# Fish Entrainment at the Lower Yellowstone Diversion Dam, Intake Canal, Montana 1996 - 1998



Prepared by: Steve Hiebert, Rick Wydoski and Tom Parks

U.S. Department of Interior Bureau of Reclamation Denver Office Montana Area Office Prepared in Cooperation: Montana Fish, Wildlife, and Parks and Lower Yellowstone Irrigation Project



April 2000

# **EXECUTIVE SUMMARY**

This study, conducted from 1996 to 1998, estimates fish entrainment into the Intake Irrigation Canal (Intake Canal), Montana, and provides baseline fishery data on the Lower Yellowstone River. This information is critical for any future canal headwork modifications.

Initially nets were designed in 1996 specific for the study site, and sampling of fish entering the canal at the headworks began in June 1996. More intense sampling occurred in 1997 with frequent netting over the irrigation season and for eight 24-hour periods. In 1998, data on all species were collected over the irrigation season, but maintaining live collection of sturgeon chub was emphasized. The sturgeon chub were used for reintroduction in native waters and as brood stock for culture facilities. Debris entrained was frequently quantified during 1996 and 1997, and is available for incorporation into possible future screen designs and debris handling equipment.

The Intake Canal is unscreened, and relatively large flows from the Yellowstone River into the canal exceed 1550 cfs from mid-May to mid-September. The diversion is controlled through 11 sluice conduits, and fish enter these because they are unscreened. Potentially significant fish entrainment from the Yellowstone River had not been estimated. This study provides those important values. Estimates were obtained by collecting all fish from 2 to 4 of the 11 conduits with fyke nets set in the flows. During 1996, netting techniques were tested and refined using two conduits. Over the irrigation season in 1997, a total of 8,374 fish was netted. Included in this 1997 sampling were 8 days of 24 hour sampling, as well as a tagging program where 975 netted fish received Floy tags and were returned to the canal. The fish were tagged to determine recapture factors for more accurate entrainment estimates. Thirty-four species were sampled; 25 were native species. Native species—stonecat, flathead chub, sturgeon chub, goldeye and sauger-comprised the highest numbers collected. Average entrainment in 1996 and 1997 was 1.75 and 0.99 fish per acre-foot, respectively. Entrainment rates of individual species varied with month, time of day, and turbidity, over the irrigation season when with entrainment flows into the canal were relatively constant. Diel differences in entrainment for many of the native fish were most pronounced later in the irrigation season when river clarity increased.

The 1998 entrainment netting collected 4,529 fish which included 744 sturgeon chub. About 400 of these sturgeon chub were transported live to restocking or culture facilities. Sauger were the most frequent species encountered. Surprisingly, shovelnose sturgeon accounted for a noticeable high percentage (8 percent) of fish in 1998.

Estimates of total entrained fish were extrapolated from monthly average entrainment rates summarized over the irrigation season. The total estimated number of entrained fish in

1996 was 537,459  $\pm$  198,908. Estimates of total fish entrained in 1997 and 1998 were 382,609  $\pm$  24,487 and 809,820  $\pm$  154,000, respectively. The Lower Yellowstone River appears to be a highly productive system, in spite of entrainment at Intake Canal and other irrigation facilities. Fish numbers in the river remain large.

Reducing the entrainment of fish into Intake Canal could be accomplished by one or more of the following:

◆ Relocating the intake area away from the shore toward the center of the river.

✦ Placing louvers and positive barrier screens either in the river at the Intake headworks or within the canal.

✤ Installing a device to move upstream migrating fish away from the bankline and the headwork mouth of Intake.

Screening within the river, proximate to the Intake Canal headworks, should be modular and designed for seasonal removal to avoid winter ice damage. Effective within-canal screening must include a by-pass system to return fish to the river and be designed to minimize predation. Other techniques, such as sound, lights, or electricity —singly or in combination with other methods— could guide fish away from the canal and reduce entrainment.

# **Table of Contents**

 $\frac{1}{2}$ 

-----

<u>}</u>

EXECUTIVE SUMMARY i
INTRODUCTION
METHODS AND MATERIALS
1996 RESULTS
1997 RESULTS17Monthly entrainment201997 Tagging results23Turbidity24River Flows25Individual Fish Species Results - 199726
1998 RESULTS
DISCUSSION       47         Fish Entrainment and Yellowstone River Flows       49         Fish Entrainment Reduction       53
ACKNOWLEDGMENTS
LITERATURE CITED
APPENDIX
Tables
Table 1       List of fishes Collected at Intake Diversion, Montana (1996, 1997, and 1998)      12
Table 2Estimated entrainment rates of all species collected in1996 at Intake Canal. Rates are in fish per acre-foot with the standard error of the daily mean in parenthesis. The last row represents estimates of the monthly total acre feet passed into the Intake Canal using staff gauge readings in the canal15
Table 3       Summarized length and weight measurements of fish from 1997, Intake Canal.       19
Table 4Estimated entrainment rates (fish per acre-foot ± one standard error of the mean) from fish collected in 1997 at Intake Canal. The last row provides monthly estimates of total acre feet passed into the Intake Canal

Table 5	Percentage of tagged fish re-collected at each net during 1997.	

Ĵ

Ύ.

Table 6	Estimated entrainment rates (fish per acre-foot $\pm$ one standard error of the mean) from
	fish collected in 1998 at Intake Canal. The last row provides monthly estimates of
	total acre feet passed into the Intake Canal

# Figures

Figure 1	Schematic of netting apparatus and cable guide placement Intake Canal, Montana used over 1996-1998
Figure 2	Percent composition of the fish collected with entrainment nets in the Intake Canal, 1996
Figure 3	Percent composition of the 6 dominant fish and other fish collected with entrainment nets at Intake Canal 1996
Figure 4	Species composition of the collected entrained fish during the entire 1997 irrigation season, Intake Canal
Figure 5	Species composition of fish collected from Intake Canal, 1997
Figure 6	Results of fish collected with entrainment nets, tagged, and released back into Intake Canal during the 1997 irrigation season
Figure 7	Flows in the Yellowstone River at Sidney, Montana from May 15 to September 30, 1996,1997 and 1998
Figure 8	Length-weight relationship and length frequency of stonecat collected in 1997 in the Intake Canal
Figure 9	Length-weight relationship and length frequency of flathead chub collected in 1997 in the Intake Canal
Figure 10	Length-weight relationship and length frequency of sturgeon chub collected in 1997 in the Intake Canal
Figure 11	Length-weight relationship and length frequency of goldeye collected in 1997 in the Intake Canal

	Figure 12	Length-weight relationship and length frequency of sauger collected in 1997 in the Intake Canal
	Figure 13	Length-weight relationship and length frequency of longnose dace collected in 1997 in the Intake Canal
Ŭ.	Figure 14	Western Silvery Minnow and Eastern Plains Silvery Minnow grouped together and their length-weight relationship and length frequency collected in 1997 from the Intake Canal
	Figure 15	Longnose sucker length-weight relationship and length frequency collected in 1997 in the Intake Canal
	Figure 16	Carp length-weight relationship and length frequency from fish collected in 1997 at the Intake Canal, Montana
	Figure 17	Length-weight relationship and length frequency of drum collected in 1997 in the Intake Canal
	Figure 18	Length-weight relationship and length frequency of channel catfish collected in 1997 in the Intake Canal
	Figure 19	Length-weight relationship and length frequency of river carpsucker collected in 1997 in the Intake Canal
	Figure 20	Species composition of the fish collected with entrainment nets at Intake Canal, Montana, 1998
	Figure 21	The relative percentage of fish collected by night and day from June 1998 in the Intake Canal, Montana
1	Figure 22	Estimated total numbers of sturgeon chub entrained by month over the 1998 irrigation year
	Figure 23	Estimated total numbers of sauger entrained by month over the1998 irrigation year 46
	Figure 24	Total fish entrainment estimates for 1996 and 1997 calculated monthly from averaged daily entrainment rates and Intake canal flows
	Figure 25	Total fish entrainment estimates for 1998 calculated monthly from averaged daily entrainment rates and Intake canal flows
		-V-

- Figure 26 Daily Yellowstone River flows at the Sidney, Montana monitoring gauge from May 15 to September 30 in 1996,1997,1998, and 1999. ..... 50
- Figure 27 The relationship between the average daily Yellowstone River flows (Sidney gauge) each year and the corresponding average total fish entrainment rate at the Intake Canal from May 15 to September 15 for 1996, 1997, 1998, and 1999. .....51
- Figure 28 The relationship between the average daily Yellowstone River flows (Sidney gauge) each year and the corresponding average total sturgeon chub entrainment rate at the Intake Canal from May 15 to September 15 for 1996, 1997, 1998, and 1999.....52
- Figure 29 The relationship between the average daily Yellowstone River flows (Sidney gauge) each year and the corresponding average total sauger entrainment rate at the Intake Canal from May 15 to September 15 for 1996, 1997, 1998, and 1999. .....53

# Fish Entrainment at the Lower Yellowstone Diversion Dam, Intake Canal, Montana<sup>1</sup> 1996 1997 1998

S. Hiebert R. Wydoski T. Parks

# Introduction

Water for irrigation is diverted from the Yellowstone River into the Intake Irrigation Canal (Intake Canal), at the Lower Yellowstone Diversion Dam, located about 18 miles downstream from Glendive, Montana. The diversion dam and Intake Canal headworks have been in place for almost a century (i.e., constructed from 1905 to 1907).

Several years of anecdotal information from fisherman and farmers has indicated highly desirable game fish are routinely found in the canal, and any fish in the canal could be transported to the irrigated fields. Because of these concerns and the lack of verifiable information, we initiated this investigation in 1996 to estimate the number and density of fish entrained into the canal and assess any differences over the 4-month irrigation season. The irrigation season is typically from mid-May through mid-September, and water diverted at Intake and utilized through about 225 miles of canals and laterals. Federal, State, and irrigation managers can use these study data to develop management practices which optimize water delivery and reduce fish entrainment.

This report presents results of data collected June 11 to September 19, 1996; May 21 to

<sup>1</sup>This investigation is part of a comprehensive Lower Yellowstone River study designed to collect information on all irrigation demands of the river and fish passage information from other low-head dams downstream of Billings, Montana.

September 11, 1997; and May 20 through September 10, 1998. The 1996 sampling season was originally designated for equipment setup and design of sampling logistics; sampling occurred only 10 to 14 days each month. The equipment initially worked well and nets collected many fish and the 1996 data is included in this report. Data are of good quality and provides accurate trends and estimates. Data were collected in 1997 in 2-week periods with 1 week breaks between periods throughout the irrigation season. Data collection in 1998 occurred 14 to 20 days each month with most sampling covering the crepuscular period. Results relate to fish entrained in the canal and may not reflect similar species densities or similar compositions as those in the river. Recommendations and additional studies are located in the Discussion Section.

# **METHODS and MATERIALS**

A netting system was designed to collect fish immediately after entrainment through the control sluice gates in order to accurately record entrainment data. Figure 1 presents a cross section through the Intake headworks with the net frame lowering system and guides in place. The control gates and sluices are 5 feet in diameter with 11 gates across the headworks. The nets are attached to ½-inch steel guide cables secured to the base of the canal side of the headworks below the sluice opening. The above-water portion of the guide cables is connected to a frame structure with turnbuckles which allow tightening of the cables to make a taut guide. Each sluice sampled had cables mounted as described. The guide frames were bolted to the upper deck of the headworks and had a hand winch lifting cable in the center. The lifting cable was attached to the center of the net frame and the lifting frame allowed the net to nearly clear the base of the deck; so the net could be inspected and repaired easily.

The square (6 feet sides) net frames have hollow grips that clamp to the steel guide cables on each side approximately 3 inches from the net frame. The nets were ½-inch delta heavy duty mesh with an 8-inch rubberized chafe collar that was sandwiched between

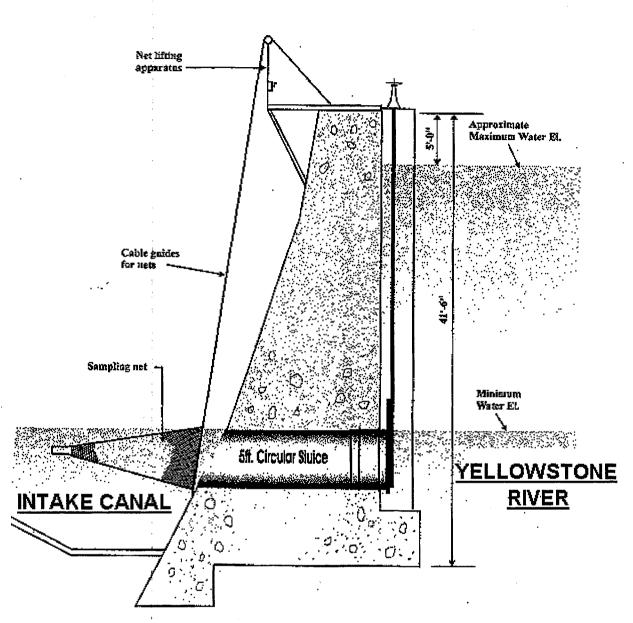


Figure 1 Schematic of netting apparatus and cable guide placement at Intake Canal, Montana, 1996-1998.

a steel band and the net frame and bolted. The mouth was held open at all times by the net frame with the inflow filling the net. The nets has a choker four feet before the cod end to use when lifting the net. The cod end (3/16-inch ace mesh) of the net was 24 inches long fitted with

a 20 inch zipper for removal of contents. The nets were lifted from flowing water to prevent fish swimming out of the nets. Duration of net set was determined by debris loading but generally the nets were set for one hour. Over the irrigation season in 1997, systematic sampling for 2 weeks on (8 to 10 hours a day) and 1 week off was employed. Also in 1997, diel fish entrainment was assessed by sampling hourly for 8 days. Cod end live collection containers were designed and built for use in 1998. These were inserted into the cod end net bag and contained a baffle system that provided a low flow refuge for all but the largest fish.

Netted fish were identified to species, weighed and measured. Some were tagged in 1997. All fish, except blue suckers and shovelnose sturgeon, were released back into the canal. Length-weight relationships were calculated from the 20 most common species from fish where both total length and weight data were recorded. Length frequency of the same group of fish is also presented. Table 1 presents a list of fish species collected over the three years. Smaller fish could pass through the net mesh of ½ inch and consequently the fish netted were primarily over 30 mm total length. Small fish were collected in the nets, but most likely in numbers under-representing their actual entrainment. Fish not identified in the field were preserved and identified positively in the lab.

Rates of entrainment were calculated using the proportion of canal flow each net sampled and determining fish per acre-foot rate for each net set by species. Individual gate positions and daily canal flows were recorded and used for each net's individual entrainment rate. The three step extrapolation procedure to obtain fish entrainment estimates per month was: **a**) Divide the number of fish collected by the volume of water sampled (acre-feet) for each nets sampling **b**) Average each days netting to fish per acre/foot by day and month **c**) Multiply monthly average rates per species by the canal inflow over each month for an estimate of fish entrained per month. The monthly entrainment rates include a recapture factor. The recapture factor (See following) was usually around 0.95 and was multiplied times the entrainment rate. In addition, the monthly entrainment rates include a standard error of the mean. The raw data from each net is provided in Appendix A, B, and C corresponding to 1996, 1997, and 1998.

A tapered gap between the upper portion of the net mouth and the concrete wall of the headworks allowed fish to enter and be re-captured. This tapered gap varied from no gap at the bottom of the net to about 14 inches at the top of the net. This gap potentially could also have been an escape avenue, if the entrained fish was able to work its way up through high inflow current. In 1997, about 976 fish were tagged (i.e., Floy spaghetti tags inserted between or behind the dorsal rays) to identify fish recaptured in the nets and released in the canal. Fish that were tagged were limited to larger (>125 mm total length) life stages and species. Tagging results provided a recapture factor for certain species and information on residence time of certain species in the proximate area of the canal headworks.

The Yellowstone River stage height was recorded twice each day by the Lower Yellowstone Irrigation Project personnel and turbidity was monitored (i.e., Hach Inc., Model 1800 turbidimeter) when the nets were fished. All gate positions were recorded daily to estimate for distribution of water in the netted sluice ways. Each of the four nets sampled between 3.5 and 9.6% of the total canal diverted water, almost 40% of the flow was sampled at times. Field corrections to the flow data were made through out the study. For example quantitative flow estimates were made when a gate became restricted with logs and other other debris. Turbidity was recorded in NTU's (Nephelometric Turbidity Units) and serial dilutions with turbidity-free water were performed when the river turbidity exceeded the range of the turbidimeter.

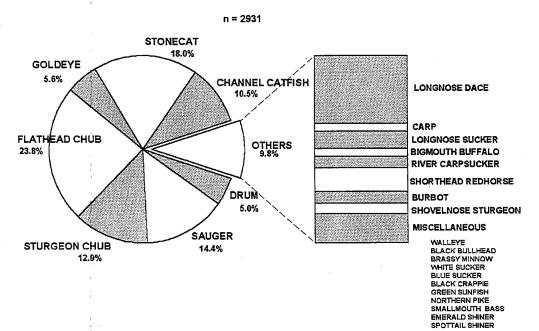
# Table 1. List of fishes collected at Intake Diversion, Montana (1996, 1997, and 1998)

Common name		Scientific name	Family N	ative
Goldeye		Hiodon alosoides	Hiodontidae	x
Shovelnose Sturgeon	1	Scaphirynchus platorynchus	Acipenseridae	х
Common Carp		Cyprinus carpio	Cyprinidae	
Western Silvery/Plains	Minnow*/	Hybognathus argyritis/placitus	Cyprinidae	х
Brassy Minnow		Hybognathus hankinsonidae	Cyprinidae	x
Sturgeon Chub		Macrhybopsis gelida	Cyprinidae	х
Sicklefin Chub*		Macrhybopsis meeki	Cyprinidae	x
Emerald Shiner		Notropis atherinoides	Cyprinidae	x
Spottail Shiner		Notropis hudsonius	Cyprinidae	
Fathead Minnow*		Pimephales promelas	Cyprinidae	x
Longnose Dace		Rhinichthys cataractae	Cyprinidae	х
Creek Chub*	•	Semotilus atromaculatus	Cyprinidae	х
Flathead Chub		Platygobio gracilis	Cyprinidae	X
River Carpsucker		Carpiodes carpio	Catostomidae	X
Longnose Sucker	:	Catastomus catostomus	Catostomidae	х
White Sucker		Catostomus commersoni	Catostomidae	х
Blue Sucker	• 1	Cycleptus elongatus	Catostomidae	X
Smallmouth Buffalo		Ictiobus bubalus	Catostomidae	х
<b>Bigmouth Buffalo</b>		Ictiobus cyprinella	Catostomidae	х
Shorthead Redhorse		Moxostoma macrolepidotum	Catostomidae	X
Black Bullhead	8	Ameiurus melas	Ictaluridae	
Channel Catfish		Ictalurus punctatus	Ictaluridae	х
Stonecat		Noturus flavus	Ictaluridae	X
Paddlefish @		Polydon spathula	Polyodontidae	x
Northern Pike		Esox lucius	Esocidae	
Rainbow Trout*	1	Oncorhymchus mykiss	Salmonidae	
Brown Trout*	•	Salmo trutta	Salmonidae	
Mountain Whitefish*		Prosopium williamsoni	Salmonidae	х
Cisco @		Coregonus artedii	Salmonidae	
Burbot		Lota lota	Gadidae	X
Brook Stickleback*		Culaea inconstans	Gasterosteidae	x
Green Sunfish		Lepomis cyanellus	Centrarchidae	
White Crappie		Pomoxis annularis	Centrarchidae	
Sauger	r .	Stizostedion canadense	Percidae	х
Walleye	:	Stizostedion vitreum	Percidae	
Freshwater Drum		Aplodinotus grunniens	Sciaenidae	х
* only collecte	1			
/ may have bee	m identified as	flathead chub in 1996		
@ only collected	ed in 1998			
	1	12		

U . L 

# **1996 Results**

In 1996, two nets collected 2931 fish representing 27 species. Flathead chub (Figure 2) made up the largest percentage, followed by stonecats and sturgeon chub. Sauger and channel catfish were the only two game fish commonly encountered (14.4 and 10.5 percent respectively, Figure 2). Sauger were collected primarily during July and August— their highest entrainment rate on August 10th. Intake canal flows were relatively constant near 1350 cfs (cubic feet per second) while the river stage fluctuated over the season.



1996 SPECIES COMPOSITON - LOWER YELLOWSTONE IRRIGATION CANAL ENTIRE IRRIGATION SEASON

**Figure 2** Percent composition of fish collected with entrainment nets in the Intake Canal, 1996.

Differences were noted between catches by the two nets; east net (furthest down stream along the face of the headworks) averaged about two times more fish. Shovelnose sturgeon were the only species collected most in the west net. Total fish entrainment averaged 1.75 fish per acre-foot. This calculation was derived from averaging the rates between both nets over the entire 1996 sampling season. Table 2 presents the monthly average entrainment rate calculated for each species of fish collected and the estimated water passing into the canal.

Over the 1996 irrigation season, the species composition changed. Figure 3 provides composition differences for the six most common species (stonecat, channel catfish, flathead chub, goldeye, sturgeon chub, and sauger) and others. The dominant fish by month were stonecats in June, sauger in July, flathead chub and sturgeon chub in August, and channel catfish and others in September.

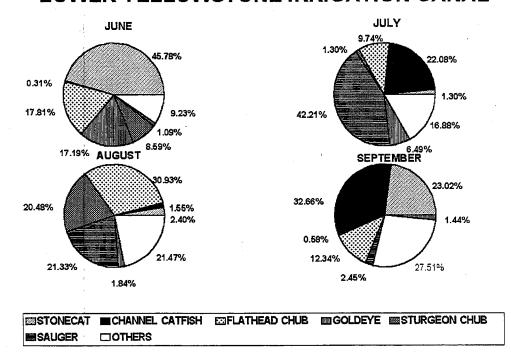
**Table 2**. Estimated entrainment rates of all species collected in 1996 at Intake Canal. Rates are in fish per acre-foot with the standard error of the daily mean in parentheses. The last row represents estimates of the monthly total acre feet passed into Intake Canal from staff gauge readings in the canal.

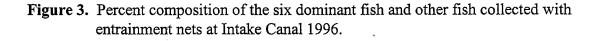
1 1

Species	June	July	August	September
Stonecat	1.468 (±0 .407)	0.0159 (±0.0122)	0.0418(±0.0414)	0.250(±0.169)
Flathead chub $0.522(\pm 0.117)$		0.144(±0.009)	0.401(±0.104)	0.138(±0.042)
Sturgeon chub $0.270(\pm 0.089)$ (		0.0215(±0.0165)	0.363(±0.378)	0.009(±0.004)
Goldeye	0.521(±0.120)	0.088(±0.002)	0.030(±0.0177)	0.0217(±0.0074)
Sauger	0.036(±0.018)	0.589(±0.031)	0.362(±0.058)	0.0411(±0.0294)
Longnose Dace	0.0244(±0.0105)	0.0	0.102(0.059)	0.029(±0.0120
Longnose Sucker	0.032(±0.010)	0.0	0.0146(0.0042)	0.0149(±0.009)
Carp	0.0142(±0.0097)	0	0.0014(0.0011)	0.020(±0.008)
Drum	0	0.137(±0.025)	0.129(±0.0189)	0.0187(±0.005)
Channel Catfish	0.009(±0.014)	0.300(±0.104)	0.0268(±0.0137)	0.415(±0.259)
Bigmouth Buffalo	0.003(±0.001)	0.0734(±0.003)	0.002(±0.0032)	0
Burbot	0.154(±0.035)	0	0.0011(±0.001)	0.017(±0.007)
River Carpsucker	0	0	0.003(±.001)	0.019(±0.0102)
Shovelnose sturgeon	0.005(±0.004)	0	0.008(±0.003)	0.020(±0.008)
Walleye	<b>O</b> <sup>i</sup>	0	0.004(±0.003)	0.002(±0.001)
White Sucker	0.005(±0.002)	0	0.0018(±0.001)	0
Shorthead Redhorse	0	0.017(.006)	0.037(±0.009)	0.009(±0.005)
Emerald Shiner	0	0	0.007(±.003)	0
BrassyMinnow	0.015(±0.011)	0	0.005(±0.002)	0
Black Crappie	0.005(±0.005)	0	0.001(±0.0008)	0.007(±0.004)
Green Sunfish	0	0	0.001(±0.001)	0.004(±.003)
Smallmouth bass	0	0	0	0.001(±.001)
Northern pike	0	0	0.001(±0.0007)	0.001(±.0007)

Species	June	July	August	September
Unidentified small	0	0	0.038(±.040)	0.171(±0.093)
Spottail Shiner	0;	0	0.002(±0.001)	0.004(±0.002)
Black Bullhead	0	0	0.0007(±.008)	0
Total Fish	3.095 (±0.262)	1.388 (±0.302)	1.586 (±0.221)	1.218 (±0.255)
Monthly	74,443	81,843	82,409	51,394
Estimated acre-				
feet	-			

# 1996 SPECIES COMPOSITION LOWER YELLOWSTONE IRRIGATION CANAL





# **1997 Results**

There were 34 species collected in 1997 from May 21 through September 11 with four or fewer nets sampling the Intake Canal at a time. Of the total 7,980 fish collected, 39.5 % were stonecat. Other fish collected in relatively high numbers include flathead chub (16.7%), sturgeon chub (12.7%), goldeye (8.5%), and sauger (6.2%). A daily average entrainment rate of 0.99 fish per acre-foot was calculated for the entire irrigation season. Species composition, presented in Figure 4, shows the great diversity of fish entrained.

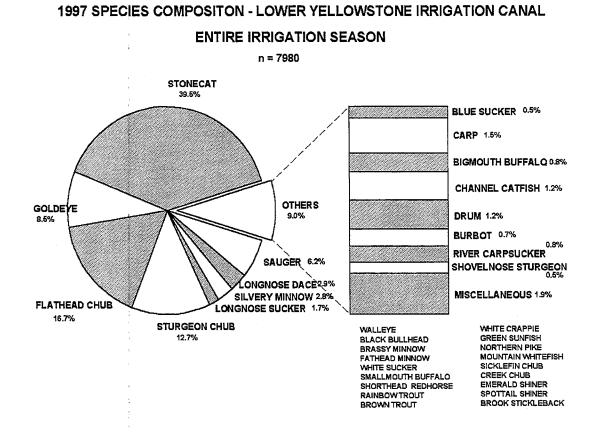


Figure 4. Species composition of the entrained fish collected during the entire 1997 irrigation season, Intake Canal

Over the 1997 irrigation season, the species composition changed and these changes are shown in Figure 5 for the five most common species (stonecat, flathead chub, goldeye, sturgeon chub, and

sauger) and all others grouped into one. Stonecat were the dominant fish in June, sauger in July, flathead chub and sturgeon chub in August, and flathead chub the dominant species in September.



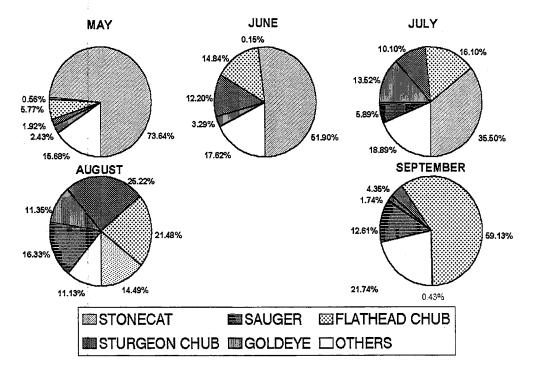


Figure 5. Species composition of fish collected from Intake Canal, 1997

Table 3 summarizes the lengths and weights of most of the species of entrained fish from 1997. Not all fish were weighed and therefore the number of fish weighed (Table 3) is usually less than the number measured.

Table 3. Summarized length and weight measurements of fish from 1997, Intake Canal.

; ; .\_\_\_\_\_.

\_\_\_\_\_\_

SPECIES	TOTALLENGTH (mm)			WEIGHT (g)		
	N	RANGE	MEAN	N	RANGE	MEAN
STONECAT	3134	36-224	129	412	1-136	25
FLATHEAD CHUB	1327	32-282	147	1111	1-202	35
STURGEON CHUB	984	32-93	69	819	Ú.3-7.3	2.4
GOLDEYE	673	36-405	309	615	0.1-450	238
SAUGER	493	42-544	309	473	1-983	222
LONGNOSEDACE	241	34-95	63	125	0.2-8.3	2.5
WESTERN SILVERY MINNOW	227	30-120	72	139	0.1-13.7	3.4
LONGNOSE SUCKER	145	45-405	304	116	0.4-698	359
CARP	121	21-672	313	96	0.5-4070	998
DRUM	98	65-446	271	98	1 - 1 0 9 4	254
CHANNEL CATFISH	94	50-621	256	88	1-2350	216
BIGMOUTH BUFFALO	б5	66-691	99	18	0.1-4265	463
BURBOT	Ġĺ	80-446	219	27	3-370	71
RIVER CARPSUCKER	59	41-527	239	34	3-2960	821
SHOVELNOSE STURGEON	44	390-923	634	4.4	86-2740	850
BLUE SUCKER	41	305-851	632	36	248-4080	2011
WHITE SUCKER	25	30-433	235	13	4-530	286
SHORTHEAD REDHORSE	2 2	51-370	187	19	I-560	152
CREEK CHUB	21	23-124	79	14	1-18	7
EMERALD SHINER	17	42-95	57	14	0.5-2.9	1.4
BRASSYMINNOW	ŧû	48-128	71	0		
RAINBOW TROUT	9	201-518	353	4	1110-1120	1118
WALLEYE	9	266-375	327	8	154-900	345
SMALLMOUTH BUF <sup>'</sup> FALO	6	275-640	493	5	290-2940	1841
BRODK STICKLEBACK	4	32-39	37	2	0.2-0.4	0.3
WHITE CRAPPIE :	4	34-123	87	1		22
BLACK BULLEAD	3	125-191	163	1		102
NORTHERN PIKE	3	383-580	504	3	308-1005	796
BROWN TROUT	2	169-494	332	1		1070
SICKLEFIN CHUB	2	95-102	100	2	6-10	8.2
FATHEAD MINNOW	2	28-45	37	Û		
SPOTTAIL SHINER	1		84	1		3,9
GREEN SUNFISH	1		39	1		1.1
MOUNTAIN WHITEFISH	T	1	100	1		7.4
	L	1		<b></b>	L	

FISH COLLECTED FROM SIEVE NETS AT INTAKE DIVERSION, 1997

# []

# **Monthly Entrainment**

The daily average entrainment was calculated for each collection period and averaged by month for each species, similar to 1996. Table 4 lists monthly rates of entrainment for each species. This rate multiplied by the monthly acre feet in the canal estimates entrained fish numbers. These numbers should not be used for extrapolation to riverine population estimations. Fish densities in the diversion dam area and near the shore line are unnaturally high and most likely not representative of those in the river. May and September canal flows (acre-feet) take into account less than a full month of irrigation water in the canal.

