

**THE TOWN OF REDCLIFF, ALBERTA:
AN INTEGRATED RESEARCH UNIT**

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B.Ed., University of Lethbridge, 1983

A One-Credit Project
Submitted to the Faculty of Education
of The University of Lethbridge
in Partial Fulfilment of the
Requirements for the Degree

MASTER OF EDUCATION

LETHBRIDGE, ALBERTA

August, 1992

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- 7) A list of all the businesses and organizations
(Ex. Fast food, Bank, Girl Guides of Canada)
- 8) A list of information which can be loaned from the Redcliff Library
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A TRIBUTE TO REDCLIFFE

The little town of Redcliffe, on the South Saskatchewan
When the mother country called for aid, when first the war began,
Her citizens never faltered, not to business cares gave heed,
But sent a hundred of her men, all of fighting breed.

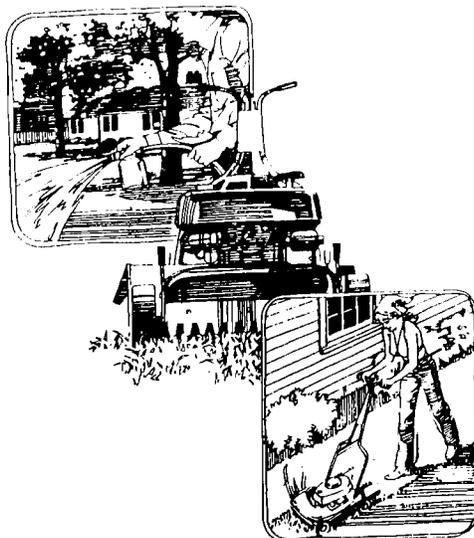
Some were men in business, and some advanced in life,
They never stopped to think of self, but of the coming strife.
And now upon the far battle line, upon the honour roll,
Comes back those names of heroes, Redcliffe is paying toll.

Just a little factory town, scarcely known to fame,
She is doing her part for Canada, bringing glory to her name,
Her factories may lay idle, and her children may need bread,
And many a heart be desolate, let her glory in her dead.

All honour to this little town, upon Alberta's plain,
Her best and bravest men are gone, and those not with the slain
Will do their duty bravely, for the land of the Maple Leaf,
So that if Redcliffe weeps today, pride's mingled with her grief.

(The name, Redcliff, was formerly spelled with an additional letter
"e" at the end of the word.)

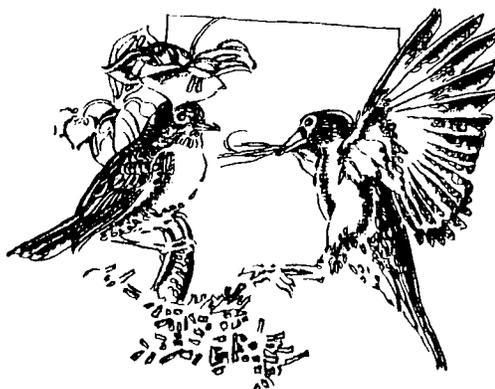
(Taken from the Redcliff Library)



A Fifty Year Reflection On Redcliff

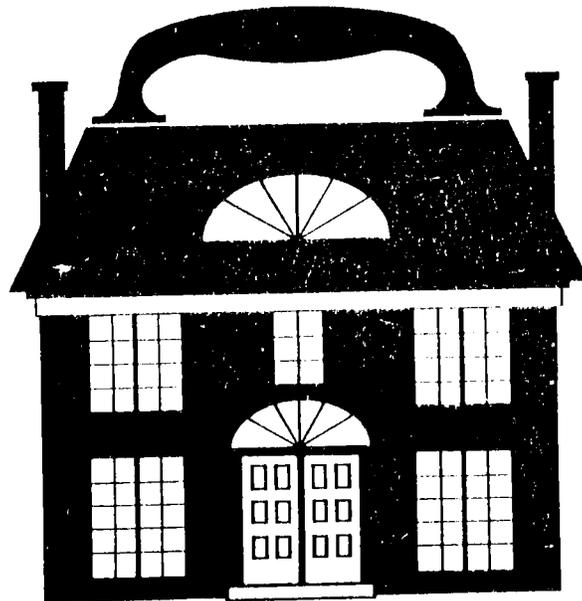
Turn backward, turn backward,
Oh, time in your flight.
Let me see Redcliff in her earlier plight,
When the grass grew on Broadway
And the streets were mere trails;
Going no place, like a ship without sails.
The town with a future, ambition and fame
That in the beginning had not got a name,
One day lit a candle on Saskatchewan's hill
That burns with a gleam across Canada still.
With water in the river down under did glow,
No finer a heritage on man could bestow.
With natural gas and coal by the ton,
and gold in the west at the set of the sun.
Oh, beautiful hamlet, I swear by you yet,
Made possible only by muscle and sweat
Where the gaslights of progress
Shine over rooftop and casement,
Prompting Kipling to say,
We have" Hell for a basement".

(Taken from the Redcliff Library)



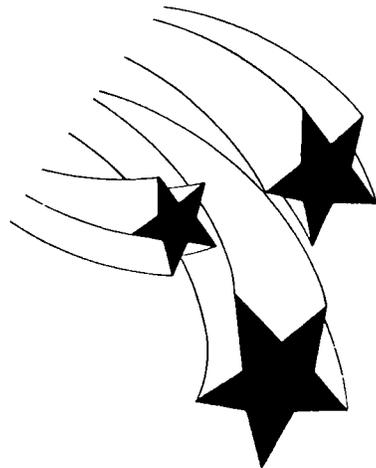
TO THE TEACHER

- 1) This unit is designed to create community awareness for the students of Redcliff.
- 2) Teachers can choose whether to complete all or part of the unit.
- 3) Complexity can be varied according to Grade level intended.
- 4) The unit is designed to have a flexible quality so that teachers can vary activities and add information if they desire.
- 5) Most of the materials can be used as a Learning Centre.
- 6) The information is documented in a flexible manner so that teachers can add or delete parts.



OBJECTIVES

1. To create community awareness
2. To obtain factual knowledge about the town of Redcliff as residents of the town
3. To work with information that is meaningful to students
4. To invite inquiry to learn more on an individual basis about the community
5. To examine geographical and climatic aspects of the area
6. To examine historical aspects of the town
7. To develop understanding of how a small town operates
8. To give some insight for past and present day industry and business
9. To investigate how the town attends to the needs of the citizens
10. To develop appreciation of our environment in and around the town to Redcliff
11. To realize the relationship of the small town of Redcliff near the city of Medicine Hat
12. To develop pride for one's community of Redcliff where we live and for the efforts of others to make it a better place to live
13. To stimulate leadership possibilities for students as future adult citizens



REDCLIFF, AB

Redcliff, AB, now the "Greenhouse Capital of the Prairies", has come a long way since the late 1800's and early 1900's. Situated just 8 km (5 miles) west of Medicine Hat on the #1 highway, it has a population of about 5000 people.

Ethnic groups include Rumanian, Dutch, German, Russian, English, and Philippine. The town has experienced slow steady growth in the past few years in spite of bad economic times such as Domglas Inc., closing its factory doors after 76 years of operation.

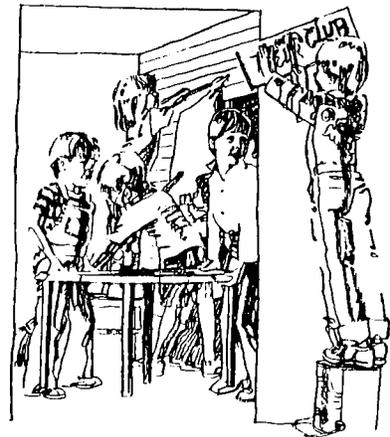
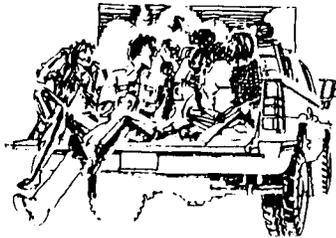
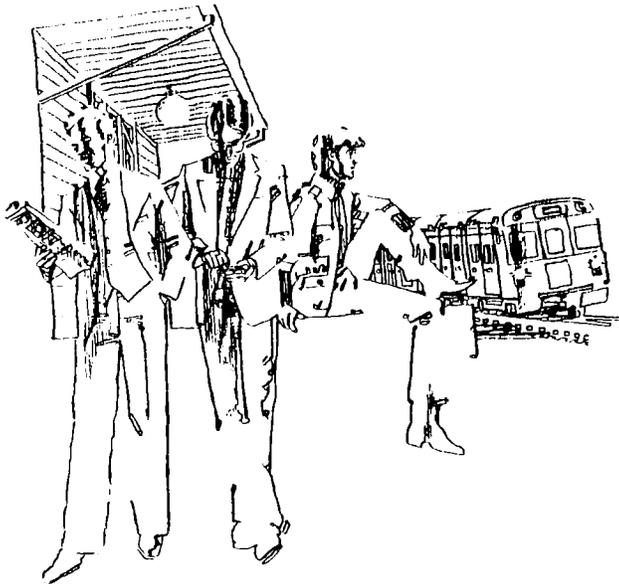
New housing sub-divisions have sprung up and a recent business section has been added with several lot options still available.

Situated in the Gateway Country tourist zone of Alberta, attractions include the Greenhouse industry, sports activities like golf, a local museum, and camping facilities. Redcliff Days, an annual event of the town, is celebrated on the third weekend in June. Fun activities include mud volleyball, hose coupling and pie eating contests. Art shows, square dancing and pancake breakfasts provide many hours of entertainment.

At one time, Redcliff boasted of being larger in size than Medicine Hat. Labelled the "Smokeless Pittsburgh of the West", it had a variety of industries including The Redcliff Rolling Mill and Bolt Co., Redcliff Hat and Cap Factory, and Redcliff Clay Products, Co. These and other industries drew people to this area in the late 1800's. By the end of 1913, there were approximately 3000

people here. However, the First World War, the cyclone on June 25, 1915, and the Spanish Flu epidemic of 1918, took their toll on the town. Many people left the area and many destroyed buildings were never rebuilt.

In the fall of 1910, Redcliff became incorporated as a village and in 1911 as a town.



WEATHER PATTERNS

Located in the North Temperate zone, Redcliff, AB boasts of having four distinct seasons. There are 2252 hours of sunshine per year, which allows for many hours of recreation. Gardens and crops also benefit from these long hours of light. As well, this area has 125 frost free days.

The annual average temperature for four distinct months is as follows:

- | | |
|------------|---------|
| 1) January | -12.1°C |
| 2) April | 5.9°C |
| 3) July | 20.2°C |
| 4) October | 7.6°C |

Annual precipitation is 348 mm (13.69") with rain being 231.2 mm (9.20") and snow 117.6 mm (4.08"). In winter, special winds called chinooks blow warm air to melt the snows.

The spectacular Northern Lights can be seen at various times of the year in the northern skies.

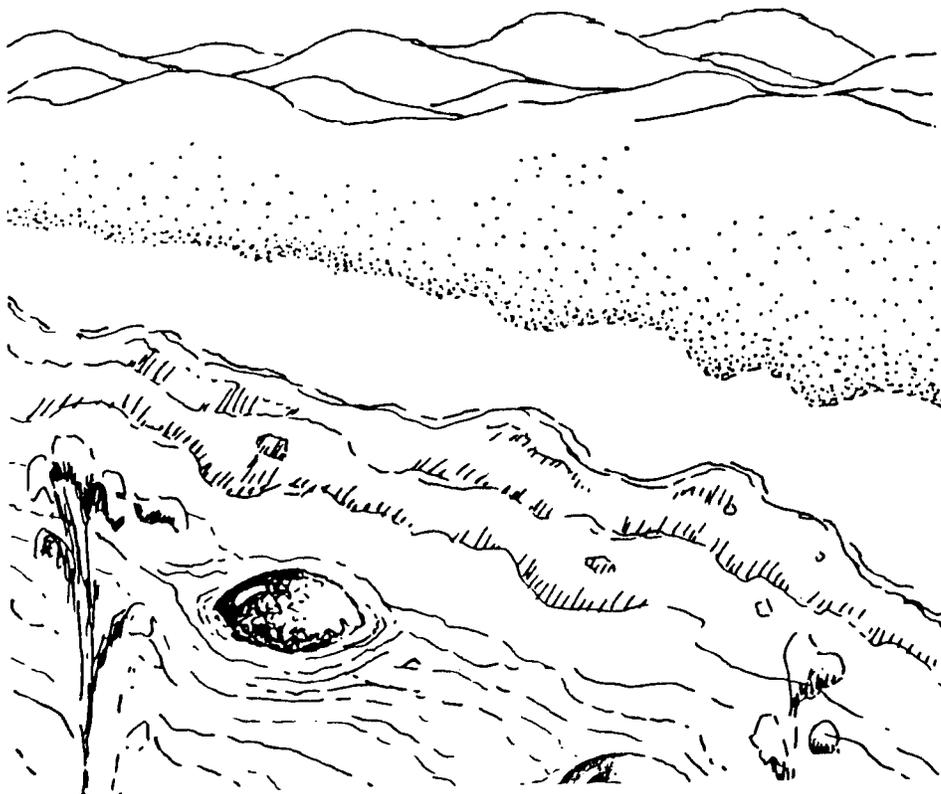
Normally, weather has had very little variation from seasonal norms. However, in the last several years more mild trends have been prevalent in the winter months.



LAND FEATURES

One may wonder how the town received its name. Redcliff is located about one and a half miles north of the South Saskatchewan River. The river winds lazily past the immense, red cliffs which overlook the water. These cliffs gave the town its name. The shale rock became coloured red, likely as a result of spontaneous combustion.

The soil in the area is mostly hard clay which does not absorb water very well.



NATURAL RESOURCES OF REDCLIFF

Several natural resources have contributed to drawing people here and to the production of various commodities.

With the coming of the railroad to the area in 1883, the mining of coal began because this whole area is underlain with a major coal seam. It was then shipped to many distant points. The early farmers and ranchers also mined it for domestic heating fuel. The screenings from the coal dust were dumped on the cliff tops just across the river from Redcliff. Later, this pile of screenings caught fire by spontaneous combustion and it spread to the mine below where it burned night and day for about 35 years. Early, on calm, summer mornings, a blue, curling, whiff of smoke could be seen and the smell of coal smoke could be detected.

In 1891, the mine was closed down because a better grade of coal became available and transportation facilities had improved.

About a mile west of town, silica sand was discovered. However, due to its insuperior quality, it was considered unsuitable for the glass-making industry in Redcliff.

Seismotite or volcanic ash lies in small pockets along the river bed. In early years, it was used to make hand cleaners. Due to limited advertising and markets, production was discontinued.

For a short time, in 1914-1915, gold was panned along the South Saskatchewan River edges by people who wanted to strike it rich fast. Washed down by the mountain waters, this gold was never found in large quantities.

The various coloured clays, which are abundant in the area, are still utilized in the production of various brick products.

Natural gas, found in the early settlement years, is still being used today for production power.

Another resource was limestone rock which was a source of income to early poverty-stricken homesteaders. The local construction trade used it for mortar and plaster. As well, the Rolling Mills needed large quantities to process steel in their open hearth furnaces.

INDUSTRY--PRESENT

Present industry in Redcliff consists of two major operations, with one being the greenhouse industry with over 40 acres under glass. Flowers and a variety of vegetables are grown year around. Tours can be arranged, if so desired. This industry had its beginning from the entrepreneurial ventures of the early settlers of the original townsite.

The other major operation, the brick industry, also began in the early days of Redcliff and still continues today. The abundance of high grade shale and a ready supply of natural gas have led to the successful production of this product.

The discovery of coal and natural gas, as a source of power and fuel, have helped other small businesses to thrive over the years.

Rural industry, such as cattle and grain, help in maintaining the growth of Redcliff.



INDUSTRY/PAST

Once called the "Smokeless Pittsburgh of West", Redcliff was a thriving metropolis with unlimited possibilities. Industry included: shoe, glove, cigar, brick, coal, car, glass, pottery, clay, textile, cattle and grain, (for rural), plus numerous others.

A 1913 report given to the Redcliff Board of Trade listed the industries in operation and those which were committed to be established in the near future.

