ORDINANCE NUMBER 149-99
AMENDMENTS TO THE MASON COUNTY RESOURCE ORDINANCE

AN ORDINANCE amending the following section of the Mason County Resource Ordinance, Ordinance 77-93, as amended: Section 17.01.100 Landslide Hazard Areas, under the authority of Chapters 36.70 and 36.70A RCW.

WHEREAS, the Board of County Commissioners held a public hearing on December 14, 1999, to consider the recommendations of the Planning Commission, the Mason County Department of Community Development and citizens on the proposed amendments; and the Board provided for a public comment period for changes from the Planning Commission version, which were under consideration;

WHEREAS, the Mason County Planning Commission formulated its recommendations after a public hearing on August 17, 1998, and approved findings of fact;

WHEREAS, these hearings were duly advertised public hearings;

WHEREAS, these amendments are intended to comply with the Orders of the Western Washington Growth Management Hearings Board, Case No. 95-02-0073;

WHEREAS, the Mason County Board of County Commissioners has approved findings of fact to support its decision as ATTACHMENT A;

NOW, THEREFORE, BE IT HEREBY ORDAINED, that the Board of County Commissioners of Mason County hereby approves and ADOPTS the amendments to the Mason County Resource Ordinance, as amended, as described by ATTACHMENT B.

DATED this 21ST day of DECEMBER, 1999.

Board of County Commissioners
Mason County, Washington

Cynthia D. Olsen, Chair

Mary Jo Cady, Commissioner

Absent 12/21/99
John A. Bolender, Commissioner

ATTEST:

Rebecca S. Rogers
Clerk of the Board

APPROVED AS TO FORM:

David B. Sheire, DPA
Prosecuting Attorney

ATTACHMENT A - ORDINANCE #149-99

Mason County Board of Commissioners
December 14, 1999

FINDINGS OF FACT

1.
Under consideration is a proposal to amend the county development regulations for landslide hazard areas. The changes are proposed to improve the clarity and effectiveness of the regulations, and to address concerns over the relationship between these regulations and environmental concerns.

2.
Discussion
In the administration of the previous regulations, it was determined that more specific requirements were needed with respect to when a geotechnical report or geological assessment was needed, what the content of such report was to be, and criteria to guide the discretion of the administrator. The county retained the firm of Dames and Moore, an engineering firm with expertise in this field. The firm made recommendations for changes in the ordinance to determine under what conditions assessments were appropriate and with the more detailed geotechnical reports were appropriate. They also defined the requirements for each of these types of reports. The firm used their expertise to define the range of appropriate administrative discretion. The county also considered guidance from the Department of Ecology, which showed that there was a great range of discretion and site influenced decisions in proper management of erosion and landslide hazard areas.

Finding
The revised ordinance addresses these concerns and provide a reasonable flexibility. The recommendations provided by the consultants are the best available science presented on the proposed ordinance for managing the site, information needs, areas for administrative discretion, and design requirements.

3.
A State Environmental Policy Act Determination of Nonsignificance was issued on these amendments on July 31, 1998. The comment period ended August 14, 1998. The Department of Community Development determined that the changes to the proposal improved environmental protections and will not cause significant adverse environmental impact.

4.
The Planning Commission held a public hearing on August 17, 1998; considered the testimony given along with the record before it; and approved a recommended amendment with findings of fact to go forward to the Board of Commissioners.

5.
The Board of Commissioners held a public hearing on September 15, 1998, and continued the hearing until October 6, 1998. The hearing was closed and the issue was tabled until issues raised by testimony and comment letters could be addressed. A new public hearing reviewing a revised draft dated December 2, 1999, was scheduled and held on December 14, 1999.

6.
Discussion
Most public comment on the proposed July 1998 and Planning Commission drafts centered on environmental concerns. Letters included those from: John Diehl dated September 8, 1998; Marty Ereth, dated September 14, 1998; Warren Dawes, dated September 14, 1998; and Millard Deusen, dated October 5, 1998. In the DCD Memorandum dated October 6, 1998, several issues were identified.

