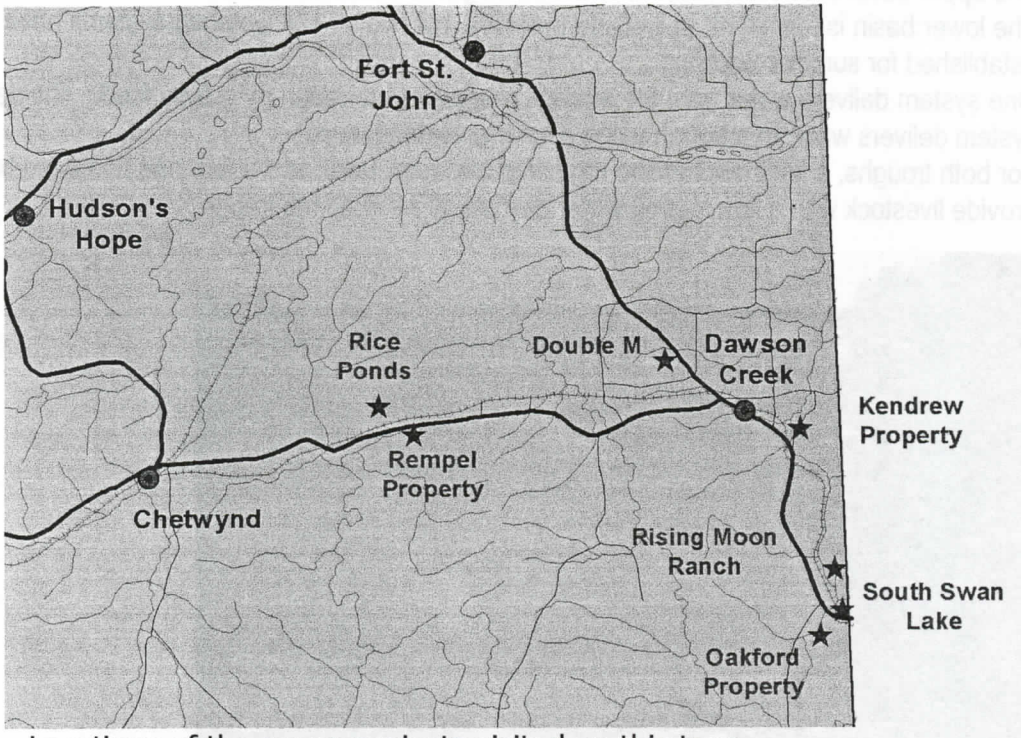
Ducks Unlimited Canada
CANADA'S CONSERVATION COMPANY

Peace River Forage Association
of British Columbia

Ducks and Cows Tour

Today's tour showcases a variety of watering systems installed in the last few years by Ducks Unlimited Canada and its partners from the East Pine area to the Tomslake area. Several other features will also be viewed on the tour such as rotational grazing systems, riparian pastures, direct seeding forages, and riparian protection including riparian planting.



Locations of the seven projects visited on this tour

A SPECIAL THANKS TO TODAY'S TOUR SPONSORS:

Agriculture and Agri Food Canada PFRA, Canadian Cattleman's Association GHGMP, CRC Ranching Supplies, Dawson Creek Co-Op, Ducks Unlimited Canada, Kane Veterinary Supplies, Peace Country Seeds, Peace River Forage Association of British Columbia, Soil Conservation Council of Canada, Keddies Tack & Western Wear

Rice Ponds –

Rice Road, 55km west of Dawson Creek


Grazed vs ungrazed areas

This project is on Crown land with annual licenses to agricultural operations for grazing. The total project consists of 1280 acres, and the enhancements include two earthen dams with water controls. Both structures hold back a considerable amount of water to provide habitat for waterfowl and wildlife while still providing livestock water.