**Table 4**. Estimated entrainment rates (fish per acre-foot  $\pm$  one standard error of the mean) from fish collected in 1997 at Intake Canal. The last row provides monthly estimates of total acre feet passed into the Intake Canal.

Species	May	June	July	August	September
Stonecat	0.497 (±0.098)	0.411 (±0.063)	0.246 (±0.0559)	0.174 (±0.0403)	0.002(±0.002)
Flathead chub	0.040 (±0.008)	0.117 (±0.0151)	0.160 (±0.025)	0.267(±0.032)	0.904(±0.509)
Sturgeon chub	0.0136 (±0.004)	0.106 (0.0204)	0.125(±0.036)	0.463(±0.123)	0.043(±0.013)
Goldeye	0.015 (±0.005)	0.0318 (±0.0061)	0.120 (±0.024)	0.166 (±0.0221)	0.010(±0.006)
Sauger	.004(±0.0 009)	.0026 (±0.0016)	0.045(±0.010)	0.112(±0.040)	.067(±0.034)
Longnose Dace	.020(±0.0 04)	0.047 (±0.007)	0.0365(±0.012)	0.0103(±0.00 4)	0
Longnose Sucker	0.018 (±0.005)	0.019 (±0.0052)	0.016(±0.005)	0.009(±0.004)	0
Carp	0.004 (±0.001)	0.017 (±.003)	0.014(±0.0.04)	0.030(±0.008)	0.016 (±0.005)
Drum	0	0.002(±.002)	0.013(±0.005)	0.018(±0.005)	0.011(±0.007)
Channel Catfish	0	.002(±.002)	0	0	0
Bigmouth Buffalo	0.001 (±0.0009)	0.006 (±.002)	0.018(±.008)	0.001(±0.001)	0
Burbot	0.017 (±0.003)	0.008 (±.002)	0.004(±0.001)	0.001(±.001)	0
River Carpsucker	0.010 (±0.0019)	0.003 (±0.002)	0.010(±0.003)	0.002 (±0.0015)	0.002(±.002)
Shovelnose sturgeon	0	0.002(±.002)	.0007(±.0005)	0.005(±0.002)	0.057(±.040)
Walleye	0.0008 (±0.0008)	0.0025 (0.002)	0.0009 (0.0007)	0.003(±.0023)	0
White Sucker	.008(±.00	.006(±.004)	.0003(±.0002)	.004(±0.002)	0

Species	May	June	July	August	September
Shorthead Redhorse	0.002 (±.001)	0.005 (±.003)	0.002(±.0008)	0.004(±.002)	0.004(.004)
Emerald Shiner	0	0.002(.002)	0.0072(0.004)	.0004(0.0004)	0
Brown Trout	0.0007 (±0.0007)	0.002 (±0.0016)	0	0.0008 (±.0008)	0
Rainbow Trout	0.004 (±0.0019)	0.002 (±0.002)	0	0	0
White Crappie	0	.002(±.0019)	0	0.0003(.0003)	0
Green Sunfish	0	.002(±.002)	.0004(±0.0004)	0	0
Smallmouth Buffalo	0	.002 ±(.002)	.0046(±0.004)	0	0
Northern Pike	0	0.0016 (0.0016)	.0006(±0.0004)	0	0.003 (±0.0029)
Mountain Whitefish	0	.0016(±.0016)	0	.0012(±0.0012)	0
Spottail Shiner	0	.0016(±.0016)	0.0004(.0004)	0	0
Sicklefin Chub	0	0.0016 (±0.0016)	0.001(±0.0008)	0	0
Creek Chub	0.0019 (±0.0013)	0.0032 (±0.0019)	0.005 (±0.0026)	0	0
Silvery Minnow	.010(±0.001 4)	0.030 (±.007)	0.053 (± 0.017)	0.012(±0.004)	0
Blue Sucker	0.005 (±0.0018)	0.007 (±0.0023)	0.008 (±0.0037)	0.006 (±0.004)	0
Fathead Minnow	0	.002(.002)	.0004(±0.0004)	0	0
Black Bullhead	0.0003 (±0.0003)	0.002 (±0.0017)	0	.0006(±0.0006)	0
Total Fish	0.678 (±0.099)	0.766 (±0.093)	0.910(±.096)	1.58(±0.150)	1.16(±0.430)
Monthly Estimated acre- feet	50536	101085	80160	108848	65595

· · · · · · ĺ ſ 1

# **1997 Tagging Results**

In 1997, there were 975 tagged fish netted and returned into the canal; 51 were recovered. Stonecat represented the fish most tagged and recovered (i.e., 19 recovered out of 367 tagged). For all fish, time until recapture ranged from less than 1 hour to 336 days (two sauger were recaptured in spring1998). This indicates some degree of survival in the canal over winter and/or recapture of a tagged fish by-passed to the river at a turnout, and then recaptured from the river in 1998. During periods of lower irrigation needs, the Intake Canal does return some water to the river at Burns Creek about 8 miles down canal and at locations further down.

Tagging results from each net over the season are presented in the Table 5. The nets represent an upstream to downstream gradient of sluice sampling. This table presents each net and the corresponding percentage tag returns.

Blue West Net	Yellow West Net	Blue East Net	Yellow East Net
31%	6%	18%	45%

The most eastwardly located net (yellow east) collected the most recaptures. This net had a large gyre of water behind it in the canal for most of the irrigation season. Its circular flow could have repositioned entrained fish into the narrow (tapered) space between the net mouth and the concrete headworks face. Fish were shown to be subject to recapture as an artifact of the tapered gap between the headworks dam and the net mouth. Therefore, fish were tagged to determine whether they were recaptured in nets after release in the canal and, if so, to account for recapture when estimating entrainment rates. Figure 6 shows the percent of tagged fish recaptured from the canal by species. Incorporating recaptures provides a more accurate estimate of entrainment when used with tagged species. As an example, 11% of the tagged burbot were recovered, therefore a factor of 0.89 results, which is multiplied by the estimated burbot entrainment. A value of 0.95 was used for total fish entrainment estimations. This was obtained by calculating the mean of all tag return factors.

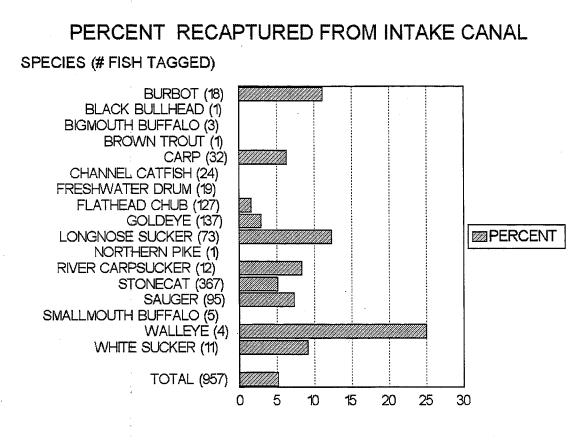


Figure 6. Results of fish collected with entrainment nets, tagged, and released back into Intake Canal during the 1997 irrigation season.

## Turbidity

Turbidities varied over the irrigation season, and exceeded highest values on the turbidity

meter. Highest average turbidities were in June, and all exceeded the 1000 NTU (Nephelometric Turbidity Unit) maximum value of the meter. Appropriate dilutions were made to allow meter readings, and turbidities of 1230 to 2600 NTU were estimated. Average turbidity during the sampling in May was 756 NTU, in July was 338 NTU, in August was 596 NTU, and in September was 25 NTU.

### **River Flows**

The Yellowstone River generally peaked in June at Intake Dam in 1996, 1997, and 1998 had a protracted runoff and peak flows in July. In 1997, peak flows reached nearly 90,000 cfs. A gap in the 1997 flow data occurred during the rising spring flows because high water and debris disabled the gauge station. Low spring flows in 1998 resulted in a low water year. Figure 7 presents the flows over the irrigation season for the three years. In all years sampled, flows in the river decreased to base flow— 6500 to 8000 cfs— by the end of September.

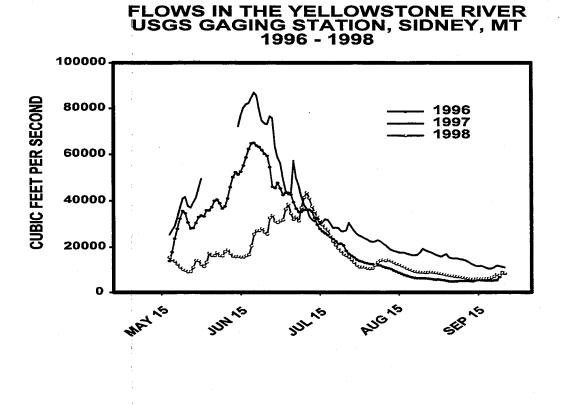
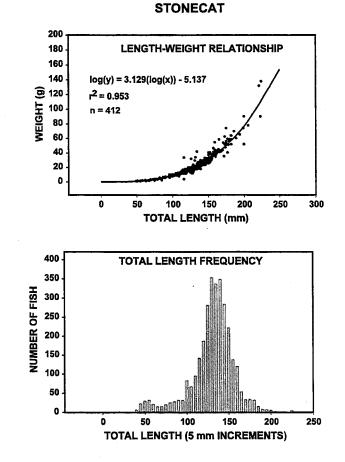


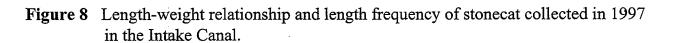
Figure 7 Flows in the Yellowstone River at Sidney, Montana, from May 15 to September 30, 1996, 1997, and 1998.

**Individual Species Results - 1997** 

Stonecat were the most numerous fish netted in 1997. A total of 3,134 were sampled, primarily in May, June, and July. Mean stonecat total length (TL) was 129 mm

(range 36 and 224 mm TL). A length-weight relationship of log(y) = 3.129(log(x)) - 5.137 was derived from 412 fish with a  $r^2 = 0.953$  (Figure 8). Highest concentrations of stonecat occurred between 2000 and 0400 hours during the diel collections, and the greatest day/night difference was observed later in the season.





Flathead chub were frequently collected (1,327 total, total length 32 to 282 mm TL) in 1997. Figure 9 provides length-frequency relationship and length frequency.

Flathead chub entrainment rates increased over the season with a peak daily average occurring on September 11 of 1.918 fish/acre foot.

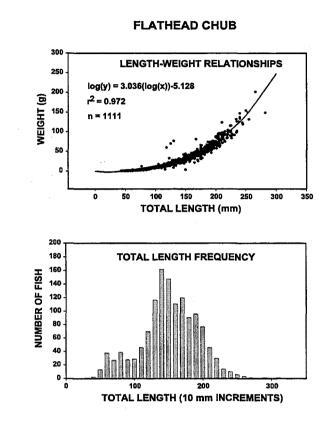
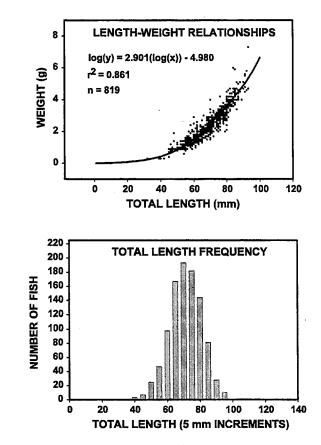


Figure 9 Length-weight relationship and length frequency of flathead chub collected in 1997 in the Intake Canal

Sturgeon chub were frequently collected, with 1008 collected in 1997. Sturgeon chub TL ranged from 32 to 93 mm with most of the individuals in the 68 to 73 mm range. A length-weight regression (n=819) of  $\log(y) = 2.90(\log(x))$  -4.98 with a r<sup>2</sup> of 0.861 was calculated (Figure 10). Average entrainment over the season was 0.191 fish per acre-foot and highest daily average entrainment rate was August 7 at 1.29 fish per acre foot. In diel entrainment tests most noticeable day versus night differences occurred with clearer water. In the August diel samples with the clearer water, few sturgeon chub were collected during

the daylight and highest collections were between 2100 and 0400 hours. At other times of the year when the turbidity was > 200 NTU, day and night entrainment was similar with slightly higher entrainment rates sometimes at night.

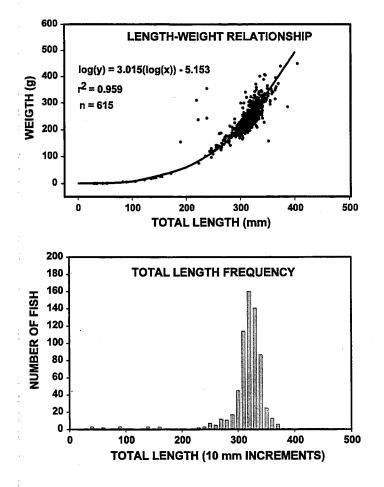


### **STURGEON CHUB**

**Figure 10** Length-weight relationship and length frequency of sturgeon chub collected in 1997 in the Intake Canal.

Goldeye diel collections had no clear pattern except that lowest rates of collection occurred at night. The greatest number of goldeye were collected in July with the highest daily average entrainment rate of 0.375 fish per acre foot on July 12. Goldeye collected were in a size range between 36-405 mm TL with an average of 309mm TL and

an average weight of 238 grams.



GOLDEYE

**Figure 11** Length-weight relationship and length frequency of goldeye collected in 1997 in the Intake Canal.

Four hundred ninety three sauger were sampled ranging from 42 to 544 mm TL(mean total length =309 mm). The length-weight relationship (n=615,r<sup>2</sup> =0.947) is shown in Figure 12. Highest rates of collection were in August when water was clearing.

The highest daily average entrainment rate of 0.398 sauger per acre foot occurred on August 19. No definite pattern was noted in diel sampling except highest entrainment occurred at night during August.

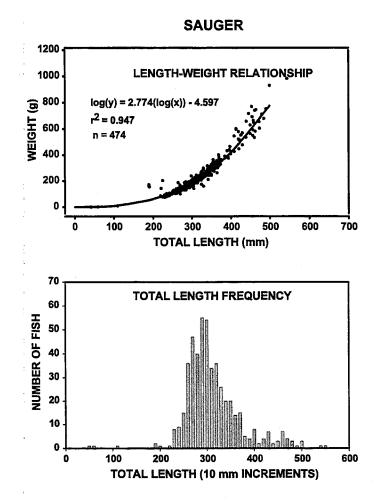


Figure 12 Length-eight relationship and length frequency of sauger collected in 1997 in the Intake Canal.

Longnose dace were collected all season (total= 241) with a peak of 0.116 longnose dace per acre foot on July 11. Longnose dace averaged 67 mm, ranging from 38 to 110 mm TL. A length weight relationship ( $r^2$ = 0.836) is calculated and presented in

Figure 13.

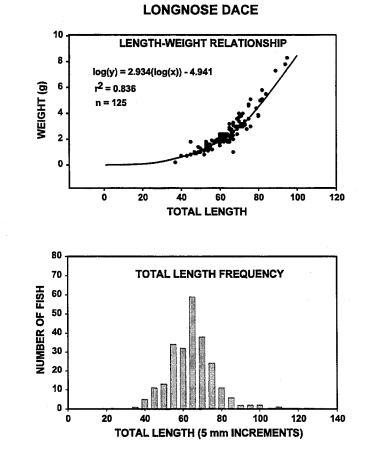
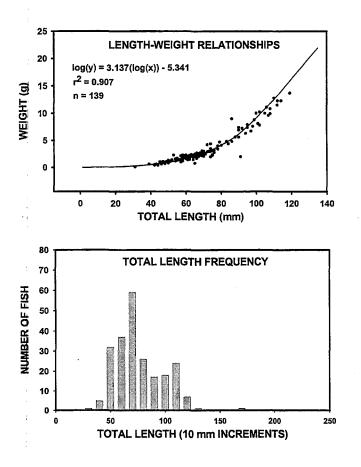


Figure 13 Length-weight relationship and length frequency of longnose dace collected in 1997 in the Intake Canal

Western silvery minnow and eastern plains silvery minnow were lumped into one category (silvery minnows) because they were not identified past Genus, *Hybognathus*. The length-frequency relationship had an  $r^2=0.907$  and the length frequency is shown in Figure 14.

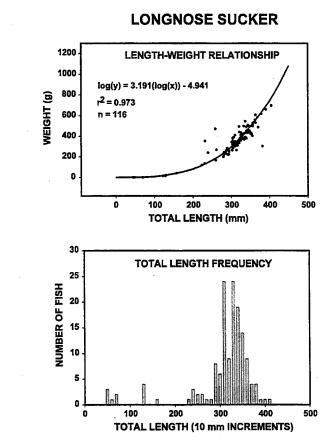


### SILVERY MINNOWS

£.

**Figure 14** Western Silver Minnow and Eastern Plains Silvery minnow grouped together and their length-weight relationship and length frequency collected in 1997 in the Intake Canal.

Longnose sucker ranged from 45 to 405 mm TL and were more frequently collected earlier in the season from May through July. Figure 15 presents the length-frequency relationship along with the length frequency of longnose sucker.



**Figure 15** Longnose sucker length-weight relationship and length frequency collected in 1997 in the Intake Canal

Carp were collected in the entrainment nets throughout the season, with largest carp netted 676 mm TL in August. A total of 121 carp were collected with an average weight of .99 Kg. Figure 16 presents carp length-weight relationships.

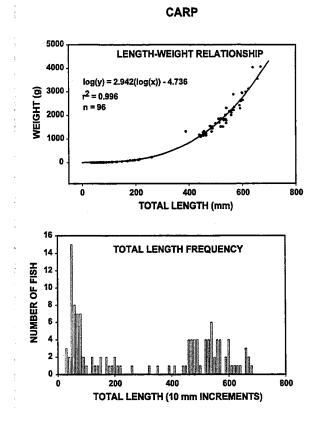


Figure 16 Carp length-weight relationship and length frequency from fish collected in 1997 at the Intake Canal, Montana

Drum were primarily entrained later in the season from mid July through September. Average drum size was 271 mm TL (range = 21 to 446 mm TL). Figure 17 presents drum length-weight relationships.

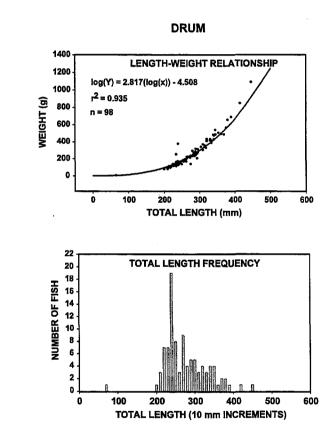
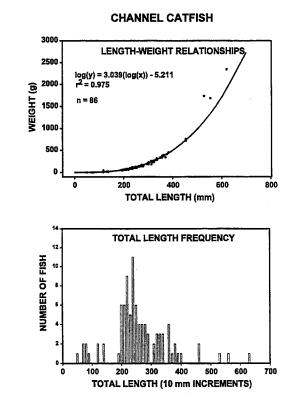
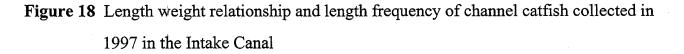


Figure 17 Length-weight relationship and length frequency of drum collected in 1997 in the Intake Canal

Channel catfish were rarely encountered, especially compared to 1996 data, with highest number collected in August. The average channel catfish size entrained was 256 mm TL and 216 grams. Figure 18 presents length-frequency data and the length weight relationships.

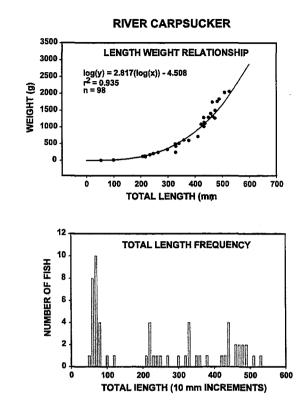




Bigmouth buffalo were the largest fish entrained, and the largest of these weighed 4.2 Kg. Most of the bigmouth buffalo were collected in July with the highest entrainment rate of 0.041 bigmouth buffalo per acre-foot on July 10.

Few burbot (total = 61) were collected, most were sampled by the furthest downstream net along the face of the headworks. The majority of these fish had tissue samples removed non-lethally for genetic studies by the State of Montana. Fish ranged in size from 80 to 440 mm TL.

River carpsuckers were also relatively rare with 59 collected in 1997. These fish ranged in size from 41 to 527 mm total length. Figure 19 presents the length-weight relationships and length frequency for fish collected in 1997.



**Figure 19** Length-weight relationship and length frequency of river carpsucker collected in 1997 in the Intake Canal

Shovelnose sturgeon were primarily collected later in the irrigation season with the peak collection of sturgeon September 10. All sturgeon collected were released back into the river. The 44 sturgeon collected ranged from 390 to 923 Fork Length (FL) and averaged 850 grams.

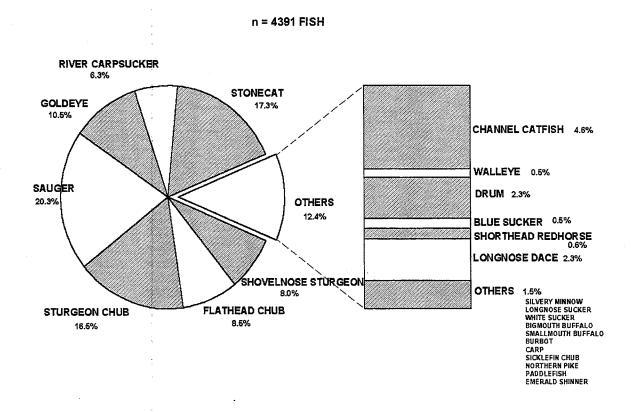
All of the blue suckers (total =41) were large (305 to 851 mm TL). This seems to go along with the local trend of only finding larger size fish in sampling from the lower Yellowstone River (pers com, Phil Stewart).

Other species of fish were relatively rare in the entrainment nets. Two sickle fin chub (95 and 100 mm TL), a species of special concern by the State of Montana, were collected on July 13 and July 16, 1997. These fish were released back into the river.

# **1998 RESULTS**

In 1998 entrainment netting, additional emphasis was placed on collection of live sturgeon chub and providing live chub for a reintroduction program. Additionally the sturgeon chub were collected later in the season for use as brood stock in a fish culture program. Data was collected on all species, similar to previous irrigation seasons. A total of 4,391 fish were netted; the species composition was similar to previous years. The noticeable addition to major fish collected was the shovelnose sturgeon, which made up about 8 percent of the entrained fish in 1998.

Very low numbers of paddlefish and cisco were collected for the first time with the entrainment nets in 1998. Figure 20 presents the species composition for 1998. Sauger comprised the larger portion of 1998 total entrainment at 20.3%, followed by stonecat and sturgeon chub. Lower flows in 1998 could have contributed change in species composition. Entrainment rates were determined for each species by month and reported in Table 6.



# 1998 SPECIES COMPOSITON - LOWER YELLOWSTONE IRRIGATION CANAL

Figure 20 Species composition of the fish collected with entrainment nets at Intake Canal, Montana, 1998.

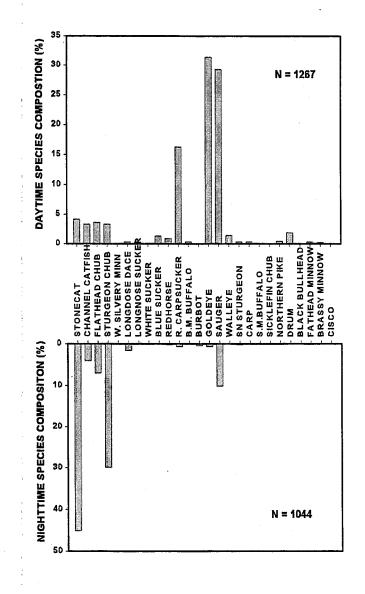
Species	June	July	August	September
Stonecat	1.132 (±0.406)	0.114 (±0.015)	1.109(±0.494)	0.013(±0.126)
Flathead chub	0.216(±0.069)	0.145(±0.045)	0.821(±0.332)	0.108(±0.108)
Sturgeon chub	0.802(±0.336)	0.691(±0.268)	0.670(±0.168)	0.133(±0.101)
Goldeye	0.252(±0.103)	0.031(±0.007)	0.111(±0.047)	0.025(±0.025)
Sauger	0.552(±0.185)	0.674(±0.129)	0.165(±0.056)	0.057(±0.057)
Longnose Dace	0.045(±0.015)	0.270(±0.110)	0.048(±0.028)	0.005(±0.005)
Blue Sucker	0.008(±0.004)	0.010(±0.006)	0	0
Longnose Sucker	0.008(±0.004)	0.007(±004)	0.008(±0.005)	0.002(±0.002)
Carp	0.004(±0.003)	0.007(±0.004)	0.041(±0.030)	0
Drum	0.026(±0.014)	0.096(±0.033)	0.029(±0.015)	0.005(±0.005)
Channel Catfish	0.137(±0.037)	0.166(±0.0.30)	0.444(±0.282)	0.121(±0.006)
Bigmouth Buffalo	0.008(±0.004)	0.002(±0.002)	0	0
Burbot	0.011(±0004)	0.001(±0.001)	0	0
River Carpsucker	0.143(±0.057)	0.072(±0.024)	0.043(±0.015)	0.016(±0.016)
Shovelnose sturgeon	0.009(±0.004)	0.028(±0.010)	1.223(±0.121)	0.317(±0.248)
Walleye	0.014(±0.006)	0.006(±0.004)	0	0
White Sucker	0.001(±0.001)	0.001(±0.001)	0	0
Shorthead Redhorse	0.012(±0.005)	0.008(±0.005)	0.010(±0.005)	0.002(±0.002)
Emerald Shiner	0	0.002(±0.002)	0.007(±.004)	0.004(±0.004)
Brassy Minnow	0.007(±0.007)	0	0	0
Paddlefish	0	0.014(±0.006)	0	0

**Table 6** Estimated entrainment rates (fish per acre-foot  $\pm$  one standard error of the mean) of allspecies collected in 1998 at Intake Canal. The last row in this table represents an estimate of themonthly total acre feet passed into the Intake Canal.

······································	

Species	June	July	August	September
Western Silvery	0.003(±0.003)	0.004(±0.002)	0	0.002(±0.002)
Minnow				
Flathead Minnow	0.003(±0.003)	0	0	0
Smallmouth	0.0004	0 0.007(±0.004)	0	0
Buffalo	(±0.0004)			
Northern pike	0.003(±0.002)	0	0.002(±0.002)	0.004(±.004)
Cisco	0.0009	0	0	0
	(±0.0009)			
Sicklefin Chub	0.0007(±0.000	0	0	0
	7)			
Black Bullhead	0.0004	0	0	0
	(±0.0004)			
Total Fish	3.394(±0.949)	2.354(±0.248)	4.735(±1.319)	0.927(±0.699)
Monthly	64538	75755	77105	51090
Estimated acre-				
feet				

In 1998 the nets were operated day and night and live collection of sturgeon chub was performed with more frequent retrieval of nets and the special cod end live cars. When operating the nets day and night, strong diel differences were observed for certain species. Figure 21 presents the day and night species composition during June, 1998. In June many more stonecat and sturgeon chub were collected at night, where as sauger and goldeye were more common during the day.

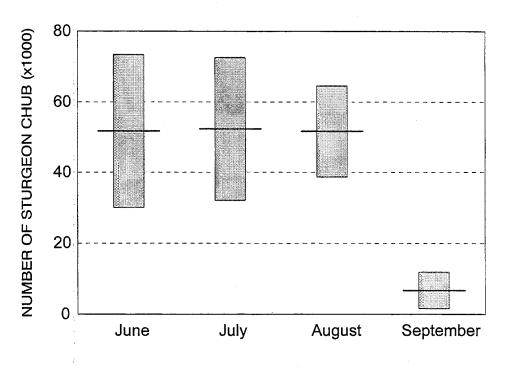


**Figure 21** The relative percentage of fish collected by night and day from June 1998 in the Intake Canal, Montana.

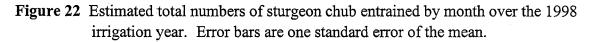
Detailed analysis of sturgeon chub entrainment in 1998 shows highest entrainment

rates in June and similar but lower rates in July and August. Figure 22 presents extrapolated estimates of entrained sturgeon chub per month.

Sauger are the most popular sport fish in the Intake Canal and appeared to be entrained in high numbers in 1998. The entrainment rates for sauger were highest in July (.674 fish per acre foot). Figure 23 presents an estimate of sauger entrained per month. These values are extrapolated estimates from averaged monthly rates and the water volumes in the canal.



