

When they come a knockin', will you know what to do? **Plan your donations.**



Ducks Unlimited Canada

Conservator

SPRING 2002

WATCHERS *of the* WATERSHEDS

Fighting
a **Prairie drought**

The words of **Aldo Leopold** revisited

Eagle eye

ON DRY LAND



AND IT CAME TO PASS AFTER A WHILE, THAT THE BROOK DRIED UP, BECAUSE THERE HAD BEEN NO RAIN IN THE LAND. LIKE FLOODS, DROUGHTS ARE A CYCLICAL REALITY IN PRAIRIE CANADA. BEING READY FOR THE DRY DAYS MAKES LIFE BETTER FOR WATERFOWL, WILDLIFE AND PEOPLE.



By Duncan Morrison

PUSHING THROUGH THE ONETIME SLOUGH'S KNEE-HIGH GRASS, OUR HEARTS SURGED AS SEVEN OR EIGHT "HUNS" BLASTED OUT OF THE COVER UP AHEAD. WATCHING KEENLY, WE STOOD MOTIONLESS AS THE DIMINUTIVE BIRDS TORPEDOED ACROSS A FAR OFF KNOLL. ACCORDING TO LOCALS, GRAY PARTRIDGE (FORMALLY CALLED HUNGARIAN PARTRIDGE) POPULATIONS FLOURISH WHEN DROUGHT CONDITIONS WRACK SOUTHERN ALBERTA. WE HADN'T MOVED A MUSCLE WHEN THE SECOND COVEY FLUSHED.

Dry conditions in southern Alberta come with the territory. Parched windswept fields, dusty roads and scorching summer heat are a part of life in the arid regions near Lethbridge and Medicine Hat. For local folks, life just goes on.

However, as even the hardiest of southern Alberta souls will attest, last year's intense drought tested the resolve of a region famous for its resiliency.

"It's extremely dry. This is the driest I've ever seen," said Pat Kehoe, Ducks Unlimited Canada's regional manager of conservation programs for the Prairie Region, last November as his sport utility vehicle kicked up a rooster tail of dust on a back road near Brooks. "Fortunately, modern farming practices have avoided the dust bowl conditions of the 30s, but it's pretty severe."

So severe, in fact, that the Meteorological Service of Canada reported that Medicine Hat had experienced its driest year on record in 2001, receiving 141 millimetres of precipitation, smashing the previous record of 173 mm registered nearly a century earlier in 1907. Meanwhile, the 220 mm of precipitation Lethbridge received in 2001 was the city's second low-

est. The record low precipitation of 195 mm was set only one year earlier.

The area's dearth of moisture draws attention to DUC's presence in such a desiccated landscape. So why would a conservation organization that prides itself on an outstanding track record of conserving wetlands for the benefit of waterfowl, wildlife and people operate in a region that receives trace precipitation annually?

IT BEGINS WITH THE DUCKS

"Providing habitats in which hens (female ducks) can survive better and hatch eggs is a big challenge and a vital one. It is this realization, more than anything else, that drives the design of DUC's conservation programs," said Mike Anderson, director of DUC's research group, the Institute for Wetland and Waterfowl Research (IWWR). "Managing landscapes to sustain better summer survival and nesting success over the long-term is DUC's focus."

And that diligence toward landscape management includes stepping forward in key waterfowl regions, such as southern Alberta, and accepting the odds that Mother Nature has set.

“With the limited amount of water on the southern Alberta landscape, we realize that waterfowl production might be high for only three out of 10 years,” explained Kehoe. “But for those three years that are wet, the ducks really produce.”

PINTAILS IN PARTICULAR

DUC conservation programs biologist Karla Guyn hails from Calgary and has spent a good portion of her career researching and traipsing through projects in southern Alberta. Guyn says her personal experiences on the arid landscape support the idea that these areas might only produce ducks 30 per cent of the time.

“It’s the boom and trickle hypothesis,” said Guyn, who completed her PhD thesis on the breeding ecology of northern pintails. “In wet years, waterfowl production is outstanding. Conversely in the dry years, it can be really poor for waterfowl.”

Guyn has been working on DUC’s Prairie Pintail Strategy, which would implement conservation projects that restore habitat functions and improve the breeding success of northern pintail on the southern Prairies. Pintails rely heavily on seasonal wetlands for breeding and nesting. The drought-induced void of water on the Prairies often results in a transient population of the sleek bird. According to Guyn, an ongoing study using satellite telemetry to track the spring migration of 50 female pintail ducks that winter in the Central Valley of California is showing the effects of drought.

