mollusks and their importance to freshwater ecosystems. The Program's process will promote standards of competence of professionals to establish mutual confidence and respect, and to bring credit to their profession, employers, and community. It will also serve to provide guidance for emerging professionals in the field as to what training and professional opportunities they may wish to pursue in building their careers in the mollusk field.

The Mollusk Professional Certification (Certification) addresses Issue 8 and Strategy 1 of the National Strategy for the Conservation of Freshwater Mollusks: "Educate and train the conservation community and future generations about the importance of mollusks to ensure conservation efforts continue, Strategy 1 - Develop and recommend a list of key skills and competencies for mollusk conservation biologists and the supporting disciplines such as communication."

Certification is widely practiced by scientific, technology, engineering, and mathematic professions as one means of setting standards and guidelines for professional recognition. It serves to promote the professional image and demonstrates achievements. Certification also is a means to establish credibility and accountability in the field of freshwater mollusk science. The specific objectives of certification are to:

- (1) provide governmental and nongovernmental agencies and organizations, private firms, courts, and the public with a definitive standard of experience and education for Mollusk Professionals,
- (2) foster broader recognition of Mollusk Professionals as uniquely-educated and experienced, and
- (3) recognize FMCS as a leading society in recognizing professionals in their field of study.

Applications for certification are to be evaluated by the FMCS Certification Committee. Below is a description of the evaluation process to determine the level of certification warranted. The point system described in this document is in place to provide impartial guidelines for applicants and the committee, while maintaining the flexibility required to encompass the range of qualified professionals involved in mollusk management, research, and education; however, the committee reserves the right to return *any* application deemed incomplete to the applicant with suggestions for improvement (with refund). Further, if an applicant believes their unique background does not conform well to our scoring system, but their experience warrants a higher level of certification than their score suggests, they are invited to discuss their application with the committee and include in their application written justification for a higher tier for the committee's consideration.

Certification Description

Specific information regarding Education/School, Professional Qualifying Experience, and Professional Performance mentioned in the tier structures are discussed in subsequent sections. There are four levels of certification. They are:

- Early Career Mollusk Professional (ECMP) – 10 to 40 points
The ECMP level of certification is for individuals who have *not yet accrued 5 years of Professional Qualifying Experience*. The ECMP is intended for individuals who are either in school or early in their career, but this certification level may also capture individuals who are non-degreed or hold a non-relevant degree but have accrued the necessary number of points

through Professional Performance but have not yet met the 5-year minimum of Professional Qualifying Experience needed for the AMP.

- Associate Mollusk Professional (AMP) – 40 to 70 points
The AMP level of Certification is for individuals who have a *minimum of 5 years of Professional Qualifying Experience*, but not the total amount of points required for the CMP. The AMP is intended to represent mollusk professionals establishing themselves within the field of malacology but have not amassed sufficient professional development or involvement in the field of malacology. However, this certification level may also represent individuals who are non-degreed or do not hold a relevant degree but have accrued the necessary points through Professional Qualifying Experience and Professional Performance points.
- Certified Mollusk Professional (CMP) – 70+ points
The CMP level of Certification is for individuals who have both the *minimum 5 years of Professional Qualifying Experience*, as well as accrued 70+ overall points. The CMP is intended for established professionals who have exhibited professional development and involvement within the field of malacology.
- Mollusk Professional – Emeritus (EMP)
The EMP level of certification is only for those individuals who have 25+ years' worth of Professional Qualifying Experience. No Professional Performance points are required if the applicant has met the Professional Qualifying Experience requirement. The EMP is intended to represent professionals who have dedicated their careers to mollusks.

The certification levels ECMP, AMP, and CMP require a combination of three categories: Education/School, Professional Qualifying Experience, and Professional Performance. Each of these categories will render a numeric score based on the applicant's merits within that category. The accumulated score from the three categories will be the applicant's final score and will place them either as not certified, or within the ECMP, AMP, or CMP certification level. The EMP level of certification level will be awarded only to applicants with 25+ years of Professional Qualifying Experience.

Although the same application form is used, applicants must designate the certification category for which they are applying. If uncertain, applicants are encouraged to discuss their application with a member of the Certification Review Team (see below for contact information) to identify which certification tier best fits the applicant's education and experience. Questions regarding the application process may also be directed to fmcs.pdcomm@gmail.com.