1998 MONTHLY TOTAL STURGEON CHUB ENTRAINMENT



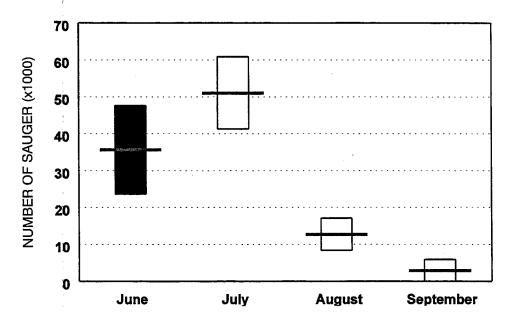


Figure 23 Estimated total numbers of sauger entrained by month over the1998 irrigation year Error bars are one standard error of the mean.

#### Discussion

Fish are entrained into the Intake Canal over the irrigation season. The significance of fish loss from natural streams to irrigation diversions has been recognized since the early 1920s (Prince 1922). Seasonal variations in species entrainment rates possibly can be explained by movements of fish up and down stream through the Intake Diversion dam area. Three species, stonecat, flathead chub and sturgeon chub were the most frequently entrained fish. These and other species entrained in higher numbers, show diel trends during seasons and over the crepuscular periods.

Fish moving up and down the Yellowstone River along the shore are most susceptible to entrainment. In general, larger numbers of fish were collected from the net most downstream (furthest east Intake sluice), suggesting fish moving upstream along the river edge are entrained once they pass over the top of the rock dam (Intake Diversion Dam). Intake headworks is positioned on the outside of a river bend nearest to the thalweg, possibly affecting fish response to Intake entrainment flows. Fish may react differently if the Intake was positioned on an inside bend or straight river run. The condition of fish netted was generally good Fish condition decreased with greater length of time in the entrainment nets and increased debris loads. As the study progressed, better cod ends were designed to improve the survival and condition of fish entrained and collected.

Figure 24 presents monthly total fish entrainment estimates based on the daily average rates multiplied by the monthly total acre feet passing into the canal for 1996 and 1997. Differences between total entrainment in these two years is significant only in the June estimates. This is probably due to several factors. In 1996, two nets were fished and used for entrainment information, whereas four were used in 1997. Fish entering the canal were not evenly distributed across the sluice openings and possibly extrapolating data from only two nets inflated estimates because more numbers of fish passed through those nets in the spring . This was demonstrated in 1997 when collections from four nets were compared. The most eastern net (most downstream with relation to the river) generally collected the most fish.

The more likely reason for the difference between years was 1997 was a relatively high

water year than 1996. Several factors could be affecting entrainment with high water and will be elaborated later in this section. In examining the Yellowstone River discharge, the greatest difference between the two years was in the peak period, primarily during June.

**Monthly Total Estimated** 

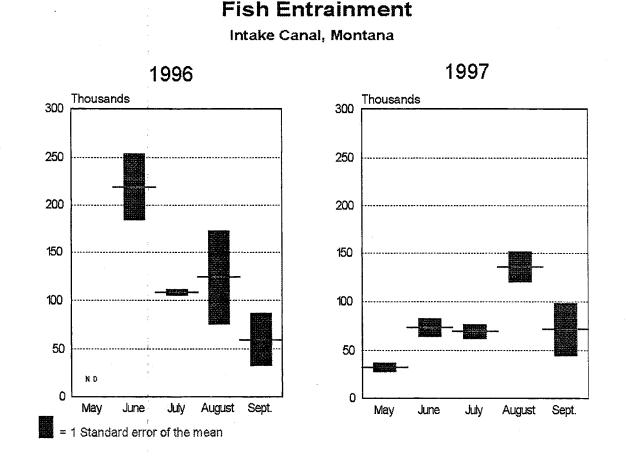
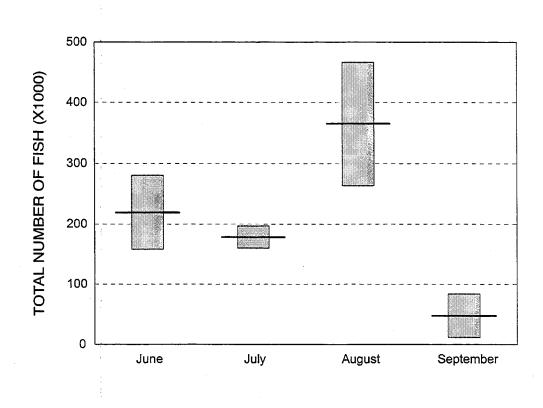


Figure 24 Total fish entrainment estimates for 1996 and 1997 calculated monthly from averaged daily entrainment rates and canal flows. ND = No data

Total fish entrainment for 1998 was higher than 1996 or 1997, and the flows in the Yellowstone River were lower. Highest total fish entrainment was in August, similar to the previous year. The August high monthly average rate of total fish entrained was  $4.735 (\pm 1.319)$ 

fish per acre foot of inflow water. In September the lowest number were entrained. Figure 25 presents the relative levels and estimates of total fish entrained per month from June to September 1998. Total fish entrained was twice that of 1997.



**Figure 25** Total fish entrainment estimates for 1998 calculated monthly from averaged daily entrainment rates and Intake canal flows. Error bars are ±one standard error of the mean.

### Fish Entrainment and Yellowstone River Flows

The river flows over four irrigation seasons (includes 1999) and the four years average entrainment were examined for a relationship that could be used to reliably predict entrainment

rates. From May 15 to September 30, the daily average flow in the Yellowstone River and the average fish entrained per acre foot each year were compared in regression analysis. Figure 26 presents the daily average flows during this period in 1996 -1999, and shows the wide range of flows occurring over the four years during the irrigation season.

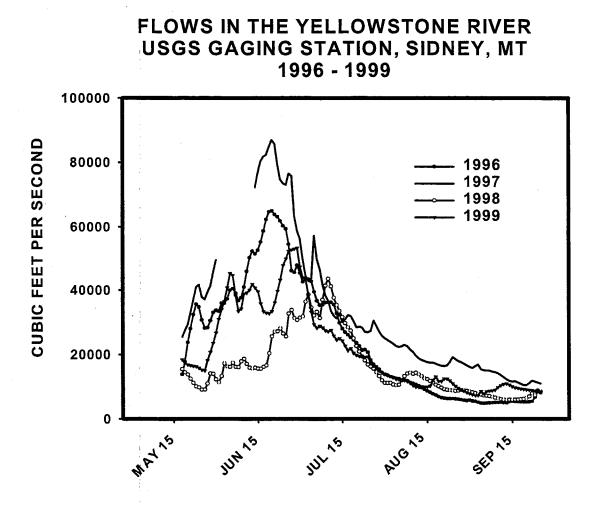
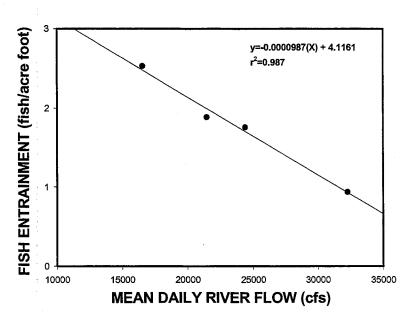


Figure 26 Daily Yellowstone River flows at the Sidney, Montana monitoring gauge from May 15 to September 30 in 1996, 1997, 1998, and 1999.

The data associated with the average Yellowstone River flow per irrigation season in the relation to the average total fish entrainment rates (fish per acre foot) are shown in Figure 27. A surprisingly strong negative relationship (r  $^2$ =0.987) was found. In general, during years of lower

Yellowstone River flows more fish are entrained at Intake Canal. Several factors could help to explain the relationship including: 1) lower densities of fish exposed to the Intake with higher flows (similar to a dilution), 2) the greater velocity sluice flows swept fish past the Intake at higher flows, 3) the increased river depth at high flow, and 4) the concentration of woody debris at the Intake canal entrance during high flows that could function as a screen of sorts. With the high predictability of this relationship (Figure 27), we could reliably estimate entrained fish using the river flows averaged over the irrigation season. If flows were greater or less than those observed in this four year period, estimates of entrained fish would less reliable.



TOTAL FISH

**Figure 27** The relationship between the average daily Yellowstone River flows (Sidney gauge) each year and the corresponding average total fish entrainment rate at the Intake Canal from May 15 to September 15 for 1996, 1997, 1998, and 1999.

The relationship between flow and sturgeon chub entrainment was analyzed (Figure 28), and again a relatively strong negative relationship ( $r^2=.907$ ) occurred over the irrigation season. The r<sup>2</sup> indicates that 90 percent of the variation in the entrainment rates could be explained by and related to the flows in the Yellowstone River.

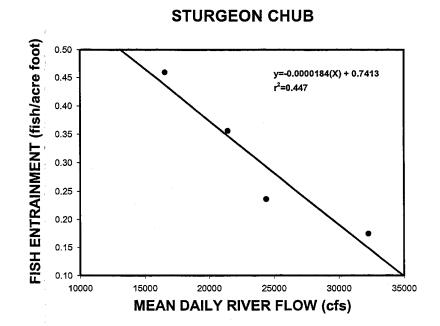
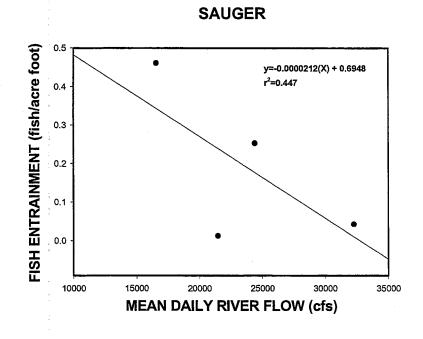
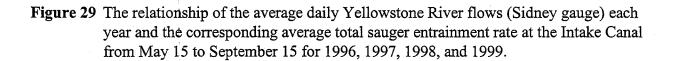


Figure 28 The relationship between the average daily Yellowstone River flows (Sidney gauge) each year and the corresponding average total sturgeon chub entrainment rate at the Intake Canal from May 15 to September 15 for 1996, 1997, 1998, and 1999.

The sauger entrainment and river flow relationship was similarly analyzed and is presented in Figure 29. Sauger entrainment and river flow are less closely related than as the sturgeon chub . The lower entrainment of sauger in 1999 may be partially explained by an overall trend in the population noted in the Yellowstone River (Phil Stewart, pers com). The r<sup>2</sup> of 0.447 indicates a portion of the sauger entrainment could be explained by the Yellowstone flow.





## **Fish Entrainment Reduction**

Fish entrainment could be reduced by constructing a barrier device on the face of the diversion which keep fish out of the canal, or a diverter which allows entrainment into the canal and then returns a portion of the water and fish to the river through a side channel. The most practical solution is screening fish at the face of the diversion because fish are not exposed to within canal predators or impingement at debris screens down canal. Fish kept in the river can pass upstream past the diversion to spawning or feeding areas.

A conventional in-canal screen, such as a rotating drum screen, and by-pass system would return entrained fish downstream of the headworks. Fish moving upstream would have to renegotiate the canal headworks again and if entrained again the fish may be trapped in a cycle with little potential to get upstream past the Intake Canal. Bakes et al.(1998) has noted fish need use of the entire river, up and downstream of a diversion on a tributary of the Yellowstone River.

A removable screen system installed in the river at the headworks would allow operation during the irrigation season and its removal during the winter would eliminate ice damage and facilitate its maintenance. National Marine Fisheries Service (NMFS, 1995) has required approach velocity criteria at screens for salmon in California from 0.5 to 0.2 feet per second. Target species, size and other data should be included in the designs of any entrainment reduction devises at Intake Canal. Additional screening criteria and design concepts can be found in Bell, 1991.

A large angler presence is seen in the canal near the headworks and fishing appears good. The in-canal screening technique would allow anglers to catch fish near the diversion but entrained fish would not be stranded in fields or in the canal when drained. Screening placed in the canal would not need to be removed and reinstalled every season to prevent ice damage, but would present a challenge to return screened fish to the river with a bypass system.

Relocating the canal intake area away from the shore toward the center of the river could reduce entrainment. Fish generally moving up or down along the river margin would be less likely to encounter these entrainment canal flows. Louvers and positive barrier screens placed either at the Intake mouth or within the canal would also reduce entrainment.

Operation modifications to reduce entrainment might work for species with large differences in day and night entrainment. Unfortunately, reducing nighttime irrigation flows might cause higher daytime flows encouraging greater numbers of daytime entrained fish. Other operational fish entrainment reduction techniques could include reducing the flows into the Intake Canal and maintaining the first six miles of canal at a shallower depth or shutting the canal off during periods of no irrigation demand. As well, there are possibly opportunities to use behavioral techniques such as sound, lights, or electricity to guide fish away from the present situation. With any fish technique to reduce entrainment, rigorous evaluation should be incorporated to ensure the barrier works.

Because sturgeon chub are proposed for listing, designing a system to prevent this species' entrainment could be emphasized. A screen system designed for this relatively small species will probably be very effective in reducing entrainment of most all the other species found in the Lower Yellowstone River.

Liston et al. (1991) presents several options and associated costs for a variety of barrier designs on the Tongue River near Miles City, Montana. The sizing techniques and operations could be used to design a screen or louver at Intake Canal. Specific fish species may need to be "targeted" for screening, and these could be used when developing criteria and beginning planning for future modifications at Intake Canal.

### ACKNOWLEDGMENTS

We would like to express sincere appreciation to Jerry Nypen and his crew from the Lower Yellowstone Irrigation Project who greatly assisted in setting up the collection system and operated the gates in a very timely manner. Dr. Dennis Scarnecchia, University of Idaho, and his capable assistants were valuable in operating the nets when we were engage elsewhere. We greatly appreciated Wade King, USFWS, and his tremendous efforts and help in collecting and coordination of the sturgeon chub recovery program. The Bureau's Montana Area Office provided major funding for this program.

Sadly, Tom Parks, a co-author, naturalist, and great friend passed away while working on this study. This report is dedicated to his memory and his continued presence, in spirit, for the fishery resources.

#### LITERATURE CITED

Bakes, K.M., V. Riggs, and D. Peters. 1998. Tongue River Entrainment Study on the T&Y Canal, May 29 to October 10, 1997. Montana Fish Wildlife and Parks, Region 7, Miles City, Montana. 16 pages

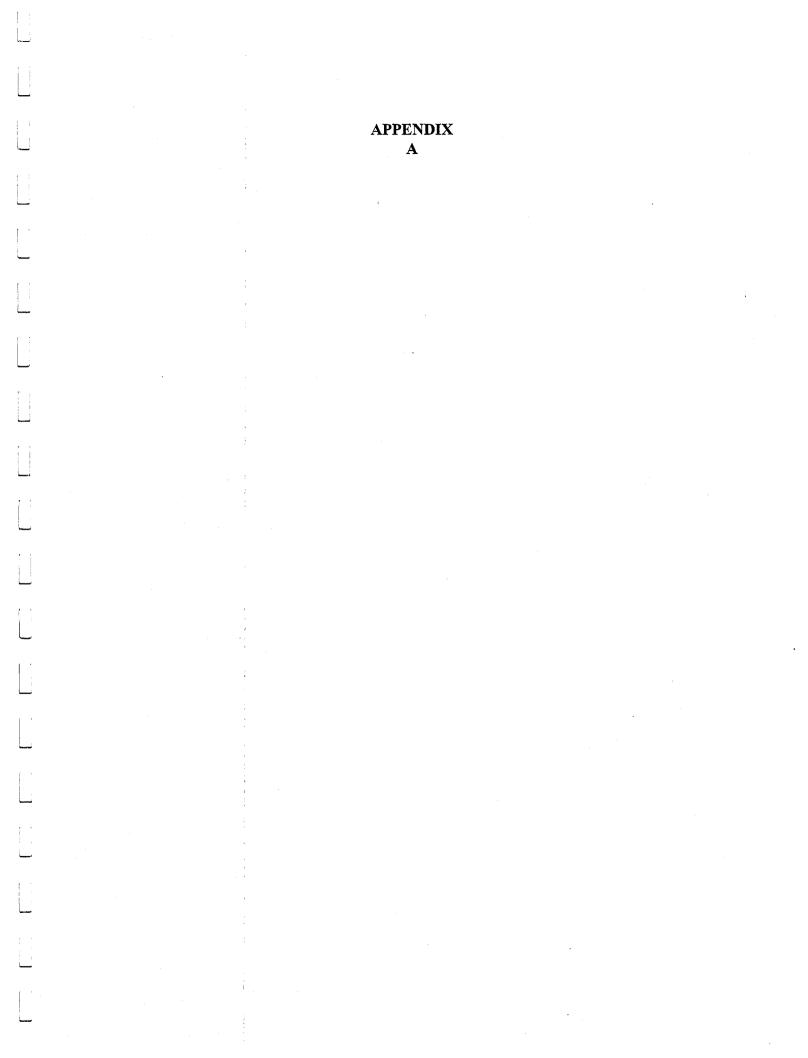
Bell, M.C. 1990. Fisheries Handbook of Engineering and Biological Criteria, Fish Passage Development and Evaluation program, Corps of Engineers, North Pacific Division, Portland, Oregon.

Helfrich, L.A., C.Liston, S.Hiebert, M.Albers, and K. Frazier. 1999. Influence of Low-head Diversion Dams on Fish Passage, Community Composition, and Abundance in the Yellowstone River, Montana. *Rivers* 7 (1): 21-32.

Liston, C.L., P. Johnson, B.Mefford, and D. Robinson. 1994. Fish Passage and Protection Considerations for the Tongue River, Montana, In association with the Tongue River Dam Rehabilitation Project. Dept. of Interior Memorandum, US Bureau of Reclamation, Technical Services Center, Denver, Colorado. 81 pages.

National Marine Fisheries Service. Revised Juvenile Fish Screening Criteria. March 2, 1995.

Prince, E.E. 1922. Irrigation canals as an aid to fisheries development in the West. Transactions of the American Fisheries Society 52:157-165.



INTARE MONTANA SIEVE NETTING - 1996           DATE         START         STOP         DURATION NET         GATE         CAMAL FL         FLOW SAM ACRE FT THRU N           OFFINIG CFS         COM SAM ACRE FT THRU N           OFFINIG CFS           OFFI	ANDRY WILLEYE BURGY:         CHARGE L DOCKYE LUCKE         DUCKYE BURGY:         DUCKYE BURGY: <thduckye burgy:<="" th="">         DUCKYE BURGYE BURGY:</thduckye>
07/1706         1030         1130         60         WEST         1         1310         60         5.371901           07/1706         1755         1900         65         WEST         1         1350         61         5.451413           07/1706         1345         30         WEST         1         1350         61         2.520611           07/1706         1300         100         100         60         EAST         0.25         1310         60         4.958678           07/1706         1000         1205         65         EAST         0.25         1310         60         4.958678           07/1706         1750         1850         60         EAST         0.25         1350         61         5.041322           07/1706         1750         1850         60         EAST         0.25         1330         84         4.733388           07/1806         1610         140         80         WEST         1         1330         84         4.733388           07/1806         1620         1740         80         WEST         1         1330         84         4.733388           07/18066         1620         1645	

INTAKE MONTANA SIEVE NETTING - 1996 DATE START STOP DURATION NET GATE CANAL FL FLOW SAM ACRE FT THRU N TIME TIME OPENING CFS CFS - 5/101al # gait H/43560(60)(D)	ET CATFISH BU	JLLHEAD STURGEON CHUB CHUB CHUB	LEFIN LONGNOS BRASSY EMERALD SPOTTAIL BIGMOUTH DRUM CARP 3 DACE MINNOW SHINNER SHINNER BUFFALO AC,FTFISH/A		SHORTHE BLACK GREEN SMALLMO NORTHER UNIDENTIF TOTAL R REDHORS CRAPPIE SUNFISH BASS PIKE SMALL FIS FISH FTFISH/AC.FTFISH/AC.FTFISH/AC.FTFISH/AC.FTFISH/AC.FTFISH/AC.FT
0.808/96         920         1025         65         WEST         0.375         1345         75         6.714876           08/08/96         815         915         60         WEST         0.375         1345         75         6.198347           08/08/96         1350         1510         16115         65         WEST         0.375         1345         75         6.714876           08/08/96         1355         1500         65         WEST         0.375         1345         75         6.714876           08/08/96         1930         2035         65         WEST         0.375         1345         75         6.14876           08/08/96         1025         1130         65         EAST         0.375         1345         75         6.14876           08/08/96         1350         1455         65         EAST         0.375         1345         75         6.14876           08/08/96         1350         1455         65         EAST         0.375         1345         75         6.198347           08/08/96         1300         1455         65         EAST         0.3125         1345         63         5.206612           08/08/9	0         0	0         0	0         0	0         0         0         0           0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         148923         0           0         0         0         0         0         0         0           0 <td><math display="block"> \begin{array}{c ccccccccccccccccccccccccccccccccccc</math></td>	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
0209/96         635         940         65         EAST         0.375         1325         74         6.623344           0209/96         1617         1717         60         EAST         0.375         1315         74         6.115702           02009/96         1633         1336         60         EAST         0.375         1315         74         6.115702           02009/96         1633         1336         60         EAST         0.375         1315         74         6.115702           02009/96         1633         1395         60         WEST         0.375         1310         77         6.363636           02/10/96         120         60         WEST         0.375         1310         77         6.363636           02/10/96         120         60         WEST         0.375         1310         77         6.363636           02/10/96         120         122         160         WEST         0.375         1310         77         6.363636           02/10/96         1030         1225         115         WEST         0.375         1310         77         12.19697           02/10/96         1030         1225         115 </td <td>1.166786         0         0         0.38823           0.175362         0         0         0         0           0         0         0         0         0         0           0.345714         0         0         0         0.345714           0.52653         0         0.148163         0.29632         2.370612           1.382857         0         0         0         0         345714           0         0         0         0         0.345714         0         0         0.345714           0         0         0         0         0         0.754286         0         0.754286           0         0         0         0         0         0         0         0           0.3445714         0</td> <td>0         0         0         1.660291         0           0         0         1.144595         0           0         0         0.981081         0           0         0         0.981081         0           0         0         0.981081         0           0         0         0.314286         0           0         0         0.314286         0           0         0.157143         0         0.623571           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0.1314286         0.94267           0         0         0.134284         0.34267         0           0         0         0.0178571         0         0           0         0         0.142848         0.34267         0           0         0         0.029388         0         0      <tr< td=""><td><math display="block">\begin{array}{cccccccccccccccccccccccccccccccccccc</math></td><td>0         0         0         0           0         0</td><td>0         1         1</td></tr<></td>	1.166786         0         0         0.38823           0.175362         0         0         0         0           0         0         0         0         0         0           0.345714         0         0         0         0.345714           0.52653         0         0.148163         0.29632         2.370612           1.382857         0         0         0         0         345714           0         0         0         0         0.345714         0         0         0.345714           0         0         0         0         0         0.754286         0         0.754286           0         0         0         0         0         0         0         0           0.3445714         0	0         0         0         1.660291         0           0         0         1.144595         0           0         0         0.981081         0           0         0         0.981081         0           0         0         0.981081         0           0         0         0.314286         0           0         0         0.314286         0           0         0.157143         0         0.623571           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0.1314286         0.94267           0         0         0.134284         0.34267         0           0         0         0.0178571         0         0           0         0         0.142848         0.34267         0           0         0         0.029388         0         0 <tr< td=""><td><math display="block">\begin{array}{cccccccccccccccccccccccccccccccccccc</math></td><td>0         0         0         0           0         0</td><td>0         1         1</td></tr<>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0         0         0         0           0         0	0         1         1
08/1296         1930         2030         60         WEST         0.375         1330         70         5.78124           08/1296         1920         60         WEST         0.375         1330         70         5.78124           08/1296         1720         1820         60         WEST         0.375         1330         70         5.785124           08/1396         1740         120         WEST         0.375         1370         72         5.550413           08/1396         1455         1530         95         EAST         0.375         1370         72         5.421480           08/1396         1035         1230         115         WEST         0.375         1370         72         1.90033           08/1396         1035         1230         115         WEST         0.375         1370         72         1.40496           08/1396         1240         1445         125         EAST         0.375         1370         72         5.550413           08/1396         1245         1240         WEST         0.375         1370         72         5.950413           08/1396         1035         1235         120         EAST <td>0.172857         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0&lt;</td> <td>0         0         0         1.03'143           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0.086429         0           0         0         0         0.08428         0           0         0         0         0.08428         0           0         0         0         0.08428         0           0         0         0         0.08428         0           0         0         0.163565         0.1610356         0           0         0         0.168056         0.1610356         0           0         0         0.091667         0.016056         0           0         0         0.0165753         0         0         0           0         0         0.165753         0         0         0           0         0         0         0.163514         0         0           0         0         0         0.163514         0         0           0         0</td> <td>0         0</td> <td>0     0     0     0       753     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0</td> <td>0         0</td>	0.172857         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0<	0         0         0         1.03'143           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0.086429         0           0         0         0         0.08428         0           0         0         0         0.08428         0           0         0         0         0.08428         0           0         0         0         0.08428         0           0         0         0.163565         0.1610356         0           0         0         0.168056         0.1610356         0           0         0         0.091667         0.016056         0           0         0         0.0165753         0         0         0           0         0         0.165753         0         0         0           0         0         0         0.163514         0         0           0         0         0         0.163514         0         0           0         0	0         0	0     0     0     0       753     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0       0     0     0     0	0         0

•

.

