

**DIRECT SURVIVAL AND CONDITION OF
JUVENILE CHINOOK SALMON
PASSED THROUGH AN EXISTING AND NEW
MINIMUM GAP RUNNER TURBINES AT
BONNEVILLE DAM FIRST POWERHOUSE,
COLUMBIA RIVER**

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EXECUTIVE SUMMARY

As part of the Corps' Turbine Survival Program, survival probabilities were estimated for hatchery-reared chinook salmon, *Oncorhynchus tshawytscha* (average total length about 166 mm) passed through Units 5 (existing) and 6 (Minimum Gap Runner or MGR) at Bonneville Dam in November 1999 through January 2000. The new runner was designed to minimize the gap between the blade and hub as well as between the blade tip and the discharge ring. This design improves the turbine efficiency at most operating points and has the potential to improve fish survival. The primary objective of the study was to test the hypothesis whether the passage survival through the MGR unit equals or exceeds that of Unit 5. Secondary objectives were to determine (1) whether the peak turbine operating efficiency is correlated with turbine passage survival; (2) effectiveness of gap minimization; and (3) better identify injury mechanisms and in-turbine areas where fish injuries occur. The study was designed as a two by three by four factorial design (two turbines x three release locations x four power levels). Sufficient numbers of fish were to be released so that the resulting survival probabilities would be $\leq \pm 3\%$, 90% of the time.

The study objectives were accomplished by releasing fish through a specially designed induction system to pass fish near the blade tip, mid-blade, and hub regions in each turbine at four discrete power levels. The four power levels at Unit 5 were: power level 1, near the lower end of the 1% operating limit; power level 2, slightly below the peak operating efficiency; power level 3, beyond the peak operating efficiency; and power level 4, near the upper 1% operating limit. The same power levels were tested for the MGR unit but with different operating efficiencies and they were: power level 1, below the lower 1% operating limit; power level 2, slightly below the peak operating efficiency but within the 1% operating limit; power level 3, beyond the peak operating efficiency but within the 1% operating efficiency; and power level 4, beyond the upper 1% operating limit. The absolute efficiency of the MGR was greater than or equal to that of the existing unit at all test points.

Three separate metrics of fish survival were used to assess the effectiveness of the MGR in fish passage: (1) estimation of survival of turbine released fish relative to survival of control fish released downstream into the turbine discharge; this included all fish that were alive at 1 h and 48 h, regardless of their condition; (2) estimation of safe passage or unaffected fish; all injured fish and those showing loss of equilibrium were assumed dead and were considered as not safely passing the turbine; and (3) estimation of relative survival; this was based on estimating survival of blade tip and hub released fish relative to the survival of fish released near the mid-blade region. The latter estimation procedure was identical to that used in the recent study completed at McNary Dam, also a part of the Corps' Turbine Survival Program. All estimates apply only to the direct effects of the turbine runner and draft tube passage because the fish were released downstream of the stay vanes.

Recapture rates (physical retrieval of alive and dead fish) were high and met the pre-specified expectation used for sample size calculations prior to initiating the study. Recapture rates of treatment fish mostly exceeded 95% (range 94.6% to 99.1%) and those of controls were greater than 97% (range 97.6 to 100.0%). Most fish were recaptured within 500 yd downstream of the powerhouse; recapture times for controls averaged less than 7 min in any sample block (range 5.1 to 6.6 min) while those for the treatment fish were higher (average range 7.2 to 15.4 min). Treatment fish were generally retrieved at greater distances from the powerhouse than the controls.

The study established that the fish passage survival through the new MGR Unit 6 is equal to or better than through an existing unit. This was most evident for blade tip released fish. Depending upon the power level, absolute survival of the blade tip released fish in Unit 6 was up to 3% higher than for those passing near the blade tip in the existing Unit 5. Survival probabilities of mid-blade released fish were similar in both units except at power level 1 in MGR Unit 6 where survival was 2.2% higher than in Unit 5 (97.1 versus 94.9%). Survival probabilities of hub released fish were mostly greater than 0.98 in both units.

Of the 24 independent 48 h absolute survival estimates, 20 were ≥ 0.95 , 2 were 0.94, and 2 were 0.91 to 0.92. The lowest point survival rates were observed for the blade tip released fish in Unit 5 at power levels 2 and 4. Overall, significant differences ($P < 0.05$) in survival were observed between release locations but not between turbines ($P > 0.05$); the 48 h survival of blade tip released fish was lower than for the mid-blade and hub released fish. Survival between hub released and mid-blade release locations

Direct Survival and Condition of Juvenile Chinook Salmon Passed Through an Existing and New Minimum Gap Runner Turbines at Bonneville Dam First Powerhouse, Columbia River

was not significantly different ($P > 0.05$). The estimates of absolute survival can be categorized as having an increasing gradient from blade tip to mid-blade to hub. The 24 independent estimates of absolute survival are summarized as follows (probabilities ≤ 0.92 are highlighted):

Release Location	Power Level 1	Power Level 2	Power Level 3	Power Level 4
<i>Unit 5 (Existing)</i>				
Blade tip	0.945 (0.018)	0.920 (0.020)	0.957 (0.017)	0.908 (0.020)
Mid-blade	0.949 (0.019)	0.955 (0.015)	0.970 (0.015)	0.968 (0.014)
Hub	0.986 (0.012)	1.017 (0.078)	0.968 (0.016)	1.004 (0.006)
<i>Unit 6 (MGR)</i>				
Blade tip	0.948 (0.017)	0.943 (0.018)	0.976 (0.014)	0.939 (0.017)
Mid-blade	0.971 (0.016)	0.954 (0.016)	0.961 (0.016)	0.966 (0.016)
Hub	0.982 (0.015)	0.974 (0.014)	0.982 (0.015)	0.982 (0.013)

