



NEWAUKUM SUBBASIN

Newaukum River, Salzer, Coal, Dillenbaugh, Berwick & China Creeks

LIMITING FACTORS

RIPARIAN

- Conversion from forestland to agriculture & rural residences - bank vegetation loss is the largest impact in the whole Newaukum subbasin
- Past timber harvesting practices
- Naturally open riparian areas/ degraded riparian

FISH PASSAGE

- Forestland & logging roads have undersized culverts* and road crossings with inadequate fish passage.

SEDIMENT

- Adjacent land use practices
- Livestock access, high road densities, landslides caused by roads, and high amounts bank erosion

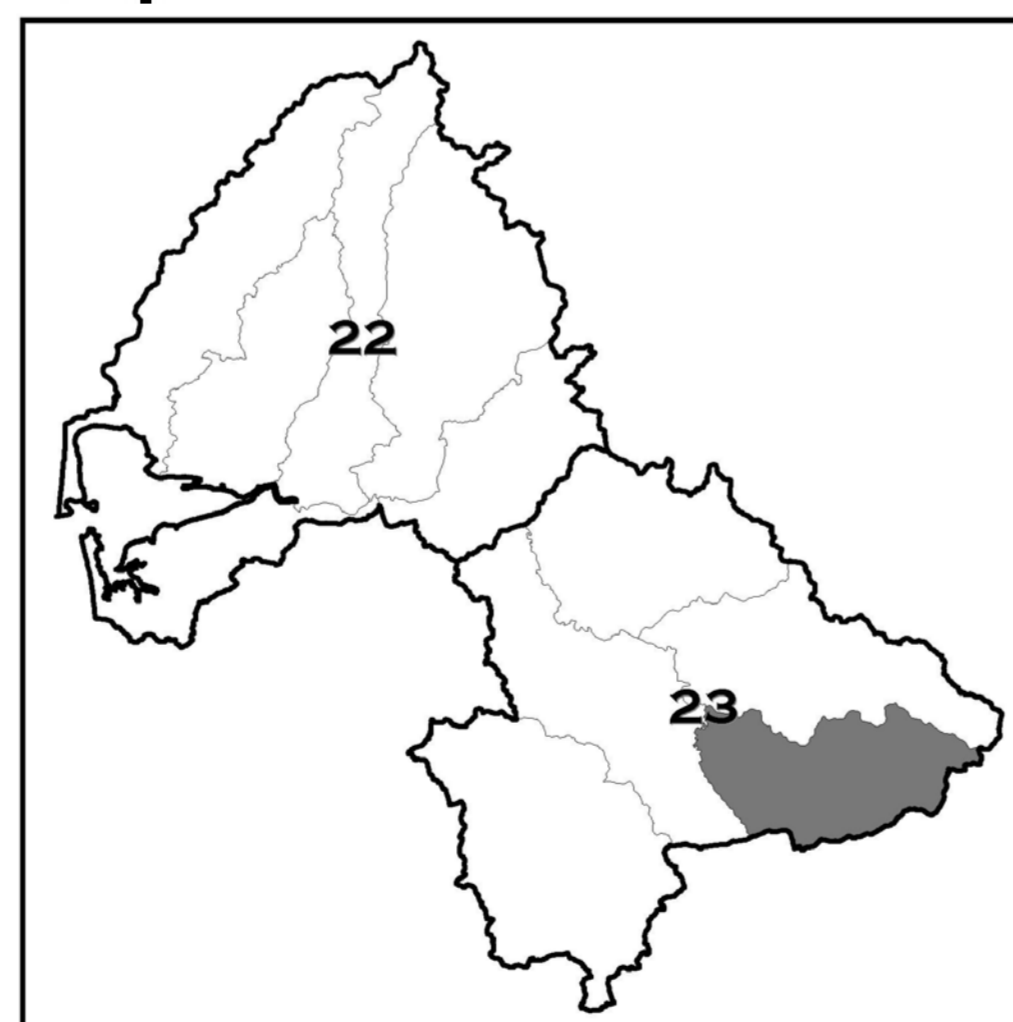
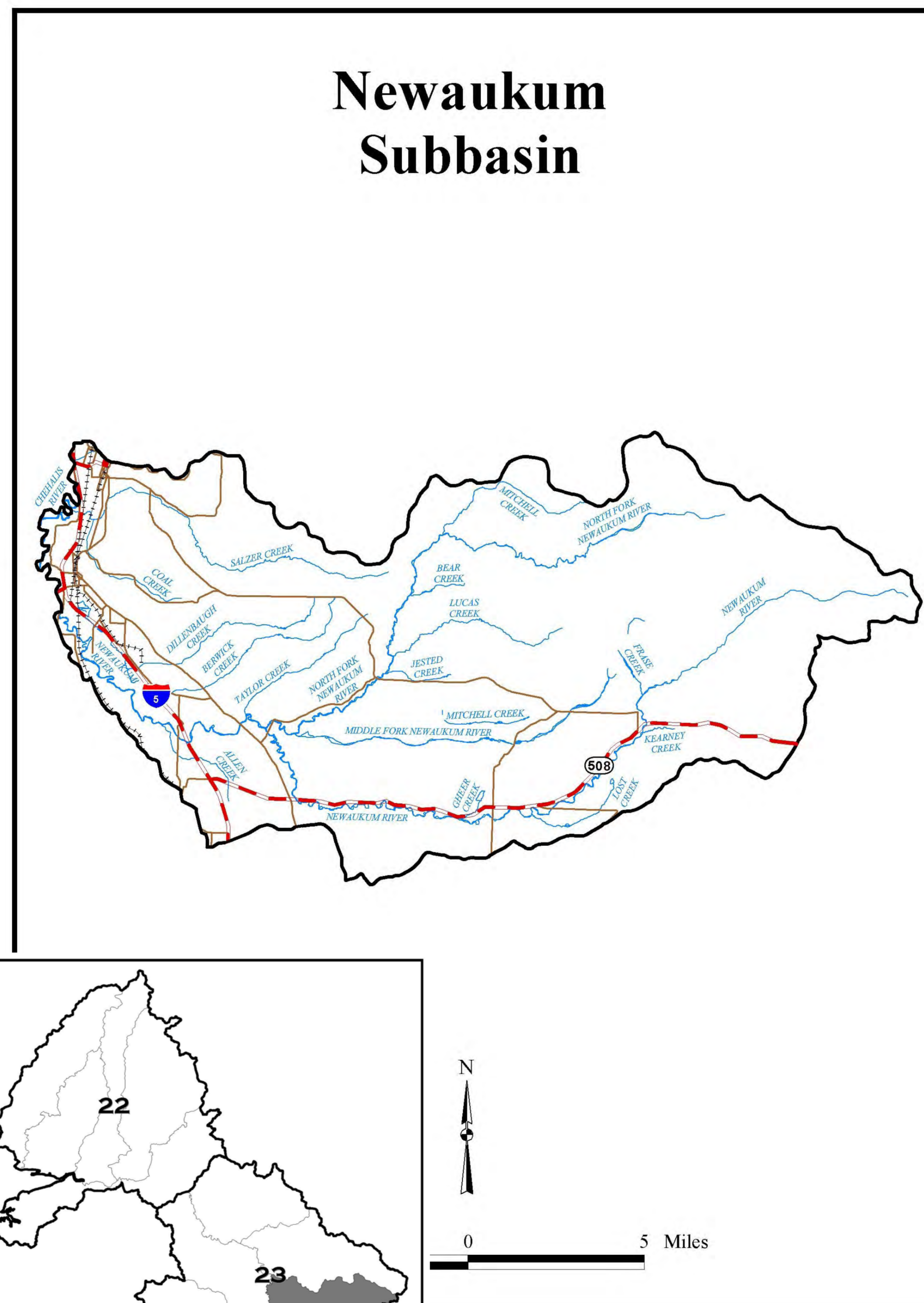
WATER QUANTITY


