

2.3 RESOURCE ANALYSIS AND CLASSIFICATION SYSTEM

The Concept Plan established the vision, basic planning principles and management framework for the future of Edmonton's river valley park system. While the Concept provided philosophical direction, a number of questions remained to be answered through the Master Plan, such as:

Which areas need to be protected?

Where would the environmental impact of development be lowest?

Where should trails and facilities be located or not be located?

Which areas of the valley are disturbed? What should be done in these areas?

What types of development are appropriate and require a valley setting?

In the Concept Plan, a preliminary resource assessment was completed to begin to identify such areas.

The major concerns to be addressed and identified through the Master Plan resource analysis were:

- Wildlife Habitats (Existing and Potential).
- Sensitive or Unique Vegetation.
- Physical Constraints to development.

The resource analysis has been detailed in the Master Plan. Using the 1980 Biophysical Study prepared by Edmonton Parks and Recreation, land areas within the river valley were mapped according to the resource classification system in Figure 3. Once the land areas were classified, they were analyzed by overlaying various factors. This resource analysis process (Figure 4) served to identify areas of significant biological sensitivity and physical constraints.

By evaluating resource sensitivity and constraints early in the planning process, significant wildlife habitat areas and unstable or flood prone areas can be excluded from development. It is then possible to plan for the development and future management of an area based on the environmental resource capability.

