

The Wildlife Society
CERTIFICATION REVIEW BOARD
Policies and Procedures Manual

Updated by Harry Hodgdon 8/98

Revised by the Certification Review Board 7/99

Ray C. Telfair II, Chairman
Henry Campa
Jon Haufler
George Mattfeld
James Ramakka

Revised by Shannon Pederson & the Certification Review Board 06/09

Gordon Batcheller
Robert Carey
Larry David
James Peek
Emily Jo Williams, Chair

Revised by Shannon Pederson & Certification Review Board 1/13

Lu Carbyn
Scott Lerich
Gary Norman
James Peek, Chair
Kelly Roe
Tim Van Deelen

Revised by Katherine Edwards & Certification Review Board 05/15

Lu Carbyn
Scott Lerich, Chair
Gary Norman
Thomas Roberts
Tim Van Deelen

Contents

HISTORICAL PERSPECTIVE	3
DESCRIPTION OF THE CERTIFICATION REVIEW BOARD	4
ROLES and RESPONSIBILITIES	4
Board Make Up and Appointments	4
Transitions of CRB members and Chair.....	5
Operations	6
Minutes and Reports.....	6
OPERATION OF THE CERTIFICATION PROGRAM.....	7
PROGRAM ADMINISTRATION.....	7
Application Materials.....	7
Review and Voting.....	7
Application Records.....	9
GUIDANCE ON REVIEWING APPLICATIONS	9
Education	9
Experience.....	10
APPEALS OF CERTIFICATION DENIAL.....	11
APPENDIX I – CHANGES TO TWS CERTIFICATION REQUIREMENTS, 1977-2002	13
APPENDIX II - PROCEDURE FOR CREDITING WILDLIFE LAW ENFORCEMENT	15
EXPERIENCE	15
APPENDIX III - CRB GUIDELINES ON EDUCATION AND EXPERIENCE.....	15
TABLE: GUIDE TO DISCRIMINATING PROFESSIONAL LEVEL WORK EXPERIENCE	17

HISTORICAL PERSPECTIVE

The Wildlife Society (TWS) adopted curriculum criteria for a Bachelor's degree in wildlife in 1965. TWS Bylaws contain a Code of Ethics and provide for a Board of Inquiry on professional matters. Committee efforts in the early 1970s concerning accreditation of wildlife schools failed to find consensus among Society members, educators, and employers. Council put accreditation on the shelf in 1972.

Serious thoughts on individual certification were offered as early as December 1964 by then Director of the Bureau of Sport Fisheries and Wildlife, John S. Gottschalk. The Society's 1968-69 Professionalism Committee considered, but took no action, on certification.

In June 1972, the Sacramento California Chapter and later the Western Section urged Council to undertake certification responsibilities. The New York Chapter proposed details for a certification program to Council. The Southeastern Section offered to serve as a test case for a regional experiment with certification. Moves toward state government licensing of forest, range, and wildlife specialists developed in New York, California, and Maryland early in the 1970s. These moves suggested the need for better definition of standards for wildlife professionals.

Council, in December 1972, agreed to charge a committee to develop the certification concept. The President appointed the first Certification Committee in early 1973. The committee continued working through March, 1976. Council endorsed the concept of certification in March, 1975 and a preliminary draft of the program went to the membership in the summer 1975 issue of the *Wildlife Society Bulletin* [3 (2):84-91].

Following circulation of the proposed program, many members provided constructive criticism and comment. More than 50% of the respondents endorsed the proposal. An additional 30% approved of the concept, but suggested specific revisions. Twenty-eight TWS sections and chapters endorsed at least the concept of certification. Following this significant input, plus additional comments received at section, chapter, and TWS business meetings, the Certification Committee met for 2 days in May, 1976 to finalize the certification program materials. Their final draft was submitted to Council with recommendations to clarify procedural desires expressed by the membership. In late July, 1976, Council unanimously approved the draft. In December, 1976, the certification program was submitted to the membership for vote; and in early 1977, the membership had approved the program by a 3 to 1 margin.

In March, 1977, James D. Yoakum was appointed Acting Chair of the Certification Review Board; and in May, 1977, he and Executive Director Fred Evenden presented a program implementation schedule to Council that was accepted. In July, 1977, all members of the Certification Review Board were appointed; and in September, 1977, the Board held its first meeting to review application procedures and initiate the program. Appendix I details the changes to certification requirements since that time. During the program's 35 years, over 7,400 applications for certification have been received and reviewed by the Certification Review Board.

DESCRIPTION OF THE CERTIFICATION REVIEW BOARD

ROLES and RESPONSIBILITIES

The "Program for Certification of Professional Wildlife Biologists" describes the role and responsibility of the Board as follows:

Board Make Up and Appointments

A Certification Review Board (CRB) shall be comprised of at least five (5) members, chosen to provide equitable representation of The Wildlife Society Sections and professional disciplines.

The Board shall determine eligibility of applicants, by majority vote if necessary, and shall have the authority to confer certification as an Associate or Certified Wildlife Biologist.