- The upper basin allows access for livestock along the entire shoreline.
- The lower basin is fenced off to exclude livestock, but two off-site watering systems have been established for summer watering.
- One system delivers water from the storage reservoir to a trough by gravity feed. The second system delivers water to a trough using a solar-powered pump.
- For both troughs, a float mechanism regulates the water level, and a firm pad has been built to provide livestock with a firm footing while they are at the watering trough.


Solar watering system with reservoir in background

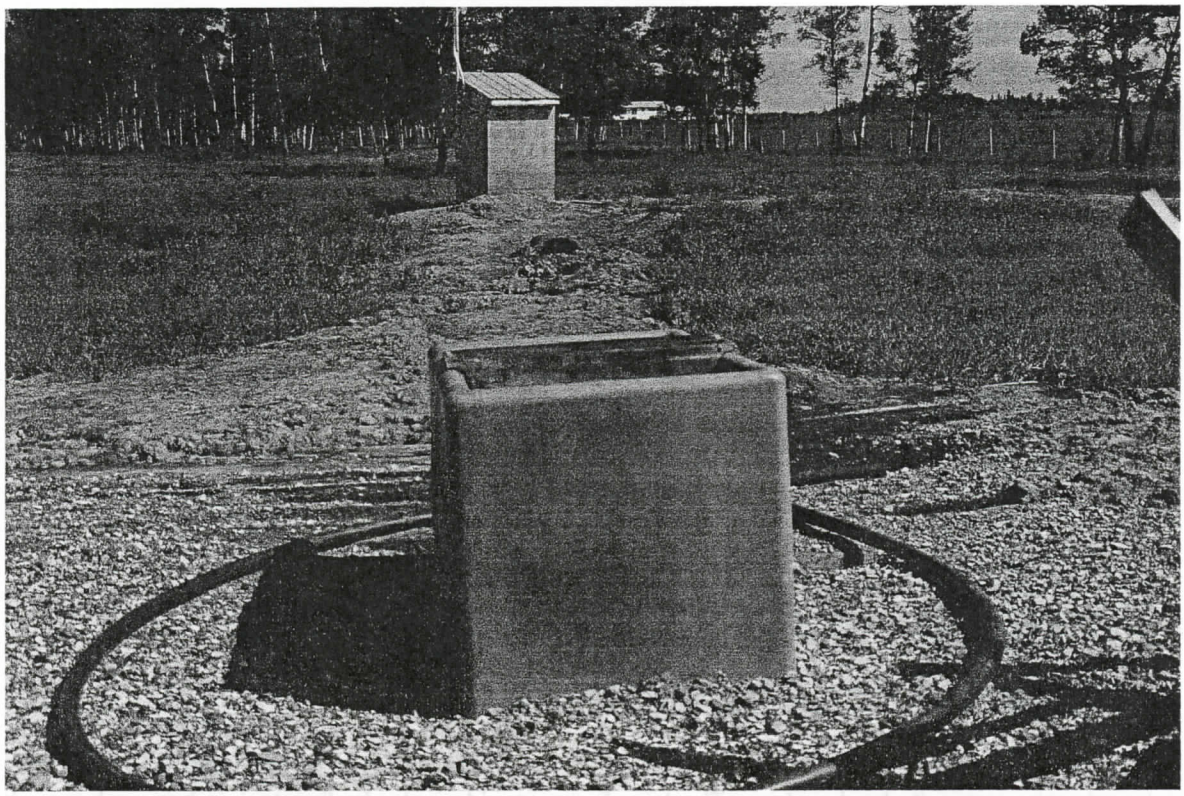
The area around the lower pond has been fenced off to provide birds with an area of better nesting habitat, but it can also be grazed as a "riparian pasture", meaning that grazing can occur for short regulated periods of time when there will be the least amount of impacts to wildlife (e.g late summer / early fall).

Rempel Property –

Stuckey Road, 45km west of Dawson Creek

This property belongs to Jakob Rempel. The project consists of a wetland that will soon be fenced to exclude livestock, and an off-site winter watering system.

