

Associate Wildlife Biologist & Certified Wildlife Biologist Certification Programs through TWS

Mike Gillingham 19 March 2019

NOT related to CAB of BC

- In November 2018, the BC Government passed new legislation that will require mandatory registration with a self-regulating professional organization if individuals plan to take responsibility for applied biology work in the natural resources sector.
- In BC, the College of Applied Biology is the legislated selfregulating professional organization that is mandated to oversee the profession of applied biology.
- As early as 2020, biologists and biology technologists will be required to register as a Registered Professional Biologist (RPBio) or a Registered Biology Technologist (RBTech).
- If you plan to work as a biologist in BC, you need to meet CAB requirements, but the W&F degree as UNBC meets the course requirements.



- What I will cover ...
 - · What is TWS certification?
 - · Why consider applying for it?
 - What are the requirements?
 - Advice on filling out an application
 - No pre-approved curricula you need to make your own case!
- · But remember ...
 - The professional designations under TWS (AWB & CWB) are NOT equivalent to the professional designation under CAB in BC.
 - A professional designation under TWS is not required to work in Canada

What is TWS Certification?

- Certification with CAB of BC needed in BC and through agreement exchangeable with Alberta
- No biological certification in other provinces, and some are considering TWS certification
- In 1977, TWS initiated Certified Wildlife Biologist program to promote and strengthen professional standards of wildlife biologists with the US, Canada, and abroad
- The American Fisheries Association (sister organization of TWS for fisheries) has a parallel certification process you may be interested in

Why consider TWS Certification?

- The designation is recognized all over NA.
- It is the ONLY Professional Wildlife Biologist designation.
- Links you to a professional organization of Wildlife Biologists.

THE WILDLIFE SOCIETY Leaders in Wildlife Science, Management and Conservation

- TWS established a Certification Review Board
 - 8-member board with representation from all TWS Sections



Canadian Section

- Alberta
- Manitoba
 New Brunswick*
- New Brunswick*
 Newfoundland and
- Labrador
 Northwest Territories*
- Nova Scotia*
- Nunavut*
- Prince Edward Island
 Outbook
- Saskatchewan

Levels of TWS Certification

- Associate Wildlife Biologist
 - An individual who has completed academic standards and is judged able to represent the profession as an ethical practitioner will be designated as an Associate Wildlife Biologist.
 - The AWB certification is granted for 10 years and cannot be renewed.
 - An AWB certified individual can upgrade to Certified Wildlife Biologist during the 10 year time period once the necessary experience requirements are obtained.

Levels of TWS Certification

- · Certified Wildlife Biologist
 - An individual with the educational background and demonstrated expertise in the art and science of applying the principles of ecology to the conservation and management of wildlife and its habitats, and is judged able to represent the profession as an ethical practitioner, will be designated as a Certified Wildlife Biologist.
 - The CWB certification is valid for 5 years and may be renewed

Advantages?

- The only certification for Wildlife biologists
- May provide a hiring asset in some jurisdictions
- May eventually eliminate (most) jurisdictional barriers when working in Canada
- A link to your professional organization TWS

TWS Certification – a 2-stage process

- ➤ Associate Wildlife Biologist (AWB)
- Certified Wildlife Biologist (CWB)
- To apply for both, you must be a TWS member

Associate Wildlife Biologist Requirements

- Educational requirements in semester hours
 - Canadian and US semester hours considered equivalent
- Applicants encouraged to make a case for courses, so there is no doubt about the relevance
- Hours from the same course can be split between requirement

Associate Wildlife Biologist Requirements

- Applicants can make a case for using experience to clear course deficiencies
 - e.g., graduate work, workshops, tutorials, employment, volunteering (but be accurate in your assessments)
- ➤ Provide material on all of the courses that may be relevant, even if it looks like it is more than you need in any one category
 - CRB will suggest moving some material between categories if they think it is relevant

AWB Course requirements

- Five biological course areas
 - Wildlife Management (6 hours)
 - Wildlife Biology (6 hours)
 - Ecology (3 hours)
 - · Zoology (9 hours)
 - Botany (9 hours)

AWB Course requirements

- Six non-biological course areas
 - Physical Sciences (9 hours)
 - Basic Statistics (3 hours)
 - Quantitative Sciences (6 hours)
 - Humanities (9 hours)
 - Communications (12 hours)
 - · Policy, Administration, and Law (6 hours)

Course specifics

- > Much more detail on the Application form and on
- Wildlife Management (6 hours)
 - Courses emphasizing the principles and practices of wildlife management, including conservation biology courses with a specific focus on management
- Wildlife Biology (6 hours)
 - · Courses in the biology and behaviour of birds, mammals, reptiles, or amphibians
- Ecology (3 hours)
 - · Courses in general plant and animal ecology

Course specifics

- · Zoology (9 hours)
 - Courses in the taxonomy, biology, physiology, anatomy and natural history of vertebrates and invertebrates
- Botany (9 hours)
 - Courses in general botany, plant anatomy, genetics, morphology, taxonomy, physiology and others
- - At least one course must be primarily concerned with plant taxonomy or plant identification.
 CRB have been known to allow extensive on-the-job experience, workshops, and on-line courses.

