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SIDEBAR>>Ducks Unlimited is a highly regarded conservation (not environmental action) organization up and running since 1938, operating nationwide across Canada. Originally their first projects concentrated in central and southern Alberta (where wetland habitat was at the great risk of loss), while their modern day mandate is to “conserve, restore and manage wetlands and associated habitats for North America’s waterfowl.”

Their statistics include: -

- 116 community based events
- 1800 volunteers (for local projects in and around Calgary telephone 403-201-6537, for Edmonton areas 780-930-1240, or click onto www.ducks.ca)
- 8,100 youth members (known as Greenwings)
- nearly 14,000 adult members (annual membership is \$35 and includes their highly articulate ‘Conservator’ magazine)
- 24,500 supporters (not including landowners)
- 1,840 habitat projects
- 6,000 landowner partners
- 2.3 million acres of secured habitat
- \$305 million spent to date on habitat conservation in Alberta

SIDEBAR>>Each year in March there is a World Water Day (www.worldwaterday.org) , which in 2005 also kicked off the first year of the United Nations’ International Decade for Action – *Water for Life* – that will run until 2015. Canadians have an important role to play as stewards – approximately 25% of the earth’s wetlands are within their country. Within those wetlands are over 600 wildlife species (with one-third of those officially rated in the ‘at-risk’ category).

**SIDEBAR>>
RESOURCES:**

Ducks Unlimited (www.ducks.ca or telephone 1-800-665-3825)
Land Stewardship Resource Centre (www.landstewardship.org or telephone 780-483-1885)
Alberta Stewardship Network (www.ab.stewardshipcanada.ca or telephone 1-877-727-5276)
Bow Point Nurseries, Springbank nr Calgary (telephone 403-686-4434, summer Wednesday evening seminars and workshop discussions)
Olds College runs horticultural and specialist programs, with an ambitious new \$4 million input into expanding its own surrounding landscapes, including wetlands (telephone 1-800-661-6537 or www.oldscollege.ca)
Lamont Development (www.lamontland.com or telephone 403-252-7575) (property developers who include environmental features, notably Bridlewood Creek and accompanying wetlands)
On Growing Works (www.ongrowing.com or telephone 403-932-3766)) for landscaping and water design
City of Calgary – including information for Inglewood Bird Sanctuary and further details on Calgary Parks (www.calgary.ca or telephone 403-268-2489)
Cows and Fish, a highly proactive riparian habitat management society (www.cowsandfish.org or telephone 403-381-5583)
Frank Lake – for details of interpretative tours contact High River & District Chamber of Commerce (www.highriverchamber.com or telephone 403-652-3336)

The only casual remark Dr Suzanne Bailey almost throws away as a-not-at-all-significant aside is unbelievably understated. It's doubtful, I realize with dry humour, that she's ever considered that anyone else might march to the beat of a different drum, unable to feel the same kind of passionate convictions. "I suppose," her voice slows, albeit nanosecond briefly, from its decisive emphasis earlier in our conversation, "I was about ten when I really knew what I wanted to do with my life."

Dr Bailey is a professor at the University of Alberta, and her subject is Wetland Ecology, a road she has walked since that decades back decision. She admits to being optimistic, thinks "acreage owners can contribute a great deal," and this despite "no government legislation in Alberta to protect wetlands."

"Ninety-five percent of our water bodies are polluted," she says succinctly, "with serious loss of wetlands particularly in southern Alberta, through climate warming and development." Surprisingly, she reports, "85% of that loss is through agricultural practices." She refers to recent sustained drought years, when wetlands appeared to dry up, and where farmers would then plough and seed

and harvest these now apparently redundant areas (that often were within existing field frameworks). [please refer photograph]

SIDEBAR>>Frank Lake, east of High River, is a marvelous wetlands restoration success story. Dr Bailey was involved in the project, along with Ducks Unlimited and the town (and related government bodies). In the early 1990s approximately 2,000 cows a day when through the local Cargill slaughterhouse plant. When this industrial use was added to the town's sewage effluent, it placed intolerable pressures on the Highwood River's ecological balances downstream. These days that treated water has an outfall (after traveling 12 miles of especially constructed pipeline), and where one section of these wetlands absorb and purify. Those same wetlands multi-task in a big way, also providing breeding grounds for over 50 threatened shorebird species (including Franklin's gulls), an additional 44 shorebird species, 15 different raptors and 28 other types of birdlife (there is public parking, bird watching blinds and interpretative guided talks by local volunteer guides - and a marvelous family outing). Frank Lake's 1.26 hectares is relatively shallow, and in winter months generally freezes to the bottom levels; this discourages fish life but increases critical macro invertebrates.