“When it’s dry on the southern Prairies, the pintails over fly and end up in northern Canada or Alaska,” she said. “And it seems that when they do over fly that their production is reduced.”

Guyn says waterfowl fortunate enough to locate suitable water on the Prairies during dry years are not guaranteed the lifeline that a solitary wetland in the desert appears to be.

“1994 was wet and 1995 was dry,” recalled Guyn, who was doing research on the Kitsim DUC project near Brooks at the time. “What we found was more birds were using DUC projects during dry years than wet. However, the year it was dry, nest success decreased substantially. The water was so scarce that it was like an oasis that predators were attracted to.”

THE PREDATOR EQUATION

Guyn’s example of a drought-fueled predator bonanza occurred during a year in which conditions went from wet to dry. Predators enjoyed easy pickings on waterfowl nests precariously situated a short sniff away from oft-isolated water resources. IWWR senior research scientist Todd Arnold says the impact of predators begins to wane as the countryside

dries up during extended periods of drought and when rain does finally arrive after a prolonged dry spell, it’s the ducks that enjoy the advantage.

“While raccoons and mink would survive a drought, they’re not likely to raise as many young. And this probably also applies to terrestrial predators such as foxes and skunks, which obtain a large portion of their prey from wetland margins. Hence, populations of mammalian predators get reduced during droughts and the only way for them to build back up is through local reproduction, which can take a few years,” explained Arnold. “Ducks, on the other hand, are nomadic and can respond almost instantaneously to drought and subsequent reflooding. If a local area of the prairies is dry, the ducks will go elsewhere. But when the water returns, the ducks will return en masse, overwhelming the few predators that remain.”

HELP FOR FARMERS

While DUC readily works through the boom and trickle years for the benefit of waterfowl and a multiple of other species, the positive spin-offs are providing numerous benefits to the landowners and producers of the region. It is a well-known fact that drought is the bane of the agricultural community, historically causing intense economic hardship, stimulating higher rates of farm foreclosures and incurring billions of dollars in crop insurance payments. As such, DUC has stepped up efforts to design and deliver programs that have wide-ranging benefits to landowners in the face of such conditions.

“We must sell our programs on long-term agricultural viability in this region,” explained Kehoe. “In dry areas such as this, we hope to achieve more extensive upland conditions to provide suitable nesting habitat to help maximize our impact when

the water returns. But the key is providing viable options for the agricultural community.”

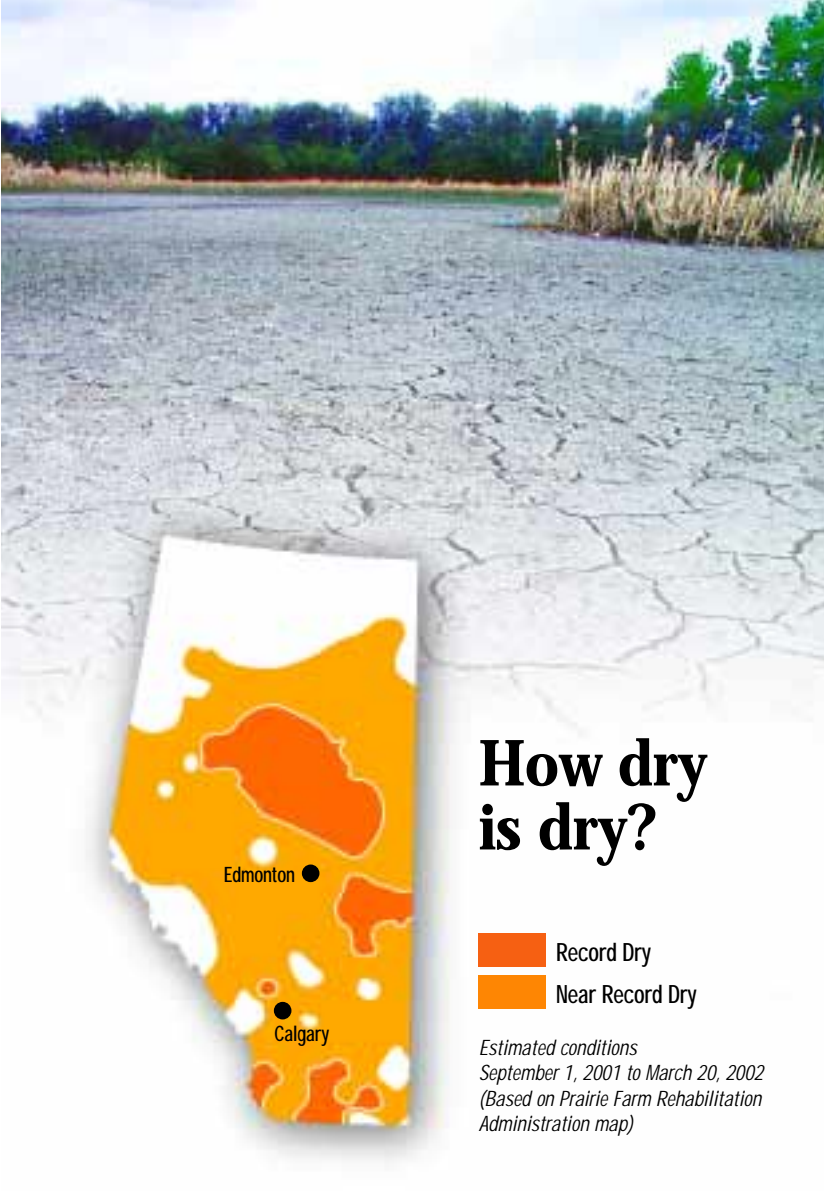
After decades of benefits derived from DUC projects, acceptance from the agricultural community may not be a tough sell. Kehoe says DUC plans to build on that momentum by designing programs with the producer in mind.