- Water withdrawals, changes in land coverage, loss of wetlands

WATER QUALITY: Newaukum, Berwick Creek

- High temperatures due to poor riparian canopy
- Fecal coliform (livestock access); failing septic systems
- Berwick Creek: agricultural pollution from coho kills

*Undersized structures inhibit movement of streambed material and large woody debris and contribute to channel scour directly downstream



 **Newaukum:** Spring Chinook, fall Chinook, coho, winter steelhead, and cutthroat
Salzer Creek, Coal Creek, Dillenbaugh Creek: Coho and cutthroat

RESTORATION ACTIONS

RIPARIAN

- Identify specific degrade at riparian areas for restoration needs
- Revegetate open riparian areas with native plants
- Interplant conifers and deciduous dominant areas Protect key properties of riparian habitat
- Control invasive species

FISH PASSAGE

- Correct barrier culverts / **prioritize corrections**

SEDIMENT

- Implement alternative methods of bank stabilization
- Reduce sediment loading by reducing road densities
- Upgrade logging roads
- Correct cross drains that may trigger mass wasting
- Revegetate stream/riverbanks for protection from erosion
- Install riparian fencing to exclude or reduce livestock access

WATER QUALITY:

- Determine if water withdrawals are done correctly
- Reduce water withdrawals from surface sources
- Implement activities that lead to natural recharge of aquifers

WATER QUALITY: (Newaukum, Berwick Creek)

- See Riparian actions; implement TMDL recommendations
- Work with landowners to correct failing septic systems