Blade tip survival differences between units became more magnified when safe fish passage metric was used. Safe passage was 1.9% to 3.1% higher for blade tip passed fish in MGR Unit 6 than for Unit 5 blade tip fish. Safe passage estimates for mid-blade fish in both units were similar (range of 0.948 to 0.960 in Unit 5 and 0.947 to 0.965 in Unit 6). However, except for power level 3, safe passage for hub released fish in Unit 5 was 2.4 to 3.6% higher than in Unit 6. The 48 h estimates of safe passage are summarized below with survival probabilities < 0.92 highlighted:

Release Location	Power Level 1	Power Level 2	Power Level 3	Power Level 4
<i>Unit 5 (Existing)</i>				
Blade tip	0.918 (0.023)	0.915 (0.021)	0.947 (0.078)	0.900 (0.022)
Mid-blade	0.948 (0.020)	0.948 (0.017)	0.960 (0.017)	0.956 (0.017)
Hub	0.992 (0.014)	0.998 (0.011)	0.968 (0.017)	0.998 (0.011)
<i>Unit 6 (MGR)</i>				
Blade tip	0.948 (0.019)	0.934 (0.019)	0.970 (0.015)	0.931 (0.019)
Mid-blade	0.952 (0.020)	0.947 (0.016)	0.951 (0.017)	0.965 (0.016)
Hub	0.956 (0.019)	0.962 (0.019)	0.986 (0.014)	0.974 (0.016)

With respect to the results of relative survival probabilities, hub released fish had higher survival relative to survival of mid-blade fish in both units (1.04 in Unit 5 and 1.02 in Unit 6) while the survival of blade tip fish was lower than that of mid-blade released fish (0.97 in Unit 5 and 0.99 in Unit 6).

No statistically significant correlation was found between fish passage survival and turbine operating efficiency in either turbine. However, the highest point estimates of both absolute and safe passage survival in both units, at all release locations, occurred at power level 3 (beyond the peak efficiency and towards the upper 1% operating limit); 48 h survival probabilities for this power level equaled or exceeded 0.96 (range 0.96 to 0.98).

The incidence of fish injury was lower for fish passing through the MGR Unit than through the existing Unit 5. Overall incidence of injury was reduced by approximately 40% in the MGR unit (2.5% for Unit 5 and 1.4% for MGR). Reduction in injury was evident for blade tip passed fish (existing runner fish had a 3.9% injury rate versus 1.9% for the MGR) and the mid-blade region (2.3% in Unit 5 versus 1.0% in MGR). Very few hub released fish were injured in either turbine (0.7% for Unit 5 and 1.0% for Unit 6).

Direct Survival and Condition of Juvenile Chinook Salmon Passed Through an Existing and New Minimum Gap Runner Turbines at Bonneville Dam First Powerhouse, Columbia River

Most injuries at both turbines were inflicted by shear and mechanical forces. Shear inflicted injuries were primarily characterized by partial decapitation, hemorrhaged or ruptured eye, and damaged gill or operculum. Mechanical injuries were primarily lacerations, severed body or external bruises.

The presence of some severely injured MGR passed fish indicates that some hazardous features are still present, though at a reduced level, and further investigations may be needed to ascertain what other areas within the turbine environment could be made more benign.

Although experience from other sites shows that hub gap minimization is beneficial to safe fish passage its effectiveness at the Bonneville Dam MGR Unit 6 could not be fully verified because the terminus of the pipe for hub releases may have actually passed fish some distance away from the hub and along the blade region. This was supported by low fish injury rate and high survival rate in Unit 5 and the absence of pinching type injuries typical of gap-related damage. Unfortunately, these findings came to light too late for corrective actions to be implemented in the midst of the field experiment. Because the effectiveness of closing the hub gaps in the MGR unit may not have been fully evaluated in the present study, additional fish releases known to specifically pass the hub gaps would be beneficial. However, high survival (0.97 to 1.0) and low injury ($\leq 1.0\%$) rates of “hub” passed fish for both units suggests that duplicating the localized hydraulic conditions encountered by these fish elsewhere in the turbine environment could further enhance safe fish passage over a wide range of operating conditions.

Finally, the study uncovered a hitherto unknown passage issue which, when resolved, may also add to the overall fish survival enhancement. About 2.3% of the released fish, primarily blade tip and mid-blade, were entrapped in the tailrace stop log slots. Entrapment in these highly turbulent areas may cause delay for fish in exiting the draft tube, transport fish into a “back roll” like environment or abrasive areas, and subject fish to stress and perhaps more susceptible to predation. The magnitude of this potential problem and its possible solution could be ascertained by sampling naturally entrained fish in the tailrace stop log slots. It is unknown whether this issue is site-specific to Bonneville or relevant to other projects as well.

