

Biologists

A guide for newcomers to British Columbia



Contents

1. Working as a Biologist [NOC 21110].....	2
2. Skills, Education and Experience	6
3. Finding Jobs.....	8
4. Applying for a Job	11
5. Getting Help from Industry Sources.....	12

Working as a Biologist [NOC 2021: 21110 / NOC 2016: 2121]

Job Description

Biologists carry out research to gain knowledge of living organisms, to manage natural resources, and to develop new practices and products related to medicine and agriculture.

Biologists and related scientists may specialize at the *macroscopic level*, in fields such as:

- zoology, ecology and marine biology

or at the *cellular and molecular level*, in fields such as:

- genetics, pharmacology, toxicology.

As a ***Biologist***, you perform the following duties:

- plan and carry out studies of the environment
- plan and carry out studies of the population, distribution, structure, functional characteristics and behaviour of plants and animals
- carry out environmental impact studies and prepare reports
- study, identify and classify plant and animal specimens
- carry out experiments in plant or animal growth, heredity and breeding
- prepare reports and plans for management of renewable resources

As a ***Microbiologist and cell and molecular biologist*** you perform the following duties:

- carry out research into the structure, function, ecology, biotechnology and genetics of micro-organisms, including bacteria, fungi, protozoans and algae
- research the structure and workings of human, animal and plant tissues and cells
- carry out studies into the identification, effects and control of human, plant and animal microorganisms and poisons
- run clinical or laboratory studies to test, check and screen drugs
- carry out molecular or biochemical studies and experiments into genetics, gene manipulation and recombinant DNA technology
- carry out research in biotechnology to find, develop, refine and evaluate new products

Source:

- **National Occupational Classification**
<https://noc.esdc.gc.ca> [search Biologists]

Industry Overview

Approximately 3,250 people currently work as biologists and related scientists in BC. 2972 of these professionals are registered with the College of Applied Biology including Professional Biologists (RPBio), Registered Biology Technologists (RBTech), Applied Biology Technicians (ABTS), and Biologists in Training (BIT).

JobBank Canada forecasts that the employment outlook will be good for biologists for the 2021 to 2023 period.

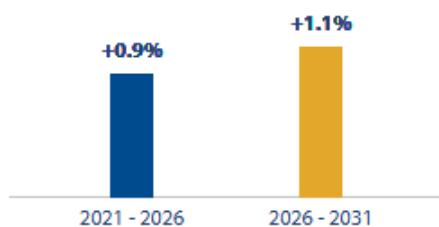
Sources:

- **College of Applied Biologists, Annual Report**
<https://www.cab-bc.org/>
- **Job Bank Canada Job Outlooks**
<https://www.jobbank.gc.ca/trend-analysis/search-job-outlooks>

Job Outlook in BC

Biologists & Related Scientists

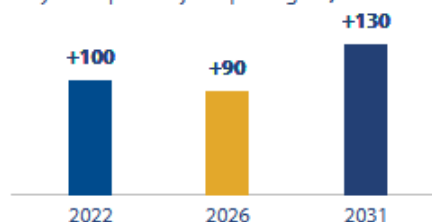
Forecasted average employment growth rate



Source: B.C. Labour Market Outlook

Job openings

10 year expected job openings: 1,080



Source: B.C. Labour Market Outlook

Composition of job openings



Source: B.C. Labour Market Outlook

Chart from WorkBC

WorkBC provides job openings in BC regions from 2021-2031:

Region	Employment in 2021	Average Annual Employment Growth 2021-2031	Expected Number of Job Openings 2021-2031
Vancouver Island	1,010	1.1%	310
Lower Mainland / Southwest	2,100	1.0%	550
Thompson-Okanagan	540	1.0%	120
Kootenay	200	1.0%	50
Cariboo	200	0.1%	20
North Coast & Nechako	110	0.9%	20
Northeast	90	1.0%	20

You can learn more about working as a Biologist in BC from:

- **WorkBC Career Profile for Biologists**
<https://www.workbc.ca/Jobs-Careers/Explore-Careers.aspx>

- **Career Cruising** (profile for Biologist)
<https://www.vpl.ca/digital-library/career-cruising>

Available from the VPL Digital Library | Explore our Digital Library page

Types of Employers

Biologists work in both laboratory and field settings for governments; environmental consulting companies; resource and utilities companies; chemical, pharmaceutical and biotechnical companies; and health and educational institutions.

Microbiologists work for governments, colleges and universities, research labs, and companies in the drug, mining, and agriculture industries.

Salary

The **median** annual salary for biologists and related scientists working full-time in BC is \$85,238. Wages vary depending on the type of biology, the areas of specialization, level of education and employer.