Z

	ONTAN STAR TIME			1996 JRATION NET	GATE C. OPENING C	FS CF	_OW SAM ACRE   FS total # gat H/4356		SAUGER			CATFISH	STONECATBLAG BULI TFISH/AC.FTFISH	LHEAD STUR	GEON		CHUB		CHUB	DACE	MINNOW	SHINNER	SPOTTAIL SHINNER TFISH/AC.FT	BUFFALO	-	CARP TFISH/AC.F		Longnos Whi Sucker Suc TFISH/AC.FTFISH	KER SUCK	ER REDHOR	IE BLACK RS CRAPPIE FTFISH/AC.I		H BASS		SMALL	FIS FISH	-
09/16/96	;	1417	1517	60 EAST	0.375	1355	72 5.950	0413	0	0		) (	0	0	0	o	0.336111	0	0	0	C	D (	, o	0	0	c	, c	0.336111	Ó	0	0	0	0	0	0	0 0.6	12222
09/16/96		1530	1730	120 EAST	0.375	1355	72 11.90		0	0		0.084028		0	0	0	0.336111	0	0	0	c	D (		0	0	c		0	0	0	0	0	0	0	0	0 0,4;	20139
09/16/96		1810	2010	120 WEST	0.375	1355	72 11,90	2083	0.084028	0	0	0.168056	0	0	0	0	0.168056	0	0	• 0	C	<b>)</b> (	) 0	0	0	c		0	0	0	0	0	0	0	0 0.084	028 0,50	J4167
09/16/96		1535	1735	120 WEST	0.375	1355	72 11.90	1083	0	0	c	) (	0	0	0	0	0.084028	0	0	0	0	) (	) 0	0	0	c	. 0	0	0	0	0	0	0	0	0	0 0.0	84028
09/16/96		1423	1523	60 WEST	0.375	1355	72 5.950	0413	0	0		) (	0	0	0	0	0	0	0	0	c	D (	) 0	0	0	C		0	0	0	0	0	0	0	0	0	0
09/16/96		1805	2005	120 EAST	0.375	1355	72 11.90		0	0	· .	0.084028	0	0 0.084	4028	0	0.084028	0	0	0	0	D (	) O	0	0	C	· .	0.084028	0	0 0.0840	28	0	0	0	0	0 0.4	20139
09/16/96		2025	2125	60 WEST	0.375	1355	72 5.950		0	0	c	) (	0	0	0	0	0	0	0	0	a	) (	) 0	0	0	C	. 0	0	0	0	0	0	0	0	0 0.336	111 0.3	
09/17/96		910	1310	240 EAST	0.375	1355	72 23.80		0	0	c	) (	0	0	0	0	. 0	0	0	0	C	) (	) 0	0	0	C	. 0	0	0	0 0.0420	14	0	0	0 0.0420		0 0.08	
09/17/96		500	700	120 WEST	0.375	1355	72 11.90		0.084028	0	c	0.168056		0	0	0	0.084028	0	0	0	0	) (	) 0	0	0	0	0	0	0	0	0	0	0	0	0 0.168	056 0.50	J4167
09/17/96		2000	2200	120 WEST	0.375	1355	72 11.90		0	0	c	0.168056	0	0	0	0	0	0	0	• 0	C	) (	) 0	0	0	a	. 0	0	0	0	0	0	0	0	0 0.168	056 0.33	
09/17/96		1750	1950	120 WEST	0.375	1355	72 11.90		0	0	c	) (	0	0	0	0	0.084028	0	0	0	0		) 0	0	0	C	0	0	0	0	0	0	0	0	0	0 0.08	84028
09/17/96		1545	1745	120 WEST	0.375	1355	72 11.90		0	0	C	) (	0	0	0	0	0	0	0	0	0	) (	) 0	0	0	C	0	0	0	0	0	0	0	0	0	0	0
09/17/96		705	905	120 EAST	0,375	1355	72 11.90		0	0	0	) (	0	0	0	0	0.084028	0	0	0	0	) (	) 0	0	0	C	0	0.168056	0	0	0	0	0	0	0	0 0.2	
09/17/96		910	1310	240 WEST	0,375	1355	72 23.80		0	0	c	) (	0	0	0	0	0	0	0	0	0	) (	0.042014	0	0	0	0	0	0	0	0	0	0	0	0	0 0.04	<i>₊</i> 2014
09/17/96		700	900	120 WEST	0.375	1355	72 11.90		0	0	c	) (	0	0	0	0	0	0	0	0	0	) (	) 0	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0
09/17/96		1320	1525	125 WEST	0,375	1355	72 12.39		0	0	C	) (	0	0	0	0	0	0	0	0	0	) (	) 0	0	0	a	0.080667	0	0	0	0	0	0	0	0	0 0.0	
09/17/96		1325	1530	125 EAST	0.375	1355	72 12.39		0	0	C		0	0	0	0	0.242	0	0	0	0	) (	) 0	0	0	0	0.080667	0	0	0	0	0	0	0	0	0 0.3	
09/17/96		2000	2200	120 EAST	0.375	1355	72 11.90		0	0	a	0.168056		0 0.168		084028	0.168056	0.084028	0	0	0	) (	) 0	0	0	0.084028	0.084028	0	0	0	0	0	0	0	0 0.084/	028 1.00	
09/17/96		1755	1955	120 EAST	0.375	1355	72 11.90		0.084028	0	a	0.084028	0	0	0 0	084028	0.252083	D	0	0	0	) (	) 0	0	0	0	0	0	0	0	0	0	0	0	0	0 0.50	
09/17/96		1550	1750	120 EAST	0.375	1355	72 11.90		0.084028	0	0	, c	0	0	0	0	0	0	. 0	0	0	) (	) 0	0	0	o	0	0	0	0	0	0	0	0	0	0 0.08	
09/17/96		505	705	120 EAST	0.375	1355	72 11.90		0	0.084028	C		0.084028	0	0	0	0	0	0	0	0	) (	) 0	0	0	0	0	0	0	0	0	0	0	0	0	0 0.16	
09/18/96		1545	1645	60 EAST	0.375	1355	72 5.950		0	0	a		0.168056	0		168056	0	0	0	0.336111	0	) (	) 0	0	0.168056	0	0	0	0	0	0	0	0	0	0 0.5041		.5125
09/18/96		1545	1645	60 WEST	0,375	1355	72 5.950		0	0	0.168056		0.672222	0 0.168		336111	0	0	0	0	0		0	0	0	0.336111	0.168056	0	0	0	0	0	0 .	0	0	0 2.3	
09/18/96		1335	1535	120 WEST	0.375	1355	72 11.90		0	0	0	0.252083	0	0		.084028	0.084028	0	0	0.252083	0	) (	0	0	0	0	0	0	0	0	0	0	0	0	0 0.0840		
09/18/96		930	1330	240 WEST	0.375	1355	72 23.80		. 0	0	0.084028		0	0 0.042	2014	0	0.042014	0	0	0	0	) C	0	0	0	0.042014	0	0	0	0	0	0	0	0 0.0420	14	0 0.2	
09/18/96		1335	1535	120 EAST	0.375	1355	72 11.90		0	0	0		0	0	0	0	0	0	0	0.084028	0		0.084028	0	0.084028	0	0	0	0	0	0	0	0	0	0	0 0.2	
09/18/96		915	1315	240 EAST	0.375	1355	72 23.80		0	0.042014	0		0	0	0 0	.042014	0.084028	0	0	0	0		0.084028	0	0	0	0	0	0	0	0 0.04201		0	0	0	0 0.29	
09/19/96		1050	1250	120 WEST	0.375	1355	72 11.90		0	0	U U	1.260417		0	0	0	0.252083	0	0	0	0		0	0	0	0.084028	0	0	0	0	0 0.08402	28	0	0		167 2.52	
09/19/96		630	730	60 WEST	0.375	1355	72 5.950		Ű	0	0	4.033333		0	0	0	0	U		0	0		0	0	0	0	0	0	0	0	0	U	0	0		556 5.71	
09/19/96		1630	1830	120 WEST	0.375	1355	72 11.90		0	0	0	0.504167	0.75625	0	0	0	0.084028	0	0	0	0		. 0	0	0	0.084028			0	0	0	0	0	0		278 2.43	
09/19/96		800	1000	120 WEST	0.375	1355	72 11.90		0	0	u u	3.865276	0	0	0	0	0	0.084028	0	U	0		0	0	0	0	0,084028	0	0	0	0	0 0.1680	56	0	0 1.0923		29375
09/19/96		800	1000	120 EAST	0.375	1355	72 11.90		0	0	0 468655	2.772917		U	U O	a	0.168056	0	ů.	0	Ű			0	0	0.168056	0	0	U O	0	0 00010	0	0	0		306 4.36	
09/19/96		1630	1830	120 EAST	0.375	1355	72 11.90 72 11.90		Ű	0	0,168056		4.621528 0.840278	U O	0 2	0	1.008333 0.588194	0	0	0.084028	0			0	0.084028	0	0.168056	. 0	0	0	0 0.08402	20	0	0		625 8.06	56667 78125
09/19/96		1050	1250 730	120 EAST	0.375 0.375	1355 1355	72 11.90		0	0	0.084028			0	0.0	084028	0.336111	0	0	0	0						U			v	0	0	V		0 0.5881	194 3.1	
09/19/96		630 1840	2040	60 EAST 120 EAST	0.375	1355	72 5.950				0.084028	2.856944		. u	. u		1.008333	u-	· · 0+			6		- 0		0	0.084028	U O	0	0	0	2	0 0.0840	20		139 8.23	
09/19/96		1840	2040	120 EAST 120 WEST	0.375	1355	72 11.90		0	U 0	0.084028	0,75625		0	0	0	0.840278	0		0	0			0	0	0	0.084028		ő	0	0 0.1690/	0 56 0.0840		<u></u>		139 8.2.	
03/19/90		1040	2040	120 WEDI	0.375	1355	12 11.50	~~~	v	v		0.73025	1.032301	0			0.040270	v	. 0	0	v	, L		U	0	Ŭ	0,100030		v	v .	0 0.10003		20	•	0 0.304	101 3.0	5124

•

·\*5



DATE START STOP DURATION NET RIVER GATE TOTAL RATIO THR CANAL OFS PER ACREFEET STONECAT CHANNEL FLATHEAD STURGED CREEK SILVERY BRASSY LONGHOS LONGHOS WHITE BLUE SHORTHEARIVER BIOMOUTH BURBOT GOLDEYE SAUGER WALLEYE RAINBOW BROWN SHOVELN CARP BLACK SMALLMO WHITE GREEN SICKLEFIN STICKLEBANORTHER DRUM SPOTTAL EMERALD FATHEAD

DATE START STOP DURATION NET	RIVER GATE TOTAL RATIO THR CANAL OFS PER ACREFEET STONECAT CHANNEL FLATHEAD STURGED CREEK SILVERY BRASSY LONGNOS LONGNOS WHITE BLUE SHORTHEARIVER BIGMOUTH BURBOT GOLDEVE SAUGER WALLEVE RAINBOW BROWN S SURFACE OPENING GATES GATE RLOW SET THRU NET CATFISH CHUB CHUB CHUB CHUB MINNOW MANOW DACE SUCKER SUCKER SUCKER REDHORS CARPSUCKBUFFALD. TROUT TROUT TROUT ELEVATION CFS PER ACFT. PER AC	SHOVELN CARP BLACK SMALLMO WHITE GREEN SICKLEFIN STICKLEBANORTHER DRUM SPOTTAIL EMERALD FATHEAD MOUNTAIN TOTAL STURGEON BULLEAD BUFFALD CRAPPIE SUNFISH CHUB PIKE SHIMMER SHIMMER MINNOW WHITEFISHFISH PER ACFT. PER
65 28 97         1300         1400         60         YW           65 28 97         1420         1520         600         FE           65 28 97         1430         1530         600         FE           65 28 97         1530         1630         600         FE           65 28 97         1700         1810         655         FE           65 28 97         1820         1800         600         FE           65 28 97         1820         1800         600         FE           65 28 97         1820         1800         600         FE           65 28 97         1845         945         600         FE           65 28 97         1945         945         600         FE           65 28 97         1130         1430         950         FE           65 28 97         1315         1445         900         960         971           65 28 97         1305         1445         900         960         971           65 29 97         1305         1445         300         971         970         980         300         971           65 10 97         1300         1300         981 <td></td> <td></td>		

.

141 a.0, 194

DATE START STOP DURATION NET	RIVER GATE TOTAL Surface opening gates Elevation	L RATIO THR CANAL CFS PI S GATE FLOW SET CFS	THRU NET	CATFISH C	LATHEAD STURGEO CREEK HUB CHUB CHUB ER AC.FT.PER AC.FT.PER AC.F	MINNOW MINNOW	DACE SL	UCKER SUCKER	SUCKER	Shortheariver Redhors Carpsuc Per Ac.FT.Per Ac.F	KBUFFALO			TRO	UT TROUT	SHOVELN STURGEOF T. PER AC.FT	V 80	LINEAD BUFFALO	AO WHITE O CRAPPIE OFT PER AC.F
06 15 97 1545 1580 65 YW 06 15 97 1545 2005 70 YE 06 15 97 1655 2005 70 YE 06 15 97 2016 2100 2100 60 YE 06 15 97 2016 2105 2015 20 YW 06 15 97 2050 2105 20 50 60 YE 06 16 97 855 925 20 60 YE 06 16 97 1055 1120 25 BW 06 16 97 1120 1305 75 YE 06 16 97 1225 1325 75 YE 06 16 97 1355 1510 75 YE 06 16 97 1355 1510 75 YE 06 16 97 1355 1510 75 YE	10.02         0.375         3           10.02         0.3125         3           10.02         0.3125         3           10.02         0.3125         3           10.02         0.3125         3           10.02         0.375         3           10.02         0.375         3           10.07         0.375         3           10.17         0.3125         3           10.17         0.3125         3           10.17         0.375         3           10.17         0.375         3           10.17         0.375         3           10.17         0.375         3           10.17         0.375         3           10.17         0.375         3           10.17         0.375         3	3.75         0.1         1720         172           3.75         0.63333         1720         143           3.75         0.63333         1720         143           3.75         0.63333         1720         143           3.75         0.63333         1720         143           3.75         0.1         1720         172           3.75         0.1         1720         172           3.75         0.1         1720         172           3.75         0.1         1720         172           3.75         0.1         1720         173           3.875         0.056774         1720         183           3.875         0.05645         1720         183           3.875         0.056774         1720         166           3.875         0.060645         1720         166           3.876         0.0807474         1720         166           3.875         0.080645         1720         166           3.875         0.080645         1720         166           3.875         0.0807474         1720         166           3.875         0.8774         1720 <td< td=""><td>000         15.402         0           333         13.822         0           3333         13.876         0           333         15.766         0           000         7.108         0           000         7.108         0           010         7.108         0           010         7.108         0           010         7.108         0           010         7.108         0           010         11.465         1           15.2         9.172         0           0152         9.172         0           152         13.758         0           152         13.733         1           152         13.733         1</td><td>0000         0           0723         0           8682         0           86831         0           1407         0           5027         0           6105         0           4351         0           1339         0           2161         0           2550         0           0727         0           6250         0</td><td>0.064925 0 0.072249 0 0.14655 0 0.12551 0 0.140678 0 0.140678 0 0.261662 0 0.261662 0 0.067221 0.174441 0 0.07224 0.174441 0 0.07225 0.136553 0 0.0087276 0.086776 0 0.075564 0</td><td>0 0 0 0 0 144586 0 0.063305 0 0.063305 0 0.06305 0</td><td>0 0 0 0.072349 0 0.140678 0 0.087221 0 0.087221 0 0 0.087221 0 0 0.087221 0 0 0.059776 0 0.069776 0 0 0.069776 0 0 0.069776</td><td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td></td><td></td><td>0 0 0.072 0 0 0 0 0 0 0 0.145 0 0 0.069776 0 0.072 0 0.075</td><td>0 0 349 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td></td><td></td><td>0 0.072349 0.063305 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>0 00 0 00</td></td<>	000         15.402         0           333         13.822         0           3333         13.876         0           333         15.766         0           000         7.108         0           000         7.108         0           010         7.108         0           010         7.108         0           010         7.108         0           010         7.108         0           010         11.465         1           15.2         9.172         0           0152         9.172         0           152         13.758         0           152         13.733         1           152         13.733         1	0000         0           0723         0           8682         0           86831         0           1407         0           5027         0           6105         0           4351         0           1339         0           2161         0           2550         0           0727         0           6250         0	0.064925 0 0.072249 0 0.14655 0 0.12551 0 0.140678 0 0.140678 0 0.261662 0 0.261662 0 0.067221 0.174441 0 0.07224 0.174441 0 0.07225 0.136553 0 0.0087276 0.086776 0 0.075564 0	0 0 0 0 0 144586 0 0.063305 0 0.063305 0 0.06305 0	0 0 0 0.072349 0 0.140678 0 0.087221 0 0.087221 0 0 0.087221 0 0 0.087221 0 0 0.059776 0 0.069776 0 0 0.069776 0 0 0.069776	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 0 0.072 0 0 0 0 0 0 0 0.145 0 0 0.069776 0 0.072 0 0.075	0 0 349 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 0.072349 0.063305 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 00 0 00
06/16/37 1530 1645 75 YE 06/16/37 1535 1653 50 YW 06/16/37 1500 2000 60 BE 06/17/37 1155 1255 60 YW 06/17/37 1155 1255 60 YW 06/17/37 1500 1620 60 9E 06/17/37 1500 1620 80 9E 06/17/37 1500 1620 80 BE 06/17/37 1500 1620 80 BE 06/17/37 1501 1620 80 BE 06/17/37 1502 1800 70 BE 06/17/37 1502 1800 65 YE 06/17/37 1540 1940 60 YE 06/17/37 1340 1940 60 YE 06/17/37 2010 2110 60 BE 06/17/37 2010 2110 60 BE 06/17/37 2010 2110 60 BE 06/17/37 840 990 70 BW 06/18/37 840 995 70 BW	10.16         0.375         3.4           10.18         0.375         3.4           10.04         0.376         3.4           10.04         0.376         3.4           10.04         0.376         3.4           10.04         0.378         3.4           10.04         0.3125         3.4           10.04         0.3125         3.1           10.04         0.3125         3.1           10.04         0.3125         3.1           10.04         0.3125         3.1           10.04         0.3125         3.1           10.04         0.3125         3.1           10.04         0.3125         3.1           10.04         0.3125         3.1           0.3125         3.1         3.04           0.3125         3.1         3.04           9.76         0.3125         3.6	8.875         0.000645         1720         138.           8.875         0.009747         1720         166.           8.876         0.0097474         1720         156.           8.875         0.0097474         1720         156.           8.875         0.0096744         1720         156.           8.875         0.0096744         1720         156.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009645         1670         134.           8.875         0.009585         1670         132.           8.9	13,758         0           11,455         0           152         13,758         0           131         13,358         0           577         12,847         0           577         12,847         0           577         12,847         0           577         12,843         0           577         12,843         0           577         12,843         0           577         12,843         0           577         11,132         1           577         11,132         0           577         11,132         0           577         11,132         0           577         11,132         0           577         11,132         0           577         11,132         0           577         11,132         2           540         10,955         0           549         12,781         0	3634         0           0872         0           3634         0           1797         0           0000         0           6737         0           3369         0           1777         0           0770         0           6634         0           1797         0           1797         0           1797         0           1797         0           4373         0           477         0.091281	0.275106 0.059776 0 0 007221 0 0.72584 0 0.14972 0 0.75959 0.75959 0 0.075959 0.75959 0 0.02122 0.067374 0 0.02122 0.067374 0.067374 0.067374 0.067374 0.067374 0.067374 0.068322 0.497531 0 0.058322 0.497531 0 0.058322 0.497531 0 0.058322 0.497531 0 0.058322 0.79564 0 0.058322 0.179564 0 0.078241 0.77854 0 0.078241 0.77824 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.065776 0 0 0 0 0 0 0 0 0.07486 0 0.08832 0 0.067374 0 0 0 0 0.067374 0 0 0 0 0.065374 0 0.055344 0 0.359328 0 0.085832 0 0.085832 0 0.085832 0 0.085832 0 0.085832 0 0.078241 0 0.078241 0 0.078241 0 0.078241 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.069776 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0         0           0         0.057221         0           0         0         0         0           0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0			0 0.072 0 0.087 0 0.14 0 0.14 0 0.076 0 0.067 0 0.082922 0 082 0 0 0 0.085 0 0.085 0 0.085 0 0.085 0 0.085	221 0 972 0 9999 0 374 0 9999 0 374 0 9999 0 522 0 0 0 0 0 632 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0.069776 0 0.07486 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0.072684           0         0.072684           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0
06 18 97         1005         1110         65 YE           06 18 97         1120         1220         60 BW           06 18 97         1120         1220         60 BW           06 18 97         1230         1400         90 BW           06 18 97         1235         1415         100 YE           06 18 97         1235         1415         100 BW           06 18 97         1330         2400         90 BW           06 18 97         1330         2400         70 BW           06 18 97         1330         2400         60 YE           06 18 97         1303         2100         65 YE           06 18 97         1030         2100         65 YE           06 18 97         1030         1000         105         57 BW           06 19 97         1000         1105         65 BW         65 BW           06 19 97<1015	9.78         0.3125         3.80           9.78         0.3125         3.80           9.78         0.3125         3.80           9.78         0.3125         3.80           9.78         0.3125         3.80           9.78         0.3125         3.80           9.78         0.3125         3.80           9.78         0.3125         3.80           9.78         0.3125         3.92           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125         4.1           9.32         0.3125	3075         0.073845         1670         132.           3075         0.073845         1670         132.           3075         0.073845         1670         132.           3076         0.073845         1670         132.           3076         0.073845         1670         132.           3076         0.073845         1670         132.           3076         0.073845         1670         132.           3076         0.073845         1670         132.           3076         0.073845         1670         132.           3076         0.073845         1670         132.           30776         0.073845         1670         132.           30776         0.073845         1670         132.           4125         0.075784         1720         130.           4125         0.075786         1720         130.           4125         0.075786         1720         130.           4126         0.075786         1720         130.           4126         0.075786         1720         130.           4126         0.075786         1720         130.           4126         0	10         10         955         0           10         16         453         0           140         16         453         0           140         16         453         0           140         16         453         0           140         16         453         0           140         15         550         0           140         12         761         0           140         15         550         0           140         13         463         0           15         13         463         0           1403         13         463         0           13         463         1         1           1468         0         0         13           14         13         463         1           14         13         463         1           14         13         463         1           15         16         13         463         1           14         163         1         1         463         1           15         10         13         463	9128         0           6350         0           6351         0           6654         0           8753         0           4520         0.054434           2871         0           5142         0           5142         0           6685         0.074278           1142         0           5141         0           5551         0	0.09121 0.192562 0.091281 0.091281 0.091281 0.121708 0.30427 0.01281 0.050154 0.425977 0.021974 0.02014 0.050154 0.425977 0.021974 0.012974 0.15050 0.425973 0.012974 0.012974 0.15050 0.425105 0.012974 0.012974 0.057270 0.297113 0.0074276 0.297113 0.0574276 0.297113 0.0074276 0.297113 0.465556 0.145556 0.074276 0.297113 0.465556 0.145556 0.074278 0.29947 0.007428 0.29947 0.007428 0.29947 0.007428 0.29947 0.00748 0.007428 0.29947 0.00748 0.29947 0.00748 0.29947 0.00748 0.00748 0.29947 0.00748 0.29947 0.00748 0.29947 0.00748 0.29947 0.00748 0.00748 0.29947 0.00748 0.29947 0.00748 0.00748 0.00748 0.00748 0.00748 0.00748 0.00748 0.00748 0.00748 0.00748 0.00748 0.00748 0.0074	0 0.168516 0 0 0 0.121708 0 0.0521708 0 0.050554 0 0.054758 0 0.0762241 0 0.0762241 0 0.0762241 0 0.0762241 0 0.0762241 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.078241 0 0.064434 0 0 0 0 0 0 0 0 0.171411 0 0.085706	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0.064 0 0.055 0 0.055 0 0.054 0 0.054 0 0.054 0 0.054 0 0.054 0 0.054 0 0.055 0 0.055 0 0.055 0 0.022 0 0.065 0 0.022 0 0.065 0 0.025 0 0.025 0 0.025 0 0.025 0 0.05 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
0619.97         1420         1520         60 BW           062597         815         920         65 BE           062597         820         920         60 BW           062597         820         920         60 BW           062597         820         945         1045         60 BW           062597         1115         1220         65 BW           062597         1125         1335         60 BV           062597         1225         1335         60 BW           062597         1235         1335         60 BW           062597         1235         1335         60 BW           062597         1235         1335         60 BW           062597         1330         1630         60 BW           062597         1330         1630         60 BW           062597         1530         1630         60 BW           062597         1531         1640         1740         60 BE           062597         1750         1650         60 BW         662597         1750         60 BW           062597         1750         1650         60 BW         662597         60 BC         662597	0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	256         10.651         0.           268         9.860         0.           278         9.860         0.           278         9.860         0.           278         9.860         0.           278         10.631         0.           278         9.850         0.           278         9.850         0.           278         9.850         0.           278         9.860         0.           278         9.860         0.           278         9.860         0.           278         9.860         0.           278         9.860         0.           278         9.860         0.           278         9.860         0.	0000         0           2028         0           0000         0           0000         0           0114         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0.101423           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0	0.1014230 0.099321.0 0.699321.0 0.697328.0 0.64728.0 0.0927.0 0.405583.0.202246 0.405583.0.202246 0.405583.0.202246 0.405583.0.202246 0.405587.0.202246 0.30427.0.202245 0.30427.0.20245 0.30427.0.20245 0.30427.0.20245 0.30427.0.20245 0.30427.0.20245 0.30427.0.20255 0.30420	0.101423 0.101423 0.01423 0.001423 0.0202846 0.0.202846 0.0.101423 0.01423 0.01423	0.101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0.101423 0 0 0.101423 0 0 0.101423 0 0 0.101423 0	0 0 0 0 0 0 101423 0 0 0 0 0 0 0 0 101423 0 0 101423 0		0, 101423 0, 101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0.101 0 0.157 0 0.101 0 101423 0 0.202 0 0.202	0 0 0 0 243 0 423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
062587         1910         2015         66         BE           062587         2020         2130         60         BW           062587         2130         2200         60         BW           062587         2130         2200         60         BW           062587         2130         2200         60         BW           0625877         2130         2200         60         BE           0625877         2135         335         60         BE           0625877         833         335         60         BE           0625877         1100         1200         75         BW           0625877         1100         1200         75         BW           0625877         1435         1335         60         BE           0625877         1435         1335         60         BW           0625877         1435         1335         60         BW           0625877         1435         1545         60         BW           0625877         1435         1645         60         BW           0625877         1545         1645         60         BW	- 0.28 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25	3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670         119           3.5         0.671429         1670	Product         Product           R28         P.860         0.           R286         P.860         0.	5071         0         1014         0         1           1014         0         0         0         1014         0           1014         0         0         0         1014         0         0           0011         0.081139         0         0         0         0         1014         0         10         1014         0         0         10         10         0         10         10         0         0         10         10         0         0         10         10         0         10         10         0         10         10         0         10	0.2022#6 0.2022#6 0.2022#6 0.2022#6 0.2022#6 0.101423 0.101423 0.2028#6 0.101423 0.2028#6 0.0043671 0.173886 0.0043671 0.173886 0.101423 0.2028#6 0.101423 0.2028#6 0.101423 0.2028#6 0.101423 0.2028#6 0	0         0           0         0           0         0.232246           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	0 0 0 0 0 0 0 0 0 0 0 0 0 0.101423 0 0 0 0 0.202846 0 0 0.202846 0 0 0 0 0 0 0.101423 0 0 0 0 0 0 0.101423 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0.101 0 0.101423 0 0.101423 0 0.101423 0.101 0 0.101423 0.101 0 0 0.101	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		000000000000000000000000000000000000000		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
06/25/97         1610         1910         60 BW           06/25/97         1610         1910         60 BE           06/25/97         1625         2025         60 BE           06/25/97         1625         2025         60 BH           06/25/97         2040         2140         60 BH           06/25/97         2040         2140         60 BH           06/27/97         525         1025         60 OF           06/27/97         525         1025         60 BH           06/27/97         525         1025         60 BH           06/27/97         525         1025         60 BF           06/27/97         525         1035         63 BW           06/27/97         1047         1140         65 EY           06/27/97         1047         1150         53 BE           06/27/97         1151         1252         60 YE           06/27/97         1151         1252         61 BW           06/27/97         1151         1301         64 BE           06/27/97         1310         1410         60 ZH           06/27/97         1313         1415         62 BE           06/27/97 <td>0.25 0.25 0.25 0.25 7.5 0.25 7.5 0.25</td> <td>1.3         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22</td> <td>2865         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0</td> <td>2228         0           0000         0           1014         0           3043         0           1014         0           3043         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           1014         0           1031         0           00966         0           1014         0           1014         0           3043         0.101423           00000         0</td> <td>0 0 0 0 04/423 0/1423 0 0.405693 0 0 0.101423 0 0 0.101423 0.101423 0 0.101423 0.10142 0 02978 0.103187 0.00559 0.005593 0.202464 0.10142 0 0 0 0.30427 0.101423 0 0.30427 0.101423 0.285253 0.05504 0 0.195303 0.405757</td> <td>0 0202546 0 0 0 0 0 0 0 0 0 3 0 0 0.101423 3 0</td> <td>0 0101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>0.101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>0         0.101423           0         0.101423           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td> <td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>0 00 0 00 0 00 0 00 0 00 0 00 0 00 0 0</td> <td>0 0.101423 0.101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>0 0 0 0 593 0 0 0 0 0 0 0 0 0 0 0 151 0</td> <td></td> <td></td> <td></td> <td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>000000000000000000000000000000000000000</td> <td></td>	0.25 0.25 0.25 0.25 7.5 0.25 7.5 0.25	1.3         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22         1670         119           3.5         0.0714.22	2865         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2878         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0           2886         9.860         0.0	2228         0           0000         0           1014         0           3043         0           1014         0           3043         0           0000         0           0000         0           0000         0           0000         0           0000         0           0000         0           1014         0           1031         0           00966         0           1014         0           1014         0           3043         0.101423           00000         0	0 0 0 0 04/423 0/1423 0 0.405693 0 0 0.101423 0 0 0.101423 0.101423 0 0.101423 0.10142 0 02978 0.103187 0.00559 0.005593 0.202464 0.10142 0 0 0 0.30427 0.101423 0 0.30427 0.101423 0.285253 0.05504 0 0.195303 0.405757	0 0202546 0 0 0 0 0 0 0 0 0 3 0 0 0.101423 3 0	0 0101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0.101423           0         0.101423           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 00 0 00 0 00 0 00 0 00 0 00 0 00 0 0	0 0.101423 0.101423 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 593 0 0 0 0 0 0 0 0 0 0 0 151 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	
06 27 97         1720         1820         60 YE           06 27 97         1730         1830         60 BW           06 27 97         1740         1840         60 BW           06 27 97         1835         1935         60 YE           06 27 97         1835         1935         60 YE           06 27 97         1857         1957         60 BW           06 28 97         1055         11957         60 BW           06 28 97         1055         11955         60 YE           06 28 97         1055         11955         60 YE           06 28 97         1205         1105         60 BW           06 28 97         1230         1432         123         124           06 28 97         1230         1433         120 BW         62 28 97         1230         1430         120 BW           06 28 97         2236         2425         120 BW         96         128         1433         120 BE           06 28 97         2235         2425         120 W         96         258         120 BW           06 28 97         2235         2440         125 BE         120 BW         125 BE           06 28 97 <t< td=""><td><math display="block">\begin{array}{cccccccccccccccccccccccccccccccccccc</math></td><td>3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.7         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         16</td><td>286         9.860         0           8286         9.860         0           8286         9.860         0           8286         9.860         0           8286         9.860         0           8286         9.860         0           8000         8.927         0           9000         8.927         0           9000         8.927         0           9000         8.927         0           9000         8.927         0           9001         17.854         0           91516         17.278         0           91516         17.278         0           91516         17.978         0           91516         17.978         0           91517         17.986         0</td><td>4057         0           00000         0.101423           00000         0           2028         0           2028         0           1120         0           1120         0           1120         0           5315         0           1120         0           0590         0.056011           2315         0           11736         0</td><td>0 0.101423 0.20246 0.30427 0 0.60553 0.60153 0.405653 0.30427 0.42563 0.30427 0.42653 0.30427 0.112022 0.112022 0.47213 0.336065 0.112022 0.112022 0.44606 0.112022 0.44606 0.112022 0.4554 0.336065 0.11575 0 0.57677 0.347257 0.55553 0.111125 0.57275 0.347257</td><td>0 0</td><td>0 0.101423 0 0 0 0 0.202846 0 0.112022 ( 0 0 112022 ( 0 0 112022 0 0 0 112022 0 0 0 0.056011 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>0 0 0.057878 0.057878 0 0 0</td><td>0 0</td><td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>0 0 0 0.101423 0 0.101423 0 0.101423 0 0 112022 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>0 0.101 0 0 0 0 0 056011 0.224 0 0 0.115 0 0 0.155</td><td>0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           755         0           0         0</td><td></td><td></td><td></td><td>0 0 0 0 0 0 0 0 112022 0 0 0 0 0 0 0 0 0</td><td>4 5 0 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td></t<>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.5         0.071429         1670         119           3.7         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         1620         100           3.75         0.066667         16	286         9.860         0           8286         9.860         0           8286         9.860         0           8286         9.860         0           8286         9.860         0           8286         9.860         0           8000         8.927         0           9000         8.927         0           9000         8.927         0           9000         8.927         0           9000         8.927         0           9001         17.854         0           91516         17.278         0           91516         17.278         0           91516         17.978         0           91516         17.978         0           91517         17.986         0	4057         0           00000         0.101423           00000         0           2028         0           2028         0           1120         0           1120         0           1120         0           5315         0           1120         0           0590         0.056011           2315         0           11736         0	0 0.101423 0.20246 0.30427 0 0.60553 0.60153 0.405653 0.30427 0.42563 0.30427 0.42653 0.30427 0.112022 0.112022 0.47213 0.336065 0.112022 0.112022 0.44606 0.112022 0.44606 0.112022 0.4554 0.336065 0.11575 0 0.57677 0.347257 0.55553 0.111125 0.57275 0.347257	0 0	0 0.101423 0 0 0 0 0.202846 0 0.112022 ( 0 0 112022 ( 0 0 112022 0 0 0 112022 0 0 0 0.056011 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0.057878 0.057878 0 0 0	0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0.101423 0 0.101423 0 0.101423 0 0 112022 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.101 0 0 0 0 0 056011 0.224 0 0 0.115 0 0 0.155	0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           755         0           0         0				0 0 0 0 0 0 0 0 112022 0 0 0 0 0 0 0 0 0	4 5 0 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
07 07 97 1235 1540 55 BW 07 08 97 540 500 50 75 07 08 97 540 315 55 BW 07 08 97 540 315 55 BW 07 08 97 820 590 130 80 BW 07 08 97 820 130 120 EW 07 08 97 950 130 120 75 07 08 97 950 135 40 BW 07 08 97 1205 135 90 BW 07 08 97 1210 1405 116 BW 07 08 97 1416 1556 100 FE	5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.           5.42         0.25         2.	2.313         0.106065         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102           2.313         0.108085         945         102	140         12.664         0           140         13.367         0           140         10.553         0           140         11.257         0           140         16.885         0           140         16.885         0           140         16.885         0           140         12.664         0           140         15.476         0	0000         0           .0743         0           .0000         0           .0000         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0           .0592         0	0.157931 0 0.299238 0.07461 0.094759 0.284276 0.355345 0.286509 0.177673 0 0.059224 0.059224 0.315663 0.315663 0 0	0 0.236897 0 0.059224 0 0.078956	0 0 088636 0 0 0 0 0 0 0 0 0 157931 0 0 0 129217 0	0 0 0.094759 0.177673 0.059224 0.059224 0.059224		0 0 05922 0 0 07899	0 0 0 0189518 0 008836 4 0.118448 0 018448 5 0.078966 8 0129217 0 0	0 0.236 0 0.556 0 0.0656 0 0.055 0 0.235 0 0.235 0 0.157 0 0.064 0 0.213	897 0 476 0 836 0 224 0 897 0 931 0.078966 608 0	0 0 0 0 0 0 0	0		0 0 0 0 0 0 0 0 0 0 0 0 0 0		3 00 00 00 00 00 00 00 00 00 00 00 00 00

