State of California 470 The Resources Agency

Memorandum

To : Fisheries Management, Region 5 Date: June 3, 1980

From : Department of Fish and Game - CFWB, Glenn Black

Subject: Fisheries Survey of Salt Creek Drainage

A survey of the Salt Creek drainage was conducted on May 12-14, 1980, in order to better define the distribution and relative abundance of the desert pupfish population found there in a previous survey (memo of 1/25/80).

Sampling was carried out with minnow traps baited with cat food. Twenty-one traps were set overnight along a 5.6 km (3.5 mile) section of the creek (township 8 S, Range 11 E, Sections 14, 15, 22, 23, 27, and 28). Twenty-four desert pupfish were captured along with 89 crayfish, 6 longjaw mudsuckers, 2 mosquitofish, and 1 sailfin molly. Traps were set in waters ranging from 13 to 55 cm (5.1 - 21.7 in) in depth with temperatures as high as 21°C (70°F); air temperatures were as high as 31°C (87°F). Conductivity at selected sites ranged from 2200 to 3350 umhos.

The catch composition of the traps found during this survey was not a true indication of the abundance or distribution of the desert pupfish or the other species of fish in Salt Creek. Large numbers of pupfish, sailfin mollies, and mosquitofish were observed when the traps were initially placed in the water (afternoon of 5/12). Tilapia were also observed in a section of the creek below a natural barrier, but were not trapped. The reason for the discrepancies between what species were observed when we set the traps and the species present in the traps the next morning is reflective of a greatly increased flow in the creek during the next 12-18 hours after the traps were set. This was due to releases of water from siphon 24 along the Coachella Canal on 5/12 that flowed into Salt Creek, pushed the traps downstream as much as 100 yards, and greatly increased the turbidity of the water.

Possibly, a more realistic indication of pupfish abundance (at least above the natural barrier, Figure 1) would be the 19 pupfish and 3 mosquitofish found in a trap reset for one hour at a site which the previous day, during greatly increased flows, had yielded only 4 crayfish.

Much time was spent in looking for the permanent water coming from the seeps shown in sections 9, 15, 16 and 22 on the 1956 U.S.G.S. topographic map of the area. Little or no water was found in these areas, so little that fish would not be capable of surviving.

It is important to note that although the habitat above the natural barrier is excellent for desert pupfish, as exhibited by the large numbers observed, it is a habitat that will surely disappear if this portion of the Coachella Canal is ever concrete-lined; before the canal was built there was no permanent water in Salt Creek (U.S.G.S. Water Supply Paper 497, 1923).

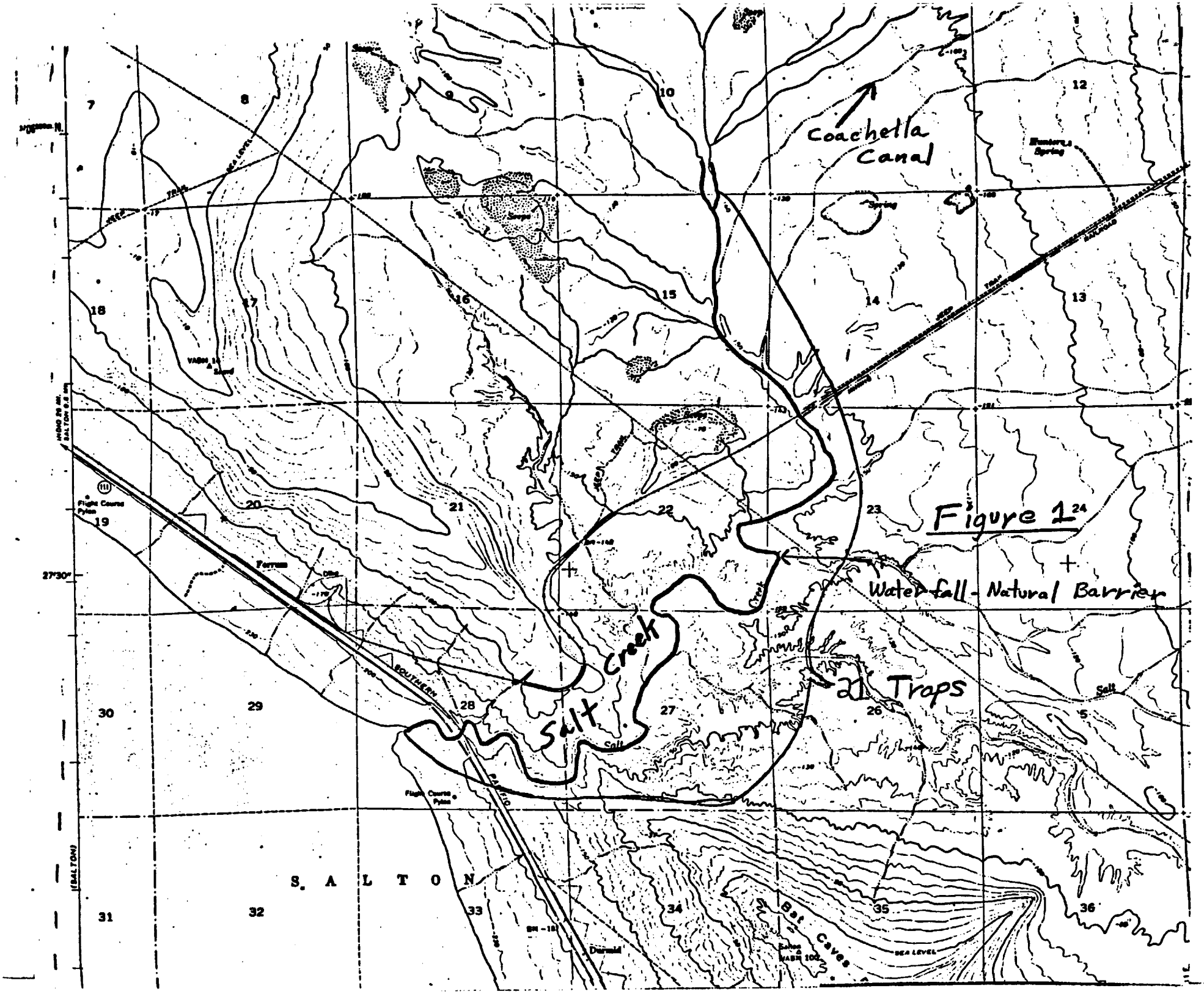
I would like to thank Ellen Gleason, Frank Hoover, Al Ashley, Tai Yoshimura, and Rose Maher for their help in conducting this survey.

Glenn Black

GLENN BLACK
Fishery Biologist

GB/saa

cc: CFWB, Blythe, Desert Pupfish Committee Members
Lt. J. Harris


Coachella Canal
Figure 1
Waterfall - Natural Barrier
Salt Creek
21 Traps
SALTON
Bat Caves