

Oil Sands Consultation

MULTISTAKEHOLDER COMMITTEE INTERIM REPORT

APPENDICES

Appendix VI - Fact Sheets



November 30, 2006

Alberta



Oil Sands Recorded History

1719: Wa-pa-su, of the Cree First Nations, brings an oil sands sample to Fort Churchill.

1778: Exposed heavy oil along the Clearwater River is used by Aboriginal people to waterproof canoes.

1790: Explorer Alexander MacKenzie provides the first recorded description in Canadian history of the Athabasca oil sands.

1870: The Hudson's Bay Company post, at the junction of the Clearwater and Athabasca Rivers, is named Fort McMurray after Chief Factor William McMurray.

1875: A Geological Survey of Canada expedition observes water washing oil out of the oil sands—a process that is the essence of the modern technology for extraction of bitumen from oil sands.

1883: G.C. Hoffman, of the Geological Survey of Canada, successfully separates bitumen from oil sands with the use of water.

1912: An oil sands boom begins in Fort McMurray; lots sell for \$200 or more.

1913: Six shallow wells are drilled at the junction of the Horse and Athabasca Rivers. The salt found between the layers of oil sands is deemed the most commercial product.

1913: A survey of the Athabasca area determines that asphalt reserves have potential as road-surfacing material.

1915: A paving experiment is conducted using oil sands from the Horse River. The separation of the oil from the sands is attempted using heated water and reagents.

1921: The Scientific and Industrial Research Council of Alberta is established. It identifies the oil sands as a subject for research.

1923: An oil sands separation unit is built in the basement of the University of Alberta power plant by Dr. Karl A. Clark and his associate Sidney M. Blair.

1924: A separation plant is built in the Dunvegan railway yards, based on Clark's design.

1925: Experiments are performed using oil sands as road-paving material.

1925: A model of a hot-water separation plant is constructed at a site 90 kilometres north of Fort McMurray, in the Bitumount area.

1927: Unsuccessful oil drilling in northern Alberta leads to the conclusion that mining and surface extraction would be the best commercial processes.

1927: As an experiment, bitumen is used for road surfacing on a stretch of St. Albert Trail.

1928: Dr. Clark and Sidney Blair are granted a Canadian patent for their hot water oil sands separation process.

1929: The Dunvegan separation plant is redesigned, dismantled and moved to a site on the Clearwater River. This plant becomes a model for future projects.

1930: The first sale of commercially-produced bitumen is conducted in Edmonton.



Oil Sands Recorded History ...cont'd

Mid 1930s: A small, primitive hot water separation plant constructed mostly of scavenged equipment produces roofing tar at the Bitumount site in northern Alberta. This plant later produces the first products refined enough to be used as commercial fuels.

1964: A large-scale commercial plant at the Mildred-Ruth Lakes deposit, north of Fort McMurray is constructed between 1964 and 1967. Bucketwheel excavators are used for overburden (a layer of rock, sand and clay) removal and oil sands mining. The plant is initially licensed to produce 31,000 barrels of oil per day.

1978: A second plant is completed at the Mildred-Ruth Lakes deposit and is initially licensed to produce 125,000 barrels of oil per day.

1974: The Alberta Oil Sands Technology and Research Authority (AOSTRA) is established.

1975: The Alberta Oil Sands Information Services (AOSIS) is established to acquire, organize and supply public information on Canadian and international developments in heavy oil, enhanced oil recovery and oil sands research.

1983: AOSTRA tests the Steam-Assisted Gravity Drainage (SAGD) process. This process demonstrates the effectiveness of using gravity forces in contacting and draining an oil sands reservoir. The development of in-situ techniques and strategies for accessing the bulk of the oil sands reserves (which are too deep for surface mining) will become a cornerstone of AOSTRA's mandate.

1985: The Oil Sands Discovery Centre opens as the Fort McMurray Oil Sands Interpretive Centre. The centre is an educational facility committed to increasing public awareness, appreciation and knowledge about the oil sands industry.

1993: Bucketwheel excavators are replaced by trucks and shovels for overburden removal and oil sand mining at the first Mildred-Ruth Lakes plant.

2000: The Alberta Energy Research Institute (AERI) is established. AERI assumes responsibility for the oil research programs previously administered by AOSTRA. AERI promotes energy research, technology evaluation and technology transfer in areas such as heavy oil and oil sands. AERI also supports applied research that will lead to technology implementation to secure the future sustainability of Alberta's energy industry.

2001: A new mine site 35 kilometres north of the Mildred-Ruth Lakes site uses trucks, shovels and a pipeline system to move the oil sands.

2003: *Water for Life: Alberta's Strategy for Sustainability* is released.

2005: Alberta's response to Hurricane Katrina results in an additional 15,000 barrels per day being supplied to the U.S.

2006: Petro-Canada announces plans to build an oil sands upgrading facility for the Fort Hills oil sands project in Sturgeon County, about 40 kilometres northeast of Edmonton.



Alberta's Oil Sands

Reserves

Under anticipated economic conditions and using current technology, Alberta has approximately 176 billion barrels (bbls) of proven oil reserves (174 billion bbls of crude bitumen, 1.6 billion bbls of crude oil). Total recoverable oil reserves are estimated to equal almost 335 billion bbls (315 billion bbls of crude bitumen, 19.7 billion bbls of crude oil).

While conventional oil reservoirs are scattered throughout the province, oil sands underlie 140,200 square kilometres of land primarily in northern Alberta; an area larger than the state of Florida. In December 2002, the *Oil & Gas Journal* reported that Canada ranks second largest in terms of global proven crude oil reserves (15 per cent of world reserves), after Saudi Arabia. The majority of these reserves are found in Alberta's oil sands.

Currently, there are approximately 3,116 oil sands agreements with the province totalling approximately 48,973 square kilometres. Close to 67 per cent of possible oil sands areas are still available for exploration and leasing. Currently, approximately 1.1 million barrels a day (bbls/d) of bitumen is produced from Alberta's oil sands. An additional 600,000 bbls/d of conventional crude oil production are also produced in Alberta. Together, this accounts for approximately 67 per cent, or two-thirds of Canada's crude oil and equivalent production. By 2015, oil sands production is expected to reach 3 million bbls/d.

Extraction

There are several technologies to extract oil sands bitumen. Mining operations are used to produce reserves close to the surface. For oil deeper underground (in-situ), processes such as Steam-Assisted Gravity Drainage (SAGD) and Cyclic Steam Stimulation (CSS) are used.

New technologies and extraction methods include:

- burning bitumen instead of gas to produce steam;
- vapour extraction (VAPEX) – a solvent-assisted production technique; and,
- Toe-to-Heel-Air-Injection (THAI) – a system that injects air into the oil well and ignites it to stimulate oil flow.

Looking ahead

Producers are focused on improving efficiency and new technology to lower production costs. The recent rise in natural gas prices has prompted development of new extraction and processing methods that do not require natural gas.

Investing in Tomorrow

- For the period 1996-2016, approximately \$87 billion of investment in oil sands development has been announced.
- There are 69 oil sands projects underway in Alberta.
- Operating costs to produce a barrel of oil from bitumen averaged about \$18 per barrel in 2004.
- Value-added upgrading of Alberta's energy resources is a priority for the province.
- The province and industry are working together to expand refining and petrochemical industries.



Alberta's Oil Sands ... cont'd.

Quick Facts

- Bitumen is the heavy oil extracted from the oil sands. It must be treated and upgraded before being used as oil.
- Oil sands from the Athabasca area contains 83 per cent sand, 3 per cent clay, 4 per cent water, and 10 per cent bitumen.
- It takes about two tonnes of oil sands to produce a barrel of oil.
- Oil sands producers move enough product every two days to fill Toronto's Skydome.
- It takes approximately 2 to 3 barrels of water to produce one barrel of bitumen. However, this is total water use, including recycled produced water. Total make-up water required per barrel of bitumen is much less; usually 0.5 or less once full recycling facilities are in place.
- 1 to 1.25 gigajoules of natural gas is needed per barrel of bitumen for SAGD projects.
- It takes three days for oil to reach Edmonton via pipeline from the oil sands region.
- 93 per cent of oil sands reserves are designated as in-situ.



Alberta Oil Sands Consultations

Crude Bitumen Reserves

The total in situ and mineable remaining established reserves are 27.7 billion m³ (174 billion barrels), similar to 2002. To date, only 2 per cent of the initial established crude bitumen reserve has been produced.

Crude Bitumen Production

In 2003, Alberta produced 35.6 million m³ (224 million barrels) from the mineable area and 20.3 million m³ (128 million barrels) from the in situ area, totalling 55.9 million m³ (352 million barrels). Bitumen produced from mining was upgraded, yielding 31.2 million m³ (196 million barrels) of synthetic crude oil (SCO). In situ production was marketed as non-upgraded crude bitumen. Total raw bitumen production, which exceeded total conventional crude oil production for the first time in 2001, continued to grow in 2003.