- To supply livestock with adequate water all year long, a fencing system will be built to provide access to a single watering trough from several pastures.
- The watering trough is actually constructed from pre-cast concrete, and can water up to 380 head of livestock daily, in all seasons.
- A firm pad has been built around the trough to provide livestock with a firm footing while they are at the watering trough.
- A dugout was constructed adjacent to the wetland to provide sufficient depth to prevent winter freezing of the water intake.
- The watering system is powered by hydroelectricity which was brought in to the site.



Winter watering trough with power shed in background

Double M Ranch –

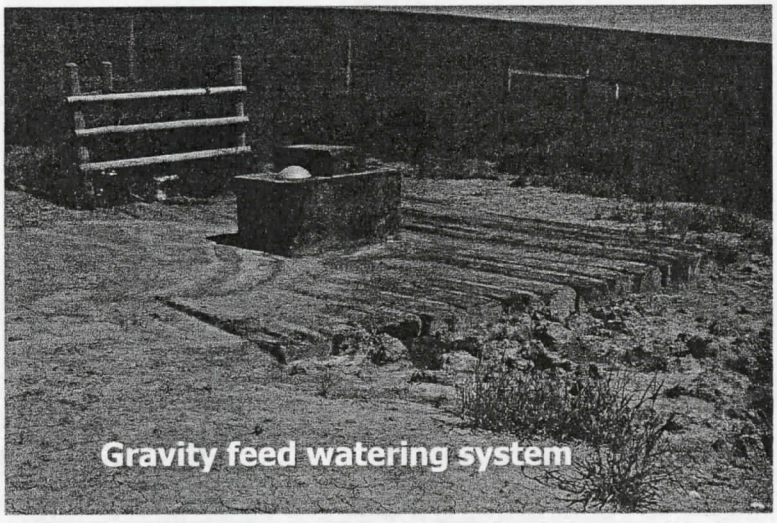
Hargraves Road, 11km northwest of Dawson Creek

This property belongs to Mike McConnell and Judy Madden. The project consists of three livestock watering dugouts and a small wetland.

The landowners use a rotational grazing system. One dugout has been fenced so that livestock have access from one side only. The access slope on this dugout is flat, and geo-fabric and gravel were placed to provide for a cleaner, drier footing for livestock. An aeration windmill has been installed to improve water quality.

Direct-access dugout

The second dugout is within a livestock exclusion fence, and the dugout is attached to a wetland that is also excluded from livestock use. A solar pump has been installed to pump water from the dugout to a trough, which waters livestock in three pastures. A firm pad has been built to provide livestock with a firm footing while they are at the watering trough. This system is for summer watering use only, and an aeration windmill has been installed.



Gravity feed watering system

The third dugout is also within a livestock exclusion fence, but it provides water to a watering trough using a gravity-feed system. The trough can provide water for livestock in two pastures. A firm pad has been built around the trough. This system is for winter use as well as summer use, and an aeration windmill has been installed.

Kendrew Property:

