

**BIG HILL SPRINGS PROVINCIAL PARK**

**MANAGEMENT PLAN**

**Final Draft  
August 13, 1998**

**Alberta Environmental Protection  
Natural Resources Service**

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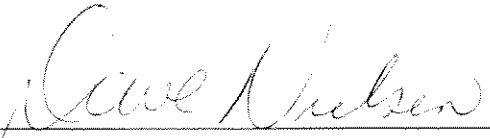
Area Manager  
Natural Resources Service  
Box 2780  
Calgary, Alberta  
T2P 0Y8

Telephone: 297-5293

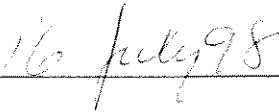
**APPROVAL STATEMENT**

The Big Hill Springs Provincial Park Management Plan is the official plan of Alberta Environmental Protection, Natural Resources Service.

The plan is a commitment by the Region to the protection and management of resources, the provision of recreation opportunities, the delivery of programs and services, and the development, operation and maintenance of facilities for the area.

  
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Regional Director  
Bow Region

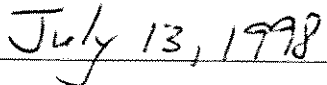
  
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Date


**RECOMMENDATIONS**

The Big Hill Springs Provincial Park Management Plan is recommended for approval and implementation.

  
\_\_\_\_\_  
Area Manager

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Ranger-In-Charge

  
\_\_\_\_\_  
Date

**ACKNOWLEDGEMENTS**

The team responsible for preparation of the management plan included Derry Armstrong, Rod Gow and Wayne Meikle.

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## 1.0 PURPOSE OF THE MANAGEMENT PLAN

Management plans provide the overall direction for the programming, development, maintenance and protection of a provincial park. The Big Hill Springs Provincial Park Management Plan translates the preservation/recreation mandate of the Natural Resources Service into specific directions on how the Park will be managed.

More specifically, the management plan will:

- Establish the classification for Big Hill Springs Provincial Park;
- Identify the role the Park plays within the system of parks across Alberta;
- Define program objectives for outdoor recreation, heritage appreciation, protection and tourism;
- Place existing facilities and programs into the context of the objectives;
- Identify issues and concerns and define remedial action;
- Review opportunities and establish priorities for the addition of lands to the present park;
- Identify upgrading and development requirements to meet the objectives;
- Outline the public involvement used in plan development and document the results and how they affected the plan.

## 2.0 OVERVIEW

Big Hill Springs Provincial Park is located in Big Hill Creek Valley approximately 15 km north of Cochrane. The Park is accessible from Secondary Highway #567, east of the junction with Highway #22. Driving time to the Park from northwest Calgary is approximately 20 minutes.

The Park (32 hectares in area) is situated in the lower end of Big Spring Coulee, a side coulee of Big Hill Creek Valley. A series of springs located on Park lands northwest of the main portion of the Park are the origin of Big Spring Creek and coulee.

A 1984 study conducted by Stephan Houseknecht for Parks Canada ranked Big Hill Springs as one of the top four mineral springs found in Canada. \*

Big Hill Springs Provincial Park is located in the Foothills Parkland natural Sub-Region. The variability of topography and aspect in Big Spring coulee cause a remarkable number of distinct biotic environments in a small land area. The Park contains a variety of vegetation types from grasslands to closed trembling aspen forest.

Big Hill Springs was the site of Alberta's first commercial creamery. The Radcliffe Creamery was constructed in 1891. No remnants of the creamery can be seen above ground in the Park. The Park was also the site of a fish hatchery in the 1950's. Concrete structures left from the hatchery can still be seen adjacent to Big Spring Creek.

The primary recreation attractions at Big Hill Springs Provincial Park are the picnic sites and a trail system with a series of interpretive signs. Residents of Calgary, Airdrie and Cochrane are the primary visitors to the Park, utilizing it year-round. Park users frequently describe the park as a quiet place to escape the city. On weekends with good weather, the capacity of the parking lot is frequently exceeded.

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\* Houseknecht, Stephan J.; TERA Environmental Consultants Ltd., Vancouver B.C.; *Natural History Study of Mineral & Thermal Springs in Canada*; Prepared for Parks Canada, January 1984.



