

Oil shale water use:

Upsetting the apple-cart of river habitat,
irrigation and existing water rights?

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Water on the Rocks

Oil Shale Water Rights in Colorado

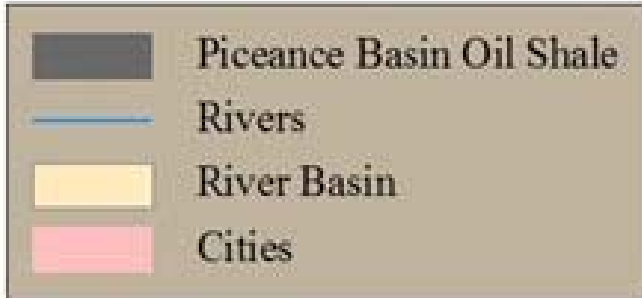
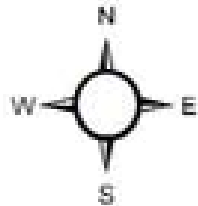
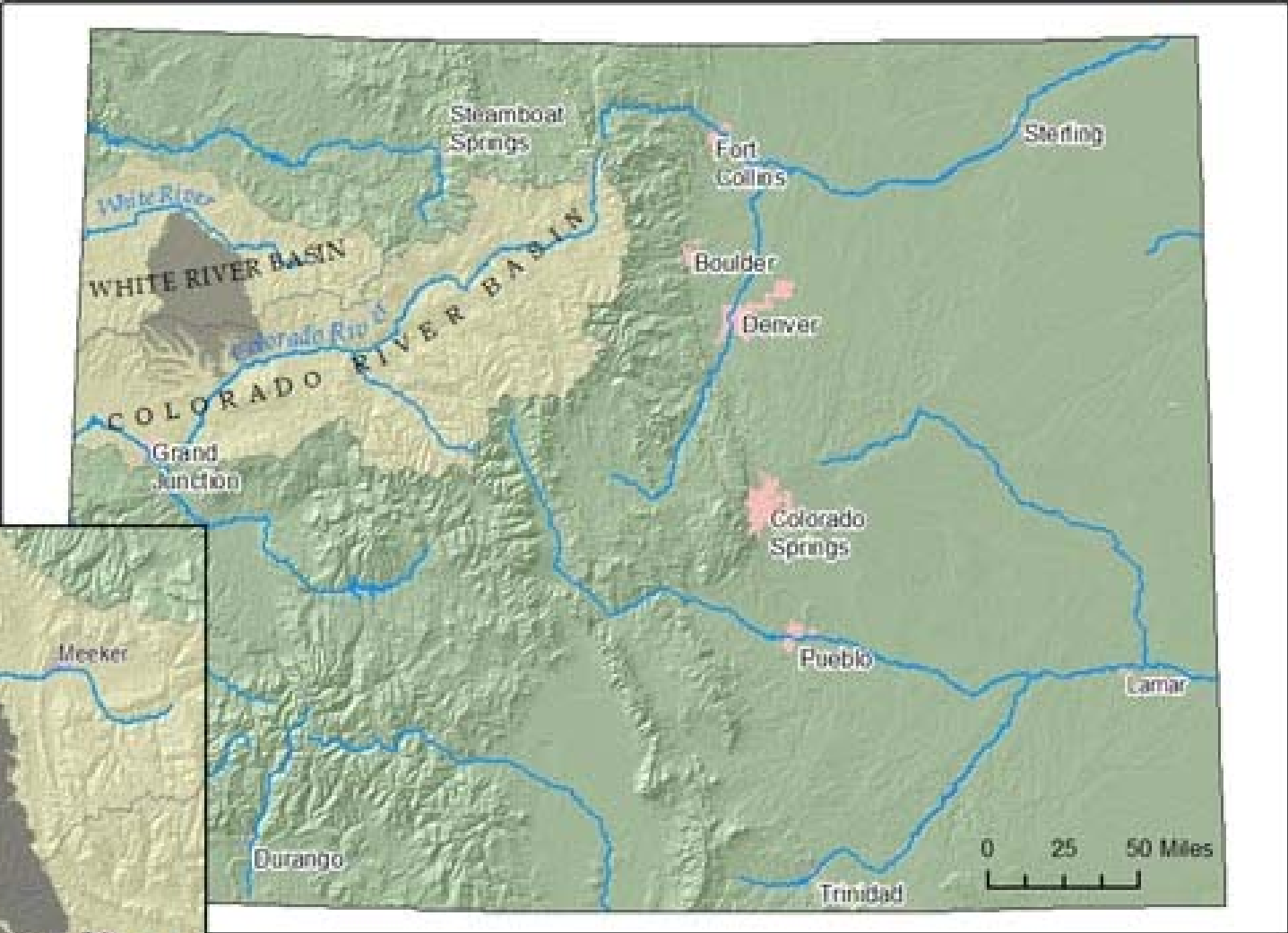
- **Western Resource Advocates:**
 - nonprofit law and policy organization protecting the West's land, air and water
 - team of economists, lawyers, & policy experts