THE INDUSTRIES IN OPERATION IN 1913

The Redcliff Brick and Coal Co., Limited
 The DomGlas Co., Ltd. (Opened 1913 - closed Sept. 29/89)
 The Redcliff Pressed Brick Co., Limited
 The Redcliff Clay Products Co., Limited
 The Redcliff Sash and Door Factory
 The Alberta Shoe & Glove Manufacturing Co.
 The Redcliff Cigar Factory
 The Alberta Ornamental Iron Co., Limited
 The Redcliff Motors Company
 The Redcliff Rolling Mill and Bolt Company
 Redcliff Hat and Cap Factory
 The Peter Showcase Company

THE INDUSTRIES COMMITTED TO START

H. Munderloh Glass Company
 The Knechtel Furniture Company
 Redcliff Brewing Company
 The Alberta Steel Company
 The Hammond Stoker Company
 Alberta Boat Manufacturing Company
 Redcliff Rosary and Greenhouses
 Alberta Glove Company
 Alberta Improvement Company

The original mine tipple of 1883 site became the beginnings of industry and population in Redcliff because of much needed accommodation for the miners and workmen.

Local industry grew because of the abundance of natural gas, natural resources, plus water and rail transportation.



RECREATION

The Redcliff Recreation Department performs many duties. It books, operates and maintains municipal recreation facilities and equipment. The Department also serves as a liaison between the town and community organizations. As well as providing information and assistance to community organizations when required, it serves as a community resource line. Another duty is to provide leisure activities such as programming and co-ordination community events.

1) Recreational Buildings:

Redcliff Rectangle
 Aquatic Centre
 Curling Rink
 Outdoor Courts for Tennis
 Golf Course



2) Sports:

Hockey
 Skating
 Tennis
 Swimming
 Golf
 Soccer
 Basketball
 Volleyball
 Curling
 BMX Track for Racing



3) Parks

Redcliff Memorial Park (1937) (War Memorial erected in park in 1938)

Lion's Park
 River Park (down at river's edge - south of Redcliff)
 "Pillar" Park with Courts
 Two Playgrounds

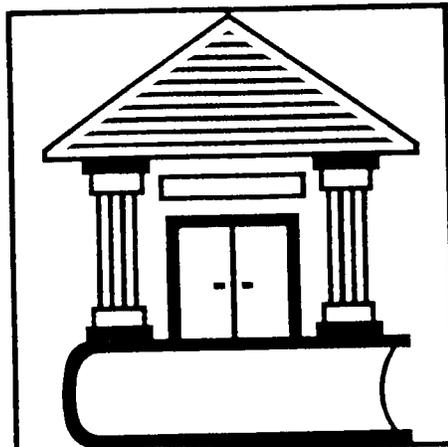
SCHOOLS

The decision of a new school for Redcliff was considered on September 1, 1910, by a group of concerned citizens. As a rural school district, the first classes were held in the fall of 1910 in the Presbyterian Church building. As class numbers grew, other arrangements were made.

On November 2, 1912, a school meeting for Redcliff as a village school district occurred and then this area became known officially as Redcliff School District #2283.

The first school was constructed in 1911 and later demolished in 1961.

Thereafter, an elementary school was built in 1954 with a junior high school - Parkside School - built in 1959. Complete education for grades one through nine are presently offered with grades 10 to 12 being bussed to Medicine Hat as they have since 1947.



CHURCHES

Mainly the people of Redcliff are of Christian belief and presently there are three churches in the town.

Early in the 19th century, the Presbyterian Church was constructed with the first services held before the church was completed. Rough boards supported the nail kegs and apple boxes which were used by the parishioners for seating. A bigger and better church was needed. Construction began on the basement but was interrupted by World War I, and later completed around 1920. This building was called the Gordon Memorial United Church.

The old Presbyterian Church built in 1900, was sold to the Roman Catholic Church, but both congregations used the building for worship. Up until this time, the masses for the Catholic worshippers were held in private homes and various other buildings. In 1921, the frame church was moved to a sight on 6th street. Later, in the 1960's, this church was replaced with a modern day church which presently stands and is still in use.

In 1910, the Church of the Brethren was organized in a little frame church but was discontinued in those early years. Then, in 1938, this same building became known as the Church of the Nazarene with organized gatherings. Presently, this congregation no longer meets in Redcliff.

The St. Ambrose Anglican Church received its beginnings in 1912 and at first met in assorted buildings. The present day church was completed in 1914.

COMMUNITY ORGANIZATIONS AND CONTACTS**REDCLIFF BLOCK PARENTS ASSOCIATION**

Judy Gradwell 548-7739

BOX SPRINGS RODEO ASSOCIATION

Les Herman 548-6673

KNIGHTS OF COLUMBUS

Gene Mastel 548-3496

REDCLIFF ANGLERS ASSOCIATION

Ralph Pinder 548-3407

REDCLIFF BADEN POWELL CENTRE

Edna Martin 548-3693

REDCLIFF BUSINESS ASSOCIATION

Rita Thomas 548-7318

REDCLIFF CURLING CLUB

Chuck Switzer 548-7594

REDCLIFF LADIES FASTBALL ASSOCIATION

Brenda Heitrich 527-7954

REDCLIFF LIONETTES

Fran Wahl 548-3630

REDCLIFF LIONS CLUB

Vic Lutz 548-3504

ACTION SOCIETY FOR YOUTH

Teen Centre 548-6122

ROYAL CANADIAN LEGION BRANCH #6

Rick Weirsma 548-3217

GIRL GUIDES OF CANADA

Sheila Donnais 548-7429

REDCLIFF MINOR BASEBALL ASSOCIATION

Chuck Henson 548-3866

REDCLIFF MINOR HOCKEY ASSOCIATION

Don Hoose 548-3086

REDCLIFF MUSEUM AND HISTORICAL SOCIETY
Cliff Dacre 548-3524

REDCLIFF TINY TOT PLAYROOM
Jan Runnalls 548-6759

REDCLIFF YOUTH BADMINTON CLUB
George Pell 548-3674

REDCLIFF SENIOR CITIZEN SOCIETY
May Evans 548-3390

REDCLIFF SKATING CLUB
Karen Werts 548-6828

RIVERVIEW GOLF CLUB
Smokey Lanz 548-3461

SAAMIS ARCHERS AND BOWHUNTERS
Val Kary 548-7538

REDCLIFF T-BALL ASSOCIATION
Kathy Ziegler 548-3094

REDCLIFF GIRLS SOFTBALL ASSOCIATION
Karen Dunham 548-7132

BOY SCOUTS OF CANADA
Chuck Henson 548-3866

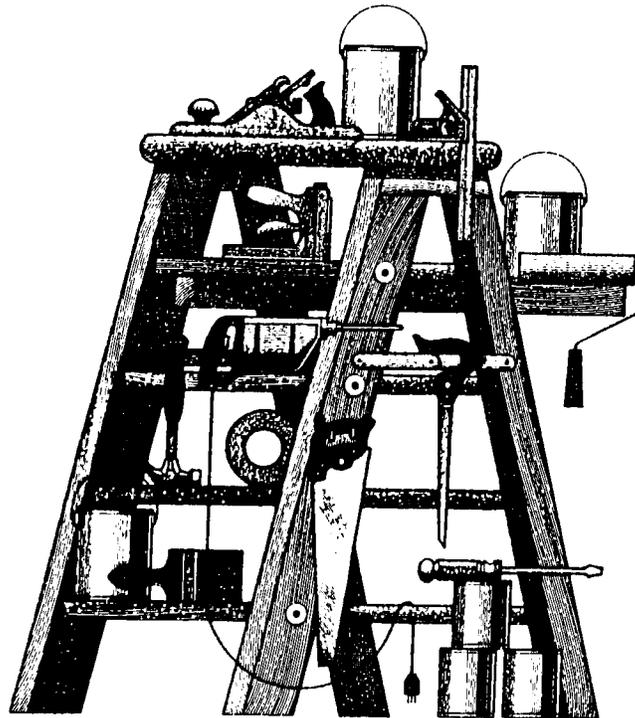
CACTUS COUNTRY SQUARES
George or Betty Schritt 548-3468

TYPES OF BUSINESS

Types of business in Redcliff vary but many are connected to the greenhouse industry. Vegetables from both greenhouses and outdoor vegetable gardens are packed for shipping to other destinations.

Several other businesses are oil and gas related. The proximity to the #1 Highway and main railroad lines gives access to shipping destinations. Other services and establishments are related to the day-to-day operations of the town.

In addition, a large communications operation known as CHAT television serves the public for several miles around.



TYPES OF SUPPORT SERVICES AVAILABLE

- 1) Public Utilities
 - a) water from our own Water Treatment Plant
 - b) electricity from the City of Medicine Hat
 - c) gas from the City of Medicine Hat
 - d) garbage and sewage services from the Town of Redcliff

- 2) Senior Facilities
 - a) Senior Citizens Home
 - b) Senior Drop-In Centre

- 3) Law Enforcement
 - a) the Medicine Hat City Police (Redcliff's detachment was terminated in March of 1992)

- 4) Mail Service
 - a) Canada Post in operation since 1910. The first post office was a soap box nailed to the wall in the Davidson Grocery store with the public at large sorting their own mail and leaving the rest. After three months, a regular government Post Office was opened on November 1, 1910.

- 5) Government Agencies
 - a) Redcliff Town Hall
 - b) Member of Parliament office (presently Allan Hyland)

- 6) Health Services
 - a) Senior clinic at the Legion
 - b) Alberta Health Clinic

- 7) Doctor and Dental Services

- 8) Youth Facilities
 - a) Teen Drop-In Centre

GOVERNMENT

The town of Redcliff has its own office for conducting business pertaining to the town. The lower floor of the town hall houses personnel and information for other agencies such as Senior Services.

As a matter of interest, a half-hour video tape can be rented and viewed pertaining to the town of Redcliff.

Due to political zoning, Redcliff is considered a municipality called the Cypress - Redcliff Constituency. The Member of Parliament's constituency office is located on Broadway Avenue. The office is open regular business hours to provide assistance and information to the public.



MATH ACTIVITIES

1. How many people lived here in different years? Make a graph. Convert the numbers from percentages to fractions.
2. What ethnic groups live here. Name them and graph them.
3. Figure out the square space available to grow plants in a regular-sized greenhouse.
4. Figure out the approximate area that the town of Redcliff covers.
5. Based on past information, project population increases for the next 5, 10, 15, ... years.
6. Compare the approximate populations of the Anglican, Roman Catholic and United Church parishioners.
7. Construct a circle graph of how tax dollars are spent for the town.
8. Measure the size in area of the town's parks.
9. Graph the percentages of Redcliff's main types of business and industries.
10. Measure the perimeter of the school grounds.

MATH ANSWER KEY

1. Refer to page 23.
2. Refer to page 5.
3. Approximately 30 x 70 feet; may vary.
4. Approximately 3 miles x 5 miles
5. Refer to page 23.
6. Approximately Anglican-200 Roman Catholic-400 United-150
7. Refer to Appendix A for example
8. Refer to page 14.
9. Refer to page 31.
10. Refer to page 15.

(Answers and/or information will be available on pages mentioned).

POPULATION OF REDCLIFF

1986 - 3834
 1982 - 3814
 1981 - 3641
 1979 - 3473
 1977 - 3341
 1975 - 2628
 1974 - 2380
 1972 - 2242
 1969 - 2141
 1961 - 2221

Population breakdown compiled from a census completed on June 30, 1982.

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	201	196	397
5-14	383	360	743
15-19	169	153	322
20-24	165	163	328
25-44	658	604	1262
45-64	254	248	502
65-over	118	142	260
<hr/>			
Total	1948	1866	3814

LANGUAGE ARTS

1. Writing -poems
 -stories
 -reports (The "Dirty Thirties")
2. Spelling pertaining to the unit.
3. Read the town monthly newsletter.
4. Make a school newsletter.
5. Make contributions to the monthly town newsletter.
6. Write a descriptive paragraph on what Redcliff would have been like if the town would not have been hit by the 1915 cyclone.
7. If you were a greenhouse operator and wanted to sell your products, you would have to advertise. Prepare an advertisement for this purpose.
8. Pick a moment in Redcliff's history from at the museum and write a brief description about it.
9. Project and predict what Redcliff will be like 50 years from now and write an appropriate story.
10. Tell about the Seventy-Six Ranches known locally as the Stair Ranch and how it became part of Redcliff.
11. Design and write a tourism brochure for this community which will encourage tourists to visit.
12. Tell about how the trees along Broadway Avenue were planted in memory of Redcliff's troops who went to fight in the war.

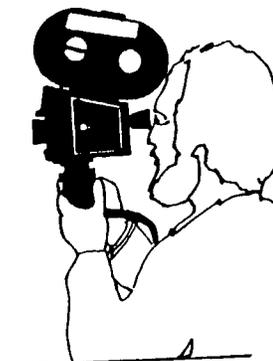


LANGUAGE ARTS ANSWER KEY

1. Examples of poems on page 1 and 2.
2. Choose words from various pages.
3. Each household receives one; can be brought to school.
4. According to teacher and student choice.
5. Take contributions to Town Hall.
6. According to teacher and student choice.
7. According to teacher and student choice.
8. Make a trip to the museum.
9. According to teacher and student choice.
10. Refer to "The Golden Years of Redcliff" booklet in town library.
11. Examples in folder of information.
12. The 218 trees along Broadway East, from the Canadian Legion corner to the Cairn and from the Redcliff Hotel, north along third street to the gravel highway, were planted by the school children of Redcliff. It was organized by Miss Broadfoot, a school teacher,, in honour of the 218 men and women who served their country in World War II; An admirable effort for such a small community.
 Records of the number of men who joined the Canadian Forces from Redcliff and District in World War I cannot be determined at this time, however, the mortality list is correct. The list is at the Royal Canadian Legion. As well, a plaque in their honour hangs in the St. Ambrose Church in Redcliff. Fifty-one men gave their lives.
 Seven men gave their lives in World War II. Their names are emblazoned in the Cairn at the end of the avenue of trees.
 What better tribute could be paid by Redcliff and District to those who sacrificed their lives than this living emblem, The Avenue of Trees!

ART

1. Construct a building of "bricks" using appropriate materials. (milk cartons, boxes, blocks)
2. Paint or colour a picture of the greenhouses lit up at night.
3. Draw, colour and/or paint a picture of the northern lights which we see here.
4. Do a flower arrangement.
5. Paint a still life of a flower arrangement, vegetables, etc.
6. Construct a model of the town.
7. Do a sketch of one of our old buildings.
8. Construct a model of a greenhouse.
9. Do sketches of the flora, fauna, or wild animals of the area.
10. Do a mural that could perhaps be displayed periodically in public buildings.



SOCIAL STUDIES

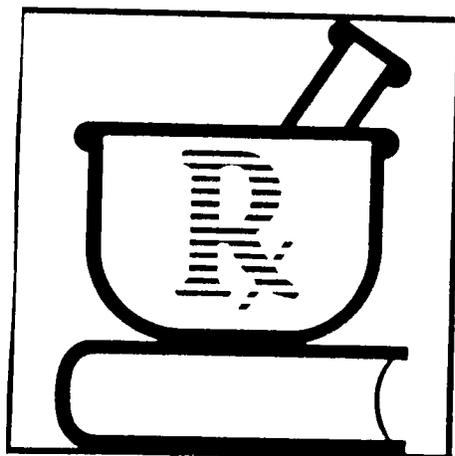
1. Construct a map of the town; streets, avenues, etc.
2. Go on field trips to:
 - T.V. Station
 - Brick plant
 - Greenhouse
 - Town hall
 - Fire station
 - Bakery
 - Post Office
 - Library
 - Senior Citizens' Home
 - Day Care Centre
3. What are some services we could use here in our community?
4. Who lived here long ago and what was it like before the town was founded?
5. What implications are there for Redcliff being so close to a large city?
6. What types of housing are built here and why are those types of construction materials used?
7. Which is the oldest building in the town and what was it used for?
8. What kinds of recreation and facilities does our community have for different age groups?
9. What do the tax dollars, that the members of Redcliff pay, go toward?
10. In the early 1900's, what kinds of transportation and recreation was the South Saskatchewan River from Medicine Hat to Redcliff used for?
11. In order to become acquainted with various levels of government, tell about political parties, MP's and MLA's.
12. What kinds of political parties do we have in our constituency? Explain. Name the party currently in power.

