

STUDY PERFORMANCE REPORT

State: Michigan

Project No.: F-80-R-3

Study No.: 692

Title: Influence of total length and condition at stocking on chinook salmon survival and time at large.

Period Covered: October 1, 2001 to September 30, 2002

Study Objectives: There are seven main objectives identified for this project. 1) To evaluate the influence of the total length of stocked chinook salmon on post-stocking survival. 2) To evaluate the influence of total length of chinook salmon at stocking on the age and size of fish returning to spawn. 3) To evaluate the cost per return of small versus large stocked chinook salmon. 4) To evaluate the influence of condition on survival of chinook salmon stocked at the same size. 5) To evaluate the influences of high and low condition on the return size and age of chinook salmon stocked at similar sizes. 6) To determine the cost per return of chinook salmon at two condition levels.

Summary: Fish for this study were to be stocked for three years beginning in 2001. Two years of stocking have been completed. The portion of the study evaluating the condition of chinook salmon at stocking has not yet been initiated due to delays in hatchery renovations at the Thompson hatchery and the need to work out appropriate rearing techniques to complete this objective. Recovery of tags has begun. Only thirteen fish had been returned and analyzed to date.

Findings: Jobs 1 and 2 were scheduled for 2001-02, and progress is reported below.

Job 1. Title: Stock Fish.—The stocking plan called for stocking 100,000 fish of two size categories, large (>90 mm) and small (< 75 mm) at four locations for 3 years. Stocking locations are Swan River, Medusa Creek, Little Manistee River, and St. Joseph River. All large fish for this study are raised at the Wolf Lake State Fish Hatchery and all small fish are raised at the Platte River State Fish Hatchery. Actual stocking numbers for years 2000 and 2001 are presented in Table 1. Fish quality assessments have been conducted on each treatment prior to stocking and data are being compiled for future evaluations. The year 2003 will be the last year of stocking for this study.

Job 2. Title: Recover tags.—A total of 13 fish has been returned and analyzed to date. Twelve of the 13 fish were large fish raised at the Wolf Lake State Fish Hatchery. The majority of the fish (N=9) were recovered near Grand Haven in Lake Michigan. One small fish raised at the Platte River State Fish Hatchery was recovered near Port Huron in Lake Huron.

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Table 1.—Actual number of marked chinook stocked per treatment and location in 2001 and 2002.

Stocking Location	2001		2002	
	Large (>90 mm)	Small (<75 mm)	Large (>90 mm)	Small (<75 mm)
Swan River	102,749	84,703	96,739	101,470
Medusa Creek	94,462	75,348	102,589	104,254
Little Manistee River	98,978	79,719	101,851	101,748
St. Joseph River	71,070	85,751	77,059	77,327