A proposal, dated December 2, 1999, amending the recommendations of the Planning Commission was prepared for Board review. The proposal was prepared by the Mason County Department of Community Development based on: the recommendations of the Mason County Planning Commission, recommendations of the expert consulting firm, Dames and Moore; information in the record; a review of the Mason County Comprehensive Plan and Growth Management Act; and comments received.

The new draft does not specifically require consultation with fish biologists or other environmental specialist, rather it relies on any regulated activity in fish and wildlife habitat areas or wetlands being properly reviewed under the relevant provisions of the Resource Ordinance, which would often require a Habitat Management Plan prepared by a biologist.

The new draft does tighten the language regarding possible impacts, especially off site environmental impacts. Amendments proposed make it clear that it is one of the purposes of the ordinance to address such impacts. Added to the Geotechnical Report at E.5.(10) are the requirement that a final development plan be included which addresses vegetative management, erosion control, buffer widths, and drainage. Drainage standards were strengthened to state that "D.3.c. Erosion of soils above naturally occurring levels to off site areas or into streams or water bodies (except those created for stormwater management) shall be prevented." Grading in landslide hazard areas shall only be done pursuant to a Geotechnical Report that includes erosion control as provided in D.1.a. In addition, subsection D.1.f. was made into subsection D.7. and strengthen for bulkheads and bank protection to tie the geological review to the environmental reviews done in accordance with other provisions of the Resource Ordinance or the Shoreline Master Program.

Special consideration for anadromous fisheries are addressed several ways. First, the aquatic management section of the Resource Ordinance was designed with a consideration of the need

for protection and enhancement of the anadromous fisheries, as is clear in the record of the action on Ordinance 118-99. In the proposal, tightening of the bulkheading, bank protection, and erosion requirements are targeted at anadromous fisheries. Another way in which such fisheries are addressed is by the provision proposed in D.5. which set criteria for subdivision design and which should control impacts to normal erosional process and limit the need for future bulkheading or bank protection. This provision is intended to avoid the creation of development sites which will require bank protection to be usable. This limits the cumulative impacts that might otherwise result as land became more intensely developed. Avoiding these areas whenever possible also means that the natural erosion process can usually continue without the need to intervene to protect life or property and without the economic or environmental costs of intervention. The provision adds guidance to the subdivision provisions in Title 16 which restrict development on unsuitable lands in large lots and specify approval criteria for short plats and plats.

Findings
The principle purpose of the landslide hazard areas provisions is to prevent development from causing landslides or increasing erosion. The fish habitat and riparian protections contained in the aquatic management provisions of the Resource Ordinance provide much of the protection needed for anadromous fish and other aquatic species. The aquatic management provisions allow for additional buffers where erosion is particularly problematic or the slopes steep. Beyond the edge of the buffers, the amendments provide enhanced control of erosion and drainage, thereby protecting water quality. The provisions should also keep development from causing landslides. Finally, the new provisions should minimize the impact of future growth on natural geologic processes which contribute to the habitat value of the streams for anadromous fish. Especially, it should limit the need for bulkheads and bank protections that can have a more direct impact on the fish habitat. These provisions appear a proper balancing of diverse goals, public interests and individual rights.

7.
Discussion
Comments were received from John Diehl, dated December 13, 1999, and from Warren Dawes, during the December 14, 1999 public hearing. In response to Mr. Diehl's letter, a number of changes were made to the draft to clarify the regulations or their intent. These changes clarified the following: the classification and designation of landslide hazard areas; the general need to protect vegetation, both trees and undergrowth; the application of the regulations to landslide hazard areas and not "slide prone" areas; and the requirement that building is limited to designated building sites. The changes also addressed the confusion over when geotechnical reports or geological assessments were to be used. Generally, the assessments are used to evaluate the risks associated with the site and development; and the geotechnical reports are used when risks are determined to be higher or engineering is required. Where stabilization improvements are needed, grading is to be done, or effluent introduced into the ground, these are clearly riskier situations or areas. Geotechnical reports

are required for these areas. Where a decision can be made on the risks being absent or minimal, or on the risks being fully addressed, then either an assessment or a report could provide the necessary guidance.

