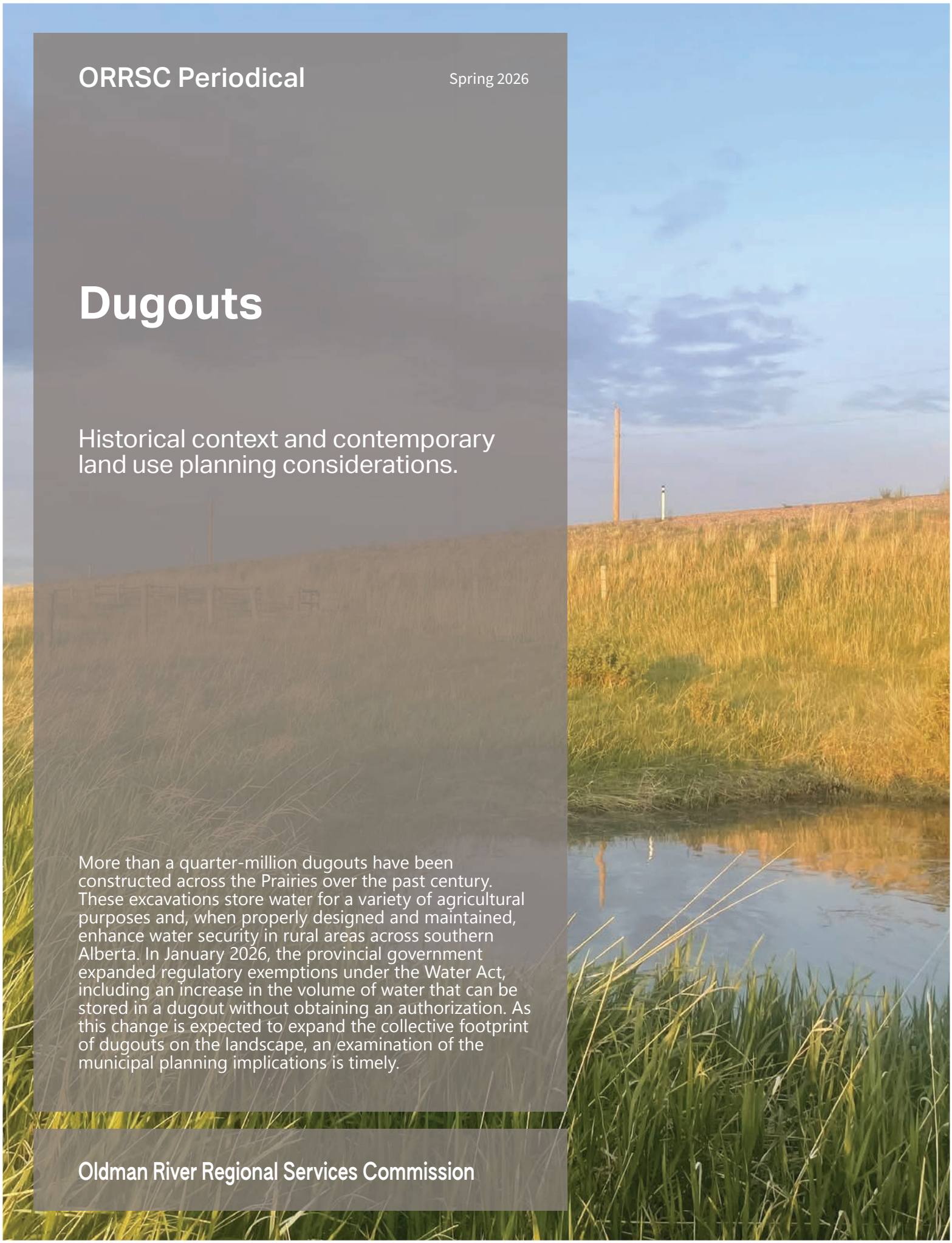
ORRSC Periodical

Spring 2026

Dugouts

Historical context and contemporary land use planning considerations.



