National Forest Roads and Habitat (DIS)-Connectivity

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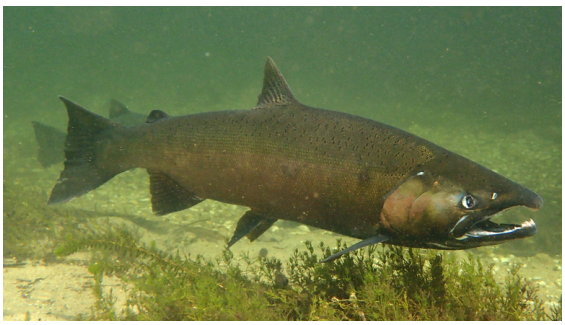
An overview of impacts and options for mending connections.

Background

The U.S. Forest Service:

- manages 9% of the total land area in the U.S.;
- supplies 20% of the nation's water to rivers and streams;
- provides habitat for over 30% of the threatened or endangered species; plus
- likely provides habitat for another 20% more species that should be protected by the Endangered Species Act.

The Forest Service has a duty but also an opportunity to manage lands and waters for fish and wildlife, ensuring healthier ecosystems and enriching biodiversity. Yet national forest lands contain over 370,000 miles of road that chop up habitat and divide streams, harming grizzly bear, lynx, wolverine, salmon, bull trout, elk and more. Wildlife need secure, connected habitat to thrive, especially in the era of climate change.



Impacts from roads

Fragmented habitat:

- Roads split wildlife habitat into patches that are too small.
- Smaller habitat patches lessen genetic variability, increases inbreeding, and can lead to local extinctions.
- Fragmented forests are less resistant and resilient to stressors, like climate change.

Harmful to wildlife:

- Roads have edges/zones that are different from the rest of the forest, often hosting invasive weeds and other plants. that wildlife typically avoid. The more roads (i.e. high density), the larger the road-avoidance area.
- Large wildlife, like elk, change their migration routes when faced with roaded areas, which can result in less forage and food opportunity.
- Mule deer and pronghorn migration travel times have increased due to oil/gas development and roads.
- Grizzly bears and wolves face increased mortality through collisions on/near roads, increased poaching, and disturbance from motorized use.

Damaging to fish and water:

- Roads and culverts can act as barriers to migrating fish, such as salmon and bull trout, along with other native fish and amphibians.
- Sediment from roads can fill in river beds making it difficult for salmon to find spawning gravel.

photo credit: Canva Pro

Identify key wildlife corridors and improve connectivity.

Recommendations for Wildlife Reconnections

Reduce fragmentation of habitat and increase connectivity in order to adapt to climate change as per the Forest Service National Roadmap for Responding to Climate Change.

Strategically remove barriers such as culverts to restore aquatic connectivity and expand available habitat.

Improve water quality and aquatic habitat by disconnecting roads from the stream network and reconnecting natural hydrology.

Decommission roads, particularly in riparian areas, to improve streamside vegetation, providing shade and cooler waters that benefits salmon and other fish.

To fully realize the benefits to fish and wildlife, road decommissioning should result in completely removing the road bed/template, and when possible, restoring the original contour of the hillslope.

Identify wildlife migration corridors, identify barriers to migration and implement actions to reconnect safe passages.

Manage motorized access and road density in important elk migration sites and where grizzly bear roam to reduce disturbance and improve connectivity.

Identify key wildlife corridors and decommission roads to restore native vegetation and foods such as grasses, forbs and fruiting shrubs.

Reduce road density to below one mile per square mile to maintain a functioning landscape that can sustain large mammal populations.

Increase roadless areas to reduce road-related sediment entering streams and provide higher quality habitat for bull trout, salmon and native fish.

Use local, native seeds on decommissioned roadbeds to restore food and forage opportunities for wildlife.

For additional details and references see our report: https://guardiansaction.org/roads-lit-review

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