**Alberta**

ENVIRONMENTAL PROTECTION

Natural Resources Service

**NATURAL RESOURCES SERVICE  
REGIONS**

SCALE = nts

- REGIONAL BOUNDARY.....
- CITY.....
- LAKE.....
- NATIONAL PARK BOUNDARY.....
- PROVINCIAL PARK.....





### 3.0 SYSTEMS CONTEXT

#### 3.1 Classification

Big Hill Springs Provincial Park is one park within a large system of parks and protected areas within Alberta. Every site plays a unique role and contributes towards the Natural Resources Service objectives of protection, outdoor recreation, tourism and heritage appreciation.

Each park is classified within the Parks system according to its attraction and values. Big Hill Springs is classified as a Provincial Park under the Provincial Parks Act providing opportunities for outdoor recreation and education in an attractive natural setting. The major attributes that determine Big Hill Springs Provincial Park classification are:

- Big Hill Springs flows year round and is of national significance;
- A stream bank with unique tufa deposits and vegetation;
- The dramatic "Big Hill" coulee landscape;
- A variety of vegetation types due to different topographic slopes and aspects;
- Archaeological digs in the vicinity have indicated possible pre-historic occupation;
- The site of an historic creamery dating from 1891 and a fish hatchery circe 1951-56.

#### 3.2 Theme Representation

Natural Resources Service has adopted an ecologically based natural regions framework to assist in the management of its protected areas. This framework is based on a hierarchy of Natural Regions, Sub-Regions and Natural History Themes, and it is designed to incorporate **representative** themes as well as **special** themes. Typical or widely distributed features characterize representative themes, while special themes identify unique or atypical features in the province. The six natural regions found in Alberta are: Grassland, Parkland, Foothills, Rocky Mountain, Boreal Forest and

Canadian Shield. Big Hill Springs is situated in the Foothills Parkland Sub-Region of the Parkland Natural Region. A detailed description of this natural region's framework and its function and purpose can be found in the report: *Natural Regions and Subregions of Alberta: A Revised Classification for Protected Areas Management* (Achuff, 1992).

Big Hill Springs Provincial Park is important in Alberta's protected area system due to the special resources contained in the Park (ie. Springs, coulee landscape, vegetation). Although small in size, it is one of the few existing protected areas representing the Foothills Parkland Sub-Region.

## 4.0 MANAGEMENT ISSUES AND OBJECTIVES

### 4.1 Management issues

A number of issues at Big Hill Springs Provincial Park need to be addressed in the management plan. These issues have been identified through the public input process conducted as part of the plan's preparation and through past management experiences. The following issues and recommended strategies are presented in no particular priority.

#### Protection

- The head waters of the springs are currently separated from the main public use area because of a non-contiguous land base. Land acquisitions will be pursued to protect the entire springs and sections of the creek associated with the Park.
- Existing park fences in Big Hill Creek Valley exclude public access to the creek and adjacent valley bottom lands. Rock features and viewpoints on private lands on the east side of the Big Hill Creek Valley encourage visitors to trespass onto private property. The upper Big Spring Creek also draws visitors onto private lands. Working with adjacent land owners, new fences and signs will be put into place to try and prevent public access onto private lands.
- Water monitoring and bank management of Big Hill Springs and Creek represents an issue for analysis and decision. Cattle currently have access to the creek banks, and there is also an opportunity for a fisheries management program. This leads to concerns about the compatibility of these two activities. By working with grazing lease holders, adjacent land owners, and fisheries management personnel, this issue is being addressed to protect the integrity of the Springs/Creek water and banks.
- Management of beaver in the Park will be addressed as required.

### Heritage Appreciation

- Alberta Community Development: Cultural Facilities & Historical Resources Division has indicated the site of the 1891 Radcliffe Creamery has historic significance that warrants on site interpretation.
- The two natural stone fireplaces, constructed in the 1950's, are very popular with park visitors. These structures are deteriorating and will eventually become a public safety concern.
- A general review of the number and kind of trail or interpretive signs has been conducted, and new signs are in place. Any signs in the park will be changed or fixed on an as need basis.
- Utilization of the park for environmental education by local schools and youth groups will be addressed in conjunction with the environmental education staff at Fish Creek Provincial Park and through use of the Learning Resource Manual.

