Summary of Fish of Zion National Park

The rivers of Zion National Park retain their full complement of four species of native fish in healthy populations. Such a statement cannot be made for any other comparable river system in the southwest US. This rare and desirable condition is only possible because stream flow in the park is essentially natural, with all of the floods, sediment transport and periods of low flow that occurred prior to European settlement. Had large reservoirs been built upstream of the park that capture flood waters and sediment, and shift the temperature regime of the river, the native fish here would almost certainly have suffered the fate of those elsewhere.

These fish, that are so well adapted to the flood prone and sediment laden rivers of Zion, include: virgin spinedace (*Lepidomeda mollispinis mollispinis*), desert sucker (*Catostomus clarkii*), speckled dace (*Rhinichthys osculus*), and flannelmouth sucker (*Catostomus latipinnis*). Though they do well, they are not immune to difficulties when the muddy roiling flood waters pass thorough their habitats. Their populations decline during big flood events, but when the same things happen to introduced fish species, they suffer tremendously. The native fish also have the ability to recover more quickly.

Two of the native fish in Zion are managed under Conservation Agreements. These are a negotiated agreement between the state and federal governments to manage the fish for viable sustaining populations, which were developed in order to avoid a listing as threatened. The Virgin spinedace is the subject of concern because it has been lost from 40% of its already limited range in the Virgin River basin. Populations of the Flannelmouth Sucker have declined across much of its range.

It is also fortuitous that none of the exotic fish introduced to the area are well equipped for survival here. The several trout species and channel catfish found in the area are able to hang on, but not flourish at the expense of the natives. Should a species be introduced that can increase in numbers, the native fish populations in Zion could rapidly decline. This has happened downstream of Zion where the introduction of red shiners is major cause for the loss of habitat for the endangered woundfin and the Virgin chub. (The natural range of these two species does not extend upstream as far as Zion.)

Fish Distribution in ZION - by Stream

Fish distribution and abundance in ZION waters is controlled by:

- The natural range of the fish species dictated primarily by the size of the stream and water temperature,
- Barriers to fish movement, and
- The occasional occurrence of harsh conditions (such as floods in the Narrows).

North Fork of the Virgin River

All four species of native fish are abundant in the North Fork of the Virgin River from the south boundary to near the bottom end of the Narrows where the number of fish drops sharply. This is likely due to a combination of a reduction in the primary productivity of the stream because it receives so little sunlight and the great amount of bed scour and high water velocities that occur during floods. The number of people wading in the lower narrows probably contributes to this decline. Exotic cutthroat, rainbow and

brown trout are found in small numbers from about Big Bend to the bottom of the Narrows. These were introduced by stocking many years ago and are able to reproduce in small numbers. It is also possible that some trout are able to survive the transit down from Kolob Reservoir. The best area for visitors who want to fish is up and down stream from the Temple of Sinawava, and their removal of trout will benefit the native fish.

Fish populations in the Narrows are low with all of the above species present except for Virgin spinedace. The same cadre of fish species continues upstream of the Narrows with trout numbers increasing.

Tributaries in Zion Canyon

The small streams that flow into the North Fork of the Virgin River in Zion Canyon may be very important habitat for native fish. These are mostly fed by springs that flow for short distances to the river, and include, Sinawava Spring, Menu Falls, Echo Canyon, Grotto Spring, Heaps Creek, Wylie Retreat, Birch Creek and the lower end of Pine Creek. The flows of a few gallons per minute up to 2 cubic feet/second are commonly occupied by native fish, and are believed to be important rearing habitat for young fish.

East Fork of the Virgin River

The East Fork of the Virgin River is consistently one of the best producers of all four native species in the entire Virgin River system, both in terms of number of fish and their density. It appears to be productive from its confluence with the North Fork upstream until the canyon narrows significantly and there are barrier falls near the east boundary of the park. Upstream of Labyrinth Falls only desert sucker and speckled dace are found. Exotic fish species are rare throughout. The tributary Shunes Creek contains Virgin spinedace, speckled dace and desert suckers in small numbers even though its summer flow drops to 0.5 cfs and it is lowest reach is often dry during the summer months.

