



Paul Parson, P.E. – Middle Clark Fork Program Manager

Mine Reclamation and Habitat Restoration in the Middle Clark Fork



Mining Legacy in the Ninemile Valley



- ✍ Ninemile Creek has a long history of surface mining.
- ✍ Placer mining peaked in the 1870s and dragline dredging became prominent in the early 1940s.
- ✍ Several abandoned hard rock mines are located within the Ninemile drainage

Kennedy Creek

The site was a designated superfund site (CERCLA)

The reclamation area consisted of 2 abandoned hard rock mines that originally targeted lead-zinc ore associated with quartz veins that also contained gold & copper



Kennedy Creek

The major concerns were concentrations of arsenic, copper, mercury, lead, and zinc that exceed screening levels



Kennedy Creek

6,000 cubic
yards of mine
waste per site



Kennedy Creek waste removal



Kennedy Creek



Kennedy Creek

Mine waste
removal
complete.







Kennedy Creek

July 2015



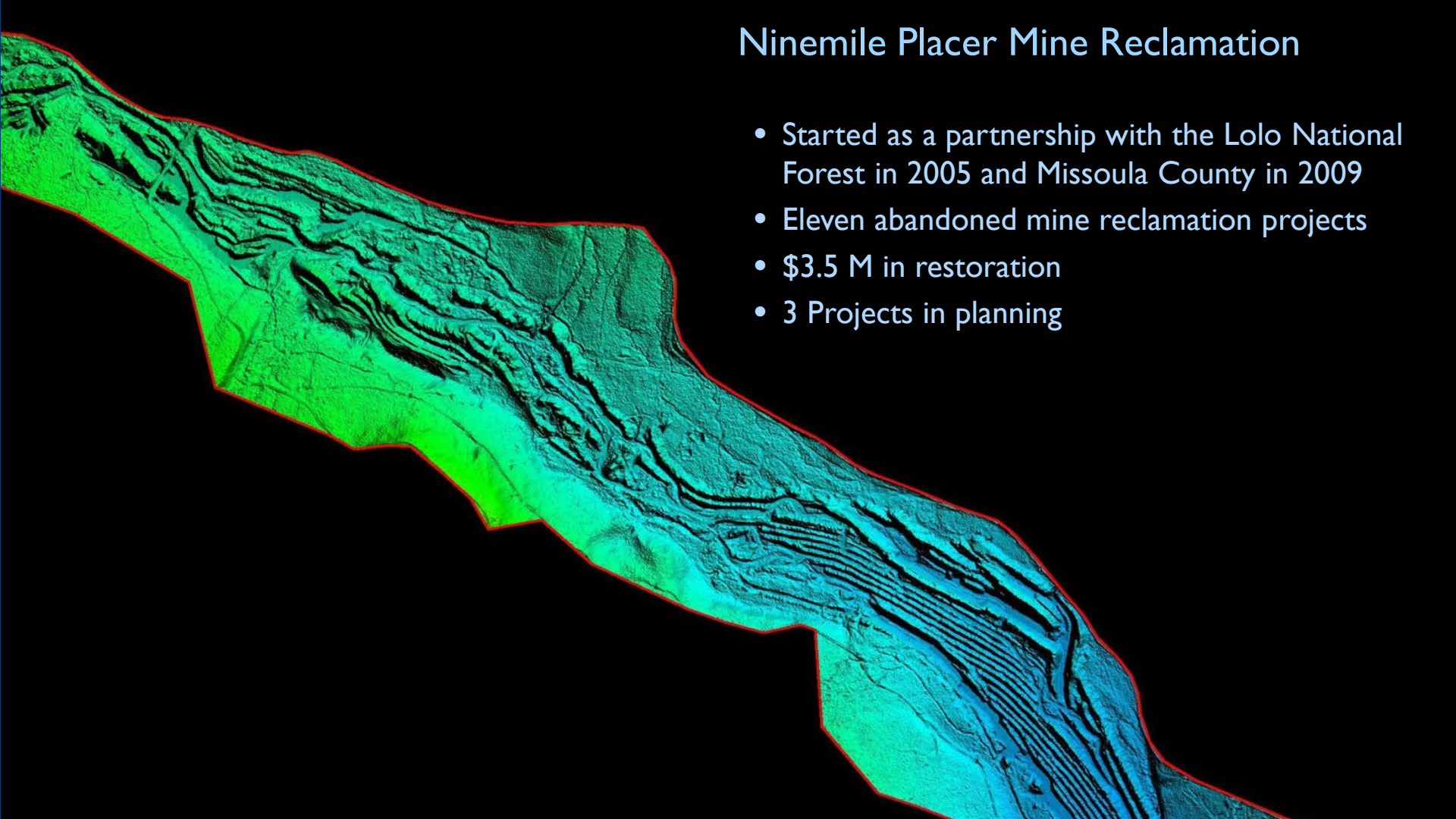


May 2016

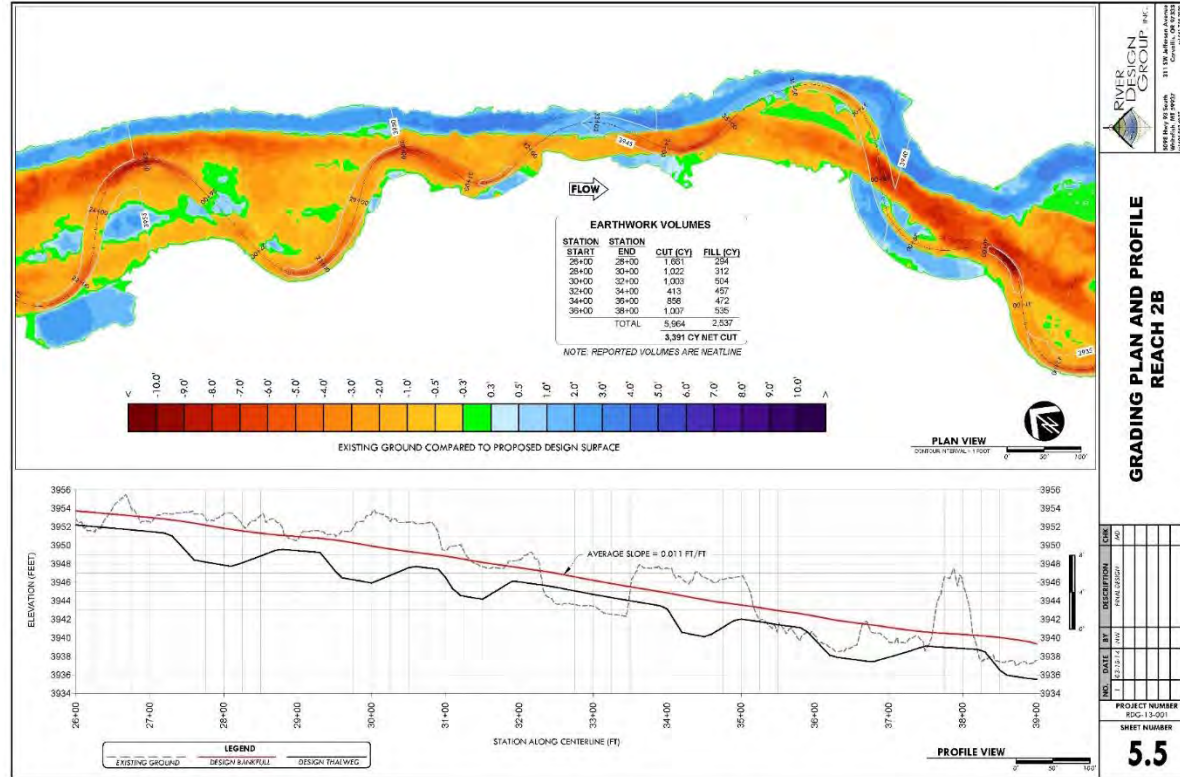


Ninemile Placer Mine Reclamation

- Started as a partnership with the Lolo National Forest in 2005 and Missoula County in 2009
- Eleven abandoned mine reclamation projects
- \$3.5 M in restoration