Certification may be retained for a maximum of five years, at which time the applicant may renew without change or upgrade their tier level, if warranted. The applicant must submit a new application with all the new qualifying education, experience, and professional performance; previously submitted coursework, experience, etc. does not need to be re-submitted, only new qualifying information that has been completed. EMP is a lifelong certification that does not require renewal. Refer to the Documentation Required for Application Process below for more details.

Guidelines for Mollusk Professional Certification

The Program identifies three overarching categories for applicants to demonstrate their skill and competency within fields of malacology. The three overarching categories are Education/School, Professional Qualifying Experience, and Professional Performance. Applicants will render a score for themselves as well as be scored by the Certification Review Team to determine the appropriate certification tier that best suits the applicant. Categories and applicable points are defined below.

Education/School

This category reflects the applicant's education that has resulted in an earned degree from a university or college. Points given based on an applicant's highest level of degree earned are based only on the highest

degree earned and not a combination of degrees. For example, if an applicant has earned both a B.S. and an M.S., they would receive 15 points for the M.S., not 10 points for the B.S. plus 15 points for the M.S.

If the applicant is non-degreed or holds a non-relevant degree but wishes to claim relevant coursework to add points in this category. Completion of courses within biological sciences and related fields would grant the applicant **1 point** per completed course with a maximum of **5 points** for applicants within this category. see Appendix 1 for more details.

If an applicant has an earned, relevant degree and additional coursework post-degree that did not cumulate into an additional degree, they may earn credit for the post-degree completed coursework. These courses may add up to an additional **1 point** per completed course (with a maximum of **3 points**) on top of the points accrued from an earned degree. The maximum number of points for certification allowed from this category is **20 points**.

B.S./B.A. is the highest degree within a relevant discipline in the Natural Sciences or Resources = **10 points**.
Examples of applicable degrees include Biology, Forestry, Wildlife Management, Wildlife Biology, Environmental Science, Natural Resource, Ecology, Zoology, Aquatic Biology, Fisheries, and similar degrees.

M.S. is the highest degree within a relevant discipline in the Natural Sciences or Resources = **15 points**.
Examples of applicable degrees include Biology, Forestry, Wildlife Management, Wildlife Biology, Environmental Science, Natural Resource, Ecology, Zoology, Aquatic Biology, Fisheries, and similar degrees.

PhD is the highest degree within a relevant discipline in the Natural Sciences or Resources = **20 points**.
Examples of applicable degrees include Biology, Forestry, Wildlife Management, Wildlife Biology, Environmental Science, Natural Resource, Ecology, Zoology, Aquatic Biology, Fisheries, and similar degrees.

Professional Qualifying Experience

The types and examples of qualifying experience in the sub-categories below are based on the Professional Development Committees' research and networking with experts in a variety of malacological professions. Professional Qualifying Experience is where the applicant applies current knowledge in science within the context of mollusk management, research, and education, including administration within these categories. The malacology profession encompasses a variety of specializations; therefore, the categories provided below are not all-encompassing.

Qualifying experience is based on the number of years that the experience has occurred outside of Education/School. This experience may accrue over the applicant's lifetime. For a year to qualify as the appropriate experience, the relevant area needs to have been the responsibility of that applicant for >50% during the year. Each year of demonstrable qualifying experience will earn the applicant **2 points**. The maximum number of points for certification allowed from this category is **30 points**. It is possible an applicant can exceed the maximum allowable points. In this instance, the applicant will be assigned the maximum points; points over 30 do not count toward the total accumulated score.

- Management
 - Management involves the application of aquatic science principles (e.g., population dynamics, aquatic biology, limnology, habitat assessment and manipulation, human dimensions, systematics) toward the accomplishment of specific goals and objectives. The applicant 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 depends on decisions made by the professional with limited oversight, direction, or approval of others. Qualifying experience requires that the applicant use independent judgment and action. Examples include performing mollusk habitat or species assessments for mollusks to inform regulatory

documents (e.g., ESA or other state protective regulations, analyzing the impacts for mollusks, and work-related projects on mollusks). Qualifying experience related to management can also include disseminating funding for mollusk-related needs, managing museum collections of mollusks, writing, reviewing, or issuing scientific permits for mollusks, and mollusk planning documents facilitating mollusk recovery groups.