SOCIAL STUDIES ANSWER KEY

1. See Appendix for examples.
2. Could write a brief report about field trip.
3. Services needed are: Specialized health care, more teen, elderly and children services; may be others.
4. Indian people lived here long ago. It was a vast, desolate plain. Large amounts of buffalo roamed here which fed on the tall prairie grasses.
5. Redcliff may not always get proper recognition because of being so close to Medicine Hat; answers may vary.
6. Most of the houses are constructed of durable materials such as brick and vinyl in order to withstand our harsh weather conditions; may have additional answers.
7. Refer to "The Golden Years of Redcliff" booklet in Redcliff library.
8. Refer to page 14.
9. Refer to Appendix A.
10. To transport coal and for the riverboat steamers; refer to "The Golden Years of Redcliff" in Redcliff Library.
11. Refer to page 21; have students find out information from Town Hall and MLA office.
12. Refer to page 21; have students find out information from Town Hall and MLA office.

SCIENCE

1. Make a list of several plants native to this area.
2. Which animals are native to this area?
3. What kinds of plants are grown here in greenhouses?
4. What kinds of plants are grown in the outdoor vegetable gardens?
5. Collect rock samples of the area; determine age and kinds of rock. (River bed, cliffs)
6. Collect soil samples of the area and write a little information about each one.
7. Test the water and look at it under a microscope. Write a description of what you saw.
8. What kinds of occupations do people living in this area have? Urban? Rural?
9. What kinds of weather patterns do we have here in the four different seasons?
10. What kinds of birds nest here in different times of the year? Keep a record of their activities.

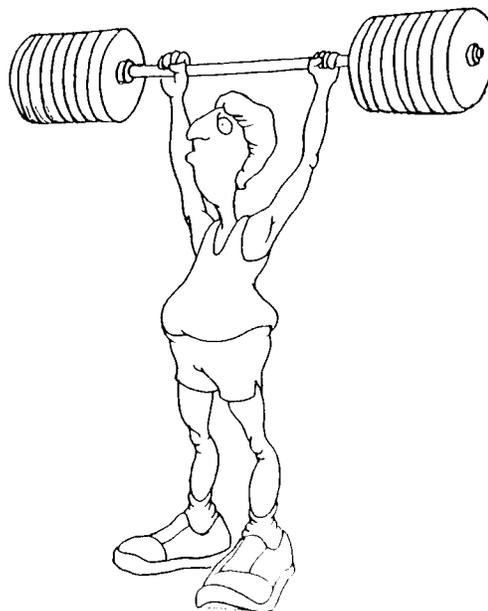


SCIENCE ANSWER KEY

1. Refer to Appendix A.
2. Refer to Appendix A, to folder of information; possible answers could also be rabbits, Richardson Ground Squirrel, skunks, antelope and deer.
3. Mostly tomatoes, cucumbers; may be others.
4. All kinds of garden vegetables and some fruits; Examples are: pumpkins, squash, strawberries, pickling cucumbers, and melons.
5. Depends on what kinds chosen from particular areas.
6. Refer to page 8; depends on where sample is taken ie. sand from river bed.
7. Have someone from the water treatment plant come in and assist students; alternatives could be to test pond or puddle water.
8. Refer to page 11; answers may vary.
9. Refer to page 7; answers may vary.
10. Refer to Appendix A and to folder information; possible answers could be: robins, wrens, bluebirds, and meadowlarks.

PHYSICAL EDUCATION

1. Take hikes down to the River Park Lion's Park and other town parks.
2. Participate in all sports we have to offer just for fun.
 - hockey
 - curling
 - jogging
 - skating
 - tennis
 - baseball
 - soccer
 - square dancing
3. Take a canoe trip down to the South Saskatchewan River.
4. Participate in intramural sports in the schools.
5. Get a cheering group together, practice and attend games to encourage sportsmanship.
6. Organize a softball team for an extra-curricular activity on the school grounds.
7. Hold a family dance in the school gym.
8. Hold a family get-together in the park with a penny carnival and activities for all ages with proceeds to go to the school for equipment.
9. Invite the public to watch a school tournament.
10. Hold a walkathon, skateathon, etc., with proceeds to go to the community needy.

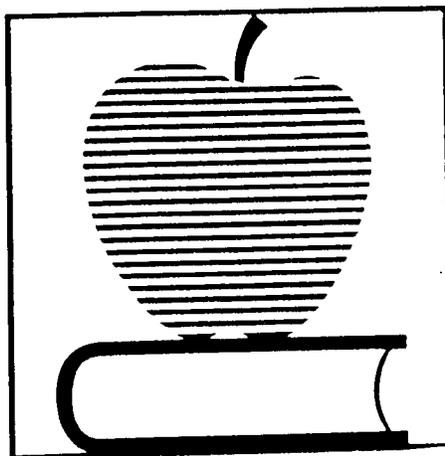


MUSIC

1. Write a school song.
2. Provide music for the annual celebration--Redcliff Days.
3. Sing for the Senior Citizens at the Home.
4. Have a caroling session at Christmas in the form of a hay ride.
5. Have the local square dancing club come to show students various dance steps. Then, develop a short square dance.
6. Invite parents to a school talent show.
7. Pick different sized blades of grass to use as musical instruments and practice a short piece of music.
8. Write music and lyrics for cheerleaders for school tournaments.
9. Produce a tape recording of musical efforts and place it in the school and town libraries for others to hear.
10. Produce a short musical play to show to other grades in the school.
11. Organize a marching band which could perform for various functions in and out of the community.

HEALTH

1. What types of clothing is suitable to wear here in different seasons? Explain.
2. Does our town use water treatment measures? Do an investigation and note positive and negative aspects of water treatment.
3. How do recreational activities help us?
4. Are our foods organically grown? Are pesticides and chemicals used when greenhouse and vegetable garden produce are grown? Explain.
5. How is our way of life affected by how our community is operated?
6. How do the vegetables grown here help us?
7. Has a non-smoking policy been introduced? Is smoking restricted in certain community buildings? If so, in which ones and why?
8. How many members of the health professions (doctors, nurses, dentists, physiotherapists, etc.) work in the community? What does each one of them do?
9. Has industry affected the health of residents in this area? Explain.



HEALTH ANSWER KEY

1. Possible answers could be heavy clothing such as parkas and lined boots for winter, medium clothing for spring and fall such as thin lined jackets and shoes, and light clothing such as that made of cotton and sandals for summer.
2. Yes, we use treatment measures such as chlorinating the water. Some positive aspects could be less risk of disease due to less germs in water and better quality water. Some negative aspects could be the taste and people may be allergic to the water treatment. Could be additional answers.
3. Answers may vary; good for us, necessary for health, etc.
4. No, our foods are not organically grown in the greenhouses or in the market gardens. Some safe pesticides and chemical fertilizers are used. Answers may vary.
5. Way of life is affected by: services for us to use, recreational activities to do, etc; answers may vary.
6. Vegetables are one of the Canada Food Groups and we need them to be healthy; answers may vary.
7. Yes, a non-smoking policy has been introduced with some modifications in the town hall and public buildings such as the library and Redcliff Rectangle. Students would have to make enquiries from time to time to keep updated.
8. A few health professionals live in Redcliff or the surrounding rural area such as a doctor, nurses, and a dentist with others living in the city of Medicine Hat.
9. Some reports say that more people here have heart disease, gall bladder problems, and cancer in this area. Information can be obtained from the Health Clinic in Redcliff or from the Health Units in Medicine Hat.

**A LISTING OF BUSINESSES AND AGENCIES
IN REDCLIFF IN 1992**

Library
Senior Drop-In Centre
Senior Citizens Home
Bank
Bakery

Post Office
Fast Food Places
Hotel/Motel
Oil/Gas Businesses
Hardware

Rectangle
Curling Rink
Schools
Grocery Stores
Communications Store

Gas Bars
Convenience Stores
Hair Salons
Drug Stores
Greenhouses

Dentist
Plumbing Shop

Club-Legion
Fabric Store
Garages
Gold Course
Meat Store

Auto Body Shops
Car Washes
Rental Places
Town Hall
Doctors

Public Works
Fire Hall
Clothing/Craft Store
Credit Union
Recreation Office

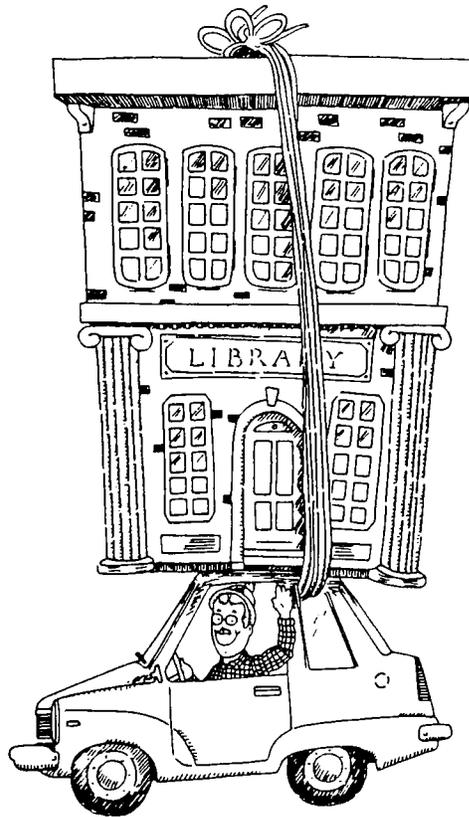
Video Store
Brick Plant
Teen Drop-In Centre
Red Hat Vegetable Packing
Restaurants

Liquor Store
Storage Rental Space

REDCLIFF LIBRARY: LIST OF INFORMATION AVAILABLE

1. The Golden Years of Redcliff - Early History by Cecil T. Hall Phm. B. (approximately 80 pages)
2. Tourist Pamphlet of "The Town of Redcliff"
3. Tourist Pamphlet of "Municipal District of Cypress No. 1"
4. Map of Alberta's Gateway Country
5. Map and Information for Medicine Hat - Our Nearest City - Your Visitor's guide
6. Pamphlet for "Your Guide to Team Tourism"
7. Pamphlet for our nearest Provincial Park - Elkwater
8. Redcliff Commercial Cars Booklets (Several booklets)
9. Pamphlet for Residential security - Crime Prevention Program
10. Residential Rehabilitation Assistance Program Information
11. Alberta Mortgage and Housing Senior's Home Information
12. Senior Citizens Lodges Pamphlet
13. Tourist Pamphlet - "South-East Alberta Salutes a Century in Scarlet"
14. Redcliff Public Library - Annual Report (1991)
15. Redcliff Industrial Report Pamphlet (1983)
16. Redcliff Police Department History (1911-1987)
17. Town of Redcliff Statistics
18. Diamond Jubilee Souvenir Programme Booklet
19. Population Information
20. Maps of Redcliff (one from 1912)

21. Coronation Pamphlet, June 2, 1953, Redcliff, AB
22. Poem - "A Tribute to Redcliffe"
23. Magazine Clipping - Centennial Days, Dale Rose - CPR station dream home, new library, Brownies, School Raising, Hotel
25. Riverboat newspaper clipping information
26. "Five High School Girls Build War Memorial" newspaper clipping
27. Various pictures form newspaper
28. Clipping of Redcliff's Golden Anniversary Days from Aug/72
29. Various photos - (copied_ Redcliff Public School



APPENDIX A



TOWN OF REDCLIFF

"Greenhouse Capital of the Prairies"



1st Annual Newsletter

OUR THEME

Redcliff's history of diversified industry and the commitment to a variety of recreational facilities for the whole family led to the development of the "Town of Industry and Recreation" theme.

The Tourism Action Committee and the Town council arrived at a new theme designed to show our unique quality and to encourage tourists to stop and visit Redcliff. The new theme "Greenhouse Capital of the Prairies" will be used to promote our community; tours of greenhouses will be developed and hopefully having over 35 acres under glass and plastic will encourage tour groups and the travelling public to stop, visit our Town and promote economic growth by supporting our businesses.

Along with this new theme comes the possibility of creating a new logo. Our Tourism Committee and Council have discussed this at some length. A new experimental clean design was created for our Town Tourism Brochure. We would welcome your comments on this design and possibly the idea of adding greenhouses to the design.

There has been some concern that the old logo with the Domglas stacks, natural gas flame, etc. may be so historically significant that no new logo will be well accepted. Please take the time to send us your comments or talk to one of the Council members about your ideas.

MEMBERS OF COUNCIL

Mayor	
BILL DUNCAN	548-6109
Councillors	
CASEY BOUTKAN	548-3798
BOB COULTER	548-3181
DWIGHT KILPATRICK	548-6292
DONNA MYREN	548-3048
DON NUNWEILER	548-3490
JACK SIMMONDS	548-6559

COMMITTEES OF COUNCIL

ADMINISTRATION & PROTECTIVE SERVICES

- Councillors**
 BOB COULTER
 JACK SIMMONDS
 DWIGHT KILPATRICK

MESSAGE FROM THE MAYOR

Town Council and I are pleased to share with you the fiscal breakdown of our Municipal Operations. The most difficult part of our responsibility as a Council is to balance the needs of our residents with the costs to provide all of the services required to keep our community operating and to modernize our aging infrastructure and facilities. The budget process is extremely difficult and your suggestions, support or positive criticism are a valuable asset in helping us to set each year's budget. Please continue to talk to Council at every opportunity, we appreciate your input.

Congratulations to the residents of Redcliff! Your support in striving to improve the Town is starting to show. Our Town staff is committed to weed control, lane and street repairs and maintenance of Town owned properties. Your help in maintaining your properties is starting to give our Town a clean, green, attractive appearance we can all be proud to show visitors to Redcliff.

Finally congratulations and thank you to all the volunteers, clubs and employees of our Town who continue to make our special events so successful. Without you, our community could not provide the opportunities for people to enjoy our wonderful Town and all it's amenities.

