Challis Volcanics Section

This section is dominated by mountain ranges, including the White Cloud Peaks, Pioneer Mountains, Smoky Mountains, Boulder Mountains, White Knob Mountains, and portions of the Salmon River Range. There are some glaciated areas. Major waterbodies include the Wood River, Big Lost River, and the Salmon River, and many perennial streams and alpine lakes exist. Elevation ranges from 1200–3600 m (4000–11,800 ft).

Climate is influenced by prevailing winds from the west and the general north–south orientation of the mountain ranges. Precipitation ranges from 25–120 cm (10 to 45 in) annually with an average of 56 cm (22 in). The majority of the precipitation occurs during the fall, winter, and spring. A rain shadow effect from the high mountain barriers to the west reduces precipitation in this section. Summers are dry with low humidity. Much of the precipitation that falls at lower elevations during summer months evaporates. The average annual air temperature is 3–10°C (34 to 50°F) but may be as low as –4°C (24°F) in the high mountains. The growing season ranges from 70 to 120 days.

Approximately half of the land is forested and major land uses are timber harvest, livestock grazing, and recreation. Mining for gold and silver is also an important use. The Wood River Valley, including Ketchum, Hailey, and Bellevue, is the population center. Development in this scenic valley has been rapid and extensive during recent decades.

Table 1. Challis Volcanics land use and land ownership.

Land use	Area (ha)	Area (ac)	Percent
Dryland Agriculture	175	71	0
Irrigated–Gravity Flow	60,488	24,479	2
Irrigated–Sprinkler	20,327	8226	1
Rangeland	1,588,153	642,705	45
Riparian	28,665	11,600	1
Rock	12,712	5144	<1
Timberland	979,230	396,282	28
Urban	1882	762	<1
Wilderness	853,220	345,287	24
Total	3,544,851	1,434,556	100

Land ownership	Area (ha)	Area (ac)	Percent
USDI Bureau of Land Management	634,857	256,918	18
USDI Bureau of Reclamation	38	15	0
USDA Forest Service	2,532,816	1,024,998	71
USDI National Park Service	7594	3073	<1

Open water	2943	1191	<1
Private	289,718	117,245	8
State of Idaho	76,884	31,114	2
Total	3,544,851	1,434,556	100

Species of Greatest Conservation Need in the Challis Volcanics

Lampreys

Pacific Lamprey *Lampetra tridentata*[a]

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*[a]
Inland Redband Trout *Oncorhynchus mykiss gairdneri*
Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*[a]
Sockeye Salmon (Snake River) *Oncorhynchus nerka*[a]
Kokanee *Oncorhynchus nerka*
Chinook Salmon (Snake River spring/summer–run) *Oncorhynchus tshawytscha*[a]
Bull Trout *Salvelinus confluentus*[a]
Wood River Sculpin *Cottus leiopomus*[a]