 - If plant ID is a substantial part of a graduate thesis/project, CRB may consider allowing this
 One of the following—dendrology, silvics, or silviculture are acceptable.

Course specifics

- Physical Sciences (9 hours)
 - · Courses in Chemistry, Physics, Geology, or Soils
- Basic Statistics (3 hours)
 - · A course in basic Statistics
- Quantitative Sciences (6 hours)
 - Courses in calculus, mathematical modeling, sampling, computer sciences, or other quantitative sciences like advanced (not introductory) GIS
 - Note GIS courses also can be used in areas like Wildlife Management, Ecology, and Policy, Administration and Law

Course specifics

- Humanities and Social Sciences (9 hours)
 - Courses such as economics, sociology, psychology, political science, government, history, literature, or foreign language
- Communications (12 hours)
 - Courses designed to improve communication skills, such as English composition, technical writing, public speaking, or use of mass media

Communication activities

- · CRB considers:
 - BSc Honours/MSc/PhD thesis—up to 3 semester hours
 - Belonging to organizations, like Toastmasters International
 - Actual communications experience, such as presentations at public meetings, guiding birdwatching trips, speaking to school kids, involvement in TWS organizations—TWS Chapter involvement
 - · Publications—peer-reviewed or not
- ➤ CRB has some flexibility to use the 1 course rule, i.e. will never turn down an applicant if short by 3 semester hours

Course specifics

- Policy, Administration, and Law (6 hours)
 - Courses that demonstrate significant content, or focus on natural resources policy and/or administration, wildlife or environmental law, or natural resources/landuse planning
- Note
 - Courses that deal with understanding of social, political, and ethical decisions for wildlife and natural resources management
 - Up to three semester hours in classes dealing with human dimensions issues

References for AWB or CWB

- Require 3 professional wildlife biologists as references
- At least one reference must be a CWB
- One reference from a professional employed in your own organization
- One reference must be from a professional employed outside your own organization

Submitting an application for AWB

- Once the application has been completed, then it must be sent to the Certification Review Board (CRB). The fee for applying is \$115 (US)
- You will be asked whether your past activities have complied with the Code of Ethics and the Standards for Professional Conduct of The Wildlife Society. Therefore, you should review this section of the TWS website

Certified Wildlife Biologist ...

- An AWB certification lasts for ten years. Within that time limit, the person should have obtained a minimum of 5 years of professional-level experience
- Once the 5 year experience target has been reached then an AWB® can submit an application to become a CWB®. Fee is \$155 (US)
- Three references similar to AWB application needed
- If the AWB has at least two years of experience at the end of the 10 year allotted time, then they can apply to TWS for a three-year extension
- For a \$25 (US) fee, they can send an AWB Extension Application for consideration by TWS staff

Acceptable Professional Level Experience

- CRB likes to see "graduation" of responsibilities.
 It's understood that at first the job may start out being more technician than professional, but it should show an increase in complexity.
- If a person is collecting the data and giving it to someone else for analysis and decision-making, it's "technician."
- If, however, a person is deciding why, how and where to collect that data and then summarizing it and making decisions, that's "professional".

CWB Renewal (reviewed by TWS)

- To ensure that CWBs are working according to professional standards, they must submit a renewal application every 5 years
- Three requirements
 - Previously approved as a CWB with TWS
 - TWS membership in good standing
 - Complete a minimum of 80 contact hours that meet the requirements in at least 1 of 6 professional activity categories within the 5 years window

CWB Renewal (reviewed by TWS)

- Participation in Organized Activities
- Leadership of Organized Activities Guidelines
- Mentorship Activities (maximum of 20 hours will be accepted)
- Publications Activities
- Self-Directed Activities
- Professional Service Activities
- Hours in 2 or more categories is encouraged.