- Research
 - Research involves responsible charge or supervision of field, museum, or laboratory research projects associated with mollusks. 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 others in the scientific community for the purpose of improved scientific methodology, scientific or regulatory decision-making, or resource management practices.
- Education
 - Qualifying experience in education involves college-level teaching of mollusk-specific courses and/or related responsibilities (e.g. – preparation for classwork, grading assignments, field trips...). Education also may involve the development and delivery of educational programs for dissemination to the public or stakeholders. **Attending education opportunities does not count within this subcategory of Professional Qualifying Experience. This type of education will be accounted for within the Professional Performance category*.*

Professional Performance

When applying for an initial certification and then every five (5) years thereafter (except EMP), each applicant must submit evidence of continued activity and development by accumulating a minimum number of Professional Performance points. The maximum number of points for certification allowed from this category is **50 points**.

After a level of certification has been achieved, **10 new Professional Performance points per five-year rotation must be accrued to retain the existing certification status**. If the additional Professional Performance points would push the applicant into the next higher certification tier, they may apply for an upgrade instead of a renewal.

Points and specific activities within the categories are listed below.

- Continuing Education (**Maximum 10 points**)
 - Applicable continuing education includes participation in short-courses or training programs sponsored or conducted by commercial organizations, professional organizations/agencies, employers, or universities. The name of the course, date(s) attended, and instructor must be submitted. These courses/trainings must result in a tangible product (e.g. – certification, CEUs, or accredited college/university hours). **If the course results in accredited hours at a college or university, the applicant may choose whether to include the course within this Continuing Education sub-category or the category of Education/School. The course may not be counted for both**
 - Only activities that have occurred within the previous 10 years of the applicant's submittal may be included within this sub-category.
 - There are two levels of participation within this sub-category: attendance and contributing. Taking continuing education (attendance) in subjects directly related to mollusk science or management will earn the applicant **2 points per training/workshop**. Teaching and/or leading (contributing) a course will double the points assigned above to **4 points per training/workshop**.
 - Examples of a course or training directly related to malacology include mollusk species identification, mollusk management, mollusk habitat management, field methods (focused on mollusks), mollusk propagation/aquaculture, mollusks diseases, aquatic ecology, etc.
 - If an applicant has completed coursework or continuing education not directly related to malacological science for which they feel relevant, but is not captured in the list above, the applicant is encouraged to submit the course with a justification statement of relevance.

Continuing education completed but not directly related to malacology also consists of two tiers of involvement: attendance and contributing. Attending this type of continuing education will render **1 point per training/workshop** while contributing will render the applicant **3 points per training/workshop**. Examples of courses that would be considered relevant are captured within Appendix 1.

- It is possible an applicant can exceed the maximum allowable points for the continuing education category. In this instance, the applicant will be assigned the maximum points; points over 10 do not count toward the total accumulation.
- **Involvement in the Mollusk Community (Maximum 10 points)**
 - Being active and involved in the mollusk community is a necessity for any applicant. This involvement includes activities such as participation at annual or semiannual meetings or special conferences of professional societies, educational organizations, acting on a mollusk-related committee, etc.
 - Only activities that have occurred within the previous 5 years of the applicant's submittal may be included within this sub-category.
 - Involvement wherein attendance is the level of participation (e.g. – attending a conference) would yield the applicant **1 point** per activity.
 - Involvement wherein contribution is the level of participation (e.g. – serving as an officer or chair of a committee) would yield the applicant **3 points** per year of involvement. If the activity lasts for multiple years, the points will be given each year the activity is performed (e.g. - serving as the FMCS Secretary for 2 years would yield 6 points). *Presenting mollusk-related research/information is accounted for in the sub-category of Demonstrated Professional Performance*
 - All activities within this subcategory must be directly mollusk-related.
- **Demonstrated Professional Performance (Maximum 40 points)**
 - For some applicants, professional performance can be demonstrated through normal job duties or special activities that require more immersion than those listed previously. Examples of these activities and the associated points earned are presented below.
 - Authoring a published, mollusk-related article
 - **5 points** per peer-reviewed publication as a first author or supervised student author.
 - **2 points** per publication for all other peer-reviewed publications.
 - Peer reviewing mollusk-related paper for journal = **1 point per article**
 - Other published outlets excluding social media (e.g. – newsletters, non-peer-reviewed articles, and technical reports) = **1 point per report/publication (max of 10 points)**
 - Being the responsible party for mollusk field surveys (the responsible party may be the person responsible for identification of species or the person coordinating the entire survey effort) = **1 point per survey (max of 10 points).**
 - Presenting research on mollusk-related information = **1 point per presentation**
 - Performing outreach to the public = **1 point per event**
 - Approved permit holder for any mollusk = **2 points overall**
 - Other mollusk-related performances are TBD and will be reviewed by the committee.
 - Only activities that have occurred within the previous 5 years of the applicant's submittal may be included within this sub-category.