TABLE OF CONTENTS

EXECUTIVE SUMMARY..... ES-1

1.0 INTRODUCTION AND BACKGROUND..... 1

 1.1 Study Site..... 3

2.0 STUDY DESIGN..... 3

 2.1 Sample Size and Precision (ϵ)..... 4

 2.2 Source of Fish..... 5

 2.3 Tagging and Release..... 5

 2.4 Classification of Recaptured Fish..... 6

 2.5 Injury Classification..... 7

 2.6 Station Operational Considerations..... 8

 2.7 Data Analysis..... 8

3.0 RESULTS..... 9

 3.1 Recapture Rates..... 9

 3.2 Retrieval Times and Locations..... 9

 3.3 Passage Survival Probabilities..... 10

 3.3.1 1 h Absolute Passage Survival..... 10

 3.3.2 48 h Absolute Passage Survival..... 10

 3.3.3 48 h Safe Passage Survival (Unaffected Fish)..... 11

 3.3.4 Relative Survival Probabilities..... 11

 3.4 Injury..... 12

 3.4.1 Injury Rate..... 12

 3.4.1.1 Overall Injury Rate..... 12

 3.4.1.2 Injury Rate versus Release Location..... 12

 3.4.1.3 Injury Rate versus Power Level..... 12

 3.4.2 Injury Types..... 13

 3.4.2.1 Injury Type versus Release Location..... 13

 3.4.2.2 Injury Type versus Power Level..... 13

 3.4.3 Injury Source..... 13

 3.4.3.1 Injury Source versus Release Location..... 14

 3.4.3.2 Injury Source versus Power Level..... 14

4.0 DISCUSSION..... 14

5.0 CONCLUSIONS..... 17

6.0 LITERATURE CITED..... 19

TABLES

FIGURES

APPENDIX A – Daily Record of Turbine Operating Conditions and Fish Releases and Tag-Recapture Data

APPENDIX B – Downstream Retrieval Location Plots

APPENDIX C – Disk and Directory of Digitally Acquired Photos, Digital Photos of Injured Fish, and Descriptions of Observed Injuries

APPENDIX D – Statistical Models and Outputs and Summary of Individual Trial Data

APPENDIX E – Individual Fish Disposition Data and Associated Condition Codes

LIST OF TABLES

Table 1-1	Turbine parameters measured for each turbine on a daily basis during the survival trials at Bonneville Dam, November 1999-January 2000.
Table 1-2	Gap sizes at the hub and blade tip for turbine Unit 5 (existing) at Bonneville Dam, November 1999-January 2000. Gaps eliminated at Unit 6 (MGR).
Table 2-1	Proposed random testing sequence and sample size distribution of juvenile salmon released via mid-blade, hub, and blade tip of turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.
Table 2-2	Actual random testing sequence and sample size distribution of actual number of juvenile salmon released via mid-blade, hub, and blade tip of turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.
Table 2-3	Required sample sizes if control survival is 0.99, 0.98, or 0.95, recapture rate is 0.98 or 0.95, and expected survival probability of treatment fish passed is 0.95, 0.97, and 0.99 to achieve a precision level of ± 0.03 , 90% of the time.
Table 2-4	Observed recapture and survival rates of juvenile salmonids passed through Kaplan type turbines at hydro dams on the Columbia and Snake Rivers.
Table 2-5	Condition codes assigned to fish and dislodged balloon tags for fish passage survival evaluations.
Table 2-6	Number of fish trapped in Units 5 (existing) and 6 (MGR) tailwater stop log slots at Bonneville Dam, November 1999-January 2000.
Table 3-1	Summary of tag-recapture data at Bonneville Dam for turbine Units 5 (existing) and 6 (MGR) at various turbine locations and discharges, November 1999-January 2000.
Table 3-2	Estimated absolute survival probabilities (1 h and 48 h), with standard errors in parentheses, of juvenile chinook salmon in passage through three locations (blade tip, mid-blade, and hub) under four power levels of Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.
Table 3-3	Results of regression analysis of absolute survival versus turbine operating conditions, Bonneville Dam, November 1999-January 2000.
Table 3-4	Estimated safe fish passage survival probabilities (48 h), with standard errors in parentheses, of juvenile chinook salmon in passage through three locations and four power levels of Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000. Safe passage assigned to fish without mortality, injury, and/or loss equilibrium.
Table 3-5	Comparison of 48 h absolute survival, safe passage, and <u>relative</u> survival probabilities of juvenile chinook salmon passed through Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000. Safe passage encompasses live fish without injury and/or loss of equilibrium.
Table 3-6	Estimated 48 h <u>relative</u> survival probabilities and standard errors for juvenile chinook salmon in passage through the blade tip and hub regions of turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.
Table 3-7	Summary of loss of equilibrium and visible injuries to fish released through Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.
Table 3-8	Summary of fish with visible injuries released through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.
Table 3-9	Comparison of likely fish injury source and passage routes of fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.
Table 3-10	Comparison of likely fish injury source and power level of fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.