More than a quarter-million dugouts have been constructed across the Prairies over the past century. These excavations store water for a variety of agricultural purposes and, when properly designed and maintained, enhance water security in rural areas across southern Alberta. In January 2026, the provincial government expanded regulatory exemptions under the Water Act, including an increase in the volume of water that can be stored in a dugout without obtaining an authorization. As this change is expected to expand the collective footprint of dugouts on the landscape, an examination of the municipal planning implications is timely.

Oldman River Regional Services Commission

Introduction

A dugout is "an excavation that holds water for agricultural use for the purpose of raising animals, watering gardens, crop production, applying pesticides to crops or for household purposes." This definition was added to the *Water (Ministerial) Regulation* in January 2026 alongside expanded exemptions from *Water Act* authorizations. This periodical will introduce the historical context surrounding dugouts, summarize the updated provincial regulations, and discuss factors for municipalities to consider as these excavations begin to occupy an even larger collective land footprint.

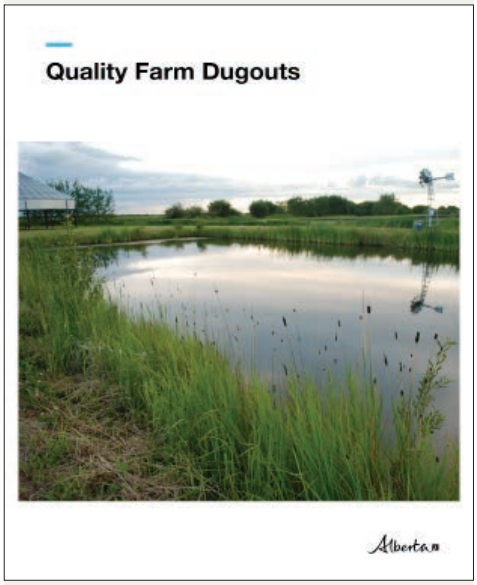
A history of drought

Dugouts have long been a defining feature of the Prairie landscape, which is prone to an annual water deficit. Particularly in southern Alberta, high evapotranspiration rates reduce moisture availability and contribute to lower crop yields. The capture and storage of run-off during spring snowmelt—and to a lesser extent during summer storms—is thus an essential means of securing water for livestock and, in some cases, domestic use. In areas where groundwater is either unavailable or of poor quality, this may be the only practical method of ensuring a continuous water supply. Dugouts have therefore been pivotal to agricultural viability and rural servicing. Their importance was particularly evident during the droughts of the 1930s, when the Prairie Farm Rehabilitation Administration promoted them as a critical drought-response measure. To enhance water availability, the agency introduced design standards and offered financial incentives to farmers who constructed dugouts in accordance with those standards.

Dugouts versus other excavations

In non-Prairie geographies, excavations for farm-related purposes are commonly referred to as "ponds." The term "dugout" is unique to western Canada, having originated as a shortened form of "dug-out reservoir," a phrase used in early federal agricultural publications to describe reservoirs created through manual excavation. Elsewhere, "dugout" more often describes a semi-subterranean earth shelter, which explains why the term was co-opted by the baseball industry (i.e. the team benches are usually slightly depressed below field level).

Dugouts are regulated through the *Water (Ministerial) Regulation*, the principal regulation in force under the *Water Act*. Prior to the January 2026 regulatory updates, neither the Act nor the Regulation included a definition for dugout. Its implicit agricultural purpose is what differentiated it from other types of excavations. For instance, the definition for "borrow pit" in the *Water (Ministerial) Regulation* refers to the provision of soil material for construction. Another closely related term is "storm drainage storage facility," defined in the Regulation as a works that stores surface water run-off that is



Quality Farm Dugouts (4th ed.), is a comprehensive publication by Alberta Agriculture and Irrigation dealing with the planning, design and management of dugouts.