- 3 Projects in planning



Placer Mine Reclamation Process















Physical Damage – Repaired



2016 – Ninemile Creek, MT





Placer Mine Reclamation Process



Placer Mine Reclamation Benefits



- ✎ For every mile of valley restored, an additional 1.01 acre-feet of groundwater entered the stream each day at baseflow.
- ✎ 860 tons/year sediment reduction per mile restored
- ✎ Our work shows that restoration can have a substantial impact on sediment reduction, water storage and streamflow generation processes, and is a valuable tool for mitigating climate change effects on Western rivers and streams.



Superior, MT

Clark Fork River

Cedar Creek

Project area

Cedar Creek – Large Wood Structure
and Road Relocation Project

















2019 Projects

Floodplain Restoration & LWD – Cedar Creek

Road Decommissioning – Fish Creek

Placer Mine Restoration – Ninemile Creek

Mine Tailings Removal – Flat Creek

Project Partners

- Lolo National Forest
- DEQ
- Missoula County
- FWP
- NWF
- Landowners
- DNRC
- University of Montana
- Big Sky Brewing
- Turner Foundation
- Northwestern Energy
- River Design Group
- Geum Environmental

Thank You!



Paul Parson –Trout Unlimited



(406)218-8635



pparson@tu.org



www.tu.org