As discussed in finding 6, the regulation has added language that provide for off-site impacts and environmental impacts to be addressed, as can be found in subsection E.6.

Consideration was also given the issues that were raised by Warren Dawes, as related in the minutes of the public hearing. It should be clear that the exemption of agricultural activities do not include the construction or expansion of buildings, new ditches or other forms of expansion in activities in accordance to the definitions in the Resource Ordinance.

Findings

That the ordinance, as revised through a series of clarifications, addresses the concerns raised in the Board of Commissioner's public hearing.

8.
Discussion
Critical areas, such as the landslide hazard area, are designated and protected in accordance with the Growth Management Act. In addition, development regulations, such as those under consideration, must be consistent with and promote the goals of the GMA. The draft attempts harmonizes the relevant goals as follows: Restrictions on development protect the public health and safety and protect the environment. Excessive restrictions interfere with the goals of protecting property rights, encouraging economic development, and enhancing the affordability of housing. These regulations attempt to provide options for development and consideration of environmental impacts in making site specific decisions. The regulations are intended to address public concerns caused by the development and to increase the clarity and predictability of the regulations. This in intended to enhance the goal of timely and fair permitting.

Finding
The proposal is consistent with and balances the goals of the Growth Management Act.

9.
Discussion
The plan calls for the county to adopt landslide hazard area regulations to protect the public and to minimize the risks to property owners and adjacent property owners from development activities. Landslide hazard areas are discussed in section 4 of Chapter IV. Policies for these areas are discussed in section 5 of Chapter III.

Finding
The proposal is consistent with and implements the Mason County Comprehensive Plan.

From the preceding findings, it is concluded that the proposal should approved as moved.

Cynthia Olsen
Chair, Mason County Board of Commissioners

DECEMBER 21, 1999
Date

6/14

ATTACHMENT B - ORDINANCE #149-99

SECTION 1: AMEND SECTION 17.01.100 LANDSLIDE HAZARD AREAS TO READ AS FOLLOWS:

Section 17.01.100 Landslide Hazard Areas

The purpose of the Landslide Hazard Section is to identify areas that present potential dangers to public health and safety, to prevent the acceleration of natural geological hazards, to address off site environmental impacts, and to neutralize the risk to the property owner or adjacent property owners from development activities.

A. CLASSIFICATION

1. The following shall be classified as Landslide Hazard Areas:

   a. Areas with any indications of earth movement such as debris slides, earthflows, slumps and rock falls (see figure F.100).

   b. Areas with artificial oversteepened or unengineered slopes, i.e. cuts or fills.

   c. Areas with slopes containing soft or potentially liquefiable soils.

   d. Areas oversteepened or otherwise unstable as a result of stream incision, stream bank erosion, and undercutting by wave action.

   e. Slopes greater than 15% (8.5 degrees) (except areas composed of consolidated rock) and having either of the following:

      i. Steep hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock (e.g. sand overlying clay); or

      ii. Springs or groundwater seepage.

2. The following information may be used as a guide by the County to indicate areas that have a higher likelihood of meeting the classification criteria above:

   a. The areas identified on the Mason County Soil Survey Map as having slopes greater than 15%.

   b. The areas identified on the Coastal Zone Atlas, Volume 9, of Mason County, Washington as:

      i. Unstable - "U"
      ii. Unstable Old Slides - "UOS"
      iii. Unstable Recent Slides - "URS"

   c. The areas identified as Class 2, 3, 4, or 5 of the map of "Relative Slope Stability of the Southern Hood Canal Area, Washington", Washington State Department of Natural

Resources, Division of Earth Resources, 1977.

B. DESIGNATION

1. Lands of Mason County classified as Landslide Hazard Areas are hereby designated, under RCW 36.70A.060 and RCW 36.70A.170, as critical areas requiring immediate protection from incompatible land uses.

