

THE USE OF BIOPHYSICAL INFORMATION — B.C. LAND COMMISSION OVERVIEW

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INTRODUCTION

The B.C. Land Commission's prime target, the long-term preservation of agricultural land, has evolved basically as a planning function that takes us in many directions all at once. As we often find ourselves in the center of politically sensitive issues, the Commission might be described as being on the 'firing line' with regards to biophysical information. This information is the basis of our agricultural zoning and the basis of our everyday decisions regarding applications under the Land Commission Act and changes to the Agricultural Land Reserve. In this paper, I will attempt to give some idea of our experiences related to the use of biophysical information.

Information related to the natural characteristics of the land and its climate is unquestionably critical as far as consistency in Commission decision-making is concerned. At the same time, we have a very small staff of our own and there is rarely any time to collect new information. We therefore rely fairly heavily upon provincial and federal agencies involved in natural resources or lands management, and we have to try to use the information they provide in whatever form and scale it is available at the present time.

USE OF BIOPHYSICAL INFORMATION IN ESTABLISHING THE AGRICULTURAL LAND RESERVES

In April 1973, the Land Commission Act was passed through the B.C. legislative assembly, and the subsequently appointed Land Commission was asked to proceed with agricultural zoning for the province. The long-term intent in establishing Agricultural Land Reserves was to establish a zone based upon biophysical parameters rather than the variables of market and other socioeconomic considerations. The first problem, therefore, was to decide upon a technical base for such zoning that would weather all storms, politically and otherwise, and be as fair as possible to everyone. We turned to the CLI agricultural capability interpretations that had been derived for the most part from basic soils and climate data.

The choice of the CLI information of course was pragmatically motivated, in that it was the only uniform province-wide classification of the land resource available at the time - a very necessary requirement in order to fairly and equitably apply a province-wide zone. Without this basic biophysical inventory, the scheme of agricultural zoning would have been very difficult if not impossible to implement.

Under the Land Commission Act, the regional level of government was required to submit an Agricultural Land Reserve plan to the Commission for consideration. To aid the Regional Districts and to provide a guideline, B.C. Department of Agriculture prepared "suggested" Agricultural Land Reserve Maps for each district, which identified those lands having the soil/climate combination to support agriculture and not already urbanized or irreversibly alienated in some manner. These maps were essentially a generalized second stage interpretation of the CLI agricultural capability data.

While basing the agricultural zoning upon the land's inherent characteristics was the only sensible route to go - given the long-term intention of the legislation - the route was not without its problems. Because we were dealing with a zoning concept, the end product of which would be administered and utilized by existing public agencies, problems quickly arose related to the administrative need for legally definable boundaries and the technical data of course being based upon the natural characteristics of the land. First, therefore, all natural boundaries had to be converted to essential straight line legal boundaries for Land Registry identification purposes, etc. This was a long, tough, frustrating job and a not altogether successful one. The whole problem of natural versus legal boundaries is one that I feel prospective users of biophysical information as well as those who are collecting such information should be made more aware of. By having to define agricultural areas by straight lines, we are forced to generalize still further biophysical data that, for the

purposes we were attempting to use it, were already being pushed to the limit. Partly because of this, the credibility of the Agricultural Land Reserves has sometimes been brought into question, especially by non-technical people who may be looking at one or two properties and noting that the agricultural portions seem to bear little resemblance to the actual Agricultural Land Reserve boundary.

The second main problem we encountered, and of course are still grappling with, is the scale of mapping. This was especially a problem in the metropolitan area, along the urban fringe, where the fragmentation of parcels was already quite advanced. Capability data were available to us at a scale of 1:50,000 and yet, in the drawing of the Agricultural Land Reserve line and in considering applications under the Land Commission Act, we must attempt to apply information mapped at this scale to lots of 2, 5 and 10 acres. Anyone in the business of collecting and interpreting biophysical data certainly appreciates the fallacy of such an exercise. On an aside comment, I find that there are advantages and disadvantages to being aware of the weakness of technical data and being in a decision-making position as well. At times, getting across the problems related to scale, natural boundaries, limitations of the classification system, or whatever, is difficult when dealing with local government politicians or occasionally even my fellow Commissioners.

