Alaska State Legislature

Representative Peggy Wilson
House District 2
Putting Alaska's Families First

Aug 4, 2008

Board of Forestry
Chris Maisch, State Forester
Alaska Div of Forestry
550 West 7th Ave. Suite 1450
Anchorage, Alaska 99501-3566

Dear Forestry Board Members,

Thank you for recently making the decision to convene a study group to review and synthesize existing information on landslide occurrence in Alaskan forests. As the Mitkof Highway Homeowners Association has stated, there has been no protection for the public in the last 29 years and I concur with the wording below as a proposed amendment in your white paper that would make a change for public safety:

> *Activities that increase susceptibility to slope failures (such as logging) should be prohibited or restricted **if** slope failures pose a danger to life or property. Critical facilities, homes, and other buildings for human occupancy should not be located in areas susceptible to major slope failure.*

Other states have looked at this issue and taken steps to ensure safety both to the environment and to homeowners and their property. As a Legislator, and also personally, I deem public safety to be a top priority in Alaska. I am optimistic that the Division of Forestry is willing to move toward this goal and at the same time provide good management practices throughout the state. This can be a win-win situation for the state and for Alaskans. I thank you for your time and effort on this matter, and I look forward to your decision.

Sincerely,

Peggy Wilson

Representative Peggy Wilson
Alaska-District 2
907-874-3088

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– House Bill 91 –

Testimony before the State of Alaska, House Resources Committee
March 30, 2012 – Juneau, Alaska

by
Charles E. "Ed" Wood, Co-Founder
Mitkof Highway Homeowners Association

1. Mr. Chair, House Resources Committee members, my name is Ed Wood. I am representing the Mitkof Highway Homeowners Association, as one of its cofounders.

2. The Alaska Forest Resources & Practices Act, or FRPA, is the Division of Forestry's controlling authority for all timber harvest in Alaska, on State, municipal, and private properties.

3. FRPA's "Section 41.17.080 - Regulations" addresses forest practices such as disease and insect infestation, reforestation, water quality and fish habitat, road construction and maintenance, fire and flood hazard management, and all aspects of timber harvesting. The notable exception being public safety precautions relating to potential landslides associated with timber harvest within inhabited areas.

4. California, Oregon, and Washington each address public safety in their forest practices pertaining to timber harvest related landslides in one way or another. The Minister of Forests & Range in British Columbia has the power to intervene on any activity that is likely to have a catastrophic impact on public safety. Alaska remains the only coastal region north of the Mexican border that does not address public safety in any way in its timber harvest practices. [BINDER TABS "M, N and R"]

5. Because of the Division of Forestry's lack of authority to address public safety, the MHHA approached the State Forester on October 10, 2007, with a proposal to amend the FRPA. Our proposed amendment was a verbatim quote from a 1983 Department of Natural Resources document titled, "Geologic Hazards in Southeastern Alaska: An Overview" which states in part,

at the same time provide good management practices throughout the state. This can be a win-win situation for the state and for Alaskans."

[CLOSE QUOTE] [BINDER TAB "F"]

11. Since 2007, the Division of Forestry's own Landslide Science & Technical Committee found the inhabited landslide hazard areas in its scoping study to represent less than ¼ of 1% of the available timber base. While small in area, they are of huge importance to those of us who live and transit in them. In the final analyses, people can only build homes and raise families where land is made available to them for settlement. **Consider then that the State with its constitutionally mandated policy in Article VIII, Section 1, encouraged settlement in landslide hazard areas affecting at least eight populated municipalities and communities, or within the boundaries of 12 communities or boroughs between Ketchikan and Cordova. While the State may not have recognized these areas as being unstable at the time, they have now been scientifically scoped and mapped as "landslide hazard areas".** The State's responsibility to safeguard the public should not be outsourced to industry, large private landowners, or through local zoning ordinances. HB 91 gives the Division of Forestry the authority to manage timber harvests statewide within inhabited areas with public safety being the highest priority or benefit.