LIST OF FIGURES

- Figure 1-1 General location, orientation, and view of Bonneville Dam, Columbia River, Washington.
- Figure 1-2 New Minimum Gap Runner (MGR) designed for the rehabilitation of the turbines at Bonneville Dam's First Powerhouse.
- Figure 1-3 Release points of operation versus power and efficiency.
- Figure 2-1 Release locations at Bonneville Dam, November 1999-January 2000.
- Figure 2-2 Schematic of control release pipe to direct fish to the exit of the Unit 6 draft tube at Bonneville Dam First Powerhouse, November 1999-January 2000.
- Figure 2-3 Cross section of turbine Units 5 (existing) and 6 (MGR) showing release pipes to direct fish to the hub, mid-blade, and blade tip of the turbine at Bonneville Dam First Powerhouse, November 1999-January 2000.
- Figure 2-4 Plan view of the release pipes mounted within the intake of Bonneville Dam First Powerhouse turbine Units 5 (existing) and 6 (MGR) to release fish near the blade hub, mid-blade, and blade tip, November 1999-January 2000.
- Figure 2-5 Release pipes located just inside the stay vane outer diameter.
- Figure 2-6 Total length frequency distribution of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 1, Bonneville Dam, November 1999-January 2000.
- Figure 2-7 Total length frequency distribution of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 2, Bonneville Dam, November 1999-January 2000.
- Figure 2-8 Total length frequency distribution of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 3, Bonneville Dam, November 1999-January 2000.
- Figure 2-9 Total length frequency distribution of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 4, Bonneville Dam, November 1999-January 2000.
- Figure 2-10 Schematic of fish induction apparatus used to release fish within Bonneville Dam First Powerhouse turbine Units 5 (existing) and 6 (MGR) at the hub, mid-blade, and blade tip, November 1999-January 2000.
- Figure 2-11 Illustration of downstream recovery locations of balloon-tagged smolts. The four recovery zones used in the chi-square test of homogeneity are displayed.
- Figure 3-1 Frequency distribution of recapture times of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 1, Bonneville Dam, November 1999-January 2000.
- Figure 3-2 Frequency distribution of recapture times of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 2, Bonneville Dam, November 1999-January 2000.
- Figure 3-3 Frequency distribution of recapture times of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 3, Bonneville Dam, November 1999-January 2000.
- Figure 3-4 Frequency distribution of recapture times of treatment and control juvenile chinook salmon released at different locations of Unit 5 (existing) and 6 (MGR) and operating at power level 4, Bonneville Dam, November 1999-January 2000.
- Figure 3-5 Combined recapture locations of juvenile salmon passed through Unit 5 (existing); scenarios 1 through 12, Bonneville First Powerhouse, November 1999-January 2000.
- Figure 3-6 Combined recapture locations of juvenile salmon passed through Unit 5 (existing); scenarios 13 through 24, Bonneville First Powerhouse, November 1999-January 2000.

Direct Survival and Condition of Juvenile Chinook Salmon Passed Through an Existing and New Minimum Gap Runner Turbines at Bonneville Dam First Powerhouse, Columbia River

- Figure 3-7 Recapture locations of juvenile salmon released as controls into the draft tube exit of turbine Unit 5 (existing), Bonneville First Powerhouse, November 1999-January 2000.
- Figure 3-8 Plots of survival estimates (1 h) by turbine unit for the three release locations and associated 95% confidence intervals for juvenile salmon passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam First Powerhouse, November 1999-January 2000.
- Figure 3-9 Plots of survival estimates (1 h) and associated 95% confidence intervals by release location for juvenile salmon passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam First Powerhouse, November 1999-January 2000.
- Figure 3-10 Relationship of juvenile salmon survival and operating efficiency of turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam First Powerhouse, November 1999-January 2000.
- Figure 3-11 Comparison of juvenile salmon injury rate versus passage through blade tip, mid-blade, and hub regions of turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam First Powerhouse and turbine Unit 9 at McNary Dam.
- Figure 3-12 Representative shear inflicted eye and/or gill damage to fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville First Powerhouse, November 1999-January 2000.
- Figure 3-13 Representative shear inflicted partial decapitation and eye damage to fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville First Powerhouse, November 1999-January 2000.
- Figure 3-14 Representative mechanical inflicted severance/tear wounds to fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville First Powerhouse, November 1999-January 2000.
- Figure 3-15 Representative mechanical inflicted decapitation to fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville First Powerhouse, November 1999-January 2000.
- Figure 3-16 Comparison of source inflicting injury to juvenile salmon versus passage through the blade tip, mid-blade, and hub regions of turbine Units 5 (existing) and 6 (MGR) at Bonneville First Powerhouse and turbine Unit 9 at McNary Dam.

1.0 INTRODUCTION AND BACKGROUND

The need to rehabilitate the aging turbines at many hydroelectric stations in combination with declining runs of anadromous fish has provided an opportunity for finding design solutions which increase energy generation, reduce maintenance, and afford safer fish passage. Although concern for safe turbine passage has spanned decades resulting in several reviews and site-specific investigations none provided adequate data specifically on mechanisms of fish injury/mortality (Holmes 1953; Bell 1981; Eicher Associates 1987; Dawley *et al.* 1989; Ledgerwood *et al.* 1990, 1991; EPRI 1992; Ferguson 1993). Missing were engineering and biological tests conducted under relatively controlled conditions (e.g., known stable turbine operating conditions, known multiple in-turbine release locations, statistically-based biological test design, quantitative turbine operating parameters, rapid collection and evaluation of treatment and control fish) to provide insights into injury mechanisms which can be used for investigating environmentally improved turbine designs (Franke *et al.* 1997; Mathur *et al.* 1996, 1999). Most of the past studies involved fish releases at a single point within the turbine environment and with the turbine operating over a wide range of power loads during tests. As an example, Holmes (1953) estimated survival of fall chinook salmon, *Oncorhynchus tshawytscha*, fingerlings (80 to 120 mm total length) in passage through a Kaplan turbine at the Bonneville First Powerhouse with the turbine operating over a wide range of conditions. Holmes' (1953) juvenile full turbine passage survival was estimated using adults returning to the Bonneville Dam. His estimates undoubtedly include post-passage mortality from all sources of risks (e.g., predation, disease, ocean mortality, fishing, etc.) encountered by juvenile emigrants from the time of turbine releases to their reentry into the river as adults several years later with no indication of direct effects of turbine passage. More recent studies at the Bonneville Dam Second Powerhouse (Figure 1-1) by Dawley *et al.* (1989), Ledgerwood *et al.* (1990, 1991) on sub-yearling chinook salmon (83 to 90 mm total length) provided relative passage survival rates of 97 to 98%. These estimates were based on the ratio of recovery rates of treatment and control fish (tagged with coded wire tags and recaptured in beach and purse seines) about 98 miles downstream of the dam over a period of several days; fish were, however, released at two locations within the studied turbine. None of the above site-specific studies were conducted under relatively controlled conditions (e.g., stable turbine operating condition, multiple in-turbine release locations) to provide insights towards developing "fish friendly" turbine designs.