TRANSPORTATION & UTILITIES

- Councillors**
 Dwight Kilpatrick
 Casey Boutkan
 Don Nunweiler

ECONOMIC DEVELOPMENT, TOURISM & RECREATION

- Councillors**
 Casey Boutkan
 Donna Myren
 Don Nunweiler

WHO PAYS OUR TAXES

	1990 ACTUAL	%
Residential	1,352,804	56.00
Industry	460,724	19.10
Business	88,070	16.10
Other	213,238	8.80
TOTAL	2,413,946	100.00

SOME INTERESTING STATISTICS

Date of Incorporation - October 12, 1912

Populations - 1986 Census	3,834
- 1990 Municipal	4,000
- Estimate	
Estimated eligible voters list -	2,200

Total Debt - General Fund	\$2,457,255
- Water Fund	603,193
- Sewer Fund	830,764
TOTAL	\$3,891,212

Total Dept Per Capita \$1,015

EMPLOYEES

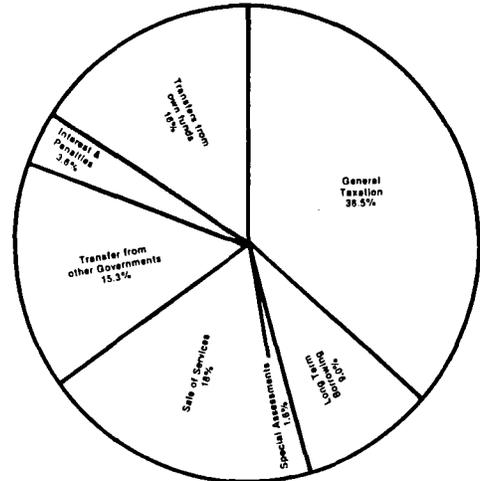
	Full Time	Part Time	TOTAL
General Admin	7	--	7
Public Works	10	2	12
Recreation	5	12	17
Fire Dept.	--	19	19
Police	10	--	10
	32	33	65

Total Gross Wages and Paid Benefits Paid in 1990 **\$1,261,602**

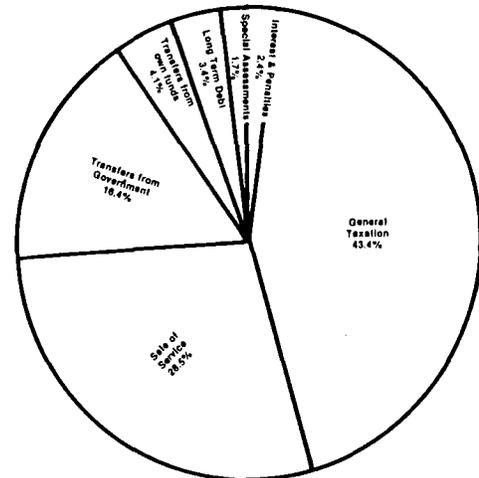
SOURCES OF TOWN REVENUE

In addition to taxation, the Town collects revenue from other sources:

1990 ACTUAL



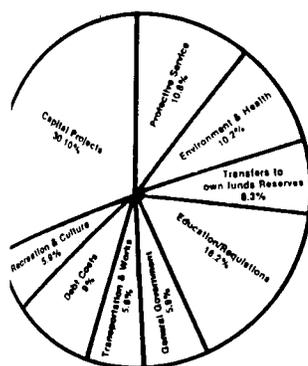
1991 BUDGET



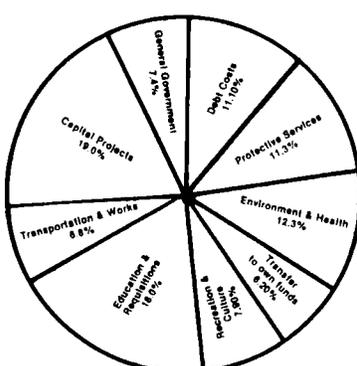
	1990 ACTUAL	1991 BUDGET
Taxation, General	\$2,312,311	\$2,523,660
Special Assessments	101,629	101,464
Sale of Services, Permits, User Fees & Rentals	1,141,474	1,653,597
Long Term Borrowing	569,430	198,905
Interest/Penalties	225,623	137,500
Transfers from other Governments	971,399	955,138
Transfers from Own Fund and Reserves	1,019,703	240,239
TOTAL	\$6,341,665	\$5,810,503

HOW WE SPEND THIS REVENUE

1990 ACTUAL



1991 BUDGET



	1990 ACTUAL	1991 BUDGET
General Gov't Services	\$371,130	\$431,191
Protective Services	686,740	659,377
Transportation & Works	356,766	393,441
Environment & Health	646,021	713,881
Education/Other		
Requisitions & Grants	1,030,552	1,067,085
Recreation & Culture	374,811	457,500
Debt Costs	572,078	644,757
Transfer to Own Funds Reserves	401,041	338,937
Capital Reserves	1,904,742	1,104,334
TOTAL	\$6,343,881	\$5,810,503

1990 IN REVIEW

After the fall 1989 election, a virtually new Council, a new Mayor and four new council members, endeavoured to learn the needs, the assets and the intricacies of Redcliff.

A new budget was finalized early in 1990 with the most significant capital item being the new swimming pool. This marvelous facility was constructed with the funding assistance of the Provincial Government, Redcliff Legion Branch #6, Redcliff Lions Club, the Loyal Order of the Moose, Parks and Wildlife Foundation and the Downtown Kiwanis Club.

To continue to improve our sewer and water system, the Ninth Avenue main sewer line was upgraded and capacity increased. In 1990, this project was completed by installing a new storm drainage system and paving Ninth Avenue.

The north side of Town had a new storm drainage pond constructed to reduce water problems in that area. The raw water system was upgraded to provide for additional pumping capacity from the river, and a separate supply capability provides convenient pumping to the golf course.

Our ongoing utility service upgrading program provided for additional sales of greenhouse property and provides improved services to the area, promoting further sales and growth.

The Town office lower level was completed to provide space for our Family and Community Support Services office and to complete a large conference room for meetings, cultural programs, displays, etc.

With funds provided through various Provincial Grants we were able to support improvements to a variety of recreation facilities, the most significant being the construction of the back nine holes of the Redcliff Riverview Golf Course—a truly spectacular series of holes laid out over the coulees and along our breathtaking river cliffs. Funds were also used to build and improve on the River Valley Park, providing a very pleasant family picnic opportunity.

The Redcliff Curling Club, with assistance from the Provincial Government, Town of Redcliff and the M.D. of Cypress #1, expanded their lobby, locker and lounge facilities to improve the building for their members, to encourage new membership and to provide better rental facilities to invite more people to our community.

With the very much appreciated assistance of the Municipal District of Cypress, South Rock Paving Ltd. and the Redcliff School District #2283, we were able to build a red shale track for the use of our schools and to provide training and competition facilities for major events such as the Southern Alberta Summer Games. The track is located on the Margaret Wooding School grounds and is available for use by everyone.

The highlight of 1990 was the announcement that the Domglas property had been purchased by a new company, Consumers Paper, who would be turning recycled office waste paper and other better quality waste paper into tissue products.

In preparation for anticipated housing growth, the Main Street subdivision had all the necessary utilities installed so that a reasonable number of view and high quality lots would be available for potential buyers.

1991 IN PERSPECTIVE

The budget for 1991 was considered very carefully before finally being resolved. Council realized that the increase attributed directly to the new Aquatic Centre was significant enough to demand we control our projects in 1991, but still proceed with improvements to our community. With careful planning, we feel Council was able to successfully meet these goals.

Some of the most evident projects accomplished in 1991 were:

- ★ The opening of the new Aquatic Centre.
- ★ Paving of Mitchell Street to provide improved traffic flow from the southern part of Town and to improve access to our major tourist attraction, the Golf Course.
- ★ The first phase of our street lighting project was a huge success providing First, Second and a portion of Main Street with improved safety, visibility and property values. Phase two is scheduled to be completed late in the fall or early 1992.

The new automated garbage collection system is on order and will be implemented in December. This new system will allow us to keep our costs under control with no rate increases to residential customers, provide consistent pick up with our own staff and clean up our alleys.

- ★ To improve the desirability of Redcliff as a place to live we are continuing to improve our aging infrastructure. Sidewalk repairs have been stepped up and water services are being replaced where problems exist.

★ The Main Street area between Fifth Avenue and Sixth Avenue has been properly prepared providing good road base, sidewalks, gutters and storm sewers making this a very desirable area to build in. Two new homes are already scheduled for the spring of 1992.

★ To further enhance our economic development initiatives, we have produced a twelve minute video highlighting the positive aspects of our community. Also, the new highway signs have been a huge success with positive comments from a wide range of people on both the signs and the appropriateness of our new theme.

★ Finally the highlight of 1991, the Southern Alberta Summer Games! Not enough can be said about the time, effort and commitment of the residents of our Town and the Municipal District of Cypress which contributed to what is provincially recognized as the most successful summer games in Alberta. The success of the 1991 Southern Alberta Summer Games in Redcliff has set a high standard for the regional and provincial games of the future.

So once again, congratulations to all the organizers, sponsors, volunteers and competitors who contributed to this exceptional event and made the Town of Redcliff so successful in co-hosting the Southern Alberta Summer Games on our first attempt.

TOWN OF REDCLIFF

After reading this newsletter, certain areas of concern or other questions may have been created. We would be pleased to assist you in any matter we can. For general inquiries, please call the Town Office at 548-3618 or one of other numbers listed below, for more specific concerns.

MUNICIPAL OFFICE

#1 - 3rd Street N.E.

PHONE: 548-3618

FAX: 548-6623

OFFICE HOURS: 8:00 am - 4:30 pm

Municipal Manager - **RANDY GIESBRECHT**

By-Law Enforcement Officer & Building Permits - **GARRY ROTH**

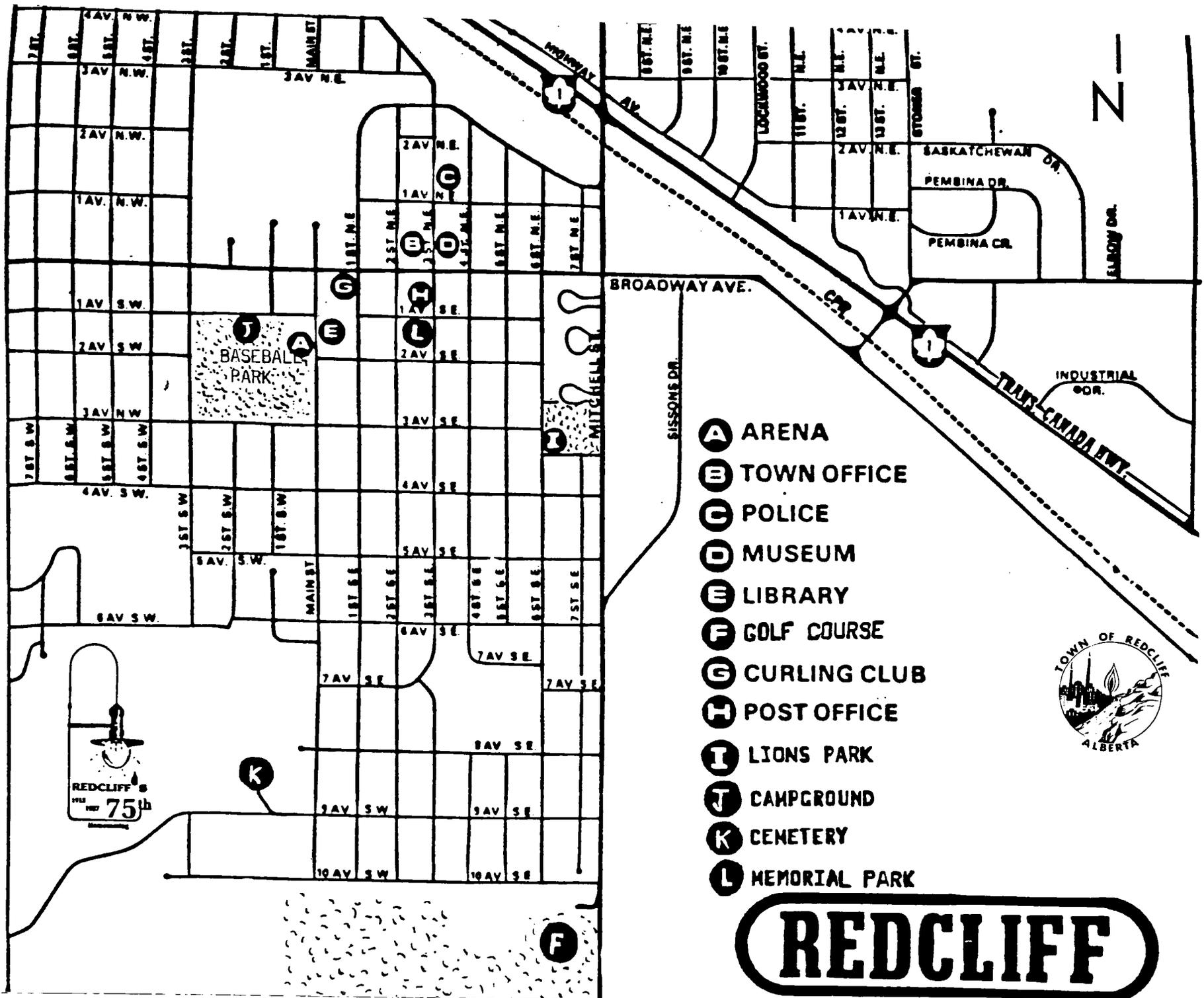
Family & Community Support Services - **DODI BARNARD, Director**

Located downstairs at the Town Office

Phone: 548-7415

OTHER IMPORTANT NUMBERS

POLICE - MIKE PEARCE, Chief		548-3944
PARKS & RECREATION DEPARTMENT - DARRELL SCHAFFER, Director		548-3232
PUBLIC WORKS - DALE MacKAY, Superintendent		548-3549
REC-TANGLE	548-3232	AQUATIC CENTRE 548-3000
REGIONAL LANDFILL	548-6370	FIRE ALARM 548-3333
SENIORS DROP-IN CENTRE	548-6228	REDCLIFF MUSEUM 548-6260
REDCLIFF PUBLIC LIBRARY	548-3335	REDCLIFF CURLING CLUB 548-6422
RIVERVIEW GOLF CLUB	548-7118	



- A** ARENA
- B** TOWN OFFICE
- C** POLICE
- D** MUSEUM
- E** LIBRARY
- F** GOLF COURSE
- G** CURLING CLUB
- H** POST OFFICE
- I** LIONS PARK
- J** CAMPGROUND
- K** CEMETERY
- L** MEMORIAL PARK

REDCLIFF



ALBERTA

The flourishing manufacturing town of Redcliff lies just west of Medicine Hat on the Trans Canada and the CPR, above the red cliff of the Saskatchewan River which gives the town its name.

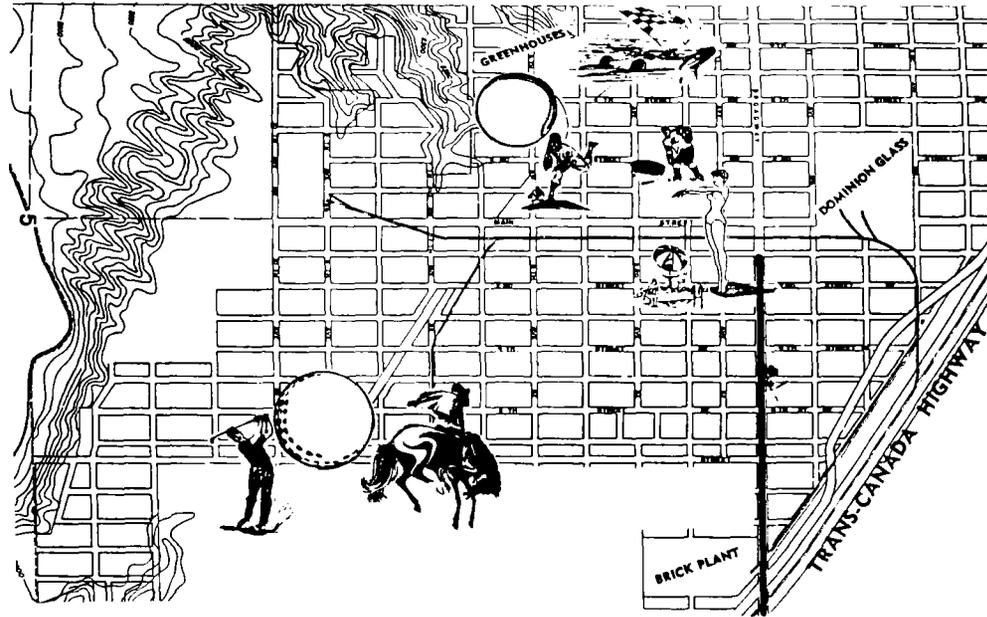
The first industry, a coal mine, was established on the west side of the present community in about 1883 (searchers can still find hand wrought nails from the tippie which was destroyed by fire about the turn of the century). By 1911, under the direction of a group of American real estate men, the Town became the industrial centre of the Canadian West. Over 20 industries were planned, building or in operation. There was a shoe factory, a steel rolling mill, foundries, brick plants, a knitting factory and many others, including a cigar factory. The foundations of many of the plants are still visible as a reminder of the era when Redcliff was the "Smokeless Pittsburg of the West".

Redcliff is still one of the most heavily industrialized towns in Canada. The Dominion Glass Company and the Redcliff Pressed Brick, both modern highly automated factories ship their products all over western America and dozens of greenhouses now supply a growing market for vegetables and flowers. Redcliff has long been known as the GLASS TOWN with good reason. The industries support a labour force of about 800, many of whom commute from nearby Medicine Hat.