[BINDER TABS "C, J, K and L"]

12. For the record, I'd like to end with a short paragraph from the **Fourth Edition of Gordon Harrison's "Citizen's Guide to Alaska's Constitution", Page 128:**

"Article VIII of Alaska's constitution clearly establishes that the natural resources of Alaska should be developed. Indeed, to the convention delegates, the very success of statehood hung in the balance. But while this article creates a strong presumption in favor of resource development, it will not abide that which is wasteful...or contrary to the rights of others and the larger public interest." [CLOSE QUOTE] [BINDER TAB "U"]

MITKOF HIGHWAY HOMEOWNERS ASSOCIATION

P.O. Box 383 • Petersburg, AK 99833 • 907-772-3480

29 March 2012

Representative Paul Seaton
Representative Eric Feige
House Resources Committee
State of Alaska
Room 124, Capitol
Juneau, Alaska 99801-1182

Dear Representatives Seaton and Feige,

It is not often that you find people from both industry and the environmental community on the same side, however, the membership of the Mitkof Highway Homeowners Association (MHHA) has both. The MHHA consists of 95 homeowners and citizens of Petersburg who formed our group out of concerns over the wisdom of a December 2005 proposed timber harvest by the Alaska Mental Health Trust Land Office, on the steep unstable slopes above our homes, Mitkof Highway, also known as State Highway #7, and the Tyee hydroelectric corridor.

We ask for your indulgence as we present our case for the need for House Bill 91 which is solely intended as a preventive measure. We would like to point out at this time, that though our focus has been primarily based upon our Petersburg Mitkof Highway hillside issue, HB 91 has relevance in at least eight populated areas from Ketchikan to Cordova, or inside the boundaries of 12 communities and/or boroughs, based on information researched and presented by the Alaska Board of Forestry's Landslide Science & Technical Committee.

Our experience with this issue has been long and exhausting, 6 years and counting, not to mention costly to the tune of over $127,000 of our own money. Most, if not all of this effort and expense would have been unnecessary had the Division of Forestry had the authority to address public safety as related to timber harvest on steep unstable slopes within inhabited areas in Alaska's Forest Resources and Practices Act, or FRPA.

MITKOF HIGHWAY HOMEOWNERS ASSOCIATION

Charles E. "Ed" Wood, Co-Founder

Attachments (1): House Bill 91 / Supplemental Information / March 29, 2012

MITKOF HIGHWAY HOMEOWNERS ASSOCIATION

P.O. Box 383 • Petersburg, AK 99833 • 907-772-3480

28 February 2012

Chris Maisch, State Forester & Director
Alaska Division of Forestry
Department of Natural Resources
550 West 7th Avenue, Suite 1450
Anchorage, AK 99501-3566

CERTIFIED MAIL/RETURN RECEIPT
7007 0710 0000 2449 8304

Dan Sullivan, Commissioner
Department of Natural Resources
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CERTIFIED MAIL/RETURN RECEIPT
7007 0710 0000 2449 8311

Governor Sean Parnell
State Capitol Building
P.O. Box 110001
Juneau, AK 99811-0001

CERTIFIED MAIL/RETURN RECEIPT
7007 0710 0000 2449 8243

Dear Chris, Commissioner Sullivan, and Governor Parnell,

I will be out of town during the 20-21 March 2012 Board of Forestry (Board) meeting. In lieu of my planned participation, by teleconference, I have a number of questions including: "Do you, Chris, Commissioner Sullivan, and Governor Parnell plan to support or oppose House Bill 91, sponsored by Representative Peggy Wilson?"

We believe that HB 91 is reasonable, logical, and necessary to protect human life and property in Alaska's inhabited forested landslide hazard areas. The Department of Natural Resources (DNR) has the ability to adopt regulations on this issue but elected to see the Board process through. Now that the Board has completed its "advisory process", we ask for your support of HB 91.

HB 91 is intended to give the Division of Forestry (DOF) the statutory authority to address *public safety* issues pertaining to logging on unstable slopes within Alaska's inhabited forested areas. HB 91 is intended to prevent or reduce landslide activity by mandating "strict safety standards to protect human life and property", and includes certain criteria for consideration before timber harvest. Because both the DOF and the Board have chosen not to

Commissioner Sullivan formally oppose a *public safety* amendment to the FRPA, only to table the issue at the last minute. Additionally, on two other occasions, the Board, after 4-1/2 years of discussion of *public safety*, twice voted by unanimous consent to pass off to local zoning ordinances the State's obligation and authority to manage timber harvests within Alaska's inhabited landslide hazard areas. Is this unanimous consent recommendation by the Board supposed to relieve the State of its primary duty of protecting its people? Hasn't the Board itself made further Board discussion of this issue irrelevant?

