

# Conservator

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## RIPPLE EFFECT

*Wetland drainage  
and floods take their  
toll on the Prairies*

### MY EXCELLENT ADVENTURE

*Overhead and on the  
ground, researchers  
tell their tales*

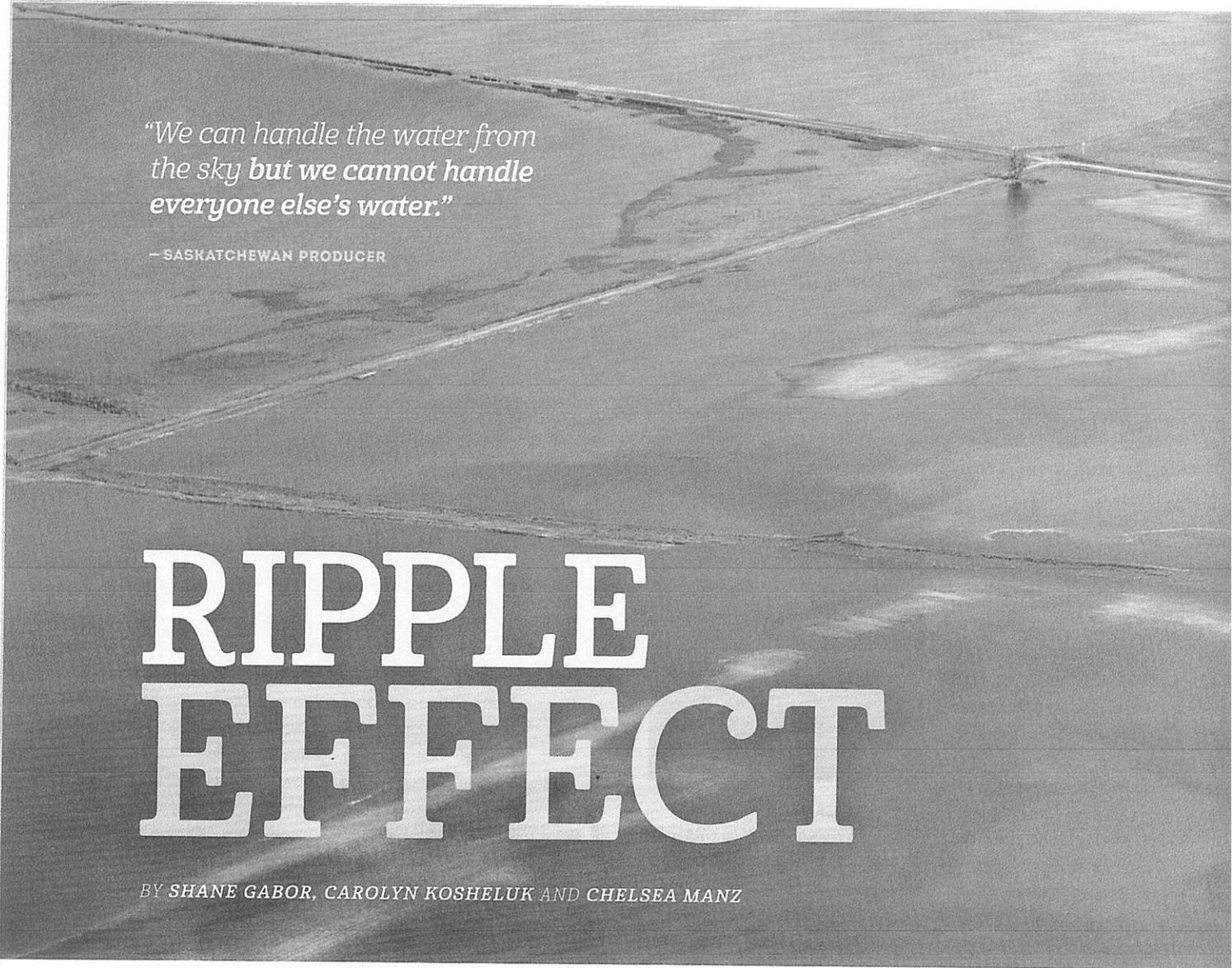
### MAJESTIC MIGRATION

*Taking flight by the  
millions, the birds'  
grand display is here*

### MOMENTS THAT MATTER

*Passing up the shot,  
pondering the meaning  
of conservation*





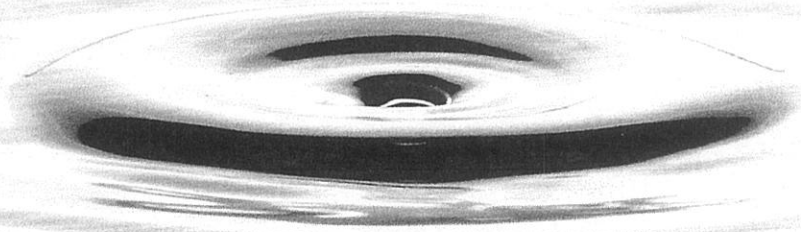
*"We can handle the water from  
the sky but we cannot handle  
everyone else's water."*