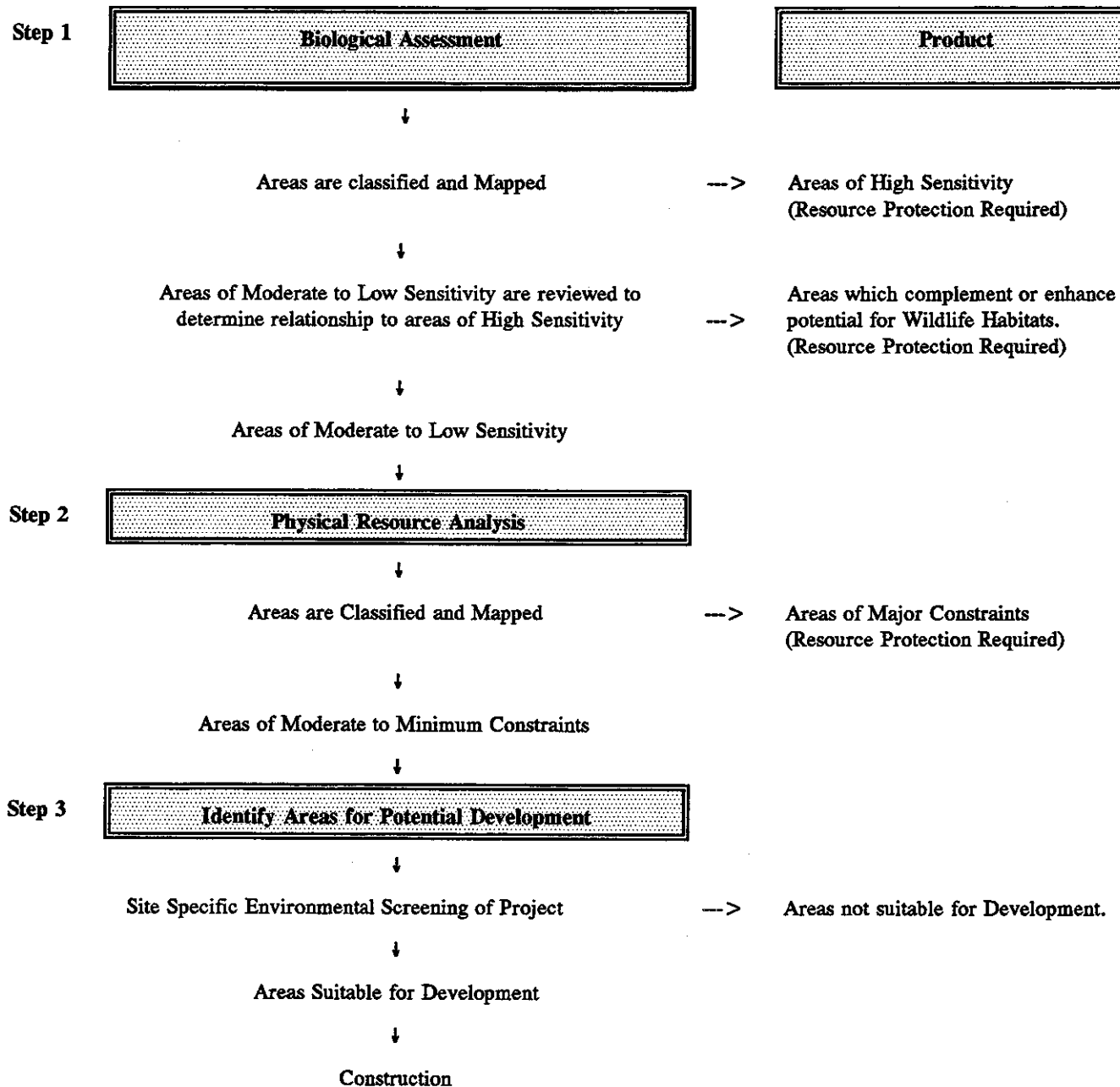
Figure 3

RESOURCE CLASSIFICATION SYSTEM

VEGETATION		DEFINITION:
Class 1	Low Sensitivity	vegetation can withstand some degree of mechanical damage and/or environmental change with minor reclamation; park maintenance occurs
Class 2	Marginal Sensitivity	can withstand some degree of damage/change with major reclamation, some minor park maintenance occurs
Class 3	High Sensitivity	areas of rare plants or plant communities, any damage/change would result in severe impacts which could not be mitigated, no park maintenance
WILDLIFE (HABITAT POTENTIAL)		
Class 1	Not Significant	human disturbance has eliminated/reduced natural habitat
Class 2	Moderate Habitat	some wildlife species exist however numbers are not significant
Class 3	Significant Habitat	area contains abundant wildlife/specialized species
SLOPE		
Class 1	Flat/Minor Slope	0 - 7.5 % grade, mostly within floodplain or upland area
Class 2	Moderate Incline	7.6 - 15 % grade, mostly banks or terraces
Class 3	Steep/Hazardous	> 15 % slope, steep banks
HYDROLOGY		
Class 1	No Effect	no drainage impacts/drainage controlled
Class 2	Moderate Effect	within seasonal minor watercourses or areas of seasonal ground water seepage
Class 3	In Floodplain & Areas of Drainage/Seepage	within the 1:50 year flood line watercourses or areas of continual ground water seepage
GEOLOGY/SOILS		
Class 1	Stable	no evidence of slope failure, soils exhibit low erosion potential
Class 2	Marginal Stability	evidence of inactive slope failure, soils have moderate erosion potential
Class 3	Unstable	areas of active slope failure, soils highly susceptible to erosion

Figure 4

RESOURCE ANALYSIS PROCESS



Step 1 - Biological Assessment

The first and most critical factor to be assessed was the biological sensitivity (vegetation and wildlife habitat potential), because of the conservation principles established in the Vision Statement. Diversity of natural habitat was the major criterion used, in that the diversity and abundance of the local plants govern the kinds and quantity of wildlife that an area can support. Wherever disturbances or modifications occur which simplify plant community structure, fewer species of wildlife are able to exist.

The 1980 Biophysical Inventory of the vegetation, wildlife and aquatic habitat is currently the best compiled inventory covering the entire river valley, although some elements of the inventory lack site specific detail. It will be necessary to "field check" to update and refine this information in the future.

After overlaying vegetation and wildlife habitat potential, the following groupings occur:

LOW SENSITIVITY- <----- MODERATE -----> -HIGH SENSITIVITY				
Class 1 Vegetation + Class 1 Wildlife	Class 1 Vegetation + Class 2 Wildlife	Class 2 Vegetation + Class 2 Wildlife	Class 2 Vegetation + Class 3 Wildlife OR Class 3 Vegetation + Class 2 Wildlife	Class 3 Vegetation + Class 3 Wildlife

DEFINITIONS	WILDLIFE HABITAT	VEGETATION HABITAT
Class 1	Grasses/Forbes; Mowed or cleared areas.	Low shrubs/grasses; Tall shrubs/saplings; Grasses/forbes; Mowed or cleared areas.
Class 2	Low Shrubs/Grasses; Tall Shrubs/Saplings; Aspen; Balsam Poplar; White Spruce/sparse understory	Aspen; Aspen/White Spruce/Other deciduous; Balsam Poplar/Other deciduous; White Spruce/denser understory; White Spruce/Deciduous
Class 3	Aspen/Balsam Poplar; Aspen/White Spruce & Other deciduous; Balsam Poplar/White Spruce; Balsam Poplar/ Other deciduous; Birch/White Spruce; Birch/Other Deciduous; White Spruce; denser understory; White Spruce/Deciduous	Aspen/Balsam Poplar; Balsam Poplar; Balsam Poplar/White Spruce; Birch/White Spruce; Birch/Other deciduous; White Spruce/sparse understory.

After mapping all factors, the most biologically sensitive lands are identified. (See Maps 7-10). Efforts will be made to protect these areas and exclude them from development. Areas of moderate to minimal sensitivity are to be reviewed in detail to define the potential for development. The final designation of an area will depend on the objectives of the park area, the nature of adjacent areas, and the feasibility of transforming and rehabilitating areas to a more natural state given the existing impacts (e.g. utility lines, recreation uses, etc).

Step 2 - Physical Resource Assessment

A review and assessment of the physical resource factors (engineering constraints to development such as slope, hydrology and geology/soils) has occurred based on the classification system (Figure 3). These factors can be overlaid on the biological assessment to determine areas of major to minimum physical constraints to development.

After overlaying the factors, the following groupings occur:

RESOURCE FACTORS	MAJOR CONSTRAINT	MODERATE CONSTRAINT	MINIMAL CONSTRAINT
Slope	Class 3	Class 2 & 3	Class 1 & 2
Hydrology	Class 3	Class 2	Class 1 & 2
Geology/Soils	Class 2 & 3	Class 2	Class 1
SCORE	8-9	6-7	3-5

The extent of the proposed development in combination with the location of proposed development will determine the potential environmental impact. As an example a pedestrian bridge in an area of major constraints will have a greater impact than upgrading the surface of an existing trail in an area of minimum constraints. The environmental assessment process is described in Chapter 4.

Maps 11 - 14 display the physical resource assessment and identify areas of constraints.