> Governor Parnell recently proposed the adoption of a revised DNR mission statement:
>
> "To responsibly develop Alaska's resources by making them available for maximum use and benefit consistent with the public interest."

and was quoted in the *Anchorage Daily News* stating, "It comes straight out of the Alaska Constitution. It is Article VIII, Section 1[3], of the constitution.[4]"

Consider, then, that **the State with its constitutionally mandated policy** (Article VIII, Section 1), primarily through DNR, **encouraged settlement in landslide hazard areas within the boundaries of at least 12 communities or boroughs between Ketchikan and Cordova**[5]. This policy is ongoing today, and will result in urban expansion in these areas over time. Did the Federal and State governments not recognize these areas as being hazardous at the time of selling homesite parcels to unsuspecting citizens? The Board's Landslide Science & Technical Committee (S&TC) has issued "Public Safety & Landslide Hazards - Scoping Maps"[6] which clearly identify inhabited landslide hazard areas[7]. Likewise, GIS-generated soils mapping has also confirmed landslide hazards soils throughout the region supporting the S&TC findings.

> The second part of Article VIII, Section 1 continues
>
> "Statement of Policy: It is the policy of the state to encourage [the settlement of its land and] the development of its resources by making them available for maximum use consistent with the public interest."

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[3] Article VIII, Section 1: "It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest"; The Constitution of the State of Alaska - Fiftieth Anniversary Edition (June 2007).

[4] "Parnell backs change in DNR mission statement", Anchorage Daily News (4 February 2012).

[5] Alaska Board of Forestry, "FRPA Landslide Science & Technical Committee - Update on Scoping of Landslide Hazards in Potential Timber Harvest Areas"; Slide 7: Affected municipalities and communities - Hazard in boundary: City & Borough of Wrangell, Haines Borough, Ketchikan Gateway Borough, Cordova, City of Ketchikan, Petersburg, Craig, Coffman Cove, Thorne Bay, Kasaan, Hollis and Whale Pass (7 October 2009).

[6] Alaska Board of Forestry's Landslide Science & Technical Committee Scoping Maps, v.4 (2007) to v. 8 (2011).

[7] Alaska Board of Forestry's Landslide Science & Technical Committee - "Scoping Map - Public Safety & Landslide Hazards - :Areas with public roads and residential or commercial buildings that are within a ½-mile downhill from slopes >50% that have forests that are open to commercial harvesting." v.7 (2010) to v.8 (2011).

settlement in what later proved to be unstable areas. It is long past time for the State to adopt legislation on this issue, and insure that the "health and the welfare[11,12]" of Alaskans and their communities are protected. The simple fact that the DOF cannot address *public safety* by statute as a preventive measure as related to timber harvest on unstable slopes in inhabited areas has cost the Mitkof Highway Homeowners Association over six years out of our lives, and more than $127,000.

Representative Wilson's 4 August 2008 letter to you, Chris, and the Forestry Board Members included:

> "Other states have looked at this issue and taken steps to ensure safety both to the environment and to homeowners and their property. As a Legislator, and also personally, I deem public safety to be a top priority in Alaska. I am optimistic that the Division of Forestry is willing to move toward this goal and at the same time provide good management practices throughout the state."

Considering that this issue started in December 2005 with our telephone call to DOF in Ketchikan concerning timber harvest on unstable slopes above our homes, the question still remains whether the State will assume its responsibility to safeguard Alaska communities, or will it instead expect others to shoulder its burden through "local zoning ordinances"?

On a fiduciary note, wouldn't the amount of time that has elapsed since citizens asked for statutory provisions to the FRPA to safeguard their homes from timber harvest related landslide activity, substantially increase the State's liability if human life and property were harmed because DNR failed to adequately address *public safety*?

I know, many questions, but we believe our concerns are legitimate. While the S&TC found the inhabited landslide hazard areas in its scoping study to represent a small fraction of the timber base[13], they are of huge importance to those of us who live and transit in them. In the final analyses, people can only build homes and raise families where land is made available to them for settlement.