Water on the Rocks – Scope

- Decreed Water Rights: Identifies major absolute and conditional water rights owned by energy companies and other interests that could be used for oil shale development in Colorado
- Water Requirements: Notes estimated water demands associated with commercial oil shale production
- Implications: Analyzes legal, hydrological, and policy issues affecting potential oil shale development





Absolute Water Rights – Findings

- Energy companies have decreed rights to 650 c.f.s. in more than 100 existing irrigation ditches in the Colorado and White River Basins.
- Rights centered in Piceance Basin.
- BLM (PEIS) concluded continued acquisition of absolute water rights by oil companies could eliminate much of traditional irrigated agriculture in northwest Colorado.



Photo courtesy of USDA.

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Conditional Water Rights – Findings

- Energy companies and water supply districts have conditionally decreed water rights associated with over 200 separate proposed structures in the Colorado and White River Basins that potentially could be developed to support oil shale.
- Most conditional rights have priorities from the 1950s and 1960s.
- Colorado River Basin
 - Diversions: 5,000 c.f.s.
 - Storage: 737,000 acre-feet
- White River Basin
 - Diversions: 5,700 c.f.s.
 - Storage: 1,186,000 acre-feet



Image courtesy of USBR



Figure 3. Conditional Water Rights (Ditches, Pipelines, Reservoirs) for Oil Shale Development in the Colorado River Basin