North Creek

North Creek has a checkered history of being a very good producer of native fish, with occasional negative events that have wiped out entire populations. Given consecutive years of stable flows, North Creek downstream of the park boundary will have good numbers of virgin spinedace, desert suckers and speckled dace with and occasional flannelmouth sucker. However, these have been eliminated twice in recent years, first by having the channel dry up completely by agricultural diversions during the exceptionally dry year of 2002, then recently when a large flood followed shortly after the Kolob Fire during July 2006. In each case the stream was restocked with native fish by the Utah of Wildlife Resources to speed the natural restocking that would have occurred.

In the park, upstream of a barrier falls at the park boundary, desert suckers, speckled dace and exotic rainbow trout are found. The trout are abundant enough to attract a few backcountry fishermen. The fish continue upstream into the lower left and rights forks to the point where the channels become too steep or bedrock lined for fish to survive flood events.

La Verkin Creek

No fish are found in La Verkin Creek in the park. The route of colonization is blocked at Chute Falls 5 miles downstream of the park.

Coalpits Wash

Any fish in Coalpits Wash would be recent and temporary colonizers. Flow in Coalpits Wash is not continuous enough for self sustaining populations of fish.

Fishes in Zion National Park

Species	Native / Introduced	Distribution [1]	Abundance	Relative Adult Size	Life History Information
Virgin Spinedace *Lepidomeda mollispinis mollispinis*	Native	Limited t the headwater streams in the Virgin river Drainage. In ZION - NF, EF	Abundant	Medium 4-6 inches	Predator on aquatic insects and small fish. Visual feeders. Looks like a smaller version of a trout and has similar feeding patterns.
Desert Sucker *Catostomus clarkii*	Native	Colorado River and tributaries below Grand Canyon. In ZION - all waters with fish.	Abundant	Large 8-15 inches	Active feeder on rocks and streambed. Omnivorous consumers of aquatic invertebrates, and vegetative matter.
Speckled dace *Rhinichthys osculus*	Native	Widespread in the western US. In ZION - all waters with fish	Abundant	Small 2-3 inches	Omnivorous. Virgin River fish have two genotypes, one typical of the lower Colorado system, the other from the Sevier River system, indicating some stream capture has occurred.
Flannelmouth Sucker *Catostomus latipinnis*	Native	Widespread in the Colorado River Basin, though declining in much of its range. In ZION - NF, EF, NC.	Abundant, though in smaller numbers than other native species	Large 12-25 inches	Active feeder on rocks and streambed. Omnivorous consumers of aquatic invertebrates, and vegetative matter.
Channel Catfish *Ictalurus punctatus*	Introduced	Native to Mississippi River system. In ZION - found only rarely downstream of ZION.	Rare	Large 12-30 inches	Omnivorous. Can be a significant predator on native species.
Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*	Introduced	Native to Great Basin streams. In ZION - upper NF & upstream.	Uncommon	Large 10-15 inches	Predator on aquatic insects and small fish. Visual feeders.
Rainbow Trout *Oncorhynchus mykiss*	Introduced	Native to Eastern U.S. In ZION - Upper NC	Common	Large 10-15 inches	
Brown Trout *Salmo trutta*	Introduced	Native to Europe. In ZION - upper NF & upstream.	Uncommon	Large 12-15 inches	
Brook Trout *Salvelinus fontinalis*	Introduced	Native to Eastern U.S. In ZION - upper NF & upstream.	Rare	Medium 7-12 inches	

[1] Abbreviations for Distribution: NF = North Fork of the Virgin River and its small tributaries in Zion Canyon; EF = East Fork of the Virgin River: NC = North Creek

Other species have been reported from single observations, some of which are questionable. These have been omitted from this table.

Dave Sharrow, updated 6-2007