Members of the CRB will be appointed or reappointed by the Council of The Wildlife Society for three-year terms. Appointments will be made in successive years to ensure continuity of standards. CRB members normally shall be ineligible for reappointment after two (2) consecutive full terms, except under unusual circumstances when a third term is needed to maintain Board continuity.

Individuals appointed to the Board must exemplify high standards of professional judgment, competence, and integrity, and shall be Certified Wildlife Biologists. The Council shall strive to achieve a balance in the Board's membership that equitably represents the private and public employment, educational, management, research, gender, and international components of the Society's membership. Appointments shall take effect at the conclusion of the TWS Annual Conference, with new CRB members expected to be observers at their first CRB meeting. Council shall fill vacancies at least three months in advance by seeking recommendations from Section Representatives of at least one potential Board member for those Sections unrepresented on the CRB on a rotational basis. The order of rotation for CRB members shall be as listed below (effective November 2011), with the top Section on the list becoming the next Section to be represented, and then moving to the bottom of the list:

Southeast
Northeast
Canadian
Central Mountains and Plains
Southwest
North Central
Western
Northwest

The order of rotation shall be updated on a regular basis as Sections fill vacancies by the TWS Professional Development Coordinator. If a Section is unable to fill a vacancy on the CRB, the next Section in sequence shall be offered the opportunity.

The Certification Review Board shall meet in-person at least once annually at the TWS Annual Conference and also at the North American Wildlife and Natural Resources Conference (when feasible); more

frequently through conference calls at the request of the CRB Chair. All reasonable expenses of CRB members shall be reimbursed by TWS for the Annual Conference if not reimbursed by the employers of CRB members. A Chair shall be elected annually, prior to the TWS Annual Conference, by majority vote of CRB members. The CRB shall report progress and problems annually to the Council. Board members shall correspond as necessary to ensure equitable and timely evaluation of each applicant. No member of the Board shall discuss at any time a particular application with any person other than a member of the CRB, except to clarify or verify the contents of the application.

Certification normally will be confirmed or denied within four (4) months from the date a complete application is received unless the Board advises the applicant that additional time is needed for review.

An applicant who is denied certification shall be notified in writing by the Chair of the CRB, which notice shall set forth the reasons for denial, and the applicant shall be reimbursed 25 percent of the application fee. Unsuccessful applicants may reapply six (6) months after the filing of their previous application.

Transitions of CRB Members and Chair

CRB members are formally appointed for a 3-year term that begins 1 October. However in practice, because of variations in dates for The Wildlife Society Annual Conference and annual meeting of the CRB, the active term begins at the conclusion of the annual CRB meeting held at the TWS Annual Conference. CRB members are eligible for reappointment to a second 3-year term if they wish to continue. That term ensues without a break in service and includes the CRB meeting at the Annual Conference.

An incoming CRB member should be identified by TWS Council at its March meeting (6 months prior to the start of his/her term). CRB members should receive notice of the name and background of the new appointee soon thereafter. The incoming CRB member is normally expected to attend the CRB meeting at the Annual Conference as an observer to become familiar with the process.

The current Chair is responsible for notifying both incoming and current CRB members of the dates and location of upcoming meetings. In addition, the outgoing CRB member is to transfer all necessary CRB files, materials, and information to the incoming member by the end of the meeting where the transition occurs. Further, the outgoing member and the current CRB Chair are to contact (in person, by telephone, or email) the incoming member in advance of the transition meeting and provide orientation on the role of the CRB and application review process and to ensure the incoming member has received a copy of the Policies and Procedures Manual.

The incoming Chair assumes duties at the conclusion of an annual meeting of the CRB. The outgoing Chair is responsible for the transfer of all necessary records, unfinished applications, and other CRB work to be completed as well as any necessary orientation of the new Chair. To help maintain institutional memory and ensure a smooth transition between incoming and outgoing Chairs, the Board should attempt to avoid having individuals serve as Chair during their final year on the Board. The Professional Development Coordinator (TWS staff as described below) will be available to help with this transition.

Operations

The "Program for Certification of Professional Wildlife Biologists" describes the operation of the Board as follows:

"A Certification Review Board (CRB) shall be comprised of at least five (5) members, chosen to provide equitable representation of The Wildlife Society sections and professional disciplines.

The Board shall determine eligibility of applicants, by majority vote if necessary, and shall have the authority to confer certification as an Associate or Certified Wildlife Biologist.

Members of the CRB will be appointed or reappointed by the Council of The Wildlife Society for three-year terms. Appointments will be made in successive years to ensure continuity of standards. CRB members normally shall be ineligible for reappointment after two (2) consecutive full terms, except under unusual circumstances when a third term is needed to maintain Board continuity.