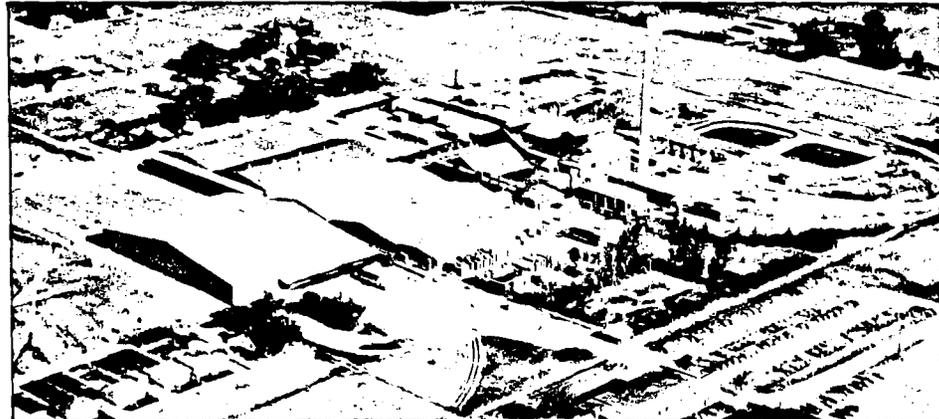
Redcliff residents find the town a good place to live, to work and raise their families; a fine place for kids and dogs; a place where there is still room for a garden and room to breathe; a little spot in Canada that long ago adjusted to the industrial age and is becoming a model industrial town for the future.

Inquiries for land may be made to the Town Clerk, Redcliff, Alberta.

DAVE BROADFOOT.



MEMORIAL PARK



DOMINION GLASS CO.



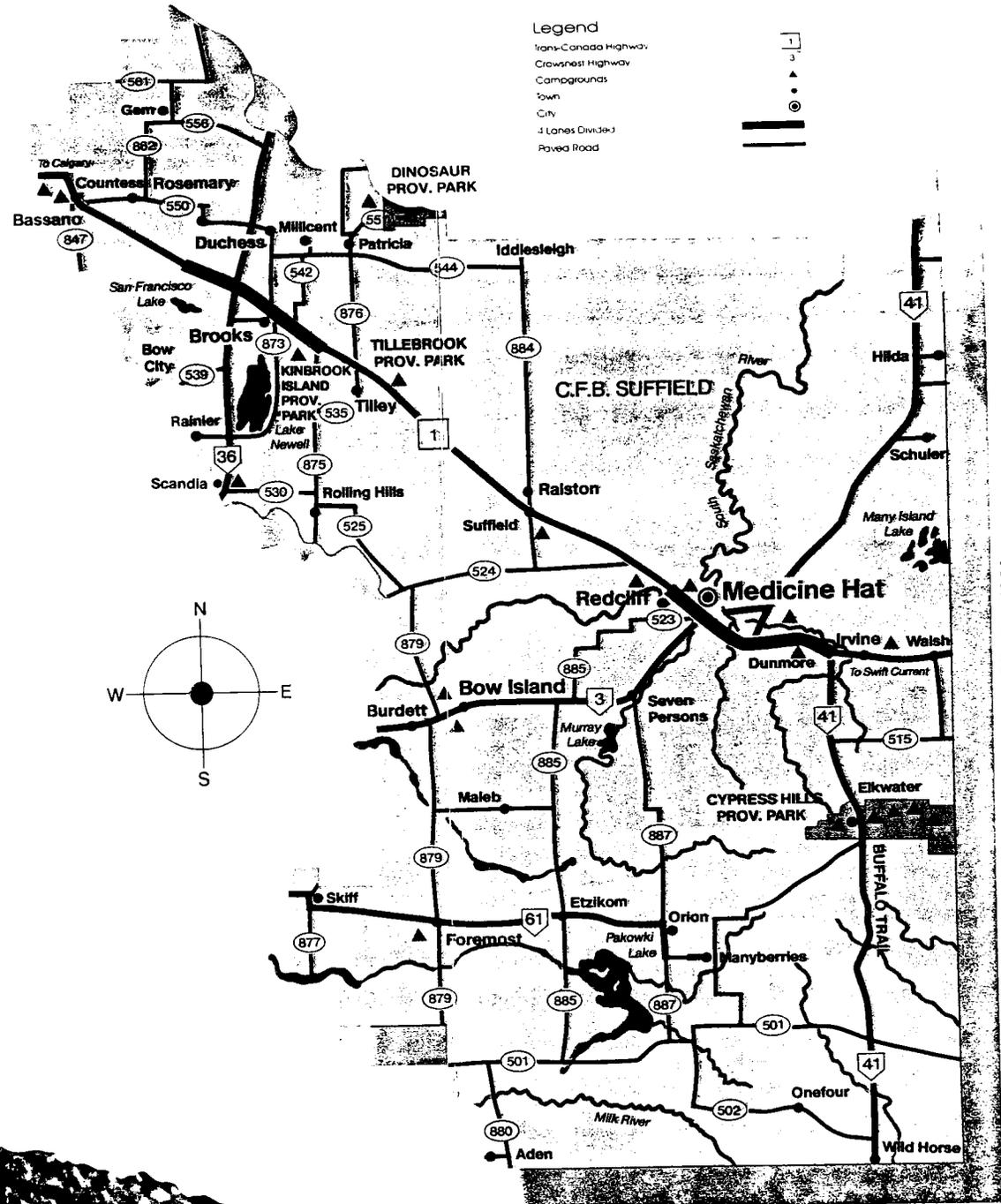
Spectacular terrain unfolds before you!



Get away from it all!



corner.



Legend

- Trans-Canada Highway
- Crowfoot Highway
- Campgrounds
- Town
- City
- 1 Lane Divided
- Paved Road



SASKATCHEWAN

UNITED STATES OF AMERICA
MONTANA

Fact Sheet 1

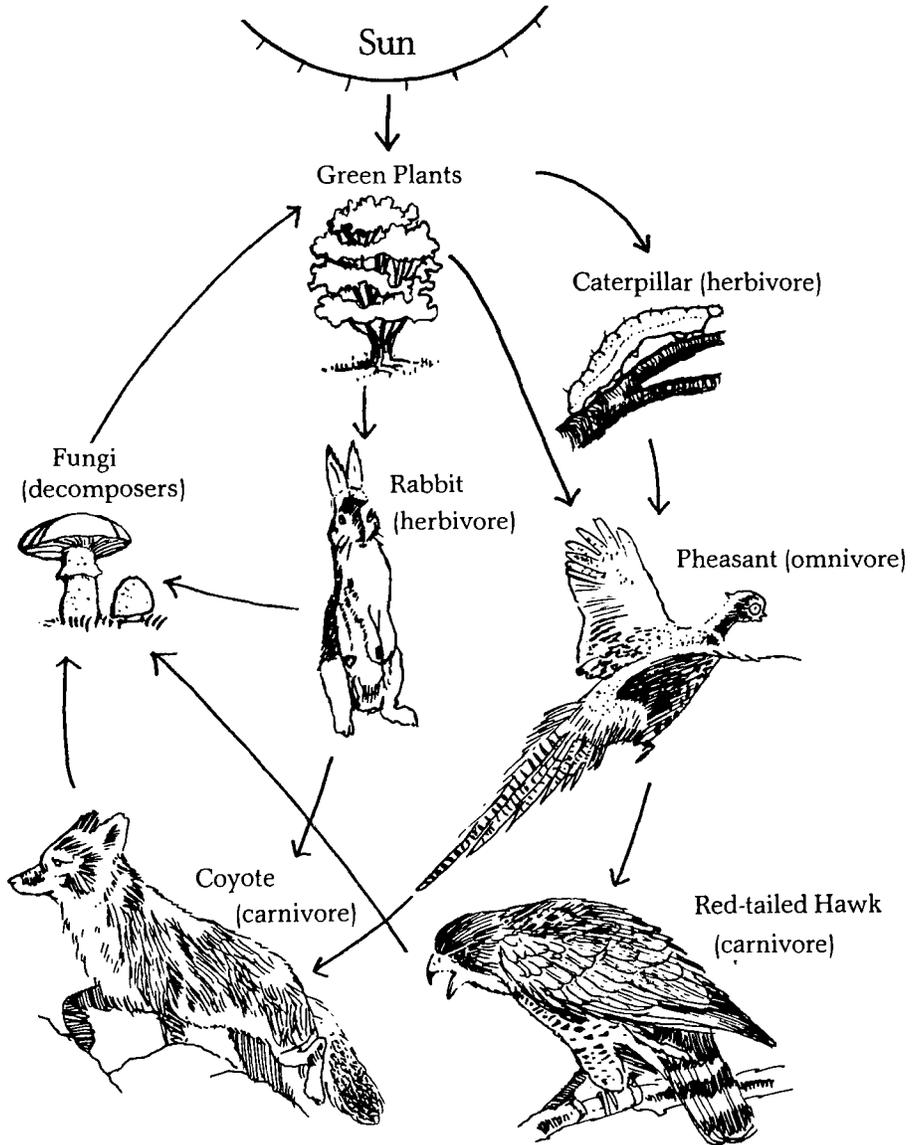
All Living Things are Related

Food Relationships

Food Chain

The most basic relationship among all living things is the food chain. The food chain is the transfer of food energy from one living thing to another. The sun is the source of energy for all living things. Plants convert the sun's energy into food. Herbivores are animals that get their energy by eating only plants. Examples include deer, rabbits, ducks and beaver. Carnivores get their energy by eating only animals. Examples include wolves, coyotes, owls and weasels. Omnivores, such as bears and ring-necked pheasants, aren't fussy: they eat both plants and animals.

When animals die, organisms (decomposers) like bacteria and fungi break animal matter into nutrients used by green plants.



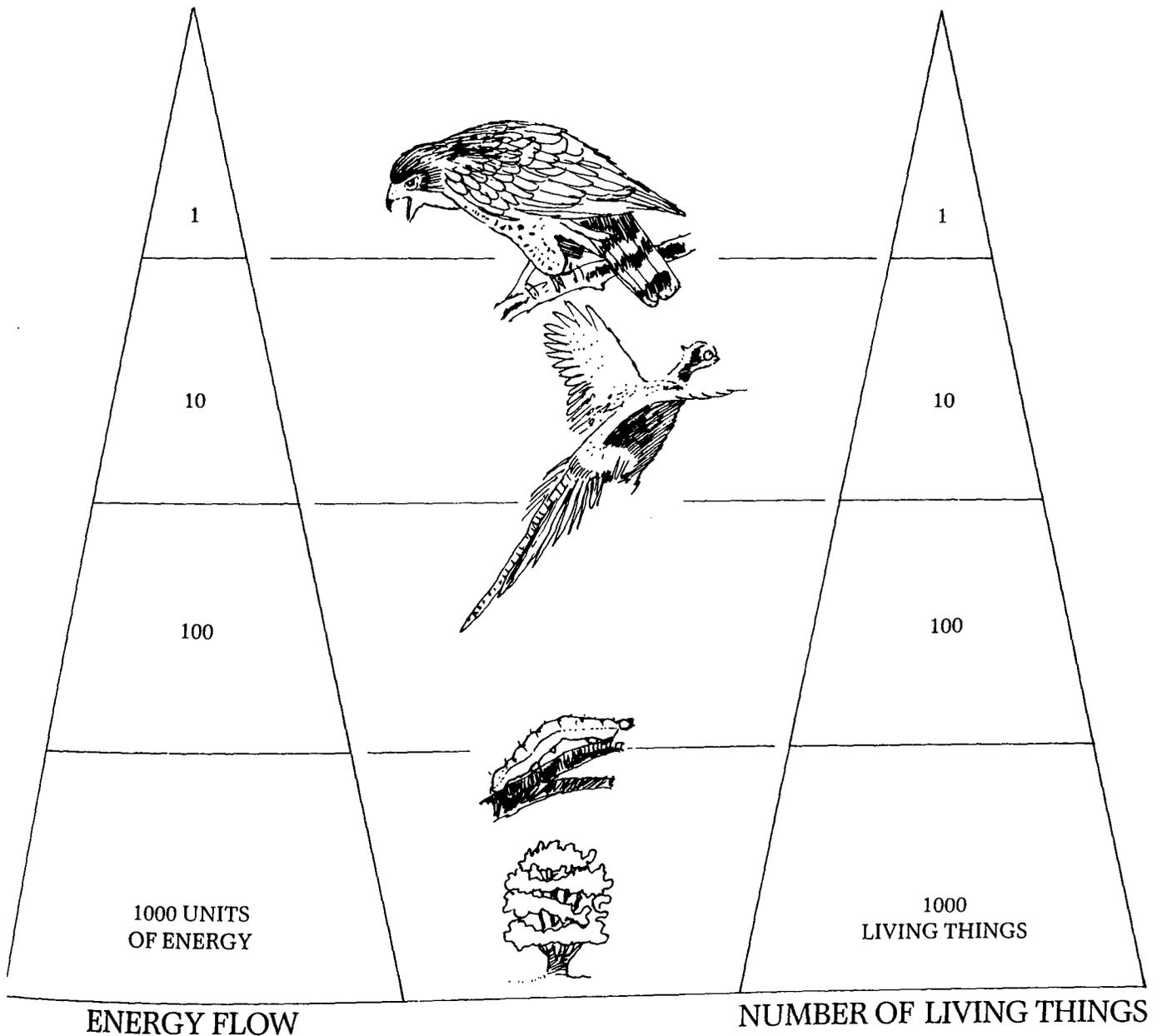
Food Web

Animals eat many different plants and animals for food. In any environment there are millions of food chains. These many food chains are known as a food web.

Food Pyramid

One herbivore must eat many plants to survive. One carnivore must eat several herbivores to survive. Because food energy is lost at each level of the food chain, the bottom layer of plants is broad. The second layer, herbivores, is narrower and the third layer, carnivores is narrower still. Thus, living things

in any environment form a food pyramid with many more plants than herbivores and many more herbivores than carnivores. Since the food relationship starts with plants, the quality of plants and vegetation in any area determines wildlife numbers and quality in the area.

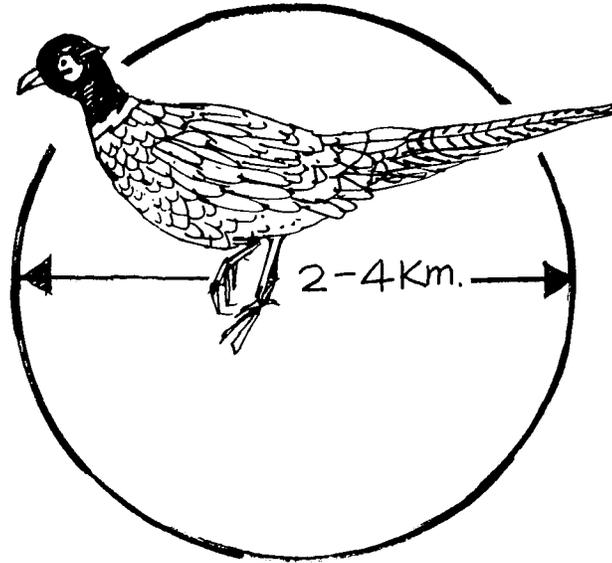


Fact Sheet 2

More Wildlife Relationships

Home Range

The distance an animal travels within an area to satisfy its need for food, water and cover is called the home range. The size of the home range varies with species. A weasel may travel one hectare while a larger predator such as a wolf may range several square kilometres. Pheasants rarely travel more than two to four kilometres.



Territory

A territory is an area within the home range which members of a species defend against members of the same species. Usually males defend a territory during breeding while females defend a territory during nesting and rearing young.

Habitat

For wildlife, habitat is made up mainly of three things -- food, cover and water. Each wildlife species must be able to find these three things in its habitat to survive. Some species have additional special requirements such as dancing grounds for sharp-tailed grouse and drumming logs for ruffed grouse. If these things are not available, the species cannot live in the area.

Habitat continuously changes. Changes may be gradual or rapid. Fires, floods and clearing cause rapid changes. Habitat on abandoned farmsteads changes gradually as it becomes overgrown with weeds, shrubs and trees.

Any change in land changes food and cover. As a result, different species occupy areas for different periods of time.

Niche

Each species occupies a certain habitat known as its niche. Other animals might live in the same or part of the same area but no two species occupy exactly the same niche. If two species try to occupy the same niche, they compete until one is driven out.

Any difference in use of food, water or cover means the niche is different. An example of two species occupying part of the same niche are the pheasant and the Hungarian partridge.

The pheasant usually occupies a niche which has 60 per cent cropland, 20 per cent high cover and 20 per cent low cover.

The Hungarian partridge usually occupies a niche that has 80 per cent cropland, 10 per cent low cover and 10 per cent high cover.