### Outdoor Recreation and Tourism

- Many park visitors and neighbors do not want to see major changes at the Park. A minority wish to see added or upgraded facilities.
- Parking lot capacity needs to be addressed.
- The public utilize the Park throughout the year. The Park will be set-up as a "four-season" operation with minimal facilities (ie. Parking, toilets, trails).
- Improved or additional trails for interpretation and wildlife viewing will be pursued.

## 4.2 Objectives

The following are the objectives established for Big Hill Springs Provincial Park:

### Preservation

- To Protect and manage its natural and cultural resources and accommodate recreation opportunities in a safe and pleasant natural setting;

- To preserve and protect the springs, tufa formations and streams within the Park;
- To protect the existing quantity and quality of Big Hill Springs;
- To sustain the natural vegetation communities within the Park, to reclaim disturbed areas to native vegetation and to limit the impact of non-native vegetation through possible eradication or use of other vegetation management techniques;
- To retain viable habitat patches for wildlife cover, food and shelter.

#### Heritage Appreciation

- To provide non-personal opportunities for visitors to appreciate the geological features created by the stream; unique aquatic, geological and cultural resources found in the Park; and the vegetation and wildlife representative of the Foothills Parkland Sub-Region;
- To provide educational opportunities for local students to learn about cultural and natural resources and natural processes within Big Hill Springs Provincial Park.

#### Outdoor Recreation

- The primary objective is to provide year-round trail opportunities to service visitors from west Calgary, Cochrane and Airdrie region. Specific recreation opportunities emphasize walking and wildlife viewing. Limited picnicking opportunities will continue to be provided.

## 5.0 ZONING AND MANAGEMENT GUIDELINES

There are three management zones within Big Hill Springs Provincial Park: Facility, Natural Environment and Preservation Zones.

The **Facility Zone** covers the developed portion of the Park including the entrance road, parking lot, picnic area and service area. The purpose of the Facility Zone is to provide visitor support facilities for the recreational enjoyment of Park visitors.

The **Natural Environment Zone** covers undeveloped portions of the Park including Big Hill Creek valley and Big Hill Spring valley plus the adjacent land on top of the valley. The purpose of the Natural Environment Zone is to protect the natural and cultural resources while providing walking trails and interpretive opportunities that bring visitors in closer contact with nature. Controlled grazing may be permitted to minimize the risk of grass fires.

The **Preservation Zone** covers the springs themselves to ensure they remain undisturbed. Controlled grazing may be permitted to minimize the risk of grass fires. Cattle will be restricted from the spring and coulee valley areas.




The following management guidelines apply to all zones, except where noted otherwise.