Although the excavation depicted above clearly captures surface run-off, according to the Water (Ministerial) Regulation its agricultural setting disqualifies it from being categorized as a storm drainage storage facility. Having eliminated that possibility, is it best described as a borrow pit or a dugout? The answer could very well be both—for example, if the excavation originally provided soil material for construction of a road and a farmer now uses the excavation to hold water. In ambiguous situations like these, considering all intended outcomes of a project will be helpful in categorizing the excavation type and in determining what Water Act authorizations, if any, are applicable.

from precipitation primarily on land developed for residential, commercial or industrial purposes. The definition goes on to specifically exclude dugouts, borrow pits, and water bodies created by mining or other resource extraction activities. Storm drainage storage facilities are thus located outside of agricultural settings and are the result of impervious hardscapes in developed areas. Also relevant is "dam"—defined in the *Water Act* as a barrier constructed for the purpose of retaining, storing or diverting water. A dam can be located either on-stream or off-stream. The latter variety usually includes some excavation of the land surface, and in practice it can resemble a dugout. But the key distinction is that a dugout needs no barrier as it is situated exclusively below-grade. Dam excavations generally tend to be shallower, which is more cost-effective for storing large water volumes.

January 2026 regulatory updates

Amendments to the *Water (Ministerial) Regulation* were brought into force in January 2026 based on the findings of the water availability engagement process undertaken by the province. These amendments included the addition of the following definition, which is intended to clarify the underlying agricultural purpose: "Dugout" means an excavation that holds water for agricultural use for the purpose of raising animals, watering gardens, crop production, applying pesticides to crops or for household purposes. Accompanying amendments include expanded exemptions from *Water Act* licences and approvals, which are intended to increase water availability, support agricultural production, and help protect producers from future drought impacts. These expanded regulatory exemptions are particularly welcomed within the South Saskatchewan River and Milk River watersheds, where the ability to divert surface water is impacted by the closure of these river basins to the issuance of new surface water licences. Regarding the Milk in particular, irrigators within the Alberta portion of the watershed who normally draw water from the watercourse have been ordered to cease withdrawals for the remainder of 2026 due to extremely low flows during early spring.

Dugouts have always been subject to, and in certain circumstances exempt from, *Water Act* approvals and licences. An approval is required to commence or continue an "activity," except for the exemptions specified in the Act and in the *Water (Ministerial) Regulation*. "Activity" is broadly defined in the Act. In the context of dugouts, it comes into play at the construction stage, where ground removal may alter the flow, level or location of water. This includes situations where a dugout is constructed in a wetland or where its construction disturbs groundwater. An approval allows for conditions to be placed on the activity to mitigate the disturbance to the water body and potential impacts to the aquatic environment and existing water users. Under the new regulations, an approval is not required to construct a dugout with a capacity of up to 7,500 m^3 outside of a water body (previously, the dugout capacity threshold was 2,500 m^3). Subsequent dugouts on the same parcel do not qualify for the exemption.

In comparison, a *Water Act* licence is required to commence or continue a ''diversion of water," except for the exemptions specified in the Act and in the *Water (Ministerial) Regulation*. A dugout with a capacity of up to 15,000 m^3 (up from 12,500 m^3) and an annual diversion of up to 7,500 m^3 (up from 6,250 m^3) is now exempt from a licence. It is important to note that the licence exemption only applies to dugouts that are filled from surface run-off. If water is pumped into a dugout at any time, then a licence is required, regardless of the dugout capacity or annual diversion. This has always been the case and is unaffected by the legislative amendments. Put differently, if a total of 1,000 m^3 accumulates in a dugout from run-off, then only 1,000 m^3 can be diverted without a licence (i.e. the remaining 6,500 m^3 cannot be sourced from elsewhere). Of course, if a licence for agricultural purposes has been issued, then water can be diverted from the dugout without needing to rely on the exemption.

Right to appeal a Water Act licence

Where a diversion from a dugout requires a *Water Act* licence, issuance of the licence may be appealed by affected parties to the Environmental Appeals Board. One prominent Alberta example is *Morgan et al. v. Director, Lower Athabasca Region, Alberta Environment and Parks, re: Trenchuk (14 July 2017), Appeal Nos. 16-010-023-R (A.E.A.B.)*. The appeal concerned two licences authorizing a combined water allocation of 28,960 m^3 for two dugouts. The licences were issued to the operator of a confined feeding operation for stock watering and miscellaneous farm use. In reviewing the applications, the Director calculated the expected surface water run-off from the delineated catchment area for each dugout using the median annual surface water yield. The Director also considered the hydrological and hydrogeological effects, as well as impacts on existing household and agricultural water users.

