



MONTREAL, QC

In the modern age of climate change, low-starting salaries, unpaid internships and long working hours, millennials are struggling to find a career path that is both lucrative and fulfilling. At the same time, the water and wastewater industry is facing a generational jam of older, experienced workers retiring and leaving essential operator roles unstaffed.

Wastewater operation could be a dream job for environmentally-conscious millennials seeking a Career. There's only one problem, they have no idea the job exists. In honour of hard-working water operators in Canada, FluksAqua, a free water and wastewater utility forum, has launched a national awareness campaign to ensure the next generation of water and wastewater operators are ready to answer their calling.

The personal and financial benefits of water and wastewater operators are impressive. Five provinces offer a highly competitive salary of 60-90K after reaching the position or equivalent of level four operator (after only 4-5 years of training.)

Province	Starting Salary (Level 1 Operator)	Maximum Salary (Level 4 Operator)
British Columbia	\$60,000	\$90,000
Alberta	\$56,576	\$73,320
Saskatchewan	\$40,300	\$74,700
Ontario	\$39,000	\$79,000
Manitoba	\$29,000	\$60,320

Water and wastewater operator is a job in high-demand with few graduates heading into the field. Water associations across Canada agree that a lack of awareness of the field is to blame for the insufficient number of up-and-coming water operators.

"Compared to medicine, law enforcement, legal and business, water operation is not a hot topic at high-school career days," said Dr. Hubert Colas, president Americas of FluksAqua. "If we start the conversation early, water and wastewater operation could be a real option for young Canadians. New graduates just don't understand how great and stable a job it is and the opportunities that are available in their own communities."

VEGREVILLE, AB

Alberta is moving on whirling disease by opening Canada's first laboratory exclusively dedicated to testing for and preventing the disease. The new facility in Vegreville is part of \$9.3 million committed in Budget 2017 to expedite testing as part of efforts to prevent the further spread of the parasite-related disease, which was discovered in the Oldman and Bow watersheds in the past year (*Editor's note: See Summer issue p. 42*).

Whirling disease is not harmful to humans, but can severely impact juvenile trout and whitefish, including vulnerable bull and westslope cutthroat trout populations.

"Whirling disease is a threat to some of Alberta's most iconic species. Accurate and timely testing is our first step in reducing that threat. We also need to ensure Albertans clean, drain and dry any gear that touches water," says Shannon Phillips, Minister of Environment and Parks.

The new lab is in an InnoTech Alberta (a subsidiary of Alberta Innovates) facility formerly used for autopsies on large animals. Nearly \$2.9 million will go towards the lab's operational costs, as well as the six full-time technicians who process samples for expedited testing at the University of Alberta.

The province began collecting samples to test for whirling disease in August 2016, when the first case was discovered at Johnson Lake in Banff National Park. Since then, more than 6,000 samples have been collected and tested from six of Alberta's watersheds, as well as provincial hatcheries and commercial fish farms.

Additional funds from this year's budget will go towards implementing Alberta's whirling disease action plan. The three-pillared approach is focused on determining the extent of the disease and using education and mitigation to prevent it from spreading. Alberta will hire additional staff to work throughout the province, including a fish disease specialist, fisheries biologists, aquaculture specialists, and outreach and education staff.

SURREY, BC



BI Pure Water, Inc. has been approved for an IRAP grant (National Research Council of Canada's Industrial Research Assistance Program) to pilot its low cost remediation solution for Refractory (difficult-to-oxidize) Organic Contaminants. BI Pure Water's in-house master chemist Ian Wylie has been personally working on the chemical problem for a decade and he believes he's found a low cost solution.

"There are so many unaddressed industrial chemicals in our environment, I find this a very exciting and promising market," says Wylie, R&D Project Manager. "This process should be able to treat refractory wastewaters at an operating cost 5 to 20 times lower than existing oxidation processes and other environmentally unsound methods, such as incineration."

BI Pure Water's Advanced Oxidation Process (AOP) in combination with biological treatment will greatly expand the range of wastewaters treatable by biology. AOP used in combination with MBR/MBBR or biogas generation is cheaper, more effective and 'much greener' than competing processes.

The process is particularly useful for refractory wastes with aromatic functionality and many other difficult to treat organic chemical contaminants, such as: phenol from refineries and chemical synthesis, polychlorinated biphenyls, creosotes, naphthenic acids from oil/gas extraction, drugs and synthetic hormones from the pharmaceutical industry and a wide range of difficult to treat industrial wastewaters. BI Pure has found its first pilot project