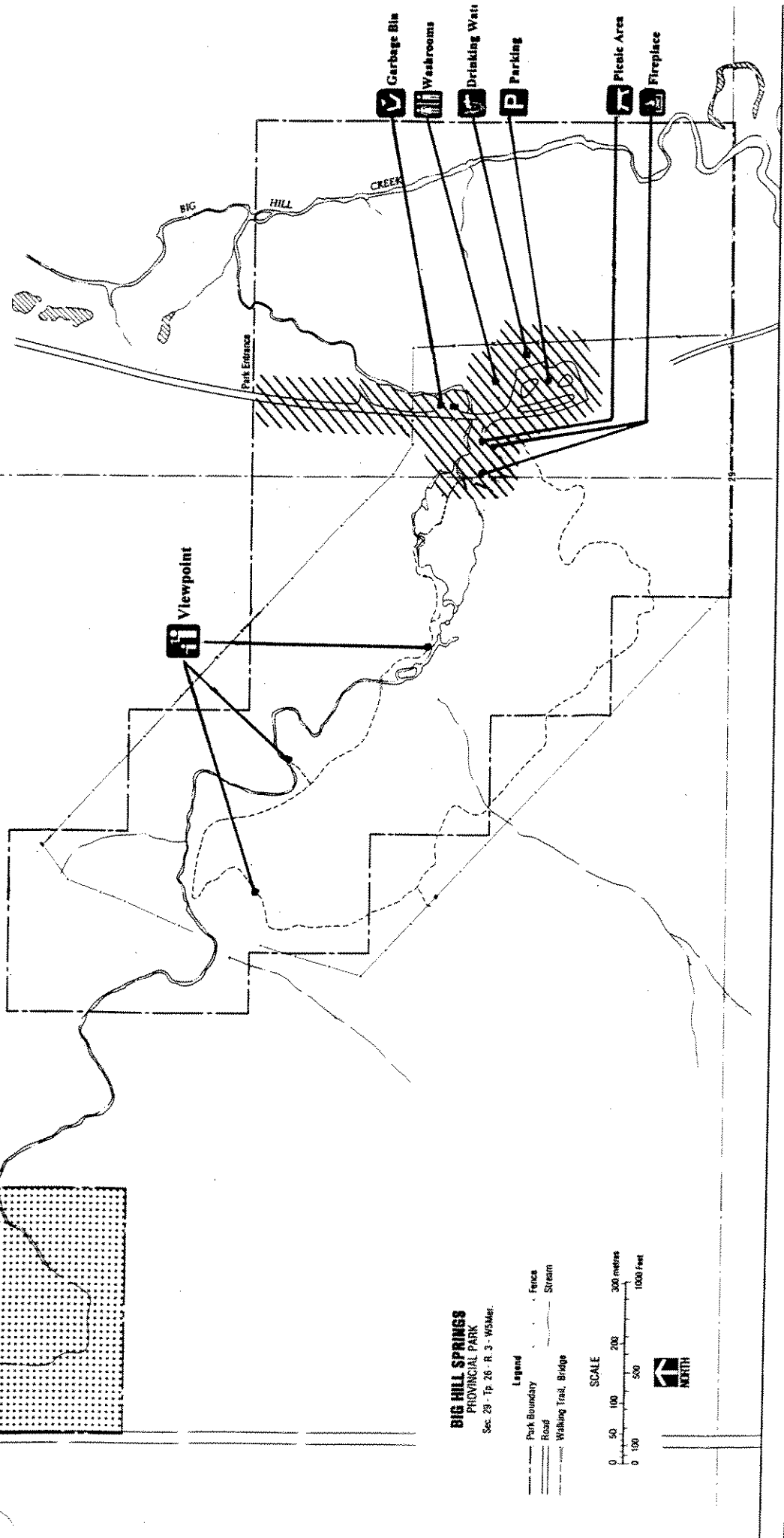
### Recreation & Tourism Management Guidelines

The **Facility Zone** will be managed to provide year-round day-use recreation opportunities as follows:






- Provide 4 picnic sites.
- Parking for 25 vehicles.
- A drinking water supply.
- Vault toilets.

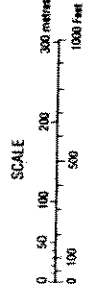
# MANAGEMENT PLAN ZONING

-  Facility Zone
-  Natural Environment Zone
-  Preservation Zone



**BIG HILL SPRINGS  
PROVINCIAL PARK**  
Sec. 29 - Tp. 26 - R. 3 - W54W6E

- Legend**
-  Park Boundary
  -  Fence
  -  Road
  -  Stream
  -  Walking Trail, Bridge



- Centralized garbage disposal services.
- Mobile commercial concession operations may be permitted if compatible with Park's management objectives.

Not other recreational or support facilities will be considered.

The **Natural Environment Zone** will be managed to provide a series of walking trails with interpretive information and occasional rest-stops. No other facilities will be provided or permitted in the Natural Environment Zone. Grazing will be utilized as a management tool.

Access to the **Preservation Zone** will be limited to escorted tours or by permission of Natural Resources Service personnel only. Grazing may be permitted in this zone as a management tool.

Trail connections within Big Hill Valley may link the Park to a future regional trail system. This trail connector will be restricted to walking, cycling or cross-country skiing. No trail linkage will be permitted along Big Hill Spring Creek coulee.

#### Heritage Appreciation Management Guidelines

Heritage Appreciation will focus on the following:

- The origin of Big Hill Spring Creek and size of the springs;
- The riparian habitat;
- The geological features created by the stream;
- The human history influenced by the stream particularly the Creamery, Hatchery and recreational features;
- The vegetation of Big Hill Creek Valley as representative of a valley environment in the Foothills Parkland Sub-Region;
- The geological history and origin of the Big Hill Valley as a glacial spillway.



Heritage Appreciation will generally utilize non-personal methods of communication such as signs, displays and brochures. Access to the source of the springs will be limited to escorted groups or by permission of Natural Resources Service personnel.

Opportunities to utilize the Park for outdoor education will be promoted with local schools and youth groups.