2. Upon an application for development on either mapped or unmapped lands, the Director shall determine if a hazard exists on a particular site based on:

   a. Information supplied by the applicant in the form of a geotechnical report or geological assessment,

   b. Actual physical observation of the site,

   c. Existing County Hazard Area maps, or

   d. Other means determined to be appropriate.

   If the presence of a hazard is determined, the boundaries of the hazard and associated buffers shall then be delineated (top, both sides, and toe) on a geologic map of the site.

C. LAND USES

1. Exempt Uses

   a. The growing and harvesting of timber, forest products and associated management activities in accordance with the Washington Forest Practices Act of 1974, as amended, and regulations adopted pursuant thereto; including, but not limited to, road construction and maintenance; aerial operations; applications of fertilizers and pesticides; helispots; and other uses specific to growing and harvesting timber forest products and management activities, except those Forest Practices designated as "Class IV -General Forest Practices" under the authority of the "1992 Washington State Forest Practices Act Rules and Regulations", WAC 222-12-030;

   b. Those activities and uses conducted pursuant to the Washington State Surface Mining Act, RCW 78.44 and its Rules and Regulations, where State law specifically exempts local authority;

   c. Existing and ongoing agriculture, aquaculture, floriculture, horticulture, general farming, dairy operating under best management practices.

2. Permit Required Uses

   Permits are required for all new construction, grading and other uses subject to Section 17.01.050, and any Class IV Conversion Permit pursuant to the State Forest Practices Act which involves conversion to a Permit Required Use, and are within a Landslide Hazard Area or its buffer. Permit Required Use may require a Geotechnical Report, see Section 17.01.100.E.

D. DEVELOPMENT STANDARDS

Any land use on Landslide Hazard Areas or their buffers shall conform to the following standards:

1. Clearing and Grading

   a. No grading shall be performed in landslide hazard areas prior to obtaining a grading permit subject to approval, by the Director, based on recommendations contained in the geotechnical report with slope stability, drainage, erosion control and grading recommendations.

   b. Clearing, grading and other construction activities shall not aggravate or result in slope instability or surface sloughing.

   c. Trees and vegetation shall be retained to the extent feasible.

   d. Clearing methods which minimize soil disturbance shall be used.

   e. No unacceptable fill soil, dead vegetation (slash/stumps), or other foreign material shall be placed within a Landslide Hazard Area. Engineered compacted fill for construction of buttresses for landslide stabilization shall be in accordance with recommendations specified in a Geotechnical Report.

2. Vegetative Management

   a. There shall be minimum disturbance of trees and vegetation in order to minimize erosion and stabilize Landslide Hazard Areas. Limbing trees for view purposes is preferred over tree removal.

   b. Vegetation removal on the slopes of banks between the ordinary high-water mark and the top of the bank shall be minimized due to the potential for erosion.

3. Drainage

   a. Surface drainage, including downspouts and runoff from paved or unpaved surfaces up slope, shall not be directed onto or within 50 feet above or onto the face of a Landslide Hazard Area or its associated buffer. If drainage must be discharged from the top of a Landslide Hazard Area to below its toe, it shall be collected above the top and directed to below the toe by tight line drain and provided with an energy dissipating device at the toe.

   b. Stormwater retention and detention systems, including percolation systems utilizing buried pipe or french drain, are strongly discouraged unless a licensed civil engineer shall certify:

      (1) The systems will not affect slope stability, and

      (2) The systems were installed as designed.

   c. Erosion of soils above naturally occurring levels to off site areas or into streams or water bodies (except those created for stormwater management) shall be prevented.

4. Sewage Collection/Treatment Systems

Sewage collection and treatment systems shall be located outside of the Landslide Hazard Areas and associated buffers, unless an approved geotechnical report specifies appropriate mitigation measures. See Section 17.01.100.E.