,

HITE RAPPIE	green Sunfish	CHU8	STICKLEBANORTHEF		SHINNER	émerald Shinner	MINNOW	MOUNTAIN TO WHITEFISHFI	SH .
RAC.FT	PER AC FT	PER AC.FT	PER AC.FT. PER AC.F	T.PER AC.FT	PER AC FT	PER AC.FT	PER AC.FT	PER AC.FT.PE	R AC.FT
0	0	0	0	<b>)</b> 0	o	0	0	0 1	0.064928
0	0	0	0	) 0	0	0	0	0	0.144698 1.374628
0.063305	: O	0 0	0 1	) 0	0	0 0	0.0	0 (	0.949579 0.422035
0	0	0	0 0	) 0	0	0	. 0	0 (	0.703392 0.281357
0	; 0	0	0 0	) 0	0	0	0	0 0	0.58147
0	0	0	0	) 0 ) 0	0	0	0	0 1	482749
0	0	0	0	) 0	0	0	0	0 (	327077
000	0	0 0	0	) 0	0	0	0 0		0.97687
0 0	ů o	ů o	0	) 0	ů o	0 0	ů o	0	0.58147
0.072684 0	0	0	0 0	0	0	0	0	0 (	508787
0	. o	0	0 0	) 0	0	0	0	0 0	.348882 .436103
0	0	0	0 0	0	0	0	0	0	0.59888 0.44916
0	0	0	0	, 0	0	0	0	0 1	.461993 .145357
0	0	0	0 0	) 0	0	0	0 0	0 0	.471618 .538992
0	0	0	0 0	• •	0	. 0	0	0 1	.575514 .976303
0	0	0	0 0	0	0	· 0	0	0 0	.628824 .536992
0	0	0	0 0	. 0	0	0	0	0 1	2.78479
0	, 0 0	0 0	0 0	0	. 0	0 0	0	D	0 0 0 0 0
0	. 0	0	0 0	G	0	0	0	0 1	.685185
0	) O	. 0	0 0		0	0	0		.912809 .521348
. 0	· · 0	0	0 0	0	io o	0	0	· 0 1	.643055 1.39964
0	0 0	0	0 0	0	0	0	0	0 1	.643055
0 0 0	· - 0				- · 0		0	0 2	448475
ō	0	0	0 0	0	0 0	0	0	0 1	.114172
0		0 0	0 0	0	0	0	0	0 1	.028467
0 0	. 0	0	0 0		0	ů o	0 0 0	0	1.18845 .782676
ŏ	Ö	0	0 0	. 0	0	ů o	ů o	. 0 1	.262729 .928477
0	.0	0	0 0		0	0	0	0 0	742782
0	0	0	0 0	0	0	0	0	0 0	709962
000	Ŏ	0 0 0	0 (	0	0	0	0 0 0	0	405693 0.30427 .187243
0	0	0	0 0	0	0	0	0	0 0	842592
0	0	0	0 0		0	0	0	0 0	0.30427 .912809
. 0	0	0	0 0	. 0	0	0	0	0 0	101423 811385
0	0	0	0 0	0	0	0	0	0 0	811385 202846
0	0	0 0	0 0		0	0	0	01.	507116 014232
0	0	0 0	0 0	0	0 0	0	000	0 (	217078 0.30427
0	7 0	0 0	0 0	0	0 Q	0 0	0	0 0	280864 374486
0	0	0	0 0	0	0 0	9 0	0	0 0.	405693 811385
0	0	0	0 0	0	0 0	0	0	0 0	115655
0	0	0	0 0		0	0 0	0 0 0	00	0 608539
0	000	0	0 0	· e	0	0	. 0	0 0	162277 695473
0	0	0	0 0	. 0	0 0	0	0	00	507116 608539
0	0	. D	0 C	. 3	9 9	0	0	0 0.	507116 912809
0 - 0	с. О	· 0	0 0	• •	0	0	0	0 0	30427 405693
0	0	0	0 C	. 0	0	0	0	0 0.	318501 405693
0	: 0 0	0	. 0 0		0	0	0	00.	202845 405693
0	0	0	0 0	0	0 V	0 0	0 0	0 0. 0 0.	405693 709962 507116
0	· 0	0	0 0 0 0		0 <b>0 0 0 0 0</b> 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0		
000000000000000000000000000000000000000	0	0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0	3	0 0 0	0 0 0	00. 00. 00. 00. 00.	606539 202646 772748 705962
00	. 0	0	6 C 6 C	2	2 2	0	0	0 D. 0 O.	772748 709962
0 0 0	. 0	0 0	0 0 0 0	i e		000	. 0	0 D. 0 D.	309427 482967 507116 897844 380337
0	0 0 0	0 0	0 C 0 C	e 5	3 0	0 0	0	00	507116 897844
0 0 0 0	. 0	0	0.0	ť S	9	. C O	0	00	380337 507116
0	0 0 0	9	e c e c o c	ņ '1	2	0	0	00	785212
0	0	0 0 0 0 0	0 0		2	0 0	0	00	507116 785212 785212 811385 709962
0	0 101423	0	0 0 6 0	e e	į	0	õ	0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.       0     0.	912809 811385 318501 784151 792346
0 0 0	0	ē	0 0 0 0		1	, · 0	ő	0 10	318501
0	0		0 C		i i	. 0	0	0 1	792346
000000000000000000000000000000000000000	; ; ;	000000000000000000000000000000000000000				0		0 1	120210
0 0	9 9	-		ł	*	0	0	0 0	650325 232235 957213
. o 0	9	2	a erende generation			0	0 0 0 0	0 E	578778
9 0						0 0 0	0 0	0 0	33115 333376
- e	5 S	:	. 0			0	0	0 0	333376 57912 857051
2	· 0					0	0	0 0	394828
	5					0	0 0 0	0 0	75807 243709 829139
2	5		79.24			9 9	0	0 9	/ 10591
i.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					٥ ٥	0	0 1	\$21382 \$52258
;						ő	ő	0 1	705558

1850         1950         60         BE           1855         2025         60         PE           2000         2100         60         BE           2000         1045         75         BE           1030         1145         75         BE           1030         1145         75         BE           1030         1145         75         BE           1155         1310         75         BE           1315         1430         75         BE
5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.100095           5.42         0.25         2.313         0.007946           5.42         0.25         3.313         0.07946           5.42         0.25         3.313         0.07946           5.42         0.25         3.313         0.07946           5.42         0.25         3.313         0.07946           5.42         0.25         3.313         0.07946           5.25         0.25         3.313         0.07946           5.25         0.25         3.313         0.07946           5.25
sis         102         140         8.442         0           945         102         140         8.442         0           945         102         140         8.442         0           1133         122.460         10.23         0           1133         122.460         11.809         0           1133         122.460         11.809         0           1133         122.460         12.653         0           1133         122.460         12.653         0           1133         122.460         12.653         0           1133         12.440         12.653         0           1133         12.440         12.653         0           1133         12.440         12.653         0           1133         65.497         6.476         0           1133         65.497         7.067         0           1133         65.497         7.067         0           1216         91.760         8.217         0           1216         91.760         9.461         0           1216         91.760         9.461         0           1216         91.760
0.0000         0         0.11844         0.236837         0         0.75233           0.1184         0.047334         0.236837         0         0.105703           0.0000         0         0.047374         0.175033         0.075033           0.0000         0         0.047775         0         0.056235           0.0000         0         0.047775         0         0.04661           0.0000         0         0.256442         0         0.04661           0.0000         0         0.159071         0         0         0.077035           0.0000         0         0.159071         0         0         0.077035           0.0000         0         0.258071         0.10000         0         0.077035         0         0.079035           0.0000         0         0.258071         0.143241         0         0         0           0.1132         0.132070         0.245171         0.242412         0.443341         0         0           0.1134         0.152071         0.24412         0.4424341         0         0.4424341         0         0.4424341         0         0.0444441         0         0.01444441         0.01444444         0.0144444 </td
0         0         0.064631         0         0         0           0         0         0.064631         0         0         0         0           0         0         0.064631         0
0         0
0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0           0         0         0         0         0         0         0           0         0         0         0         0         0         0         0           0

L . DATE STARY STOP DURATION NET	RIVER GATE TOTAL RATIO THR CANAL CFS PER ADREFEET STONECAT CHANNEL FLATHEAD STURGED CREEK SILVERY BRASSY LONGNOS LONGNOS WHITE BLUE SHORTHEARIVER BIGMOUTHBURBOT GOLDEYE SAUGER WALLEYE RAINBOW BROWN SHOVELN CARP BLACK SMAL SURFACE OPENING GATES GATE FLOW SET THRU NET CATFISH CHUB CHUB CHUB CHUB CHUB MINNOW MINNOW DACE SUCKER SUCKER SUCKER SUCKER SUCKER FLOED CARPAUCKBUFFALO TROUT TROUT TROUT STURGEON BLLILHAD BUFF ELEVATION CFS PER ACFT, PER A	LMO WHITE ALO CRAPPII AC.FT PER AC
07         16.5         1		

5

•

MHITE CRAPPIE PER AC.FT.	green Sunfish Per ac.ft	CHUB	STICKLEBA	PIKE		SHINNER	EMERALD SHINNER PER AC.FT	MINNOW	MOUNTAIN WHITEFISH	FISH
0000	0 0 0	0 0 0	0 0 0	0	0 0 0 0	0	0	0	000	0.721322 0.257615 0.165229
0	0	0	0	0	0	0	0000	0	. 0 0	0.159721 1.197909 0.435603
0	0	0	0	0 0	0 0	0	0	0	0 0	1.419744 1.685947
0	0	0	. 0	0	0	0	0	0	0	0.588447 1.973027
0	0	0 0 0	0 0 0	0 0 0	0	0	0	0 0 0	0 0 0	1.03349 0.39759 1.114127
0	· 0 0	0	0	0	0	0	0 0 0	0	0	1.114127 2.265392 0.953198
0	0	0	0	0	0	0	0	0 0	0	0.60658
0	0	0	0	0	0	0	0	0	0	0 0.389944
0	0	0 0 0	0 0 0	0	0 0	000	0 0 0	000	0	0.233967 0.190175 0.285263
0 0	0 0	0	ů o	0 0	0	0	0	ů ů	ů o	0.190175
0	0	0	0	0 095088 0	0 0	0 0	0	0	0	0.855768 0.190175
0 . 0 0	. 0	0.089805 0 0	0 0 . 0	0	0 0 0	0	0	0	0	0.53883
0	· · 0	0	. 0	. 0 . 0	0 095088	0 0 0	· 0 0 0.095088	0 0 0	0	0.095088 0.190175 1.616489
0 0	0	0 0	0 0	0	0	0	0	0	ŏ	0.101031 0.805244
0	0	0	0	0	0.069805	0	0	0	0	0.323298
000	· 0 0	0	0 0 0	0000	0 0 0.076976	0 0 0	0 0 0	0	0 0 0	1.885904 0.269415 1.539513
0	. 0	0	0	0	00/03/0	0	0	0	0	0.615805
0	. 0	0	0	0	0 0.101031	0	0	0	0	0.215532 3.030917
		- 0			0	0-	·		- 0	0.754361
. 0 0	- 0 0	0 0 0	0 0 0	0	0 0	0	0 0 0.068787	0	0 0 0	5.927126 0.378327 2.33875
0	0	o o	,0 0	0 0	Č O	0	0	0	0 0	0.404122 0.38035
0	0	0	0	0	0 0.101031	0	0	0	0	0.665613 0.808244
000	. 0 0	0	0	0 0 0	0	. 0	0	0 0 0	0 0	0.303092 0.17961 0.269415
õ	ő	0 0	0 0	0	0.067354	0	ů o	0	ő	1.414428
0	0	0	0	0	0	0	0	. 0	0	0.269415
0 0 0	0 0 0	0	0	0 0 0	0 0 0	0 0 0	0.107766 0 0.269415	0	0.	1.077659 0.269415 1.436879
0	0	o a	0	0	. 0	0	0.209415	0	0	0.354578
0	; ;	0	0	0 0	0	0	0	0	. 0	0.441973 0.843767
000	0	. 0	0 0	0	0 0 0	0 0	0 0 0	0 0 0	000	0 0.41435 0.33148
000	000	ů o	0	0	0	0	0	0	0	0.545967
0 0	000	0	0	0	0 0	0	0 0	0 0	0	0,41435 0.06287
0 0 0	0	0 0	0 0 0	0	0.16574 0 0	0		000	0 0 0	0.8287 0.284126 0.073662
0	0	ő	ů o	o o	0 0	0 0	0 0	0 0	. 0	0.147324 0.66296
0	0	0 0	0	. 0	0.271984	0	0	0	0	1.223926 0
0 0 0	0 0 0	0 0 0	0	0 0 0	0 0 0	0	0 0	000	0	0.067996 2.725501 0.589298
0	Ö	ů o	ŏ	0	0	0	0 0	ŏ		0.055247 5.524665
. 0	0	0	0	0	0 0	0	0	0 0	0	1.436413 0.152991
0 0 0	. 0	0	. 0	0	0	0	0	0	0	2.090873 0.407975
0	0	0 0 0	0 0 0	0 0 0	0	- 0 0	0 0	0 0 0	0	0.106074 0 0.441973
0	. 0	0	0	0	0	0	0	0	0	0.16574 0.625443
0	000000000000000000000000000000000000000	0	0	000	0	0	0	0 0 0	0 0	0.714792 0 0
0 0 0	0	0 0	0 0 0	0 0	0 0 9-054505	000	6 6 6	0	0	0.178698
0 0	000000000000000000000000000000000000000	0	0 0	. 0	0	000	0 0	0 0 0 0 0 0	Ð	0.064331 0.067012 0.964969
0	0	0 0 0	0	0	0 241242	0	e	0	-0	0.964969 0,12466 0.300318
0 0 0	0	0000	0 0 0	0	0 0 0	0 0 0	0 0 0	0	0	0.921906
0	000000000000000000000000000000000000000	0	0	0 0 0 0	0	0	9 0	0 0 0 0 0	0	3.303498 0
0	0	0	0	0	G	0	0 0 0	0	0	0.825874 8.534035
0 0 0		000	0 0	0	0 0 0 0	0000	e	0 0 0	0 0 0	0.412937 0.127058 6 86111
0	000000000000000000000000000000000000000	0 0 0	0	0 0	0		9 0 0	000000000000000000000000000000000000000	0	1 143518 0 149184
0	0 0	0 0 0	9 3	0 2 0	0 	6 0	0000000	0 6 0	0	1.976694 0.447553
0 0	0	0	0 0	0 2	0 : 175 - 93	5	2	6 0 0	0	0.267289 0.980059 0.089055
000	0 0 0	· 0	0 0 0	0 0 0	0 - 086-3 <b>65</b> 0	3	-	0 0 0 0 0 0 0 0	0	0.089095 0.623674 0.089095
0	0	0 0	9 9 0	1	0 205851			e e	0	0.267289 D.879146
0	0	0 0	0 9 9	1	6 0	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	÷.	0000	0	0.05861 0.293049
0 0 0	· · · 0	0 0 9	0 0 0	9	0 2 2	3 ?	. ?	000	0	0 890135 0 0.263744
0	0	0			4 5	-		0 2	0 0	D 395616 D 351658
ō	õ	ē			· 6 · 5				ō	1 054975