In 1995 the U.S. Army Corps of Engineers (Corps) began a Turbine Evaluation Program by establishing a "Turbine Workgroup" which included participation from the Corps, National Marine Fisheries Service (NMFS), Bonneville Power Administration (BPA), U.S. Department of Energy (DOE), Electric Power Research Institute (EPRI), and private Utility Districts, among others (Corps 1995). This group was formed to help coordination of turbine studies and gain in knowledge. The turbine workgroup sponsored the "Turbine Survival Workshop" in May 1995. This workshop included discussions by 20 expert panel members as well as participation by other Federal, State, and Public entities. This workshop was the beginning of outlining the turbine research program of the Corps. Results of this workshop included the exchange of information and prioritizing of research needs for the program. The Corps presented a progress report on their turbine passage survival program for the years 1997 to 1999 (Corps 1999).

The first of 10 new turbine runners, designed by Voith Hydro, Inc., was recently installed at Bonneville First Powerhouse under the Bonneville Turbine Rehabilitation Program. The new turbine runner (designated as the Minimum Gap Runner or MGR) was designed/constructed to enhance fish survival, improve operational performance, and reduce maintenance costs. This design, featuring a runner blade with a minimized gap between the blade and hub, as well as between the blade tip and the discharge ring (Figure 1-2), improves the peak efficiency of the turbine and has the potential to improve fish survival as well. This potential was hinted at when survival of chinook salmon smolts improved at least 4.4% when the runner blade trailing edge gaps were closed at Rocky Reach Dam on the Columbia River (Franke *et al.* 1997). Additionally, tests on the Kaplan turbines at Wanapum Dam, about 270 mi upstream of Bonneville Dam, indicated that fish passing near the hub had a 4% higher mortality than those passing in the mid-blade region (Mathur *et al.* 1999). Closure or minimization of gaps between the runner blades and the hub and reduction in flow turbulence are being incorporated in a redesigned turbine at Wanapum Dam (Fisher *et al.* 2000). Mathematical projections indicate that these modifications could improve the

average survival by 4% (from 94% to 98%; Mathur *et al.* 1999). The turbine rehabilitation program at Bonneville Dam provided the need, as well as the opportunity, to compare survival of fish in passage through a conventional Kaplan turbine with the survival in passage through a turbine with minimum gap runner.

Several other hydro power projects are due for rehabilitation in the next decade. An understanding of fish passage and injury mechanisms in turbines will be essential for the development of safer turbines and also for a more comprehensive evaluation of rehabilitated units. Before turbines can be made “safer” for fish, it is imperative to understand the turbine passage process, identify injury-causing mechanisms, and determine the different areas within the turbine where fish are injured. To provide answers to these questions fish releases at exact locations at discrete discharges (operating efficiencies, power levels, blade angles, wicket gate openings) under controlled/stable conditions are needed. To date this has not been done well enough to provide the necessary knowledge needed for improved fish passage survival (Normandeau Associates and Skalski 1996; Normandeau Associates *et al.* 1999). However, an initial pilot study performed at McNary Dam turbine Unit 9 in 1999 (Wittinger *et al.* 1999) indicated the feasibility of obtaining the necessary biological and engineering information in enough detail to evaluate earlier turbine fish passage hypotheses and assumptions and to shed light on fish injury mechanisms within the turbine.

Although some specific areas within the turbine environment have been identified as potential fish passage hazards, a greater understanding of the mechanisms is needed for operation and management of projects as well as for turbine rehabilitation, development, and planning (Franke *et al.* 1997; Mathur *et al.* 1996, 1999). Ferguson (1993) noted a need for understanding how turbine environments could be altered for improved fish passage conditions and thus enhance fish survivability. Consequently, there is a need for experiments over relatively stable turbine operating conditions to provide insights into injury/mortality mechanisms; the resulting information then can be used for developing safe turbine passage routes.

The primary objective of the study was to test the hypothesis that survival of fish passing through the newly installed minimum gap runner MGR turbine (Unit 6) is greater than or equal to survival in passage through an existing turbine (Unit 5). Secondary objectives were to (1) evaluate the effectiveness of gap minimization; (2) better identify injury mechanisms and in-turbine areas where fish injuries occur; (3) determine the correlation of operating efficiency with fish survival; (4) evaluate and compare the effects of release locations and turbine passage routes in each turbine on fish survival and injury; and (5) provide survival estimates that are within ± 0.03 , 90% of the time. These objectives were accomplished via release of fish to pass near the hub, mid-blade, and blade tip at four different turbine operation levels in each turbine. The resulting data will be used in identifying potential design/operational improvements to turbines that will be tested in Phase II of the Turbine Survival Program and to guide other research.