Individuals appointed to the Board must exemplify high standards of professional judgment, competence, and integrity, and shall be Certified Wildlife Biologists. The Council shall strive to achieve a balance in the Board's membership which equitably represents the private and public employment, educational, management, research, and international components of the Society's membership. Appointments shall take effect 1 October. Council shall fill vacancies immediately for unexpired terms. Appointees to fill vacant terms will be from Sections of The Wildlife Society and/or from professional disciplines currently not represented on the Board.

Certification normally will be confirmed or denied within four (4) months from the date a complete application is received unless the Board advises the applicant that additional time is needed for review.

An applicant who is denied certification shall be notified in writing by the chairman of the CRB, which notice shall set forth the reasons for denial, and the applicant shall be reimbursed 25 percent of the application fee. Unsuccessful applicants may reapply six (6) months after the filing of their previous application."

In practice, the CRB meets once annually at the TWS Annual Conference, and at the North American Wildlife and Natural Resources Conference when feasible. Telephone conferences are held periodically between CRB meetings to decide on applications.

Minutes and Reports

Minutes of CRB meetings are not normally kept. The CRB normally reports to TWS Council on progress, problems encountered, trends that seem to be emerging in applications being submitted, etc. at the TWS Annual Conference and the North American Wildlife and Natural Resources Conference. As needed or requested, the CRB may report to Council at other times.

OPERATION OF THE CERTIFICATION PROGRAM

Based on the description of the CRB (above) and 30+ years of experience, the program has developed operating procedures and policies that should be followed by TWS staff and CRB members. These procedures and policies have evolved since the inception of the program; this manual documents the current process for staff and CRB members to follow, not the history of development. Future modifications are encouraged to improve the operation and/or administration of the program. They may be made by either the CRB or TWS staff, with mutual concurrence. Council must be notified of all changes at least annually.

PROGRAM ADMINISTRATION

The Wildlife Society administers the certification program, and designates one of its employees to serve as Professional Development Coordinator to manage certification. The Executive Director maintains oversight of the program, coordinates appeals, and obtains liability insurance coverage to protect CRB members while conducting duties associated with the program.

Application Materials

The Professional Development Coordinator maintains a website providing current program booklets and applications and makes it available to interested individuals. The program booklet and application are available on the Society's website at www.wildlife.org/certification/program.

Each January, the booklet and application are posted on the website for the following year, and both the booklet and application carry an expiration date of December 31 of that year. A grace period of 2 months is permitted for applications on expired application forms. The 1-year expiration allows for timely changes in requirements and their inclusion in application forms.

Each applicant for certification submits his/her application package through the mail to The Wildlife Society office. The Professional Development Coordinator examines each application to be sure it is complete (primarily proper payment, signature, references, and appropriate transcripts with evidence of degree). Applicants with incomplete submissions are contacted and asked to correct the problem(s) prior to forwarding the applications to the CRB for evaluation. The Professional Development Coordinator creates a file for each applicant and places the original application in the permanent file.

Review and Voting

The Professional Development Coordinator reviews completed certification applications once they are received at The Wildlife Society office. Complete applications are forwarded to each CRB member to review the applications and place their vote (and provide notes if needed) to the CRB Chair. The primary responsibility of each CRB member is to provide a confidential, timely, thorough review of each application for certification. The program has an established time-frame of 4 months (previously 6 months) from the time an applicant applies until the time the applicant is notified of a decision. Given this short amount of time and the potential need to obtain additional or clarifying information from applicants, the CRB has established a goal to review each application and submit their vote to the Chair within 1 month from receiving each application. If more than a month is needed or if a Board member knows he/she will not be

available for an extended period of time, the Chair must be contacted so arrangements can be made for voting and timely processing of applications.

Each ballot provides space to vote (yes or no) and space for remarks to explain concerns, reasons for voting no, additional information needed, etc. Each CRB member is responsible for ensuring that electronically transmitted ballots and/or comments and any “discussion” points are transmitted and stored in a confidential manner. All reviews are kept strictly confidential. It is the responsibility of each Board member to ensure that, upon receipt of a Mailing Report at home or work, full security and confidentiality is always maintained.

Each CRB member is assigned a range of alphabetical letters (**A-F, G-K, L-P, Q-T, and U-Z**) for **applicants’ last names assigned by the CRB Chair**. All applicants in the Mailing Report have their references checked by the CRB member that has the corresponding letter assigned to them. Contact with references or employers can be via telephone *or* email. Generally, AWB applications do not require reference checks. Reference check information is provided to the CRB Chair.

Each Board member independently conducts an initial review of each application. After each application has been reviewed, the Board member sends his/her votes and comments to the CRB Chair through mail or email. The Chair reviews all applications, places his/her vote independently, and then reviews all other CRB members’ votes. After reviewing all votes, the CRB Chair makes the final decision to accept or deny an applicant and indicates such on the final ballot. The Professional Development Coordinator will maintain the final vote with any and all notes in the applicants’ file. It is also recommended that the Certification Chair maintain a spreadsheet of all CRBs votes and notes as a backup.