Reserves (*under active development) and production summary 2005

	10 ⁶ m ³	10 ⁶ bbl
Athabasca OS Area - Mineable		
Initial Established Reserves	1,741	10,951
Cumulative Production	538	3,384
Remaining Established Reserves	1,203	7,567
Athabasca OS Area - In situ		
Initial Established Reserves	116	730
Cumulative Production	33	209
Remaining Established Reserves	83	521
Peace River OS Area - In situ		
Initial Established Reserves	28	179
Cumulative Production	10	64
Remaining Established Reserves	18	115
Cold Lake OS Area - In situ		
Initial Established Reserves	514	3,230
Cumulative Production	204	1,281
Remaining Established Reserves	310	1,950
Total		
Initial Established Reserves	2,399	15,090
Cumulative Production	785	4,938
Remaining Established Reserves	1,614	10,152

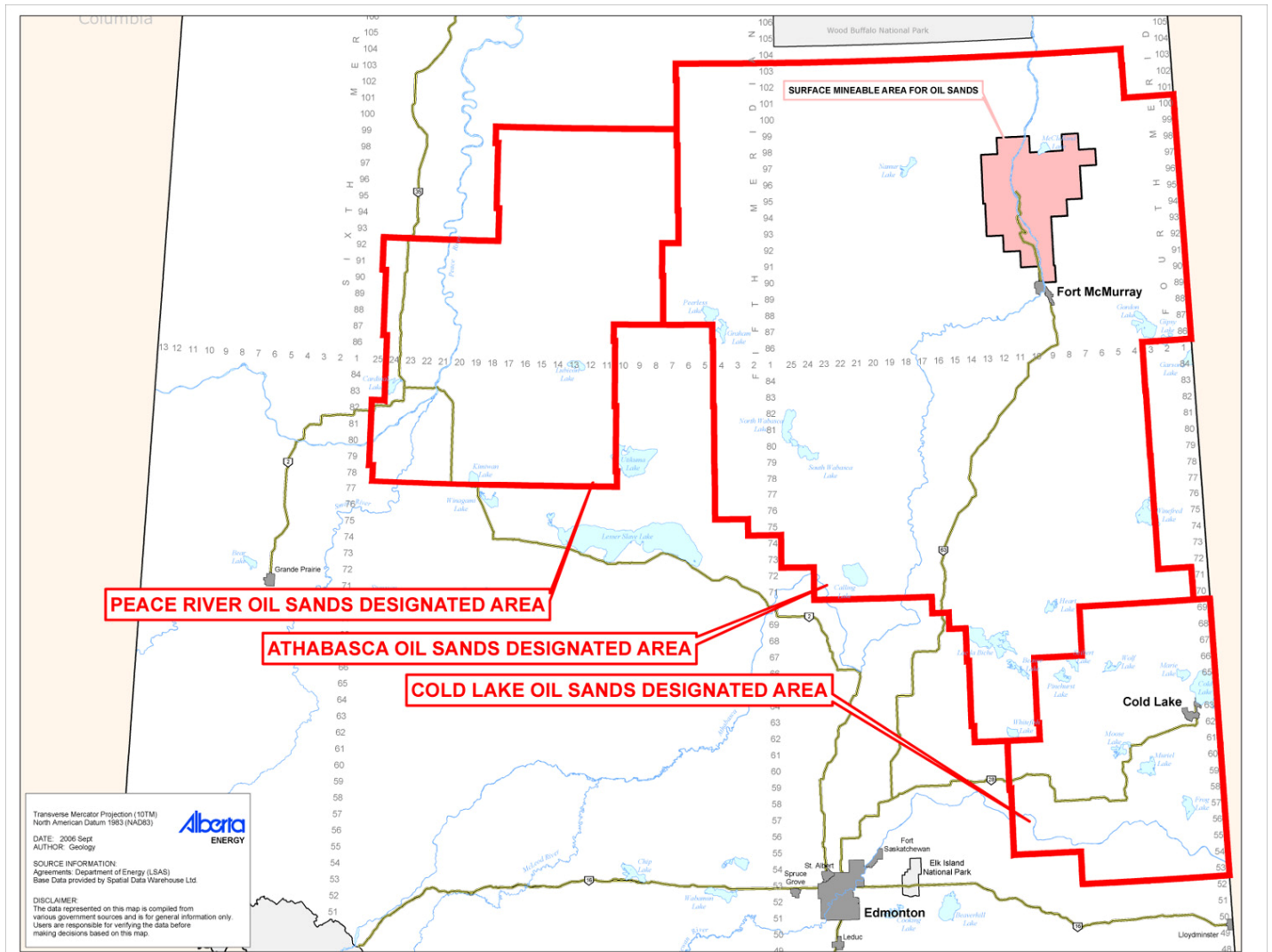
*Total remaining established reserves: 174 billion barrels

from EUB ST98-2006: Alberta's Energy Reserves 2005 and Supply/Demand Outlook 2006-2015



Alberta Oil Sands Consultations

Crude Bitumen Reserves ...Cont'd.



Map courtesy of EUB



Oil Sands Tenure

The Crown owns 81 per cent of the province's mineral rights in Alberta. The remaining 19 per cent are 'freehold' mineral rights owned by individuals and companies and other Crown land held by the federal government on behalf of First Nations or in national parks.

What is a Public Offering?

The Department of Energy (DOE) administers Crown mineral rights on behalf of Albertans. Public offerings or sales of these rights are scheduled to be held every two weeks. Oil sands rights are issued as leases or permits through a competitive bidding system. The highest bidder wins the right to "drill for, win, work, recover and remove" minerals that are owned by the Crown.

On a yearly basis, the province holds an average of 24 public offerings. Over the past five years, the province issued an average of 220 oil sands agreements per year.

How do Public Offerings Work?

The DOE conducts public offerings or sales every second Wednesday throughout the year. Sales of mineral rights are initiated by posting requests submitted by companies or individuals. Once a posting request has been received, the DOE determines whether the rights are available and then advises the requestor of any access restrictions. If the requestor wishes to proceed, the rights are offered for sale as a parcel. Parcels consist of three elements: the substances, the rights and the lands to which those rights pertain. Parcels are advertised in a public offering notice published on the DOE's website eight weeks in advance of the sale.

Bidding on a Parcel

To bid on the mineral rights, eligible companies must be registered to do business in Alberta and have an Electronic Transfer System (ETS) account. ETS gives users access to a web-based posting and bidding system. Participants submit bids electronically by 12:00 p.m. on the day of the sale. Late bids are not accepted. The names of the winning bidders and the amount paid for each parcel of land are published on the DOE's website after each sale.

Agreements

Approximately 48,973 square kilometres of Alberta's oil sands areas are leased. This leaves close to 67 per cent of oil sands areas available for exploration and leasing. As of August 1, 2006 the DOE administered 3,116 oil sands agreements.

Oil Sands Projects

Alberta's oil sands underlie 140,200 square kilometres of land primarily in northern Alberta. The oil sands are one of the few oil deposits in the world with growing production. Under anticipated economic conditions, Alberta has about 174 billion barrels of proven oil reserves. Currently, there are 69 oil sands projects underway producing approximately 1.1 million barrels a day.



Alberta Oil Sands Consultations

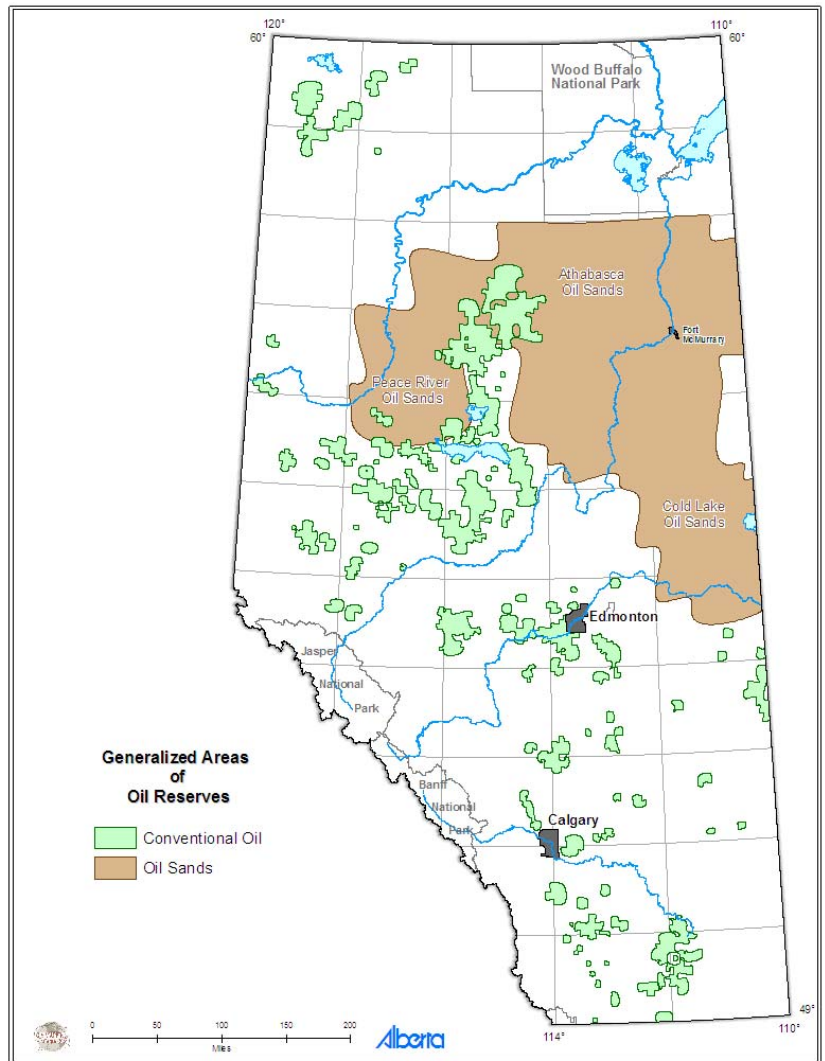
Oil Sands Royalties

Prior to a project's "payout" (the point at which the developer has recovered all allowed costs plus a return allowance) the applicable royalty is 1 per cent of the project's gross revenue. Following a project's payout, the applicable royalty rate is the greater of 25 per cent project net revenue or 1 per cent of gross revenue.

