

LUNKERS Boxes



OUTSIDE HELP

- Landscape Architect
- Environmental Consultant
- River Constructor
- Engineer

✓ Potential permits required: CWA 404, Threatened & Endangered Species, NHPA, Floodplain

“LUNKERS” is an acronym for **Little Underwater Neighborhood Keepers Encompassing Rheotactic Salmonids**. This is a long way of saying it is a structure that provides cover for fish that face upstream along the streambank. LUNKERS boxes provide:

- Streambank stability
- Fish habitat

Rheotactic: facing into the current (upstream).

Many of the fish species in Colorado face into the current (**Rheotactic fish**), waiting for food and insects to come floating down. When they see something they want, they will dart out of their shelter to grab it. LUNKERS provide cover along streambanks for fish to rest between spurts of energy for feeding. LUNKERS can be used for many fish species, but they are especially useful for trout (they were originally developed in Wisconsin for trout habitat improvement).

LUNKERS Boxes can be constructed of different materials, including concrete pipe with cutouts.



Photo courtesy of: True North Trout [page 188]

The actual LUNKERS box usually looks like a wooden crib or pallet. This structure is buried/anchored into the streambank below the water surface. You can often install willow stakes and other vegetated bank stabilization methods on top of it.

LUNKERS require engineering and permitting to make sure the project will not negatively impact the floodplain or direct stream flows towards structures. These processes will also look at the impacts to the surrounding ecosystems and wildlife species. Because it will involve working in the stream, the actual construction of the LUNKERS will require permits as well.

LUNKERS boxes are stream restoration structures that are fairly specialized. Working with professionals that have experience designing and constructing LUNKERS in Colorado will be very helpful. You will want to go into the conversation knowing the types of fish that live in your section of the stream. It will also be helpful if you have an idea of where it may make sense to install LUNKERS. With this information, you can discuss size, type and aesthetic options with the consultants.