One of the objectives of practical significance, from an operational standpoint, was the test of the hypothesis whether the fish passage survival is correlated with the point of best efficiency. Previous theories had postulated that best operating efficiency was coincident with the point of highest survival (Bell 1981). Based on this hypothesis, the Region placed operational constraints on the Corps’ Kaplan turbines on the Columbia River so as to keep them operating within 1% of the best operating efficiency. Recent studies have reported that the point of best survival may not be correlated with the point of best turbine efficiency for Kaplan turbines (Fisher *et al.* 1997; Mathur *et al.* 2000). The recent hypotheses suggested that operational constraints limiting turbine operation to within 1% of the best operating efficiency may not be optimizing fish survival conditions (Fisher *et al.* 1997). Therefore, tests at Bonneville were designed to consider the effect of a range of operating conditions (discharges, powers, efficiencies) on fish passage survival. Figure 1-3 shows the operating point powers and efficiencies mutually chosen for fish releases.

As part of a broader program of the Advanced Hydro Design Program, the DOE sponsored the release of “sensor fish” to better understand fish injury/mortality causative mechanisms. The Battelle National Laboratory, Richland, Washington, conducted this study using the same fish induction system installed for the biological test. Sensor fish are instrumented packages with various probes to measure hydraulic parameters (e.g., pressure changes and velocity) which may be impinging on fish during passage within

the turbine environment. Each released sensor fish was equipped with four to six HI-Z Turb'N Tags (balloon tags) and a radio tag to aid in recapture from the tailwater after turbine passage. Some sensor fish were equipped with light sticks and monitored by video camera to determine the path traversed by entrained fish into the runner chamber. Preliminary results of the sensor fish and light stick releases were recently summarized by Carlson and Duncan (2000) at the Corps' sponsored turbine survival workshop in Portland, Oregon.

1.1 Study Site

Bonneville Dam is the first dam upriver (river mile 145 or river km 232) on the main stem Columbia River (Figure 1-1) and is located east of Portland, Oregon. It consists of two powerhouses, a spillway, and a navigation lock. The first powerhouse was completed in 1938 and is located between the Oregon shore and Bradford Island. The second powerhouse was built in 1982, and is located between the Washington shore and Cascades Island. The spillway, consisting of 18 gates, each 50 ft wide, is located between the Bradford Island and Cascades Island, spanning the north channel. The spill gates are raised to allow excess river flow to pass under them at a depth of about 50 ft below the upstream water surface. Spill gates are typically raised 1 to 7 ft to facilitate downstream migration of juvenile salmonids. Hydraulic capacity of the spillway is 1,600,000 cfs.

The total hydraulic capacity of both the First Powerhouse and the Second Powerhouse is 288,000 cfs. The First Powerhouse has a rated generating capacity of 612 MW at full forebay and contains 10 vertical shaft adjustable blade Kaplan type turbines, each with a hydraulic capacity of about 13,600 cfs. The experiment was conducted at Units 5 (existing) and 6 (new MGR) at four discrete discharges of about 6,200, 7,000, 10,500, and 12,000 cfs (Figure 1-3). Though the turbines generally operate at a head of about 60 ft, the gross head during the test was generally constant at about 57 ft (Table 1-1).

Each existing turbine has a runner diameter of 280 in, a rotational speed of 75 revolutions per minute (rpm), and five runner blades. The leading and trailing edge gap sizes between the runner and hub and at the blade tip vary with blade angles. Table 1-2 presents the gap sizes at the hub and blade tip as a function of runner blade angles. Both units were set up to maintain four nearly constant wicket gate and blade angle settings at each of the four discharge rates. Table 1-1 also presents the daily variations in head, wicket gate opening, blade angle, turbine operating efficiency, and discharge for each release scenario. Appendix A provides daily values of these parameters during the investigation.

2.0 STUDY DESIGN

As in most recent investigations using the balloon tag-recapture methodology (Heisey *et al.* 1992, 1996; Mathur *et al.* 1996; Normandeau Associates *et al.* 1995, 1996a,b,c,d; Normandeau Associates and Skalski 1998), the present study obtained absolute estimates of survival, representing direct passage effects, for each release location. Estimates of survival for each release location-turbine discharge combination were obtained relative to survival of control fish released at the turbine draft tube exit (Figures 2-1 and 2-2). All tests were conducted with the intake fish diversion screens in place; in-turbine flow distribution can change with the installation of screens (Turner *et al.* 1993). Release points within each turbine (Figure 2-1) were established by routing treatment fish through smooth walled pipes of 4 to 8 in diameter. The specialized fish release induction system was designed and fabricated by the Corps. The pipes were designed to have exit release velocities near to the local velocity at the release points to minimize the chances of fish encountering potentially injurious hydraulic conditions at the pipe exit. The three release pipes (Figures 2-3 through 2-5) were positioned adjacent to the stay vanes to allow the treatment fish to pass between stay vanes and wicket gates without risk of striking these structures. The release positions were chosen to get the fish near the blade tip, the mid-blade, and at the hub. Observations of neutrally buoyant beads injected into a scale model of a similar Kaplan turbine tested at the Corps' Waterways Experimental Station, Vicksburg, Mississippi, were used to select release positions.