Professional performance activities not specifically stated here may be proposed to the Certification Review Team and applicants are encouraged to discuss these in advance of submitting certification documentation. Submit other professional performance activities to fmcs.pdcomm@gmail.com.

Pathways for Professional Performance

The Professional Development Committee works closely with FMCS Biennial Meeting and Workshop organizers to implement continuing education opportunities and will provide pathways for information

exchange for involvement in other professional societies' continuing education opportunities.

Application Submission

An applicant must work through the self-evaluation (example provided in Appendix 2) and provide the evaluation form to facilitate the Committee's review. Applicant forms are provided upon request from fmcs.pdcomm@gmail.com or from the web link on the Committee website. For Demonstrated Professional Performance scoring, each activity for which the applicant wishes to receive credit must be individually entered into a single row within the excel form. Examples and worksheets to facilitate applicant entries and point assignment are provided in the applicant forms. Applicants can submit the form and requested documentation to fmcs.pdcomm@gmail.com. Only electronic copies of applications will be accepted. If the applicant is unable to submit electronically, please contact a member of the Certification Review Team to discuss other submission options available. If an applicant believes their unique background does not conform well to our scoring system, but their experience warrants a higher level of certification than their score suggests, they are invited to discuss their application with the committee and provide the committee with written justification for a higher tier of certification for their consideration.

Annual Deadline for applications: TBD

Anticipated Decision will be made by TBD. If the application is deemed incomplete, insufficient, or requires additional detail, applicants will be notified by email.

Documentation Required

Documentation	New Certification	Upgrade	Renewal	EMP
Cover Letter	X	X	X	X
Curriculum Vitae/Resume	X	X		X
Letter of Recommendation (1) and 2 References	X			
List of Completed Coursework/Degree	X	X (if applicable)		
Professional Qualifying Experience, Activity and Certifications	X	X (if applicable)	X	

Only electronic submissions will be accepted in Word or PDF format. Documentation may be compressed into a zipped folder or sent as a complete PDF package to fmcs.pdcomm@gmail.com. Please indicate your submission in the subject line as follows: Mollusk Certification Application - Last Name.

New Certification

- Cover Letter: the applicant's cover letter must clearly list each of the qualifying categories and identify clearly how the applicant meets the criteria.
- Curriculum Vitae/Resume (attachment) not to exceed 5 pages.
- 1 Letter of Recommendation from a member of the mollusk community, employer, or fellow certified Mollusk Professional
- Contact information for two personal and/or professional references. References should be from individuals that can vouch for the applicant's experience such as current or past employer, academic advisor, or co-worker.
- List of completed coursework or copy of unofficial transcripts (attachment) or degree details (institution, degree, date(s) conferred)
- Professional Qualifying Experience and Publications (can be listed on CV/Resume)

Upgrade

- Cover letter
- Curriculum Vitae highlighting new Professional Qualifying Experience and Publications **not** provided with original application and any additional indicators qualifying the upgrade from AMP to CMP.
- List of completed coursework or copy of transcripts (attachment) or degree (institution, degree, date(s) conferred) not included or accounted for in your original application.

- Updated Professional Qualifying Experience/Publications, Professional Activities, and/or any certifications acquired since original certification.
- Renewal
- Cover Letter
 - Provide only that which was not included or accounted for in your original application.

