

## GREENING THE SUBURBS >

Picture kids in rubber boots netting tadpoles as dragonflies dance and ducks skitter along

at the edge of a marsh surrounded by the subtle hues and vibrant flowers of tall grass prairie. Meanwhile, songbirds call from the rushes the surface of the water. This is not a cottage, it's your backyard – and it could be the future of 21st-century suburbia. **By Helen Fallding**

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A quiet wetland at sunset awaits new homeowners in Winnipeg's Royalwood subdivision. With assistance from DUC's Native Plant Solutions team, constructed natural wetlands are replacing standard retention ponds as focal points in new housing developments in the Manitoba capital.



## FOR A GROWING NUMBER OF PEOPLE MOVING INTO THE NEWEST SUBDIVISIONS IN AND AROUND WINNIPEG, THESE SCENES ARE ALREADY REALITY.

Wetlands lovingly created by Native Plant Solutions (NPS) – a subsidiary of Ducks Unlimited Canada (DUC) – are replacing the algae-clogged stormwater runoff ponds surrounded by crushed gravel, manicured grass and Canada goose poop. It all started, appropriately enough, when a duck sculpture brought two visionaries together. Brent Wark is a 30-year veteran of DUC, or “Mother Duck” as he likes to call the organization that has shaped him since he was a young biologist paddling a canoe in southern Manitoba. He’s an expert in planting native grasses to restore wetlands and uplands for duck feeding and nesting sites.

When the price of commercial native grass seed went sky-high in the 1980s because of demand from the new U.S. Conservation Reserve Program, Wark started experimenting with growing it himself.

“I took the seed off for about \$2 a pound, so before you knew it – we were in the seed business.”

Agricore United has since taken over producing and marketing Ecovars for DUC: seed varieties selected for their ability to thrive under specific ecological conditions of soil, climate, moisture and topography.

Meanwhile, about 30 kilometres south of DUC’s national headquarters at Oak Hammock Marsh, landscape architect Mike Scatliff tried out native plants in about 1990 in downtown Winnipeg’s

Bonnycastle Park. He wanted to create a suitable setting for a sculpture of a flying duck by world-famous local artist Leo Mol. “It was a hit,” Scatliff says. “It was reminiscent of people’s cottages and places they love to go. We realized there was a symbolism to these plants. Just like you love trees in your neighbourhood or forests, these grasses also had the same type of impact.”

His firm started getting interested in native plants for other clients. “Nobody knew how to do it. We tried some things that didn’t do very well.”

Scatliff got hold of a DUC native plants manual authored by Wark for a project he was doing with hydro corridors. “I was astounded that there was such developed science around it.”

Scatliff’s genius was recognizing that DUC expertise developed in rural Canada could be applied in the city. “We started bringing them into our projects.”

Growing demand from commercial clients was part of the impetus for Native Plant Solutions to set itself up as a business that helps seed and maintain natural plantings under Wark’s direction. By the time the company was established, some of Winnipeg’s innovative subdivision developers had already grown frustrated with the aftermath of 30 years of city policy. Older, manicured land drainage ponds were starting to revert to a natural state with the city fighting a losing battle with lawn mowers and algae harvesters.

The Urban Development Institute lobbied for more flexibility, opening the door in the late 1990s to working with nature by constructing wetlands in new city neighbourhoods.

Winnipeg’s Ladco Company Ltd. was the first to wade in, led by nature-loving land development manager Ken Oblik. “We grabbed it and ran,” he says.



**C**ARL RAMSAY DIDN’T REALIZE WHEN HE BOUGHT HIS NEW home that the Royalwood subdivision about seven kilometres southeast of downtown Winnipeg would have natural wetlands.

“I think they look really spectacular,” he says.

A neighbour down the street, Rajat Jayas, prefers the natural look to the manicured buffers in other subdivisions. “It’s very nice to wake up to,” says the young man, who has seen deer and ducks across the pond.

Oblik says lots that back onto the ponds are selling for the premium price of \$130,000.

Not only are natural wetlands nice to look at, but they vastly improve the quality of water drained into local rivers and will likely cost municipal governments less to maintain.

Where conventional retention ponds attract flocks of urbanized Canada geese that annoy residents, the naturalized ponds provide enough cover to support nesting ducks and other wildlife.

