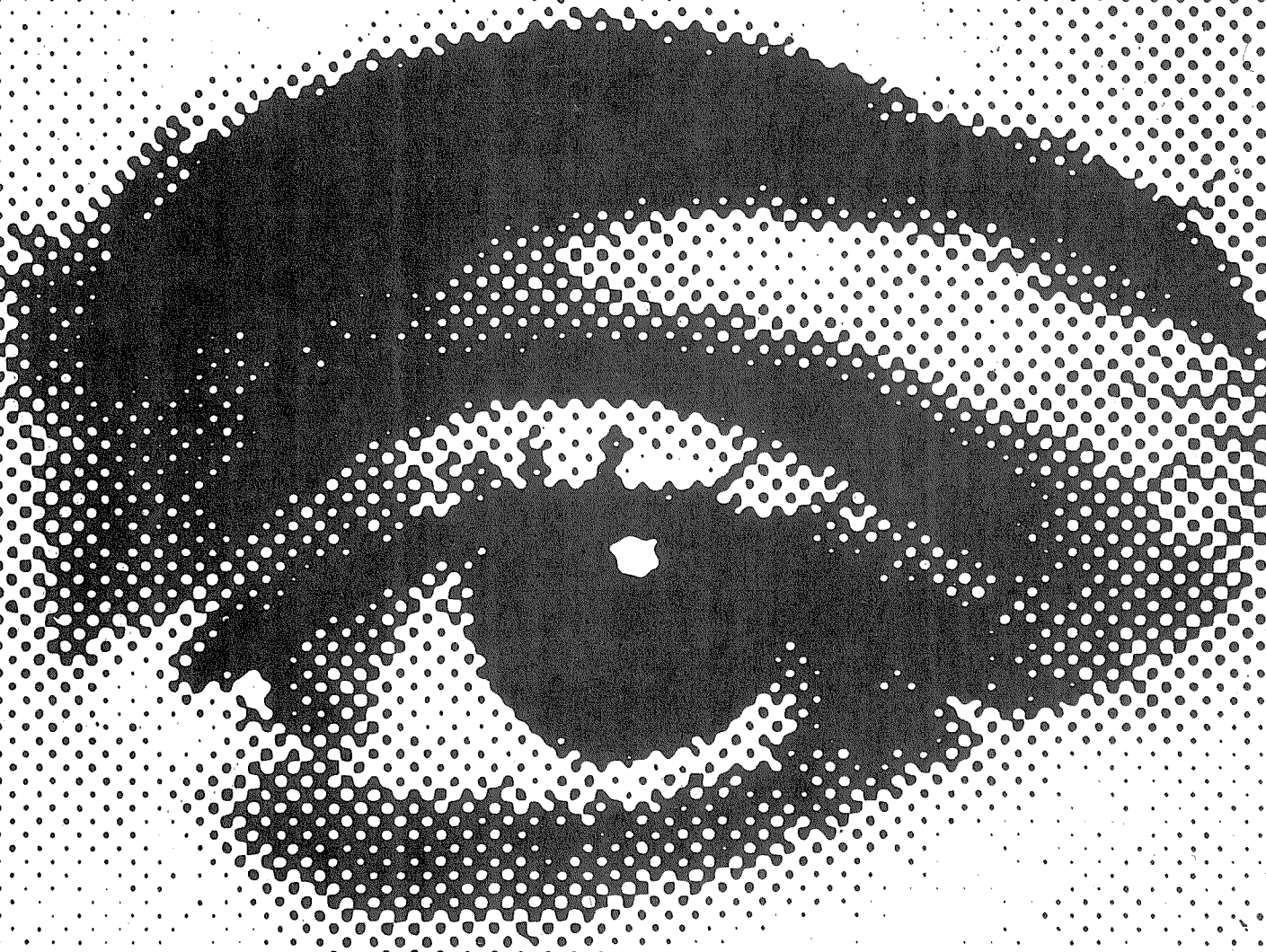


Visual Resource Management Workshop

February 26 & 27, 1976



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E.L.U.C. Secretariat

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
Environment and Land Use Committee
secretariat

RESOURCE ANALYSIS
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To All Participants:

Welcome to the first in-service workshop on the Visual Resource Management System. It is my hope that you will join me in exploring the System in the degree to which it can assist us refine our own in-service multi-disciplinary approach to the environment. It follows that the various techniques, attitudes and points of emphasis now incorporated in the System - (as imported, frankly, from the U.S.) are open to being altered, emphasized, eliminated or strengthened by our deliberations.

It is my conviction that the Visual Resource, as such, is a manifestation of sight reactions in all human-environmental interactions and goes well beyond the forest environment, where its inception took place. This workshop marks a beginning point for implementation of that philosophy. I hope we can make the best of it in our two day exercise.


W.C. Yeomans,
Landscape Architect,
Resource Analysis Unit.

WCY:vjb

AGENDA

Visual Resource Management Workshop
Feb. 26 - 27, 1976
Conference Room, Resource Analysis Unit
839 Academy Close
Victoria, B.C.

Sponsored by Recreation Division, R.A.U.
Workshop Leader:
W.C. Yeomans, assisted by
Terje Vold, Lorne Birch, and John Block