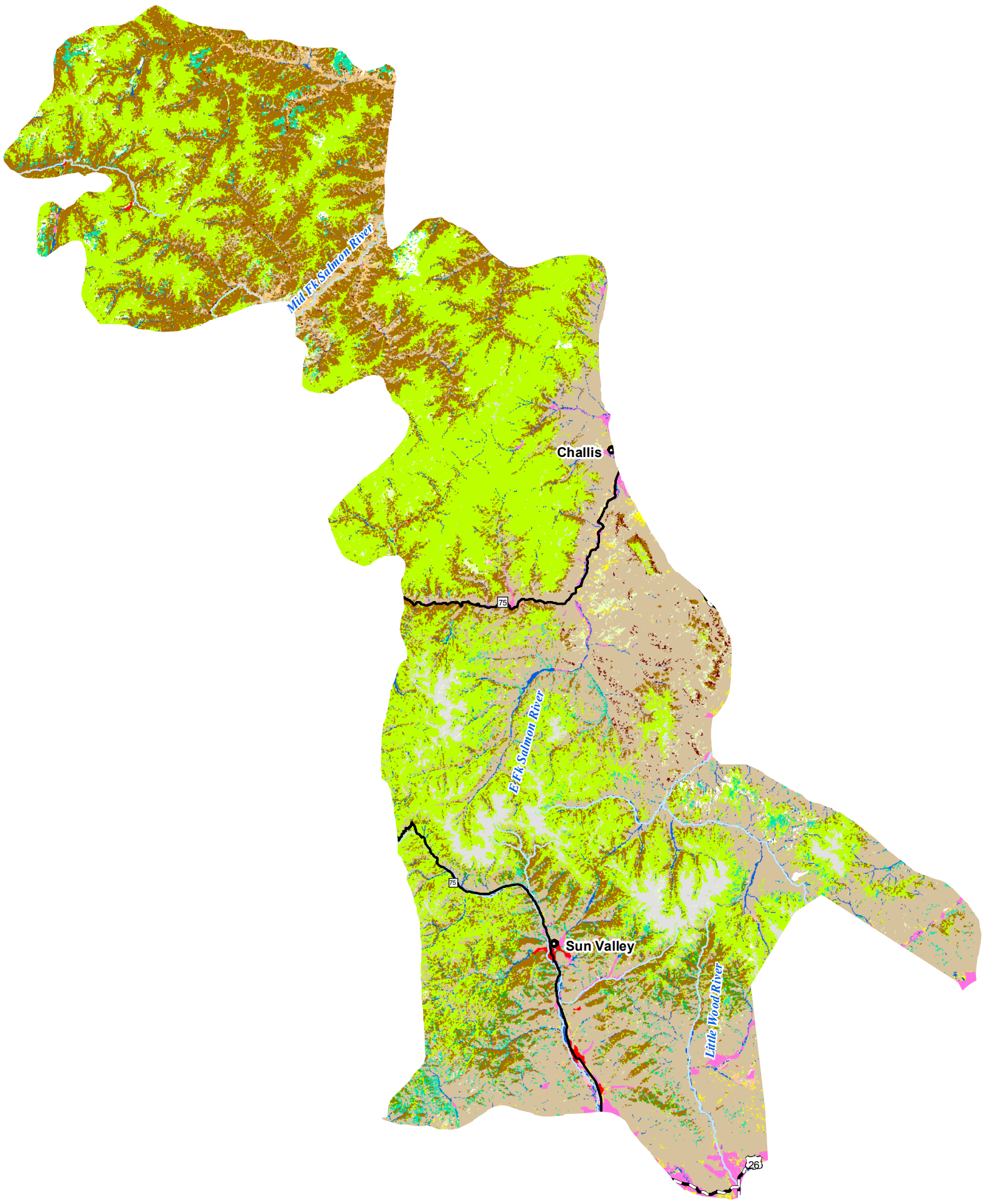
Amphibians

Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Northern Pintail *Anas acuta*
Lesser Scaup *Aythya affinis*
Greater Sage–Grouse *Centrocercus urophasianus*
Black–crowned Night–Heron *Nycticorax nycticorax*
Bald Eagle *Haliaeetus leucocephalus*[a]
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Sandhill Crane *Grus canadensis*
Long–billed Curlew *Numenius americanus*
Wilson's Phalarope *Phalaropus tricolor*
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*
Flammulated Owl *Otus flammeolus*
Burrowing Owl *Athene cunicularia*
Short–eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*[a]
Lewis's Woodpecker *Melanerpes lewis*

Challis Volcanics Ecological Section Habitats



Habitats

- Alpine
- Arableland
- Dry Conifer Forest
- Dry Grassland
- Dune, Canyon, and Rockland
- Mesic Deciduous Shrubland
- Non-native Herbaceous
- Northern Mesic Conifer Forest
- Open Water
- Riparian Woodland
- Southern Wetland
- Southern Woodland
- Southern Xeric Shrubland and Steppe
- Subalpine Forest
- Subalpine Grassland
- Upland Deciduous Forest
- Urban

Town Population

- 501 - 39067
- 39068 - 189847

Highways

- Interstate
- U.S. Highway
- State Route

IDAHO

Area Enlarged

N

0 10 20 40 Kilometers

0 10 20 40 Miles

25 July 2005
Idaho Conservation Data Center, Idaho Department of Fish and Game.

Figure 16. Challis Volcanics habitats.

