

in parts of the valley and where convenient is cut for firewood. Considerable damage to buildings and fences. Returned to Lopez Island.

Humphrey Head, Lopez Island, San Juan Co., Washington
Dec 10, 1990

At sunrise clouds this side mt. Erie light but when ^{same clouds} beyond mt Erie background were dark.

This A.M 3 groups of American robin averaging 40 bird per group flew N past Bee House at 20 minute interval. One group of approx 40 bird flew S later, dark-eyed juncos average ^{daily} 25 in groups at feeder.

made circuit trip on Humphrey Head. Counted used deer trails that entered route traverse but crossroad trails counted as one. On Transverse trail to west side Log Rock 19, from there to marina road 5, 11, from where Transverse Trail crosses W.S. Log Trail to below Hitchcock Place 9, from there to divide 2, 1 to forks in trail and 7 to Switchback Road and 1 to Humphrey Head.

At marina, 12 great blue herons left roosting tree SW marina in conifer tree. Usually they call when 1 or 2 leave but as a group they do not call.

measured different angles of sliding at ^{Shoal Bay} marina road. The slope of roadcut varied to 2° or nearly perpendicular. The slides are caused by supersaturation of slope from rain and drainage and from removing soil from basal support by road building. These slopes will never stabilize until they erode to the 50°-60° gravitational repose. All slide material on road should be removed and should never be pushed over onto or into bay. muddy drainage should be directed to settling basin before discharged into marine water. In general, ^{by man} drainage from all roads and areas denuded of vegetation, should be run thru a settling facility.

at a point before E bend marina road, a fracture system of face of slope prior to sliding. Thatched area already has slipped onto road.