5. Subdivision Design and Lot Size

For the purpose of determining lot sizes under Title 16 of the Mason County Code the Director shall review any available information and any required Geotechnical Reports or geological assessments under Section 17.01.100.E, and make a decision on a case-by-case basis based on the reports. Land divisions, (short plats, subdivisions, and large lot divisions) shall be designed to minimize impacts to anadromous fisheries and fish habitat. The number, size, or configuration of lots may be changed to meet this requirement. Within this section, this means that a land divisions shall not be approved unless:

a. All improvements for the land division and subsequent construction are designed to avoid aquatic management areas, wetlands, or their buffers, provided that necessary water or wetland crossings or encroachments approved pursuant to the Mason County Resource Ordinance may be permitted for roads and utilities.

b. All lots must have designated building areas on which structures may be safely located without the requirement for bulkheading, bank protection or other structures that encroach on an aquatic management area, wetlands, or their buffers. Future buildings are to be limited to such designated areas.

6. Buffers

a. A 50 foot (15.25 meter) buffer of vegetation is required around the Landslide Hazard Area.

b. Upon finding substantial evidence that the proposed development is to be located near or within a hazardous area, the Director may require a Geotechnical Report or geological assessment pursuant to Section 17.01.100.E. Based on the results of the Geotechnical Report or geological assessment, the Director may increase the buffer.

c. The applicant may request a reduction in the buffer. A determination shall be made by the Director based on the results of the Geotechnical Report or geological assessment pursuant to Section 17.01.100.E.

7. Bulkheads and Bank Protection

Bulkheads and bank protections, along with related fill, constructed for landslide stabilization measures approved under the Shoreline Master Program or the Fish and Wildlife Habitat Management Area regulations, shall be consistent with recommendations specified in a Geotechnical Report.

E. GEOTECHNICAL REPORT

1. Applicability

Every application for development within a Landslide Hazard Area or its buffer or within 300 feet (90 meters) of the buffer shall meet the standards of Section 17.01.100.D and shall require either a Geological Assessment or a Geotechnical Report, or both, in accordance with the following guidance:

Category a. Areas with slopes greater than 40 percent (21.8 degrees) will require an Geotechnical Report.

Category b. Areas with any visible signs of earth movement such as debris slides, earthflows, slumps and rockfalls, or areas within 300 feet of previously mapped or recorded landslides will require a Geotechnical Report.

Category c. Areas within 150 feet of oversteepened or otherwise potentially unstable slopes as a result of stream incision, stream bank erosion, and undercutting by wave action will require an Geotechnical Report.

Category d. Areas with slopes between 15 percent (8.5 degrees) and 40 percent (21.8 degrees) will require a Geological Assessment, and may further require a Geotechnical Report upon analysis of the following factors by the Director:

(1) Lot size and use;
(2) Overall height of slope and maximum planned cut or fill (requires a grading plan);
(3) Soil types and history of sliding in the vicinity (from the Geological Assessment);
(4) Groundwater conditions, including depth to water and quantity of surface seepage (from the Geological Assessment);
(5) Approximate depth to hard or dense competent soil, e.g. glacial till or outwash sand (from the Geological Assessment);
(6) Impervious surfaces and drainage schemes (requires development/grading plan);
(7) Wastewater treatment (requires on-site sewage disposal system approval from Mason County Department of Health);
(8) Potential off-site impacts, including adjacent properties, roadways, etc. (requires environmental statement dependant on scope of project).

2. Waiver of Geotechnical Report

The Director may waive the requirement for the Geotechnical Report for Category c and d sites upon a written finding in the Geological Assessment that the potential for landslide activity is low and that the proposed development would not cause significant adverse impacts, or that there is adequate geological information available on the area proposed for development to determine the impacts of the proposed development and appropriate mitigating measures.

3. Qualifications of Preparer

The Geologic Assessment shall be prepared at the discretion of the Director by either a licensed civil engineer with specialized knowledge of geotechnical/geological engineering or a practicing engineering geologist with special knowledge of the local conditions. The Geotechnical Report shall be prepared at the discretion of the Director by a licensed civil engineer with specialized knowledge of geotechnical/geological engineering. The Geotechnical Report may also be prepared by a practicing engineering geologist with special knowledge of the local conditions, provided the work is performed under the supervision of a licensed civil engineer who will stamp the report and attest to the competency of the engineering geologist to perform landslide evaluations in accordance with the prevailing standard of practice.