The biological study was originally designed as a two by three by four factorial design with three factors: two turbine types, three release locations, and four power levels (efficiencies) to provide 24 independent survival estimates for assessment of main effects and their interactions. However, as the study progressed it became evident that the turbine operating efficiencies and discharge varied more than expected on a

daily basis. Consequently, the prespecified statistical models selected were modified as the study progressed to better analyze (e.g., analysis of deviance and regression analysis; see Section 2.7) the resulting 24 independent survival estimates as well as daily survival estimates.

A variation of the randomized block design was proposed for fish releases. Within a day, 120 smolts were to be released, 40 each in the two turbines (treatment) at a specific location and 40 controls in the turbine discharge (Table 2-1). However, high recapture and control survival rates permitted reduction in control release numbers during the last two test blocks (24 days). In these two test blocks, 45 fish released through each turbine were paired with a release of 30 control fish. Logistics precluded randomizing the order of all 120 fish daily. Instead, 20 fish of each group were released sequentially. The order of the first 60 fish was randomized between the two treatments (20 fish each) and control (15 fish each) lots. The last 60 fish of the day were handled in an analogous manner using a new randomization; every 12 days constituted a test block. Five test blocks were repeated until the required sample sizes were achieved. Table 2-2 shows the sequence of fish releases. Detailed summaries of the daily trial data is present in Appendix A.

2.1 Sample Size and Precision (ϵ)

The sample size is a function of the recapture rate (P_A), expected passage survival ($\hat{\tau}$) or mortality ($1 - \hat{\tau}$), survival of control fish (S), and the desired precision (ϵ) at a given probability of significance (α). In general, sample size requirements decrease with an increase in control survival and recapture rates (Table 2-2). Only precision (ϵ) and α levels can be strictly controlled by an investigator. Expression to calculate sample sizes for achieving a specified precision (ϵ) level is given in Normandeau Associates *et al.* (1996a).

We calculated that with the following conservative assumptions of a recapture rate of 0.95, control survival of 0.95, and the expected passage survival ($\hat{\tau}$) of 0.95, a sample size of 745 fish was needed to attain precision (ϵ) of ± 0.03 , 90% of the time (Table 2-3). With a control survival rate of 0.99, a recapture rate of 0.95, and the same expected passage survival of 0.95, the required sample size drops to 495 fish; changing the recapture rate to 0.98, the sample size further drops to 314 fish.

The assumptions of expected and potential survival and recapture rates were initially based on data from 36 different turbine passage studies using the balloon tag-recapture technique on juvenile salmonids at hydroelectric dams on the Columbia River Basin. Table 2-4 shows the number of fish released, observed control survival, recapture rates, estimated survival probabilities, and resulting precision (ϵ) for these experiments. Control, survival, and/or recapture rate was $\geq 98\%$ in 31 of 36 (86.1%) of these tests and passage survival was $\geq 96\%$ in 69.4% of these tests. Recapture rate for treatment group was $\geq 96\%$ in 80.5% of these tests.

Initially, we allocated 200 fish for each treatment (24 treatments times 200 fish=4,800 fish) and 200 control fish (12 control releases times 200 fish=2,400 fish) to match with two simultaneous treatment releases. Although the temporal and logistical constraints (scheduled for late fall and winter) limited the selection of sample size to 200 fish per treatment, results from other studies at several hydro dams on the Columbia River Basin (RMC and Skalski 1994a,b; RMC *et al.* 1994; Normandeau Associates *et al.* 1995, 1996a,b,c,d) indicated that the desired precision level (ϵ) of ± 0.03 , 90% of the time of the survival estimates could be achieved with this release scheme. The allocated sample size was also deemed sufficient to answer the broader question of whether the MGR unit survival was better than or equal to that of an existing unit.

Since the data were to be analyzed on a daily basis to test the adequacy of the sample size in fulfilling the objectives of the study, the number of fish released could be adjusted accordingly. This strategy has been successfully employed in previous studies involving the balloon tag-recapture method at hydro dams on the Columbia and Snake Rivers (Mathur *et al.* 1996; Normandeau Associates *et al.* 1995, 1996d, 1999; Normandeau Associates and Skalski 1998).

The embedded flexibility in the experimental design, permitting adjustment of sample sizes released, proved beneficial during the investigation. As stated earlier, it became evident that fewer fish had fulfilled the objectives of the study for some test conditions, thus, the remaining fish for those test conditions were allocated to other test conditions. For example, additional fish releases were allocated to blade tip location

(Table 2-2) to confirm that observed results were not due to random variation.

2.2 Source of Fish

Two sources of hatchery-reared chinook salmon had to be utilized for our experiment. Initially, we had planned to use only smolts reared in the Lewis River Fish Hatchery, Washington. However, during the latter part of the study it was found that an adult coho salmon, *Oncorhynchus kisutch*, at the Lewis hatchery had been infected with a virus and no additional fish could be obtained due to a quarantine. Thus, fish from Ringold Hatchery (near Richland, Washington) were used during the last two days of Test Block 4 and all of Test Block 5. Observations indicated that these fish were smaller in size (mean 151 versus 169) and appeared somewhat lethargic when transported and held at the Bonneville project site. These fish were pond-reared at water temperature of about 15°C (59°F) and had to be gradually acclimated to ambient river temperature, near 5°C (41°F) at Bonneville.