There are many State and Federal regulations designed to prevent or reduce accidents or foreseeable harmful incidents. That is the intent of HB 91. Chris, if you, Commissioner

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[11] Article VII, Section 4: "The legislature shall provide for the promotion and protection of public health."; The Constitution of Alaska - Fiftieth Anniversary Edition (June 2007).

[12] Article VII, Section 5: "The legislature shall provide for public welfare."; The Constitution of Alaska - Fiftieth Anniversary Edition (June 2007).

[13] Piechart - "Harvest status of land in analysis area (29.4 MMac in SE Alaska from Yakutat south; does not include Cordova): (a) Open to harvest within ½-mi of public road and in hazard zone = 51.7 Mac (0.2%); (b) Hazard zones adjacent to populated areas = 7.6 Mac (0.03%)." Alaska Division of Forestry, Board of Forestry's Landslide Science & Technical Committee, "Update on Scoping of Landslide Hazards in Potential Timber Harvest Areas", p. 10 (7 October 2009).

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS

July 1983

Alaska Report of Investigations 83-17

GEOLOGIC HAZARDS IN SOUTHEASTERN ALASKA: AN OVERVIEW

By
R.A. Combellick and W.E. Long

failures are common to southeastern Alaska, including debris flows, debris avalanches, rock slides, and rock falls. Landslide scars and deposits have only been mapped in and near some existing communities. A surficial geologic map of the Juneau area (Miller, 1975), for example, shows numerous debris-flow deposits, rockslides, and undifferentiated landslides, many of which lie in or near developed areas.

Most of the large-scale mass movements in southeastern Alaska are debris flows and debris avalanches. These involve mixtures of soil, rock, and forest debris with varying amounts of water (Swanston, 1969). Over 3,800 large-scale mass movements were counted within the Tongass National Forest (fig. 2). Generally, the debris flows and avalanches occur on slopes of 35° to 60° and involve shallow soils that are derived from weathered bedrock and colluvium. These soils contain a large proportion of large angular rock fragments and some organic debris, and are highly permeable. Underlying bedrock surfaces are often hard and glacially smoothed and steepened, offering little obstruction to downslope movement of the overlying soil and retarding the escape of water.

Debris flows and avalanches also occur in soil profiles developed on till (glacial deposits). Surface-water saturation of the weathered soil profile during heavy rains decreases its shear strength. The failure begins as a rotational movement (slump), with the underlying unweathered till providing the slip surface. The soil mass picks up speed in a downslope direction and develops into a debris flow or avalanche. Till slopes of 34° to 40° are most susceptible to failure, with the most common occurrence on slopes of about 37°. This corresponds with the internal angle of friction determined in the laboratory for these soils (Swanston, 1974).

Rockslides in southeastern Alaska are common on steep slopes underlain by fractured or weathered bedrock. Foliation planes of soft platy minerals in metamorphic rocks provide additional weak zones along which the rock can slide or break apart. Frost action and tree roots help to separate the rocks along these zones of weakness (Miller, 1972).

Nonearthquake-induced slope failures are usually triggered by water saturation from heavy rainfall or rapid snowmelt. Excess water increases the downslope driving force by adding weight to the soil and decreases the resisting forces by saturating the soil and lowering its shear strength. Shallow tills in southeastern Alaska become saturated during storms that produce rain exceeding 13 cm (5 in.) in 24 hr. Such storms occur in southeastern Alaska every 2 to 5 yr (Swanston, 1969).

Artificial factors also contribute to slope failures in southeastern Alaska. Common construction mistakes are undercutting the toe of a slide or overloading an unstable slope with man-made structures. Timber harvesting is also a leading contributor to slope failure. A correlation has been found between frequency of mass movements and timber harvesting (Bishop and Stevens, 1964). As tree roots decay, natural slope stabilization and water absorption are reduced; this appears to be a primary cause of slope failure in harvested areas. The frequency of debris avalanches increases 3 to 5 yr after cutting, which corresponds to the time required for the root systems to decay.

To mitigate the hazards of slope instability:

1. As part of land-use planning, areas of moderate to steep slopes should be examined for landslide potential by professional engineers or geologists.

2. Construction, excavation, or logging on, above, or below potentially unstable slopes should be preceded by field studies, including drilling or trenching, to determine appropriate grading and construction methods.

