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ECOLOGICAL CONSIDERATIONS OF THE PROVISIONAL
MASTER PLAN FOR WATERTON LAKES
NATIONAL PARK

by

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The Waterton Lakes Provisional Master Plan was prepared as a temporary document to stimulate comment and discussion. After appraising the plan in the light of ecological considerations and the objective of preservation of natural features, we offer the following comments and recommendations. Our comments and recommendations follow the sequence in which points are raised in the plan.

Park Use

The graphs on page 18 comparing visitor use pressure per square mile in various parks are misleading. Large areas of Banff and Jasper receive little or no use while most areas of Waterton Park are readily accessible for visitor use. The comparison would perhaps be more meaningful if little used areas were not considered.

Existing Developments

Cameron Lake could be considered as a major day use area, as well as Red Rock Canyon.

Park Values

The legend on the map on page 24 is not clear. Should "Forests" read "Mountains" on the legend? "Alpine Tundra" could be considered "Mountains" also. The hash marks for "Alpine Tundra" in the legend are not the same as used on the map.

Land Use Plan

Although the master plan states that Waterton Lakes National Park contains some of the most interesting botanical areas in the country, it does not provide protection for many vegetation types found at lower elevations.

The present plan places all grasslands, except for the Badlands, in Classes III and IV. The Stony Creek grasslands (Class IV) and Lookout Butte (Class III) should be in Class II.

It is desirable to preserve some arid, stony grassland on the plains of the Waterton River between the Dardanelles and the main road. This grassland is on alluvial fan substratum and is different in character from the Badlands grassland on glacial till.

The preservation of floodplain aspen and cottonwood stands and marshy areas should be assured. At present most of these areas are in Class IV. A large area of low-lying aspen, cottonwood forests and marsh should be relocated in Class I or II. An ideal area, containing many interrelated vegetation types, lies between Knight's Lake and Chief Mountain Highway and from north of Maskinonge Lake to the Stony Creek grasslands.

It would be desirable to have Class III more clearly defined, or to discontinue use of that class. In particular, the Crandell Mountain and Belly River sections of Class III do not fit the criteria set down for the class. They do not form a "buffer" nor do they provide "access corridors" to anywhere in particular. These two areas should be included in Class II.

The master plan states that "It certainly would be highly desirable to have the buffalo grazed over the entire portion of the grassland" As ecologists, we believe it would be highly desirable to have a large area of the Badlands grassland that is not grazed by bison, as well as an area lightly grazed by a small herd of bison.

Grazing by horses should be totally excluded within the park to prevent impairment of native vegetation. Furthermore, to prevent spreading of seeds of exotic plants on trails from horse manure, hay and oats should be replaced by pelletized rations. The process of preparing pellets is reported to destroy almost all seeds.

Circulation

There does not appear to be adequate justification for an extension of the Akamina Highway into Glacier National Park in view of the impairment which would result. That proposal should be examined critically in the final master plan. We agree with the author's conclusion that a road connecting the Akamina and Red Rock roads via Crandell Lake would destroy the primitive aspect of Crandell Lake and a very popular hiking route.

The Chief Mountain and Cardston-Pincher Creek Highway should be rerouted outside the park boundary so it is not necessary for vehicles to enter the park, if that is not their destination.

The final master plan should include a recommendation that none of the material required for public works, such as gravel and

fill for roads, be extracted from within the park. Gravel crushing operations, such as the one in the Dardanelles area in 1968, detract from aesthetics and have an unfavorable influence on plant communities and on public opinion.

The plans for completing trail systems to facilitate wilderness travel are commendable. However, well planned and developed trails may do less damage over the long term than trails marked only by blazes where each user makes his own path.

Visitor Centre Proposed Developments

Based on estimated visitor use by 1975 and the need for enlarged motel and camping facilities, we recommend that new development be located outside the park along the Waterton or Belly rivers. Here lodging facilities could be developed to meet the growing need; the present townsite facilities would provide meals, groceries and gasoline. Every possible acre within the park should be preserved in its natural state and developments, such as the golf course, rehabilitated to their natural state.

Youth Camps

The proposal to consolidate youth camps in an area not required for public use is a good suggestion. There is merit in relocating these youth camps outside the park. Areas along the Waterton or Belly rivers or Yarrow Creek may be suitable for such purposes.

Campgrounds

The critical camping and motel accommodation situation prevalent today and the anticipated sharp rise in visitor use in the future points out the need to develop a "Service Centre" town just outside the park, probably along the Waterton or Belly rivers. If the park attempts to accommodate public service needs within this small park, the entire valley bottom adjacent to the Waterton River will likely be required for this use by the year 2000. Such a programme would urbanize the valley bottoms and extract them from the park as far as National Park values are concerned. As much as possible of the valley land along Waterton Lakes and the Waterton River should be retained in its natural state. Although present urbanization detracts from the natural beauty of this valley it is not nearly as great as it would be were more developments permitted. As discussed in the Land Use Plan section, we feel it is highly desirable to preserve the low elevation plant and animal communities.