Soil Conservation of Canada GHGMP Project –

Briar Ridge 4 Road, between Spirit River Hwy 49 and Pouce Coupe

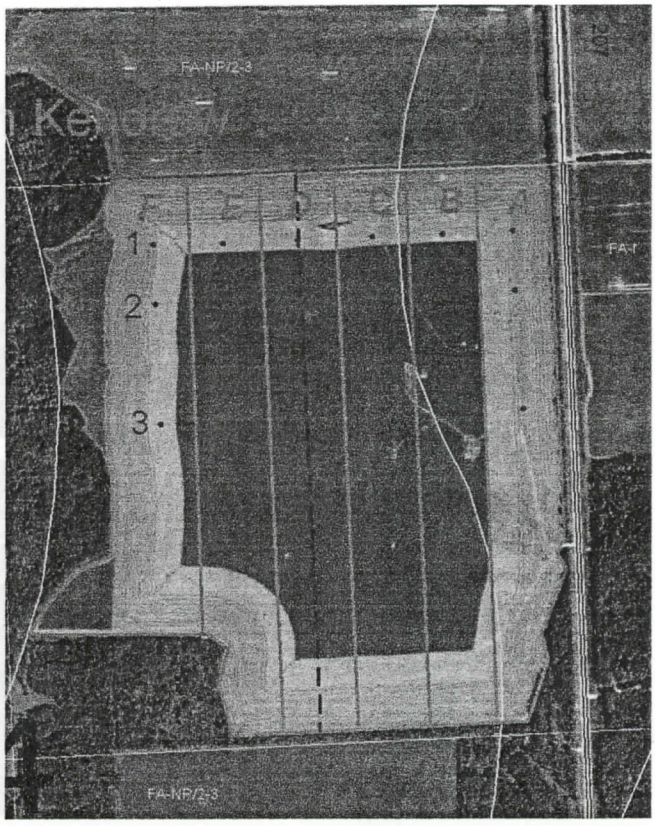
This property belongs to John and Pat Kendrew. It demonstrates 6 different methods (20 acres each) of rejuvenating / reseeding an old hayfield to increase forage productivity. A direct-seeding drill (Flexicoil air drill with Barton openers) was used to seed either cereal forages or grass legume mixtures in various portions of the field for the past 3 springs.

Rejuvenation methods involve

- comparing areas with / without a year or two of annual cereal forage,
- seeding with / without spring burnoff with Roundup, and
- seeding forage mixtures with / without cover crop.

There is also a demonstration of double-cropping spring oats with fall rye into 2 different field residue situations. The Kendrews' site is one of 18 GHGMP demos coordinated by the Peace River Forage Association this season.

A = Control, hay field with declining yield left with no changes for 2002, 2003, 2004; to be hayed
B = 2002: hayed with poor yield; 2003: forage mixture direct seeded into hay field, no burnoff; 2004: to be hayed
C = 2002: hayed with poor yield; 2003: sprayed with Roundup + direct seeded forage mix; 2004: direct seeded spring oats + fall rye, to be fall grazed
D = 2002: spring burnoff + direct seeded oats; 2003: spring burnoff + direct seeded barley; 2004: spring burnoff + direct seeded spring oats/ fall rye, to be fall grazed
E = 2002: spring burnoff + direct seeded oats; 2003: spring burnoff + clover/ alfalfa/ grass mixture direct seeded + barley cover crop; 2004: to be hayed
F = 2002: spring burnoff + direct seeded oats; 2003: spring burnoff + clover/ alfalfa/ grass mixture direct seeded, no cover crop; 2004: to be hayed
1,2 and **3** denote detailed monitoring benchmarks at site