Mollusk Professional – Emeritus/Emerita

- Cover Letter: the applicants cover letter must clearly list each of the qualifying categories and identify clearly how the applicant meets the criteria.
- Curriculum Vitae/Resume (attachment) not to exceed 5 pages.

Additional Information

Certification fee is \$40.00. Fees for Certification are designated for student development, awards, and travel assistance to attend FMCS sponsored workshops and biennial symposia. To renew or update Certification, the fee is \$20.00; no renewal fee is required for emeritus certification. Certification is valid for 5 years, at which point an application for re-certification must be submitted; this ensures that certified Mollusk Professionals remain active and engaged in the field. Applicants meeting the criteria for MP-E level pay a one-time fee of \$40.

Applicants must sign and adhere to the FMCS Code of Conduct. Applicants must be an FMCS Member to apply for certification.

Certification Revocation

Although unlikely, FMCS Certification Review Team may revoke certifications in certain circumstances. These include failure to comply with the FMCS Code of Conduct, discovery of misrepresentation of experience and education, and/or the applicant is engaged in activity or conduct that the FMCS Certification Review Team determines violates a provision of the Code of Conduct.

Certification Review Team

Certification review panel will be appointed by the FMCS Board and overseen by the Committee. The review panel will be composed of representatives from academia, private sector, and government agencies.

APPENDIX 1 – EDUCATIONAL ADDITIONS FOR NON-DEGREE SEEKING, RELEVANT COURSEWORK

If an applicant has completed coursework for which they feel relevant, the applicant is encouraged to submit the course with a justification statement.

Coursework Additions

For mollusk professionals who are non-degreed, have a degree in a non-natural science field, additional points through the completion of specific coursework. Completion of courses within biological sciences and related fields would grant the applicant **1 point** per completed course with a maximum of **5 points** for applicants within this category. Examples of relevant coursework may include:

- Malacology,
- Fisheries and aquatic sciences courses, such as:
 - fisheries science, ichthyology, fisheries management, fish ecology, aquaculture or fish culture, fish diseases, principles of fisheries science and management, limnology, aquatic entomology, stream ecology
- Water Chemistry, Water Quality
- Wildlife Biology, ecology, zoology
- Genetics
- Environmental Policy, Administration, and Law
- Statistics and Quantitative Biology

APPENDIX 2 – Blank Self-Evaluation – Score Sheet

Mollusk Professional Certification			Applicant	Validation	Included in Application
Education/School	Points	Points Earned	NTE 20		
B.S. or B.A. degree					
M.S. degree					
PhD degree					
Degreed Applicants with additional post-degree courses					
Non - Degreed Applicants: See example list in "Coursework Additions" Appendix 1 of Guidelines					
Sub-total			0		
Professional Qualifying Experience	Points	Points Earned	NTE 30		
<i>Years of Qualifying Experience (>50% of the year)</i>		2 points per year			
Management					
Research					
Education					
Sub-total			0		
Professional Performance (Past 5 Years)	Points	Points Earned	NTE 50		
<i>Continuing Education (10 year max)</i>		10 Points Maximum			
Related to Malacological Science					
Attendance		2 pts per activity			
Contributing: teaching/leading course/training		4 pts per activity			
Not directly related to malacological science					
Attendance		1 pt per activity			
Contributing: teaching/leading course/training		3 pts per activity			
<i>Involvement in the Malacological Community (5 year max)</i>		10 Points Maximum			
Attendance level of participation		1 pts per activity			
Contributing level of participation		3 pts per activity			
<i>Demonstrated Professional Performance (5 year max)</i>		40 Points Maximum			
Authorship					
Author Published Article		5 or 2 depending on level			
Peer Review		1 pt per article			
Other published outlets		1 pt per publication; NTE 10 points			
Other					
Being the responsible party for mollusk field surveys		1 pt per survey; NTE 10 points			
Presenting research		1 pt per presentation			
Performing outreach to the public		1 pt per event			
Approved permit holder for any mollusk		2 pts overall			
Other related performance (define in narrative)		TBD			
Education range = 0 to 20 Professional Qualifying Experience range = 0 to 30 Professional Performance range = 0 to 50					
Grand Total					