Alberta's oil sands royalty was specifically designed to encourage development of the oil sands resource. The 1997 generic oil sands regime also takes into account technological risks and capital costs faced by oil sands developers.

Oil Sands revenues amounted to:

1995-1996	\$312 million
1996-1997	\$512 million
1997-1998	\$192 million
1998-1999	\$ 59 million
1999-2000	\$426 million
2000-2001	\$712 million
2001-2002	\$185 million
2002-2003	\$183 million
2003-2004	\$197 million
2004-2005	\$718 million
2005-2006	\$950 million
TOTAL:	\$4.446 billion





Facts on Oil

Crude oil is a naturally occurring substance found trapped in certain rocks below the earth's crust. It is a dark, sticky liquid that is classed as a hydrocarbon. Crude oil is highly flammable and can be burned to create energy. Along with its sister hydrocarbon, natural gas, crude oil makes an excellent fuel.

World crude oil reserves are estimated at approximately 1.3 trillion barrels, The Organization of Petroleum Exporting Countries (OPEC), consisting of 11 countries, hold almost 70 per cent of the world's total crude oil. In 2005, world total crude oil output was approximately 74 million barrels per day (bbl/d). OPEC members produced approximately 42 per cent or 31 million bbl/d of world total crude oil.

Canada is the twelfth largest producer of crude oil in the world. Overall, Canada has 14 per cent of the world's proven oil reserves and is the largest foreign supplier of crude oil and refined petroleum products to the United States. In 2005, Canada produced approximately 2.5 million bbl/d of crude oil.

Canada exports approximately 1.6 million bbl/d of crude oil to the United States, primarily to refineries in the central and western U.S. Total crude oil production in Alberta averaged 1.7 million bbl/d in 2005. Alberta exports approximately 1.1 million bbl/d of crude oil to U.S. markets.

There are approximately 3,000 "petroleum products" or products produced from crude oil. In addition to fuels such as gasoline, diesel and heating oil, crude oil is used to produce products such as ink, crayons, bubble gum, dishwashing liquids, deodorant, eyeglasses, records, tires, ammonia and heart valves.

All crude oil is not the same. For example, crude oil is classified as "sweet" when containing small quantities of sulphur and "sour" when containing large quantities of sulphur. Crude oil is also classified by the weight of its molecules. "Light" crude oil flows freely like water while "heavy" crude oil is a tar like substance.

Alberta's conventional crude oil generally ranges between 15 to 40 degrees API* and is recovered through conventional methods. Heavier oil, referred to as bitumen, is generally below 15 degrees API*. Recovery of bitumen is done through more innovative technologies such as co-production with sand, thermal injection and mining techniques.

API* refers to the accepted standard for measuring and determining crude oil gravity. The lower the degrees API classification, the heavier the crude oil. There are 159 litres (42 US gallons) in a barrel of oil. **American Petroleum Institute*



Facts on Oil ...cont'd.

Quick Facts

- Canada is the largest supplier of imported oil/products to U.S.
- 16 per cent of U.S. crude imports supplied by Canada.
- 159 litres (42 US gallons) in a barrel of oil.
- 2,302 successful oil wells drilled in 2005, a 15 per cent increase from 2004.
- 318,000 barrels of crude oil produced on average in Atlantic Canada.
- 1,600,000 barrels of Canadian crude exported to U.S. daily.
- 2,500,000 barrels of Canadian crude produced daily.

U.S. Sources of Crude Oil and Refined Product Imports - Barrels per day/2005 average

(Source: U.S. Energy Information Administration)

- Canada – 2,172,000
- Mexico – 1,646,000
- Saudi Arabia – 1,523,000
- Venezuela – 1,506,000
- Nigeria – 1,147,000
- Iraq – 522,000
- Algeria – 477,000
- Angola – 465,000
- Russia – 398,000
- United Kingdom – 387,000



Facts on Water Management in Alberta's Oil Sands Areas

Water use in the oil sands area is regulated through a system of licensing and monitoring.

All Albertans, including companies in the oil sands area, must obtain a licence from Alberta Environment before undertaking a construction activity in a water body, diverting water or using water.

In addition to water licensing, Alberta has a comprehensive water strategy, "*Water for Life: Alberta's Strategy for Sustainability*", and supporting policies and partnerships in place to effectively manage the quantity and quality of our water systems and supply.

Alberta's policies

Alberta's *Water for Life* strategy demands improvements in water use across the province. The goal is for a 30 per cent improvement in water use efficiency and productivity by 2015.

Alberta requires *in situ* oil sands projects, such as those operating in the oil sands areas, to recycle water and use sources other than fresh water for oil recovery whenever possible. Water recycling efficiencies at steam-assisted *in situ* oil sands projects have increased since the 1980s.

Oil sands mines *must* monitor and protect groundwater quality and quantity as a condition of their approval to operate. Their information is submitted to Alberta Environment. In addition, the province recently invested \$600,000 to set up a long-term monitoring system for groundwater quality in the Athabasca oil sands area.

Water management partnerships

Fort McMurray and area:

- Alberta Environment and the Department of Fisheries and Oceans Canada are developing an In-stream Flow Needs framework to manage water withdrawals from the lower Athabasca River.

- A Watershed Planning and Advisory Council is in preliminary development for the Athabasca River basin.
- The Regional Aquatics Management Program (RAMP) supports regional water quality and quantity monitoring.
- The Cumulative Environmental Management Association's Surface Water Working Group monitors and takes action to protect quality and quantity in the region.

Cold Lake and area:

- A Watershed Planning and Advisory Council is being developed for the Cold Lake – Beaver River basin.
- The Government of Alberta, Lakeland Industry and Community Association, and Cold Lake – Beaver River Basin Advisory Committee have updated the Cold Lake – Beaver River Water Management Plan (originally drafted in 1985).

Peace River and area:

- The province has a memorandum of understanding with British Columbia to help manage shared rivers, such as the Peace River, cooperatively for the protection of our water resources.

Total surface water allocations

Total Surface Water Allocations in Alberta's oil sands areas up to 2004 (m³/year)

Basin	Allocated volume from surface water sources	Allocated volume as a per cent of natural flow
Beaver	52,067,000	8.5%
Peace	224,151,000	0.3%
Athabasca	735,383,000	3.3%

More information

More information is available at

www.environment.gov.ab.ca/water or from Alberta

Environment's Northern Region office at (780) 427-7617.



Facts on air quality in Alberta's oil sands areas

Alberta Environment is responsible for air policy and legislation. Air quality in our province must meet all national, provincial and regional guidelines.

In the oil sands area, Alberta Environment manages air quality by:

- requiring all new facilities to best use available emissions reduction technologies;
- setting mandatory emissions limits in industry operating approvals; and
- requiring industry to monitor their emissions.

Alberta Environment considers a range of emissions, such as sulphur dioxide (SO₂), oxides of nitrogen (NO_x), hydrogen sulphide (H₂S) and volatile organic compounds (VOCs), when monitoring air quality in the oil sands area.

Air quality monitoring partnerships

Fort McMurray and area:

The Wood Buffalo Environmental Association (WBEA) monitors air quality in Fort McMurray and area.

Monitoring includes continuous air quality data and periodic air samples. Continuous results in 2005 show:

- the one-hour average readings for sulphur dioxide in Fort McMurray, Fort McKay and Fort Chipewyan were below provincial objectives for ambient air quality;
- there were two exceedences of the one-hour provincial objectives for sulphur dioxide in areas close to the oil sands facilities;
- there were no exceedences of the one-hour provincial objective for nitrogen dioxide;
- there were 40 exceedences of the one-hour average provincial objective for hydrogen sulphide.

More information is available at www.wbea.org

The association also operates the Terrestrial Environmental Effects Monitoring (TEEM), an ecological monitoring program that includes lichen monitoring, jack pine acidification monitoring, and nitrogen effects related to acidification.

The Cumulative Environmental Management Association (CEMA) is doing work in the Fort McMurray oil sands area to assess the risks of trace metals and air contaminants and develop recommendations to help manage oxides of nitrogen and sulphur dioxide emissions.