3. Use of areas on or below slopes that have potential for severe failure should be restricted to open space, recreational, mineral, and agricultural use. Activities that increase susceptibility to slope failures (such as logging) should be prohibited or restricted if slope failures pose a danger to life or property. Critical facilities, homes, and other buildings for human occupancy should not be located in areas susceptible to major slope failures.

SNOW AVALANCHES

Heavy snow precipitation, high terrain, and steep slopes combine to create high avalanche potential over much of southeastern Alaska. Condition of the snow pack differs considerably throughout the region because of differences in elevation, slope, precipitation, temperature, and vegetation.

In southeastern Alaska, the snowpack, which is generally warm and deep, is modified by strong, variable winds and occasional rainshowers during warmer periods. Slope orientation relative to storm paths, wind shadows, and cloud cover has a stronger effect on avalanche potential than direction of incoming solar radiation (Hackett and Santeford, 1980). Avalanches may favor one aspect during one season and a different aspect another season. Large avalanches tend to recur along established paths, although any areas of high, steep terrain can be hazardous because of the wide variability in conditions. An important factor in southeastern Alaska is the strength and variability of winds. Wind, which transports and deposits large volumes of snow, can create a hard crust, providing a sliding surface for snow deposited later.

The severity of hazard from avalanches depends on the nature of the human presence in an avalanche-prone area. Many snow slides and small avalanches occur at high elevations and may be dangerous only to the occasional skier. On the other hand, large, dense, flowing avalanches can reach impact pressures of several tons per square meter (Mears, 1976), travel large distances down a slope (often beyond the base of the slope), and destroy structures not specifically designed to withstand the impact pressures. On many steep slopes in southeastern Alaska, large avalanches incorporate other debris on reaching lower snow-free elevations, thereby substantially increasing potential impact pressures.

Avalanche-potential maps have not been prepared for most of southeastern Alaska at scales appropriate for land-use planning or site-specific evaluation. A preliminary small-scale avalanche potential map of Alaska divides southeastern Alaska into zones of high and moderate potential based primarily on differences in snowfall (Hackett and Santeford, 1980).

vegetation is removed, erosion may begin as sheetwash and gully erosion, and then develop into debris flows. Tree cutting increases runoff because it reduces the amount of water intercepted by the canopies or absorbed by the roots through transpiration.

Most coastlines in southeastern Alaska are dominated by steep slopes and cliffs with no significant benches and can be classified as erosional or neutral. Site-specific information on erosion rates is available for a few communities, but no regional evaluation of coastal erosion has been made. The severity of coastal erosion can only be determined by long-term surveys or by comparison of aerial photographs and large-scale maps over several decades. The latter are not available for much of southeastern Alaska for periods long enough to determine rates of coastline change.

Sediment deposition is primarily a problem in channels and harbors. Sediments are deposited near the mouths of streams or in areas where wave-generated longshore currents transport sediment from areas of high wave-energy to areas of low wave-energy. For example, sediment from the Mendenhall river near Juneau continues to build a delta southward across Gastineau Channel, creating a serious navigational hazard. Only small boats are now able to use that portion of the channel, and many run aground each year. Though strong tidal currents remove much of the sediment deposited by the river, the channel may be closed off completely if not periodically dredged. The Chilkat River has the highest sediment yield per square kilometer of drainage area of any river in Alaska (8.4 million metric tons) and is depositing an extensive fan and delta as its mouth in Lynn Canal (AEIDC, 1975).

To mitigate hazards from sediment erosion and deposition:

1. Potential problems of erosion or deposition should be taken into consideration prior to any development along a stream or coastline, or prior to opening an area of timber harvesting. Site-specific studies based on expected erosion rates should be performed to establish setback distances on coastlines or riverbanks.

2. Corrective engineering measures such as jetties, seawalls, or revetments should be avoided. Although such measures may correct an erosion problem in one area, they may contribute to erosion or deposition in another; moreover, they are often only temporarily effective.

REGIONAL UPLIFT

Although rapid land uplift associated with major earthquakes (as occurred during the 1899 earthquake at Yakutat Bay) can be a potentially serious geologic hazard, gradual regional uplift is not. However, because this process is taking place in southeastern Alaska and can be significant over long periods, it should be considered in long-range planning. Regional uplift is important to consider when selecting sites for community and coastal facilities.

Tide-station data and changes in elevation of tidal bench marks have been used to calculate average uplift rates in southeastern Alaska for more than