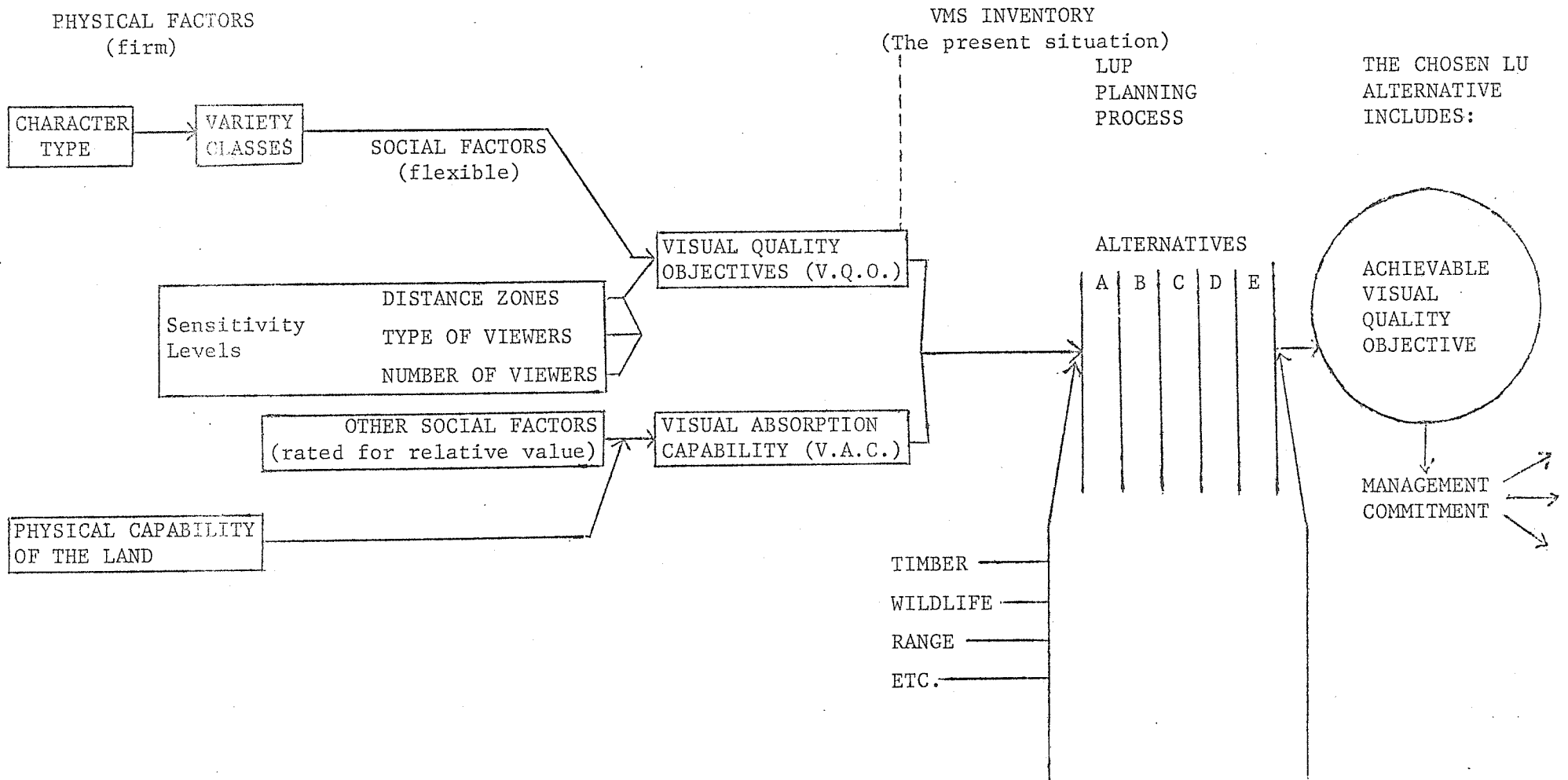
Time	Item	Remarks
Thursday, Feb. 26, 9:00 A.M.	Opening remarks; background to system	
10:00 - 10:15 A.M.	Coffee Break	Briefly please
10:15 - Noon	Overhead Projector & Double Slide Show - "The V.M.S.: Concepts and Guidelines".	Participants relate System to their own Disciplines
1:30 - 3:00 P.M.	Discussion: the V.M.S. in Relation to: Soils; Vegetation; Surficial Geology; Recreation; Wildlife; Climatology; Resource Geography; Graphics; and Communication Symbols; Computer Technology.	Participants introduce slides as requested by previous memo: assistance from T. Vold and J. Block.
3:00 - 3:15 P.M.	Coffee Break	As above
4:00 - 5:00 P.M.	Socio-psychological aspects of Visual perception: Role of the V.M.S. in Land Productivity Analysis Exercises; folios; special studies.	

<u>Time</u>	<u>Item</u>	<u>Remarks</u>
<u>Friday, Feb. 27</u>		
9:00 A.M.	Testing the System; break into small discussion groups: slide examination.	ie. how do we really <u>see</u> the physical environment?
10:00 A.M.	Coffee Break	Preferably in Conference Room
10:15 - Noon	Continuation: Testing the System etc.	
1:30 - 3:00 P.M.	Group Summary and Closing Remarks, i.e. "Where do we go from here?"	Assistance from T. Vold and J. Block.

Background Material

The flow chart diagram on this page should help summarize the relationship of the Visual Management System and the Land Use Planning process.

THE VISUAL MANAGEMENT SYSTEM



Basic Principles and Guidelines - Visual Management

- a. Areas on or adjacent to focal points on the landscape have lower capabilities to absorb visual modification.
- b. Land units with low visual magnitudes (due to distance from observer points and aspect relative to observers) have higher capabilities to absorb visual modification.
- c. The greater the diversity of the landscape, the higher its ability to absorb visual modification. For example, high absorption capability is found where natural openings are common.
- d. Lands with least colour contrast between subsoils or freshly split rock and the existing surface and vegetative colours have the highest capabilities to absorb visual modification.
- e. Uniformly tall, dense stands of trees have a higher capability to absorb visual modification due to their screening ability (low transparency) while also having lower capability to absorb visual modification due to their lack of diversity. On steep slopes the latter becomes the critical element. Steep middle ground and far foreground slopes of continuous vegetative cover are highly vulnerable to visual impacts of roads and regeneration cuttings.