Nearby landowners appealed the licences, arguing that the local drainage basin did not contain enough available water to meet the operator's licensed allocation without interfering with existing water rights. They also challenged the assumption that the soils at the dugout sites were impermeable to groundwater, noting that no borehole samples had been collected to verify subsurface conditions. In its decision, the Board determined that the licensee should install monitoring wells adjacent to the dugout and retain a qualified professional to prepare a groundwater monitoring plan, which would collect data over a two-year collection period. This additional measure would allow the groundwater impacts to be accurately assessed and provide a basis for determining whether further amendments to the licences were necessary.

Land use bylaw regulations

In view of the updated regulatory exemptions, rural municipalities may wish

Water Act <u>APPROVAL</u> exemptions as per Schedule 1, section 2(l) of the Regulation

Constructing or filling in a dugout is exempt from an approval except where the dugout:

- *is located in a watercourse frequented by fish or in a lake or a wetland;*
- *is located in a watercourse, lake or wetland in an area that is subject to a reservation by order of the Minister under s. 35 of the Act or that is subject to a Director's decision under s. 53 of the Act;*
- *would change the flow of water on an adjacent parcel of land;*
- *has a capacity greater than 7,500 m^3;*
- *is located in the same watercourse and parcel of land as an existing dugout; or*
- *is restricted by an approved water management plan.*

Water Act <u>LICENCE</u> exemptions as per Schedule 3, section 1(c) of the Regulation

A diversion of water is exempt from a licence except where:

- *the dugout is located in a watercourse frequented by fish or in a lake or a wetland;*
- *the dugout is located in a watercourse, lake or wetland in an area that is subject to a reservation by order of the Minister under s. 35 of the Act or that is subject to a Director's decision under s. 53 of the Act;*
- *water is pumped into the dugout;*
- *the dugout has a capacity greater than 15,000 m^3;*
- *the total diversion of water from the dugout is greater than 7,500 m^3 per year; or*
- *the diversion of water is restricted by an approved water management plan.*

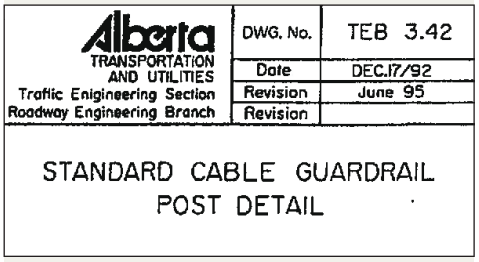
In the MD of Willow Creek, the minimum setback from a road to a dugout is 75 ft (measured from the edge of the right-of-way) and the minimum setback from a property line to a dugout is 20 ft. The minimum setbacks are even larger in Vulcan County: 250 ft from roads (measured from the road centreline) and 25 ft from property lines.

to review how dugouts are currently regulated in their land use bylaws. The most significant rationale for prescribing some degree of local regulation is to protect public infrastructure and private property. For example, a heavy storm may cause a dugout to overflow and impact nearby roads or neighbouring land. Requiring adequate separation from roads and lot boundaries is thus a responsible risk mitigation practice.

From a land use districting perspective, one thing to be cognisant of is the underlying purpose of dugouts within the provincial regulatory context, which is now explicitly limited to agricultural (including household) purposes. Where an excavation is associated with commercial, industrial, recreational or institutional land uses, it is not considered to be a dugout under the *Water Act*. Dugouts are occasionally listed in non-agricultural land use districts, and while it is perfectly acceptable for a use in a land use bylaw to adopt a meaning that deviates from a definition in provincial regulations, it is good to be aware that the exemptions from *Water Act* authorizations won't apply in such contexts.

In terms of use designation, a dugout is usually deemed to be an accessory structure and is often encompassed within the list of uses that are exempt from requiring a development permit. For example, recently introduced land use bylaw provisions in the MD of Pincher Creek regard a dugout as a below-grade excavation measuring up to 1 acre in size or 7,500 m^3 in volume. An excavation that exceeds either of these thresholds, or that integrates any water storage above the natural grade of the surrounding lands, is deemed to be an "agricultural water reservoir" with respect to use classification. In the MD, a development permit is required for a dugout where it does not meet the minimum sight triangle requirements or the minimum setback of 98 ft (30 m) from the edge of the road right-of-way. Where either of these standards are not met, a soils analysis and/or engineered design must be provided indicating the ability of the dugout to function without leakage beyond the property line. In addition, a barricade (post and cable standard at minimum) must be installed along 100% of the length of the dugout fronting the road and along 25% of the length of the sides. If the dugout is located in proximity to residential dwellings, the installation of perimeter fencing may also be required.