— SASKATCHEWAN PRODUCER

# RIPPLE EFFECT

BY SHANE GABOR, CAROLYN KOSHELUK AND CHELSEA MANZ

**THE PEOPLE ATTENDING A TOWN HALL MEETING IN WADENA, SASKATCHEWAN, ARE THE FACES OF THE FLOOD. TROUBLED, TEAR-FILLED EYES TELL STORIES OF HARDSHIP AND LOSS. CROSSED ARMS AND DODGING GLANCES SPEAK TO THE CONFLICT THAT'S PITTING NEIGHBOUR AGAINST NEIGHBOUR. PEOPLE ARE TIRED, BUT DETERMINED TO FIND ANSWERS. WHAT'S AT STAKE IS SIMPLY TOO IMPORTANT.**







*Floodwaters creep across fields toward a farmhouse south of Brandon, Man., in early July. Heavy summer rains in Saskatchewan and Manitoba led to unprecedented summer flooding in parts of the two provinces.*

**H**EAVY RAINS IN LATE JUNE AND EARLY JULY ACROSS a wide swath of Saskatchewan and Manitoba sent a torrent of water through the Assiniboine River watershed. Residents scrambled to prepare for what is – in this part of the country – becoming an all-too-common occurrence.

This year the flooding was extensive. Agricultural producers, urbanites, outdoor recreational users and entire communities were all affected. Wildlife suffered. Breeding waterfowl were hit by the overland flooding that washed away their nests.

Flooding on this scale has a ripple effect. It touches everyone. Everyone shoulders the burden and looks for solutions. And as they do, the link between draining wetlands and a rise in large-scale flooding becomes clearer.

The demand for productive cropland continues to grow in Saskatchewan. Producers are under pressure to make every acre economically profitable. Over nearly a century, producers have dug thousands of drainage ditches. They're moving water. They are not, however, making it disappear. It simply moves downstream where it becomes someone else's problem. It puts someone else's quality of life at stake.

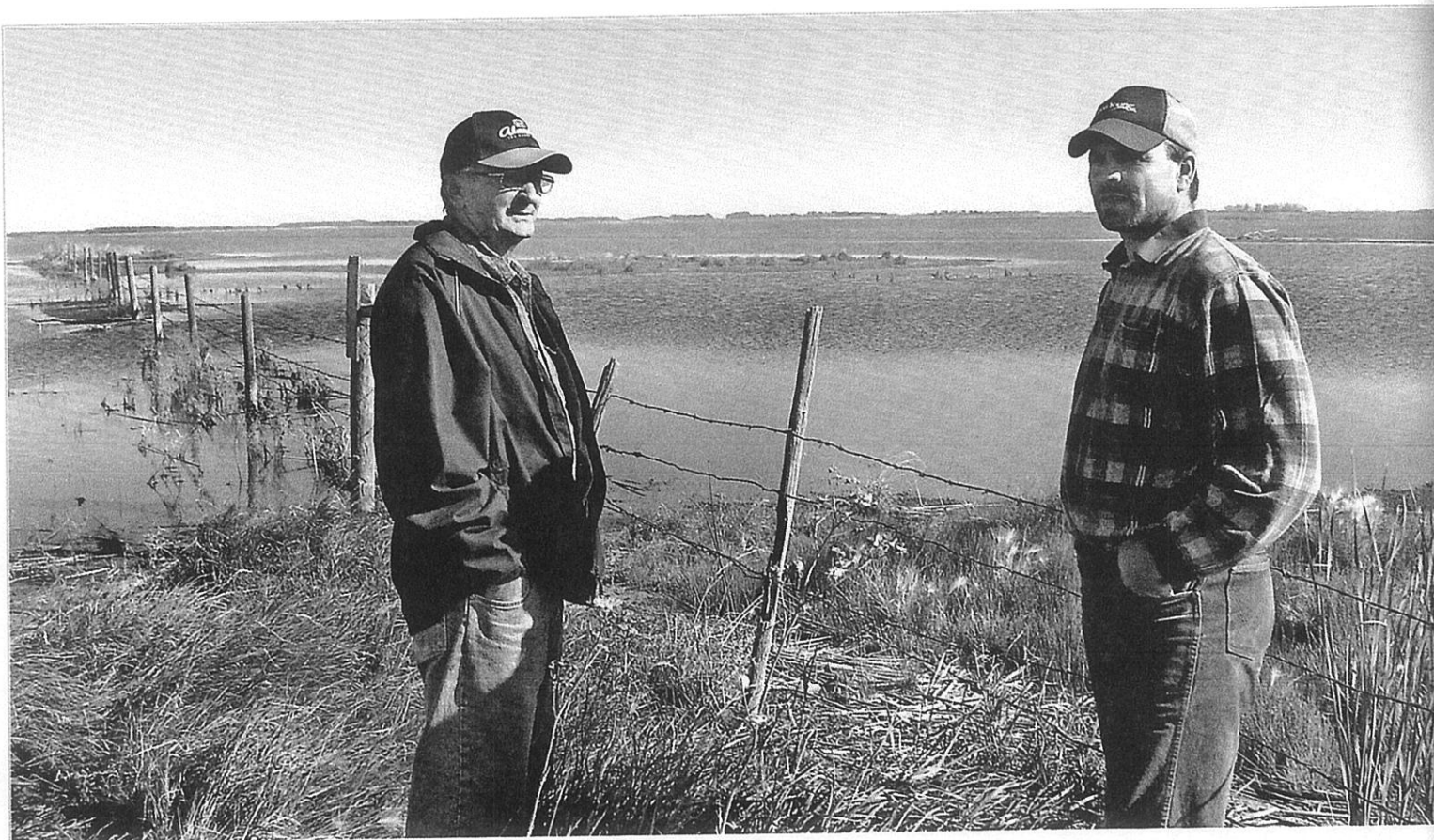
There is no easy fix for a legacy of wetland drainage. Now, more than ever, producers, scientists, conservation organizations like Ducks Unlimited Canada (DUC), and governments are taking steps to find sustainable ways to address the issue of flooding. But they need to do it together.

