

Intro

I'm Charlie Luce.

I'm a research hydrologist with the Rocky Mountain Research Station Air, Water and Aquatic Environments Program in Boise, Idaho.

What do you do

One problem I've been working on, over the last 30 years, is understanding and managing sediment.

Coming from forest roads and entering streams.

I lead a team of two professionals and several temporary and term hydrologists out collecting data.

And analyzing those data for national forests.

And gathering all that data together, so we can understand road systems in a more general sense.

What's exciting

What's really exciting about looking at forest roads of the landscape scale now is that we've advanced so much in our understanding of road sediment.

That we've been able to focus down that nine percent of the road system is producing 90 percent of the sediment problem.

And it really changes the problem from being wow, we're overwhelmed with all the roads we have out there, to we can go here.

Here. Here.

And here. And solve a lot of problem.

It's economical.

It can be done.

The tool we're using is called GRAIP, which stands for Geomorphic Roads Analysis and Inventory Package.

It's a suite of tools that we use to analyze the road system in a number of different ways.

Road System Analysis

And using that, we can do whole landscapes at a time.

Eight hundred miles of road and more.

And see where the sediment comes from in the road system
and moves down into the stream network.

And how it moves through the steam network and accumulates or dilutes.

Conclusion

This is valuable for a couple of reasons.

One. It saves a lot of money, by focusing our efforts on those most problematic sites.

A second issue it helps with is when we think about road network as just the same everywhere.

We don't realize that some few, very few places are the most key places.

We diffuse our efforts.

There's the cost side of that.

But there's also the conflicts that'll develop between users who want to see us get rid of the roads, so that we improve habitat and stream quality,
and those who want to use those roads.

So when we can identify the most problematic streams, we can help diffuse some of those conflicts and really focus on the most problematic roads.