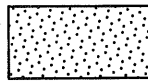
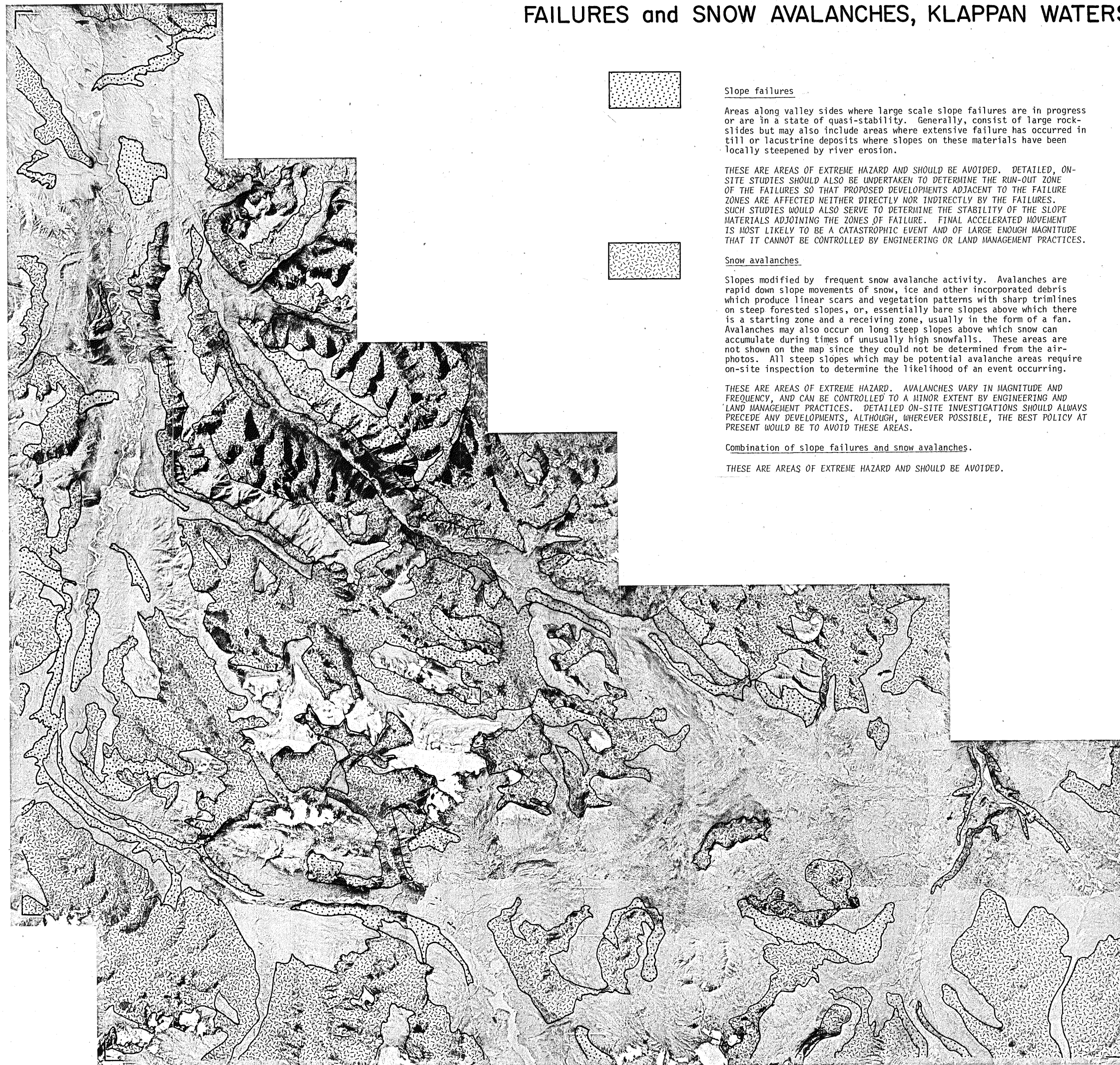


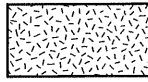
# DISTRIBUTION of AREAS AFFECTED by MAJOR SLOPE FAILURES and SNOW AVALANCHES, KLAPPAN WATERSHED



Slope failures

Areas along valley sides where large scale slope failures are in progress or are in a state of quasi-stability. Generally, consist of large rock-slides but may also include areas where extensive failure has occurred in till or lacustrine deposits where slopes on these materials have been locally steepened by river erosion.

THESE ARE AREAS OF EXTREME HAZARD AND SHOULD BE AVOIDED. DETAILED, ON-SITE STUDIES SHOULD ALSO BE UNDERTAKEN TO DETERMINE THE RUN-OUT ZONE OF THE FAILURES SO THAT PROPOSED DEVELOPMENTS ADJACENT TO THE FAILURE ZONES ARE AFFECTED NEITHER DIRECTLY NOR INDIRECTLY BY THE FAILURES. SUCH STUDIES WOULD ALSO SERVE TO DETERMINE THE STABILITY OF THE SLOPE MATERIALS ADJOINING THE ZONES OF FAILURE. FINAL ACCELERATED MOVEMENT IS MOST LIKELY TO BE A CATASTROPHIC EVENT AND OF LARGE ENOUGH MAGNITUDE THAT IT CANNOT BE CONTROLLED BY ENGINEERING OR LAND MANAGEMENT PRACTICES.



Snow avalanches

Slopes modified by frequent snow avalanche activity. Avalanches are rapid down slope movements of snow, ice and other incorporated debris which produce linear scars and vegetation patterns with sharp trimlines on steep forested slopes, or, essentially bare slopes above which there is a starting zone and a receiving zone, usually in the form of a fan. Avalanches may also occur on long steep slopes above which snow can accumulate during times of unusually high snowfalls. These areas are not shown on the map since they could not be determined from the air-photos. All steep slopes which may be potential avalanche areas require on-site inspection to determine the likelihood of an event occurring.

THESE ARE AREAS OF EXTREME HAZARD. AVALANCHES VARY IN MAGNITUDE AND FREQUENCY, AND CAN BE CONTROLLED TO A MINOR EXTENT BY ENGINEERING AND LAND MANAGEMENT PRACTICES. DETAILED ON-SITE INVESTIGATIONS SHOULD ALWAYS PRECEDE ANY DEVELOPMENTS, ALTHOUGH, WHEREVER POSSIBLE, THE BEST POLICY AT PRESENT WOULD BE TO AVOID THESE AREAS.

Combination of slope failures and snow avalanches.

THESE ARE AREAS OF EXTREME HAZARD AND SHOULD BE AVOIDED.

Scale 1:200,000



307217