## WASHING AWAY DREAMS

**A**CROSS SOUTHERN SASKATCHEWAN, EVERYONE ELSE'S water is wreaking havoc. It's flooded farmland. It's washed out roads and driven people from their homes. Inside the Wadena Community Legion Hall, you can sense the devastation. The room is tight with tension as 20 people gather to share their stories. On the agenda is a contentious issue entrenched within the province's water woes: wetland drainage.

### ***The Onefreychucks: Flooding's emotional toll***

BARB ONEFREYCHUCK UNDERSTANDS ALL TOO WELL THE emotional toll flooding has on many of her fellow producers. "Each year we watch our farm disappear more and more,"



*Top: Brian Oliver and son Perry are among the many Saskatchewan farmers seeing hopes and dreams washed away. Above: A group of concerned producers meet to share their flood stories and look for solutions.*

Barb says. "It is heartbreaking."

The 76-year family farm that Barb and her husband Peter farm near McNutt, Sask. has survived the Great Depression, crippling stock prices, and record rainfall. It may not survive the current challenge. Trenches dug by neighbouring producers are sending water onto their land. It's washing away family history. It's washing away friendships. Desperate to save their land and their livelihood, the

Onefreychucks have spoken out against wetland drainage. Not everyone is sympathetic. Not everyone shares their view.

"We are ignored, shamed, discredited and made to feel like we are the cause of the problem," says Barb. "We do not go to local community dinners for fear of a confrontation."

#### **The Olivers: Family hopes dashed**

LINDA AND BRIAN OLIVER ONCE HAD MORE THAN 250 CATTLE on their ranch near the Quill Lakes. With numerous acres of pasture and grazing land under water, they've been forced to reduce their herd by 100 animals. The Olivers' son Perry also farms in the area. A new-generation farmer with a young family, Perry is looking to build his business. It isn't easy. He has three quarter sections of hay land underwater. He's still trying to make payments on the property.

"I am sad that two of our sons decided to become livestock farmers," says Linda, who shared her frustrations at the

Wadena meeting. "We showed them this wonderful lifestyle and they invested everything into it."

#### **The Stewarts: Loss of a lifestyle**

THE DREAM OF WHOLESOME, HAPPY PRAIRIE LIVING IS BEING washed away for John Stewart and his son Henry. They moved from Ontario to the Invermay-Margo region of Saskatchewan in 2007. They looked forward to the comforts of small communities, scenic surroundings and affordable housing. Their reality is nothing like their vision.

"The dream is becoming a nightmare," says John. "It is already a necessity for us to get a new home due to the mold and basement issues from flooding. Given a few more years of us taking on people's unwanted water, our entire dream will be washed away and we cannot afford to start all over again. We would have to move."