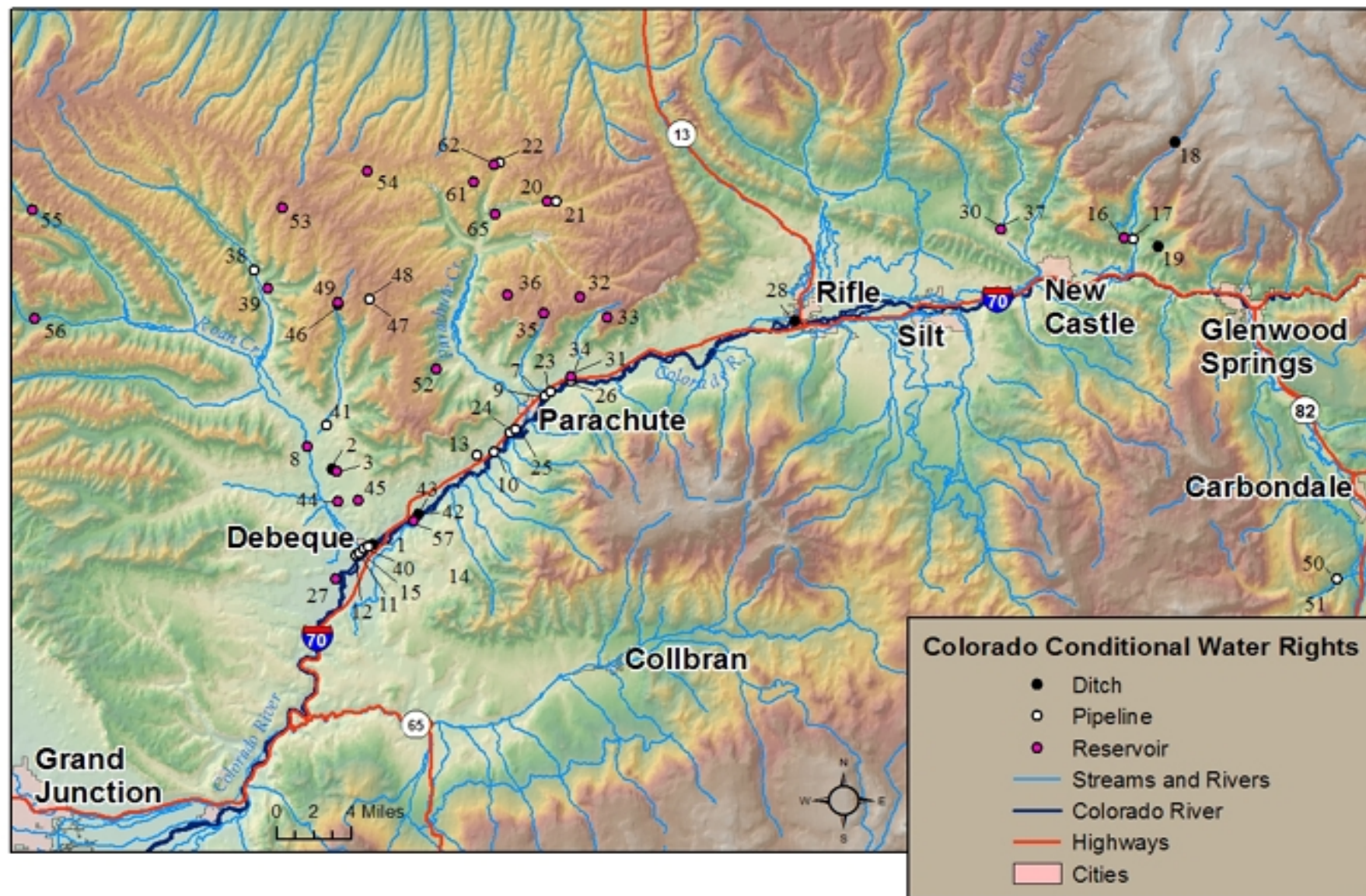