#### Resource Protection and Management Guidelines

Natural processes will be permitted to occur unless action is required to maintain visitor facilities, guard against public safety concerns, or is required by legislation (ie. weed control).

**\*\*NOTE:** A Biophysical Inventory of the area is being done. Resource protection and management issues/guidelines will be more clearly defined based on the inventory.

- Noxious and restricted weeds will be controlled as directed under the Weed Act.
- Management of trees and shrubs will be limited to removal of dead and diseased trees that represent a hazard to people or park facilities.
- New vegetation planting will be with native species only.
- Native grasslands occur within the Park, but they will not be actively managed for the purpose of returning non-native to native grasses. Native grasslands now under grazing management will continue to be managed with the adjacent landowners to maintain a healthy native grassland environment and reduce fire hazard. Grazing will be restricted around the source of the springs through improved fencing.
- All wild fires will be suppressed.
- Control of insects and diseases affecting vegetation will generally not be undertaken unless the program is part of a larger effort on lands surrounding the Park.
- Wildlife management will generally not be undertaken except in cases where species are a threat to public safety, enjoyment, or facilities. Natural Resources Service will encourage the enhancement of fish and wildlife habitat on Park lands. These priorities will be defined once the Biophysical Inventory has been completed.

- Grouse leks are areas where grouse gather together annually at the start of the breeding season. Leks are important focal points for courtship and mating rituals. These areas also appear to be central part of grouse habitat throughout the year. There have been reports of grouse leks in the southwest corner of the Park. These areas will be protected if still in existence.
- Research on natural and cultural resources will be encouraged. Specific research on the Radcliffe Creamery site will be a priority. Archaeological exploration will be permitted.
- Natural Resources Service will encourage the protection and maintenance of the water quantity and quality within Big Hill Spring. Water in the Spring and Creek will be monitored to ensure that park user activities, cattle grazing, and adjacent land owner practices are not affecting water quantity or quality.
- The impact of park visitors on the tufa deposits will be monitored. Fencing and/or vegetation barriers may be implemented to protect deposits if heavy impact is found.
- Fences and signs will be utilized to protect the springs, creek, grazing areas and park facilities. This is to exclude livestock grazing from certain areas as well as limit public access to private lands or restricted areas.

## 6.0 LAND MANAGEMENT GUIDELINES

A management agreement to formalize the existing grazing in the Park will be negotiated. A new grazing agreement may be extended to any upland grass areas within the Park where identified as an appropriate vegetation and wild fire control method.

New utility dispositions may be considered if there is no impact on facilities, natural and cultural resources or aesthetics.

Land acquisition to expand the Park may be considered if adjoining owners are agreeable to selling or willing to enter into an agreement such as conservation easements. This may include:

- 1). Lands within the Big Hill Spring coulee to consolidate existing Park holdings;
- 2). Native grasslands and shrub lands surrounding the Park;
- 3). Lands within Big Hill Creek Valley between the Park and the Town of Cochrane in co-operation with other groups or agencies.

## 7.0 COORDINATION GUIDELINE

Co-ordination of park management activities with other agencies and land owners is important to the successful operation of the Park.

Natural Resources Service will work with planning authorities for the Municipal District of Rockyview to review proposed land uses on surrounding lands to ensure the continued protection of the natural and cultural resources and recreation values of Big Hill Springs Provincial Park.

Annual contact will be maintained with adjacent land owners or when specific issues arise . Other government agencies will be contacted when issues arise that Natural Resources Service needs assistance or input to help solve problems.

## 8.0 DEVELOPMENT REQUIREMENTS

No major new developments are proposed for Big Hill Springs. A number of refinements and improvements to facilities will be implemented as resources are available. The following developments are listed in order of priority:

- Upgrade (repair or replace) vault toilets
- Improved fencing in the vicinity of the source of Big Hill Springs.

## 9.0 PUBLIC INVOLVEMENT

Public consultations were undertaken during the preparation of the Big Hill Springs Provincial Park management plan. The essence of public input obtained has been reflected within the plan and is included in the section on management issues. A summary of public input received is presented in an Appendix. A complete review of all public input obtained for the Big Hill Springs Provincial Park Management Plan is available in the Big Hill Springs Provincial Park Management Plan: Public Input Report from the Foothills District Office of Natural Resources Service.