Pheasants live in the heart of irrigation country close to cover. The Hungarian partridge lives on the fringes of irrigation areas, in grass away from heavy cover.

Carrying Capacity

The number and kinds of wildlife a piece of land can support is known as its carrying capacity. Carrying capacity depends on quality, quantity and location of food, cover and water as well as the social habits of the animals living there. In other words, carrying capacity depends on habitat.

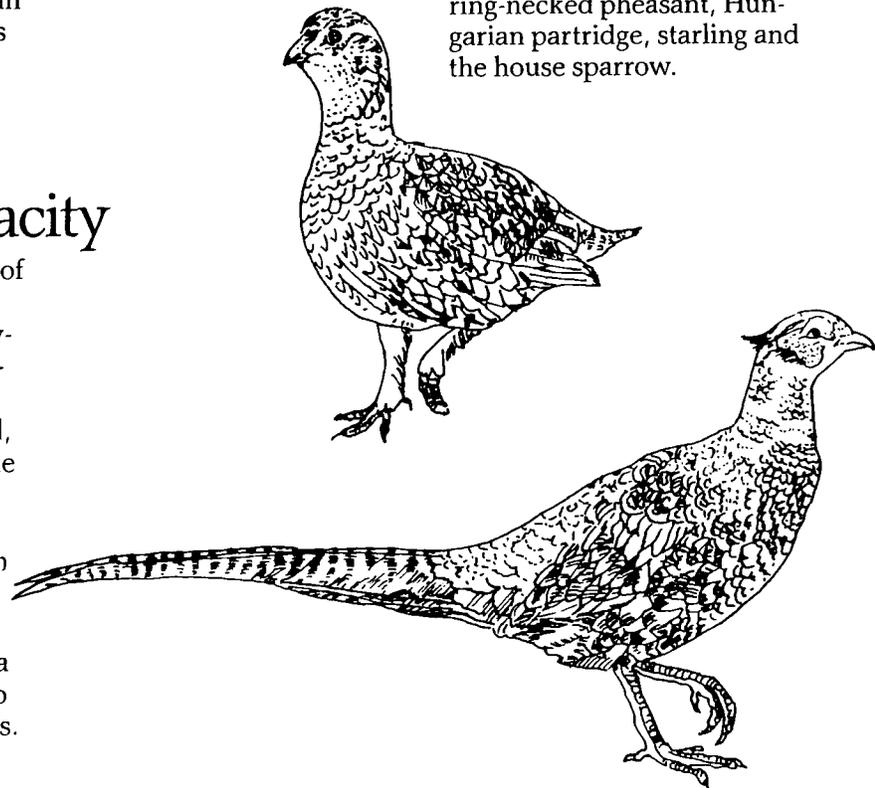
Just as pasture can only feed so many head of cattle, a piece of land can feed only so many deer, elk and pheasants. Any extras must move on or die.

Limiting Factors

Anything which prevents a group of animals (population) from increasing is a limiting factor. Lack of food, cover or water can be a limiting factor. Predators (animals that hunt other animals for food), hunting, disease, parasites, starvation and weather can also be limiting factors.

Native and Non-native Species

A native species is one that lives naturally in an area. Examples of animals native to Alberta include moose, coyotes, white-tailed deer, sharp-tailed grouse, grizzly bear and many others. A non-native species is one that is not naturally found in an area but has been brought to it by man and is able to survive. Examples of non-native wildlife species in Alberta include the ring-necked pheasant, Hungarian partridge, starling and the house sparrow.



Fact Sheet 3

Five Plant and Animal Regions

Alberta's plants and animals can be divided into five broad regions. Some plants and animals are found in only one region while others are found in several.

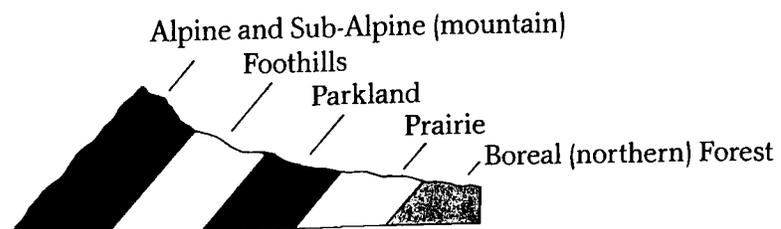
Prairie Region

Alberta's grassland prairies cover most of southern Alberta. Much of the area is ranchland or under cultivation. Few trees grow here except for planted windbreaks and shrubby growth along bottom lands, streams and coulees.

Wildlife species found only in this area include the prairie rattlesnake, horned lizard, sage grouse and pronghorn antelope. Other wildlife making their home here are prairie falcons, ferruginous hawks, weasels, badgers, coyotes, red foxes, white-tailed jack rabbits, cottontail rabbits, numerous small birds, ducks, geese, pheasants and a variety of shorebirds. Many species common to other regions such as the mule deer, beaver and ground squirrel also live here.



Key



Parkland Region

The aspen parkland in east central Alberta is an ecotone or area of transition. It has characteristics of the prairie region to the south and east, and the northern forest and foothills regions to the north and west. Along its western boundary groves of aspen mix with prairie. Large stream valleys are covered with aspen and willows. The countryside ranges from gently rolling to hilly. Trees and shrubs mix with cultivated fields. Patches of parkland can also be found within the northern forest region around Grande Prairie, Peace River and Fort Vermilion.

The plant variety in this ecotone region makes good habitat for wildlife. Species such as the white-tailed deer, mule deer, coyote, ducks and geese are numerous. Other species like the ruffed and sharp-tailed grouse, merlin, goshawk, great blue heron, horned lark, meadow lark and snowshoe hare begin to appear. Pheasant numbers are fewer in this area than in the prairie region.

Foothill Region

The foothill regions, east of the Rockies, are ridged, heavily forested areas with scattered grasslands in the broader valleys and sparse trees along the higher crests. Many of the same species found in sub-alpine areas can be seen in the upper foothills closest to the mountains. The lower foothills are home to moose, elk, deer, bear and water-loving mammals such as beaver and otter. Pheasants are rarely seen here except on the fringes of cereal crop areas.

Boreal (Northern) Forest

The boreal forest covers most of northern Alberta. Various mixes of poplar and white spruce grow here. Slow growing black spruce muskeg and tamarack swamp cover the poorly drained lowlands and flats.

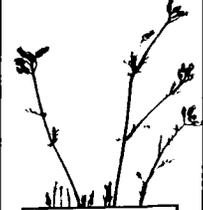
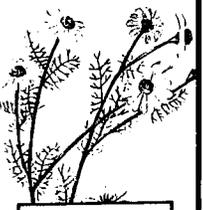
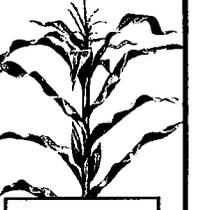
Many large game species such as moose, elk and deer and a few woodland caribou live here. Other species include wolves, bear, lynx, owls, red squirrels, snowshoe hares, weasels, other small mammals and many bird species. Pheasants are rarely seen in this area.

Alpine (Mountain) and Sub-alpine Regions

Alpine zones are generally those above the treeline while sub-alpine are those below. Above the treeline, vegetation is limited to grasses and low growing shrubs. Below the treeline, habitats along the Rocky Mountains are usually evergreen (coniferous) forests. They may give way to mixed deciduous (leaf shedding) and coniferous or pure deciduous forests at lower altitudes and gentler slopes.

Some of the many wildlife species found in this region include bighorn sheep, mountain goats, cougars, eagles, blue grouse, marmots, and grizzly bears. This region does not provide good habitat for pheasants.

21 WEEDS

  <p>Wild Oats</p>	  <p>Green Foxtail</p>	  <p>Yellow Foxtail</p>	  <p>Wild Buckwheat</p>	  <p>Lamb's Quarters</p>	  <p>Redroot Pigweed</p>	  <p>Wild Mustard</p>
  <p>Green Smartweed</p>	  <p>Cow Cockle</p>	  <p>Barnyard Grass</p>	  <p>Persian Darnel</p>	  <p>Stinkweed</p>	  <p>Tartary Buckwheat</p>	  <p>Kochia</p>
  <p>Russian Thistle</p>	  <p>Night-flowering Catchfly</p>	  <p>Common Groundsel</p>	  <p>Scentless Chamomile</p>	  <p>Knawel</p>	  <p>Volunteer Corn</p>	  <p>Lady's Thumb</p>

Identify your weed seedlings



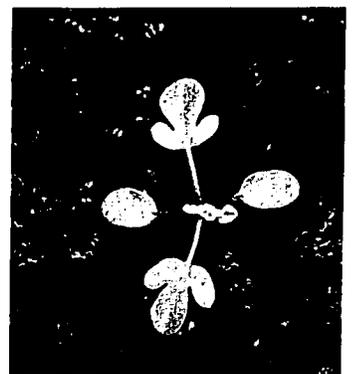
Milkweed



Shepherd's Purse



Kochia



Flixweed



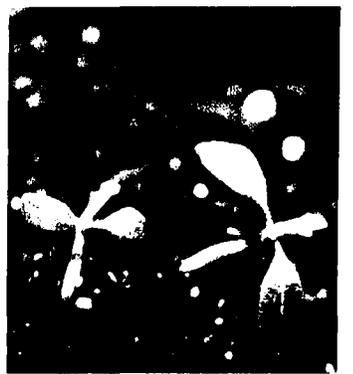
Green Foxtail



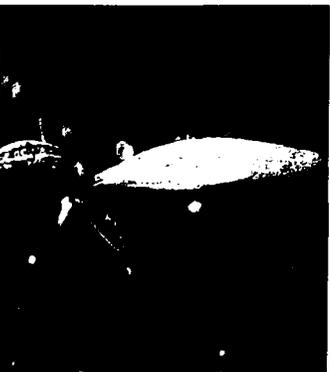
Tartary Buckwheat



Hemp Nettle



Russian Pigweed



Green Smartweed



Proso Millet



Dandelion



Prostrate Pigweed



Bladder Campion



**Narrow Leaved
Hawksbeard**



Russian Thistle



Burdock

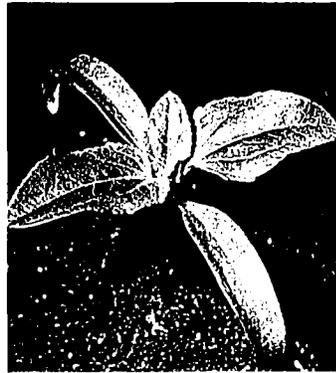
1987
Grainews
How to use Farm Chemicals



Chickweed



Dog Mustard



Cocklebur



Field Bindweed



Common Groundsel



Cleavers



Giant Ragweed



Sow Thistle



Lamb's-quarters



Redroot Pigweed



Scentless Chamomile



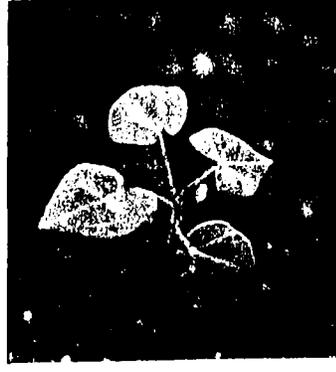
Wild Buckwheat



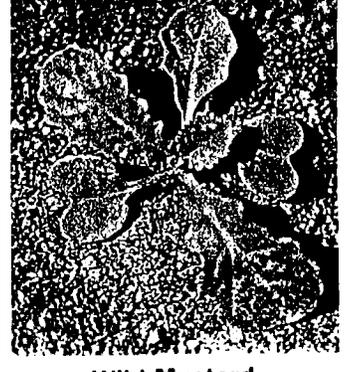
Yellow Toad Flax



Smartweed

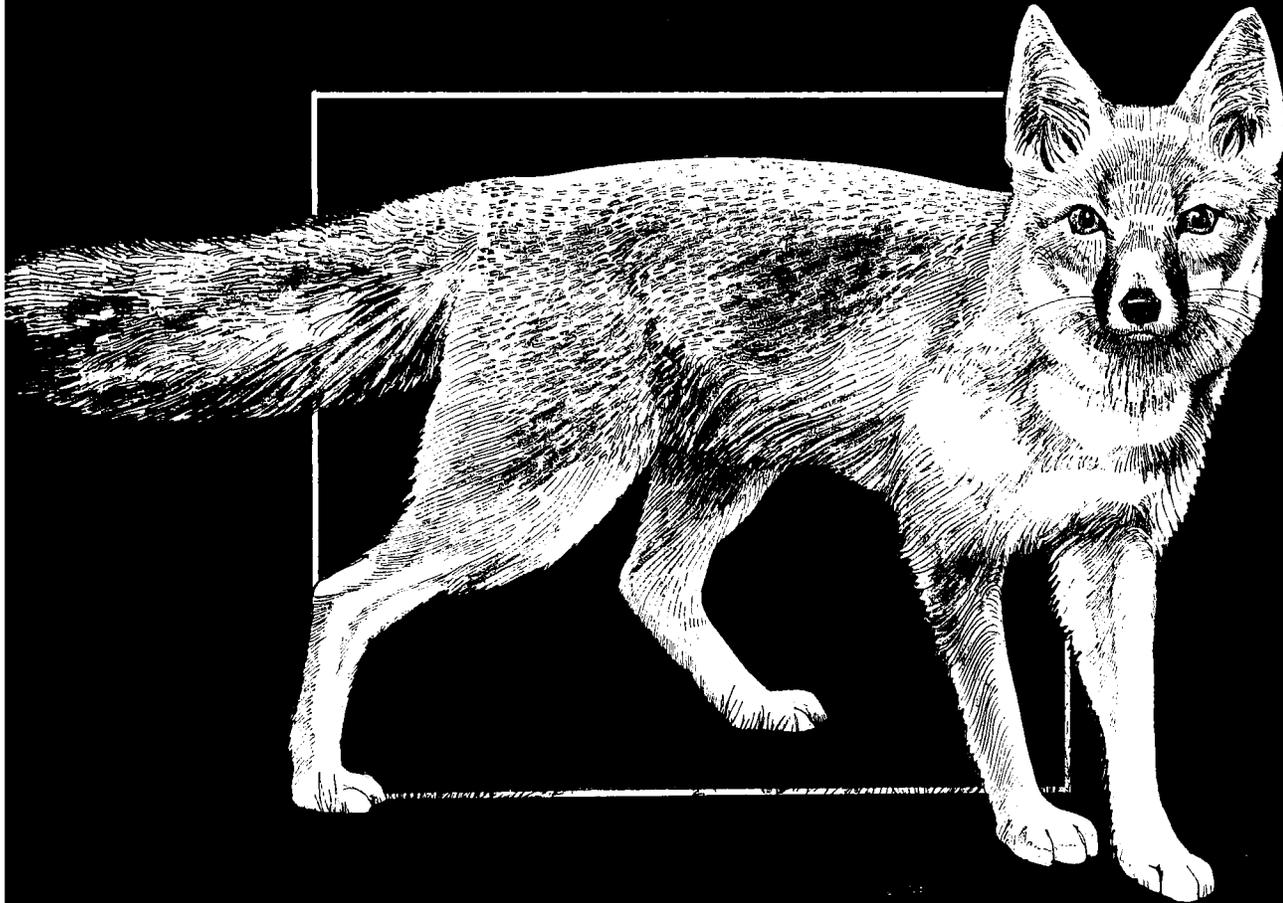


Tartary Buckwheat



Wild Mustard

THREATENED



Alberta
FORESTRY, LANDS
AND WILDLIFE
Fish and Wildlife

SWIFT FOX

Status

Until recently the Swift Fox was considered to be extirpated in Canada. That is, the Swift Fox was extinct in areas it used to occupy in Canada but, continues to exist elsewhere in the world. The last documented record of a wild Swift Fox in southern Alberta was in 1928. However, a program to examine the possibility of bringing these speedy little foxes back to their previous range is underway in Alberta and Saskatchewan. Once again Swift Foxes can be seen flashing across the prairies. The Policy for the Management of Threatened Wildlife now lists them as **endangered** in Alberta.