Cold Lake and area:

Lakeland Community and Industry Association runs an air monitoring program in the Cold Lake oil sands area. Monitoring includes a new continuous air quality station and periodic monitoring. Passive sample results show:

- annual average ground level concentrations for nitrogen dioxide, sulphur dioxide and hydrogen sulphide between 2003 – 2005 were well below the provincial objectives for ambient air quality.

Peace River and area:

Air quality monitoring in the Peace River oil sands area is conducted by industry, and reviewed by Alberta Environment to ensure they meet Alberta's standards for air quality.

South of the Peace River oil sands area is a regional airshed, the Peace River Airshed Zone Association. Periodic sampling results show:

- annual average ground level concentrations for nitrogen dioxide and sulphur dioxide between 2003 – 2005 were well below the annual average provincial objectives for ambient air quality.

A feasibility study to expand the association's boundaries is underway.

More information

More information is available at

www.environment.gov.ab.ca/air or from Alberta Environment's Northern Region office at (780) 427-7617.



Facts on land reclamation in Alberta's oil sands areas

All companies that disturb land in Alberta *must* reclaim it. The minimum reclamation requirement for oil sands mines is equivalent land capability, or assurance the disturbed land supports a range of activities similar to its previous use.

Alberta Environment oversees land reclamation and:

- requires all companies that disturb land to submit a reclamation plan;
- reviews and approves all company plans;
- inserts specific reclamation requirements in the approval for the project;
- reviews each company's reclamation plans and progress annually; and
- works with Alberta Sustainable Resource Development to issue reclamation certificates to companies that apply and meet all reclamation requirements.

Providing assurance for Albertans

Oil sands mines *must* provide financial "security" for reclamation. They are required to post security equivalent to the cost of reclamation. The financial security is reassessed and posted annually- it increases with additional land disturbance and decreases as reclamation work is completed.

In 2005, Alberta Environment held approximately \$356 million in security from oil sands companies. Security is reduced as reclamation proceeds and is fully returned to the company when the whole mine site has a reclamation certificate.

In addition, the Government of Alberta recently invested \$2 million towards reclamation research for oil sands projects.

Enhancing reclamation requirements

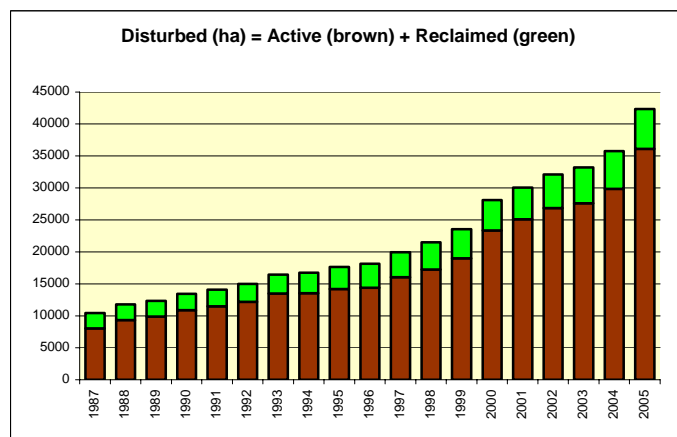
In the Fort McMurray area, the Cumulative Environmental Management Association is working to enhance reclamation practices.

The association has two reclamation-related working groups:

- the Reclamation Working Group provides recommendations to the Government of Alberta to ensure reclamation in the region meets regulatory requirements; and
- the Sustainable Ecosystems Working Group provides recommendations to address the impacts of development on the ecosystem and landscapes in the region.

Reclamation facts

- Reclamation begins when land is no longer used as part of a company's project.
- Reclamation can take several years to complete.
- There are 42,000 hectares of land disturbed as part of oil sands mine operations (not *in situ* sites).
- Several reclamation certificate applications are expected within the next 10 years.



More information

More information is available at www.environment.gov.ab.ca/land or from Alberta Environment's Northern Region at (780) 427-7617.



Facts on climate change in Alberta's oil sands areas

Alberta is a national leader in taking action on climate change. In 2002, the Government of Alberta released its comprehensive plan, "*Albertans and Climate Change: Taking Action*".

Designed to reduce Alberta's greenhouse gas emissions intensity by fifty per cent below 1990 levels by the year 2020, a reduction of 60 megatonnes from "business as usual" levels, the plan is supported by Canada's first climate change specific legislation, *Climate Change and Emissions Management Act*.

Alberta is working to achieve its climate change objectives through:

- improving energy efficiency;
- enhancing technology and industrial systems to more effectively manage industrial emissions;
- seeking new environmentally friendly sources of energy; and
- identifying win-win opportunities around the use of carbon dioxide for resource recovery.

Climate Change Facts

Alberta accounts for about a third of Canada's total greenhouse gas emissions. Large industrial facilities account for half of the provincial share. In 2004, Alberta had 99 large industry facilities (greenhouse gas emissions greater than 100,000 tonnes) report 110 megatonnes (MT) of greenhouse gas emissions. Oil sands facilities were responsible for 19 of the 110 MT (or 18 per cent).

Oil sands projects proposed for the next four years could add another 70 to 80 MT annually. This sector also holds great potential for long-term storage and use of carbon dioxide.

Alberta's progress

The Government of Alberta's climate change plan is helping drive transformative changes to reduce emissions across the province, including in the mineable oil sands area. Work to date has resulted in:

- a 15 per cent reduction in Alberta's greenhouse gas emissions intensity since 1990;
- first in Canada regulations requiring large industrial facilities to report greenhouse gas emissions;
- Climate Change Central, a public-private partnership helping individuals and industries reduce greenhouse gas emissions; and
- leading edge research through the Alberta Energy Research Institute including a \$25 million project to monitor and evaluate the reliability of storing carbon dioxide underground.

Alberta's plan for the future

The Government of Alberta will continue to:

- engage and work in partnership with industry, governments and other stakeholders;
- develop progressive approaches for the management of emissions with consideration of economic and environmental interests; and
- support the development of technological innovations, such carbon dioxide capture, transport and storage.

Work is also proceeding on a greenhouse gas regulatory framework, including facility-specific reductions and compliance options that encourage investment in lower-emitting technologies and processes.

More information

More information is available at www.environment.gov.ab.ca/climate or from Alberta Environment's Northern Region office at (780) 427-7617.



Water Use by Alberta's Oil and Gas Industry

The oil and gas industry's use of water is regulated through a system of licensing and monitoring in accordance with:

- the *Water Act*;
- the 2006 Water Conservation & Allocation Policy and Guidelines for Oilfield Injection;
- Alberta Environment; and,
- the Alberta Energy and Utility Board (AEUB) regulations.

Facts and Figures

(Source: *Alberta Environment, 2005 data*)

- The oil and gas sector is allocated, through licenses, 7.1 per cent of the total water licensed in Alberta.
- This figure compares with 45.5 per cent licensed for agriculture (including irrigation), 11.2 per cent licensed for municipalities and 6.6 per cent for commercial.
- Approximately 97 per cent of the current water licensed in Alberta is from surface water (water from lakes and rivers), while 3 per cent is groundwater (obtained from underground aquifers).
- Oil and gas companies hold 37.5 per cent of total groundwater allocations. The oil and gas sector uses about 25 per cent of its groundwater allocation. The oil and gas industry groundwater allocations are 1.1 per cent of total allocations in Alberta.

Use of Water in Oil and Gas Production

- Using water (saline, recycled or fresh) allows the oil industry to produce more oil.
- Over half of all oil produced in Alberta is developed using enhanced oil recovery (injection of water to recover oil from the reservoir). Source: *Canadian Association of Petroleum Producers*
- Use of carbon dioxide (CO₂) in enhanced oil recovery projects still requires some use of water.

- Oil and gas industry use of saline groundwater (not suitable for drinking or agriculture use) has increased ten-fold in the past 30 years. Source: *Canadian Association of Petroleum Producers*
- All water license applications are screened by Alberta Environment to ensure protection of the environment. Alberta's 2006 Water Conservation & Allocation Policy and Guidelines for Oilfield Injection requires the oil and gas industry to evaluate combined effects of their proposed water use and other water diversions and to make maximum efforts to reduce or eliminate (on a case-by-case basis) non-saline water use in water short areas.

Provincial Water Strategy

The province has developed a *Provincial Water Strategy* that ensures healthy and sustainable ecosystems, safe and secure drinking water, reliable water for a sustainable economy and the knowledge to make effective water management decisions. One of the key components of the strategy is a water use policy for oilfield injection.

If you would like to know more, the *Provincial Water Strategy* can be found online at: www.waterforlife.gov.ab.ca.



Forest Management

The forest industry in Alberta holds the rights to harvest timber on the majority of the commercially usable forestlands in northern Alberta. Approximately 40 per cent of the lands within the Green Area are allocated to timber production, and contribute to the Annual Allowable Cut (AAC). The remainder of land is unallocated primarily because the timber stands are unproductive from a commercial perspective. The land is part of the protected area network or is included in the operational deletions that are not available for timber harvest, such as the majority of riparian areas and steep slopes.