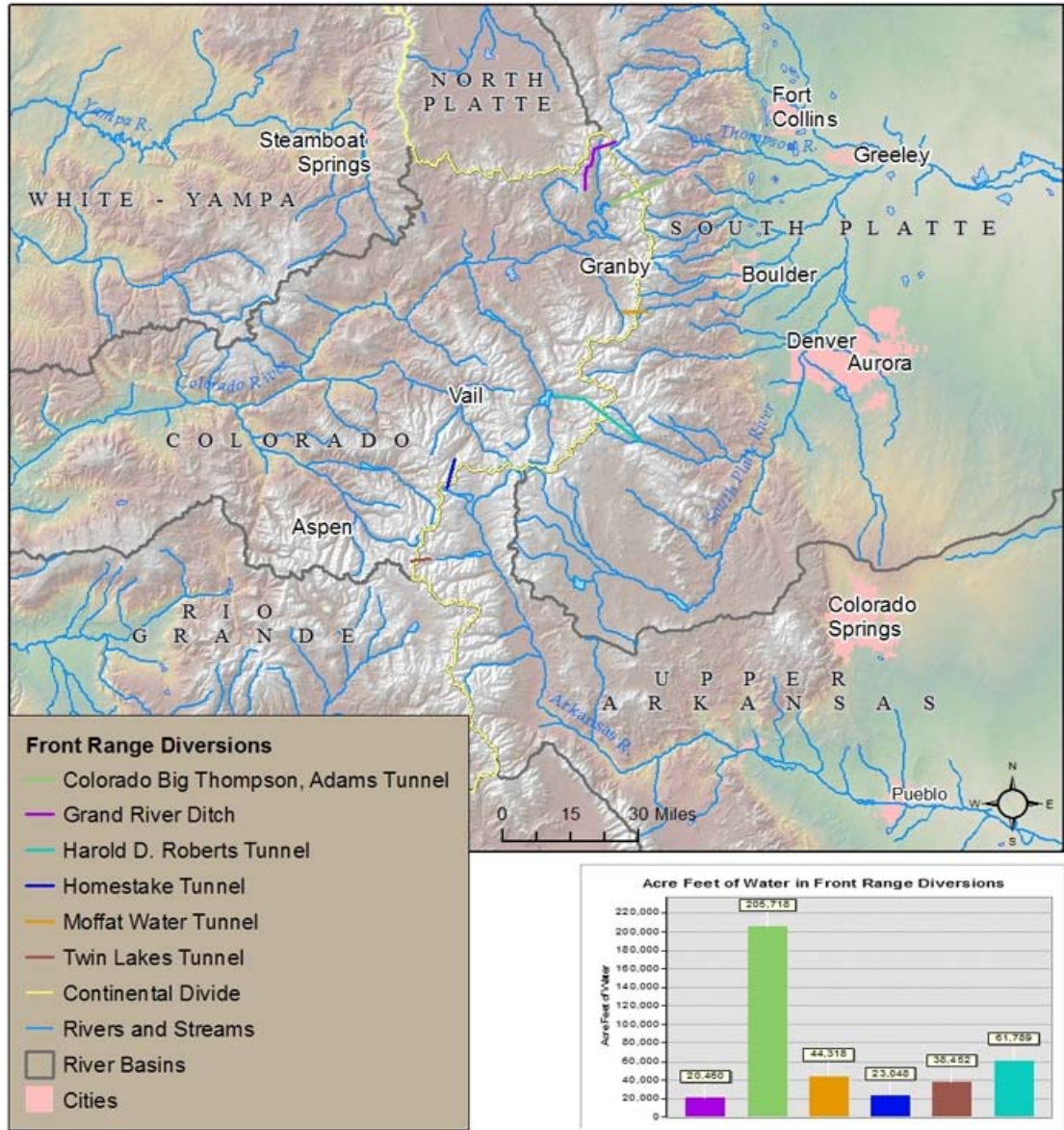