If the CRB members are in unanimous agreement, then the CRB Chair indicates such on the final ballot to the Professional Development Coordinator that the applicant was approved. The Professional Development Coordinator then issues a standard approval letter and certificate to the applicant. If 4 CRB members vote to approve and one does not, the CRB Chair may use his/her discretion to approve or solicit further comment from the CRB member who voted to deny that applicant. If 2 or more CRB members vote to deny an applicant, then the Chair discusses the application further during a conference call or in-person meeting. After the full discussion, the CRB Chair will indicate on the final ballot if the applicant is approved or denied.

If the applicant is DENIED, the Chair submits the denied vote on the final ballot along with the specific reasons for denial (i.e., which courses in that category were accepted and which were not). The Professional Development Coordinator will then include those details in the denial letter. The Chair provides his/her signature and the Professional Development Coordinator sends out the letter and maintains a copy in the applicant’s permanent file. The Professional Development Coordinator will keep a copy of any application that is denied, and reason(s) for denial, should the applicant pursue the appeals process. The CRB members may choose to keep a copy of the application (saved on their computer) along with their personal reasons. All CRB members must keep applications confidential.

If during the review process the CRB determines that more information is needed from an applicant to make an informed decision on certification approval or denial, the Chair can be given the discretion by the CRB to contact the applicant (via the Professional Development Coordinator) and attempt to determine the nature of the applicant's education or employment. Applicants may be contacted via this procedure either before

the initial votes have been cast or after initial voting by the CRB and review by the Chair but prior to the final vote being issued and applicant notified of the decision.

Application Records

Once an applicant has been approved or denied, the original application, final vote, and any correspondence are stored by TWS; approved CWB application and denied AWB/CWB applications are kept permanently, while approved AWB applicants are kept for 10 years. The Professional Development Coordinator sends approved AWBs and CWBs a reminder of any upcoming expirations in their certificate.

Applications (both AWB and CWB) that have been approved by the Board should be destroyed (shredded, deleted) by each CRB member. Applications that have been denied by the Board (both AWB and CWB) should be retained by the Professional Development Coordinator and potentially each Board member for 15 months because applicants may appeal within 1 year after being denied; retaining these applications will assist Board members in reviewing or reconsidering their decisions. The CRB member may choose to print out the denied application or save it in their personal file. The CRB member needs to keep the denied application confidential. Should a CRB member wish to see a previously denied application or reasons for denial, they are encouraged to contact TWS Professional Development Coordinator for a copy.

The Professional Development Coordinator maintains a computerized database of all AWBs and CWBs and is responsible for ensuring its accuracy.

GUIDANCE ON REVIEWING APPLICATIONS

Education

When reviewing applications, the Board should consider whether the educational courses listed by the applicant are in accordance with the intent of the program and a wildlife related degree was bestowed. The total package of the applicant must be considered.

No applicant should be denied for lack of a single course, with the exception of meeting a specific category requirement as stated in the application. However, Boards struggle with the philosophical idea that a shortfall of one course should not cause denial with the reality that a shortfall in some areas is more important than in other areas. Most Boards have tended to look more critically at the Biological Sciences, Wildlife Management and Wildlife Biology, and tended to be more accepting of a single deficiency or substitutions of experience and continuing education in the other (non-wildlife biology and management) categories. The CRB accepts high school AP courses provided the applicant can verify passing the AP course through a college transcript or a score of 4 or better. With changes in the university systems, the CRB now accepts a course that combines mammalogy, ornithology, or herpetology. The CRB has the discretionary right to move courses around if they feel it strengthens the application and fills any gaps.

AWB to CWB upgrade applications usually don't contain the course work section or transcripts because that information was submitted with the original AWB application and is on file in the Society's office. If an applicant wishes to use advanced degrees toward their experience, they will include proof of conferral and/or transcripts and an abstract or brief research summary detailing the focus of their degree.

AWB applicants sometimes include their work experience to date (even though they do not have the 5 years required for CWB) to show their intent to be a professional wildlife biologist and/or as a substitute for the lack of a particular course.

Applicants from outside the United States often have different educational approaches for degree requirements that likely will not conform to the educational requirements of the program. These cases likely will require greater time and effort to evaluate education (and possibly experience). The Chair likely will need to contact the applicant (via the Professional Development Coordinator) to both clarify issues raised by Board members and to notify the applicant of additional time needed to complete the review.

Experience

Experience always has been the most difficult aspect of the certification program review process. Some Boards have been more conservative, believing that the appeal avenue was available for applicants who were not correctly evaluated. Other Boards have been more liberal in their approach and attempted to find creditable experience in every position included in an application. However, most Boards have recognized that the definition of a wildlife biologist is not all inclusive and have struggled with related professional experiences (especially in the private sector) and identifying technician-level experience. Attempts have been made to define or quantify these types of experience, but definitions or guidelines have been difficult. Criteria was developed in 1987 for crediting Wildlife Law Enforcement experience; and from 1988 to 1990, the Board labored to develop evaluation guidelines for both education and experience (Appendix II and III).