Annual harvest levels are determined on a regular basis. The determination takes into account several factors, including forest growth and available landbase, to identify an AAC level that will ensure sustainable forests. The determination is revisited periodically, or after a major event – such as a fire – has occurred that removes a significant area contributing to the forest growth.

In the case of oil sands mining, the footprint is removed from the landbase contributing to the AAC. The impact on sustainable timber harvest is mitigated in the short-term by directing harvesting to clear the land in advance of mine developments.

Within the known planned oil sands areas, the productive forest landbase has been targeted within the timber supply analysis to be fully

harvested in the first 15 years of the spatial harvest sequence. The area is reclassified as “Non-Forested Disturbance” and does not contribute to future AACs. Accordingly, no activities to establish and grow trees are planned or modeled in these areas.

Once mine areas are successfully reclaimed and monitored, with results that demonstrate satisfactory forest growth, these areas will once again be included in the landbase used to determine AAC levels.

In-situ oil sands activity is expected to have a significant impact on lands available to the forest industry. Harvesting areas in advance of in-situ activities will help ensure sustainability of forest resources.

Forest industry operations and oil sands activities are a challenge to coordinate for government regulators and industry. The forest industry and oil sands industry generally operate on separate planning cycles, using different planning protocols. The province is using Integrated Land Management to address these challenges.

More information on forest management can be found on the Alberta Sustainable Resource Development website at www.srd.gov.ab.ca.



Wetlands Management

All water bodies in Alberta, whether on public or private land, are the property of the Crown. Disturbances to any water body, including wetlands, require that an approval under the *Water Act* be obtained from Alberta Environment before any work begins.

In Alberta, a Wetland Policy is being developed to address wetlands on public and private lands. This policy is being developed with Alberta Water Council involvement and will be consistent with the principles of the *Water Act* (1999).

Alberta's wetlands

Wetlands are a halfway world between water and land ecosystems and have some characteristics of both. Wetlands are generally defined as areas where the land is saturated with water long enough to have poorly drained soils. They contain water-loving plants and have biological processes suited to wet areas. Wetlands are part of a larger working ecosystem, where the surrounding lands are vital to their functioning and health. Approximately 50 per cent of Alberta's Boreal forest is covered by wetlands.

Bogs and fens are the dominant northern wetland type. Bogs are more acidic than fens and tend to have deeper and less decomposed peat soils. Black spruce and tamarack are the dominant tree species when these wetland types are treed, with mosses, sedges and ericaceous shrubs in the understory. Marshes (sloughs) are not so typical of boreal forest environments; however, they have unique vegetation and animal species present and are important where they occur.

We value wetlands for the functions and values they provide. The functions depend on the location of the wetland, its surrounding landscape, subsurface geology, hydrology, and the types of living organisms present. Although each wetland may not perform all functions, the combined value of all the wetlands in a watershed makes each wetland important.

Why wetlands matter

- Wetlands contribute to storing and controlling surface water and to recharging and discharging groundwater, and are an important part of the hydrologic cycle.
- Having both aquatic and terrestrial characteristics, wetlands provide diverse habitat (food, water, shelter and space) for many wildlife and vegetation species. Wetlands contribute directly to maintaining species at risk, including the peregrine falcon, piping plover, whooping crane and northern leopard frog. Studies have shown that 158 species of birds depend on wetland environments in Alberta for some part of their life cycle.
- Water quality in Alberta is directly and indirectly affected by wetlands. Wetlands help to filter sediment, absorb nutrients, remove chemical residues and treat wastewater.
- Waterfowl and animals of the wetlands support important fishing, hunting and trapping industries in Alberta. Beaver, muskrat, otter and mink are the most abundant wetland species that are trapped, whereas other animals are hunted.
- Albertans visit bogs and marshes to walk, hike, birdwatch, picnic and relax in the quiet atmosphere. For both rural and urban dwellers, having a wetland nearby can offer a diverse, natural environment in which to enjoy a rich variety of plants, animals, fish and birds.

In the past few decades, we have discovered the many functions and values of wetlands. Today the focus is shifting to managing human activities so both wetlands and people can benefit. Local, national and international organizations are attempting to turn the losses of wetlands around.

In Alberta, some wetlands are being protected and restored by the North American Waterfowl Management Plan. With membership from Canada, the United States and Mexico, the plan is taking action to protect more than 2.4 million hectares of wetland on the continent.

More information on wetland management can be found on the Alberta Sustainable Resource Development website at www.srd.gov.ab.ca.



Wildlife Management

Few places in the world have as great a diversity of wildlife as Alberta. The province boasts 515 species that are traditionally considered wildlife, including 10 species of amphibians, 95 mammals, 402 birds and 8 reptiles. British Columbia is the only province with a greater number of mammals. Modern wildlife management includes the conservation of plants as well.

Wildlife adds to the quality of life that residents enjoy. These living creatures have an economic as well as a recreational value. Activities such as hunting and wildlife watching contribute significantly to the province's economy.

Alberta Sustainable Resource Development is the provincial government department whose core business includes fish and wildlife management, which involves:

- protecting Alberta's fish and wildlife through effective legislation, regulation and enforcement programs;
- assessing the status of fish and wildlife populations and manages species to ensure populations are sustained;
- developing regulations, provincial management plans and management programs for recreational hunting, trapping, outfitting-guiding and wildlife in captivity; and
- managing habitat to provide for wildlife populations.

Alberta's *Wildlife Act* is the provincial legislation that deals with wildlife. Protecting and maintaining suitable habitat is critical in maintaining long-term wildlife health and viability. Similarly, wildlife health is an important indicator of the health of Alberta's environment.

The province is committed to conserving wild species and it pays particular attention to those that may be at risk of extinction. Alberta has been involved in programs to identify and restore species at risk for more than 25 years.

Every five years, the Fish and Wildlife Division of Alberta Sustainable Resource Development reviews the status of Alberta's wild species. These reviews, which were previously conducted in 1991, 1996 and 2001 (Status of Alberta Wildlife), rank species into categories reflecting the perceived level of risk to their populations in Alberta.

In 2001, the most recent version of this review process that has been published (*The General Status of Alberta Wild Species*) included rankings for a wide range of taxa (birds, mammals, amphibians, reptiles, fish, butterflies, orchids and ferns). The Alberta Wildlife Status Report Series is an extension of this review process.

Species ranked "At Risk" (formerly "Red List") or "May Be At Risk" (formerly "Blue List"), that are of uncertain status (ranked "Undetermined"), or are considered to be "At Risk" at the national level because of listing by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Endangered or Threatened, receive priority in this process. These reports have been published and distributed jointly by the Alberta Conservation Association and Alberta Sustainable Resource Development, and are intended to provide up-to-date information that may be used toward the sound management of populations of species and their habitats in the province.

Fish and Wildlife Division develops Wildlife Land Use Guidelines, which are primarily targeted to specific wildlife key areas/sites that play an essential role in ensuring the continued survival of local and regional populations of the identified wildlife species or species group. The location of wildlife key areas/sites is shown on wildlife land use referral maps available through regional offices of Alberta Sustainable Resource Development. In some cases, certain referral maps may be available from commercial sources.

More information on wildlife management can be found on the Alberta Sustainable Resource Development website at www.srd.gov.ab.ca.



Caribou Management

New conservation actions are being put in place to improve the survival of woodland caribou in Alberta. Successful management of the “threatened” caribou will connect conservation actions to land management efforts across the provincial range for the species.

Five large landscapes, each containing several caribou populations, will be the focus of management attention. Based on a number of research and planning documents, as well as the input of many specialists, the following are some of the key conservation actions:

- established a single Alberta Caribou Committee [government, industry, and stakeholders];
- created a caribou landscape planning team for west-central Alberta — the first of five provincial landscape teams;
- involving aboriginal people in caribou recovery;
- promoting industry best practices for resource industries on caribou landscapes, especially through encouraging all industry to work cooperatively to minimize their industrial footprint;
- implementing a limited predator management program, where necessary;
- incorporating caribou management and recovery needs into provincial integrated land management programs;
- strengthening provincial caribou research and monitoring program; and

- addressing national caribou management and recovery with other provinces and the federal government.

Several of these actions are identified as commitments made by the Minister of Sustainable Resource Development to the Endangered Species Conservation Committee.