An alternative approach to development permitting is a multi-tiered system that differentiates dugouts based on size—exempting smaller excavations and requiring a permit for larger ones. One example of a municipality who has implemented this approach is Strathcona County, where dugouts measuring up to 0.25 acres (1,000 m^2) on agricultural parcels 80 acres or larger do not require a development permit. For agricultural parcels less than 80 acres in size, a dugout half as large is exempt from a permit.



Where a municipality's land use bylaw stipulates that a guardrail must be installed around the perimeter of a dugout, the provincial design standard for post and cable guardrails is generally adopted as the minimum design standard.

Dugouts and the public safety risk

Integrating fencing, ladders, floatation devices and other safety measures into dugout design can help mitigate the potential for accidental drowning.

This public safety element was central to *Seely v County of Wetaskiwin No. 10 (Development Authority), 2025 ABLPRT 207*, which centred on the issuance of a development permit to operate a group home in an existing dwelling on a rural quarter section. Group home was a discretionary use in the County's land use bylaw. The permit was appealed by the neighbours, who challenged the suitability of the property for the proposed use. Their argument was based primarily on the drowning risk associated with an existing dugout. In its evaluation of the development permit application, the County's Development Authority identified the dugout as a potential safety hazard and sought to mitigate the hazard by attaching a condition to the permit requiring fencing to be installed around the perimeter of the dugout. The Land and Property Rights Tribunal determined that the safety concerns were adequately addressed by the fencing condition, which would discourage unintended access, and the County's decision was upheld.

Dugouts and fire protection

The new regulatory definition for dugout lists one purpose that differs from the others in that it falls outside the practice of agriculture: household purposes. This is worth mentioning in the context of safeguarding a rural property from the risk of wildfire because the definition of household purposes in the *Water Act* includes fire prevention as one of its components. That being said, a dugout is not always going to be suitable for operational use from the perspective of a local fire department. Its viability will depend on a multitude of factors including size, depth, the ability to maintain a consistent usable water volume, the amount of sediment, and whether it can accommodate fire truck access. Even where a dugout is suitable for firefighting purposes based on the above parameters, it usually will not be utilized by the first-due apparatus because setting up pumps and laying hoses is so time-consuming. But it can offer potential where additional water is required beyond what a tender shuttle operation can provide.

Concluding remarks

Despite expansions of rural water utilities and other regional water distribution systems, dugouts remain a mainstay of farms and acreages in Alberta. The recently enacted regulatory amendments clarify the status of dugouts and expand the circumstances in which they may be constructed and used without *Water Act* authorizations. For agricultural producers, these changes enhance resilience to drought. For municipalities, they reinforce the need to understand dugouts as land use features with potential impacts on local infrastructure. By establishing appropriate setbacks and requiring verification of engineering in higher-risk locations, local planning authorities can ensure that these facilities are thoughtfully sited and designed so that the practical need for on-farm water storage does not compromise municipal roads or jeopardize public safety. As dugouts continue to occupy an important role in rural areas, municipalities can help ensure they are integrated into the landscape in a safe and functional manner.

"Reliable access to water is essential for Alberta's farmers and ranchers, especially as they manage drought risk and plan for the future. These practical changes respond directly to what producers and rural communities have been asking for—making it easier to store and use water responsibly so agricultural operations can remain strong, resilient and productive."

— R.J. Sigurdson, Minister of Agriculture and Irrigation

For more information on this topic contact admin@orrsc.com or visit our website at orrsc.com.

ORRSC
3105 16 Ave N
Lethbridge AB T1H 5E8

phone: 403.329.1344
toll-free: 844.279.8760
e-mail: admin@orrsc.com

orrsc.com