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August 25, 2019

sent via email

Ketchikan Supervisor's Office
attn: Moderate Vulnerability Karst Amendment
Tongass National Forest
Ketchikan, AK
comments-alaska-tongass@usda.gov

re: Moderate Vulnerability Karst Amendments, S-YG-KC-02 and -03

Acting Forest Supervisor Troy Heithecker:

Gentlefolk:

First, let me note that there is potentially a big difference in impacts between harvesting on low or moderate vulnerability karst in old growth and in second growth. Standards and guidelines that exist for the old growth are based on the fact that it has not been harvested. Second growth that is being examined in this proposal was harvested prior to any standards and guidelines for karst and has thus suffered unknown damage to the soils and epikarst due to past harvest. See Baichtal, J.F., and D.N. Swanston, Karst Landscapes and Associated Resources: A Resource Assessment (General Technical Report, PNWGTR-383 (1996), p. 9) that almost certainly impacted these lands negatively. Thus, second growth karstlands are potentially much more easily damaged than old growth.

Furthermore, the Forest Service has not even begun to assess the potential impacts of even aged harvest (clearcutting) on karstlands. Prior to 2016, Appendix H of the 2008 Tongass Forest Plan contained a section discussing potential precommercial and commercial thinning of second growth on karst. For unknown reasons, this section was removed from the Forest Plan in the 2016 amendment. It must be reinserted and revised to include and account for the potentially much greater impacts that clearcuts would have than the discussed thinning projects.

Furthermore, there is no discussion of the impacts of road construction on karstlands that were previously impacted by logging. So, any construction of new roads, or restoration of old roads must assuredly meet at a minimum, the standards for karstlands and these standards should really be thoroughly reconsidered based on potentially greater impacts on previously harvested landscapes.

Another important factor with which we have experience is that old-growth stands in karst that were considered for logging in the past have been extensively inventoried both by cavers and other karst specialists. We usually paralleled each other at about 15-30 yards, depending on the terrain and cover, examining the landscape for karst features. It was rare for cavers or anyone else to try to push through the dense stands of second growth. Not only was this unpleasant, it was also almost impossible to see anything beyond a few feet in front of your nose. Thus, these

second growth stands have not been inventoried for karst features in any thorough and systematic way at this point. While some of these lands may be truly moderate vulnerability karst, it is quite likely that there will turn out to be karst features of high vulnerability within these stands. While use of LIDAR may provide a means of assessing such features remotely, the ground truthing of this technology is still in its infancy. A much more thorough assessment of karst vulnerability needs to be undertaken before the Forest Service can reasonably assess the vulnerability of lands under investigation into any vulnerability category.

We feel that based on the above, it is rash to consider the reduction of protections for moderate vulnerability karst to be so minor that it could be considered as a categorical exclusion and not require at least an environmental assessment. Not only is there the potential to seriously damage the lands considered for management, but also adjacent higher vulnerability karstlands as well as the subsurface water systems. Maintaining natural processes must include identification of subsurface and surface water and soil transport across, into, and through low and moderate vulnerability karst and take into consideration the impact on adjacent areas with higher vulnerabilities.- This is especially important and difficult where previous logging and road building may have damaged systems but where baseline data on water quality and flow was never collected prior to the initial entry. It is known that soil particles in karst (where soils are generally thin to begin with) may only need to be transported laterally a few centimeters before it enters karst conduits and can be transported great distance- (*See Id.* p. 3). We don't know whether this vulnerability is exacerbated by poorly conducted timber harvest of the past, but it seems likely.

Another reason why it is inappropriate to categorically exclude the proposed amendment from NEPA is that the Forest Service has only inventoried a small sample of the young growth stands potentially on karst terrain. As of today, only 94 stands have been inventoried on Prince of Wales Island out of a total of 262 stands across 7 districts to be inventoried per the Forest Service's Tongass Young Growth Suitability Synopsis. Thus, this analysis could have potentially 4 times the impact on karstlands once completed. That means that not only will the 1,156 acres of moderate vulnerability karst considered at this point be at risk, but perhaps as much as 4,600 more acres. If one estimates a relatively moderate timber volume per acre of 30,000 board feet, there could potentially be 138 million board feet of young growth cut on karstlands. Clearly, this represents extraordinary circumstances relating to the proposed amendment. In addition, these karstlands possess high potential for cultural and paleontological significance. *See id.* p. 8), as well as being critical albeit fragile components of increased fisheries and forest productivity (*See id.*, pp 6-10) Although this amendment doesn't approve specific logging activities, there does exist a cause-effect relationship between increasing the acres of operable young growth stands to timber management activities and potentially significant impacts to world-class karst terrain. *See id.* p. 1.

Yes, there may be potential benefits to opening up the overhead canopy of young growth stands. Possibly, commercial thinning or selective cutting on a limited scale might help restore some of the natural drainage that past logging has damaged. There are also potential benefits to wildlife.

It is also true that preferentially cutting second growth rather than old growth has merit. Nonetheless, we believe it is essential that, at a minimum, an environmental assessment be undertaken before changing the standards to increase the amount of operable young growth on moderate vulnerability karstlands.

Therefore, the Glacier Grotto cannot support removing the protections for moderate vulnerability karst until there has been a thorough review and study of the additional impacts that may occur on lands that were logged prior to implementation of the karst standards and guidelines. The Forest Service needs to follow the requirements for conducting appropriate karst assessments as provided for in appendix H. Another possible alternative that should be evaluated before amending the karst standards is the direction contained in the 2008 TLMP, but removed without explanation in 2016. This direction relied on the professional judgment of a karst management specialist, a soil scientist, and a silviculturist to develop case-by-case prescriptions before authorizing logging on karst to protect fragile soils and meet all karst management objectives. This requirement must certainly be included in the amended standard S-YG-KC-03, so that it reads “Commercial timber harvest including even-aged management is allowed on lands identified as low and moderate vulnerability karst following the guidelines in Appendix H and using an interdisciplinary process including the professional judgment of a karst management specialist, soil scientist, and silviculturist to determine the management prescription to maintain the natural processes and productivity of the karst landscape.

Additionally, more assessment of karst vulnerability is needed prior to authorizing any management activities on previously developed karstlands because nobody has really assessed second growth stands for vulnerability at other than the most cursory level. Once these actions have been thoroughly considered, and appropriate protections devised, ~~we~~it may be appropriate to selectively log an appropriate volume of young growth on moderate vulnerability karstlands.

Thank you for your thoughtful consideration of this letter,

Sincerely,

Stephen Lewis,
Conservation Chair,
Glacier Grotto, National Speleological Society