Historically, Swift Foxes were found commonly throughout the mixed and short-grass prairie regions of the Great Plains. Their range extended from the Manitoba/Saskatchewan border westward to the foothills of the Rocky Mountains and from central Alberta southward throughout the midwestern United States to Texas. Large numbers of foxes were trapped for fur in the mid 1800s even though the pelts were small and coarse. The population decreased rapidly in the early 1900s as hundreds of foxes were killed accidentally during predator control programs aimed at removing wolves, coyotes, and ground squirrels from the prairies.

Currently the population of wild Swift Fox is restricted to a narrow

north/south band from South Dakota to Texas. There is a good stable population of foxes in the central region of this band (Colorado, Kansas, New Mexico, and Wyoming) but they are scarce in the northern and southern regions.

Description

The Swift Fox is the smallest of the North American wild dogs. Soaking wet, they look the same size as a normal house cat; however when dry, their long coarse hair makes them look larger. An adult Swift Fox weighs 2 to 3 kg (about half as much as a Red Fox).

The characteristic features of Swift Fox are its small size, long black-tipped bushy tail (up to half the body length), and a black facial spot on each side of their muzzle. In general, they are a soft grey colour tinged with orange or tan. The amount of orange and tan is greater on the legs and lower half of the body. The throat, chest, and belly are white to buff brown. Thus, their colouring provides excellent camouflage in dry, short-grass prairie habitats.

For a small animal, the Swift Fox is lean, long in the body, and long-legged. As such, it is well adapted for speed. It has large ears and dark bright eyes. Both sexes look similar although the males (dogs) may be slightly heavier than the females (vixens).

Habits

Swift Foxes survive by their speed. They range over large areas of open native prairie and may reach speeds over 50 kph. They prefer to live on flat plains with low ground cover where they can see a long way and move without restrictions. Short-grass regions with buffalo grass, blue grama, bluestem, and wire grass are excellent Swift Fox habitat.

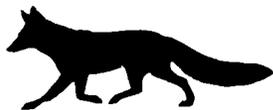
Swift Foxes spend more time underground than any other member of the dog family. They use ground burrows or dens throughout the year for protection from the fierce prairie wind and sun, as a place to rear their young, and as a way to avoid predators. A pair of foxes usually has numerous burrows within their home range and may use up to 13 different dens throughout the year. Obviously, a lot of spare time is spent digging new dens or renovating old ones!

The burrows are usually located in well-drained soil on a small hilltop with a good view of the surrounding prairie. The few foxes that continue to use cultivated areas use burrows along fencerows or in roadside ditches. The burrows may be simple and short with only one entrance or a complex maze of interconnected tunnels and entrances. The simple dens are often used often as temporary resting sites or for shelter during the winter. The complex dens are used as natal dens where the pups are born and raised.

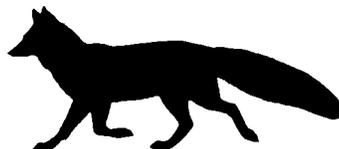
Swift Foxes often dig their own burrows but also may modify dens abandoned by baggers or ground squirrels. The dens can be identified



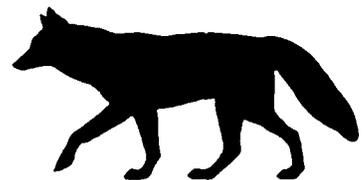
JACKRABBIT (2.5-4.0 kg)



SWIFT FOX (2.0-2.5 kg)



RED FOX (4.5-5.5 kg)



COYOTE (9.0-16.0 kg)

by the lack of a dirt mound at the entrance. The foxes drag the dirt away from the entrance in a straight line and stamp and kick at it until it is spread out among the grass. The entrance to a Swift Fox den is approximately 15 to 20 cm across.

Each pair of foxes regularly uses a home range, or area of normal use, centered around the natal den. The size of the home range depends on the availability of food, short-grass vegetation, and flat open areas. When the number of Swift Fox in an area is high, home ranges of different pairs often overlap. If suitable habitat and food is available, young foxes will take a home range close to where they were born. Otherwise, they move away from the area until they reach an appropriate site.

Reproduction

During the breeding season activity centres around the natal den. Breeding probably occurs during March in Alberta and pairs may stay together or change between years. Swift Foxes can breed successfully in their first year and their life span in the wild often is no more than three to six years. (They can live up to fourteen years in captivity.)

Following a gestation period of about 50 days, two to five pups (average is three) are born in the den in mid-May. Blind and helpless, the pups depend completely on the female for food and protection. She stays underground with the pups while the male hunts and brings food to the den. Later both adults will supply food for the young foxes.

Approximately 10 to 15 days after birth, the pups' eyes open. The young foxes begin to move around in the den but do not appear at the entrance until nearly one month old. Swift Fox pups are active and playful near the den for the next two to three weeks; however, they sleep underground and quickly dive into the burrow if danger threatens.

Although the pups are weaned at six to seven weeks old, they stay with the adults until four or five months old, usually in the home range near the dens.

Adult foxes often move the pups to different dens throughout the summer. In many cases, the parasites (fleas, ticks, and mites) that build up in large numbers in the underground burrows are enough to drive the foxes out of the den. Foxes also change dens as a result of disturbance by humans and cattle or for no apparent reason.



Courtesy - R Russell CWS

Food

Swift Foxes are nocturnal predators. They hunt continually from dusk to dawn and cover great distances in the home range each night. They also are opportunistic; that is, they take whatever they can catch. A list of food items includes small mammals, birds, reptiles, amphibians, fishes, insects, grasses, and berries.

The diet changes throughout the year according to whatever is abundant and in season. However, in Alberta they depend heavily on mice, larks, jackrabbits, and ground squirrels. The eggs of ground nesting birds are eaten in the spring and many grasshoppers are eaten in the summer. In addition, dead animals (carrion) are often scavenged off roads within the home range.

Limiting Factors

The Major problems facing the Swift Fox relate to the activities of humans within the prairie habitat. The foxes are relatively unafraid of people and curious about new things in their environment. As a result they are easy to kill. Earlier losses were a direct result of trapping, shooting and poisoning during predator control programs. Unfortunately, some people continue to mistake them for young coyotes and kill them. As an endangered animal in Alberta, it is illegal to disturb Swift Fox or their dens anywhere in the province at any time. Additional foxes are killed in traffic and agricultural accidents. These factors can be minimized by releasing foxes in remote areas, and by letting people know about their value and special needs.

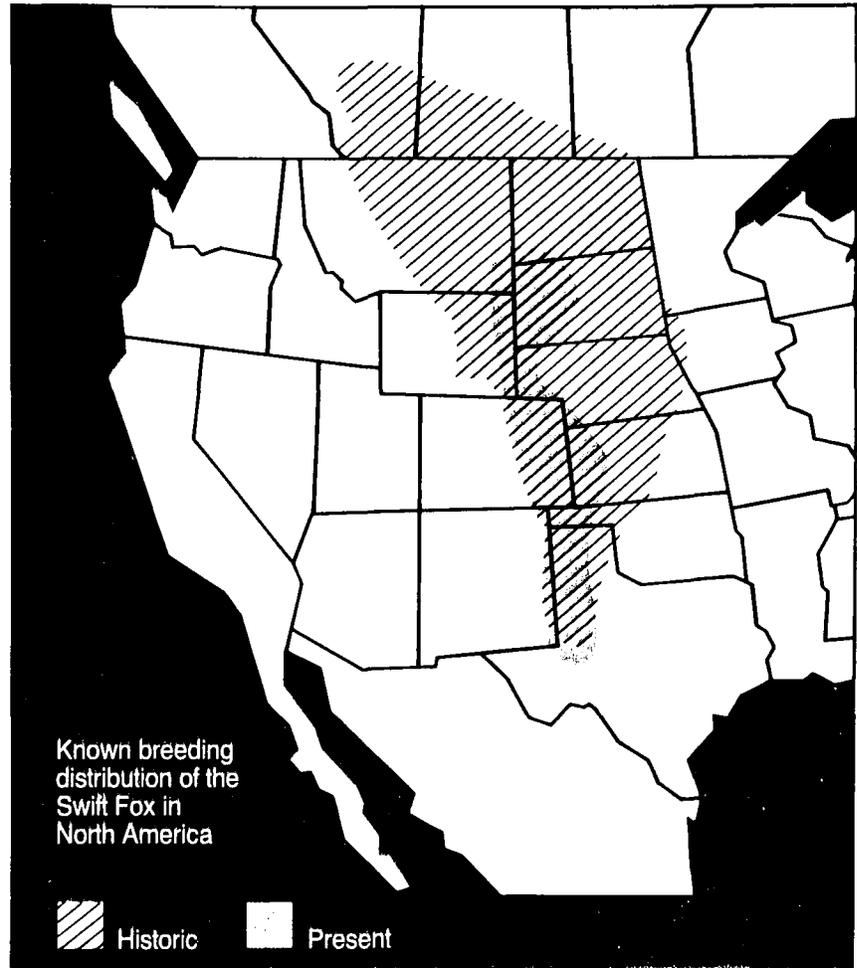
Habitat loss associated with agricultural, industrial, and urban development in the prairies contributed to the extinction of Swift Fox in Canada. The foxes are adapted to survive in large areas of native short-grass prairie. They disappeared as more and more land was cultivated. Dens were ploughed over and native grasses were replaced with tall cereal crops that were unsuitable habitat for foxes or their food. There is continued pressure to develop the remaining grasslands and this would further limit the foxes. In some states, a few Swift Foxes continue to exist in cultivated areas; however they den in fencerows and roadsides where they are at greater risk from vandals, traffic, and predators. Swift Fox populations also are limited by natural factors. They must compete directly with coyotes for food. Although there normally is an abundance of small birds and mammals on the prairie, this is not the case in dry years or during severe winters. Coyotes are also the major predator of Swift Fox. Bobcats and Golden Eagles also kill a few foxes.

Eating food contaminated with pesticides or herbicides may contribute to the death of some Swift Foxes. In particular, grasshoppers, ground squirrels, and grasses (foods that are easiest for the pups to find) are the most likely to be contaminated. This places the young foxes at great risk. Indirectly the chemicals may reduce the amount of food available to the foxes. Parasites, diseases, and severe weather also may disable or kill a few foxes. These factors become more serious and limiting when there are only a few individuals in the population.

Management and Outlook

Since the late 1970s, various federal, provincial, and private agencies have been involved in trying to re-establish wild populations of Swift Fox in Alberta, and Saskatchewan. These efforts have provided much information concerning the biology of free-ranging Swift Fox, habitat availability in the Canadian prairies, limiting factors on the population, and maintenance of foxes in captivity. The results are encouraging. It may be possible once again to have wild Swift Foxes in large open areas of native prairie where there is abundant food and minimal human activity.

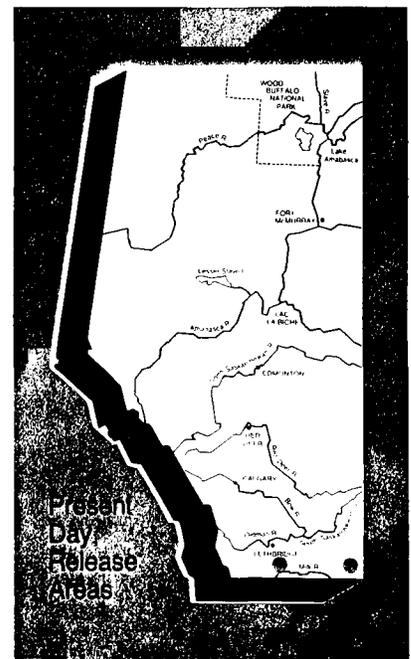
The basic method of re-introducing Swift Foxes is by releasing them into areas of suitable habitat. Since 1973 foxes were captured in the United States and bred in captivity at Cochrane, Alberta and later at the Calgary Zoo, Moose Jaw Wild Animal Park, and Edmonton Valley Zoo. Since 1983 offspring from these foxes have been released in southeastern Alberta and southwestern Saskatchewan. Three methods of release were used: soft-release, semi-hard release, and hard release.



A soft release involves a pair of captive-raised foxes kept overwinter in pens at each release site. Food and an artificial den are provided at the pens before and after the foxes are let go in the fall. This method allows released foxes to get used to the area but always have a familiar den and source of food to come back to.

Up to January 1987, 97 Swift Foxes were soft-released in southern Alberta. Released foxes generally stayed near the pens. Unfortunately, survival was low (about 5%) and many of the foxes were killed by coyotes or bobcats. Apparently the foxes are at great risk by staying near the pens as the food put out for them may also attract other predators.

A semi-hard release is similar to a soft release except that food is not



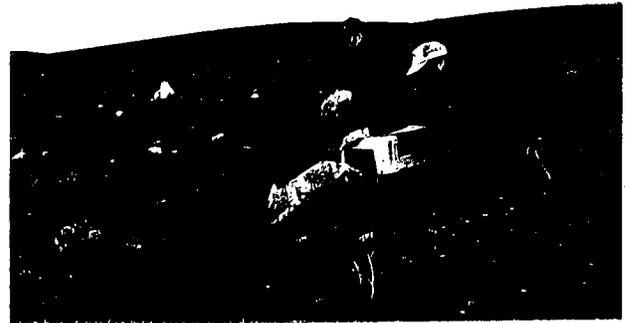


Courtesy - H. Ambruster CMS

Den site.



Courtesy - LN Carbyn CMS



Courtesy - G. Sedler CMS

Releasing a Swift Fox.

provided after the foxes are let out of the pens (the releases occur in mid summer when food is abundant). Up to January 1987, 39 Swift Foxes were released this way in southern Saskatchewan. They soon left the release sites and the survival rate (about 22%) was better than with soft releases.

A hard release involves a direct release of captive foxes. A large number of foxes are released at the same time over a wide area. They are not held at the site prior to release. Since the fall of 1987, over 200 Swift Foxes were released this way in southeastern Alberta and southwestern Saskatchewan. Survival, however, still appears to be low.

Released foxes are often equipped with radio collars to allow biologists

to follow these animals and learn about their movements, behaviour, and survival. Some radio-equipped foxes have established pairs and have produced pups. These pups are now establishing their own pairs, dens, and home ranges. Researchers will continue to monitor released animals and explore the feasibility of a full-scale reintroduction program.

Many people have expressed interest in having Swift Foxes returned to their former range. There is increasing recognition that the little foxes are a valuable link in grassland ecosystems and a beneficial predator of many pest species. Public awareness and concern are important in managing threatened wildlife and have resulted in political and financial

support for the Swift Fox programs.

The outlook for Swift Fox on the Canadian prairies depends heavily on public attitude. Successful management will need the continued cooperation and participation of special interest groups, commercial organizations, and volunteers. The species is protected, although to differing degrees, under legislation in each of the three prairie provinces. In addition, protection of the declining grassland habitat essential to the foxes is necessary for their survival. Management programs developed in association with other land use plans in the prairies will benefit wildlife throughout the area and help protect this important inhabitant of our prairies.



Open ground created by fire attracts Burrowing owls and ground-nesting shorebirds which will not normally occupy tall vegetation.



Chapter 2

Grasslands of the Canadian Prairies



The Canadian Prairie is not unlike the mosaic of human societies which have settled there. To the casual observer, all prairie looks the same, but actually it consists of grasslands with characteristics that set them apart depending on the influence of climate, topography, mineral substrate, organisms, and time.

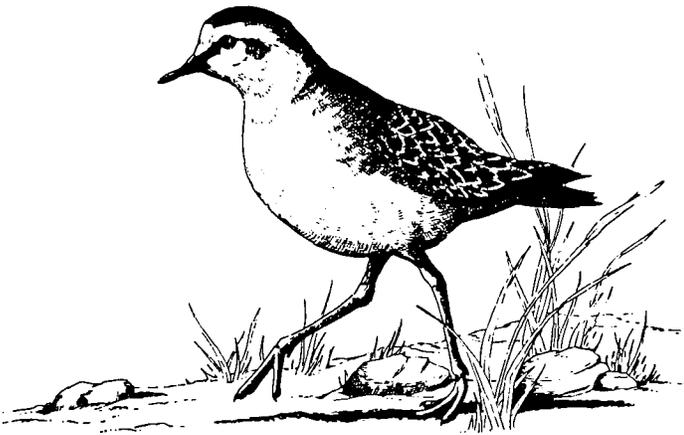
There are three broadly-distributed grassland types in prairie Canada. Each is characterized by a unique geographic distribution and a distinct society of dominant plant species. Given the information provided in this chapter, you can identify a grassland type as easily as you can name different makes of cars.