Only professional wildlife experience gained after completion of the first wildlife-related degree may be used to meet the experience requirement. While this degree is usually a B.S. degree, care must be taken because sometimes the first wildlife related degree is an M.S. or even a Ph.D. degree.

If an applicant for CWB does not yet have the 5 years of experience, but is close, the Chair can be given the discretion by the CRB to contact the applicant (via the Professional Development Coordinator) and attempt to determine the nature of the applicant's current employment. If the individual continues to be employed in the most recent position listed on the application and the Board has granted experience credit for this position (e.g., Position A), the Chair may elect to allow some of the interim experience (between application date and the present) to make up for the shortfall and thus approve the applicant. The Chair has the discretion, if granted by the CRB, to "hold" the application for up to 1 year; and if the applicant continues to work in a credited position and will have acquired the needed experience within this time period, the Chair can approve the application when the required experience has been obtained. If this option is extended to the applicant, the applicant shall be required to notify the Chair (via the Professional Development Coordinator) when the necessary time has been reached.

If an applicant for CWB has met the education requirements, but is more than a year short on experience, the individual must receive a denial letter for CWB. However, the comment section on the ballot must indicate that the education requirement has been met but the experience requirement has not. The Chair (via the Professional Development Coordinator) may offer the applicant the opportunity to receive AWB designation. If the applicant is willing to accept AWB, he or she must notify the Professional Development Coordinator in writing. On the basis of the ballot vote indicating CRB approval for AWB, the Coordinator will notify the applicant of AWB certification and issue a certificate.

Time spent obtaining Advanced Degrees may be credited for experience, subject to several provisions.

1. The degree must be "relevant to the wildlife profession" as judged by the CRB. Experience credit normally is not given until the degree is completed.
2. If degree is not completed, some Boards have granted credit for R.A. or T.A. experience at a 50 percent time equivalent rate - up to 9 months total. At present, the CRB will consider such substitutions of education related experience based on the merits of the overall application and on a case by case basis.
3. A Master's degree can be credited for up to 12 months:
 - 3 months for a relevant M.S. degree that required neither research nor a thesis;
 - 6 months when the degree required papers but no research-type thesis;
 - 12 months for research and a thesis.
4. A Ph.D. degree can be credited up to 24 months.
5. A maximum of up to 36 months can be credited for both an M.S. and Ph.D. degree.
6. An applicant may attain credit for simultaneously obtaining work experience and a graduate degree (if independent of the job).

APPEALS OF CERTIFICATION DENIAL

Each applicant that is denied certification by the CRB has the right to appeal that decision and is notified of this right in the letter of denial sent by the CRB Chair. An applicant's right to appeal expires 1 year from the date of denial. All appeals must be in writing to the Council of The Wildlife Society (5410 Grosvenor Lane, Suite 200, Bethesda, MD 20814-2144) and document charges of "discrimination or arbitrary and capricious action" by the CRB.

The Certification program specifies that "only information on education and experience previously submitted to the CRB will be subject to review" and that "new or additional documentation may invalidate an appeal." The CRB and Council view this language as generally prohibiting applicants from using education or experience gained after the filing of their initial application to meet deficiencies identified by the CRB; explanations of or elaborations on material contained in the original application are acceptable.

An independent Board of Inquiry (The Wildlife Society Executive Committee) investigates all appeals and reviews its finding with the CRB. The BOI may then issue a final decision if in agreement with the CRB or may submit a recommendation to Council, and Council makes the final decision. The Executive Director coordinates all appeals. The Executive Director acknowledges each appeal, outlines the appeal process, and establishes an approximate date for a decision usually the next scheduled Council meeting.

A copy of the appeal document, the denial letter from the CRB, and the applicant's original application are sent to the CRB. The CRB is asked to review the entire appeal package and advise the Board of Inquiry as to how they would have voted if they had access to the appeal information when reviewing and/or

discussing the application.

The Board of Inquiry is also provided the entire appeal package and the certification requirements - and asked whether they believe the CRB decision was appropriate. The Board of Inquiry and the CRB meet and review the appeal. This allows for a continuity of understanding regarding application of standards between the CRB and the Council. If the CRB and Board of Inquiry are in agreement to either uphold the ruling or overturn the original decision, the CRB and Board of Inquiry will issue a final decision that is binding and the applicant will be notified at that point. The President would notify the applicant of the result and the Professional Development Coordinator would print a certificate, if needed. If the CRB and Board of Inquiry are not in agreement, this disagreement is presented to Council with a recommendation either to uphold or overrule the original CRB decision. Council would then vote on the final decision. The President notifies the applicant of the result and the Professional Development Coordinator prints a certificate, if needed. The President then notifies the CRB Chair and provides the rationale used in order to assist the future deliberations of the CRB.

APPENDIX I – CHANGES TO TWS CERTIFICATION REQUIREMENTS, 1977-2002

1977-1979 - Educational requirements were satisfied with a B.S., or B.A., or comparable degree in any wildlife-related science.