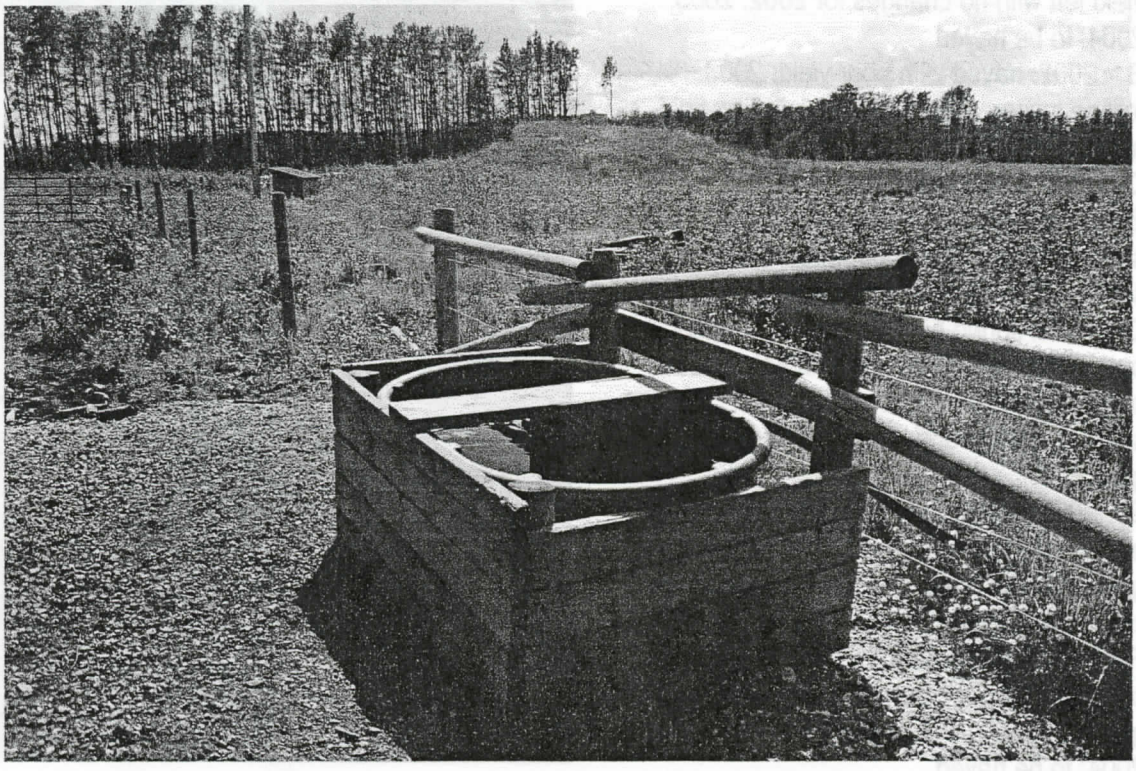


Rising Moon Ranch –

Independent Road, Tomslake, 24km southeast of Dawson Creek

This property belongs to Dwight and Janet Stevens. The project consists of three dugouts, one of which has an off-site watering system.

- The first dugout is exclusively for wildlife and was built as a moat around an island.
- The second is for emergency water.
- The third provides water for livestock, and it was placed near the centre of the property so that it can provide water to a four-pasture rotational grazing system. A watering trough on a firm pad has been built near the dugout, and the dugout has been fenced to exclude livestock. This site has hydroelectric power, but the setup is probably still applicable to solar watering systems. Water is pumped from the dugout to a tank perched on a spoil mound, and from there the water gravity feeds to a watering trough which is regulated by a float. The main purpose of this system is to provide water when the pump may not work for a few days, and it is a summer watering system only. The dugout is aerated using hydroelectricity.



Watering trough

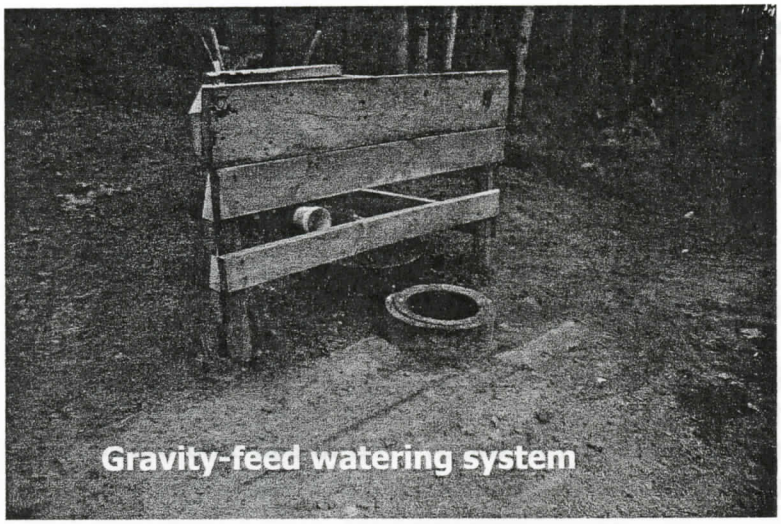
Oakford Property –

Heritage Highway, 32km south of Dawson Creek

This property belongs to Bill and Chris Oakford. The project consists of a large dugout with a waterfowl pond attached, and an off-site watering system.