#### **WETLAND FLOODING AND DRAINAGE: THE SCIENCE IS CLEAR**

FOR YEARS, DR. JOHN POMEROY, THE DIRECTOR OF THE Centre for Hydrology and Canada Research Chair in Water Resources and Climate Change from the University of Saskatchewan, has divided his time between field sites in the Rocky Mountain foothills of Alberta and central Saskatchewan.

He understands full well what producers are up against. "I've always been impressed by producers' capacity to manage everything from droughts to floods," says Pomeroy. "They are trying to cope as best they can. Unfortunately, the



*"Given a few more years of us taking on people's unwanted water, our entire dream will be washed away and we cannot afford to start all over again."*

JOHN STEWART – SASKATCHEWAN PRODUCER

latest coincidence of events is pushing them to the limit. The massive and unprecedented mid-summer rainfall was going to cause a flood, however if more wetlands had been left intact over the years, we would be more resilient and it would be a more manageable situation."

Pomeroy had just left Moose Jaw when the heavy rains came in June. Ironically, he was driving home after delivering a presentation about his latest research into the effects of wetland drainage and climate change. And soon afterwards, Pomeroy became another face of flooding: the face of science.

The relationship between wetland drainage and flooding is well established in many parts of the world. With support from DUC, RBC Bluewater Project, the governments of Canada, Saskatchewan and Manitoba, the Manitoba Rural Adaptation Council, SaskPower and the Prairie Habitat Joint Venture, Pomeroy and a team of researchers conducted a study that better explains this relationship on the Canadian Prairies.

The study was titled "Improving and Testing the Prairie Hydrological Model at Smith Creek Research Basin." Several watershed scenarios were investigated. Scenarios included what water runoff would be if wetlands were restored to their historic levels and what it would be if they were drained completely.

The Smith Creek watershed is approximately 60 kilometres southeast of Yorkton, Sask., near the Manitoba border. Over the past 50 years, this area has undergone substantial wetland drainage. In 1958, there were 96 square kilometres of wetlands (24 per cent of the basin area). Now there are 43 square kilometres (11 per cent of the basin area). This has had a profound impact.

Pomeroy's research revealed that wetland drainage is a major factor in increasing prairie streamflows and increasing flood-

ing in wet years. The analysis showed that, during the last major flooding event in 2011, wetland drainage from 1958–2008 increased the flood peak levels by 32 per cent in the Smith Creek watershed. The researchers also found the same flood peak levels would be 78 per cent higher if the existing wetlands were completely drained.

This research provides a clearer understanding of the value of wetlands within a watershed and how critical they are for flood protection. Pomeroy says it is important to understand that flood protection from wetlands is most effective when a flood year follows a normal or dry year.

"One of the results that surprised me was that wetlands, even in a flood year, still had the capacity to hold more water," says Pomeroy. "When you don't store water in the watershed, it's going to come off the watershed – it's as simple as that."

The study results were initially announced in early June, with little public interest. That changed with the flood. Pomeroy found himself the go-to expert for media trying to help put the flooding disaster into perspective.

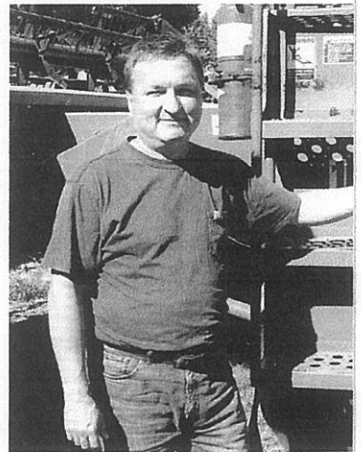
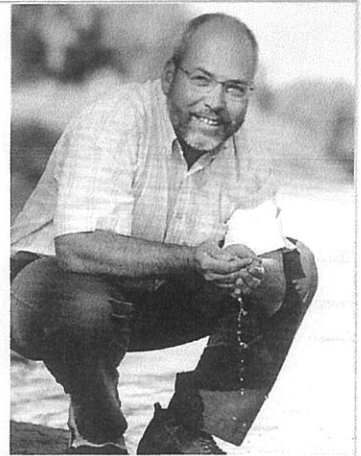
Pomeroy hopes that this latest research guides decision-makers to wetland protection policies that benefit and protect watershed and downstream residents.

"Should drainage be restricted? The answer is yes," he says.

He is encouraged by the proposed sustainable drainage regulations recently announced in Manitoba. "Manitoba is in the curious position of being downstream of almost everyone. It is challenging to deal with water issues across multiple jurisdictions. But it looks like various political parties and agriculture were in consensus. That's encouraging."