White–headed Woodpecker *Picoides albolarvatus*
American Three–toed Woodpecker *Picoides dorsalis*[a]
Pygmy Nuthatch *Sitta pygmaea*[a]
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*
Black Rosy–Finch *Leucosticte atrata*[a]
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Dwarf Shrew *Sorex nanus*
Townsend's Big–eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Red–tailed Chipmunk *Neotamias ruficaudus*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*
Gray Wolf *Canis lupus*[a]
Kit Fox *Vulpes macrotis*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*[a]
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*[a]

Arachnids

A Cave Obligate Mite *Flabellorhagidia pecki*[a]
A Cave Obligate Harvestman *Speleomaster pecki*[a]

Insects

A Mayfly *Centroptilum selanderorum*
Sagebrush Spur–throat Grasshopper *Melanoplus artemesiae*
A Spur–throat Grasshopper *Melanoplus digitifer*
A Grasshopper *Argiacris keithi*[a]
A Grasshopper *Argiacris militaris*[a]
A Stonefly *Bolshecapnia milami*[a]
A Spring Stonefly *Malenka tina*
A Stonefly *Isoperla bifurcata*[a]
Blind Cave Leiodid Beetle *Glacicavicola bathyscioides*

[a] Species for which the Challis Volcanics represents a significant portion of their Idaho range.

Habitats in the Challis Volcanics

Table 2. Challis Volcanics habitats.

Habitat	Area (km²)	Area (ac)	Percent
Urban	20	4944	<1
Arableland	182	44,886	1
Non–native Herbaceous	62	15,270	<1
Upland Deciduous Forest	121	29,848	1
Southern Woodland	38	9331	<1
Dry Conifer Forest	2779	686,642	19
Subalpine Forest	5012	1,238,548	35
Mesic Deciduous Shrubland	319	78,924	2
Southern Xeric Shrubland and Steppe	4695	1,160,031	33
Dry Grassland	98	24,240	1
Subalpine Grassland	226	55,810	2
Alpine	410	101,195	3
Southern Wetland	15	3630	<1
Riparian Woodland	266	65,806	2
Dune, Canyon, and Rockland	38	9323	<1
Total	14,281	3,528,428	100

Priority Habitats and Associated Vertebrate Species in the Challis Volcanics

Dry Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*
Sockeye Salmon (Snake River) *Oncorhynchus nerka*
Kokanee *Oncorhynchus nerka*
Chinook Salmon (Snake River spring/summer–run) *Oncorhynchus tshawytscha*
Bull Trout *Salvelinus confluentus*

Amphibians

Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
White–headed Woodpecker *Picoides albolarvatus*

American Three–toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*

Mammals

Townsend's Big–eared Bat *Corynorhinus townsendii*
Red–tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Subalpine Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*
Sockeye Salmon (Snake River) *Oncorhynchus nerka*
Kokanee *Oncorhynchus nerka*
Chinook Salmon (Snake River spring/summer–run) *Oncorhynchus tshawytscha*
Bull Trout *Salvelinus confluentus*

Amphibians

Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
American Three–toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
Black Rosy–Finch *Leucosticte atrata*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Dwarf Shrew *Sorex nanus*
Red–tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*

Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Southern Xeric Shrubland and Steppe

Fishes
Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Amphibians
Northern Leopard Frog *Rana pipiens*

Birds
Greater Sage–Grouse *Centrocercus urophasianus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Long–billed Curlew *Numenius americanus*
Burrowing Owl *Athene cunicularia*
Lesser Goldfinch *Carduelis psaltria*

Mammals
Townsend's Big–eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*