In BC's regions, you can expect to earn:

Community/Area	Wages (\$/hour)		
	Low	Median	High
British Columbia	22.53	40.87	53.85
Cariboo Region	22.53	40.87	53.85
Kootenay Region	22.53	40.87	53.85
Lower Mainland–Southwest Region	22.53	40.87	53.85
Thompson–Okanagan Region	22.53	40.87	53.85
Vancouver Island and Coast Region	22.53	38.21	56.57

Source: Job Bank Canada Wage Report <https://www.jobbank.gc.ca/trend-analysis/search-wages>

Full time permanent employees generally receive employee benefits in addition to their salary. Contract, part-time and self-employment are increasingly common in this occupation.

Sources :

- WorkBC & Career Cruising

Working Hours

In the early years of your career you may do a lot of lab or field work for more senior researchers and may work long hours. Experienced biologists generally work more regular hours.

Many biologists also spend time at lectures and conferences that fall outside regular work hours. Travel may be required when doing fieldwork or attending conferences.

Source: Career Cruising (profile for Biologist)

2. Skills, Education and Experience

Skills

Biologists must be:

- patient
- curious
- logical
- organized
- detail oriented

Biologists must have:

- good communication skills
- good manual dexterity
- an aptitude for science and interest in the living world
- strong research skills

Education and Experience

In order to work as a biologist in Canada, you require:

- Bachelor's degree in biology or in a related discipline is required for biologists
- Master's or doctoral degree in biology or a related discipline is required for employment as a research scientist in biology
- Post-doctoral research experience is usually required before employment in academic departments or research institutions.

Sources: WorkBC & Career Cruising

Qualifications

The ***College of Applied Biologists of British Columbia (CAB)*** offers registration for biologists and allows you to use the title *Registered Professional Biologist*.

While registration with the CAB is *not mandatory to work as a biologist in BC*, it is valuable to become certified as it provides formal recognition of your skills and experience to employers.

For more information about registration and membership see:

- **College of Applied Biologists**
<https://www.cab-bc.org/membership-categories>

Biologists in the environmental industry are also encouraged to seek certification by the ***Environmental Careers Organization Canada (ECO Canada)***. Certification is available for: Environmental Professional (EP), Environmental Professional In-Training (EPt) and Environmental Auditors.

More information:

- **Environmental Careers Organization Canada (ECO)**
<https://eco.ca/environmental-professionals/>

Microbiologists are encouraged to seek certification by the **Canadian College of Microbiologists**. The College offers certification as a Registered Microbiologist (RMCCM), Specialist (SCCM), and Academic Research Microbiologist (ARM).

More information:

- **Canadian College of Microbiologists (CCM)**
<https://www.ccm.ca/>

Internationally Trained Biologists

If you are an internationally trained biologist you must complete a multi-step process to be registered as a Professional Biologist in BC. This includes an assessment of your education and professional credentials.

For more information:

- **College of Applied Biologists. Internationally Educated Applicants**
<https://www.cab-bc.org/internationally-trainededucated-applicants>

ECO Canada also offers the **Environmental Foreign Talent Development Program** (EFTD). Participants take part in a 3-month training and mentorship bootcamp to grow your network, gain a nationally recognized professional certification as an Environmental Professional (EP) and complete a paid, full-time placement within the environmental sector.

More information:

- **Environmental Foreign Talent Development Program**
<https://eco.ca/environmental-professionals/employment-funding-and-job-board/immigrant-bridging/>

3. Finding Jobs

You'll find job advertisements in local newspapers, electronic sources, and through professional associations.

Local Newspapers

You can look at the *Vancouver Sun* & *The Province* at Vancouver Public Library for free. Check the job postings daily and the careers section in the *Vancouver Sun* on Wednesdays and Saturdays and, in *The Province* on Sundays.

Online Job Postings

- **BioTalent Canada – The PetriDish**
<https://www.biotalent.ca/the-petridish/>
- **Skilled Newcomer Internships for the Bio-Economy, Bio-Talent Canada**
<https://www.biotalent.ca/programs/skilled-newcomer-internships-for-the-bio-economy/>
- **Careers in the BC Ministry of Environment**
<https://www2.gov.bc.ca/gov/content/careers-myhr>
- **Careers in the Federal Public Service**
<https://www.canada.ca/en/services/jobs/opportunities/government.html>
- **ECO Canada**
<https://eco.ca/new-practitioners/employment-support/job-board/>
- **Indeed.com**
https://ca.indeed.com/advanced_search
- **University Affairs Careers**
<https://www.universityaffairs.ca/search-job/>
Job listings in the higher education sector. Can browse for jobs under “Discipline – Biological and Biomedical Sciences”.
- **BC JobConnect**
<https://bcjobconnect.ca/> ****must have permanent resident number****
newcomers can post their skills, education and work experience to BC employers looking for workers