4. Content of the Geological Assessment

A Geological Assessment shall include but not be limited to the following:

(1) A discussion of geologic conditions in the general vicinity of the project, and specific soil types at the project site. Soil type identifications shall be consistent with terminology used in the Coastal Zone Atlas (Washington Department of Natural Resources, 1980) or in applicable U.S. Geologic Survey maps (e.g. Geological Map of North Central Mason County, by R.J. Carson, 1976, U.S. Geologic Survey OFR 76-2). Use of Soil Conservation Service soil layer terminology is considered inappropriate for this assessment.

(2) A discussion of the ground water conditions at the site, including the depth to water and the quantity of surface seepage.

(3) The approximate depth to hard or dense competent soil, e.g. glacial till or outwash sand.

(4) A discussion of the history of landslide activity in the vicinity, as available in the Coastal Zone Atlas, the map of "Relative Slope Stability of the Southern Hood Canal Area, Washington" by M. Smith and R.J. Carson, 1977; and the landslide records on file with the Mason County Department of Community Development.

(5) An opinion on the potential for landslide activity at the site in light of the proposed development.

5. Content of a Geotechnical Report

A Geotechnical Report shall include but not be limited to the following:

(1) A discussion of general geologic conditions, specific soil types, ground water conditions and history of landslide activity in the vicinity as required for the Geologic Assessment described above.

(2) A site plan which identifies the important development and geologic features.

(3) Locations and logs of exploratory holes or probes.

(4) A minimum of one cross section at a scale which adequately depicts the subsurface profile, and which incorporates the details of proposed grade changes.

(5) A description and results of slope stability analyses performed for both static and seismic loading conditions.

(6) Appropriate restrictions on placement of drainage features, septic drain fields and compacted fills and footings, including recommended setbacks from shoreline bluffs and the tops of other slopes on the property.

(7) A detailed clearing and grading plan which specifically identifies vegetation to be removed, a schedule for vegetation removal and replanting, and the method of vegetation removal.

(8) A detailed temporary erosion control plan which identifies the specific mitigating measures to be implemented during construction to protect the slope from erosion, landslides and harmful construction methods.

(9) An analysis of both on-site and off-site impacts of the proposed development.

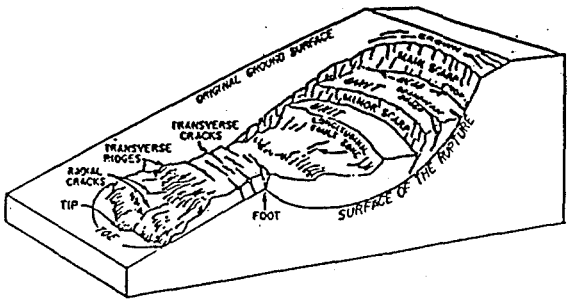
(10) Specifications of final development conditions such as, vegetative management, drainage, erosion control, and buffer widths.

6. Administrative Determination

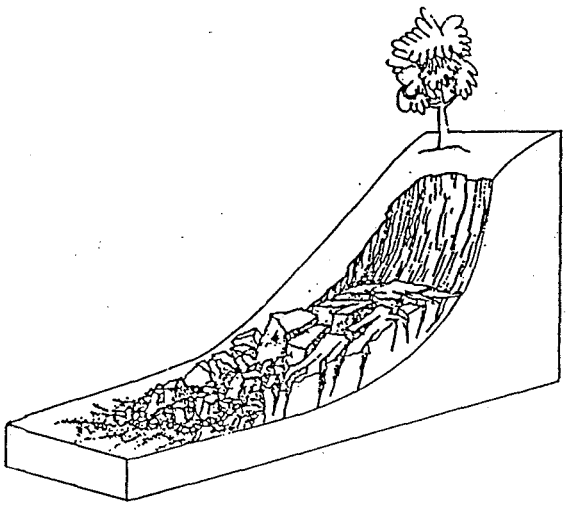
Any area in which the Geotechnical report or geological assessment indicates the presence of landslide hazards shall not be subjected to development unless the report demonstrates conclusively

that the hazards can be overcome, and that the development meets all standards in Section 17.01.100.D. Hazards must be overcome in such a manner as to prevent harm to public health, safety, and property and to minimize any environmental impact. The Director may submit either the Geologic Assessment or the Geotechnical Report to an outside agency with geotechnical expertise or to a geotechnical consultant for third party peer review prior to issuing a ruling on the project.