Wetlands and watersheds are intricately interconnected, albeit with different definitions. Watersheds, according to 'Watersheds of Alberta' (recently amalgamated into Alberta Stewardship Network) refines that even more finely as "the area of land that catches precipitation and drains into a larger body of water ie: marsh, stream, river or lake and is an ecosystem with complex interacting natural components."

Wetlands are Mother Nature at her most inventive. Wetlands effectively encompass a unique filtering system for snowmelt and other surface water, and 'clear' the water before it filters out into creeks and rivers, and retain valuable nutrients too. Additionally the unique chemical organisms contained within its eco-system filter soil particles, pesticides, herbicides, and other pollutants, magically absorbing and transforming harmful chemicals (in agricultural landscapes they can be effective nitrate 'sinks', removing up to 80%). During drought they can store water supplies; equally they can help control, even attenuate spring-run off or - in extreme adverse weather condition causing flooding - substantially help retain valuable local topsoil sediments (from washing and eroding away). The water wetlands retain throughout the seasons can saturate, or more gradually permeate throughout underlying soil layers, gradually recharging underground aquifers.

SIDEBAR>>According to a recent scientific survey commissioned by Ducks Unlimited, wetlands can play a significant detoxifying role with regard to agricultural nitrates. "In a survey of drinking water wells in

Alberta,” the report states, “13% of 376 shallow wells sampled nitrate-plus-nitrate levels above the guideline for public drinking.”

“Wetlands,” writes Ducks Unlimited in a recent press release, “help recharge local groundwater supplies. Almost one-third of the world’s population relies on underground aquifers as their only source of groundwater.” And, according to further statistics from their organization, 97% of the world’s unfrozen freshwater is stored underground (and why there’s growing interest in the roles of wetlands as a perhaps critical factor of water management for future generations).

“Water,” exclaims journeyman landscape designer Diane di Santo, “and where it goes is a big responsibility. Communities throughout centuries traditionally were based around water – rivers, wells, streams, and good watersheds make good neighbours. Walkerton for example was all about neighbouring pollution carried from fertilizers, septic systems, pesticides. In Alberta,” she remarks, “seismic testing can affect water flow too, cause aquifers and underground springs to shift. Natural water pathways,” she chooses her words thoughtfully, “are important considerations.”

“Real water,” explains water landscape consultant Bill Hillary (who regularly designs projects for Cochrane garden design (and award winning) company On Growing Things, “is full of life – algae, bugs, plants, decay, seeds, eggs. We have connected water features to natural ponds but I don’t recommend it. The natural side will try to scum up your feature and you’ll try to clean up the natural side, not good for either.”

There’s potentially “run-off from landscapes,” he elaborates on particular aspects for acreage owners, “into the great digester, the soil, where all sorts of organisms can work away at breaking things down (fertilizers, lawn herbicides, septic systems or oils and chemicals from driveways) into useful, or at least hopefully not harmful, components

He’s obviously seriously enthusiastic about riparian issues, wetlands and natural ponds. “What wildlife,” he ponders thoughtfully, “will they attract? Birds wanting a clean bath, animals wanting a drink. If you really want critters, you have to go natural, let life attack. Once you have algae, then copepods [appear], then water beetles [and then you get] the things that eat them, like birds, dragonflies.” In the end everything is interconnected.

Property and land developers, too, increasingly these days often work hand-in-hand, incorporating natural habitat for urban and acreage projects (created ponds and lakes’ purpose here, in contrast, is often as a storm water run-off or containment facility; due to fluctuations of significant water rise and fall some of these are not always user-friendly to nesting birdlife or fragile aquatic plantlife). The City of Calgary (and Ducks Unlimited) recently went on a different tack and

advised on developments honouring existing wetlands during Bridlewood Creek development.

“It’s good stewardship,” reports Lamont Development owner and President Roy Moore, “it was the right thing to do. We re-directed storm-water [outlets] through already established wetlands, and worked with a unique set of circumstances – nature finds a way. It’s amazing and there’s no doubt it works,” he admits with disarming practical enthusiasm, “for us as a marketing perspective, using open spaces and natural areas.”

Chris Manderson, the Natural Parkland Management specialist for Calgary Parks, with a degree in botany and a plant ecologist, (and another who worked on Bridlewood Creek’s issues) goes further when asked to ask for changes on policy from previous years. “Calgary Parks are actively developing a policy for wetlands,” he remarks, “which is unusual, and probably the first in Canada.”

“Bridlewood,” he concludes, “was the first wetlands we actively protected; to identify and protect set an important precedent.” The Spruce Meadows development issue, he indicates, “almost certainly raised more awareness,” before he mentions, with audible satisfaction, that “wetlands are now part of the Grade 5 established curriculum in schools. “Calgary Parks have an ongoing commitment,” he finishes, “we take kids on educational programs, visits to Frank Lake, and Inglewood’s [Bird Sanctuary] wetlands programs are incredibly popular, they’re just booked out.”

THE END