•

DATE START STOP DURATION NET	RIVER GATE TOTAL RATIO THR CANAL CFS PER ACREFEET STONECAT CHAINNEL FLATHEAD STURGEO C SURFACE OPENING GATES GATE FLOW SET THRU NET CATFISH CHUB CHUB C ELEVATION CFS PER AC.FT. PER AC.FT. PER AC.FT. PER AC.FT. PER AC.FT.			LMO WHITE GREEN SICKLEFIN STICKLEBANORTHER DRUM SPOTTAIL EMERALD FATHEAD MOUNTAIN TOTAL ALO CRAPPIE SUMPISH CHUB PIKE SHINNER SHINNER MINNOW WHITEFISHFIGH ACFT PER ACFT,
073197 1345 1515 90 BE 073197 1345 1515 90 YE 073197 1355 1515 80 BW 073197 1355 1515 80 BW 073197 1520 1650 90 YE 073197 1520 1650 90 BE	4.14         0.25         4.687         0.053339         1720         91.743         11.375         0.0000         0         0         0         0           4.14         0.25         4.687         0.053339         1720         91.743         11.375         0.0000         0         0.087915         0.439573           4.14         0.25         4.687         0.05339         1720         91.743         11.375         0.0000         0         0.29715         0.439573           4.14         0.25         4.687         0.053393         1720         91.743         11.375         0.0000         0         0.275712         0           4.14         0.25         4.687         0.053393         1720         91.743         11.375         0.0000         0         0.175829         0.70317           4.14         0.25         4.687         0.65339         1720         91.743         11.375         0.0000         0         0.275729         0.70317	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.351655 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0         0         0         0         0         0         0         0         0         0         0.351656           0         0         0         0         0         0.263744         0         0         0         0.318719           0         0         0         0         0         0         0         0         0.263744         0         0         0         0.318719           0         0         0         0         0         0         0         0         0.263715         0         0         0         0.263712           0         0         0         0         0.0679715         0         0         0         0         1318719           0         0         0         0         0.0679715         0         0         0         0         0         0.2527487
07.31.97 1520 1650 90 BW 08.01.97 820 950 80 BE 08.01.97 825 955 90 YE 08.01.97 825 955 90 YE 08.01.97 830 1000 90 BW 08.01.97 1100 1230 90 BE	4.14         0.25         4.667         0.053339         1720         91.743         11.375         0.0000         0         0.253744         0           4.16         0.25         5.0625         0.040333         1770         87.407         10.837         0.0000         0         0.92275         0.145451           4.16         0.25         5.0625         0.040333         1770         87.407         10.837         0.2000         0         0.92275         0.2451477         0.922754           4.16         0.25         5.0625         0.049383         1770         87.407         10.837         0.0000         0         0.92275         0           4.16         0.25         5.0625         0.049383         1770         87.407         10.837         0.2000         0         0.92275         0           4.16         0.25         5.0625         0.049383         1770         87.407         10.837         0.2000         0         0.92275         0           4.16         0.25         5.0625         0.049383         1770         87.407         10.837         0.2000         0         0.92727         0	0         0	0         0.067915         0         0         0         0         0         0         0         0         0         0         0         0.092275         0         0         0         0         0.092275         0         0         0         0         0.092275         0         0         0         0         0.092275         0 <th0< th=""> <th0< th=""></th0<></th0<>	0         0.55863         0         0         0         0         0         0.55863         0         0         0         0         0.55863         0         0         0         0         0.55863         0         0         0         0         0.55863         0         0         0         0         0.55863         0
08 01:97 1100 1230 90 YE 08 01:97 1250 1420 90 8E 08 01:97 1250 1420 90 YE 08 01:97 1530 1530 60 8E 08 01:97 1530 1530 60 8E 08 01:97 1540 1640 60 YE 08 02:97 800 930 90 8E	4.16         0.25         5.0625         0.049303         1770         87.407         10.837         0.5537         0         1.107305         2.03006           4.16         0.25         5.0625         0.049303         1770         87.407         10.837         0.15446         0         1.107305         2.03006           4.16         0.25         5.0625         0.049303         1770         87.407         10.837         1.10150         0         0.8451         0.27845           4.16         0.25         5.0625         0.049303         1770         87.407         10.837         1.0150         0         0.830479         1.337784           4.16         0.25         5.0625         0.049303         1770         87.407         7.225         0.13444         0         0.2784265         0           4.16         0.25         5.0625         0.049303         1770         87.407         7.225         1.3344         0         0.278265         0           4.16         0.25         5.0625         0.049378         1770         87.407         7.225         1.3457         0.134718         1.107305           4.21         0.25         5.0650         0.049378         1770 <t< td=""><td>0         0         0         0         0.082275         0         0         0           0&lt;</td><td>0         0.276825         0         0         0         0         0.062275         0           0         0.144551         0</td><td>0         0</td></t<>	0         0         0         0         0.082275         0         0         0           0<	0         0.276825         0         0         0         0         0.062275         0           0         0.144551         0	0         0
08 02:97 810 940 90 PE 08 02:97 810 940 90 PE 08 02:97 1030 1200 90 PE 08 02:97 1050 1150 60 YE 08 02:97 1210 1350 100 PE 08 02:97 1225 1345 80 YE	4.21         0.25         5.063         0.049378         1770         87.399         10.836         0.04000         0         0.02285           4.21         0.25         5.063         0.049378         1770         87.399         10.836         0.04000         0         0.022285           4.21         0.25         5.063         0.049378         1770         87.399         10.836         0.1846         0         0.326148         0.164599           4.21         0.25         5.063         0.049378         1770         87.399         10.836         0.1846         0         0.326138         0.164599           4.21         0.25         5.063         0.049378         1770         87.399         12.040         0.2492         0         0         0.5537071           4.21         0.25         5.063         0.049378         1770         87.399         12.040         0.2492         0         0         0         0.02111         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011         1.142011 </td <td>0 0 0 0 0 0 0 0 0 0.09225 0</td> <td>0 0.389138 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0.56613           0         0         0         0         0         0         0         0         0         0         0.56613           0         0         0         0         0         0         0         0         0         0         0.56613           0         0         0         0         0         0         0         0         0         0         0         0         0         0.56613           0</td>	0 0 0 0 0 0 0 0 0 0.09225 0	0 0.389138 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0.56613           0         0         0         0         0         0         0         0         0         0         0.56613           0         0         0         0         0         0         0         0         0         0         0.56613           0         0         0         0         0         0         0         0         0         0         0         0         0         0.56613           0
06 02 97 1400 1530 90 BE 08 02 97 1430 1530 60 YE 08 02 97 1430 1530 60 YE 08 02 97 1540 1710 90 BE 08 02 97 1600 1700 60 YE 08 03 97 725 855 90 BE	4.21         0.25         5.063         0.049378         1770         87.399         10.835         0.0000         0         0.278854         0.062285           4.21         0.25         5.063         0.049378         1770         87.399         7.224         0.5537         0         0.830561         2.214629           4.21         0.25         5.063         0.049378         1770         87.399         7.224         0.5537         0         0.830561         2.214629           4.21         0.25         5.063         0.049378         1770         87.399         7.224         1.3843         0         0.692134         1.522895           4.21         0.25         5.063         0.049378         1770         87.399         7.224         1.3843         0         0.692134         1.522895           4.26         0.25         4.533         0.050633         0.17507         0.2284         1.424         0.0875         0.067533         0.17507         0.2284		0         0.276554         0<	0         0
08:03 97 730 830 60 YE 08:03 97 930 1030 60 YE 08:03 97 1100 1230 90 BE 08:03 97 1105 1205 60 YE 08:03 97 1240 1410 90 BE	4.26         0.25         4.93         0.05662.8         1820         92.143         7.616         0.3339         0         0.2626         1.313002           4.26         0.25         4.938         0.05662.8         1820         92.143         7.616         0.5555         0.131         0.25261         0.65611         0.656511         0.656511         0.656511         0.656511         0.656511         0.656511         0.656511         0.656511         0.656511         0.656511         0.656511         0.919101         0.5252         0.1313         0.252671         0.919101         0.266571         0.919101         0.26767         0.667670         0.676730         0.6767670         0.676730         0.767677         0.267677         0.676770         0.676730         0.767677         0.676770         0.676730         0.6767670         0.676730         0.6767670         0.676730         0.6767670         0.676733         0.776767         0.676733         0.776677         0.676733         0.776767         0.676733         0.7767677         0.676733         0.7767677         0.676733         0.7767677         0.676733         0.7767677         0.676733         0.7767677         0.676733         0.7767677         0.676733         0.7767677         0.676733         0.7767677	0         0	0         0.1313         0         0         0         0         0         0.1313         0           0 <td< td=""><td>0         0         0         0         0         0         1313         0         0         0         0         2853403           0</td></td<>	0         0         0         0         0         0         1313         0         0         0         0         2853403           0
08.03.97 1245 1400 75 YE 08.04.97 740 910 90 BE 08.04.97 745 845 60 YE 08.04.97 905 1035 60 YE 08.04.97 915 1045 90 BE 08.04.97 1105 1235 90 YE	4.26 0.25 4.538 0.050628 1820 92.143 9.520 0.4202 0 0.525201 0.735281 4.1 0.25 5.063 0.049378 1770 87.399 10.836 0.0922 0 0.92285 0.092285 0.09228 4.1 0.25 5.063 0.049378 1770 87.399 7.224 0.6921 0 0 0.692134 4.1 0.25 5.063 0.049378 1770 87.399 10.836 0.09285 0.026854 0.461423 4.1 0.25 5.063 0.049378 1770 87.399 10.836 0.0000 0 0.092285 0.278654 0.461423	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0.21035         0         0         0         0         0.10564         0           0         0         0         0         0         0         0.092285         0           0         0         0         0         0         0         0         0         0         0           0	0         0
08.04.97 1103 1230 90 1E 08.04.97 1120 1250 90 EE 08.04.97 1245 1415 90 YE 08.04.97 1310 1440 90 EE 08.04.97 1415 1545 90 YE 08.04.97 14410 1610 90 EE	4.1         0.25         5.063         0.049378         1770         87.399         10.836         0.5537         0         0.461423         1.568837           4.1         0.25         5.063         0.049378         1770         87.399         10.836         0.2597         0         0.461423         1.568837           4.1         0.25         5.063         0.049378         1770         87.399         10.836         0.27994         0         0.478423         0.782876           4.1         0.25         5.063         0.049378         1770         87.399         10.836         0.2799         0         0.461423         0.782876           4.1         0.25         5.063         0.049378         1770         87.399         10.836         0.2799         0         0.461452         0.782876           4.1         0.25         5.063         0.049378         1770         87.399         10.836         0.2796450         0         0.434549         0           4.1         0.25         5.063         0.049377         1770         87.399         10.836         0.26400         0         0.330561         1.344286           4.1         0.25         5.063         0.049377         1	0         0	0         0.092285         0         0         0         0         0.0184566         0         0         0         0.0184566         0 <td>0         0</td>	0         0
08 05 97 830 1000 90 YE 08 05 97 835 1005 90 8E 08 05 97 1035 1205 90 8E 08 05 97 1035 1205 90 YE 08 05 97 1045 1125 90 8E 08 05 97 1220 1440 140 YE	4.02         0.25         5.183         0.048158         1720         82.884         10.276         0.0000         0         0.48559         0.875807           4.02         0.25         5.185         0.048188         1720         82.884         10.276         0.0000         0         0.389348           4.02         0.25         5.185         0.048188         1720         82.884         10.276         0.1946         0         0.291936         1.459678           4.02         0.25         5.185         0.048188         1720         82.884         10.276         0.0973         0         0.194624         0.778495           4.02         0.25         5.188         0.048188         1720         82.884         10.276         0.0973         0         0.194624         0.778495           4.02         0.25         5.188         0.049188         1720         82.884         10.276         0.0973         0         0.194624         0.778495           4.02         0.25         5.188         0.049188         1720         82.884         10.276         0.09255         0.88314         0.750892	0         0         0         0.067312         0<	0.067312 0097312 0 0 0 0 0 0 194624 0 0 0 0 0 0 0 0 0 0 0 0097312 0 0 0 00097312 0 0 0 0 0 0097312 0 0 0194624 0 0 0 0 0 0 0007312 0 0 0194624 0 0 0 0 0 0 0 0 0 0194624 0 0 0 0 0 0 0 0	0         0         0         0         0         0         0         0         0         0         1.448325           0         0         0         0         0         0         0         0         0         0         0         0         0.448325           0         0         0         0         0         0         0         0         0         0.448325           0         0         0         0         0         0         0         0         0         0.448325           0
080597 1240 1440 120 BE 080597 815 945 90 YE 080597 815 945 90 YE 080597 820 950 90 BE 080597 1020 1150 90 BE 080597 1040 1150 70 YE 080597 1235 1435 120 YE	4.02         0.25         5.188         0.049188         1720         80.894         10.702         0.0730         0         0.072844         0.2185           3.67         0.25         5.313         0.047764         1720         80.894         10.044         0.0997         0         0.998313         1.069223           3.67         0.25         5.313         0.047764         1720         80.894         10.054         0.0000         0         0.698657         0.498283           3.67         0.25         5.313         0.047764         1720         80.894         10.054         0.0000         0         0.698657         0.288283           3.67         0.25         5.313         0.047764         1720         80.894         10.054         0.0000         0         0.698657         0.288275         0.238757         0.238757         0.238757         0.238675         0.238817         0.24565         1.758817         0.3759         0.29900         0         0.224227         1.179072         1.17379         0.25900         0         0.224227         1.719075	0         0.072964         0<	0         0.251936         0<	0         0
0606197 1240 1440 120 BE 08105197 1240 1440 120 BE 08105197 1500 1650 90 BE 0810517 1520 1650 90 BE 08107197 850 1055 120 BE	3.87         0.25         5.313         0.047054         1720         80.334         13.379         0.0747         0         0.149485         0.448450           3.82         0.25         5.313         0.047054         1720         80.334         10.034         0.5978         0         0.448253         1.448454           3.82         0.25         5.313         0.047054         1720         80.334         10.034         0.5977         0.048627         0.048627         0.09657         0         9.09657         0         3.68         0.25         5.5         0.04545         1770         80.455         13.300         0.0000         0         0.225562         1.50748         3.68         0.25         5.5         0.04555         1770         80.455         13.300         0.0732         0         0.30275         0.079657         0.079657         0.079657         0.079657         0.0295621         1.503748         3.68         0.25         5.5         0.045455         13.300         0.07322         0         0.30275         0.675657         0.565675         0.0700575         0.6756575         0.6756575         0.6756575         0.6756575         0.5756575         0.5756575         0.5756575         0.5756575         0.5756575         <	0         0.074742         0<	0 0.149445 0 0 0 0 0 0 0 0 0 449425 0 0 0 0 0 0.099557 0 0 0 6 0 0 0 0 0 0 0 0 0 0 0 0.225562 0 0 0 0 0 0 0 0 0 0.225562 0 0 0 0 0 0 0 0 0 0.75167 0 0	0         0
08/07/97 1055 1155 60 YE 08/07/97 1125 1225 60 BE 08/19/97 815 940 85 YE 06/19/97 815 940 85 YE 06/19/97 815 940 85 BE 06/19/97 815 940 85 BE	1.68         0.25         5.5         0.04545         1770         80.455         6.650         0.1504         0.1504         0.601499         2.105247           3.68         0.25         5.5         0.045455         1770         80.455         6.650         0.0000         0         0.451124         0.902249           3.62         0.25         6.5         0.030462         1820         70.000         8.197         0.0000         0         0         0           3.62         0.25         6.5         0.030462         1820         70.000         8.197         0.0000         0         0         0           3.62         0.25         6.5         0.030462         1820         70.000         8.197         0.0000         0         0         0           3.62         0.25         6.5         0.030462         1820         70.000         8.197         0.0000         0         0         2           3.62         0.25         6.5         0.030462         1820         70.000         8.197         0.0000         0         0         0         0	Q         0	0         0.30075         0 </td <td>0         0</td>	0         0
08/19/97 945 1115 90 VE 08/19/97 945 1115 90 BE 08/19/97 91000 1130 90 BW 08/19/97 1120 1300 100 VE 08/19/97 1132 1315 100 BW	3.62         0.25         6.5         0.000462         1820         70.000         8.679         0.00000         0         0           3.62         0.25         6.5         0.030462         1820         70.000         8.679         0.00000         0         0         0           3.62         0.25         6.5         0.030462         1820         70.000         8.643         0.0000         0         0         0           3.62         0.25         6.5         0.030462         1820         70.000         8.643         0.0000         0         0         0           3.62         0.25         6.5         0.030462         1820         70.000         8.643         0.0000         0         0.1037         0           3.62         0.25         6.5         0.030462         1820         70.000         8.643         0.0000         0         0.1037         0           3.62         0.25         6.5         0.030462         1820         70.000         8.643         0.0000         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0	0 0,115222 0,230444 0 0 0 0 0 0 0 0 0 0 0 0,115222 0 0 0 0 0,115222 0 0 0,1037 0,4148 0 0 0 0 0 0 0 0 0 0,2374 0 0 0 0 0 0 0 0 0 0,037 0,2774 0 0 0 0 0 0 0	0         0         0         0         0         0         0         0         0         0.345667           0         0         0         0         0         0         0         0         0         0.234567           0         0         0         0         0         0         0         0         0.234644           0         0         0         0         0         0         0         0         0.5165.           0         0         0         0         0         0         0         0         0.33115           0         0         0         0         0         0         0         0         0.33111
08/19.57 1310 1515 125 YE 08/19.37 1310 1515 125 DE 08/19.57 1330 1515 125 DE 08/19.57 1330 1530 120 EW 08/19.57 1520 1650 90 DE 08/19.57 1520 1550 90 YE 08/19.57 1540 1700 60 EW	3.62         0.25         6.5         0.038462         1820         70.000         12.054         0.0000         0.02826         0.24883         0.08256           3.62         0.25         6.5         0.038462         1820         70.000         12.054         0.0000         0         0.04256           3.62         0.25         6.5         0.038462         1820         70.000         11.572         0.0000         0         0.04256           3.62         0.25         6.5         0.038462         1820         70.000         11.572         0.0000         0         0.460829         0           3.62         0.25         6.5         0.038462         1820         70.000         8.679         0.0000         0         0.460829         0           3.62         0.25         6.5         0.038462         1820         70.000         8.679         0.0000         0         0.460829         0           3.62         0.25         6.5         0.038462         1820         70.000         8.679         0.0000         0         0.460829         0	0         0	0         0.16552         0.4148         0         0         0         0.02256         0.15552         0 <td>0         0         0         0         0.6592         0         0         0         1.2444           0         0         0         0         0         0         0         0         0         0         0         0         0         0.4148           0         0         0         0         0         0         0         0         0         0.25825           0         0         0         0         0         0         0         0         0         0.25825           0         0         0         0         0         0         0         0         0         0.058565           0         <th0< th=""> <th0< th=""> <th0< th="">         &lt;</th0<></th0<></th0<></td>	0         0         0         0         0.6592         0         0         0         1.2444           0         0         0         0         0         0         0         0         0         0         0         0         0         0.4148           0         0         0         0         0         0         0         0         0         0.25825           0         0         0         0         0         0         0         0         0         0.25825           0         0         0         0         0         0         0         0         0         0.058565           0 <th0< th=""> <th0< th=""> <th0< th="">         &lt;</th0<></th0<></th0<>
08/1997 1700 1800 60 VE 08/1987 1700 1800 60 VE 08/1987 1700 1800 60 VE 08/1987 1815 2000 105 6E 08/1997 1820 2005 105 VE 08/1997 2015 2145 90 BE	3.62         0.25         6.5         0.030442         1820         70.000         5.766         0.0000         0.172253         0           3.62         0.25         6.5         0.030442         1820         70.000         5.766         0.0000         0.172253         0           3.62         0.25         6.5         0.030442         1820         70.000         10.125         0.0000         0.197324         0           3.62         0.25         6.5         0.030442         1820         70.000         10.125         0.0000         0.0197324         0           3.62         0.25         6.5         0.030442         1820         70.000         10.125         0.0000         0.0197524         0	0         0	0         0         172333         0 <td>0         0</td>	0         0
08/19/97 2015 2145 90 YE 08/19/97 2200 2330 90 6E 08/19/97 2200 2330 90 VE 08/29/97 415 530 75 YE 08/20/97 4430 545 75 6E 08/20/97 546 715 95 YE	3.62         0.25         6.5         0.038442         1820         70.000         8.679         0.0000         0.115222         0           3.62         0.25         6.5         0.038462         1820         70.000         8.679         0.6913         0         115222         0           3.62         0.25         6.5         0.038462         1820         70.000         8.679         2.0740         0.115222         0         2.30444           3.7         0.25         6.5         0.038462         1770         88.077         7.034         0.1422         0         0         0.425516           3.7         0.25         6.5         0.038462         1770         68.077         7.034         0.1422         0         0         0.425516           3.7         0.25         6.5         0.038462         1770         68.077         7.034         0.1422         0	0         0	0         0         1.037         0         0         0         2.30444         0         0           0         0         3.34567         0	0         0         0         0         0         0         0         0         0         0         137785           0         0         0         0         0         0         0         0         0         1,157222           0         0         0         0         0         0         0         0         0         1,157222           0         0         0         0         0         0         0         0         0         0,0589779           0         0         0         0         0         0         0         0         0         0,0589779           0
08/20/97 550 730 100 8E 08/20/97 600 750 110 8W 08/20/97 730 920 110 VE 08/20/97 730 920 110 VE	3.7         0.25         6.5         0.038462         1770         68.077         9.378         0.0000         0.106629         0         0           3.7         0.25         6.5.5         0.038462         1770         68.077         10.316         0.0000         0         0         0           3.7         0.25         6.3125         0.038464         1770         70.069         10.623         0.0000         0         0         0           3.7         0.25         6.3125         0.038604         1770         70.069         8.657         0.0000         0         0         0           3.7         0.25         6.3125         0.038604         1770         70.069         8.657         0.0000         0 <td>0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0</td> <td>0         0         0.007332         0&lt;</td> <td>0         0</td>	0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0       0     0     0     0     0     0     0     0     0	0         0         0.007332         0<	0         0
08:20:97 930 1045 75 BE 08:20:97 930 1045 75 YE 08:20:97 950 1045 65 BW 08:20:97 1100 12:50 110 BW 08:20:97 1100 12:51 105 BE	3.7 0.25 6.3125 0.039604 1770 70.099 6.277 0.0000 0 0 0 3.7 0.25 6.3125 0.039604 1770 70.099 10.623 0.0000 0 0.09414 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0	0         0
08720         977         1705         1245         160         YE           0820         97         1300         1420         80         BE         0820         97         1300         1420         80         YE         0820         97         1305         1425         80         YE         0820         97         1305         1425         80         BW         0820         97         1430         1630         120         YE         0820         97         1430         1530         120         YE         0820         97         1430         1530         120         HE         120         HE	3.7         0.25         6.3125         0.03890.4         1770         70.0699         7.725         0.0000         0         0         0           3.7         0.25         6.3125         0.03890.4         1770         70.0699         7.725         0.0000         0         0.51758         0.128442           3.7         0.25         6.3125         0.03890.4         1770         70.059         7.725         0.0000         0         0.123442         0           3.7         0.25         6.3125         0.03890.4         1770         70.059         7.725         0.00000         0         0.123442         0           3.7         0.25         6.3125         0.03890.4         1770         70.059         7.725         0.00000         0         0.123442         0	0         0         0         0         0         0         0         2         3           0	0         0.207107         0<	0         0
08.20.97 1430 1630 120 BW 08.20.97 1715 1915 120 VE 08.20.97 1720 1920 120 BW 08.20.97 1930 2140 130 BW 08.20.97 1930 2130 120 VE	3.7         0.25         6.3125         0.039604         1770         70.099         11.586         0.00000         0         0.434178         0           3.7         0.25         6.3125         0.039604         1770         70.099         11.586         0.00000         0         0         0         0         3.7         0.25         6.3125         0.039604         1770         70.099         12.554         0.00000         0         0.079657         0         3.7         0.25         6.3125         0.039604         0.770         70.099         12.554         0.250644         0.254844         0.434484         0.431478         0	0         0         0         0         0         0.068235         0         0         0           0         0         0         0.772585         0	0 0172559 0006225 0 0 0 0 0 0 0 0 0862346 0 0 0 0 0 0 0 0 0 0 0172559 0 0 0 0 0 0 0 0 0 0172559 0 0 0 0 0 0 0 0 0172559 1.55300 0 0 0 0 0 0 0 0172559 1.55300 0 0 0 0 0 0	0         0         0         0         0         0         0         0         0         0         0.431473           0         0         0         0         0         0.712589         0         0         0         0         1.553330           0         0         0         0         0         0         0         0         0         1.72589           0         0         0         0         0         0         0         0         0         1.72589           0         0         0         0         0         0         0         0         0         0         0         1.72589           0         0         0         0         0.517768         0         0         0         0         0         2.22437           0         0         0         0         0.115059         0         0         0         5.222455
08/20/97 2145 2315 90 YE 08/20/97 2150 2320 90 BW 08/20/97 2345 420 275 BE 08/20/97 2345 420 275 BE 08/21/97 2345 345 240 YE 08/21/97 445 615 90 9E 08/21/97 445 615 90 VE	3.7         0.25         6.3125         0.038904         1770         70.099         8.691         3.9120         0.115099         0.460238         0.57597           3.7         0.25         6.3125         0.038604         1770         70.099         8.691         0.0000         0         0         0.75297           3.7         0.25         6.55         0.038462         1770         70.099         8.691         0.03874         0         0.3374         0           3.7         0.25         6.55         0.038462         1770         76.069         8.691         0.03874         0         0.202         0.285737           3.7         0.25         6.3125         0.038604         1770         70.099         8.691         0.11505         0.023019         0.230119	0         0         0         0.115059         0<	0         0         0.115059         0         0         0.115059         0         0           0	0         1         150395         0         1         1         1         1         1         1         1         1         1         1         1 <th1< th=""> <th1< th="">         1         1</th1<></th1<>
08.21:97 445 615 90 YE 08.21:97 500 615 75 BW 08.21:97 630 815 105 BE 08.21:97 630 815 105 YE 08.21:97 645 700 15 BW 08.21:97 645 100 120 YE	37         0.25         6.3129         0.039604         1770         70.099         /243         0.0000         0         0           3.7         0.25         6.3125         0.039604         1770         70.099         10.140         0.0000         0         0         0           3.7         0.25         6.3125         0.039604         1770         70.099         10.140         0.0000         0         0         1197245           3.7         0.25         6.3125         0.039604         1770         70.099         10.140         0.0000         0         0         1197245           3.7         0.25         6.3125         0.039604         1770         70.099         1.449         1.3807         0         0         0           3.62         0.256         6.25         0.04         1770         70.099         1.449         1.3807         0         0         0         0	0     0     0     0     0     0     0     1     1       0     0     0     0     0     0     0     0     1     1       0     0     0     0     0     0     0     0     0     0       0     0     0     0     2     0     0     0     0       0     0     0     0     2     0     0     0     0       0     0     0     0     0     0     1     1       0     0     0     0     0     0     0     1       0     0     0     0     0     0     1     1	0         0.138071         0         0         0.0138071         0         0         0           0	0         0
08.21.97 830 1030 120 BE 08.21.97 1045 1300 145 YE 08.21.97 1050 1300 140 BE 08.21.97 1050 1300 140 BE 08.21.97 1315 1515 120 FE	3.62         0.25         6.25         0.04         1770         70.800         14.142         0.0000         0         0.141418         0           3.62         0.25         6.25         0.04         1770         70.800         13.655         0.0000         0         0.219703         0           3.62         0.25         6.25         0.04         1770         70.800         13.704         0.0000         0         0         0         0         362         0.25         6.25         0.04         1770         70.800         11.704         0.0000         0         0.25321         0	0         0	0         005544         0 <td>0         0</td>	0         0
08.21.97 1400 1515 75 BW 08.21.97 1530 1730 120 YE 08.21.97 1530 1730 120 BE 08.21.97 1530 1730 120 BW 08.21.97 1530 1730 120 BW 08.21.97 2345 445 300 BW 08.21.97 2345 400 255 YE	3 62 0.375 6.25 0.06 1770 106,200 17.556 0.0000 0 0.227841 0.05696 3.7 0.25 6.3125 0.039604 1770 70.099 28.971 0.0000 0 0.310661 0 3.7 0.25 6.3125 0.039604 1770 70.099 24.625 1.0558 0 1.096449 0.487311	0 0 0 000135 C 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0         2/3409         D         O         O         O         O         O         U           0         0         0         0         0         0         0.08544         0 <t< td=""><td>0         0         0         0         0         0.05544         0         0         0         0.712641           0         0         0         0         0         0         0         0         0         0.056544           0         0.05696         0         0         0         0         0         0         0.05654           0         0.05696         0         0         0         0         0         0         0.05696           0         0         0         0         0         0         0         0         0         0.05696           0         0         0         0         0         0         0         0         0         0.05696           0         0         0         0         0         0         0         0         0         0.0579696           0&lt;</td></t<>	0         0         0         0         0         0.05544         0         0         0         0.712641           0         0         0         0         0         0         0         0         0         0.056544           0         0.05696         0         0         0         0         0         0         0.05654           0         0.05696         0         0         0         0         0         0         0.05696           0         0         0         0         0         0         0         0         0         0.05696           0         0         0         0         0         0         0         0         0         0.05696           0         0         0         0         0         0         0         0         0         0.0579696           0<
06.21/97 2350 400 250 BE 08.22/97 830 1000 90 BE	3.7 0.25 6.3125 0.039504 1770 70.099 24.142 0.0628 0 0.414214 0 3.52 0.25 6.375 0.039216 1770 69.412 8.606 0.0000 0 0.116199 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 001421 0 0 0 0 0 0 0 0 115195 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0.538478 0 0 0 0 0 0 0 0 0 0 0 0 0.34596

DATE	START	STOP	DURA	TION NET	RIVER SURFACE ELEVATION		TOTAL GATES		CANAL FLOW CFS	CFS PE SET		EFEET ST UNET PE	c	ATFISH C	HUB C		NB MI		NOW DAC	E SU	ICKER &	WHITE BL SUCKER SL PER AC.FT.PE	CKER RED		RPSUCKBU					TRO	INBOW BROI DUT TROI R AC.FT. PER	UT STL	RGEON	8	ILLHEAD B	IALLMO WH IFFALO CR IR AC.FT PE	APPIE SU	NFISH C	CKLEFIN STIC IUB R AC.FT. PER	PIKE		SHINNE	R SHINNE	LD FATHEAU R MINNOW FT.PER AC.I	WHITEF	
08.22-97		10	000	90 BW	3.52	0.375	5 6.3	75 0.058824	177	104.1	118	12.909	0.0000	0	0.232397	0	0	•	•	0	•	0			0	0	0 02	2397 0.0	77466	•	0	•	•	0	•	0	•	0	•	•		0	<u>^</u>	o -	•	0 0.542261
08.22.97			000	90 YE.	3.52			75 0 039216	177			8,606	0.0000		0.116199	ŏ	õ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ő	ŏ	ŏ	0	0 0.2		ŏ	õ	ŏ	ő	ŏ	ŏ	ŏ	ŏ		0	ŏ	ň	õ	õ	ő	õ	0 0.348596
08 22 97			215	120 BE	3.52	0.25		75 0.039216	177		412	11,475	0.0000	ō	0	ō	ō	õ	ŏ	ō	ō	ŏ	ŏ	ō	õ	ŏ	0 0.06		0	õ	õ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ő	ŏ	ŏ	õ	õ	õ	õ	0 0.087149
08/22 97	101	5 12	215	120 BW	3.52	0.375	6.3	75 0.058824	177	0 104.1	118	17.212	0.0000	0	0.232397	0	0	ō	ò	Ó	ō	ō	ō	ō	ō	0	0 0.23	2397 0.0	58099	Ō	ō	ō	ō o	058099	ō	ŏ	ō	ō	ŏ	ō	ō	Ó	0	ō	0	0 0.580994
08 22 97		5 12	215	120 YE	3.52	0.25	6.3	75 0.039216	177	0 69.4	412	11.475	0.0000	0	0.261447	0	0	ō	0	0 0	0.067149	0	ō	ō	0	ō	0 0.26	1447 0.1	74298	0	0	ō	ō	0	ō	ŏ	ō	ō	õ	ō	0 0.17	4298	0	0	0	0 0.958639
08 22 97			20	120 BW	3.52			75 0,058824	177			17.212	0.0000		0.406695	0	0	0	0		0.058099	0	0 0.0	58099	0	0	0 0.52	2894 0.0		0	0	0	0	0	0	o	0	. 0	ō	0	0 0.05		0	0	0	0 1.161967
08 22 97			\$20	120 YE	3.52			75 0.039216	177			11.475	0.0000		0.435745	0	0	0	0	0 0	0.087149	0	0	0	0	0	D	0 0.1	74298	0	0	0	0	0	0.087149	0	0	0	0	0	0 0.08	7149	0	0	0	0 0.67149
08 22 97			420	120 BE	3.52			75 0.039216	177			11.475	0.0000		0.174298	0	0	0	0	0	0	0	0	0	0	0	0 0.17		0	0	0	o	0	0	0	0	0	0	o	0	0	0	0	0	0	0 0.348596
08 22 97	143		30	120 BW	3.52			75 0.058824	177			17.212	0.0581		0.639093	0.058099	0 0	058099	0 0.0	)580 <del>99</del>	0	0	0	0	0	0		6199 0.1		0	o	o	0	0	0	0	0	0	0	0	0	0	0 0.0580	199	0	0 1.161987
08 22 97			30	120 YE	3.52			75 0.039216	177			11,475	0.0000		0.348596	0	0	0	0	0	0	0	D	0	0	0		1447 0.5	22894	0	0	0	0	0	0	0	0	0	0	0	0 0.26	1447	0	0	0	0 1.394384
08 22 97			30	120 BE	3.52			75 0.039216	177			11.475	0.0000		0.251447	0	0	0	0	0	0	0	0	0	0	0	0 0.08		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0.348596
08:23 97 08:23 97			320 325	90 BW 90 YE	3.46 3.46			75 0.042553	177			14.008 9.338			0.321255	0 107086	0	. 0	0	0 107085	0	0	0 0 0	07086	0	0	0 0.4		07139 64251	0	0	0 0	0/139	0	0	0	0	. 0	0	0	0	0	0	0		0 0.785291 0 1.499191
08/23/97			20	90 YE	3.46			75 0.042553	177			9.338	0.0000	0.10/065		0.107085	Ň	0	0 0.		107085	0	0 0.1	10/085		0	0 0.10		21417 0.	107085	0	0		°,	Š	0	0	. 0	0	0	0	ů.	0	0	0	0 0.64251
06 23 97			000	85 BW	3.46				177			13.229	0.0000	ŏ	0.302358	0.101003	ŏ	ŏ	ő		0,10,065	0	č	ŏ	ň	075589		1179 0.1		10/003	ŏ	0	Ň	ő	Ň	, N	š		Š.	0	ŏ	0	0	0		0 0.680305
08/23 97			205	120 YE	3.46			75 0.042553	177			12.451	0.0000	ő		0.080314	ñ	ň	ŏ	ŏ	ň	ŏ	ŏ	ň	0	0	0 0.12	0 0.1		õ	ň		080314	ň	Ň	0	ő			ň	ň	ŏ	ŏ	ň	ő	0 0.321255
06/23.97			205	120 BW	3.46				177			18.677		0.053543	ŏ	0	õ	õ	ŏ	ŏ	ŏ	ő	ň	õ	õ	ŏ	0 0 16	0628 0.0		053543	ŏ	ñ ñ	0	ň	ŏ	ő	ň		Å.	õ	ñ	ŏ	ñ	õ	õ	0 0.321255
09 09.97			30	120 BE	3.28				147			22.561		0.044325	0.265948	ō	ō	ō	ŏ	ō	ō	õ	õ o o	44325	ō	ō	ō	0 0.1		0	ō	ō	õ	õ	ŏ	õ	ō	õ	ŏ	ŏ	õ	ō	ō	ō	ō	0 0.487571
09 09 97	134	0 14	40	60 BW	3.28	0.94	10.	13 0.092794	147	0 136,4	407	11.275	0.0000	0	0.709545	0	0	ō	ō	ō	ō	ō	0	0	ō	ō	ō	0	0	0	ō	ō	ō	ō	ō	õ	ō	ō	ŏ	ō	ō	ō	ō	0	0	0 0.709545
09.09 97	150	5 17	705	120 BW	3.28	0.94	10.	13 0.092794	147	0 136,4	407	22.550	0.0000	0.065693	0.620852	0.044347	0	ō	o	o	0	o	0	0	ō	o	0	0	ō	0	0	ō.	ō	ō	ō	õ	ō	ō	õ	ō	0	ò	0	0	0	0 0.753891
09 09 97			737	120 BE	3.28	0.94		13 0.092794	147			22.550		0.13304		0	0	0	0	0	0	0	0	0	0	0	0	00.		0	o	0	0	o	0	ō	0	0	ō	0	0	0	0	0	0	0 0.487812
09-09-97			925	120 YE	3.28	1		13 0.098717				23.989	0.0000		0.125057	0	0	0	0	0	0	0	0 0.0	41686	0	0	0 0.08	3372 0.2		0	0		125057	0	0	0	0	0	0	0	0	0	0	0	0	0 0.625286
09 09 97			000	120 BE	3.28	0.94		13 0.092794	147			22.550		0.177386		0	0	0	0	0	0	0	0	0	0	0	0	00.		0	0	0 0	13304	0	o	0	0	0	0	0	0	o	0	0	0	0 0.487812
09 09 97			30	120 YE	3.28	1		13 0.098717	147			23.989			0.125057	0.166743	0	0	0	0	0	0	0	0 0.	041686	0	0 0.04	1686 0.0	41686	0	0	0		0.041686	0	0	0	0	0	0	0 0.04		0	0	0	0 0.708658
0910 97			50	60 BW	2.39	1		25 0.097561	167			13.467	0.0000		0.445537	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0.07		0	0	0	0 0.519794
09 10 97			705 740	60 YE 60 BE	2.39	1		54 0.097523 25 0.091707	167			13.462 12.659	0.0000		0.371426	0.14857	0	0	0	0	0	0	0	0	0	0	0 0.07	0	0	0	0	0		0.14857	0	0	o	0	o	0	0 0.07		0	0	0	0 0742852 0 0473975
09 10 97 09 10 97			325	60 BE	2.39 2.39	0.94		25 0.097561	167 167			13 467	0.0000		0.965331			U U	0	0	0	0	0	0	0	ů.	0 0.07	0 0.1		0	0		078996	074256	0	0	0	0	0	0	0 0.07	2990	0	0	0	0 1.262356
09 10 97				60 BW	2.39			25 0.097561	167			13.467	0.0000		1.039587	0	0	ů,	ě	0		. 0	ů,	0	0	0		0 0.1	48512	ů,	0		074256 0 148512	0/4256	0	0	0		0	U	0	0	0.	0	0	0 1.262356
09 10 97			20	60 BE	2.39	0.94		25 0.091707				12.659	0.0000	ŏ	1.035367	ŏ	ŏ		ě	Ň	0	0	0	0	0	Ň	ě	0 0.0	78906	š	0	0 0.	140312	0	, North and a second se		0	0	ů.	0 007	78906	0	0	0	0	0 0.157992
09 10 97			50	60 YE	2.39	1		25 0.097561	167			13.467	0.0000	õ	1.113844	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ň	ő	õ	ň	ő	õ	0 0.5		õ	ň	0.01	519794	ň	ŏ	ő	ő	õ	ň	0 0.07	00000	ŏ	0	ů 0	õ	0 2 153431
09 10 97				60 BW	2.39			25 0.097561	167			13,467	0.0000	ō	0	õ	õ	Ď	ŏ	ŏ	õ	ő	ň	ő	ő	o.	õ	0 0.0		õ	ň		148512	ŏ	ŏ	ŏ	õ	ő	ň	ő	ō	õ	õ	õ	ō	0 0.222769
09'10 97			35	60 BE	2.39	0.94		25 0.091707				12.659	0.0000	0.078996	0.078996	0.078996	ō	ő	õ	õ	õ	õ	õ	ō	õ	0.	ŏ	0 0.1		õ	õ		236988	õ	õ	ů.	ŏ	õ	ő	ŏ	õ	õ	õ	õ		0 0 631968
09 11 97			50	60 BW	2,39	1		25 0.097561	162	0 177.5	561	14,676	0.0000	0	0.408817	0	ō	ō	ō	ō	ō	ō	õ	ō	ō	ō	ō	0	0	ō	ō	. õ		0.068136	ō	ō	ō	ō	ō	ō	ō	ò	ò	ō	ò	0 0476954
09 11.97			45	30 BE	2,39	0.94	10.	25 0.091707	182	0 166.9		6.898	0.0000		2.609473	0	o	ō	ō	ō	ō	ō	ō	.0	ō	ō	0	0	ō	ō	ō	ō	ō	0	ō	õ	õ	ō	õ	ō	Ó	0	ō	0	0	0 2.609473
09 11 97	162	10 16	50	30 BW	2.39	1	10.	25 0.097561	182	0 177.5	561	7.336	0.0000	0	2.044087	0.272545	0	0	0	0	0	0	0	0´	0	0	0	0	0	0	0	0	Ó	0	o	ò	0	0	Ó	0	C	0	0	0	0	0 2.316532

والمراجع والمراجع المتحوم ومرورة ومناجع ومرور والأوار ومعروضون والمراجع ووروم والمراجع ووروم والمراجع ومرور ومرور