Should the exponential increase of camper days projected on page 8 of the Provisional Master Plan continue, accommodation for 10,000,000 camper days will be required by the year 2000. For a number of reasons such a projection is not realistic. If the increase in camper days meets a 12 percent annual increase over the 1975 estimate, and if the Park were to continue to provide campgrounds to meet the demand, about 4,345 camp sites would be required by the year 2000 (Table 1). It is obvious that if the policy of attempting

Table 1. Projected number of visitors, camper days, and camp sites required in Waterton Lakes National Park by the year 2000.

Year	Visitors	Camper days	Camp sites required
1966	487,600	121,700	
1970	650,000	197,000	
1975	930,000	365,000	1,550 ³
2000	1,743,750 ¹	1,095,000 ²	4,345 ³

¹Projected at a 7.5 percent annual increase from the 1975 estimate.

²Projected at a 12 percent annual increase from the 1975 estimate.

³Based on 252 camper days per site for the camping season.

to meet the demands for camp sites inside the park is continued, the low elevation lands, suitable for camp sites, will all be used in a relatively few years. Then camping demands will have to be met outside the park but the aesthetic values will have been impaired. We urge that campground expansion be stopped right now and that negotiations be started with both the provincial government and private landowners to develop campgrounds outside the park.

The removal of the incinerator is recommended in the plan. In order not to create a bear problem it should be used until alternative garbage disposal facilities are provided which are acceptable from an ecological standpoint. Land-fills within the parks are entirely unsuitable because they attract bears. Either a new gas or oil fired incinerator of adequate size for peak loads should be built, preferably on leased private land outside the park, or else a land fill, several miles beyond bear range, should be acquired on private land northeast of the park.

Interpretive-Orientation Centre

The proposed site for an Interpretive-Orientation Centre is a good one. Could such a centre be located inconspicuously on the elevated grassland plateau? Since the natural beauty of the plateau, framed by the Blakiston Valley and adjacent mountains in the background, is so spectacular, a special effort should be made to preserve the view and to prevent the establishment of conspicuous buildings and structures.

Buffalo (Bison) Paddock

Rough fescue is the dominant low elevation grass species in the native grasslands of the park on dry sites except where grazing has caused it to decrease. It does not tolerate continuous spring and summer grazing as well as most other native grasses, although it can tolerate moderate winter use.

Historical evidence regarding seasonal migration patterns of plains bison is confusing. However, it seems fairly clear that they distributed themselves in large herds and moved frequently. The fortuitous result was a deferred rotation grazing system. We expect a number of undesired effects to result if the bison are allowed to graze most of the grassland as proposed.

To assure a reasonable probability that visitors see the bison, it would be necessary to maintain a number such that damage to the grass stands would probably result from year-round grazing.

It would be prudent to advise, if not require, that visitors remain in their vehicles while in areas occupied by bison. The incident that occurred last summer in Prince Albert Park when a visitor was gored by a bull bison emphasizes that point. Thus, the proposed plan would make much of the lower parts of the park unavailable for pedestrian activities.

The plan would also necessitate construction of new access roads so that visitors could find and see bison. This would cause further impairment of the grasslands. Fencing necessary to retain bison within the park would cross elk travel routes and interrupt their movements or result in broken fences.

If bison are to be maintained in the park, the plan proposed previously (Flook, D. R. 1968. An appraisal of bison management in Waterton Lakes National Park) provides a reasonable compromise to enable public viewing of bison in a quasi-natural setting with a minimum of impairment to other natural values of the park. However,

with more and more private bison herds being established in Canada, we question the justification in future for maintaining bison in a park as small as Waterton.

There is no evidence, under the circumstances which prevail in Waterton Lakes National Park, that bison contribute to maintaining grass stands as mentioned in the plan.

As ecologists, we believe it is important to give a large portion of the grassland area total protection from bison and horse use.

Development Programme

The number of camp sites and the land required to meet future camping needs is large in terms of the size of the park. A large acreage will have to be sacrificed from the few square miles of bottom land just to meet this future need. Add to this the acreage needed to provide adequate motel, service station, store and restaurant facilities for visitors and it becomes evident that the park cannot hope to meet the expected public service requirements even for the next 30 years. Expanded service facilities to meet projected needs will irreparably damage the ecosystems along the Waterton Valley.

The best hope for perpetuating the natural beauty of Waterton Lakes Valley would be to prevent the establishment of additional service facilities, to strive for development of a "Service Centre"

outside the park, and try to phase out existing non-essential facilities such as the golf course.

Future Outlook

Regarding the "formally landscaped plaza", landscaping that does not require additional topsoil would be preferable. However, if topsoil is used in future landscaping it should be purchased from outside the park rather than stripped from park lands as in the past.