Figure 9. Major Diversions to the Front Range of Colorado



Competing Uses of Colorado River

- **Colorado River Water Conservation District:** Wolford Mountain Reservoir, which provides water for the West Slope and the Front Range, is junior to numerous oil shale water rights.
- **Denver Water:** Conditional water rights associated with projects like Williams Fork, Roberts Tunnel and Eagle-Colorado Reservoir would also be junior to many oil shale water rights.
- **Colorado Springs & Aurora:** Developed and undeveloped elements of the Homestake Project hold a priority junior to several large downstream oil shale water rights.
- **Northern Colorado Water Conservation District:** The Windy Gap project, including water rights intended to increase the project's firm yield, are junior to many oil shale water rights.



1922 Colorado River Compact

- Water rights junior to 1922 but senior to oil shale rights could become subject to a call if oil shale resulted in an over-development of Colorado's compact entitlement.
- According to CRWCD, “high-level” oil shale development and developing Colorado River Basin water for Front Range growth are “mutually exclusive.”

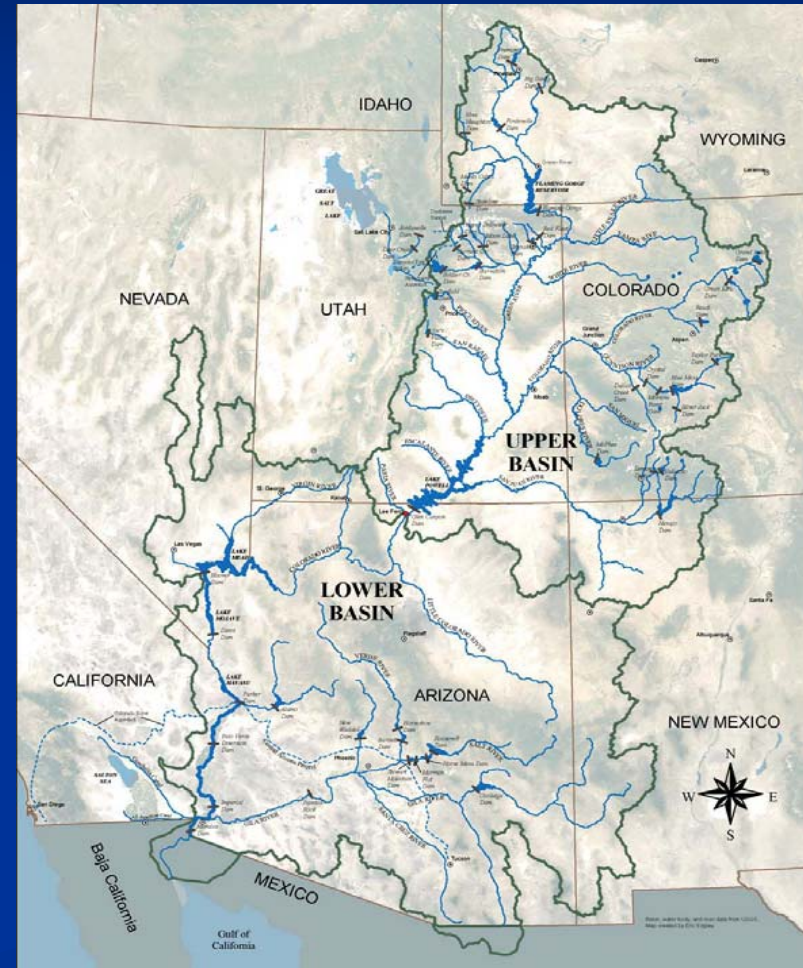


Image courtesy of Utah Division of Water Resources

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Upper Colorado River Endangered Fish Recovery Program

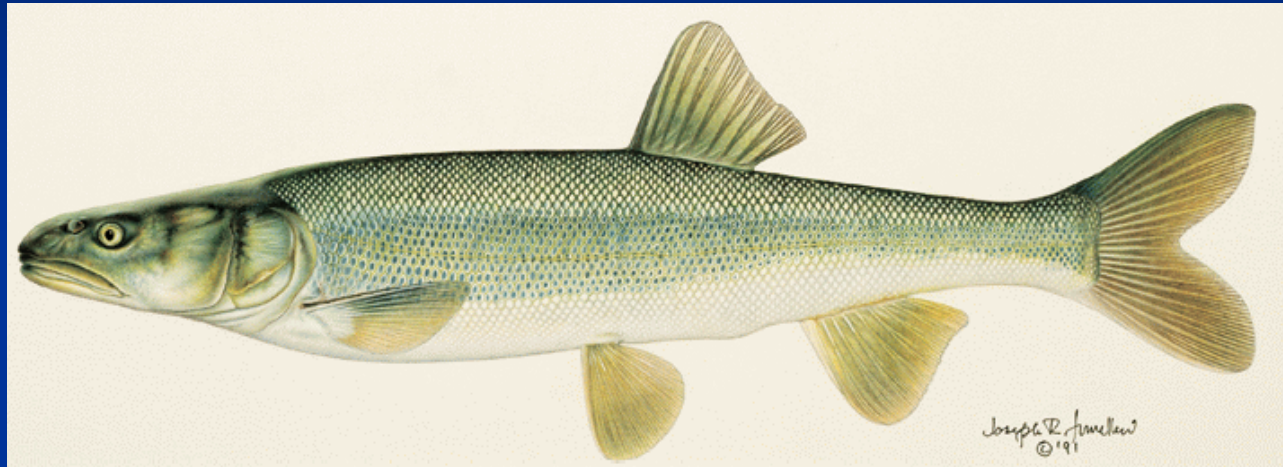


Image of Colorado River pikeminnow courtesy of USFWS

- Like the Compact, the Endangered Fish Recovery Program, developed under the Endangered Species Act, also limits the amount of water Colorado has available for development.
- The basin's four endangered fish species are the Colorado River pikeminnow, humpback chub, bonytail and razorback sucker.



What Do We Do?

- **Need information to make informed decisions:**
 - Scope and sequencing of development projects
 - Rate of water consumption
 - Power generation and climate change impacts
 - Resolving competition over shared resources
 - Impact of oil shale rights on junior rights
 - Colorado River Compact
 - Endangered fish

- **Let's not leap before we look.**



For more information and a copy of
Water on the Rocks . . .

Please visit WRA's website:

www.westernresources.org



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