Professional Associations’ Career Resources

- **College of Applied Biologists**
<https://www.cab-bc.org/job-postings>
- **Association of Professional Biologists**

<https://professionalbiology.com/APB/APB/Resources/Job%20Board.aspx?hkey=2d43d77e-ee4-40b8-8a23-93dd17eb544c>

- **Canadian Society for Molecular Biosciences**

<https://csmb-scbm.ca/jobs/>

Identifying the Right Position

When you browse job advertisements, you'll find a wide range of different job titles that are relevant.

For biologists and related scientists, look at these related job titles:

- Biologist
- Botanist
- Cell biologist
- Ecologist
- Marine biologist
- Microbiologist
- Pharmacologist
- Physiologist
- Zoologist

For a complete list see:

National Occupational Classification <https://noc.esdc.gc.ca/>

Creating a List of Potential Employers

You can use directories to produce lists of laboratories, environmental consulting companies, biotechnology companies, educational institutions and other employers in the Lower Mainland or BC. Contact them directly to find out if they're hiring.

- **Universities Canada Members**

<https://www.univcan.ca/universities/member-universities/>

- **Post-secondary Institutions in B.C.**

<https://www2.gov.bc.ca/gov/content/education-training/post-secondary-education/find-a-program-or-institution/find-an-institution>

- **LifeSciences British Columbia Membership Directory**

<https://lifesciencesbc.ca/membership/members-directory/>

- **BC Environmental Industry Association**

<https://bceia.com/membership-directory/>

- **Canadian Environmental Resource Guide**

Available at the Central Library, Level 4, 363.70025 C21

- **Reference Canada**

<https://www.vpl.ca/digital-library/reference-canada>

Click on "Start Search" beside Canadian Businesses, then select the "Advanced Search" button. Select both "Keyword/SIC/NAICS" under Business Type and "City" under Geography. In the top search box enter "biologists" OR "biological" and click LOOKUP. Select the appropriate headings. Lower down, select the Province, choose the cities, and click the "View Results" button.

Available from the VPL Digital Library | Explore our Digital Library page

NOTE: *You can access this database from a Library computer. If you are using a computer from outside the Library, you will need a Vancouver Public Library card to login to this database. After clicking on the database name, you will be asked to enter your library card number and PIN (usually last four digits of your telephone number).*

4. Applying for a Job

In Canada, employers usually expect to receive a resume or curriculum vitae and a cover letter that identifies the position you are applying for and summarizes your relevant experience.

Use the library catalogue, <https://vpl.bibliocommons.com/> to find books on writing resumes and cover letters specific to your industry.

To learn about applying for jobs in Canada, use the following guides which are available in print at the Central Library or online at <https://www.vpl.ca/siic/>.

- **Writing Resumes and Cover Letters**

<https://www.vpl.ca/siic/guide/job-search-resources/writing-resumes-and-cover-letters>

- **Getting Canadian Work Experience**
<https://www.vpl.ca/siic/guide/job-search-resources/getting-canadian-work-experience>
- **Networking for Employment**
<https://www.vpl.ca/siic/guide/job-search-resources/networking-for-employment>
- **Learn More About Working in BC and Canada**
<https://www.vpl.ca/siic/guide/job-search-resources/learn-more-about-working-in-bc-and-canada>

5. Getting Help from Industry Sources

Industry Associations

Associations for biologists in BC and Canada can provide information and assistance. Registration and fees are required for membership.

- **Association of Professional Biology of BC**
<https://professionalbiology.com/>
- **Canadian College of Microbiologists**
<https://www.ccm.ca/>
- **Environmental Careers Organization Canada (ECO Canada)**
<https://eco.ca/>
- **Canadian Society for Molecular BioSciences**
<https://csmb-scbm.ca/>
- **College of Applied Biology of British Columbia**
<https://www.cab-bc.org>

Industry Journals

Search the Vancouver Public Library catalogue for journals related to your profession. Examples at the Central Library:

- **College Matters** / College of Applied Biologists of BC
<https://www.cab-bc.org/news/publications>

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**Questions? Please ask the Information Staff in the Central Library,
Vancouver Public Library or telephone 604-331-3603.**

*Please note that the information in this guide is also available online through the
Skilled Immigrant InfoCentre website at <http://skilledimmigrants.vpl.ca/>*