1980-1982 – The same basic degree requirements and,

30 semester hours in biological science that must include at least:

6 semester hours in courses related to understanding or manipulating environments, such as principles of wildlife management, wildlife biology, environmental biology, or ecology.

6 semester hours in vertebrate biology and classification, such as mammalogy, ornithology, ichthyology, or similar courses.

9 semester hours in zoology including such subjects as general zoology, invertebrate zoology, comparative anatomy, animal physiology, genetics, parasitology, or similar courses.

9 semester hours in botany and related plant sciences in such subjects as general botany, plant taxonomy, plant ecology, or plant physiology.

15 semester hours in basic mathematics and physical sciences including at least:

1 course in college algebra or its equivalent, and one course in statistics.

1 additional course each in 2 or more of the following disciplines: chemistry, physics, mathematics, soils, or geology.

15 semester hours in humanities and social science, which must include at least 4 semester hours in English composition, or demonstrated abilities (e.g. by examination) in satisfactory letter and report writing as officially certified by the university, or as demonstrated by published papers and reports, and 1 course in resource economics.

1983-1985 - The associate wildlife biologist category was introduced in 1983. Education requirements were required to be reviewed by TWS council at least once every 5 years. Once certified, wildlife biologists were not required to satisfy future changes.

Biological science requirements were increased from 30 to 36 semester hours. The change was reflected in an additional 6 hours of basic zoological courses.

Physical science courses now accounted for 9 semester hours and statistics and quantitative courses now accounted for 9 semester hours. Previously, both of these categories accounted for a combined total of 15 semester hours.

Humanities and social sciences now require 9 semester hours; communications courses now require 12 semester hours, and policy and administration course now require 6 additional hours.

1986-1988 - Course requirements remained basically unchanged.

1989-1992 - Subtle adjustments were made to the basic requirements.

Among the 36 semester hours required in the biological sciences, 3 were required to be in ecology and another 3 could be distributed among any of the 5 subject areas.

Physical science requirements remained the same, but 3 hours in calculus were required.

Humanities, communications, and policy and law requirements remained the same.

1993- present - All course requirements remained unchanged except for the calculus requirement which was dropped. The quantitative science requirements reverted to 3 hours in basic statistics and 6 hours in other mathematical and quantitative science.

2000 – Continuing education requirements were instituted.

2006 – Plant taxonomy requirement was instituted.

2007 – Clarified unacceptability of “introductory personal computing” courses in Quantitative Sciences.

2008 – Clarified that each category must be filled by a minimum of one college course while willing to accept substitutions for remaining insufficiencies. Further clarified that a minimum of one course in either mammalogy, ornithology, or herpetology is required in Wildlife Biology.

2009 – Clarified that “introductory” GIS courses are not accepted while more rigorous and focused GIS courses can be accepted given the applicability and explanation.

2010 – Clarified that one professional reference must be a Certified Wildlife Biologist and from outside the employing agency (for CWB applications). Clarified the new membership bylaws change now requiring membership in good standing for an AWB or CWB certificate to remain valid.

2013 – Clarified that high school A.P. classes count provided the applicant can show proof of college transcript credit or a score of 4 or higher. Clarified that basic algebra does not count in the Quantitative Sciences category. Clarified that a course that combines mammalogy, ornithology, or herpetology will meet the “ology” requirement in Wildlife Biology category. Clarified that professional experience credit can simultaneously be granted for a job and advanced degree provided the job is independent of the degree.

2014 – Clarified that only one of the following courses can be accepted per applicant for the Botany category – silvics, silviculture, or dendrology. Clarified that elementary, introductory, or basic algebra do not count in the Quantitative Sciences category. Required that applicants provide an abstract or research summary of thesis and/or dissertation to determine the nature of professional wildlife work when using time spent obtaining advanced degrees to qualify for CWB certification. Changed the definition of wildlife used by the CRB to align with the TWS definition of wildlife in the TWS Strategic Plan. Expanded the review process to allow the CRB to contact applicants for further information before or after the initial vote of

approval or denial. Reduced the time required before re-application after denial from 12 months to 6 months from the time of previous application.

APPENDIX II - PROCEDURE FOR CREDITING WILDLIFE LAW ENFORCEMENT EXPERIENCE

The Certification Review Board recognizes that individual job titles in some jurisdictions do not clearly depict actual job responsibilities. The Certification Review Board works carefully to judge each applicant's actual involvement and responsibilities as they relate to those of a professional wildlife biologist. Where an applicant's work experience demonstrates immediate and practical impact in furthering wildlife management, research, administration or education, and where that experience demonstrates that the applicant is the person responsible for such work, appropriate credit is then given. Job titles such as wildlife conservation officer may or may not encompass professional wildlife biologist duties.