- f. Silhouetted landforms or ridgelines have a higher capability to absorb visual modifications due to their aspect relative to the observer while also having lower capabilities to absorb visual modification due to their being subject to visual scrutiny as focal points.
- g. Edges (the result of contrast in form, line, colour and/or texture of vegetation, landform, and/or water) have higher capability to absorb visual modification due to their diversity, while also having lower capability to absorb visual modification due to their potential to be focal points.
- h. Areas that are visible from greater numbers of observation points have lower visual absorptive capabilities.
- i. The visual impact of management activities usually increases as viewing distance decreases particularly in the visibility and clarity of detail.
- j. Landscapes may be prioritized by Distance Zones, Sensitivity Level, and Variety Class from background II C to foreground I A.
- k. The visual impacts of management activities increase as the duration of view increases beyond a quick glance. Examples are those areas seen from vista points, visitor center, end of road tangents, etc.
- l. The capability of landscapes to absorb visual modifications varies with the scale and configuration of the modification (spot, linear, massive).

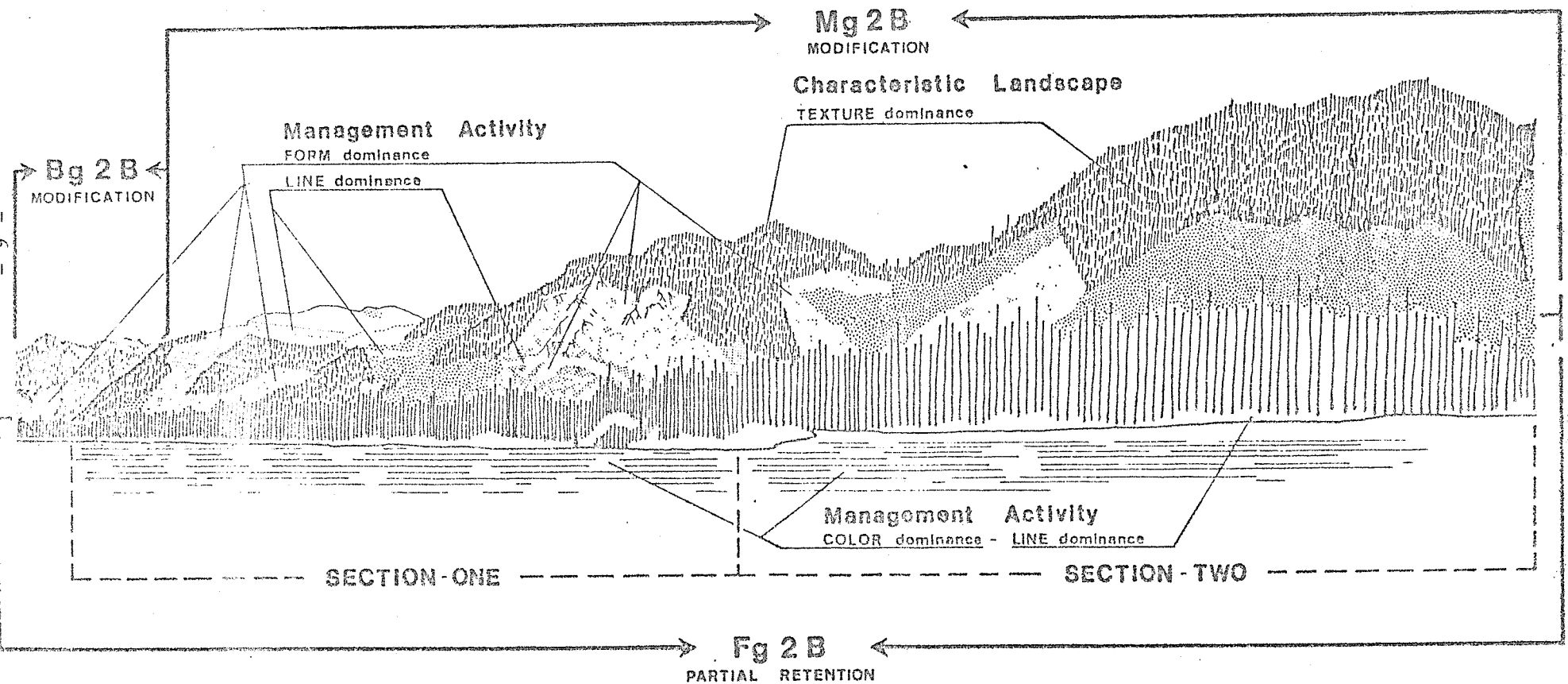
- m. Areas seen from destination points such as campgrounds, trailheads, etc., are generally of more concern than access routes particularly areas of short-view duration.
- n. Seen areas where duration of impact is expected to be excessively long or impact will be an irreversible or irretrievable commitment of the visual resource are of more concern than those areas where impact will be of short duration. Examples:
 - Structures in RETENTION and/or Class A areas not for visitor use.
 - Timber harvest in areas where regeneration is expected to be long and difficult.
 - Landform excavation which will be of long duration: roads, borrow pits, etc.
- o. Seen Areas containing A Variety are considered to be of more importance than those with B or C Variety; Areas of primarily Class B are considered of more importance than those of Primarily Class C.
- p. In coordination with the above premise, Seen Areas with existing visual impacts which meet Quality Objective for Sensitivity Level III of each Variety Class are of more concern than those which do not. However, they are of less concern than those which meet mapped VMS Objectives.

Extracts from: "The Assessment of Scenery
as a Natural Resource" - David L. Linton

- Scenery is a natural resource.
- A potential asset that becomes actual only when valued and exploited by a society that has reached a particular cultural and economic level.
- Natural resources are not in any sense "fixed assets".
- Scenery does not exist by the ton or the cubic foot.
- We must study the elements of scenery that influence our reactions to it, and map their variation over the whole area of study in a heirarchy of value.
- There are two truly basic elements in the scenic resources of any area. One is the form of the ground by the landform categories of the geomorphologist. The other is the mantle of forest, farms and factories, natural vegetation and human artifacts. Involved in both are the water surfaces that enter into many of our most attractive landscapes.
- Climatic conditions, remoteness or accessibility call for separate consideration.
- High or low altitude does not of itself make dramatic or dull scenery.

