

Addendum to "Public Safety and Large Woody Debris"

The **important points** which are likely to be agreed on are:

- LWD helps the fish and is important.
- LWD is a significant Public Safety Risk, and the risk increases as more LWD is introduced to the River.
- Actions must be taken to maximize Public Safety.

Actions should include:

- Safety Education
- Availability of trained rescuers
- Hazard removal or control
- Design considerations such as deflective ELJ, and logjam size and placement management with Public Safety in mind.
- No large log jams close to the Pigeon Point Run which is immediately below the project range, and which has more demanding whitewater and heavier summertime usage.

Public Safety is Economic Safety True for Trinity County businesses, and it would seem for the TRRP too.

Trapped LWD absent in Wheel Gulch Environmental Review Public Safety was considered in Environmental Review Documents related to projects including Wheel Gulch, but it did not consider wood that was intended to be trapped by the design. Is this because it is Naturally Occurring, or because the issue was not brought to the attention of the document authors?

Counterintuitive Logic of Natural Occurrence Woody debris is currently treated by TRRP, USFS, and BLM as naturally occurring. This seems counterintuitive when one looks at a constructed project that is clearly designed to catch wood. The upper river and tributaries above Lewiston Dam is now unavailable to fish. In this context the recruitment of wood, which is a natural asset for fish, makes the trapped wood natural in the section of river that the fish can currently access. With this view, the Program is managing the river to have natural characteristics, and there is no public-safety responsibility for naturally occurring wood. By analogy, another natural feature is cool water that spring-run fish can survive in during the hot summer. If one looks at the history of water temperatures at, e.g. Junction City, they were much warmer in July and August before the dam than they are now, but it is natural for fish, that can no longer get into the upper tributaries, to have water at a temperature that they can survive in. Nevertheless, even if wood is natural, especially from the fishery point of view, it is increasing in and near Project areas, and the existence of woody-debris safety hazards are also increasing. If this wood is natural, it is not even subject to environmental review. If the Program chose to do so, they could make projects that would catch logs in a way that would make dangerous and unnavigable river-wide logjams. This could have the program benefit of strongly encouraging a new meander, in fact, this was presented as historical in the October LWD public meeting. However one would expect a limit to the program's use of natural woody debris, even if limits aren't required, in support of recreational boating feasibility and safety.

Engineered Natural Occurrence and No Net Loss Natural Occurrence of LWD, when linked with ELJs could be called Engineered Natural Occurrence. If the emphasis is widened to include the effect of controlled flows, it could be called Manipulated Natural Occurrence. If it is natural because of its natural attributes it can be called Substantial Natural Occurrence. This might be relative only to certain attributes such as being beneficial to fish. If wood is moved, such as in removing a hazard and placing it elsewhere or replacing it with another similar log elsewhere this can be done with No Net Loss of Naturally Occurring Woody Debris. It would seem that, with the perspective that naturalness can be influenced by engineering, the TRRP, USFS, and BLM could undertake hazard removal without compromising adherence to Natural Occurrence.

Alternative Safety Providers It would be easiest, and best if TRRP takes a lead role in providing for Public Safety, but there may be other options, and it may be that the Program isn't legally able to assist with some of these actions, even if they wish to. Design considerations and site placement are clearly in their court. Agencies next in line are Forest Service and BLM who *encourage recreation* on the river, have provided River Accesses, permits for Commercial Ventures and River Rangers (USFS). If they are constrained in hazard removal by the view that LWD is a "natural occurrence", perhaps RCD can step in. The USFS already have River Rangers who are safety educators and trained rescuers, and hopefully they will be able to prioritize funding for these positions. If no one else can touch Safety Education due to liability concerns, it could be presented by RCD partnering with American Whitewater or American Canoe Association which have published safety advice. Trained Rescuers now include Search and Rescue, and River Rangers, and could be further augmented by training local Volunteer Fire Departments. Trained private boaters and river professionals could be recruited as certified volunteers.