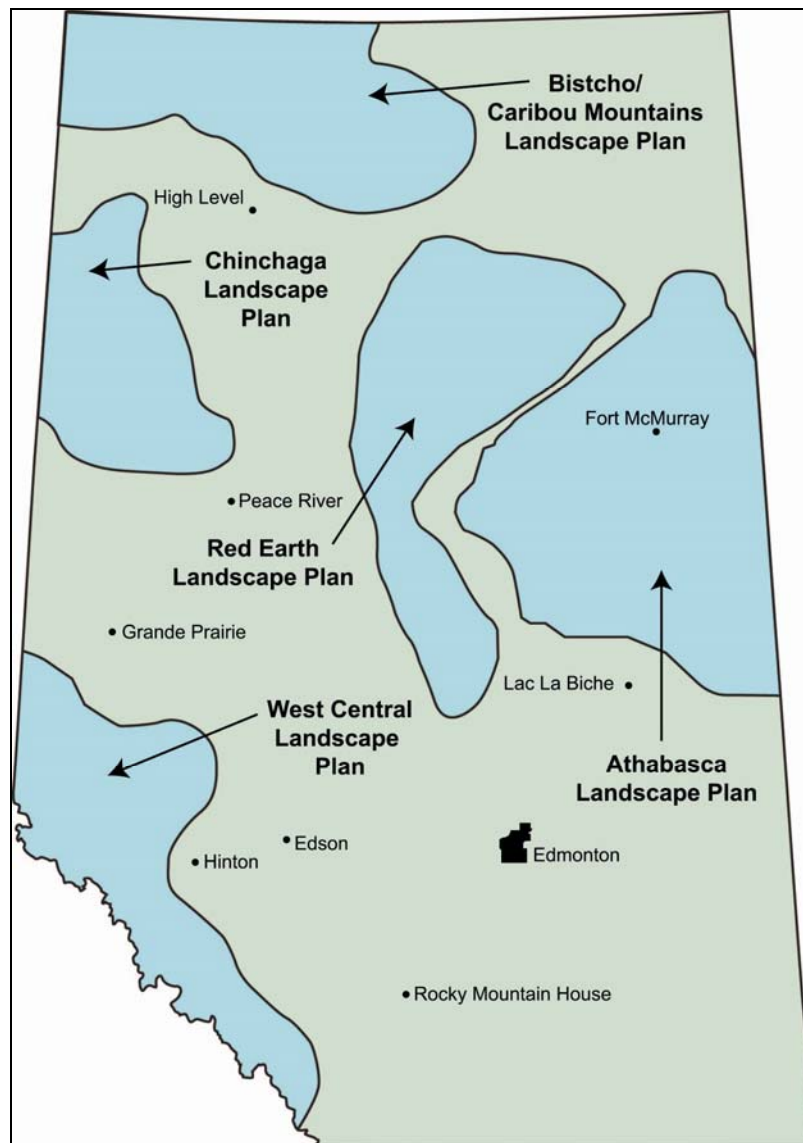
Figure 1 (next page) shows proposed woodland caribou landscape planning areas.

More information on caribou management can be found on the Alberta Sustainable Resource Development website at www.srd.gov.ab.ca.



Caribou Management ...cont'd

Figure 1. Distribution of landscape planning areas for caribou conservation as proposed for initial terms of reference for the Alberta Caribou Committee in 2005.





Municipal Infrastructure Funding for the Cold Lake, Fort McMurray and Peace River Areas

The province has committed more than \$13 billion over three years to capital projects, including infrastructure support to urban and rural municipalities. Approximately \$3 billion of this funding goes directly to Alberta municipalities to address their infrastructure needs.

Alberta municipalities will each receive more than \$1 billion in government funding over the next three years. This continuing government commitment to assist municipalities with their capital infrastructure requirements is unprecedented in Alberta and unmatched in Canada.

Municipal support includes the Resource Road Program (RRP), which is available specifically to assist municipalities in upgrading roads that are impacted by heavy industrial and resource related traffic. The RRP provides project-specific cost-shared funding to rural municipalities. This year, the program is worth \$17 million.

Cold Lake/Bonnyville Area

The Cold Lake/Bonnyville area will receive \$24.7 million over the next five years from the \$3 billion Alberta Municipal Infrastructure Program (AMIP). In total, the Cold Lake/Bonnyville area will receive \$9.7 million this year from the AMIP and other municipal infrastructure programs.

Fort McMurray Area

The Fort McMurray area will receive approximately \$64 million over the next five years from the \$3 billion AMIP. In total, the Fort McMurray urban area will receive approximately \$18.5 million this year from the AMIP and other municipal infrastructure programs.

Peace River Oilsands Area

The Peace River area will receive approximately \$26 million over the next five years from the \$3 billion AMIP. In total, the Peace River area will receive approximately \$15 million this year from the AMIP and other municipal infrastructure programs.



Municipal Infrastructure Funding for the Cold Lake, Fort McMurray and Peace River Area (2006-07)

Area	Location	AMIP Grant	Other Grants	New Deal for Cities & Communities	Total Municipal Infrastructure Funding
Cold Lake Area	City of Cold Lake	\$2,265,113	\$751,336	\$215,943	\$3,232,392
	Town of Bonnyville	\$1,084,228	\$390,462	\$103,370	\$1,578,060
	MD Bonnyville	\$1,595,189	\$3,121,985	\$152,076	\$4,869,250
	Subtotal	\$4,944,530	\$4,263,783	\$471,389	\$9,679,702
Ft. McMurray Area	Municipality of Wood Buffalo	\$12,744,991	\$4,522,076	\$1,215,033	\$18,482,100
Peace River Oilsands Area	Town of Falher	\$210,628	\$148,283	\$40,160	\$399,071
	Town of Grimshaw	\$462,470	\$279,446	\$88,178	\$830,094
	Town of High Prairie	\$530,491	\$169,200	\$101,148	\$800,839
	Town of Manning	\$245,574	\$756,270	\$46,824	\$1,048,668
	Town of McLennan	\$152,701	\$48,240	\$29,116	\$77,356
	Town of Peace River	\$1,185,139	\$916,018	\$225,968	\$2,327,125
	Birch Hills County	\$312,239	\$413,293	\$29,767	\$755,299
	Northern Sunrise County	\$441,388	\$3,514,648	\$84,158	\$4,040,194
	MD Big Lakes	\$786,518	\$502,762	\$149,964	\$1,439,244
	MD Peace	\$284,129	\$156,643	\$54,174	\$494,946
	MD Smoky River	\$451,834	\$757,318	\$86,150	\$1,295,302
	Peavine Metis Settlement	\$117,374	\$1,218,033	\$22,380	\$1,357,787
	Gift Lake Metis Settlement	\$153,650	\$104,712	\$14,648	\$273,010
	Subtotal	\$5,181,434	\$8,984,866	\$972,635	\$15,138,935
Provincial Total:		\$600 million	\$386 million	\$57.2 million	\$1.04 billion



Highway Infrastructure for the Cold Lake, Fort McMurray and Peace River Regions

The province has committed more than \$13 billion over three years to capital projects. The capital projects include the design, construction and maintenance of provincial highways in the Cold Lake, Fort McMurray and Peace River regions.

Cold Lake Region

Highway improvement projects near Cold Lake include:

- the widening and repaving of 18 kilometres (km) of Highway 55 from Highway 41 junction at La Corey to Highway 892 west of Cold Lake at an estimated cost of \$11 million
- in 2007, 19.2 km of Highway 657 will be paved from Highway 28 to Murphy Road at an estimated cost of \$6.5 million
- in 2008, 3.2 km of Mission Road will be paved north of Cold Lake at an estimated cost of \$1.8 million.

Fort McMurray and Region

Starting at the south end of Fort McMurray, the province has started twinning 240 km of Highway 63 between Fort McMurray and Highway 55 junction near Grassland. The cost of twinning the highway is estimated to be over \$680 million. The province has also approached the federal government to contribute \$150 million toward the project under the Canada Strategic Infrastructure Fund.

Construction has also begun on the twinning of Highway 63 north of Fort McMurray from the Suncor access to Mildred Lake at an estimated cost of \$62 million.

In addition, construction of the following projects is underway or will begin in 2006-07:

- complete paving of Highway 881 at an estimated cost of \$64 million which includes the widening north of Gregoire Lake

- construction of a new bridge across the Athabasca River in Fort McMurray at an estimated cost of \$80 million
- construction of seven truck-staging areas from Nisku to Fort McMurray at an estimated cost of \$30 million;
- complete maintenance work on Highways 63, 69 and 881 at an estimated cost of \$10 million. Completion of Highway 881 will provide an alternative for traffic south of Fort McMurray
- completion of three major intersection improvement projects on Highway 63 in Fort McMurray at an estimated cost of \$18.5 million.

The province is also committed to the following future highway improvements:

- construction of an all-weather road from Highway 881 near Anzac to La Loche, Saskatchewan
- building four interchanges in Fort McMurray at Beacon Hill, Confederation Way, Morrison Street and Thickwood Boulevard.

Peace River Oil Sands Region

Since the start of the 2006 construction season, 358 km of Highway 43 have been twinned. This leaves 74 km to be twinned between Edmonton and Grande Prairie. Following the completion of the functional planning study for the Sturgeon Lake bypass, scheduling of the project will be confirmed as part of the three year capital construction program.

Additional Highway Infrastructure Projects

Highway improvement projects near Peace River and region include:

- five bridge culvert replacements at an estimated cost of \$5.1 million; and,
- intersection improvement and repaving at Highway 744 in Peace River at an estimated cost of \$4.8 million.