Native Plant Solutions also makes a small profit from its modest Winnipeg office to send back to Ducks Unlimited Canada to in-

Above left: New homes in Winnipeg’s Royalwood subdivision rise above a man-made naturalized wetland built by Native Plant Solutions – a subsidiary of Ducks Unlimited Canada. The wetlands help improve the quality of water that enters the nearby Seine and Red rivers. Above: In addition to being aesthetically pleasing, the constructed wetlands help bring nature closer to home, providing habitat for waterfowl and other wildlife.

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**Mike Scatliff**  
landscape architect, Scatliff + Miller + Murray  
Winnipeg, Man.



Left: Purple prairie clover and native grasses (1) sway in the breeze across the pond from development in Winnipeg's Royalwood subdivision. Carefully timed mows or controlled burns (2) help mimic the natural life-cycle of native grasses. The constructed wetland retention ponds and neighbouring vegetation provide habitat and shelter for wildlife ranging from white-tailed deer (3) to leopard frogs (4). Right: Brent Wark (left), a 30-year DUC veteran, heads NPS operations.



vest in conservation programs. From the perspective of Dr. Henry Murkin, DUC's director of conservation programs, the most important aspect of the spinoff company's urban work is helping city dwellers to value natural habitats. An educational sign on a suburban wetland explaining how it cleans the water or seeing first-hand how eager a class of Grade 4 students are to learn about wetland food webs can help build support for DUC's programs, he says.

Preliminary research on the Royalwood ponds has produced startling results.

"We hit a home run on water quality," Oblik says.

DUC wetlands biologist Lisette Ross says the weight of algae in a comparable conventional retention pond was 44 times higher. Blue-green algae – the nasty scum that can produce toxins dangerous to pets and children – were 4,000 times more abundant in the conventional pond. Meanwhile, dissolved phosphorus is 20 times lower in the constructed wetlands because plants in the buffer strip and in the water function as a natural filter. Without that filtering, phosphorus from Royalwood lawn fertilizer and dog excrement would end up in the Seine River, which flows into the Red River and on to Lake Winnipeg. Wark admits that the cleaner water leaving the subdivisions is a drop in the bucket, but says at least the urban landscape is finally producing "a good drop in the right bucket."

Phosphorus is a huge concern in Manitoba because the overload in Lake Winnipeg is causing slicks of toxic algae to wash up on beaches and clog fishers' nets. The chemical imbalance in the lake could eventually threaten one of Canada's largest commercial freshwater fisheries. Developers like Ladco get some satisfaction from knowing that while they are creating more marketable lots, they are also doing the right thing for the environment.

"I will bet the water discharged out of this urban development will be cleaner than the Seine River," Oblik says.



**T**URNING A DEPRESSION IN A MUDDY FIELD INTO A VIABLE wetland is just not as simple as just letting nature take its course. Well intentioned people who have tried that route ended up with little more than an ugly patch of weeds.

That's why landscape architect Scatliff recommends that his clients work with the experts at Native Plant Solutions. "If they're not on it, I'm not on it," he says.

First, NPS staff conducts a site assessment of the proposed subdivision. In the case of Assiniboine Landing, a new development



right: DU Canada/Keywest Photo

controlled burn: Tye Gregg

deer, frog: Brian Wolfiski

top left: DU Canada

of half-acre lots just west of Winnipeg, NPS staff member Chris Penner inventoried songbirds while experts were also brought in to assess the health of a river bottom stand of trees.

NPS agronomist Larry Gabruch says introduced weeds first need to be controlled by tillage, herbicides like Roundup or planting a cover crop the first year. A specialized seed drill is used for wild seeds that are often too fluffy for conventional drills. In the buffer strip around each pond, about 15 species suited to precise local conditions are planted, with Mother Nature making the decision about which ones will eventually thrive. Gabruch says he aims for a mix of colours, with both warm and cool season plants.

Roots of marsh plants are covered in topsoil before the pond is allowed to fill with water. Where the slope to a pond requires erosion control, biodegradable blankets of straw and coconut fiber are put down and willow cuttings are planted. Some developers put a caveat on properties around the ponds to ensure that future homeowners do not mow down to the edge. Winnipeg entomologists say the wetlands are no more attractive to mosquitoes than conventional retention ponds are. Some city dwellers prefer the manicured look of sod, but Gabruch finds naturalized suburbs "quite stunning."