The following is an overview of the process utilized to obtain public involvement.

### User Consultation

Direct consultation with users on-site took place via two days of interviews and discussions conducted on separate weekends in late August - early September 1992.

A brochure was created to facilitate and stimulate discussion. The brochure served to encourage interested patrons to respond in writing and provide a contact name and address.

A detailed mosaic and map of the area were utilized to enable users to discuss various aspects of the Park.

#### Agency & Organization Consultation

A list of contacts was assembled based on the broad range of issues that the management plan might address.

A letter, with a copy of the brochure, was produced to encourage participation in the planning process.

Packages were sent to appropriate individuals within a selection of fifteen agencies and organizations.

#### Local landowner Consultation

It was determined that personal consultation meetings were necessary between the Natural Resources Service and neighboring landowners. The meetings were arranged, if desired, with any landowner having property abutting or in the immediate vicinity of Big Hill Springs Provincial Park to enable an information exchange while determining areas of concern that might need to be addressed within the Park.

One meeting and several telephone responses were obtained and summarized in the Public Input Report.

### **10.0 PLAN IMPLEMENTATION AND REVIEW**

Implementation of the management plan will proceed through on-going capital and operating budgets.

Improvements will proceed on a priority basis as budget resources are available.

The management plan will be formally reviewed ten years after approval. Earlier reviews may be required if there are significant events or changes deviating from the intent of the plan.

## APPENDICES

APPENDIX I  
BIG HILL SPRINGS PROVINCIAL PARK  
PUBLIC INPUT SUMMARY

General Public

- Input was obtained from August 29 and September 7, 1992 user interview sessions conducted on-site and correspondence from interested parties.

The following are issues or comments that have been identified to date, in no particular order or priority:

- Alberta Community Development is prepared to assist in an archive search in an attempt to determine the site of the Radcliffe Creamery. A possible plan to identify the foundation site with appropriate interpretive signs was mentioned.
- There was strong support for maintaining the current level and kind of services. This status quo position did not appear to preclude making changes and additions but was an impression of the desire to see Big Hill Springs Provincial Park continue to be managed as a family picnic day-use facility.
- There was strong support for some degree of parking lot expansion and redesign.
- The natural stone fireplaces were viewed as a valuable part of the park and definitely worth renovating.
- A desire to see the park become more of a "four season" facility was embodied by the public's stated use patterns and several requests for the picnic shelter to be replaced or renovated with doors, windows and a stove.
- There was general support for any land acquisitions that would protect the actual springs.
- Almost without exception, the public felt that overnight camping would be inappropriate in the park.

- There was clear interest in providing additional trails particularly on the east side of the coulees since it would provide a unique view of the valley as well as a trail extension to the springs proper.
- Members of the public specifically enquired about the status of the road connecting Big Hill Sprigs Provincial Park and Cochrane. The advantages of establishing a walking/biking path on the road allowance were mentioned.
- Those consulted expressed a desire to see land acquisitions in the coulee specifically at the site of the springs. Such acquisitions would give users more trail opportunities and provide additional resource protection.
- The public appears to be satisfied with the kind and number of trail and interpretive signs. Several groups commented that a wildlife viewing trail with interpretive signs might be appropriate.
- Interest was expressed in reclamation of the stream for better fishing.
- Several groups pointed out that the addition of benches on the interpretive trail would be a benefit to older users and families with small children.
- Indications were received that an upgrade of the current toilet facilities was felt to be necessary.
- Several groups indicated they would like to see the park better utilized from an environmental education viewpoint with the Natural Resources Service being active in working with local teachers and youth leader schools in Airdrie, Cochrane and surrounding area.
- The public indicated that they wanted to utilize all of the park including the area beyond the existing fence line in Big Hill Creek Valley which does not follow the actual boundary of the park.



Local Landowner Input

- A generally held view was expressed that the park patrons engage in trespassing on private property and that depreciative behavior with vandalism is a continuing problem. Resolution of such conduct was felt to be a priority.
- None of the landowners consulted were in favor of changing the "no camping" operation of the park.
- There was a difference of opinion between landowners with regard to the feasibility of land acquisition south, down to the coulee. One felt this was a good option particularly with reference to protecting the valley in its entirety. Another adjacent landowner was against further land acquisition for the park.