Highway Infrastructure for the Cold Lake, Fort McMurray and Peace River Regions ...cont'd

Highway improvement projects near High Level and region include:

- three culvert replacements on Highway 35 at an estimated cost of \$2.2 million;
- repaving 27 km of Highway 35 south of High Level within the next three years at an estimated cost of \$8.5 million;
- two roadside turnouts on Highway 35 at an estimated cost of \$600,000; and,
- repaving 19 km of Highway 697 near La Crete at an estimated cost of \$4.3 million.

Highway improvement near High Prairie and region include:

- intersection improvements on Highway 2 in High Prairie at an estimated cost of \$1.2 million;
- 14 km of grading of Highway 679 at an estimated cost of \$11.8 million; and,
- 22 km of paving Highway 750 at an estimated cost of \$3.7 million.



Fort McMurray Infrastructure and Municipal Support

The province oversees the design, construction and maintenance of provincial highways, provides infrastructure support to urban and rural municipalities, and provides education, post-secondary and health facility infrastructure funding.

Twinning Highway 63

- Twinning the 240 kilometres of Highway 63 between Fort McMurray and the junction of Highway 55 near Grassland began in Spring 2006, starting at the south end of Fort McMurray. The cost of twinning the highway is estimated to be over \$680 million. The federal government is to contribute up to \$150 million toward the project under the Canada Strategic Infrastructure Fund.
- Construction has also begun on the twinning of Highway 63 north of Fort McMurray from the Suncor access to Mildred Lake at an estimated cost of \$62 million.

Other Highway Infrastructure

In addition, construction of the following projects is underway or will begin in 2006-07:

- complete paving of Highway 881 at an estimated cost of \$64 million which includes the widening north of Gregoire Lake
- construction of a new bridge across the Athabasca River in Fort McMurray at an estimated cost of \$80 million
- construction of seven truck-staging areas from Nisku to Fort McMurray at an estimated cost of \$30 million;
- complete maintenance work on Highways 63, 69 and 881 at an estimated cost of \$10 million. Completion of Highway 881 will provide an alternative for traffic south of Fort McMurray
- completion of three major intersection improvement projects on Highway 63 in Fort McMurray at an estimated cost of \$18.5 million.

The province is also committed to the following future highway improvements:

- construction of an all-weather road from Highway 881 near Anzac to La Loche, Saskatchewan
- building four interchanges in Fort McMurray at Beacon Hill, Confederation Way, Morrison Street and Thickwood Boulevard.

Housing and Land

- Alberta Seniors and Community Supports is releasing 670 acres of Crown land onto the market that will allow for the development of approximately 5,800 housing units in Fort McMurray. Alberta Infrastructure and Transportation is also working to release an additional 700 acres in the Saline Creek area in the city's south end.

K-12 School Facilities

- The province provided \$10.4 million to build St. Martha School, which will open in fall 2006 and recently approved \$9.2 million for the preservation and modernization at Westwood Community High School.
- The province also recently approved \$2 million for the planning and design of a new public Junior High School and a new Catholic High School.
- It has also provided an estimated \$10 million for 29 modular classrooms for Fort McMurray schools.

Post-secondary Facilities

- The province committed \$20 million towards projects at Keyano College, including the construction of its sport and wellness centre, upgrading its computer networking system and replacing its chilled water system.

Health Facilities

- Provincial infrastructure funding to the Northern Lights Health Region includes:



Capital Planning

Expanding and improving Alberta's infrastructure is a top priority for government. It is also a top priority for Albertans, who have identified it as No. 3 on a list of priorities, after healthcare and education.

2006-09 Capital Plan

At nearly \$15 billion, the 2006-09 Capital Plan represents the province's largest-ever investment in roads, schools, healthcare facilities, post-secondary projects and municipal infrastructure.

Although the province will be spending more on capital construction over the next three years than ever before, government recognizes that there is still more work to do on schools, hospitals and highways. The province will continue to address capital needs based on priority and available funds.

Capital Planning Process

The province's capital planning process is led by Alberta Infrastructure and Transportation and involves 14 ministries with key capital interests.

As part of the capital planning process, ministries work together to:

- assess cross-government requirements
- prioritize new projects from a cross-government perspective
- develop capital plan scenarios that include preserving infrastructure and investment in new capital to support economic growth

Associate Minister Barry McFarland chairs the Treasury Board Capital Plan Sub-committee, which reviews possible capital scenarios together with provincial and ministry priorities, and recommends a three-year capital plan to Treasury Board.

Capital Planning Approval

Alberta Treasury Board reviews the capital plan recommendations and considers the provincial fiscal capacity and competing demands before setting targets for capital funding envelopes. These envelopes include:

- Health Care Facilities and Equipment
- School Facilities
- Post-Secondary Facilities
- Provincial Highway Network
- Water and Wastewater Management
- Municipal Infrastructure Support
- Government Facilities, Housing, and Equipment
- Community Facilities and Centennial Projects

Cabinet ultimately approves the three-year Capital Plan before it is tabled in the legislature as part of the provincial budget.



Alberta Municipal Grants

In 2006-07, Alberta municipalities will receive more than \$1 billion in government funding through a variety of grant programs. This continuing government commitment to assist municipalities with their capital infrastructure requirements is unprecedented in Alberta and unmatched in Canada. Grant programs include:

Alberta Municipal Infrastructure Program (AMIP)

AMIP provides funding to Alberta's urban and rural municipalities, including specialized municipalities, improvement districts, special areas and Métis settlements for core municipal infrastructure projects. Funding is provided for capital infrastructure projects, such as municipal roads, bridges, public transit vehicles and facilities, water and wastewater systems and facilities, storm drainage systems and facilities, emergency service vehicles and facilities and infrastructure management system software. AMIP was introduced in 2005 and will provide a total of \$3 billion over a five-year period, or \$600 million per year. Funding is distributed based on a per capita basis, including a base amount of \$500,000, with the exception of summer villages, which receive a base amount of \$50,000. Municipalities will receive approximately \$900 per resident.

City Transportation Fund (CTF)

CTF provides funding to Calgary and Edmonton for the development and implementation of safe and effective highway routes, major streets and public transit systems. The funding is based on the litres of fuel delivered to service stations and bulk fuel outlets within the cities. In 2006-07, funding is expected to be \$80 million for Edmonton and \$95 million for Calgary.

Basic Capital Grant (BCG)

BCG is available to all Alberta cities with the exception of Calgary and Edmonton. Cities are granted \$60 per capita, based on the previous year's official population. BCG is a conditional cost-sharing grant based on a 75 per cent government and 25 per cent city basis. Majority of projects funded by BCG include new and upgraded

roads and truck routes through cities, including interchanges, road rehabilitation and bus purchases. In 2006-07, approximately \$34 million is expected to be granted to 16 cities and urban services areas through the BCG.

City Special Transportation Grant (CSTG)

CSTG is available to all Alberta cities with the exception of Calgary and Edmonton. This grant addresses road, transit and eligible airport growth pressures. It is intended to assist with the implementation of larger, high priority system-expansion projects that are beyond the normal financial abilities of cities. CSTG was introduced in 2003 and will provide a total \$40 million over four years. CSTG is a cost-shared application grant based on 75 per cent government and 25 per cent city. In 2006-07, \$2.5 million is expected to be granted to five cities through the CSTG.

Provincial Highway Maintenance Grant (PHM)

PHM grant reflects the province's commitment in sharing the cost of operating and maintaining provincial highway routes through cities other than Edmonton and Calgary. PHM grant is an annual grant of \$1,959 per lane-kilometre provided to those cities having jurisdiction of the provincial highway connectors within their boundaries. In 2006-07, this represents \$1.2 million to 16 cities and urban services areas.

Streets Improvement Program (SIP)

SIP is a cost-shared application grant based on 75 per cent government and 25 per cent city. SIP provides grants to assist towns, villages, summer villages and eligible hamlets in the construction of lasting capital street improvements. Capital projects that enhance road safety and the replacement of underground water and sewer lines, when done in conjunction with roadwork, are also eligible. The maximum grant to each eligible municipality is provided annually based on the previous year's official population and a per capita allocation. In 2006-07, the per capita allocation is \$60 and will result in approximately \$31 million for eligible municipalities.



Alberta Municipal Grants ...cont'd

Rural Transportation Grant (RTG)

RTG provides financial assistance to Alberta's rural municipalities. Funding is provided to assist rural municipalities to develop, improve and expand local road system. Funding is provided by a formula that takes into account population, kilometres of road, equalized assessment and terrain. Eligible projects include grading/re-grading, gravelling, base course, paving, seal coating, traffic signing, pavement markings and dust abatement. Maintenance, engineering, or administrative work performed by municipal staff is not eligible. In 2006-07, the allocation will result in approximately \$34 million for eligible municipalities.

Resource Road Program (RRP)

RRP provides project-specific cost-shared funding to rural municipalities. RRP provides funding for upgrading local roads impacted by new or expanded value-added processing facilities, resource industries, intensified farming operations or high through-put grain elevators. RRP is an application based program that provides cost-shared funding on a 50/50 basis with a maximum provincial contribution of \$1.5 million per project. The 2006-07 RRP is worth \$17 million.