معتجا الجاجات الكحار بالمحتب المستنب ويتصيف المراجعين

# APPENDIX C

1990 START STOP DURATION NET		LND LNS WSU BSU RED RCS BMB BBT ACFT ACFT ACFT ACFT ACFT ACFT ACFT ACFT		
06/09/98         805         905         60         BE           06/09/98         840         940         60         YW           06/09/98         840         940         60         YE           06/09/98         910         1010         60         FW           06/09/98         910         1010         60         FW           06/09/98         915         1015         60         YW           06/09/98         945         1015         60         YW           06/09/98         1020         1120         60         YW           06/09/98         1020         1120         65         BE           06/09/98         1120         1225         65         BE           06/09/98         1231         1330         60         YW           06/09/98         1235         1335         60         YW           06/09/98         1340         1440         60         YW           06/09/98         1345         1420         65         YE           06/09/98         1345         1420         65         YE           06/09/98         1445         1555         60         FW	0.3125         4.6875         1280         85.33333         307200         7.052342         0         0         0         0           0.3125         4.6875         1280         85.33333         307200         7.052342         0         0         0         0         0           0.3125         4.6875         1280         85.33333         307200         7.052342         0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0         0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
06/10/98         740         840         60 BW           06/10/98         740         840         60 YW           06/10/98         733         833         60 PE           06/10/98         733         833         60 YE           06/10/98         845         945         60 YW           06/10/98         845         945         60 YW           06/10/98         833         930         60 YE           06/10/98         833         930         60 YE           06/10/98         835         1045         55 YW           06/10/98         955         1045         55 BW           06/10/98         905         1045         55 BW           06/10/98         1055         1150         55 BW           06/10/98         1055         1150         60 YE           06/10/98         1045         1145         60 BE           06/10/98         1045         1145         60 BE           06/10/98         1045         1145         60 YE           06/10/98         1155         1310         75 BW           06/10/98         1150         1250         60 BE           06/10/98	0.3125         4.6875         1250         83.3333         300000         6.887052         0.1452         0         0         0         0           0.3125         4.6875         1250         83.3333         300000         6.887052         0         0         0         0         0           0.3125         4.6875         1250         83.3333         300000         6.887052         0         0         0         0         0           0.3125         4.6875         1250         83.3333         300000         6.887052         0         0         0         0         0           0.3125         4.6875         1250         83.3333         300000         6.887052         0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0         0.4356         0 <td>0         0         0         0         0         0         0.5808           0         0         0         0         0         0.5808           0         0         0         0         0         0.5808           0         0         0         0         0         0.1452           0         0         0         0         0         0.1452           0         0         0         0         0         1.1616           0         0         0         0         0         0         0           0         0         0         0         0         0         0         0.2394           0         0         0         0         0         0.2394           0         0         0         0         0         0.5804           0         0         0         0         0         0.5804           0         0         0         0         0         0.5808           0         0         0         0         0         0.5808           0         0         0         0         0         1.3668           0         0</td>	0         0         0         0         0         0         0.5808           0         0         0         0         0         0.5808           0         0         0         0         0         0.5808           0         0         0         0         0         0.1452           0         0         0         0         0         0.1452           0         0         0         0         0         1.1616           0         0         0         0         0         0         0           0         0         0         0         0         0         0         0.2394           0         0         0         0         0         0.2394           0         0         0         0         0         0.5804           0         0         0         0         0         0.5804           0         0         0         0         0         0.5808           0         0         0         0         0         0.5808           0         0         0         0         0         1.3668           0         0
06/11/98         740         845         65 BW           06/11/98         740         840         60 YW           06/11/98         735         835         60 BE           06/11/98         730         830         60 YE           06/11/98         730         835         1005         70 BW           06/11/98         855         1005         70 BW           06/11/98         840         955         70 BE           06/11/98         1015         1145         90 BW           06/11/98         1015         1145         90 BW           06/11/98         1015         1145         90 BW           06/11/98         1005         1135         90 BE           06/11/98         1015         1145         90 BW           06/11/98         1000         1120         80 YE           06/11/98         1135         1250         70 WW           06/11/98         1135         1255         70 BW           06/11/98         1130         1245         75 YE           06/11/98         1300         1415         70 BW           06/11/98         1415         1520         65 YW <t< td=""><td>0.3125       4.4375       1216       85.6338       333971.8       7.666538       0.13043       0       0       0       0         0.3125       4.4375       1216       85.6338       306281.7       7.077174       0.141299       0.141299       0.141299       0       <td< td=""><td><math display="block">\begin{array}{cccccccccccccccccccccccccccccccccccc</math></td><td>0         1.956452         0.13043         0         0         0         0         0         0.13043         0.28289           0         0.847796         0.282599         0</td><td>0         0         0         0         3.521614           0         0         0         0         0         1.695592           0         0         0         0         0         1.695592           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         0.966891           0         0         0         0         0         0.2658333           0         0         0         0         0         2.456833175           0         0         0         0         0         3.202785           0         0         0         0         0         3.202785           0         0         0         0         0         3.22251           0         0         0         0         0         1.336474           0         0         0         0         0<!--</td--></td></td<></td></t<>	0.3125       4.4375       1216       85.6338       333971.8       7.666538       0.13043       0       0       0       0         0.3125       4.4375       1216       85.6338       306281.7       7.077174       0.141299       0.141299       0.141299       0 <td< td=""><td><math display="block">\begin{array}{cccccccccccccccccccccccccccccccccccc</math></td><td>0         1.956452         0.13043         0         0         0         0         0         0.13043         0.28289           0         0.847796         0.282599         0</td><td>0         0         0         0         3.521614           0         0         0         0         0         1.695592           0         0         0         0         0         1.695592           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         0.966891           0         0         0         0         0         0.2658333           0         0         0         0         0         2.456833175           0         0         0         0         0         3.202785           0         0         0         0         0         3.202785           0         0         0         0         0         3.22251           0         0         0         0         0         1.336474           0         0         0         0         0<!--</td--></td></td<>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0         1.956452         0.13043         0         0         0         0         0         0.13043         0.28289           0         0.847796         0.282599         0	0         0         0         0         3.521614           0         0         0         0         0         1.695592           0         0         0         0         0         1.695592           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         3.108586           0         0         0         0         0         0.966891           0         0         0         0         0         0.2658333           0         0         0         0         0         2.456833175           0         0         0         0         0         3.202785           0         0         0         0         0         3.202785           0         0         0         0         0         3.22251           0         0         0         0         0         1.336474           0         0         0         0         0 </td
06/12/98         745         845         60 BW           06/12/98         740         840         60 YW           06/12/98         735         835         60 BE           06/12/98         730         830         60 YE           06/12/98         855         1005         70 BW           06/12/98         850         950         60 YE           06/12/98         845         945         60 YE           06/12/98         845         945         60 YE           06/12/98         1010         1120         70 BW           06/12/98         1010         1120         70 BW           06/12/98         955         1110         75 BE           06/12/98         950         1100         70 YE           06/12/98         950         1100         70 YE           06/12/98         2040         2125         45 BE           06/12/98         2040         2125         45 BE           06/12/98         2010         2050         40 YE           06/12/98         2055         2140         45 YE	0.3125         4.4375         1186         83.52113         300676.1         6.902572         0	0         0         0         0         0         0.579494         0           0         0         0         0         0         0.579494         0           0         0         0         0         0         0.144874         0           0         0         0         0         0.724368         0           0         0         0         0         0.1014115         0.144874           0         0         0         0         0.372532         0           0         0         0         0         0.372532         0           0         0         0         0         0.372532         0           0         0         0         0         0.372532         0           0         0         0         0         0.373474         0.144874           0         0         0         0         0         0.448709         0           0         0         0         0         0         0.496709         0           0         0         0         0         0         0         0         0           0         0         0         0 <td>0       0.144874       0.144874       0.144874       0.0       0<!--</td--><td>0         0         0.144874         0         0         0         2.028229           0         0         0         0         0         0         0.068241           0         0         0         0         0         0         1.883356           0         0         0         0         0         0         2.111014           0         0         0.124177         0         0         2.111014           0         0         0.124177         0         0         0.724368           0         0         0.144874         0         0         0.724368           0         0         0         0.144874         0         0.144115           0         0         0         0         0.245285           0         0         0         0         0         2.456285           0         0         0         0         0         2.456285           0         0         0         0         0         2.2086179           0         0         0         0         0         2.218417           0         0         0         0         0         2.218417</td></td>	0       0.144874       0.144874       0.144874       0.0       0 </td <td>0         0         0.144874         0         0         0         2.028229           0         0         0         0         0         0         0.068241           0         0         0         0         0         0         1.883356           0         0         0         0         0         0         2.111014           0         0         0.124177         0         0         2.111014           0         0         0.124177         0         0         0.724368           0         0         0.144874         0         0         0.724368           0         0         0         0.144874         0         0.144115           0         0         0         0         0.245285           0         0         0         0         0         2.456285           0         0         0         0         0         2.456285           0         0         0         0         0         2.2086179           0         0         0         0         0         2.218417           0         0         0         0         0         2.218417</td>	0         0         0.144874         0         0         0         2.028229           0         0         0         0         0         0         0.068241           0         0         0         0         0         0         1.883356           0         0         0         0         0         0         2.111014           0         0         0.124177         0         0         2.111014           0         0         0.124177         0         0         0.724368           0         0         0.144874         0         0         0.724368           0         0         0         0.144874         0         0.144115           0         0         0         0         0.245285           0         0         0         0         0         2.456285           0         0         0         0         0         2.456285           0         0         0         0         0         2.2086179           0         0         0         0         0         2.218417           0         0         0         0         0         2.218417

|                  |   
   
   |  |   | | | | | | | | | | | | | | | | | | | |
  |  |  |  |  |  
   |  |   | ļ  | .99   | J.   |   |  |   
   |   | ć   |   |   |  |   |   |  |  |   |  |   |   |   |  |  |             |                                 |                                 |   |   |   
  |  |
------------------
--
---|--|---
---|--|--|--|--
--|--|---|--|---|--|---|--
---|---|---|---
---|--|---|---|--|--|---|--|---|---|---|--|--|-------------|---------------------------------|---------------------------------|---|---|--|--|
|                  | ST  
   
   | ART S  | top. Du   | RATION NET   
  | GATE TO<br>OPENING GA  |  | W  | S/NET CF<br>SA   | AC<br>MPLE S/  
   | CREFT S  | SCT ACFT  |  | FHC<br>ACFT   | SCH<br>ACFT  | WSM<br>ACFT   | LND<br>ACFT  | LNS<br>ACFT   
   | WSU<br>ACFT   | BSU<br>ACFT   | RED<br>ACFT   | RCS   | BMB<br>ACFT  | BBT<br>ACFT   | GE<br>ACFT  | SGR<br>ACFT  | WE<br>ACFT   | SNS<br>ACFT   | CAR<br>ACFT  | SMB   | SICKLEFIN<br>ACFT   | NP<br>ACFT  |  |  | EMS<br>ACFT | FHM                             | BBH<br>ACFT                     | CISCO<br>ACFT   | BRASS<br>ACFT   | Y TOTAL<br>ACFT   
  |  |
| 0                | 5/12/98<br>5/12/98<br>5/12/98   
   
   | 2210<br>2145<br>2240   | 2245<br>2230<br>2310  | 35 BE<br>45 YE<br>30 YE  
  | 0.3125   | 4.4375<br>4.4375<br>4.4375   | 1186 83<br>1186 83<br>1186 83  | 3.52113  | 225507   
   | 5.176929   |   | 0<br>0.772659<br>0.869241  |   | 5.02228  | 32  | 0 0.24835<br>0 0.38632<br>0 0.28974  | 29  
   | 0<br>0  | 0   | 0<br>0  | 0<br>0<br>0   | 0<br>0<br>0  | 0<br>0 0.386<br>0   | 0<br>329<br>0   | 0 0.7450<br>0 1.7384<br>0 2.0282   | 82   | 0<br>0 0.19316<br>0   | 0<br>55<br>0   | 0<br>0<br>0   | 0 0<br>0 0<br>0 0   | 0   | 0  | 0<br>0<br>0  |             | 0<br>0<br>0                     | 0<br>0<br>0                     | 0<br>0<br>0   | 0<br>0  | 0 14.40457<br>0 14.87368<br>0 16.80533                  
  | 8  |
| 0<br>0<br>0<br>0 | 6/13/98<br>6/13/98<br>6/13/98<br>6/13/98<br>6/13/98<br>6/13/98<br>6/13/98<br>6/13/98  
   
   | 2020<br>2000<br>2110<br>2050<br>2140<br>2210<br>2245   | 2100<br>2045<br>2155<br>2130<br>2240<br>2310<br>2345  | 40 BE<br>45 YE<br>35 BE<br>40 YE<br>60 YE<br>60 BE<br>60 YE  
  | 0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125   | 4.4375<br>4.4375<br>4.4375<br>4.4375<br>4.4375<br>4.4375<br>4.4375<br>4.4375   | 1133 79<br>1133 79<br>1133 79<br>1133 79   | 9.78873 2<br>9.78873 1<br>9.78873 9<br>9.78873 9<br>9.78873 2<br>9.78873 2   | 67556.3<br>191493<br>87239.4<br>87239.4  
   | 4.945583<br>3.846564<br>4.396073<br>6.59411<br>6.59411   | 0.202201<br>1.039889<br>0<br>6.824272<br>7.885825   | 0.519945<br>0  | 0.202201<br>0.779917<br>0.454951  | 0.80880<br>5.19944<br>0.45495<br>1 5.45941<br>0 2.12310  | )3<br>15<br>51<br>17  | 0  | 0 0.2274<br>0<br>0  
   | 0   | 0<br>0<br>0<br>0<br>0   | 0   | 0<br>0<br>165 0.3033<br>0 0.151<br>0 0.3033   | 65   | 0<br>0<br>0<br>0<br>0<br>0<br>0   | 0 0.227<br>0 0.202<br>0<br>0 0.15<br>0 0.15<br>0 0.15                                       | 201 4.4484<br>0 1.2998<br>0 2.7297<br>165 0.7582<br>165 0.6066   | 14<br>61<br>09<br>52 0.1516<br>02  | 5<br>0  | 0  | 0<br>0<br>0<br>0<br>0<br>0  | 0 0   | 0   | 0.227476<br>0.404401<br>0.259972<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0   |             | 0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0      | 0<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0   | 0 2.047282<br>0 6.26822<br>0 9.878946<br>0 3.412136<br>0
14.25515<br>0 11.67705<br>0 11.22214  | 2<br>6<br>5<br>9   |
| 0                | 5/14/98<br>5/14/98<br>5/14/98<br>5/14/98<br>5/14/98<br>5/14/98  
   
   | 2120<br>2110<br>2210<br>2200<br>2315<br>2300   | 2200<br>2155<br>2300<br>2245<br>2415<br>2400  | 50 BE<br>45 YE<br>50 BE<br>45 YE<br>60 BE<br>60 YE   
  | 0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125   | 3.75<br>3.75<br>3.75<br>3.75<br>3.75<br>3.75<br>3.75   | 1085 90<br>1085 90<br>1085 90<br>1085 90<br>1085 90<br>1085 90   | 0.41667<br>0.41667<br>0.41667<br>0.41667   | 244125<br>271250<br>244125<br>325500   
   | 5.604339<br>6.227043<br>5.604339<br>7.472452   | 5.174562<br>1.605899<br>2.498065<br>2.007373  | 0.178433   | 0.5353<br>0.642359<br>1.070599  | 6.06672<br>0.96353<br>4.63926<br>0.13382   | 28<br>39<br>33<br>25  | 0 0.35686  | 0   
   | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0   | •   | 0<br>0<br>0<br>0<br>0  |   | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0 0.8029<br>0 1.0705<br>0 0.321<br>0 0.3568<br>0 0.4014<br>0 0.6691  | 99<br>18<br>66<br>75   |   | 0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0  | 0 0<br>0 0<br>0 0<br>0 0<br>0 0<br>0 0  | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0  |             | 0<br>0<br>0<br>0<br>0<br>0      | 0<br>0<br>0<br>0<br>0           | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0   | 0 7.065954<br>0 13.20406<br>0 3.854157<br>0
9.100092<br>0 2.810323<br>0 5.219171   | 6<br>7<br>2<br>3   |
| 0                | 5/15/98<br>5/15/98<br>5/15/98<br>5/15/98<br>5/15/98<br>5/15/98<br>5/15/98<br>5/15/98  
   
   | 2035<br>2030<br>2030<br>2150<br>2140<br>2130<br>2255<br>2245   | 2145<br>2130<br>2125<br>2255<br>2240<br>2230<br>2350<br>2350<br>2340  | 50 YW<br>60 BE<br>55 YE<br>65 YW<br>60 BE<br>60 YE<br>55 BE<br>55 YE   
  | 0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125   | 3.75<br>3.75<br>3.75<br>3.75<br>3.75<br>3.75<br>3.75<br>3.75   | 1085 90<br>1085 90<br>1085 90<br>1085 90<br>1085 90<br>1085 90<br>1085 90<br>1085 90   | ).41667<br>).41667<br>).41667<br>).41667<br>).41667<br>).41667   | 325500<br>298375<br>352625<br>325500<br>325500<br>298375   
   | 7.472452<br>6.849747<br>8.095156<br>7.472452<br>7.472452<br>6.849747   | 0<br>0.437972<br>0.247061<br>3.345622<br>1.873548<br>3.357788   | 0.247061<br>0.133825   | 0.5353<br>0.729954<br>0.802949<br>0.401475<br>0.145991  | 3 1.73972<br>4 0.12353<br>9 1.07059<br>5 2.14119<br>1 1.45990  | 24<br>0<br>31<br>39<br>38<br>38   | 0 0.14599<br>0<br>0<br>0 0.2676  | 0<br>0<br>65<br>0   
   | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0.1455                     | 0<br>0 0.1338<br>0<br>0<br>0<br>0<br>0<br>991   | 0<br>125<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0.1455                               | 0<br>0 0.133<br>0<br>0<br>0<br>0<br>0<br>991  | 825 0.267<br>0 1.1679<br>0 0.4014<br>0 0.4014<br>0 0.4014  | 26<br>0<br>75  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   |   | 0 0<br>0 0<br>0 0<br>0 0<br>0 0<br>0 0<br>0 0<br>0 0  |   | 0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   |             | 0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>0   | 0 1.766488<br>0 2.810323<br>0 2.481843<br>0
0.617653<br>0 5.75447<br>0 5.352995<br>0 5.255668<br>0 7.44553   | 3<br>3<br>7<br>5<br>8  |
| 0                | 5/16/98<br>5/16/98<br>5/16/98<br>5/16/98  
   
   | 1430<br>1420<br>1540<br>1550   | 1535<br>1520<br>1640<br>1650  | 65 BE<br>60 YE<br>60 BE<br>60 YW   
  | 0.3125<br>0.3125<br>0.3125<br>0.3125   | 3.5<br>3.5<br>3.5<br>3.5   |  | 01,1607 3  | 64178.6<br>64178.6   
   | 8,36039<br>8,36039   | 0.119612<br>0.358835  | 0.220822<br>0.119612<br>0.239223<br>0.119612   | 0.119612  | 0 0.47844<br>2   | 0   | -  |   
   | 0<br>0<br>0<br>0  | 0<br>0<br>0   | 0<br>0<br>0<br>0  |   | 0<br>0<br>0<br>0<br>0  | 111<br>0<br>0<br>0  | 0 0.110<br>0 0.478<br>0 0.119<br>0 0.358  | 447 0.3588<br>612 0.1196   | 12   | 0   | 0 0.1104<br>0<br>0<br>0  |   | 0 0<br>0 0<br>0 0<br>0 0  | 0<br>0<br>0   | 0.110411<br>0<br>0<br>0  | 0<br>0<br>0  |             | 0<br>0<br>0                     | 0<br>0<br>0                     | 0<br>0<br>0   | 0<br>0 0.239<br>0<br>0  | 0 1.656161<br>3223 1.794175<br>0 0.956893<br>0 1.43534  
  | 5<br>3   |
| 0                | 5/17/98<br>5/17/98<br>5/17/98<br>5/17/98  
   
   | 925<br>930<br>1035<br>1040   | 1025<br>1030<br>1135<br>1140  | 60 BE<br>60 YW<br>60 BE<br>60 YW   
  | 0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125   | 3.25<br>3.25<br>3.25<br>3.25<br>3.25   | 1108 10  | )6.5385 3<br>)6.5385 3   | 83538.5<br>83538.5   
   | 8.804832<br>8.804832<br>8.804832<br>8.804832<br>8.804832   | 0.681444  | 0<br>0   |   | 3 0.22714<br>)   | 0   |  | 0 0.1135  
   |   | 0<br>0<br>0   |   | 0<br>0 0.1135<br>0 0.1135<br>0 0.1135   |  |   | 0<br>0 0.227<br>0<br>574  |  | 0  | 0<br>0<br>0<br>0  | 0<br>0<br>0  | 0<br>0<br>0   | 0 0<br>0 0<br>0 0<br>0 0  | 0<br>0<br>0   | 0<br>0<br>0  | 0<br>0<br>0  |             | 0<br>0<br>0                     | 0<br>0<br>0<br>0                | 0<br>0<br>0<br>0  | 0<br>0<br>0<br>0  | 0 0.795018<br>0 1.590036<br>0 0.34072<br>0 0.908592     
  | 6<br>2   |
| 0                | 7/21/98<br>7/21/98<br>7/21/98<br>7/21/98<br>7/21/98<br>7/21/98  
   
   | 2130<br>2130<br>2300<br>2300<br>2300   | 2230<br>2230<br>2230<br>2400<br>2400<br>2400<br>2400  | 60 YW<br>60 BE<br>60 YE<br>60 YW<br>60 BE<br>60 YE   
  | 0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125   | 5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375  | 1280 7<br>1280 7<br>1280 7<br>1280 7   | 74.4186<br>74.4186<br>74.4186<br>74.4186   | 267907<br>267907<br>267907<br>267907   
   | 6,150298<br>6,150298   | 0.162594<br>0.162594<br>0.325188<br>0.325188  | 0<br>0.325188  | 0<br>(<br>(<br>(<br>0.162594  | )<br>)<br>)  |   | 0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0   
   | 0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0   | 0<br>0 0.162<br>0<br>0<br>0<br>0 0.162  | 0 1.7885   | 19<br>38<br>0  | 0<br>0<br>0 0.32518   | ō  |   | 0 0<br>0 0<br>0 0<br>0 0<br>0 0<br>0 0  |   | 0.162594<br>0.162594<br>0<br>0<br>0<br>0<br>0.487781   | 0  |             | 0<br>0<br>0<br>0<br>0<br>0      | 0<br>0<br>0<br>0<br>0           | 0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0  | 0 0.65037<br>0 3.08928<br>0 1.95112<br>0 0<br>0
2.76409<br>0 2.92668   | 5<br>0<br>4  |
|                  | 7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98<br>7722/98   
   