VISUAL RESOURCE REHABILITATION

Characteristic Landscape & Existing Management Activities



Terrain Analysis for Assessing the Visual Impact
of Hydro Transmission Lines

For the analysis of visual impact an approach was developed from design theory which involved the consideration of factors of tower line visibility and observer awareness of power lines. There were a number of variables which determined the level of these two visual impact components including the landscape's capacity to screen its potential for the occurrence of skylining and backgrounding situations, its spatial definition and scale characteristics, its inherent pattern and degree of naturalness. Other variables included tower design and the critical distance from a tower line in which visual impact is significant.

For the regional level analysis of visual impact a terrain classification system was developed to serve as a framework for this design-based evaluation process. It stressed the form of the land surface as its major criteria for classification and used quantitative measurements of form variability to allow for objective evaluations of visual impact and to ensure consistency in the application of the classification system in any area.

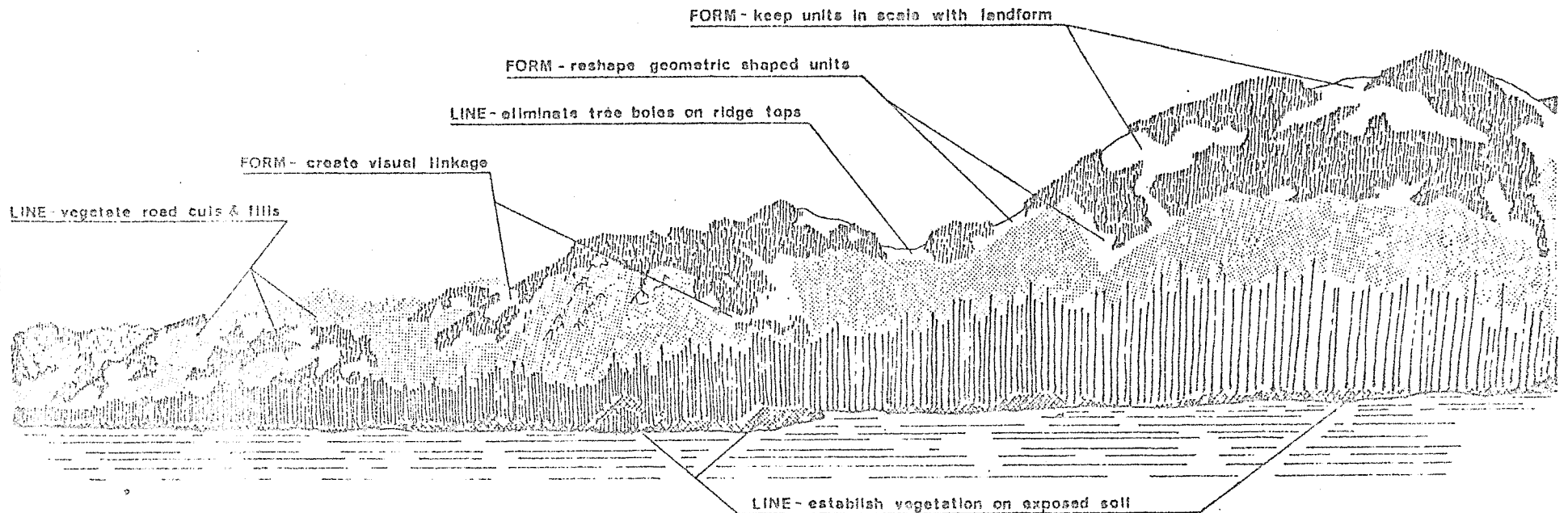
Landscape units called Land Systems were initially classified within a Pilot Study Area using stereoscopic aerial photo interpretation and field survey of land surface form variability. The major weakness of this approach was its inherent subjectivity and related problems with variation in interpretation. To overcome this limitation, form characteristics of Land Systems were quantified by the use of crest analysis and relative relief analysis which measured the density and degree of orientation of convex terrain features and their vertical extent and combined these into an index of complexity which was calculated for each land system.

These quantitative procedures were incorporated into the inventory procedures to allow for objective, precise Land System mapping. The data generated also aided in the process of objectively evaluating each Land System for visual impact. Other information on forest cover and land use was also gathered for interpretations of the visual character of the Land System.




J. Hagarty, S. Kendall and
E.E. Mackintosh,
University of Guelph,
Guelph, Ontario.

VISUAL RESOURCE REHABILITATION

Rehabilitative Measures:



Legend:

-  Existing units - reforested
-  Proposed rehabilitation cutting (harvested during Phase 1)
-  Remaining oldgrowth (to be harvested during Phase 2)

Extracts from

Aesthetic Dimensions of the Landscape *

We are adept at replacing quality with mediocrity.

As the landscape that can be seen deteriorates, there is also the equivalent of generalized reduction in environmental quality, especially for the sightseer and the recreationalist.

Certain terms can suggest some of the goals that might be valid when we treat the landscape as a visual resource.

Preservation may be as clear as any managerial goal, but it is dynamic.

It can mean encouraging the normal changes associated with ecological succession, or it can mean the preservation of a selected stage of succession.

Protection and maintenance are objectives which will allow compatible alterations in the landscape.

Enhancement is a favorite word for justifying changes in the outdoors, but it should logically apply only to those man-made modifications that offer relief from a monotonous or deteriorating landscape. Degradation should be recognized as the easiest thing to accomplish by making changes; it needs to be countered by a goal of rehabilitation. Restoration is another possibility.

It would also be possible to remodel a landscape.

What is needed is a concept that characterizes the landscape in terms concrete enough to be instrumental in helping to fix resource management goals and resulting end-products.

ATTRIBUTES OF THE LANDSCAPE

Primary recognition factors are form, space, and time variability.

Secondary recognition factors are observer position, distance, and sequence.

Six landscape types consist of: (1) panoramic landscape, (2) feature landscape, (3) enclosed landscape, (4) focal landscape, (5) forest (canopied) landscape, and (6) detail landscape.

We are looking for a system of landscape identification and description that enjoys common reliability across a broad range of different participants.

