NEVADA DIVISION OF WILDLIFE
1993 USFS-NDOW COOPERATIVE STREAM SURVEY AND INVENTORY

OBJECTIVES:

To conduct intensive habitat and fish population surveys on about 65 miles of stream within the East Fork Jarbidge River Drainage.

To conduct an intensive habitat assessment on the South Fork Humboldt River located on State owned lands located upstream of the reservoir.

PROCEDURE:

The USFS-NDOW Cooperative Stream Survey and Inventory Team in NDOW's administrative Region II consisted of the principle investigator serving as crew leader and three temporary personnel. The field season extended from June 7 through October, 1993. One summer temporary only worked through August due to his having to return to college. Stream survey and inventories consumed 13 weeks of field work. Above average snowpack in 1993 prevented survey work in the East Fork Jarbidge River from beginning in June as planned. Hence, an alternate survey area at lower elevations was chose for work in the Rock Creek Drainage of the Humboldt River Basin. Work in the East Fork Jarbidge River Drainage began the second week of July after streamflow in a first order stream had subsided from a measured 17 cfs on June 29 to 7.6 cfs on July 14.

Stream survey methodology followed procedures outlined for the GAWS Level III survey in the USFS-Region 4 Habitat Surveys Handbook. On locating a sample station from the preplotted, USGS 7.5 minute topographic map, the crew would conduct a one-pass fish capture effort with a Dirigo 700 backpack electroshocker over a distance of 100 feet. A fish blocknet was placed at the downstream end of each electrofished section. Captured fish were placed in a bucket, identified, measured (fork length), weighed and returned to the stream. Game fish were examined for relative body condition. Fish seen escaping the electric field or otherwise lost during capture or processing were recorded. Relative quantitative and qualitative information on aquatic invertebrates were assessed at each survey site via substrate particle and stream observation. Habitat transects began 100 feet upstream of the beginning of each station.

Stream measurements to determine discharge were taken over a uniform length of flowing water where, such an area could be found at a station. Stream velocity was determined by the average of several floating object time trials. Air and water temperature were taken at each station using a pocket mercury thermometer.

Fish population data was summarized for each stream. GAWS habitat data was entered and analyzed on IBM compatible PC and backed-up on

floppy disc. A report will be prepared for each surveyed stream. Computer data, reports and slides will be provided to the Humboldt National Forest upon completion.

FINDINGS AND ANALYSIS:

Intensive surveys were conducted over 16.95 miles on three previously unsurveyed streams within the Rock Creek Drainage. (Appendix 1). While there is evidence that Lahontan cutthroat trout were caught by anglers (1940 circa) in Trout Creek, only native dace and suckers were found inhabiting the stream in June. Both Coyote Creek and Soldier Creek had only dace. A common denominator to all three streams is the undesirable riparian conditions , "poor" bank cover and stability ratings and minimal percent stream canopy readings. These factors alone would prevent year-round trout residency. Streambank damage caused by ungulates was rated as "moderate" over the three streams.

Intensive surveys on the Forest portion of the East Fork Jarbidge River drainage encompassed 49.49 miles. Redband/rainbow trout were the dominant fish found in the drainage. Bull trout were only found at 8 of 37 (21.6%) fish population sites that had fish. Bull trout occupied only the two highest elevation sites on the East Fork Jarbidge River and Dave Creek. The lowest elevation site on two unnamed tributary streams of Slide Creek held subcatchable bull trout while, only one bull trout was collected in the mainstem of Slide Creek. An ocular of two adult trout at Station 1 in Fall Creek was included as a possible bull trout sighting although, only redband\rainbow trout were collected elsewhere in the drainage. Stream habitat conditions were stable as is indicative of Rosgen's A-2/A-1 type channels of which most sites were. Pool quality was the most limiting factor within the East Fork Jarbidge River and tributary streams.

