

From Rotifers to Westslope Cutthroat Trout:

Honouring a Social Contract

By Ian Urquhart

Dave Mayhood's trajectory in life was confirmed on a cold Christmas day in Regina in the 1950s. On Christmas morning the microscope Dave had asked for was under the Mayhood Christmas tree. Earlier that year when the book mobile that served as his school's library had made its regular stop Dave borrowed the book *Fun With Your Mi-*

croscope by Raymond Yates. The book was full of all sorts of fascinating projects and, with his Christmas wish granted, he started to explore the world his microscope invited him to enter. He tore up old grass, mixed it with snow water, and let it ferment. Rotifers, protozoa of various kinds such as paramecia all starred on the stage Dave's microscope

provided. "I knew from about that age, nine or ten," he said, "that I'd like to work as a biologist." He was so set on that vocation that he fudged his answers on school aptitude tests to ensure he would fit the outdoor profile he associated with being a biologist.

Organizations like AWA and Timberwolf Wilderness Society are very grateful to Dave for making that occupational choice (and to his parents for that generous Christmas gift – microscopes didn't have to be of the electron variety to be very dear in the 1950s). Whether as an Honors or Master's student at the University of Calgary or as the President and chief aquatic ecologist of Freshwater Research Limited Dave has dedicated himself to the high quality scientific research that helped to make him one of this year's AWA Wilderness Defenders. Our province would be a better place if the populations of native trout species such as westslope cutthroat were as healthy as Dave's publication record on those and other aquatic subjects.

Before we got together for coffee Dave had mentioned how instrumental he felt the Alberta public education system had been in his life. When asked to elaborate Dave outlined the sense of obligation he has felt towards his fellow Albertans for the high quality, then-affordable, university education he benefited from in the 1970s. Then summer jobs were more often than not full-time jobs; a month's pay, maybe less than that, paid for a year of tuition. Today's norm for university students – working part-time on top of taking out student loans in order to go to school – was much rarer then.

Listening to Dave talk about his perspective on what university offered him and what



Dave Mayhood at Silvester Creek PHOTO: © J. SKRAJNY



Baker Lake, one of Dave's favourite lakes in the Canadian Rockies PHOTO: © D. MAYHOOD

he thinks he owes society was to listen to someone talk about a social contract – the idea that for a society to function well there needs to be an understanding between people about what their obligations and rights are relative to each other. If a high-quality, affordable university education was one side of the bargain, Dave's saw his side as one asking him to give back to the community. The pro bono research and other activities he has done over the years testifies to the idea's importance to Dave.

Dave's summer jobs during those university years deepened his appreciation for wild spaces. He worked in the limnology section of the Canadian Wildlife Service and was seconded to Parks Canada; there didn't seem to be an aspect of the science of freshwater that he wasn't exposed to during those summers. This work took him throughout western Canada, to prairie National Parks such as Prince Albert and Riding Mountain, and outside the prairies to the world-renowned experimental lakes set aside for freshwater

research in northwestern Ontario.

His Master's work also nurtured that appreciation of the wilder parts of our natural world. His thesis was very ambitious and focused on the secondary production of six mountain lakes at different elevations in the vicinity of Lake Louise. During that research they worked very hard but they did so "in some of the most beautiful country in the world and we got special privileges to work there." Any sane person who heard Dave describe Baker Lake, one of the alpine lakes he studied, would have to add it to their list of "must see" places in the Rockies.

When Dave finished university the era of government public service cutbacks had started in earnest. Public service biologist jobs were scarce. Dave smiles when he says that, with hindsight, that was probably a good thing. As a government employee he had sometimes landed in a bit of hot water because "I would just say what I thought and I wasn't too circumspect about the way I thought things should be run." After he

finished his Master's he turned to the world of contracts and consulting instead of the public service. This work again took him throughout the West, to the Stikine in B.C. and to the tar sands mining area in north-eastern Alberta.

Certainly some of this work fueled his inclinations to defend wilderness and wildlife. Given Dave's predispositions it was impossible to do anything else when companies tried to explain away significant declines in fish populations that their activities likely caused or contributed to. It was maddening to hear him describe situations where, in the face of a population crash, a company would turn its back on baseline data and the methods used to gather that data. Instead of asking "why did this population crash" they instead claimed they couldn't conclude anything if the traps used to measure populations today were only catching a sliver of what they caught years ago.

One of the most notable and satisfying moments in Dave's career came through a very

big project he did for Jasper National Park. The Park wanted to develop a fish management plan that stressed conservation rather than sport fishing. This suited Dave perfectly. The opportunity arose at the time when conservation biology was a novel, but rapidly developing, field of biology. Ironically perhaps, the plan never got beyond the draft stage because the conservation orientation was too controversial. But regardless, the Park's "overall focus changed from producing fish for fishermen...including a lot of introduced species to protecting and conserving what was left of the native fish." In the end, Dave concluded, Jasper did the right things from the conservation perspective, an approach subsequently picked up by Banff National Park.

In recent years AWA, and other organizations, have benefited importantly from Dave's work on westslope cutthroat trout. Dave was the first person to prepare a conservation assessment of Alberta's westslope cutthroat trout population. That work from 1999 has remained an accurate account of the general state of the population, that "they have been obliterated from most of the streams and likely there were only a very few populations of the pure form left." His conference paper helped stimulate a realization among

angling-oriented conservation organizations of the dire straits this native trout was in and of the need to strengthen protection and restoration initiatives.

Today, Dave's encouraged by the infusion of cash Alberta Environment and Parks received to support westslope cutthroat work and the ambitious, enthusiastic outlook of the young cohort of biologists who are tasked with strengthening the place of this native trout in our streams. If that cohort receives the support they need, then the future of westslope cutthroats may be brighter.

Dave is less charitable when it comes to the federal government and its neglect of what he believes are its clear constitutional/legal duties. An action plan to recover the Alberta population of westslope cutthroat trout, required by the federal *Species at Risk Act*, was due more than three years ago. Information received through access to information requests from AWA and Timberwolf Wilderness Society make it clear that the federal Department of Fisheries and Oceans has identified critical habitat that must be spared from industrial activity. Rather than use that knowledge to fulfill the legal obligations under SARA the federal department appears to prefer to force ENGOs to take them to court to see the law obeyed.

We ended our conversation by talking about the role of science and scientists in policy making. Dave's Wilderness Defender plaque will contain, in part, this statement: "Scientists have an explicit obligation to fight for what they have shown to be true." I asked him why he felt that way. Dave's answer revealed he's certainly not naïve about the relationship between science and politics. Political decision-making often is about making compromises between different interests; it has been, and perhaps always should be, about more than just science and scientific research. But, the public should know the extent to which those compromises respect and incorporate accurate scientific information bearing on the decision. This is why scientists must speak out.

For the sake of Alberta's westslope cutthroat, a native trout species Dave knows so very well, I hope scientists heed his advice and that their studies will be used to carve out some desperately-needed space on Alberta's landscapes for this and other species at risk. I, for one, would like the cohort of biology students entering university today to have the opportunity to study the westslope cutthroat's recovery rather than its extirpation. 🍀

Featured Artist Helen Jull



Plesiosaur fossil tile
PHOTO: © H. JULL



Dill Flowers
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