- The dugout has been fenced so that livestock have access from one side (and one pasture) only. The access slope is relatively flat, and gravel was placed to provide for a cleaner, drier footing for livestock.
- There is a gravity-feed winter watering system, built on a firm pad, which services another pasture. The watering trough is a well-insulated winter trough.
- An aeration windmill has been installed in the dugout to improve water quality.

The Oakfords use rotational grazing systems for their pastures, and it is all done using electric fencing, including around the dugout.



Gravity-feed watering system

Waterfowl pond with nesting island

South Swan Lake –

South end of Swan Lake, 27 km southeast of Dawson Creek

This property belongs to Ducks Unlimited. Ducks Unlimited is developing the property to enhance an area for wildlife, but also plans to use a small portion of the property to demonstrate improved agricultural methods. Because the property has several creeks and is adjacent to Swan Lake, a number of riparian protection techniques have been used to ensure low impacts on water quality.

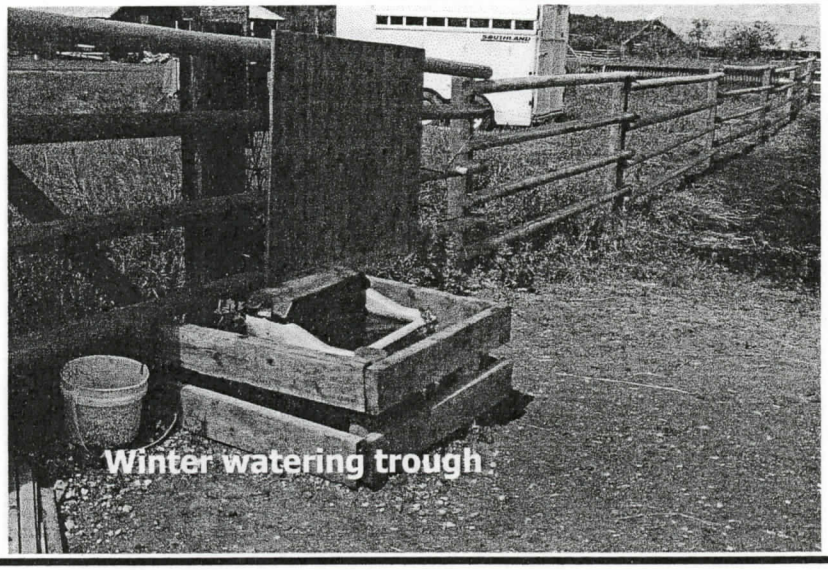
- A **six-pasture rotational system** has been established, and livestock have no access to the lake or streams in any pasture. Instead, two of the pastures access one watering trough, and four access a second watering trough. Both troughs receive water from shallow wells and have been set up as wintering watering systems for use in all seasons. A firm pad has been built around each trough. The fencing system utilizes sucker rod fences, barbed-wire fences and electric fences.

- The **riparian areas** along the creeks have been recently planted to trees and shrubs to improve wildlife use.

- A large **dam and water control** will permanently flood part of an old sedge meadow which frequently backflooded in spring (and which made agricultural uses very sporadic).

- Part of the property will provide **hay** for the agricultural operation on the property while also providing fall grazing for Canada Geese.

- There are also some **hedgerow tree and shrub plantings** on a hillside that often dries out. The trees and shrubs are expected to catch winter precipitation and provide for better ground absorption of this water. The forage strip between the plantings can be hayed periodically to provide further winter forage for livestock.



Winter watering trough