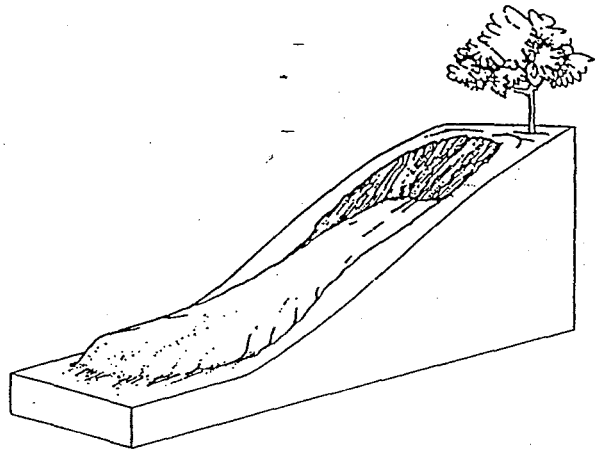
FIGURE: F 100



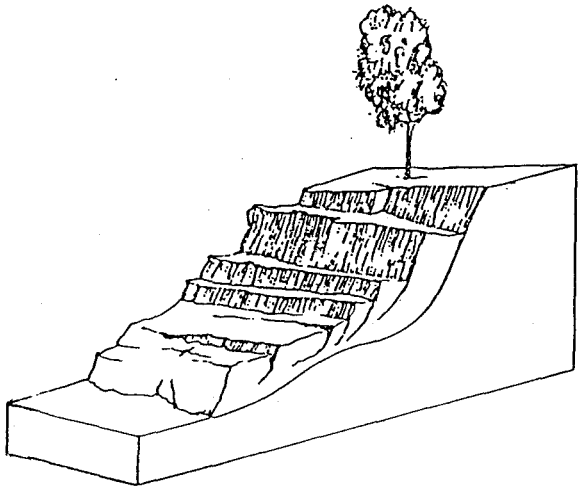
Nomenclature of parts of a landslide (from Eckel, 1958):



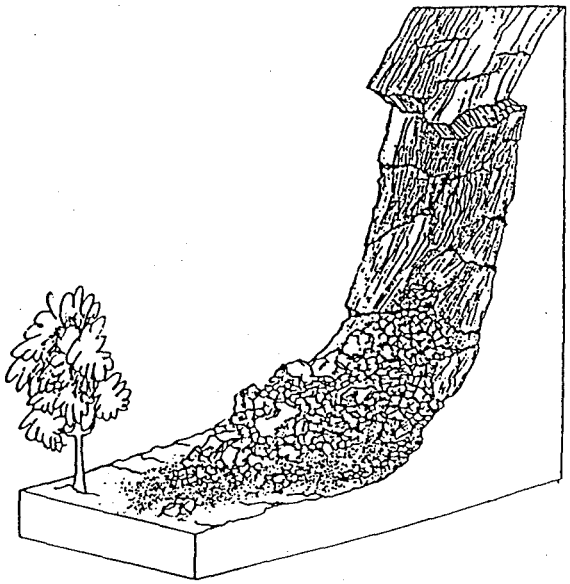
Debris slide: incoherent or broken masses of rock and other debris that move downslope by sliding on a surface that underlies the deposit.



Earthflow: colluvial materials that move downslope in a manner similar to a viscous fluid.



Slump: coherent or intact masses that move downslope by rotational slip on surfaces that underlie as well as penetrate the landslide deposit.



Rockfall: rock that has moved primarily by falling through the air.