* R. Burton Litton - from Natural Environments, ed. by John F. Krutilla, Resources for the Future, 1972.

A set of recognition factors can lay a common foundation so that the landscape may be seen as a visual composition, with physical dimensions, and as containing positive aesthetic qualities.

Secondary recognition factors - observer position, distance, and sequence - share a common range of change based upon the actions of the human observer as his relationship to surroundings is altered.

Both primary and secondary groups of recognition factors reinforce one another.

It is only a convenient simplification to talk about individual or isolated characteristics.

No time need be wasted in looking for absolute design rules or guides.

Form in the landscape is defined here as it relates particularly to the convex elements of landform - ranges, mountains, mesas, hills.

At smaller scale, the idea is extended to include the volume of plants.

Space is identified with concave physiographic elements - basins, valleys, canyons, swales.

Dominating contrasts giving distinction are isolation, relative size or scale, contour distinction or silhouette, and surface variance.

Dominance by relative size is probably more often encountered than is simple isolation.

Contour distinction is apt to be most significant where the edge of a solid is played against the fluid color of the sky.

Strong edge contrasts can also emerge from spatial separation.

Surface variance is an overlay modification of both form and spatial units.

For distinction, surface variance will come from contrasting edges and areas with definite differences.

Space is further modified by four factors: proportions (floor and walls), constitution (floor and walls), configuration, and scale or relative size.

The lesser the floor extent and the higher the walls, the greater the spatial definition; the greater the floor extent and the lower the walls, the lesser the spatial definition.

Constitution also contributes to the degree of spatial definition and to quality. Discontinuities in walls and floors alike give particular direction and compel attention.

Configuration of space is concerned with horizontal shape or the nature of its "floor plan".

Simplicity of configuration, such as a small oval meadow, is clear and easily recognized, but a more complex figure, which unfolds its variety through a series of subspaces, is apt to arouse greater sustained interest.

The boundaries of space become a special limitation within which scale can be most readily appreciated.

Visual clues again come into play as familiar objects suggest a comparison based upon sizes. Results of that comparison will have an influence as to whether we find a space dramatic or merely usual to our experience.

Time Variability

Time variability is the term chosen to represent the primary factor of short-term change.

This is a broad factor which includes (1) light and color, and (2) ephemeral influences related to meteorological and diverse other conditions.

It is important to recognize the profound effects and changes that occur during the day or season.

Pure colors are rare in the landscape except as they are represented in the rainbow.

In general impressions of the landscape, value contrasts are likely to be important means through which something is made conspicuous.

Directions of light, are usually described as front, side, or back lighting.

North faces in the Northern Hemisphere tend to be obscured by shade and shadow - a characteristic of backlighting.

Front lighting is obtained when the sun is directly behind the observer.

Side lighting occurs when the sun is to one side. Sharp modeling will result. This one viewing condition is apt to give the most comprehensive sense of the landscape.

Backlighting tends to hide a great deal, yet it can be dramatic.

High light intensity is not necessarily the most revealing.

Lower light intensity can offer advantages in the capacity to see color.

Ephemeral influences are those diverse and transitory effects that defy cataloguing. They are divided into four groupings:

- (1) meteorological conditions
- (2) seasonal expectations
- (3) projected and reflected images
- (4) animal occupancy and signs

Clouds can be the most arresting elements of some landscapes.

Even fallen leaves at the ebb of autumn mark a sight worth the seeing.

Projected and reflected images are secondary images that reinforce the impact of the landscape. Reflections do command attention.

Animal occupancy and signs are subtle kinds of landscape enrichment that are chiefly enjoyed by walkers. The relationship of animals to habitat suggests an interesting harmony between aesthetics and ecology.

Snake skins and bird feathers, ghost trees and the dried stalks of dead annuals suggest such varied wonders as visual jewels, abstract sculpture, or next year's life to come.

It is well to bear in mind that because of time variability even the most ordinary of landscapes can have momentary distinction.

Secondary recognition factors - observer position, distance, and sequence stress the observer's relationships to surroundings.

Observer position is a term employed here to describe the observer's elevational relationship between himself and the landscape he sees. Three specific terms are used: (1) observer inferior, (2) observer normal, and (3) observer superior.

Observer normal position occurs on a side hill location, where a level line of sight can coincide roughly with the central mass. It is apt to be a somewhat commonplace viewing relationship, satisfactory only if not overdone.

Observer superior position allows the viewer to look out above the landscape. As an initiation to surroundings it is ideal.

In the example of planning for a scenic road, the objective should be the conscious assembly of a variety of viewing distances put together in an interesting sequence. Examination from a distance should constitute a test of possibilities.

Three - foreground, middleground, and background - can be helpful in describing distance relationships.

Foreground can be designated with clarity and simplicity not possible in middle and background because the observer is present - a direct participant. He can have the impressions of immediate details.

Intensity of color and its value will be at a maximum level.

Middleground is critical for two reasons:

- (1) This is where the parts of the landscape can be seen to join together.
- (2) This is also where man-made changes may be revealed as sitting comfortably upon the landscape.

Some of the sharpness of value contrasts will be reduced.

Background distance effects are primarily those explained by aerial perspective. Emphasis will be on outline or edge.

Silhouettes and ridges of one land mass against another are the conspicuous visual parts of the background.

Skyline as the function of solid against film color of the sky will be the strongest line of all.

Sequence is the factor of the observer's movement through the landscape.

Sequence is what we find as we set out across an area that allows choice of movement.

Sequential handling should be considered as the ultimate end-product that gives a desirable and interesting experience to the user.

Either a monotonous landscape or an unimaginative routing displays a low richness index - a low density of interest.

Through establishment and recognition of landscape types, comparisons can more readily weigh likenesses or differences.

The total landscape does consist of an extensive fabric enlivened by concentrated points of visual interest.

The panoramic landscape is based on Webster's definition of panoramic: "an unobstructed or complete and comprehensive view of a region in every direction. Absence of enclosure is implied.