The Certification Review Board does not consider that such routine job responsibilities as license or game checks, patrolling, or similar duties are creditable as professional wildlife biologist experience. However, where an applicant demonstrates direct involvement and responsibility for population surveys, development of forensic techniques for use in law enforcement or similar duties where the applicant is the person responsible for the data or studies, appropriate credit is given for professional wildlife work. It is common for the Board to judge a portion of an individual's experience as being creditable for purposes of certification. The primary guideline in making such a decision is the level of personal and professional responsibility the person has in conducting the professional wildlife biologist duties. The Certification Review Board also considers academic background as a measure of the orientation of the candidate in making judgments related to work experience.

APPENDIX III - CRB GUIDELINES ON EDUCATION AND EXPERIENCE

In evaluating an application for certification, the Certification Review Board (CRB) must determine whether the applicant meets the minimum requirements for education and (for CWB) job experience. These guidelines summarize the current Board's methods of evaluation.

- I. Education. Although required course work is covered on the application, periodic clarification is needed. The CRB typically does not accept any substitutions for courses covering principles and practices of wildlife management, wildlife biology, or ecology. A variety of courses are accepted in basic zoology, but strong preference is given to organism-level, vertebrate courses other than on humans when evaluating the overall strength of the application. Because sections 2-4 are fairly specific and are basic to most scientific degrees, substitutions are generally not warranted.

Accepted botany courses include those that explore the basic relationships of plant taxonomy, growth, identification, ecology, etc. Applied courses such as horticulture, crop production, etc. ordinarily do not apply. Accepted communications courses are those designed to improve communication skills. A maximum of 3 credits each towards the communication requirements will be allowed for a completed M.S. thesis or Ph.D. dissertation. Term papers, class projects and seminars in non-communications courses ordinarily will not be allowed. In some cases, up to 3 credits for well-documented experience can be substituted in communications. Courses such as resource policy and/or administration, environmental or wildlife law or

natural resources/land use planning qualify in Policy Administration and Law category. Technical courses such as photogrammetry, LAND-SAT mapping and introductory general conservation courses ordinarily will not apply. In certain cases well-documented experience can make up for a deficit in this section.

II. Nature of work experience. Although the discipline of wildlife biology draws from several sciences (e.g. ecology, zoology, general biology, botany), its unique set of guiding principles is distinguished philosophically by:

1. Viewing wildlife as natural, renewable resources. Inherent in this viewpoint is conservation (wise use) and thus some form of value to society that is typically manifested either in recreation (hunting, wildlife viewing) or simply in the desire for wild animals to survive. "Wildlife" as applied here, includes living organisms that are not humans, domesticated animals, or plants. This includes insects and other invertebrates, fish, amphibians, reptiles, birds and mammals. However, TWS' interests do not emphasize fish, as that is the focus of our sister organization, The American Fisheries Society (AFS).
2. Being applied and production-oriented. Central to this discipline is management of land, habitats and populations (size, composition) to enhance or bring populations of targeted wildlife species and their communities into desired balance. Management generally entails active manipulation of populations and/or treatments of habitat either to help attain desired wildlife population levels or to mimic natural disturbance processes now lacking in natural areas. In some cases it is recognized that a "let alone" policy is appropriate (e.g. restoring certain types of old growth forests).

The Board considers the nature of experience to qualify if the applicant spent the majority of claimed time in management, research, administration, college education, or impact evaluation in line with the disciplinary elements outlined above. The CRB considers the mission of the job to be important (e.g. the emphasis of a consultant must be directed toward wildlife, not consider wildlife peripherally as a byproduct of general impact assessment or environmental monitoring). The Board does not accept experience strictly as animal husbandry personnel (zoo keepers, game breeders, wildlife ranchers, humane society employees, veterinarians); foresters; law enforcement officers; guides for hunting or nature interpretation; park naturalists; high school teachers; museum curators; wildlife artists; film producers; landscape architects; researchers or educators in basic zoology, ecology, biology or botany; cattle range managers/conservationists; soil conservationists; environmental consultants or fisheries biologists. Persons in these occupations may be certified if a significant portion of their job responsibilities are those of a professional wildlife biologist. Experience must be gained within 10 years prior to the date of application. This generally requires that 50% of the applicants' time must be spent on professional level wildlife work.

III. Professional level work experience. Several criteria are employed to assess professional level experience. The term professional implies being paid for services rendered. Therefore the CRB does not credit time spent solely in volunteer positions. The CRB distinguishes between job function of a professional wildlife biologist and that of a technician/assistant/specialist. The criteria used to make this distinction are listed in the attached table.