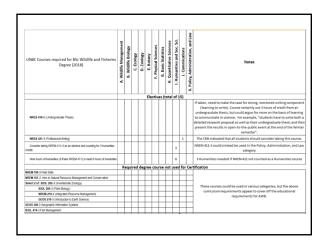
Course considerations

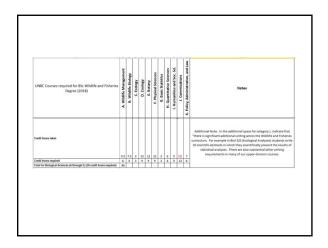
- The following spreadsheet suggest options based on current BSc Wildlife and Fisheries requirements
- Keep your options open for an AWB application by choosing electives and 'one-of' courses carefully
- If you are a transfer student, consider using previous courses from previous institutions
- If need more hours in an area, and are graduating, consider other ways of getting that material (i.e., online courses, experience, Toastmasters, etc.)

UNBC Courses required for 85c Wildlife and Fisheries Degree (2018)	A. Wildlife Management	B. Wildlife Biology	C. Ecology	D. Zoology	E. Botany	F. Physical Sciences	G. Basic Statistics	H. Quantitative Sciences	I. Humanities and Soc. Sci.	J. Commications	K. Policy, Administration, and Law	Notes
	т				Re	equi	red	in d	egre	•		
BIOL 103-3 Introductry Biology I BIOL 123-1 Introductry Biology I Laboratory	F			0.5	-							Include both lecture and lab course together in box (total credits) and include both course descriptions in both the D and E categories. Also include the note "(Counting 0.5 hours under Zoology and 0.5 hours under Botany)".
BIOL 164-3 Introductry Skidgy II BIOL 124-1 Introductry Skidgy II Laboratory	F			1.5								Include both lecture and lab course together in box (total credits) and include both course descriptions in both the D and E categories. Also include the note "(Counting 0.5 hours under Zoology and 0.5 hours under Botany)".
CHEM 100-3 General Chemistry			П		П	3						Include both lecture and lab course together in box (total credits) and
CHEM 120-1 Chemistry Lab I						1						include both course descrptions
CHEM 101-3 General Chemistry II						3						Include both lecture and lab course together in box (total credits) and
CHEM 121-1 Chemistry Lab II						1						include both course descrptions
MATH 152-3 Calculus for Non-majors								3				Enter course description
PHYS 115-4 General Intro to Physics or PHYS 100-4 Intro to Physics						4						Enter course description
8101, 281-3 Ecology			2							1		Entire tutorial to Ecology deals with how to write in science, so make clear in splication. In addition to entering the course description in bo the C and J categories, include the note "(Only 2 of the 3 hours are counted in this category with 1 being used under Communications — semester long tutorial with this class focuses exclusively on scientific writing".
BIOL 219-3 Genetics				1.5	1.5							1.5 credit hours counted under each of Zoology and Botany. In addition including the course description in both the D and E categories, include the note "(Counting 1.5 hours under Zoology and 1.5 hours under Botany)".

UNIC Courses required for BSc Wildlife and Fisheries Degree (2018)	A. Wildlife Management	B. Wildlife Biology	C. Ecology	D. Zoology	E. Botany	F. Physical Sciences	G. Basic Statistics	H. Quantitative Sciences	I. Humanities and Soc. Sci.	J. Commications	K. Policy, Administration, and Law	Notes
FSTY 267-1 Terrestrial Ecological Classification			1									Needed in Ecology category because 1 credit hour of Biol 201 used in writing category
STAT 248-3 Basic Statistics		П			-	П	3			П		Enter course description
NREW 204-3 Innoduction to Milddle and Fisheries	1.5			1.5								Covers Fish and Wildlife's to 1.5 in Wildlife Management and 1.5 in Zoology; in addition to including course destription in both the A and I zoology; in addition to including course destription in both the A and I zategories, include "(course is 3 credit hours; counting 1.5 for wildlife management content)". Note also that you may need to use the "additional space" block to include NIREM 2045 in the Dicategory.
BIOL 302-3 Limotogy		П	П			3		П	П	П		Enter course description
BIOL 387-3 icritryology and Herpelology		1.5		1.5								Half of course associated with Herptology using in Wildlife Biology with balance in Zoology. After entering the course description in both the a and Dicategories, include the note ("Course is 2 seed hours with 1.5 counted in this category and 1.5 under Zoology to split out fish and herptology subject matter).
BIOL 389-3 Crethology and Mammalogy		3			П			П				Enter course description
BIOL 315-3 Animal Documes and Parastes				3								Enter course description
BIOL 125-3 Ecological Analyses								3				Because of 10 abstracts (marked for improvement in writing) could use credit of 8IOL 325 in Communications category if you have additional Quantitative Science courses (Gist does not court). If you have additional H category courses, then make case for 1 hour of 8IOL 325 in category 1
BIOL 496-3 Fish Ecology				3								Enter course description
BIOL 419-3 Populations and Communities	3											Enter course description
BIOL 411-3 Conservation Biology	3											Enter course description
BIOL 412-3 Width Ecology		3										Enter course description