Dominant line quality is that of horizontality. The panoramic landscape is expanding, reaching out without bounds.

Outside limits appear static while close-in elements appear to move in response to the traveling viewer.

Three subdivisions are identified: panoramas of water bodies, plains, and ranges.

The observer position is high and marked aerial perspective is common.

A feature landscape (or feature-dominated landscape) is one in which a single thing or a cohesive set of related elements dominates their surroundings. The attributes of contrast apply.

Three kinds of feature landscapes can be identified: those dominated by landform, by water expression and tree form.

The enclosed landscape is marked by its concavity, becoming an integrated unit because of basin-like containment of floor by surrounding walls.

Two words, "canyon" and "swale", suggest a visual comparison between powerful and weak expressions of the type.

Three subclasses are distinguished. (1) slope-face enclosure, (2) cliff-face enclosure, and (3) vegetation-face enclosure.

The focal landscape is a composition of nearly parallel lines or a series of aligned objects which appear to converge upon a point or locus.

Most often associated with river and stream courses, drainage defiles, or elongated strips of riparian vegetation, the type can also be based upon faults, scarps, and other linear expressions of geological structure.

The focal landscape automatically emphasized the point of convergence or the focal area.

Forest or canopied landscape is that arrangement within the forest itself under the envelopment of leaf canopy and upon the ground plane.

Floor and undergrowth components join those of stem and stand, making up plant communities that may be examined for their visual rater than ecological relationships.

The forest landscape is better the province of pedestrian than passing motorist.

Detail landscapes (or details of the landscape) are a small world of visual compositions that accompany each of the larger landscape types. They are local but regional clues to surroundings.

The larger landscape and its little details are critically joined in mutual support.

Most ecological research tends to come out of minute relationships. Perhaps we may be able to discover some ties between aesthetics and ecology.

How does the detail landscape fit into resource management concerns? Involved are such diverse possibilities as ecological linkage, awareness and development of sensitivity to the landscape resource, or ideas suggested for the design refinement of buildings and structures of the landscape.

Awareness should be the first product coming out of the recognition factors and landscape types - awareness that such a thing as a landscape resource may exist and that it may have aesthetic quality in some measure.

Recognition of material qualities such as line, form, color, and other more complex elements follows after awareness.

The National Environmental Policy Act^{*} now calls for considering the environment in terms of "esthetically pleasing surroundings (one) which supports diversity and variety of individual choice."

Recognition of active pursuits in the landscape tells us absolutely nothing of aesthetic quality.

The greatest enhancement of quality (incorporates) in art those very activities which are hostile to quality".

- (1) practical activity
- (2) intellectual analytical activity
- (3) regular activity

It becomes a valid proposition that protection of quality in the landscape is a goal that needs to be directly coordinated with other goals of resource use and manipulation. These goals need joining, not separation.

* U.S.A.

To find aesthetic quality and judge it requires appropriate criteria. These are not defined by recreational opportunities nor by personal opinions. Three basic criteria are generally recognized: unity, vividness and variety. They overlap one another.

Unity is that quality of wholeness in which all parts cohere, not merely as an assembly but as a single harmonious unit.

The landscape continuum also has unity because it is a connected set of patterns and textures.

A landscape type contains an expression of dominance and unity; man-made changes have the potential for breaking that unity and diminishing quality.

We need to design man-made patterns that tie to this particular unity of the landscape. Pattern has a subordinate role as it conforms to the dominating form - space structure of landscape.

Vividness is that quality in the landscape which gives distinction and makes it visually striking.

Vividness grows out of the relationships of the individual parts that come together to make a conspicuous, yet whole, landscape. (1) by similarity, (2) by contrast, and (3) by indifferent difference.

- (1) Similarity involves the repetition of like or similar characteristics.
- (2) Contrast, involving the conflict of dissimilarity as its means of producing vividness, puts sharply different things or qualities together. We need to exercise the greatest care in designing changes that we know will become conspicuous because of contrasts.
- (3) Indifferent difference_x is prone to produce indistinction rather than vividness. It is made up of parts that can be recognized as neither much alike nor much different from one another. By itself, it does not logically constitute quality, although it can make a contribution through being a visual foil.

Variety, in simple form, can be defined as an index to how many different objects and relationships are found present in a landscape. Greater variety is an indication of higher aesthetic quality.

There are several themes of design by which elements of variety may be given order. They are repetition, segregation, and gradation.

Repetition is commonplace and attracts little attention until it reaches the point of excess, which produces monotony.

Segregation is a higher level of ordering variety. It involves the contrast of several distinct arrangements of design components or patterns brought together.

Gradation is that ordered variety which reaches toward a climax and which may include a climax. There is a directional thrust or build-up. In the landscape, the presence of a feature would represent a climax and most evident proof of gradation.

That the landscape is indeed a visual resource will depend in part on recognition of aesthetic quality.

THE LANDSCAPE AS A RESOURCE

How can resource management be improved by making use of scenic recognition factors and landscape types?

To become conscious of the landscape as a resource is not enough; concrete evidence is needed.

The landscape inventory becomes a document representing key points about our visual environment.

The map (with topography) as a starting point for a landscape inventory is critical because it emphasizes a visual record for a visual resource.

A landscape inventory is primarily dependent on the discoveries of field reconnaissance.

Indications of landscape elements can be located directly on the base map.

Two types of inventories can be considered: those that are route based and those showing reconnaissance areas.