“We’ve made some fantastic inroads with the agricultural community,” he said. “These days, DUC projects are quite often the only place where there is water. This bodes well for initiatives such as our stock watering programs and because of programs like this, the ranching community recognizes DUC as a good partner.”

However, regardless of the Wild West image the region purports, there’s far more to southern Alberta agriculture than livestock. Kehoe says the Taber region, for example, is

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Pat Kehoe
Manager of conservation
programs – Prairie Region
Ducks Unlimited Canada



How dry is dry?

- Record Dry
- Near Record Dry

*Estimated conditions
September 1, 2001 to March 20, 2002
(Based on Prairie Farm Rehabilitation
Administration map)*



Predators like the mink (top) are not likely to raise as many young in times of drought and their numbers may suffer in subsequent years. Ducks, on the other hand, can rebound quickly. Plant breeders have made drastic improvements in the winter hardiness and yields of the new winter wheat varieties. DUC hopes to attract new growers with the 1000X Winter Wheat Program.

renowned for corn, while Highway 3, between Medicine Hat and Lethbridge, is lined with a number of sugar beet processing plants and the soil near Vulcan is among the richest in the region. But the simple fact is that crops need water too. And that's why DUC has been aggressively promoting the more waterfowl friendly and climate resilient crop of winter wheat as a realistic option for southern Alberta producers.

THE NEW WINTER WHEAT

"DUC is looking at alternative management options to adapt to climatic variability," said Paul Thoroughgood, DUC's winter wheat programs manager. "Because winter wheat is planted in late August or early September, it begins to grow, lays dormant in the winter, then grows again in the spring. In dry conditions, such as the ones southern Alberta is experiencing now, the winter wheat planted last fall will capture the limited moisture available this spring."

Because of winter wheat benefits and DUC's commitment to promoting it as a viable cereal crop alternative, Thoroughgood says it's an option more and more producers are taking a long hard look at. On the surface, the positives of winter

wheat would seem natural for such a parched landscape. The crop has an ecological advantage that allows it to out-compete many weeds and avoid insects thus limiting pesticide input. This translates into a lower cash outlay and reduces overall risk due to its alternate growing season. Thoroughgood says complete acceptance of winter wheat as an alternative still seems to be raising wary eyebrows among producers despite Canadian Wheat Board market development programs sourcing higher values for winter wheat varieties.

"The milling wheat market isn't the only option available to winter wheat producers," said Thoroughgood. "Feed wheat prices in southern Alberta have been very strong."

Besides bucking cultural and longtime traditional farming trends, such as planting in spring and harvesting in fall, winter wheat has been stereotyped as having drawbacks, perhaps with some historical justification.