Alberta Municipal Water/Wastewater Partnership (AMWWP)

AMWWP provides application based cost-shared grants to municipalities with populations under 45,000. AMWWP is designed to assist in the construction of high priority municipal water supply and treatment, wastewater treatment and disposal projects. In 2006-07, more than \$48 million will go to municipalities through the AMWWP.

Community Airport Program (CAP)

CAP provides financial support to Alberta's community-owned public-use airports for airside rehabilitation and construction requirements. The 2006-07 application based program is worth \$2 million.

New Deal for Cities and Communities (NDCC)

NDCC provides financial assistance to all Alberta urban and rural municipalities on a per capita basis. Funding is available for sustainable capital municipal infrastructure in support of the desired outcomes of cleaner air and water and the reduction of green house gases. Eligible projects include public transit, water and wastewater, solid waste and community energy systems. Road and bridge rehabilitation is also eligible in municipalities other than Calgary and Edmonton. NDCC was introduced in 2005 and is based on returns to the province from federal gasoline taxes. The program will provide approximately \$477 million to Alberta municipalities over a five-year period with approximately \$57 million in 2006-07 going to 361 municipalities.

New Deal for Public Transit (NDPT)

The NDPT agreement has been signed with the federal government and is designed to provide assistance to municipalities that operate regularly scheduled municipal public transportation systems. NDPT is anticipated to provide approximately \$130 million to eligible Alberta municipalities over a four-year period.

Canada-Alberta Municipal Rural Infrastructure Fund (CAMRIF)

CAMRIF provides financial assistance on an equal cost shared basis between federal, provincial and municipal governments. CAMRIF is intended to be used for new construction, expansion or renewal of municipal infrastructure. Eligible projects include specialized transit, water, wastewater, solid waste, environmental energy improvements, recreation, cultural, tourism and connectivity projects, local roads and bridges. As well, \$1 million dollars from each partner (federal/provincial) has been set aside for Municipal Capacity Building projects to help communities manage their infrastructure. These projects are also equally cost shared. This application based program began April 2006 and will provide \$88 million from each level of government over the next 4 years.



Alberta's First Nations Consultation Policy on Land Management and Resource Development

Through the *Aboriginal Policy Framework* released in 2000, Alberta committed to consult with First Nations when land management and resource development decisions may infringe their existing treaty or other constitutional rights. Beginning in September 2003, Alberta engaged in dialogue with industry and First Nations about consultation and the focus of consultation policy.

The province's *First Nations Consultation Policy on Land Management and Resource Development* was approved on May 16, 2005. It reinforced the commitment for consultation that was identified in the *Aboriginal Policy Framework*. The policy outlines the province's expectations of First Nations and resource companies in striving for increased certainty for all parties with respect to land management and resource development activities. In addition, it outlines the province's approach to meeting its consultation responsibilities.

Following the release of the policy, the province worked with First Nations and industry to develop a *Framework for Consultation Guidelines* and sector-specific consultation guidelines. The framework was released on May 19, 2006 and the guidelines were implemented on September 1, 2006.

In addition to the consultation process on specific types of industry- and government-led projects, as laid out in the guidelines, the province has used several different programs, activities and mechanisms to work towards the implementation of an effective and efficient consultation process:

1. First Nations Consultation Capacity Funding Program;
2. Traditional Use Studies Initiative;
3. Land and Resource Management Planning;
4. Regional Tables;
5. Education Strategy;
6. Aboriginal Community Link; and
7. Internship and Secondment Opportunities.

Consultation Guideline Development Specific to the First Nations of the Athabasca Tribal Council:

First Nations in the Peace River oil sands and Cold Lake oil sands regions all operate under the September 1, 2006 guidelines.

However, the rapid rate of regional economic and industrial development has unique cumulative, social, economic, and environmental impacts to the First Nations of the Athabasca Tribal Council (ATC) which include the Athabasca Chipewyan, Chipewyan Prairie Dene, Fort McKay, Fort McMurray and Mikisew Cree. In recognition of this, the province and the ATC First Nations are jointly developing a consultation process specific to the region, consistent with the province's *First Nations Consultation Policy*.

For more information on the province's *First Nations* consultation initiative and associated programs or to access copies of the policy, framework and guidelines, please visit the Aboriginal Affairs and Northern Development website at www.aand.gov.ab.ca



Traditional Use Studies

Overview

Traditional Use Studies (TUS) use a combination of documentary records and the traditional knowledge of Elders to identify First Nations' sites of cultural, historical and spiritual importance. Each study takes approximately three years to complete. Approximately 25 per cent of TUS budgets are focused on skill development and direct training of First Nations members.

Benefits of TUS

TUS strengthen the capacity of First Nations to be consulted on issues related to land management and resource development. TUS data serves as a critical consultation and planning tool for industry, government and First Nations by facilitating land and resource development activities while avoiding or mitigating impacts to culturally sensitive areas.

Support for TUS

The province provides funding and advisory support services to First Nations undertaking TUS through the provincial Traditional Use Study Initiative. From 2003/04 to 2005/06, the province has invested \$3.1 million on TUS activities. The 2006/07 provincial budget commits \$3.3 million for each of the next three years to accelerate the completion of TUS across Alberta.

Current Status of TUS

There are currently 30 TUS in Alberta, involving 40 Aboriginal communities. To date, 30 Aboriginal communities, involved in 22 studies, have signed Data Sharing Agreements with the province. Seven of the studies, involving nine Aboriginal communities, have started applying their traditional use data for consultative purposes with industry and government. Currently, a number of traditional use sites, such as gravesites and ceremonial areas, have been shared with the province and placed under protective designation. Alberta is not attempting to claim ownership of data from TUS, but rather is seeking access to data for use in regulatory processes.

Specifics by Region

- Approximately 15 First Nations communities have known traditional use sites and areas within the Peace River oil sands region.
- Approximately 16 First Nations communities have known traditional use sites and areas within the Athabasca oil sands region.
- Approximately nine First Nations communities have known traditional use sites and areas within the Cold Lake oil sands region.



First Nations and Métis Constitutionally Protected Rights

Provincial Crown lands are developed in a manner that recognizes Aboriginal peoples' unique, constitutionally protected rights.

Overview

Section 35 of the *Constitution Act* recognizes and affirms the existing Aboriginal and treaty rights of Aboriginal peoples of Canada. The same Act defines Aboriginal peoples to include Indian, Inuit and Métis peoples of Canada. Indian peoples are referred to as First Nations, in accordance with their stated preference.

In Alberta, the treaty rights of First Nations people are specified in Treaties 6, 7 and 8 and include obligations with respect to Crown lands placed on the province by the Natural Resources Transfer Agreement (NRTA). The NRTA modified Treaties 6, 7 and 8 and grants First Nations the right to hunt, fish and trap for food on unoccupied Crown lands and lands that they have a right of access to.

The province, through its *First Nations Consultation Policy on Land Management and Resource Development*, commits to consult with First Nations where land management and resource development on Crown land may infringe First Nations constitutionally protected rights. In addition, the policy recognizes that First Nations traditional uses on Crown lands such as burial grounds, gathering sites and historic or ceremonial locations, may also be adversely affected by land management and resource development decisions. Due to this, Alberta is committed to consulting with First Nations. (Please see the fact sheet on *Alberta's First Nations Consultation Policy on Land Management and Resource Development* for additional information.)

The Supreme Court of Canada in the *Powley* decision set out the test for the recognition of Métis Aboriginal rights. In Alberta, issues related to Métis harvesting (i.e. hunting, trapping and fishing for food) are presently addressed by the Interim Métis Harvest Agreements. Copies of these agreements can be viewed at www.aand.gov.ab.ca.

First Nations Reserves, Treaty Areas, Métis Settlements and Métis Nation Association of Alberta (MNA) Regional Zones located within or in close proximity to the oil sands regions:

Peace River oil sands region

- Treaty 8
- Driftpile First Nation
- Duncan's First Nation
- Gift Lake Métis Settlement
- Horse Lake First Nation
- Kapawe'no First Nation
- Loon River First Nation
- Paddle Prairie Métis Settlement
- Peavine Métis Settlement
- Sucker Creek First Nation
- Swan River First Nation
- Whitefish First Nation
- Woodland First Nation
- MNAA Zones 5 and 6

Athabasca oil sands region

- Treaty 6 and 8
- Athabasca Chipewyan First Nation
- Beaver Lake First Nation
- Bigstone Cree Nation
- Buffalo Lake Métis Settlement
- Chipewyan Prairie Dene First Nation
- Fort McKay First Nation
- Fort McMurray First Nation
- Heart Lake First Nation
- Kikino Métis Settlement
- Little Red River Cree Nation
- Mikisew Cree First Nation
- Sawridge Band
- MNAA Zones 1 and 5

Cold Lake oil sands region

- Treaty 6 and 8
- Cold Lake First Nation
- Elizabeth Métis Settlement
- Fishing Lake Métis Settlement
- Frog Lake First Nation
- Kehewin Cree Nation
- Saddle Lake First Nation
- Whitefish Lake First Nation #128 (Goodfish)
- MNAA Zone 2



Alberta Oil Sands Consultations