TABLE: GUIDE TO DISCRIMINATING PROFESSIONAL LEVEL WORK EXPERIENCE

Job Component	Professional Wildlife Biologist	Technical Assistant or Specialist
Decision Making	Draws from and adept's wildlife principles and current methodology to design, plan and organize.	Carries out orders to maintain certain aspects of components or facilities.
Decision Making	Analyzes data from which conclusions are drawn for making decisions.	Uses judgment to accomplish assigned tasks; often conducts routine checks of established management or research systems or repetitive, scheduled tasks.
Work Implementation	Produces primary budget; Administers, directs and supervises biological work.	Directly applies techniques to accomplish specific tasks; Helps a supervisor in biological work; duties can be accomplished with limited training by other workers.
Scope of Authority	Responsible for and in charge of a defined unit; Requires only general, directional supervision.	Limited, at most, to supervising lower level workers; Requires direct, frequent supervision.
Reporting	Responsible for final reports.	May assist biologist by supplying information (e.g. reporting observations data gathering, field reports).
Agency Representation	Officially represents professionally and publicly, the employing agency; in policy matters, hunting regulations, land management recommendations, etc.	N/A

IV. Guidelines for Applicants with Extensive Coursework Deficiencies. Experience is already being used judiciously by the CRB in cases where applicants do not possess all of the necessary course requirements. However, that experience has not been accepted to replace the minimum requirement that applicants have (1) at least a B.S. degree in wildlife ecology, management, or a related field and (2) at least 3 credit hours in each certification category. Council approved changes to the requirements in March 2015 based on recommendations of the Certification Change Committee to

identify those applicants that can use experience to replace missing academic training in wildlife biology, wildlife management, and botany. Using experience to substitute for these specific course requirements should be considered as a rare exception, not a commonplace occurrence. It should only be used for applicants with a very strong professional track record, who otherwise meet all the requirements for certification. Applicants who wish to use experience to substitute for coursework in these categories must meet the guidelines as outlined below.

1. All Certified Wildlife Biologist® applications must have at least 5 years of experience and must have at least a B.S. degree in a natural resources-related field to be considered for certification with no exceptions.
2. Certification applicants must have at least 3 hours in the categories of wildlife biology, wildlife management, and botany unless the applicant is identified as an individual that possesses substantial, verifiable experience in research, management, education, and/or administration. In these rare cases, the applicant can request using experience in lieu of the otherwise required minimum 3 hours of course work in wildlife biology, wildlife management, and botany. As noted above, it must be recognized that this is a rare exception to the education requirement that should be applied sparingly.
3. The following criteria be used by the CRB to identify an applicant as an individual that may be able to use experience in lieu of the required coursework.
 - a. Must have at least 20 years of full-time equivalent, professional experience in the wildlife profession, in wildlife management, research, administration or college education as described in the CRB Policies and Procedures Manual (2014). Additional description was provided by the Certification Review Board below (amended from the AFS description of qualifying experience for certification).
 - b. Must have qualifying experience within the context of wildlife management, wildlife biology, wildlife research, education or administration that applies to the missing educational category or categories (see below for recommended descriptions).
 - c. Must be clearly recognized as possessing exceptional skills within the missing educational requirements by peers in The Wildlife Society and throughout the profession.
 - d. Must have demonstrable achievements through research, management, education, and/or administration that clearly identifies the applicant as an exceptional leader and/or technical expert within the missing educational category or categories.
 - e. Must include a letter of verification from at least 2 TWS members in good standing, with at least one being a Certified Wildlife Biologist®, who can attest that the expertise of the applicant clearly demonstrates his or her skills and abilities within the missing educational category or categories.

The following descriptions should be used for what establishes “qualifying experience” per item 2 above.

1. Wildlife management involves the application of wildlife science principles (e.g., population dynamics, wildlife biology, habitat assessment and manipulation, biometrics) toward the accomplishment of specific wildlife management goals, objectives, and strategies. The applicant should have had responsible charge or supervision over planning, implementation, and assessment of projects. Responsible charge or supervision is defined as the direction of work such that successful completion depends on decisions made by the applicant. Projects must include technical aspects of applying ecological knowledge to solving wildlife management issues or developing conservation/management strategies. Qualifying experience requires that the candidate use independent judgment and action. In addition to the above, the exceptional applicant is one whose work has resulted in specific and extraordinary changes in the way management actions are implemented.
2. Research involves responsible charge or supervision of field or laboratory wildlife research projects. Qualifying experience includes oversight responsibility for design, implementation, analysis, and report writing. Projects must include application of ecological and biological principles to increase our understanding of wildlife ecology and management. 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, resource management practices, or program planning. In addition to the above, the exceptional candidate is one whose work and publication record is recognized by peers as resulting in an important and lasting contribution to the field.
3. Education involves college-level teaching of various facets of wildlife management, ecology, research, and administration. In addition to the above, the exceptional candidate is one who is recognized as an exceptional instructor by peers and has a longstanding and known track record as a mentor to students and early career wildlife professionals.
4. Administration involves direct-line authority supervision of wildlife professionals engaged in activities or programmatic responsibilities that qualify for certification described under the headings of management, research, and education given above. Candidates must have responsibility and decision-making authority of such magnitude as district-wide, regional, statewide, or national natural resource programs. Independent judgment and significant consequences of actions must be present. In addition to the above, the exceptional candidate is one who is known in their organization as a leader and has a longstanding and known track record as an individual who can bring divergent interests together to accomplish wildlife management, research or education goals.