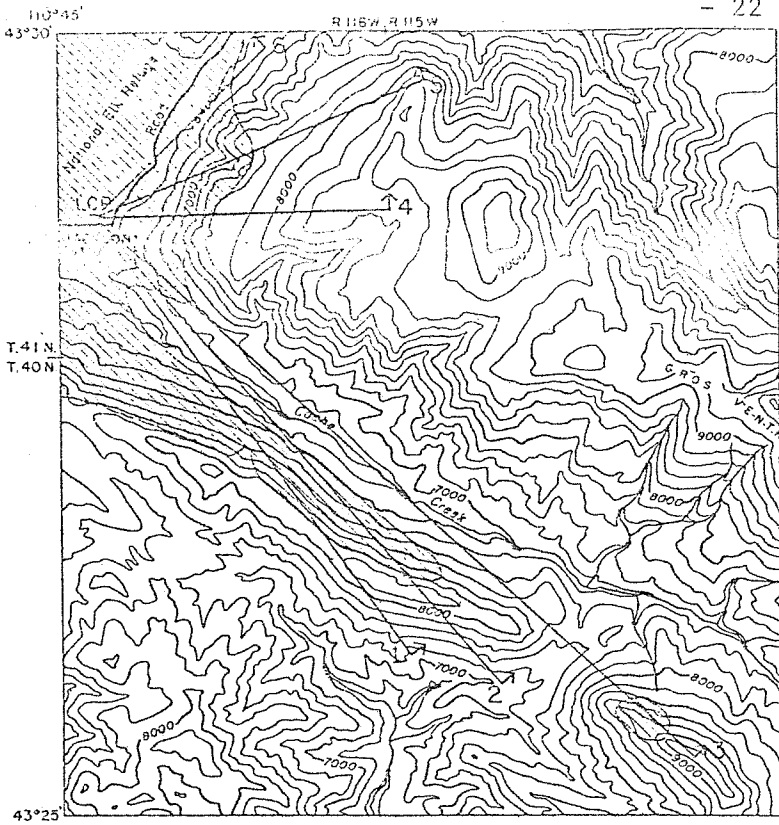
The route-based inventory is, first of all, a visual corridor. Its outside boundary line is the limit of the visible landscape. This kind of inventory tied to an existing route is especially appropriate for intensive management problems within the specific visual corridor involved.

An area inventory presumes the boundaries of an arbitrary unit, a number of watersheds, a physiographic unit, or a planning area.

All disciplinary branches of resource management will affect the way the landscape looks as they go about their particular endeavors. Thus the visual landscape is the responsibility of many; no single discipline can keep it from falling apart.

The following set of environmental objectives may aid in approaching the wildlands from the viewpoint of landscape:

- the landscape needs to be recognized for its contribution to the quality of the environment.
- inclusion of the intangible values represented in the visual landscape will help set priorities in the use of wildlands.
- if the landscape is used as a display against which the objectives of different management disciplines may be better integrated, this will also help to clarify the direction taken in management.
- landscapes should be compared and evaluated as representing a resource in their own right.
- plans for future changes should compare the projected impacts of various alternatives. Visual end-products need to be anticipated; there is no excuse for their being unanticipated, unsavory surprises.



Cache Creek Landscape Control Point Plot by Sections

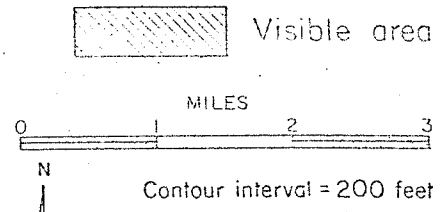
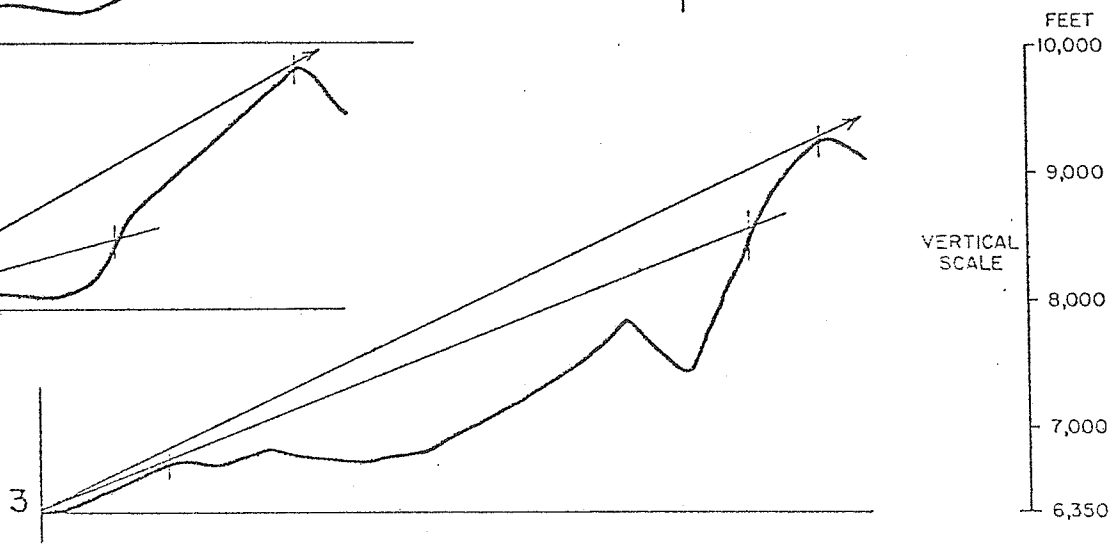
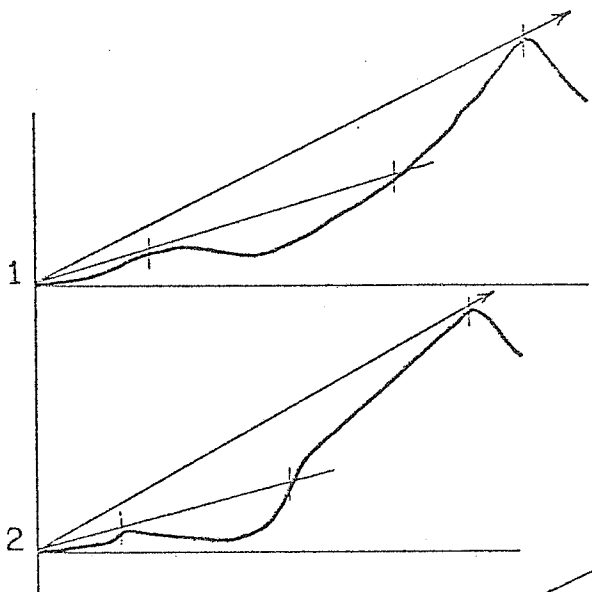
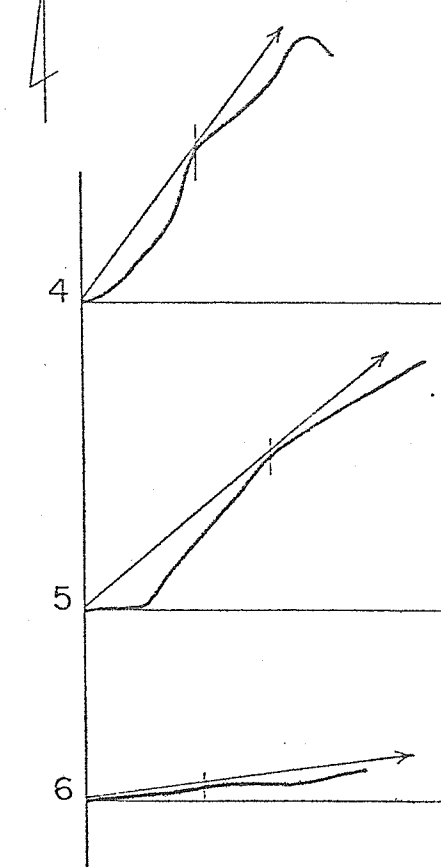