"During the 1980s, winter wheat had an acreage explosion across the Prairies," explained Thoroughgood. "However, a combination of bad environmental conditions and poor varieties with low winter hardiness and lower yielding varieties resulted in a lot of people having a bad experience with win-

ter wheat. But the plant breeding efforts at the Ag Canada station in Lethbridge as well as the University of Saskatchewan has alleviated a lot of concerns.”

So much so, that DUC recently unveiled 1000X, a new program in the Prairies designed to attract more producers to winter wheat, consequently providing waterfowl with fields that are not being tilled and sown during the important spring nesting season.

“This program is based on producers making more money on growing winter wheat than spring wheat,” said Thoroughgood. “Basically what DUC is saying is if you don’t make more money on winter wheat than spring wheat, we’re behind you. This program is a great example of DUC’s vision for the Prairie landscape in which profitable and sustainable agriculture is a key component.”

WHERE THERE’S WATER

Kehoe says the future looks brighter due to exciting conservation initiatives like 1000X and the Prairie Pintail Strategy. DUC’s presence within the arid region shines during these tough times.

“In southern Alberta, DUC has been fortunate to form great partnerships with the irrigation districts,” explained Kehoe, highlighting decades of partnerships with the organizations responsible for providing much needed water supplies to the region’s plethora of agricultural needs. “Without the irrigation districts, there would be bigger problems than anyone could imagine.”

One such joint effort between DUC and the Eastern Irrigation District is Tilley Lakes, which sits 20 kilometres east of

Brooks just off the Trans Canada Highway and provides water to more than 30 individual wetland basins. As Kehoe stood on the shore during an early November visit, one of the long slender reservoirs was filled with water and a wide variety of waterfowl, particularly scaup, goldeneye and ring-necks.

“The water is higher now than it has been all year,” said Kehoe, pointing out a small flock of Canada geese winging their way across the middle of the lake. “But as you might guess, water levels are quite a bit lower in the summer due to the irrigation use.”

With meteorologists predicting the return of El Nino and its warmer, drier weather for this summer, it’s fitting that Kehoe was able to use a reservoir full of water and waterfowl as backdrop to highlight DUC’s importance to the region.

“People see water within a DUC project in this region and they figure we only want the water here for the ducks and, to some degree, that’s true. But our duck water becomes stock water for cattle and livestock operations. It also becomes the essential ingredient for many other species and a focal point for recreational activities,” reasoned Kehoe. “Over much of southern

Alberta, we might only get enough water to produce outstanding waterfowl numbers three out of 10 years, but the truth of the matter is, we’re making things better for everyone every year of that very same decade.” ✖

DUC’S PRESENCE WITHIN THE ARID REGIONS SHINES DURING THESE TOUGH TIMES.

DUC land open for business

Predictions of another year of extreme drought conditions across much of Saskatchewan and Alberta have been resonating loudly throughout DUC Prairie offices. To lend a hand to neighbors and partners on the landscape, DUC launched the Drought Response Program. A minimum of 40 per cent of DUC’s conserved lands were opened for haying and grazing in extreme drought areas in the two provinces.

“We know that DUC lands in Saskatchewan and Alberta in which wetlands and immediately

surrounding uplands are dry in the spring will have minimal waterfowl value,” explained Pat Kehoe, DUC’s manager of conservation programs for the Prairie Region. “We’ve targeted these lands to be used for drought relief.”

Revenue generated from the Drought Response Program will be invested in forage and livestock projects that offer economic benefits to landowners and habitat benefits to waterfowl and other wildlife.

In extremely dry areas, DUC’s additional drought relief strategies include relaxing hay-cutting restrictions for landowners enrolled in the forage conversion or forage management programs. This will help producers salvage as much feed as possible.

Producers may also be able to use DUC wetland projects for stock watering. Where it’s

accessible, water from DUC projects has always been available to landowners for stock water or household use during times of critical water shortages.

In the future, Kehoe says, producers could benefit from the Conservation Cover Incentive Program (CCIP) that DUC has pitched to the government.

“In addition to paying producers for providing environmental goods and services to society through conversion of marginal agricultural lands to permanent cover, DUC’s proposal for a national CCIP could also help farmers and producers bridge the effects of drought conditions by creating a forage reserve as the program promotes the idling of lands in most years,” he said.