Despite such problems, however, Agricultural Land Reserves were finally established throughout the province. The Reserves are a unique kind of zone. Being based upon the biophysical or ecological attributes of the land, they are regarded as relatively permanent, not subject to rezoning to a 'higher' use - or as I might better describe it, a lower and worse use if out of agriculture - as in standard zoning by-laws.

USE OF BIOPHYSICAL INFORMATION IN MANAGEMENT OF THE AGRICULTURAL LAND RESERVES

Much of our time and efforts on a day-to-day basis are devoted to processing applications under the Land Commission Act. Appeal provisions fall into two basic categories: applications for exclusion from the Agricultural Land Reserve and applications to subdivide or carry out some non-agricultural activity within the Agricultural Land Reserve. During consideration of these applications, detailed on-site information is often required. While our small staff handles a limited amount of this work, we also have arrangements with Soils and Property Management branches of the B.C. Department of Agriculture to conduct on-site inspec-

tions on our behalf.

We are also continuously refining the agricultural reserve line, especially in areas where the scale of the original biophysical information was inadequate for zoning purposes. The first step to this, what we call *fine tuning* process, is the refinement of the biophysical data base through field work; adjustment to the Agricultural Land Reserve follows if and when necessary.

Our efforts to minimize the impact upon the Agricultural Land Reserve of non-agricultural uses (transmission lines, highways and pipelines, etc.) require variable amounts of biophysical information. In one instance, soil stability may be the concern; in another, it may be a matter of identifying natural landscape breaks so as to encourage the service facility along the route of least impact upon present agricultural operations.

As time permits, the Commission also becomes involved in special projects, often in cooperation with municipalities or Regional Districts. Such projects usually relate to directing growth away from agricultural lands through planning, while creating and encouraging a positive environment for agriculture within the Agricultural Land Reserve. A wide range of biophysical data may be utilized in such projects, from bedrock information, detailed soils information and climate data to parcel size analysis, urban suitability studies, wildlife habitat requirements, recreation capability, and visual impact and landscape sensitivity analysis.

Where do we get this information? As well as leaning heavily on the original CLI data, we request that various government agencies provide us with the best biophysical background information that they have available. These agencies include: the B.C. Environment and Land Use Committee Secretariat; Provincial Ministries of Agriculture, Forestry, Housing & Municipal Affairs, Economic Development, and Environment (which includes Water Resources and Lands Services); Federal agencies such as the Lands Directorate and the Fisheries and Marine Service; and local government planning staffs.

All this information is critical, and I doubt that we could have carried out the Agricultural Land Reserve zoning without the CLI information and related biophysical base. However, biophysical information, no matter how good, will not make decisions for us. Decision makers can very easily fall into the trap of regarding biophysical data as gospel; when mistakes emerge and errors are made, they then lose confidence in the information altogether. We must remember that any land classification system is incom-

plete and inadequate if used beyond the limited purposes for which it was established.

At the same time, we must recognize that there are still great gaps in our information base. As more information is gathered, we face the additional problem of coordinating it with existing information. If we expect decision makers to utilize all these data we are so busily collecting, we must strive to present to them an integrated package, otherwise the decisions will suffer.

In this way, also, there is more likelihood that biophysical information will come to be used not only as a basis for initial planning decisions but also for management and follow-up program.

It appears to me that many people feel that users are generally unable to understand the technical information that is made available to them. I strongly feel that social norms change, and with time the public becomes aware of the existence of this information and learns how to use it. In fact, if this process is not happening, I feel we really *are* in trouble. If we are to be successful in selling the concept that land use decisions must be based upon biophysical parameters, this base information must eventually be able to work its way through the political system. If biophysical information is not understandable to the politicians and other non-technical persons in its present form, then it is our job to change it into a form that is palatable and credible enough for the politician to accept and defend.