UNBC Courses required for BSs Wildlife and Fisheries Orgree (2018)	A. Wildlife Management	B. Wildlife Biology	C. Ecology	D. Zodory	Proposition of the same of the	E. Botany	F. Physical Sciences	G. Basic Statistics	i		I. Humanities and Soc. Sci.	J. Commications	K. Policy, Administration, and Law	Notes
BIOL 415-3 Wildlin Management	2				Ī					Ī		1		Split between Wildlife Management and Communication because of writing assignments several in TVS Journal Format. After including countries desciption, include "Covering 2 of 2 resident under management breat 1 credit is assigned to Ecommunication. In BIOL 413 40% of the gade assigned to the writing up of wildlife data analyses in XVM journal format. These 5 papers are used to improve on the students' section. writing skills, or a support of the students' section.
		-	-	_	-5	sele	ect	one	a of	lop	tion	15	_	T
NRES 100-3 or ENGL 170-3		Ľ	L				L	L		1		3		Either couse acceptable in Communications category; presumbly cou take both
FSTY 281-3 Forest Plant Systems or BIOL 381-3 Systematic Solarly				I	I	3			I	I			Ū	Either course acceptable in the Botany category so just enter the course you took
One of: NREM 383-3 (Aboriginal Perspectives on Land and Resource Management) Or NREM 396-3 (Society, Policy, and Administratori)		Г	Г	T	T	7	7	Г	T	T	7	П	3	Either course acceptable in the Policy, Administration, and Law Categ
For one of ENPL 305-3, NREM 411-3 or ENVS 305-3, take ENVS 326-3 (Natural Resources, Environmental Issues and Public Engagement)										Ī		3		Take ENV5 326-3 for credit in the Communcation category because strong mentiored writing requirement. Be sure to emphasize in comments the strong emphasis of this course on public engagement. learning to write.
For BIOL 402-3 or BIOL 404-3, take 8401, 484-3 (Plant Ecology)		Г			1	3	П	Г		T	T	1	П	Could take BIOL 404-3 for Botany creids, but have 3 extra Botany credit Biol 402-3 taken
For one of NREM 400-4, NREM 410-3 or NREM 333-1, take NREM 400-4 (Natural Resource Planning)	г	г	т	T	T	T	_	Т	t	T	T	П	4	Select NREM 400-4 from this one-of choice





UNBC BSc Wildlife & Fisheries Program for Certification Review

Associate Wildlife Biologist® Application

GENERAL INFORMATION

FIRST NAME: | MIDDLE: | LAST: |

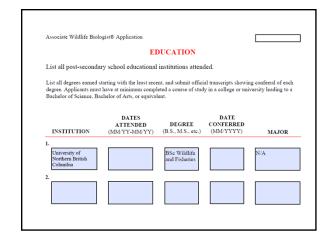
MAILING ADDRESS: | HOME | WORK

DATE OF BIRTH: | EMAIL: |

HOME PHONE: | WORK PHONE: |

MY NAME SHOULD BE LETTERED ON THE CERTIFICATE AS FOLLOWS:

Note: Certification policy does not allow the use of academic, honorary, or other titles or nichaames on the certificate



Avociate Wildlife Biologist® Application

A. Wildlife Management, minimum 6 semester hours

Course emphasizing the principles and practices of wildlife management.

Course emphasizing the principles and practices of wildlife management.

Course descriptions are required, courses should focus on understanding and manipulating wildlife habitats and population dynamics, in the context of human objectives and influences. Conservation biology courses count if they contain a specific focus on management and decision-making.

COURSE INTER DEPARTMENT INSTITUTION NUMBER HOURS

1.

Introduction to Wildlife and Fishers

COURSE DESCRIPTION:

Introduction to Presidence of the Programment of the Progra

Other considerations

 For the "course description" section of the application, use the online course calendar of your graduating year and copy-paste to the application form.

Save a PDF of the course calendar you will be graduating with

FAQ ...

- How does the new Conservation degree fit into this application process?
 It might work if you choose your courses very carefully, but this will also be true in trying to meet CAB requirements with this new degree.
- Is there a section on the application for volunteering with the UNBC Student Chapter of TWS?

 Not specifically, but you could make a case some consideration under 'communication', for example.
- Do you specify which institution you got your credits from?
 Yes. The first page of the applications has room for multiple institutions and you also specify the Institution for each course on the application form.
- Can credits be from any degree?
 Yes. You have to make the case for any university level course.
- Does this apply for fisheries?
 No. That would fall under the American Fisheries Society designation.
 Would you need this designation to work in fisheries in areas where TWS designation is a professional requirement?
 My assumption would be that if provinces adopt requirements for professional associations, then many would be considered appropriate.