Depending on location, there are zones of mixing between adjacent grassland types or between grass and trees where grassland meets the forest. Over time, these transition zones have shifted in extent and location due to the influence of climate, fire, grazing, and more recently, agriculture. And they will continue to shift in the future. Consequently, the boundary lines on the map opposite are largely approximate.

In pristine times, the prairie grassland vista was broken only by abrupt local changes in terrain. Ecologists call these features "complexes." The main recurring ones are wetlands, valleys (coulees), salt flats, and sandhills. Each of

these areas produces unique but identifiable societies of plants and wildlife. All are particularly important in modern-day management of the grasslands because they have been unaltered by human disturbance due to their low agricultural capability. Complexes are perhaps the most important wildlife habitat left on the prairies.





Mountain Plover: This unique shorebird prefers to nest and feed in heavily-grazed native grassland. In Canada, it is an endangered species with just a few pairs known to nest in the Lost River area of southeastern Alberta. The female will often lay two clutches, one for the male to attend and one for herself, particularly when food is abundant. Black-tailed prairie dog towns are preferred habitat farther south in Montana grasslands, but searches of similar habitat in south-western Saskatchewan have failed to locate any Mountain plovers.



C. Wallis

Short-horned Lizard: Measuring only 10-12 centimetres long, this miniature prairie recluse is usually about in the daytime preying on insects, particularly ants. Its habit of sitting tight when danger is near and its perfect camouflage make it extremely difficult to find. When approached by an enemy, horned lizards can squirt blood by rupturing a vessel near the base of their third eyelid. A taste of this blood is thought to discourage further interest.



Mixed Prairie

The greatest expanse of North American grassland occupies the dry interior plains from Canada south to Texas. It was here, during prehistoric times, that tall and mid-grasses invading from the tropical southeast, shortgrasses from the southwest, and cool climate mid-grasses and sedges from the north intermingled, hence the name Mixed Prairie.

In Canada the Mixed Prairie is dominated by medium-height grasses including Needle and thread, Western porcupine grass, and Western and Northern wheatgrass. Short grasses and sedges including Blue grama grass,

June grass, and Thread-leaf sedge form a second, lower layer of vegetation cover. These short grasses take over wherever lack of moisture limits growth or where there is overgrazing.

Over half of the remaining native grassland in prairie Canada is Mixed Prairie. It is estimated that originally there were 24 million hectares of this type in Canada; however, only 24 percent of this area remains, half of which is overgrazed.

Given the broad distribution of Mixed Prairie across the prairie provinces, there is considerable variation in the mix of characteristic dominant plants. This is particularly true along the north-

ern transition belt or Parkland, but it also occurs where the Mixed Prairie merges with the Tallgrass Prairie in the southeast and with the Fescue Prairie to the west.

Where Fescue and Mixed grassland meet, you will find communities of Mixed grass on drier sites, usually hilltops and upper slopes, and Fescue grass at the base of slopes. Depending on soil-site conditions, you will find very distinct Mixed grass communities that are best adapted to those conditions.

Plant Communities of the Mixed Prairie

Community	Soil Zone	Soil Texture
Needle and Thread — Blue Grama	Brown, Dark Brown	Medium to coarse, droughty
Needle and Thread — Blue Grama — Wheatgrass	Brown, Dark Brown	Medium
Needle and Thread — Wheatgrass	Brown, Dark Brown	Medium
Wheatgrass — June Grass	Brown, Dark Brown	Clay (lacustrine) — moist
Blue Grama — Wheatgrass	Brown	Medium, coarse solonetzic
Western Porcupine Grass — Wheatgrass	Dark Brown, Black	Loamy, moist



Typical Plants of the Mixed Prairie

Grasses	South and Central Region Forbs	Shrubs
Needle and Thread Western Wheatgrass Blue Grama Grass June Grass	Scarlet Mallow Broomweed Prickly-pear Cactus	Pasture Sage Silver Sage Thorny Buffalo-berry
Grasses	North and West Region Forbs	Shrubs
Western Porcupine Grass Needle and Thread Northern Wheatgrass Slender Wheatgrass Plains Rough Fescue June Grass	Prairie Crocus American Hedysarum Golden Bean	Wild Rose Western Snowberry
Grasses	Southeastern Region Forbs	Shrubs
Western Porcupine Grass Green Needle Grass Western Wheatgrass Little Bluestem Big Bluestem June Grass	White and Purple Prairie Clovers Dotted Blazingstar Prairie Sage Silver-leaf Psoralea Indian Breadroot	Wild Rose Western Snowberry





Needle and Thread: This very nutritious forage plant dominates throughout the drier regions of the Mixed Prairie. Each seed has an exceptionally long, soft beard which is curled; hence, it is likened to a threaded sewing needle. Needle and thread is regarded as one of the most palatable native grasses; it grows early in spring, withstands grazing well, stays green over an extended growing season, and has excellent curing properties to serve as nutritious fall and winter forage. It produces new growth in summer and fall with the advent of sufficient moisture.



Western Wheatgrass: Also referred to as "Bluejoint," this grass has several characteristics that make it useful for forage, revegetation and erosion control. It is salt tolerant, drought hardy and drainage resistant in spring run-off. A three-tiered underground system consisting of vigorous rhizomes, a mass of surface roots, and a deep root system give this plant the ability to spread rapidly and survive drought conditions. The species has been domesticated for forage planting with the "Walsh" variety most suitable for use in our southern prairie latitudes.





Blue Grama Grass: Blue grama is called "Toothbrush Grass" because of the shape of the flower head. It is palatable to livestock in early spring and late fall, but if grazed, the leaves spread close to the ground where they cannot be easily reached. Blue grama increases during dry years and on overgrazed pasture.



June Grass: Common throughout the prairie grasslands, June grass is seldom found in dense stands, but rather as single plants in mixed communities. The plants literally change their appearance depending on growth conditions, often deceiving any amateur attempting to make an identification. Although its increased abundance is generally associated with overgrazing, June grass is regarded as a palatable forage, particularly in the spring when digestible contents are as high as other good prairie grasses.





Scarlet Mallow: This beautiful little plant grows mats of stems 15-20 centimetres high with several orange-red, 5-petalled flowers on each stem. A paste made from the plant was used as a healant for sores. In days past, the native medicine man would perform a "magic" trick: he would plunge his bare arm into boiling water and not be burned (thanks to protection from Scarlet mallow paste).



Purple Prairie Clover: The seemingly iridescent rose-purple flower spikes of this plant pleasantly interrupt the green and yellow hues which dominate the prairie landscape. An important nitrogen-fixer, prairie clover had medicinal uses as well. Native peoples steeped the bruised leaves in water to treat flesh wounds.





C. Wallis

Valley complexes are some of the few natural prairie habitats remaining. Rare species are generally restricted to such areas.

Rare Species of the Mixed Prairie

Baird's Sparrow
Burrowing Owl
Ferruginous Hawk
Greater Prairie Chicken
Loggerhead Shrike
Mountain Plover

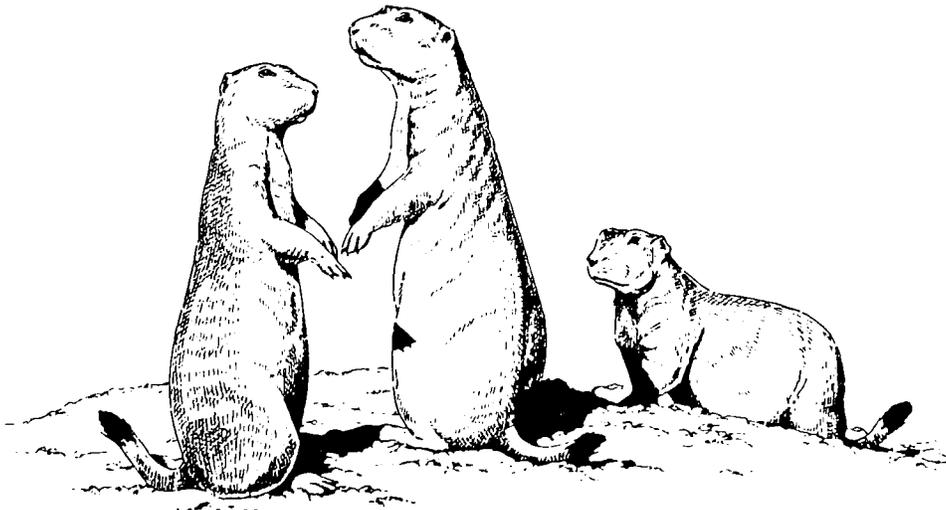
Black-footed Ferret
Black-tailed Prairie Dog
Prairie Long-tailed Weasel
Short-horned Lizard
Swift Fox

Prairie False
Dandelion
Purshe's Milk-vetch
Obscure Evening Primrose
Spanish Bayonet



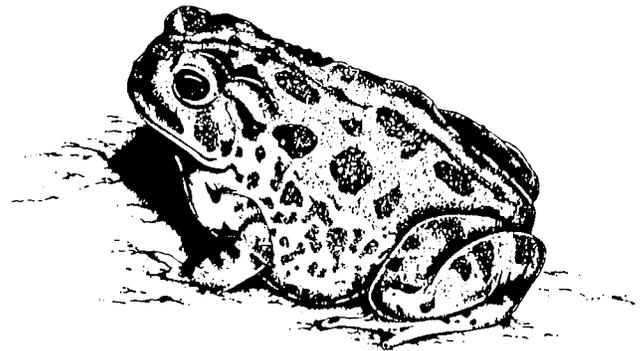


Black-footed Ferret: A rare inhabitant of the Great Plains of North America, this member of the weasel family, known to prey on Black-tailed prairie dogs, is listed as endangered in both Canada and the United States. The only known wild population was threatened with disease and had to be taken into captivity to save the species from extinction. These Wyoming animals are being propagated in six different locations in the western United States in an attempt to return the ferret to the wild.



Black-tailed Prairie Dogs: The only known populations in Canada are located along the Frenchman River Valley in southwestern Saskatchewan. Prairie dogs are very social animals, living in "towns" of highly-organized colonies with well-defined territories, each defended by a family group. A family consists of one adult male, 4-6 adult females, and several juveniles and yearlings of both sexes. The sparsely-vegetated burrow complexes of prairie dog towns attract Burrowing Owls and Mountain Plovers. Plans for eventually reintroducing the extirpated Black-footed ferret to Canada depend on the long-term viability of the prairie dog population.





Western Hognose Snake: Quite a large snake growing to nearly one metre, it feeds on toads, frogs, salamanders and lizards. When threatened, it flattens the neck and hisses. If the intruder is persistent, this snake will coil violently, then lie still with mouth open and tongue hanging limp in an attempt to feign death.

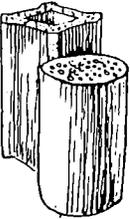
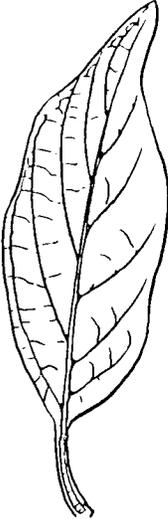
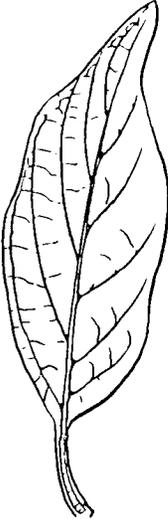
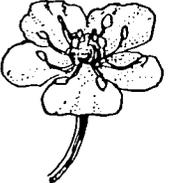
Great Plains Toad: This toad is a rarely-seen occupant of native grasslands near bottomlands and wetlands. Males have a peculiar vocal sac, a loose bit of skin in the throat which is inflated to a large sausage-shaped structure which bends out over the tip of the nose when the toad is calling. Sounding like a pneumatic drill, the strong call will carry up to 2 kilometres over the open prairie.

Rare Species of the Sandhills

Plants	Animals
Sand Puffs Western Spiderwort Large-flowered Paintbrush	Ord's Kangaroo Rat Great Plains Toad Western Hognose Snake Loggerhead Shrike Northern Prairie Skink



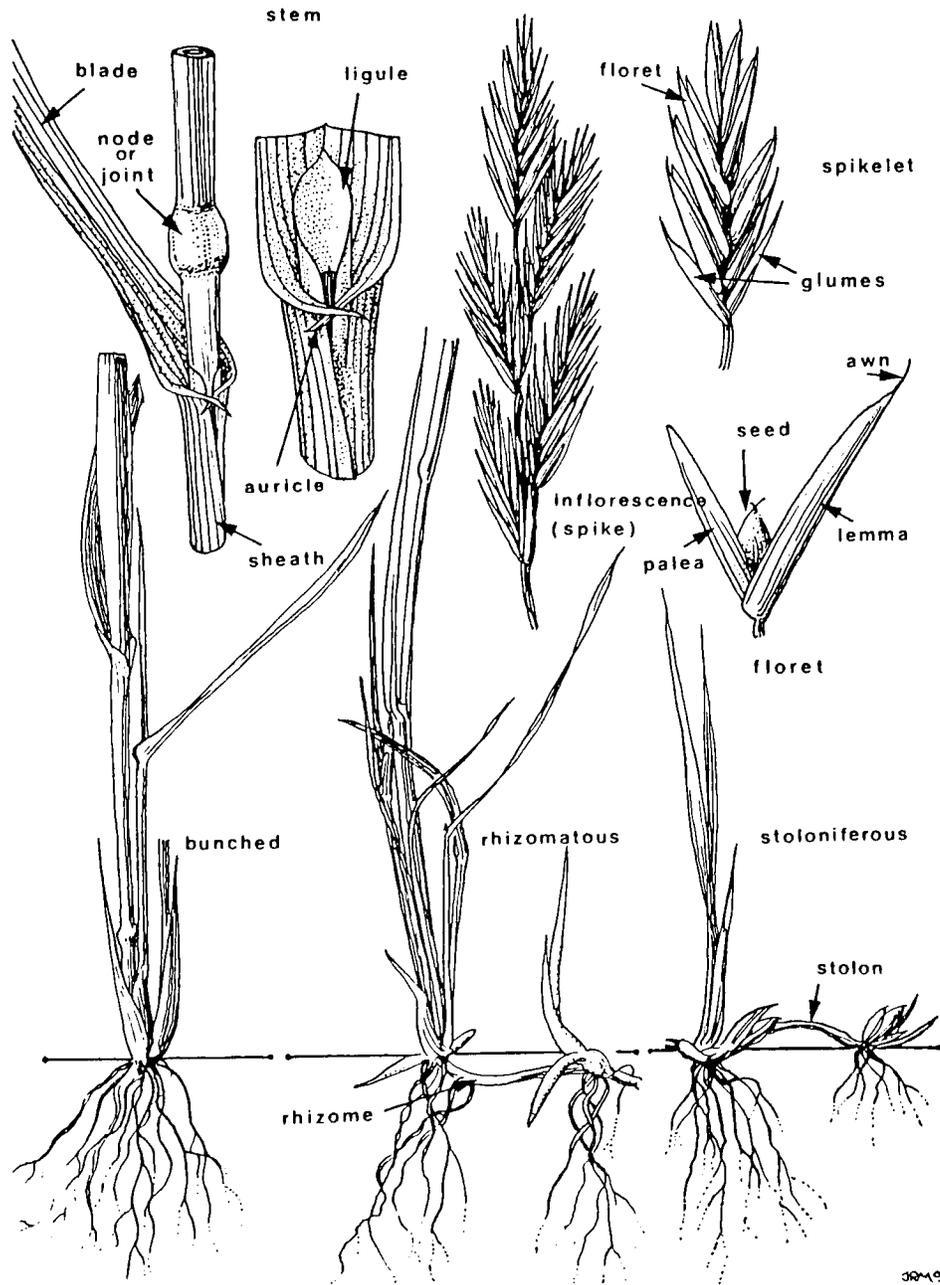
Range plant groups

Type of plant	stems	leaves	flowers
 grasses			
 sedges			
 forbs			
 shrubs			

Study of plant groups will assist you with plant identification.



Parts of grass plants



Grass species are identified by differences in their parts.