Figure 13—Plotting with sections from a Landscape Control Point at Cache Creek, Jackson, Wyoming. A series of sections are laid out as rays from the LCP. Lines of sight extend from each section. Extent of visible areas is plotted on a topographic map.



VIEWIT: computation of
seen areas, slope, and aspect
for land-use planning

Michael R. Travis

Gary H. Elsner

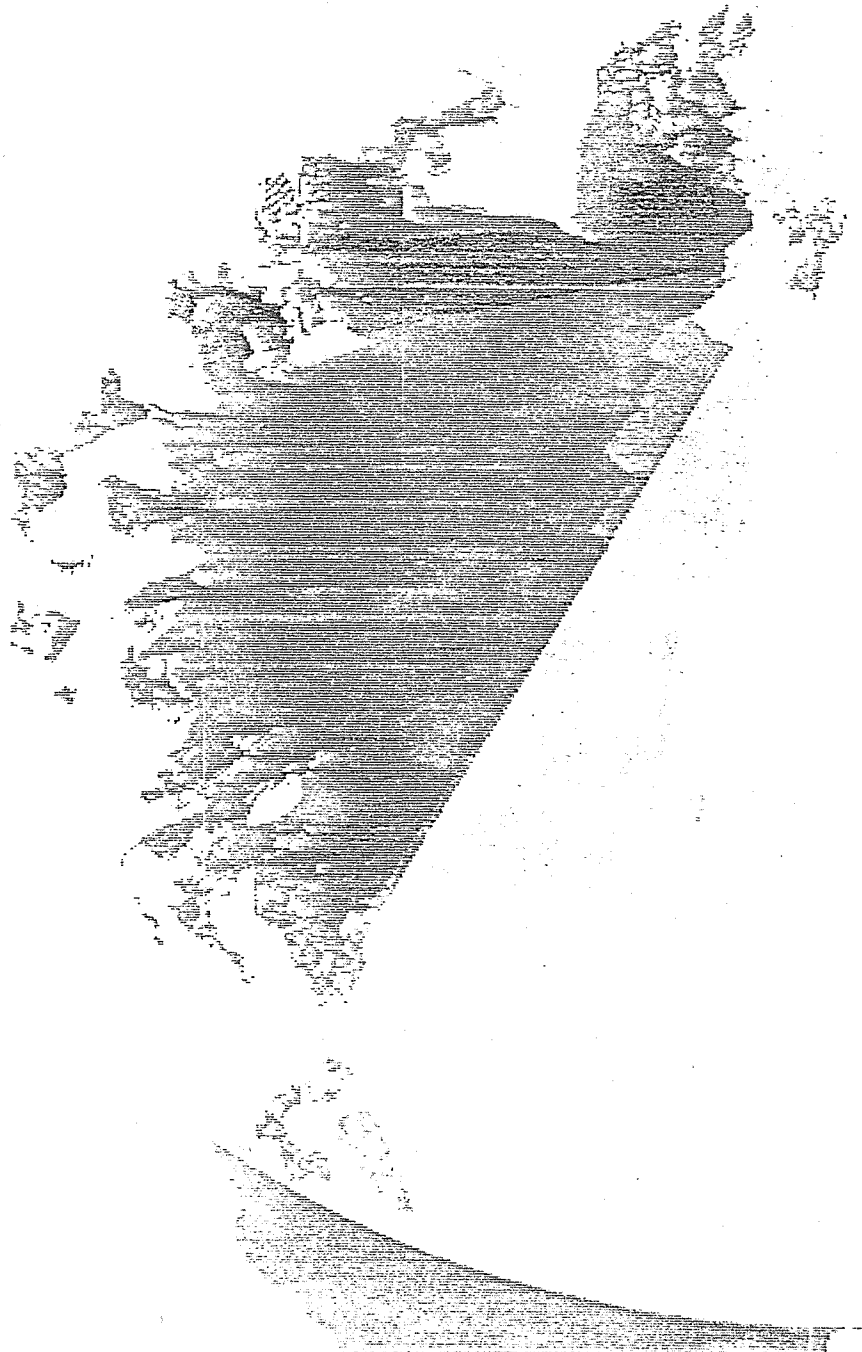
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USDA FOREST SERVICE
GENERAL TECHNICAL
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LEVEL OF MEANING
OF AESTHETIC EXPERIENCES

GROUP STRUCTURE

Awareness

Here & Now Group

Social Relevance Group

Meta-Social Group

Low

Medium

High

	Here & Now Group	Social Relevance Group	Meta-Social Group
Low			
Medium			
High			