   | 30<br>30<br>30<br>1015<br>1020<br>1130<br>1135<br>1145<br>1245<br>1300<br>1250<br>2110<br>2040<br>2035<br>2030<br>2230<br>2230<br>2210<br>2245<br>2315 | 130<br>130<br>130<br>1120<br>1140<br>1230<br>1245<br>1250<br>1415<br>1430<br>1350<br>2220<br>2210<br>2200<br>2140<br>2330<br>2315<br>2400<br>2430   | 60 YW<br>60 BE<br>60 YE<br>60 YE<br>60 YW<br>60 YE<br>60 YW<br>60 YE<br>60 YW<br>90 BE<br>70 BE<br>70 BE<br>70 BE<br>70 BE<br>70 BE<br>70 BE<br>70 BE<br>70 BE<br>70 SE<br>70 SE | 0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125  
  | 5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375<br>5.375   | 1280 7<br>1280 7   | 74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186<br>74.4186   | 267907<br>267907<br>267907<br>90232.6<br>12558.1<br>12558.1<br>12558.1<br>90232.6<br>01860.5<br>267907<br>12558.1<br>01860.5<br>79534.9<br>12558.1<br>267907<br>12558.1<br>267907<br>90232.6<br>34883.7  | 6.150298<br>6.662823<br>7.175348<br>6.150288<br>6.150298<br>6.150298<br>6.150298<br>7.175348<br>6.662823<br>9.225447<br>6.150298<br>7.175348<br>9.225447<br>8.712922<br>7.175348<br>6.150298<br>6.662823<br>7.687872   | 0.162594<br>0.325188<br>0<br>0.139366<br>0.162594<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0            | 0.487781<br>0<br>0<br>0<br>0.139366<br>0.108396<br>0.108396<br>0.162594<br>0.108396<br>0.688632<br>0<br>0<br>0.045026<br>0.26015 | 0.300173<br>0.418096<br>0.46259<br>0.487781<br>0.139366<br>0.150087<br>0.433583<br>0.650375<br>0.162594<br>0.162594<br>0.114772<br>0.325188<br>0.150087  
  | 4<br>3 0.30011<br>4<br>1 0.16256<br>5<br>4<br>1 0.16256<br>5<br>4<br>0 1.25425<br>0 1.25425<br>0 1.25425<br>0 1.25425<br>0 1.25425<br>0 1.25425<br>0 3<br>2 0.30011<br>4<br>3 3<br>3 3<br>5<br>5<br>4<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7 | 0<br>73<br>0<br>0<br>94<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0 0.16255<br>0 0.10835<br>0 0.10835<br>0 0.10835<br>0 0.97556<br>0 0.2295-0<br>0 0.13936<br>0 0.32516<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>96<br>0<br>0<br>0.1625<br>63<br>0<br>0<br>44<br>466<br>88  
  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0 0.1500<br>0 0.2167<br>0  | 0<br>0 0.1500<br>0<br>0 0.4877<br>0 0.1500<br>792<br>0 0.1083<br>0<br>0 0.1083<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 0.1625<br>0<br>0 0.1500  | 0<br>0<br>781<br>0<br>87<br>0<br>996<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                              | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0 0.6503<br>0 3.4144<br>0 0.1500<br>0 0.4180<br>0 0.3251<br>0 0.3251<br>0 0.3251<br>0 0.3253<br>0 0.6003<br>0 0.6807<br>0 0.6503<br>0 0.6503<br>0 0.6503<br>0 0.6503<br>0 0.6503<br>0 0.1625<br>0 0.2787<br>0 0.1625<br>0 0.2787<br>0 0.1625<br>594 0.1625<br>594 0.1625   | 75<br>69<br>87<br>98<br>88<br>88<br>66<br>67<br>75<br>94<br>32<br>96<br>81<br>84<br>94<br>0.16255<br>38  | 0 0.48775<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0.1625<br>0<br>0<br>0<br>0<br>0<br>0.1625<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 94<br>0<br>0<br>0   | 0         0         0           0         0         0         0           0         0         0         0         0           0         0         0         0         0         0           0 | 0   | 0<br>0<br>0,750433<br>0,836196<br>0<br>0,325188<br>0<br>0,325188<br>0<br>0<br>0,216792<br>0,0<br>0<br>0,0108396<br>0,044316<br>1,11492<br>0<br>0,044316<br>1,11492<br>0<br>0,26015<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0.325188<br>0<br>0<br>0.108396<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 1           |                                 |                                 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0 0.32518<br>0 1.625933<br>0 5.201<br>0 1.650955<br>0 1.811757<br>0 0.418093<br>0 0.418093<br>0 0.418093<br>0 1.050600<br>1.95112<br>0 2.27631<br>0 1.33157<br>0 3.3283<br>0 3.3283<br>0 3.3283<br>0 3.3281<br>0 3.35216<br>0 3.3819<br>0 2.73157  | 832959865369395535   |
|                  | 1723/98           1723/98 <td< th=""><th>2355<br/>2330<br/>945<br/>955<br/>1050<br/>1055<br/>1105<br/>1110<br/>1205<br/>1210<br/>1310<br/>1320<br/>1320<br/>1320<br/>1320<br/>1320<br/>1320</th><th>100<br/>45<br/>1045<br/>1050<br/>1100<br/>1200<br/>1205<br/>1215<br/>1310<br/>1315<br/>1320<br/>1430<br/>1435<br/>1440<br/>1445<br/>2135<br/>2144<br/>2135<br/>2144<br/>2135<br/>2145<br/>2145<br/>2145<br/>2145<br/>2151<br/>100<br/>1100<br/>1100<br/>1105<br/>100<br/>1100<br/>1105<br/>1215<br/>2200<br/>2210</th><th>65 BW<br/>65 BW<br/>66 BW<br/>66 BW<br/>66 BW<br/>75 BW</th><th>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.3125<br/>0.</th><th>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$375<br/>\$355<br/>\$355<br/>\$355<br/>\$355<br/>\$55<br/>\$55<br/>\$55</th><th>1310         76           1310         77           1280         72           1280         72           1280         72           1280         72           1280         72           1280         72           1280</th><th>3.16279         3.516279</th><th>42732.6<br/>05539.5<br/>05539.5<br/>05539.5<br/>05539.5<br/>05539.5<br/>074186<br/>274186<br/>97034.9<br/>274186<br/>97034.9<br/>274186<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9<br/>97034.9</th><th>4,720834<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>6,294446<br/>8,382534<br/>8,382554<br/>8,332554<br/>8,332554<br/>8,332554<br/>8,332554<br/>8,332554<br/>8,332554<br/>6,294446<br/>8,2944468<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441668<br/>9,441669<br/>9,44168<br/>9,441669<br/>9,44168<br/>9,441669<br/>9,44168<br/>9,441669<br/>9,44168<br/>9,44169<br/>9,44169<br/>9,44169<br/>9,44169<br/>9,44169<br/>9,44169<br/>9,4001012<br/>4,00010121,00010</th><th>0<br/>0<br/>0<br/>0<br/>0.15887<br/>0<br/>0.293299<br/>0.105913<br/>0<br/>0.05913<br/>0<br/>0<br/>0.0105913<br/>0<br/>0<br/>0<br/>0.0105915<br/>0<br/>0<br/>0<br/>0<br/>0.019153</th><th>0.211827<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0,15885<br/>0,031774<br/>0,15885<br/>0,476611<br/>0,476611<br/>0,501693<br/>0,476611<br/>0,501693<br/>0,476611<br/>0,714916<br/>0,19685<br/>0,476611<br/>0,714916<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,121446<br/>0,15885<br/>0,0105915<br/>0,12146<br/>0,15885<br/>0,0105915<br/>0,12146<br/>0,12146<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,0105915<br/>0,00050000000000000000000000000000000</th><th>0.2116;<br/>0.2116;<br/>0.4<br/>7<br/>8<br/>8<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9<br/>9</th><th>199<br/>197<br/>197<br/>197<br/>197<br/>199<br/>199<br/>199</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>87         0         0.1466           0         0.317         0           0         0         317           0         0         317           0         0         317           0         0         313           0         0         0           0         0         0           0         0         0           0         0         0           13         0         0           13         0         0           0         0         1466           0         0         1466           0         0         1466           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         <td< th=""><th>774<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0 0.155<br/>0 0.2933<br/>0 0.2933<br/>0 0.1466<br/>0 0.6354<br/>0 0.153<br/>0 0.1191<br/>0 0.1191<br/>0 0.1191<br/>0 0.153<br/>0 0.1191<br/>0 0.1191<br/>0 0.1121<br/>0 0.0.1121<br/>0 0<br/>0 0.11426<br/>0 0 0.1426<br/>0 0 0.1466<br/>0 0 0.1191<br/>0 0 0.1121<br/>0 0 0 0.1121<br/>0 0 0 0.11426<br/>0 0 0 0.11426<br/>0 0 0 0 0.11426<br/>0 0 0 0.11426<br/>0 0 0 0 0.11426<br/>0 0 0 0 0.11426<br/>0 0 0 0 0 0.11426<br/>0 0 0 0 0 0 0 0.11426<br/>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</th><th>1996<br/>27<br/>0<br/>0<br/>181<br/>187<br/>0<br/>1887<br/>0<br/>1887<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0 0.15<br/>0<br/>0 0.146<br/>0 0.105<br/>0<br/>0<br/>0 0.119</th><th>1096         0.7622           0         0.6554           0         0           0         0.152           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.318           0         0.315           0         0.316           0         0.158           0         0.317           0         0.3232           0         0.2332           0         0.313           0         0.315           0         0.317           0         0.313           0         0.313           0         0.3152           0         0.3152           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.313           0</th></td<><th>77 74<br/>80 0<br/>87 7<br/>74 49<br/>49 33<br/>99 9<br/>97 4<br/>53 50<br/>55 58<br/>74 1<br/>81 20<br/>55 58<br/>74 1<br/>81 21<br/>77 21<br/>0 7<br/>75 56<br/>67 13<br/>25</th><th></th><th>27<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0         0         0           0         0         0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0.15887<br/>0<br/>0.439948<br/>0<br/>0.105913<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th></th><th></th><th></th><th></th><th></th><th></th><th>0 1.02654/<br/>0 2.41482<br/>1.90644<br/>0 .3177<br/>0 .3177<br/>0 .43994<br/>0 1.90644<br/>0 .79435<br/>0 .73324<br/>1.91652<br/>0 .73324<br/>1.17319<br/>0 .045322<br/>0 .17319<br/>0 .045322<br/>0 .17319<br/>0 .045322<br/>0 .17319<br/>0 .045322<br/>0 .12559<br/>0 .20559<br/>0 .20559<br/>0 .20559<br/>0 .307149<br/>0 .3177<br/>0 .37677<br/>0 .37677<br/>0 .37677<br/>0 .37677<br/>0 .37677<br/>0 .37687<br/>0 .27495<br/>0 .46073<br/>0 1.42607<br/>0 .46073<br/>0 1.42607<br/>0 .46373<br/>0 1.42607<br/>0 .45937<br/>0 .13966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 1.</th><th>77 13 4 4 4 8 13 11 17 11 16 13 17 16 14 15 11 77 16 13 12 16 88 11 14 15 15 13 17 15 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 15 15 15 15 15 15 15 15 15 15 15 15</th></th></td<> | 2355<br>2330<br>945<br>955<br>1050<br>1055<br>1105<br>1110<br>1205<br>1210<br>1310<br>1320<br>1320<br>1320<br>1320<br>1320<br>1320                     | 100<br>45<br>1045<br>1050<br>1100<br>1200<br>1205<br>1215<br>1310<br>1315<br>1320<br>1430<br>1435<br>1440<br>1445<br>2135<br>2144<br>2135<br>2144<br>2135<br>2145<br>2145<br>2145<br>2145<br>2151<br>100<br>1100<br>1100<br>1105<br>100<br>1100<br>1105<br>1215<br>2200<br>2210 | 65 BW<br>65 BW<br>66 BW<br>66 BW<br>66 BW<br>75 BW | 0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0.3125<br>0. | \$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$375<br>\$355<br>\$355<br>\$355<br>\$355<br>\$55<br>\$55<br>\$55 | 1310         76           1310         77           1280         72           1280         72           1280         72           1280         72           1280         72           1280         72           1280 | 3.16279         3.516279 | 42732.6<br>05539.5<br>05539.5<br>05539.5<br>05539.5<br>05539.5<br>074186<br>274186<br>97034.9<br>274186<br>97034.9<br>274186<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9<br>97034.9 | 4,720834<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>6,294446<br>8,382534<br>8,382554<br>8,332554<br>8,332554<br>8,332554<br>8,332554<br>8,332554<br>8,332554<br>6,294446<br>8,2944468<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441668<br>9,441669<br>9,44168<br>9,441669<br>9,44168<br>9,441669<br>9,44168<br>9,441669<br>9,44168<br>9,44169<br>9,44169<br>9,44169<br>9,44169<br>9,44169<br>9,44169<br>9,4001012<br>4,00010121,00010 | 0<br>0<br>0<br>0<br>0.15887<br>0<br>0.293299<br>0.105913<br>0<br>0.05913<br>0<br>0<br>0.0105913<br>0<br>0<br>0<br>0.0105915<br>0<br>0<br>0<br>0<br>0.019153 | 0.211827<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                          | 0,15885<br>0,031774<br>0,15885<br>0,476611<br>0,476611<br>0,501693<br>0,476611<br>0,501693<br>0,476611<br>0,714916<br>0,19685<br>0,476611<br>0,714916<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,121446<br>0,15885<br>0,0105915<br>0,12146<br>0,15885<br>0,0105915<br>0,12146<br>0,12146<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,0105915<br>0,00050000000000000000000000000000000 | 0.2116;<br>0.2116;<br>0.4<br>7<br>8<br>8<br>9<br>9<br>9<br>9<br>9<br>9<br>9<br>9<br>9<br>9<br>9<br>9<br>9  | 199<br>197<br>197<br>197<br>197<br>199<br>199<br>199  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                | 87         0         0.1466           0         0.317         0           0         0         317           0         0         317           0         0         317           0         0         313           0         0         0           0         0         0           0         0         0           0         0         0           13         0         0           13         0         0           0         0         1466           0         0         1466           0         0         1466           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0 <td< th=""><th>774<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0 0.155<br/>0 0.2933<br/>0 0.2933<br/>0 0.1466<br/>0 0.6354<br/>0 0.153<br/>0 0.1191<br/>0 0.1191<br/>0 0.1191<br/>0 0.153<br/>0 0.1191<br/>0 0.1191<br/>0 0.1121<br/>0 0.0.1121<br/>0 0<br/>0 0.11426<br/>0 0 0.1426<br/>0 0 0.1466<br/>0 0 0.1191<br/>0 0 0.1121<br/>0 0 0 0.1121<br/>0 0 0 0.11426<br/>0 0 0 0.11426<br/>0 0 0 0 0.11426<br/>0 0 0 0.11426<br/>0 0 0 0 0.11426<br/>0 0 0 0 0.11426<br/>0 0 0 0 0 0.11426<br/>0 0 0 0 0 0 0 0.11426<br/>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</th><th>1996<br/>27<br/>0<br/>0<br/>181<br/>187<br/>0<br/>1887<br/>0<br/>1887<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th><th>0 0.15<br/>0<br/>0 0.146<br/>0 0.105<br/>0<br/>0<br/>0 0.119</th><th>1096         0.7622           0         0.6554           0         0           0         0.152           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.318           0         0.315           0         0.316           0         0.158           0         0.317           0         0.3232           0         0.2332           0         0.313           0         0.315           0         0.317           0         0.313           0         0.313           0         0.3152           0         0.3152           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.313           0</th></td<> <th>77 74<br/>80 0<br/>87 7<br/>74 49<br/>49 33<br/>99 9<br/>97 4<br/>53 50<br/>55 58<br/>74 1<br/>81 20<br/>55 58<br/>74 1<br/>81 21<br/>77 21<br/>0 7<br/>75 56<br/>67 13<br/>25</th> <th></th> <th>27<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th> <th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th> <th>0         0         0           0         0         0</th> <th>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th> <th>0.15887<br/>0<br/>0.439948<br/>0<br/>0.105913<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>0 1.02654/<br/>0 2.41482<br/>1.90644<br/>0 .3177<br/>0 .3177<br/>0 .43994<br/>0 1.90644<br/>0 .79435<br/>0 .73324<br/>1.91652<br/>0 .73324<br/>1.17319<br/>0 .045322<br/>0 .17319<br/>0 .045322<br/>0 .17319<br/>0 .045322<br/>0 .17319<br/>0 .045322<br/>0 .12559<br/>0 .20559<br/>0 .20559<br/>0 .20559<br/>0 .307149<br/>0 .3177<br/>0 .37677<br/>0 .37677<br/>0 .37677<br/>0 .37677<br/>0 .37677<br/>0 .37687<br/>0 .27495<br/>0 .46073<br/>0 1.42607<br/>0 .46073<br/>0 1.42607<br/>0 .46373<br/>0 1.42607<br/>0 .45937<br/>0 .13966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 4.24256<br/>0 1.9966<br/>0 1.</th> <th>77 13 4 4 4 8 13 11 17 11 16 13 17 16 14 15 11 77 16 13 12 16 88 11 14 15 15 13 17 15 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 15 15 15 15 15 15 15 15 15 15 15 15</th> | 774<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0 0.155<br>0 0.2933<br>0 0.2933<br>0 0.1466<br>0 0.6354<br>0 0.153<br>0 0.1191<br>0 0.1191<br>0 0.1191<br>0 0.153<br>0 0.1191<br>0 0.1191<br>0 0.1121<br>0 0.0.1121<br>0 0<br>0 0.11426<br>0 0 0.1426<br>0 0 0.1466<br>0 0 0.1191<br>0 0 0.1121<br>0 0 0 0.1121<br>0 0 0 0.11426<br>0 0 0 0.11426<br>0 0 0 0 0.11426<br>0 0 0 0.11426<br>0 0 0 0 0.11426<br>0 0 0 0 0.11426<br>0 0 0 0 0 0.11426<br>0 0 0 0 0 0 0 0.11426<br>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 1996<br>27<br>0<br>0<br>181<br>187<br>0<br>1887<br>0<br>1887<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0 0.15<br>0<br>0 0.146<br>0 0.105<br>0<br>0<br>0 0.119                                      | 1096         0.7622           0         0.6554           0         0           0         0.152           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.318           0         0.315           0         0.316           0         0.158           0         0.317           0         0.3232           0         0.2332           0         0.313           0         0.315           0         0.317           0         0.313           0         0.313           0         0.3152           0         0.3152           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.317           0         0.313           0 | 77 74<br>80 0<br>87 7<br>74 49<br>49 33<br>99 9<br>97 4<br>53 50<br>55 58<br>74 1<br>81 20<br>55 58<br>74 1<br>81 21<br>77 21<br>0 7<br>75 56<br>67 13<br>25 |   | 27<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0         0         0             | 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0.15887<br>0<br>0.439948<br>0<br>0.105913<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  |  |             |                                 |                                 |   |   | 0 1.02654/<br>0 2.41482<br>1.90644<br>0 .3177<br>0 .3177<br>0 .43994<br>0 1.90644<br>0 .79435<br>0 .73324<br>1.91652<br>0 .73324<br>1.17319<br>0 .045322<br>0 .17319<br>0 .045322<br>0 .17319<br>0 .045322<br>0 .17319<br>0 .045322<br>0 .12559<br>0 .20559<br>0 .20559<br>0 .20559<br>0 .307149<br>0 .3177<br>0 .37677<br>0 .37677<br>0 .37677<br>0 .37677<br>0 .37677<br>0 .37687<br>0 .27495<br>0 .46073<br>0 1.42607<br>0 .46073<br>0 1.42607<br>0 .46373<br>0 1.42607<br>0 .45937<br>0 .13966<br>0 4.24256<br>0 1.9966<br>0 4.24256<br>0 1.9966<br>0 4.24256<br>0 1.9966<br>0 4.24256<br>0 1.9966<br>0 4.24256<br>0 1.9966<br>0 4.24256<br>0 1.9966<br>0 1. | 77 13 4 4 4 8 13 11 17 11 16 13 17 16 14 15 11 77 16 13 12 16 88 11 14 15 15 13 17 15 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 15 15 15 15 15 15 15 15 15 15 15 15 |

4

-

.\_]

•

																	•											
	START S	top DL	IRATION NET	GATE OPENING		OW	CFS/NET		ACREFT SAMPLE		CCT ACFT			WSM ACFT	LND ACFT	LNS ACFT	WSU ACFT	BSU ACFT	RED ACFT	RCS ACFT				SGR WE ACFT ACF	SNS T ACFT	CAR ACFT	SMB ACFT	SICKLEFIN N ACFT A
07/24/98 07/24/98 07/24/98 07/24/98 07/24/98	2135 2210 2220 2230 2250	2220 2240 2315 2320 2335	45 YE 30 BW 55 BE 50 YE 45 BW	0.3125 0.3125 0.3125 0.3125 0.3125 0.3125	5.5 5.5 5.5 5.5 5.5	1280 1280 1280	72.72727 72.72727 72.72727 72.72727 72.72727 72.72727	196363.6 130909.1 240000 218181.8 196363.6	3.005259 5.509642 5.008765	0.221833 0 0.3993 0.221833	0.443667 0 0.5445 0 0	0 0.1815	2.662 0.363			25 0 0 0.1996	0 0 5 0	0 0 0 0	0 0 0 0	0 0.221833 0 0.33275 0 0 0 0.19965 0 0	0	000000000000000000000000000000000000000	0 0 0 0	0.443667 0.33275 0 1.9965 0	0 0 0 0	0 0 0 0		0 0 0 0 0 0 0 0
07/25/98 07/25/98 07/25/98 07/25/98 07/25/98 07/25/98 07/25/98	2045 2055 2125 2135 2150 2220 2235	2130 2140 2210 2220 2250 2310 2325	45 BW 45 BE 45 YE 45 BW 60 BE 50 YE 50 BW	0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125	5.8125 5.8125 5.8125 5.8125 5.8125 5.8125 5.8125 5.8125	1280 1280 1280 1280 1280 1280 1280	68.8172 68.8172 68.8172 68.8172 68.8172 68.8172 68.8172	247741.9	4.265529 4.265529 4.265529 5.687372 4.739477	0 0.468875 0 0	0 0 0.175828 0.421988	0	0 2.344375 3.282125 0.351656 3.164906		0 1.4066 0 1.4066 0 0.937 0 0.6329 0 0.4219	0 25 75 0 81		0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0.234438 0 0 0 0.210994	000000000000000000000000000000000000000	0 0 0 0 0 0	000000000000000000000000000000000000000	0.468875 0.468875 0.93775 0.234438 0.175828 0.421988 0.210994	000000000000000000000000000000000000000	0 0 0 0 0		
07/26/98 07/26/98 07/26/98 07/26/98 07/26/98 07/26/98 07/26/98 07/26/98	2120 2125 2130 2225 2235 2245 2315 2325	2215 2225 2230 2310 2340 2330 2355 2405	55 BW 60 BE 60 YE 45 BW 65 BE 45 YE 40 BW 40 YE	0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125	6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25	1280 1280 1280 1280 1280 1280 1280 1280	64 64 64 64 64 64 64 64 64	211200 230400 230400 172800 249600 172800 153600 153600	4.848485 5.289256 5.289256 3.966942 5.730028 3.966942 3.526171 3.526171	0 0.75625 0 0	0	0 0 0.252083 0 0 0	1.85625 0.378125 2.646875 1.764583 0.174519 2.016667 0.283594		0 0.206 0 0 0.9453 0 0.5041	25 0 13 57 0 33 94		0 0 0 0 0 0 0 0		0 0.20625 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0	0 0 0 0 0.283594 0	0.20625 0.189063 1.134375 0 0.349038 1.5125 0 1.134375	0 0.20 0 0.189 0 0 0 0 0 0	0	0 0.189063 0 0.189063 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 3 0 0 0 0 0 0 0 0 0 0 0
08/23/98 08/23/98	2015 2030	2100 2115	45 BW 45 YE	0.3125 0.3125	6.0625 6.0625		62.68041 62.68041	169237.1 169237.1		1.029561 4.118246		0.772171 2.831294			0 0 0.257		0	0 0	0 0	0 0 0 0		0	0 0	0 0	0 1.029 0 2.059		0 ( 39 (	0 0 0 0
08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98 08/24/98	950 955 1105 1120 1215 1225 1225 1235 1330 1340 1350 2015 2020 2015 2025 2120 2130 2150	1050 1055 1205 1230 1220 1315 1325 1335 1430 1440 1450 2115 2120 2125 2220 2235 2300	60 BW 600 BE 600 BE 70 YE 70 YE	0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125	6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625	1216 1216 1216 1216 1216 1216 1216 1216	62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041	225649.5 225	5.180199 5.180199 5.180199 5.180199 5.180199 5.180199 5.180199 5.180199 5.180199 5.180199 5.180199 5.180199	0.965214 1.737385 3.667813 1.158257 0.53458	0.386086 0 0.193043 0 0.193043 0.366086 0.193043 0 0 0 0 0 0 0 0 0 0 0 0.565214 0 0 0 0.53458	0.772171 0.386086 0.193043 0.772171 0.386086 0.386086 1.351299 0.193043 0.193043 0.772171 0.772171 0.965214 0.772171	0.579128 0.193043 0.193043 0.193043 0.00 0.579128 0.579128 0.579128 0.386086 1.544342 0.772171 0		0 0.3860 0 0 0 0 0 0 0 0.1930 0 0.1930 0 0 0.1930 0 0 0.1930	0 0.19304 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0.1930 0 0.1930 0 0 0.1930 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0		0.193043 0.772171 0 0.193043 0.193043 0.193043 0.193043 0.193043 0.386086 0 0.965214 0 0 0.965214 0 0 0.193043 0 0 0.165465	0 0.386086 0.193043 0.965214 0.193043 0.193043 0.193043 0.772171 0 0 0.193043 0.772471 0 0 0.193043 0 0 0.193043	0 0.386 0 1.351 0 0.579 0 0.193 0 0.386 0 1.351 0 1.353 0 1.158 0 2.13 0 3.309	299 128 043 0 086 243 086 214 0 214 229 385 454 454 257 332		D     0       D     0
08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98 08/25/98	920 925 930 1030 1040 1050 1140 1300 1300 1310 1340 1340 1345 1950 2035 2045 2055 2445 2455 2445 2455 2205	1020 1030 1140 1130 1150 1250 1300 1310 1410 1420 2035 2045 2135 2145 2255 2245 2255 2245	60 60 60 70 70 70 70 70 70 70 70 70 70 70 70 70	0.3125 0.3126 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125	6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625 6.0625	1216 1216 1216 1216 1216 1216 1216 1216	62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041 62,68041	225649.5 244453.6 263257.7 225649.5 225649.5 225649.5 225649.5 225649.5 225649.5 225649.5 188041.2 188041.2 206845.4 225649.5 226649.5 226649.5 225649.5	5.180199 6.043566 6.043566 5.180199 5.180199 4.316833 4.316833 4.748516 5.180199 5.180199 5.180199 5.180199 5.180199	0 0 0 0 0,193043 0,386086 0,386086 0,165465 0,165465 0,0231651 0,634954 1,158257 1,54857 1,548577 1,548577 1,548577 1,548577 1,5485777 1,	0 0.165465 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.33093 0.386086 0.386086 0.496396 0.661861 0.496396 0.193043 1.351299 0 0.926605 1.474145 0 0.193043 1.895329 0.193043	0 0.827326 0.386096 0.965214 0.965214 0.965214 0.965214 0.36565 0.386666 0.33790658 0.133043 0.3790658 0.13043 0.0366086 0.386086		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0         0           0         0	0 0 0		0.193043 0.178193 0.661861 0.0681861 0.386986 0.386986 0.055465 0.3393 0.193043 0.3380986 0.3380986 0.3380986 0.3380986 0.0231651 0.210592 0.0 0.0210592 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0 0.356387 0.165465 0.193043 0.0555214 1.351299 0.33093 0.33093 0.3093 0.77217171 0.77217171 0.772171717171 0.77217171 0.772171717171717171717171717171717171717	0 0,153 0 0,176 0 1,158 0 0,193 0 0,366 0 1,158 0 0,366 0 1,358 0 0,579 0 0,366 0 1,158 0 0,579 0 1,158 0 0,926 0 0,92	193 257 257 258 259 0 253 259 257 257 257 257 257 257 257 257 257 257	0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0	
08/26/98 08/26/98 08/26/98 08/26/98 08/26/98 08/26/98 08/26/98 08/26/98 08/26/98 08/26/98 08/26/98 08/26/98	905 910 915 1010 1015 1120 1130 1230 1235 1950 2050 2050 2040 2150 2100 2140 2150 2200 225 2300	1005 1010 1015 1110 1115 1225 1230 1225 1330 1335 2030 2030 2030 2035 2135 2145 2155 2235 2155 2235 2300 2245 2330 2330 2345	60 8W 80 8B 80 80 80	0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125	625 625 625 625 625 625 625 625 625 625	1250 1250 1250 1250 1250 1250 1250 1250	82.5 82.5 82.5 82.5 82.5 82.5 82.5 82.5	225000 225000 225000 225000 243750 243750 225000 225000 225000 225000 225000 168750 168750 168750 168750	4.304408 4.734848 4.734848 4.734848 4.734848 6.026171 3.873967 5.165289	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.1936 0.1936 0.1936 0.1936 0.1936 0.1936 0.1936 0.1936 0.0.1936 0.0.2028 0.0.2028 0.2112 0.4224 0.2112 0.2516267 0 0.0.516267	0.1936 0.1936 0.5806 0.5806 0.00 0.357415 0.178708 0.357415 0.178708 0.568 0.9583 0.9583 0.9583 0.9585 0.258133 0.95856 0.258133 0.95856 0.258133 0.95856 0.258133 0.95856 0.258133 0.95856 0.258133 0.95856 0.25813 0.05856 0.057755 0.057755 0.057755 0.057755 0.0577555 0.05775555 0.05775555555555	0 0 0 0.1936 1.7424 0 3.02016 0.4224 0 0.6336 0.4224 0 2.065067 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 1 0 0 0 0	0            0         0           0         0           0         0           0         0           12         12           0         0           0         0           0         0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0.178708 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0.1936 0.1936 0.1935 0.178708 0.3872 0.3872 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.3872 0.1936 0.5908 0.3872 0 0.1936 0 0.178708 0 0 0.1936 0 0 0.1936 0 0 0.46464 0.4224 0 0.46464 0.4224 0 0.46464 0.4212 0 0.258133 0.3572 0 1.032533	0 0 0.3 0 0.5 0 0.2 0 1.290 0 2.78 0 1. 0 3. 0 1.4 0 1.6 0 0.995 0 3.0	508 508 508 508 507 507 507 508 508 5004 567 567 567 568 567 568 557 557 557 557 557 557 557 557 557 55		0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0
09/01/98 09/01/98 09/01/98 09/01/98 09/01/98 09/01/98 09/01/98 09/01/98 09/02/98 09/02/98	918 930 948 1100 1027 1035 1052 835 838	1018 1024 1047 1148 1122 1131 1138 935 940	60 BW 54 YW 59 BE 48 YE 57 BW 56 YW 46 BE 60 BW 62 YW	0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125 0.3125	6.75 6.75 6.75 6.75 6.75 6.75 6.75 6.8125 6.8125 6.8125	1216	56.2963 56.2963 56.2963 56.2963 56.2963 56.2963 56.2963 55.77982 55.77982	202666.7 182400 199288.9 162133.3 192533.3 189155.6 155377.8 200807.3 207500.9	4.187328 4.575043 3.722069 4.419957 4.342414 3.566983 4.609902 4.763566	0 0 0 0 0 0 0 0 0	0.429868 0.238816 0.218577 0 0 0 0 0 0	0 0 0 0 0 0.216924 0	0 0.226247 0 0 0		D D D D	0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0			0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0.214 0 0.268 0 0.268 0 0 0 0	0 0 568 0		
09/02/98	. 842	942	60 BE	0.3125	6.8125	1216	əə. <i>11</i> 982	200807.3	4.009902	0	0	. 0	0		J	U	0	0	0	D 0	0	0	0	U	0	U	0 (	υ υ <sub>.</sub>

.

EFIN	NP ACFT	DRUM ACFT	PAD ACFT	EMS ACFT	FHM ACFT	88H ACFT	CISCO ACFT	BRASSY ACFT	TOTAL ACFT
000000000000000000000000000000000000000	0 0 0 0 0	0	0 0 0 0	0 0 0 0	0 0 0 0	0	0	0	3.3275 4.32575 1.089 3.39405 1.774667
0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0.210994	0 0.234438 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 - 0 0 0	0 0 0 0	0 0 0	000000000000000000000000000000000000000	2.578813 0.703313 5.157625 4.923188 0.703313 5.274844 2.531925
0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0.174519 0 0 0 0		0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0	2.68125 1.134375 6.239063 2.772917 0.872596 5.041667 0.850781 3.970313
0	0	0	0 0	0 0	0	0	.0	0	4.118246 13.12691
		0 0.193043 0 0.193043 0 0.193043 0 0.386086 0 0.386086 0 0.386086 0 0 0.193043 0 0 0.193043 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0.193043 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	2.895641 4.439984 2.12347 0.965214 1.351299 0.965214 4.633026 2.316513 0.386086 5.791283 3.667813 5.019112 13.89908 3.667813 3.20748 8.107796
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0.965214 0.80967 3.309305 1.182257 2.316513 4.825069 0.992791 1.323722 3.47477 2.316513 1.542432 5.01912 1.544342 5.01912 1.544342 5.01912 1.545342 5.01912 1.545345 1.345789 4.246541 3.47789 4.8686524
	0.1936 0.1936 0.1936 0.1936 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5808 0.5808 2.1296 1.7424 0.5508 1.616 0.714831 0.357415 1.5488 2.032647 2.065067 9.52512 2.7456 4.224 4.5472 3.3792 1.991314 8.5184 8.5184 8.2333
0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0	0 0 0		0.644803 0.238816 0.218577 0.268668 0.226247 0 0
0	0	0	0 -0 0	0	0 0 0	0		0 0 0	0.433849 0.209927 0

										1	લલ્સ	:					4																	
	S	START S	TOP DU	RATION NET	GATE	TOTAL C GATES F	ANAL CFS/ LOW FS	NET CF SAMF	ACREFT	SCT ACFT	CCT ACFT	FHC S ACFT A	CH WS	SM LND	LNS T ACFT	WSU ACFT	BSU ACFT	RED	RCS	BMB ACFT	BBT ACFT	GE ACFT	SGR WE ACFT AC		CAR ACFT	SMB ACFT	SICKLEFIN	NP ( ACFT A	DRUM PA	AD EMS CFT ACF	S FHM T ACFT	BBH ACFT	CISCO BI ACFT AC	RASSY TOTAL CFT ACFT
	09/02/98 09/02/98 09/02/98 09/02/98 09/02/98 09/02/98 09/02/98 09/02/98	845 940 945 950 1050 1100 1100 1105	945 1045 1550 1050 1055 1150 1157 1200 1205	60 YE 65 BW 65 YW 60 BE 60 YE 60 BW 57 YW 60 BE 60 YE		5 6.8125 5 6.8125 5 6.8125 5 6.8125 5 6.8125 5 6.8125 5 6.8125 5 6.8125 5 6.8125	1216 66. 1216 55. 1216 55. 1216 55. 1216 66. 1216 55. 1216 55. 1216 55.	93578 240 77982 217 77982 200 93578 240 77982 200 77982 200 77982 19 77982 200	968.8         5,53188           541.3         4,99406           907.3         4,60990           907.3         4,60990           907.3         4,60990           907.3         4,60990           907.3         4,60990           907.3         4,60990           907.3         4,60990           9068.8         5,53188	13 0 51 0 51 0 52 0 13 0 13 0 12 0 17 0 12 0	0 0	0 0.216924 0.228341 0.216924	0	0 0 0 0.18077 0 0 0 0	0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0.200238 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0	0 0.1 0 0 0.1 0 0 0	0 0 8077 0	0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0		0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.18077 0 0.400476 0 0 0 0.542311 0 0.216924 0 0.216924 0 0.361541
			·				· ·																									•		
																															ж - С			
														- -									2 	:							•			
											÷							· · · · · · · · · · · · · · · · · · ·																
، ، روای رو			:	*	<b>-</b>		1 î			ی میں <sup>ر</sup> یجہ میں ر	<del>.</del>			<b> .</b>				• <u></u>			; 		1 . 		· = · · .		د را ا <del>مو</del> میریماد ا						na ta man an an an a na ta na ta na	
									•									÷											•					
						•												- - - - - - - -																
• •																•																		
								•										:																