Qualico has taken the concept several steps beyond wetlands at Assiniboine Landing, where new owners are encouraged to build in rustic styles and invite nature into the edges of their lots. Walking trails will guide residents past the ponds and to the edge of the Assiniboine River. Land development manager Eric Vogan says Qualico is offering residents a chance to be part of something bigger than themselves, rather than an artificially created environment.

Municipalities have been a bit nervous about taking over the maintenance of naturalized areas, since they are more familiar with the weekly mowing routine required with Kentucky bluegrass. But developers are convinced the new style of development is not only more environmentally friendly, but that it will prove less expensive to maintain.

Native grasses will need to be mown every couple of years or burned every four or five years or so in a carefully controlled burn. Those techniques mimic the effects of grazing bison herds and natural fires a few centuries ago. Wetlands also need to be drawn down every 10 to 20 years, according to biologist Ross, so heat and oxygen can hit the soil and germinate aquatic plants.

After learning how to work with nature in Assiniboine Landing, Qualico is taking the lessons back into the city, where a massive project of more than 4,000 homes will unfold in South St. Boniface. A hydro corridor will become a wild route for skiers, cyclists and pedestrians to get into the town centre. Vogan says that he wouldn't be surprised to see residents popping kayaks in ponds at the bottom of their backyards. He's even considering seeding playing fields with shorter native grasses, although they may not be as soft on children's bare feet.

Similar plans are in the works for Ladco's Waverley West – the city's even bigger project to build more than 11,000 homes, apartments and complexes in partnership with the Manitoba government.

Meanwhile, Winnipeg's Chipman family, owners of the Birchwood Automotive Group car dealerships, is trying to create a "cottage-like atmosphere" in a new riverbank development on the western edge of Winnipeg. Spokesman Scott Stephanson says

Wark knows there will eventually be competition from other companies, but few can match the expertise of his NPS crew ...

“We’ve got to keep expanding the horizons. The minute you sit back and say you’ve arrived is the minute you slide backwards.”

people shouldn’t have to drive 150 kilometres out of the city to watch wild birds flitting between 100-year-old oak trees.

Other developers admit they drove around Ladco’s pioneering Royalwood subdivision numerous times before they agreed to trade in manicured retention ponds for wetlands.



**R**OYALWOOD HAS EVEN BEEN USED AS AN OUTDOOR CLASSROOM for environmental studies by students from nearby school divisions. The green subdivision concept taking off in Winnipeg has already been tried in U.S. cities like Minneapolis and is spreading across Canada.

Native Plant Solutions will be submitting a plan with Scatliff for a development in Saskatoon. He is also talking with major land developers in Quebec. In Edmonton, Qualico is teaming up with a private company on its own greening venture.

Scatliff is even working on projects in rapidly industrializing China, where he is trying to persuade local developers to rely on native plants instead of imitating American cities.

“It’s a paradigm shift,” he says.

Winnipeg was the perfect place for Native Plant Solutions to start up, because in a slow-growth city, developers take their time with planning. In a rapidly expanding market like Calgary, the focus is on getting homes up as fast as possible, Scatliff says. Still, even with the new housing push, the City of Calgary has identified the values of wetland areas by developing an urban wetland policy and also incorporating educational wetlands into several developments over the years.

“Here, there’s time to think it through,” Scatliff says, adding that his company staff at Scatliff + Miller + Murray will good naturedly spar over who will get to work on the latest naturalized development because it is so much more satisfying than conventional design work.

Native Plant Solutions currently operates with five full-time and one part-time staff person in its Winnipeg office, but Wark hopes to open up offices in other Canadian centres as word gets out and demand grows. The company also offers restoration for industrial sites.

Wark knows there will eventually be competition from other companies, but few can match the expertise of his NPS crew of Gabruch, Penner, Albert Lohmer, Glen Koblun and Sandra Hall, who collectively have been restoring natural habitats for decades.

“We’ve got to keep expanding the horizons,” he says of DUC’s entrepreneurial venture Native Plant Solutions. “The minute that you sit back and say you’ve arrived is the minute you slide backwards.”

For more information on Native Plant Solutions, please contact Brent Wark at (204) 953-8200.

## WINGS OVER CANADA Conservator



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