## SEEING THE BIGGER PICTURE IN MANITOBA

**B**UILDING CONSENSUS IS PART OF DOUG CHORNEY'S LIFE. He spends days working the land at his farm near East Selkirk, Man. Experiences from the 2011 flood are still fresh in his memory. This summer, he and many fellow producers watched in disbelief as the water rose, yet again.



*Top: Dr. John Pomeroy led a research study that shows the critical role wetlands play in flood protection. Above: Manitoba producer Doug Chorney says addressing drainage on agricultural land is one piece of the puzzle: everyone needs to think big picture to protect the watershed as a whole.*

## ABOVE WATER

In July, DUC graphic designer Jeopie Wolfe hopped aboard a routine DUC survey flight with the aim of photographing recent and potential land purchases and conservation easements in southwestern Manitoba. What he witnessed

though, was the brunt of near-record summer flooding across the region.

"It was eye-opening," says Wolfe. "Despite a myriad of remaining small shallow basins and pothole marshes helping to hold back the tide, the water

was everywhere and, in many cases, moving fast."



To view more photos of the flooding that hit Saskatchewan and Manitoba this summer, visit [conservator.ca](http://conservator.ca)





## SEEKING SUSTAINABLE SOLUTIONS

For more information on Manitoba's proposed sustainable drainage regulations and to share your comments, visit Manitoba Conservation and Water Stewardship at [gov.mb.ca/conservation/waterstewardship/licensing/drainage/index.html](http://gov.mb.ca/conservation/waterstewardship/licensing/drainage/index.html). Written comments will be accepted until December 31, 2014.

To voice your support for DUC's conservation efforts and mission to save Saskatchewan's wetlands, contact Michael Champion, DUC's head of industry and government relations in Saskatchewan at 306-569-0424 or [m\\_champion@ducks.ca](mailto:m_champion@ducks.ca).

*Above: With a temporary dike secured around its perimeter, a home contends with the rising floodwaters on Pipestone Creek, near the Manitoba-Saskatchewan border.*

Chorney's role in tackling the effects of high water goes well beyond his own land. He is president of the Keystone Agricultural Producers (KAP), Manitoba's general farm policy organization. This year, his team has faced two distinct yet related tasks on the provincial landscape – supporting proposed sustainable drainage regulations and advocating for adequate flood compensation for producers.

One might think that these two tasks would clash. Regulating drainage on agricultural land while producers are flooded out of another growing season would have been a fruitless conversation in decades past. "Farmers use drainage as a tool to manage production; so there has been some conflict when we started talking about water storage and wetland restoration as an industry," says Chorney.

He says that producers today are more open to considering the big picture. They address the basin as a whole, rather than just treating the symptoms. There is a fear that without that kind of action, widespread flooding will become more frequent and severe.

"We know that part of our problem could be solved by water storage upstream; that is what (Manitoba Conservation and Water Stewardship) Minister Mackintosh is talking about with sustainable drainage," says Chorney. "A bigger share of producers are recognizing that there are times when water needs to be delayed from leaving their property."

KAP was one of the stakeholder groups that advised the provincial government during the development stages of the proposed regulations. The regulations are intended to ensure no-net-loss of wetland benefits, by protecting more than 1.25 million acres of certain classifications of wetlands. They will also allow some drainage on these wetlands when absolutely necessary, but with a requirement to replace the lost values, functions and benefits of those drained wetlands.

Addressing drainage on agricultural land in Manitoba is just one piece of the puzzle. Chorney emphasizes the need for everyone to think big picture to protect the watershed as a whole, and recognize the effects of artificial flooding as well. He also encourages multi-jurisdictional connections, such as the Assiniboine River Basin Commission, to tackle watershed issues beyond provincial borders.

Back on their land, producers are now cleaning up the damages from two floods. Chorney says that some feel like they were never adequately compensated from 2011, especially for multi-year effects. Those who cannot make up for uncompensated losses from their personal savings may lose their businesses and their homes.

"When we use drainage with no consideration for people downstream, we are going to be in conflict forever," says Chorney. "I don't think we want to give up on all of those farmers."

**A**T THE DRAINAGE MEETING IN WADENA, THE NEED for change is at the heart of every story. All of the attendees agree that the best chance at turning the tide lies with the provincial government. New drainage policies – properly enforced – are needed to put an end to uncontrolled drainage.

Protecting the remaining wetlands and restoring some of the wetlands that have been drained will decrease the risk of economic and environmental damages that result from future flooding.

These people can't wait. None of us can.