The mean HCI rating of the State owned reach of South Fork Humboldt River above the Lucky Nugget Causeway was 70.7 or "good". The most limiting feature of the surveyed reach was pool:riffle ratio wherein, riffles were scarce. The reach was classified as a Rosgen's C-3 type channel. Streambottom embeddedness ratings averaged 55.6% or "heavy". Shade canopy was lacking due to the absence of a tree canopy. The riparian conditions were rated mostly "good" in the willow, grass, forb, rush, and sedge community.

RECOMMENDATION:

The Region II stream survey effort should conduct surveys within the Jarbidge River drainage (below the Forest Boundary) and East Fork Bruneau River drainage (Elk Mountain). Surveys within these areas are needed to delimit bull trout distribution in Nevada.

SUMMARY OF THE 1993 USFS-NDOW COOPERATIVE STREAM SURVEY AND INVENTORY IN NDOW REGION II (ELKO COUNTY)

Drainage	Stream	Surveyed Miles	Land Status	Habitat Stations	HCI	Percent Ungulate Use	Discharge Range cfs	Percent Embeded	Fish Pop Stations	Species** Present	Trout Species No./mi.	Occupied Miles
EFJR	Cougar Ck	3.90	FS	5	63.4	0.0	1.13 - 1.59	9	5	Rb	158	1.5
RCD1	Coyote Ck	4.05	PVT/BLM	6	56.5	36.2	0.04 - 0.53	38	6	Da		
EFJR	Dave Ck	2.75	FS	4	53.3	7.3	2.54 - 12.18	15	4***	Rb/Bt	211	1.2
	Tributary	2.05	FS	1	60.8	2.5	0.53	28	1	None		
JRD-ID	E.F. Jarbidge R.	13.50	FS	13	73.3	4.2	1.20 - 10.17	16	13	RbBtScDa	317	13.3
EFJR	Fall Ck	3.75	FS	5	59.3	0.0	2.44 - 14.66	16	5	Rb/ Bt	145	1.5
	Tributary A	1.79	FS	2	64.4	0.0	4.20 - 5.69	9	2	Rb	53	0.4
	Tributary B	1.70	FS	3	51.8	0.0	2.08 - 3.87	12	2	Rb	53	0.3
SCD	Gods Pocket Ck	3.57	FS	5	60.4	0.0	0.85 - 2.86	5	5	Rb	106	0.4
RCD2	Jim Bob Ck	2.30	FS	3	68.3	6.0	0.53 - 0.69	19	3	Rb	211	0.8
EFJR	Robinson Ck	6.17	FS	8	62.0	21.9	0.57 - 2.90	24	8	Rb	475	4.9
EFJR	Slide Ck	5.40	FS	7	63.0	2.1	0.85 - 6.71	29	7	Rb/Bt/Sc	185	5.0
	Tributary A	1.46	FS	3	63.5	0.0	0.88 - 1.91	21	3	Bt	370	0.5
	Tributary B	1.15	FS	2	55.9	0.0	0.11 - 0.14	22	2	Rb/Bt	53	0.5
CCD	Soldier Ck	4.70	PVT/BLM	5	61.6	44.0	0.18 - 0.42	35	5	Da		
HRD	S.F. Humboldt R.	2.40	STATE	4	70.7	4.3	12.18 - 12.43	56	0	No Data		
RCD1	Trout Ck	6.10	PVT/BLM	7	57.8	37.3	0.07 - 1.77	32	7	Da/Su		
	Upper Tributary	2.10	PVT/BLM	3	48.7	38.3	0.11 - 0.99	27	3	None		
TOTALS		68.84		86					81			30.3

*Drainage Abbreviations:
CCD - Coyote Creek
EFJRD - East Fork Jarbidge River
HRD- Humboldt River
JRD-ID - Jarbidge River- Idaho
RCD1-Rock Creek
RCD2-Robinson Creek
SCD-Slide Creek

**Species Abbreviations:
Bt - Bull trout
Rb - Redband/Rainbow trout
Sc - Sculpin
Su - Sucker
Da - Dace

***Dave Ck fish populations were resurveyed under lower stream flows (2.03 - 3.93 cfs).