Approximately 8,000 hatchery-reared juvenile chinook salmon were transported from these sources in a truck-mounted tank to the project site in lots of approximately 750 fish. At the project site, fish were held in raceways for juvenile salmon at the Bonneville Dam Second Powerhouse Fingerling Engineering and Research Laboratory. Fish were held a minimum of 24 h prior to tagging to acclimate them to ambient conditions. Fish for the different test conditions were drawn from the same group of fish assuring similar size and condition. Figures 2-6 through 2-9 show the length frequency distributions of the treatment and control groups. The average lengths for treatment and control groups were similar for each release location over all releases; the average lengths for various groups were within 15 mm. Juvenile chinook salmon from both hatcheries were not smolted.

2.3 Tagging and Release

Balloon tagged juvenile salmonids were released at three specific locations (hub, mid-blade, and blade tip) within the turbine environment of both an existing unit (Unit 5) and the MGR Unit 6 (Figures 2-3 through 2-5). These releases occurred at four different discharges and the associated turbine operating efficiencies from each turbine (Figure 1-3). The release locations were based on results of the physical model studies at the Waterways Experimental Station, Vicksburg, Mississippi, and the induction hose terminus were positioned so the fish pass the turbine runner at three specific areas. However, post examination of passage data suggested that fish released near the hub may not have traversed the desired specific route.

Fish handling and tagging techniques were similar to those used elsewhere (Heisey *et al.* 1992; Mathur *et al.* 1996; Normandeau Associates *et al.* 1995, 1996a,b,c,d, 1999). Lots of 5 to 10 fish were randomly taken from holding tanks to the adjacent tagging site with a water sanctuary equipped net. Fish displaying abnormal behavior, severe injury, fungal infection, descaling (>20% per side), or other anomalies were not used. The same fish selection criteria were applied to both the treatment and control groups. Fish were anesthetized in 0.5% MS 222 (<5 min) and then equipped with two uninflated balloon tags and a miniature radio tag. Tags were attached by a stainless steel pin inserted through the musculature beneath the dorsal and adipose fins. The radio tag was attached in combination with the dorsal balloon tag. A uniquely numbered VI tag (Visual Implant, Northwest Marine Technology, Inc., Shaw Island, WA) was also inserted in the postocular tissue for use in tracking 48 h survival of individual recaptured fish. A fin was also marked or clipped as a secondary means to identify fish of each release location/turbine/discharge in the event that any VI tags were dislodged. These marks were holes in lower or upper caudal, left pelvic clip, or right pelvic clip.

Prior to release through the induction apparatus (Figure 2-10) fish were allowed to recover from anesthesia. Generally, a single fish was released for each recapture boat, upon recapture from the tailrace another fish was released. Fish were placed individually into the induction system holding tub, tags activated, and fish released. The inflation time of the balloon tags was regulated to a certain extent by varying the temperature and amount of water injected into tags prior to release. All procedures used in handling, tagging, release, and recapture of fish for all release groups were identical. Treatment fish were released via a combination of 4 to 8 in diameter smooth walled steel pipes that directed the fish to the three release points within each turbine (Figures 2-3 through 2-5). Each delivery line was designed so that

the water velocity at the terminus of each pipe was similar to the water velocity passing by the outside of the pipe (about 16 ft/s). This minimized the chances of fish encountering potential injurious hydraulic shear conditions at the exit point.

Post-passage dispersal of the fish was determined from the radio signals received on a 5-element Yagi antenna coupled to a receiver (Advanced Telemetry Systems, Inc., Insanti, Minnesota). Fish were tracked and recaptured by four boats when the balloon tags buoyed them to the surface. Generally, the recapture boats were deployed approximately 50 yards downstream. To minimize gull predation, an individual from the U. S. Department of Agriculture hazed and exterminated gulls frequenting the fish retrieval zone; the gull predation minimization program was instituted on December 16, 1999 after completion of the first two test blocks.

The retrieval location of most fish was determined by Global Positioning System (GPS) technology. Appendix B provides recapture locations for treatment and controls. Locations were not recorded when the GPS equipment could not capture the appropriate number of quality satellite signals or if conditions at the recapture site hindered holding boat position.

Recaptured fish were placed into an on-board holding facility and the tag(s) were removed by a pin puller (Heisey *et al.* 1992). Each fish was examined for descaling and injuries and assigned codes relative to descriptions presented in Table 2-5. Recaptured fish were transferred in 5 gal pails to one of four on-shore tanks for estimating 48 h survival. Initially, these 2 ft deep, 8 ft long, by 1.5 ft wide rectangular tanks were located on the tailrace deck and continuously supplied with water from the adult fishway collection channel. However, these tanks had to be relocated to the intake deck because an analysis of the holding water by the Corps' personnel showed high concentration of total dissolved gas (>135%). The water analysis was spurred on by observation of unusually high fish mortality of both the treatment and control groups at about 12 to 24 h holding period. Upon examination, these dead fish exhibited typical symptoms of gas bubble disease (e.g., emboli on fins, gills, etc.). Consequently, of necessity, data for fish tested on 17 November 1999 were not included in the 48 h survival estimation analysis. However, data for 1 h were included for immediate survival estimation. Because of a high flow event and clogged pumps, 48 h survival data for fish tested on 24 November 1999 were also excluded from the analysis. A flow-through system maintained approximately 400 gal of water in each pool. Fish from all release locations on each day were held in the same tank.

The induction system for the release of control fish was slightly different from that of the treatment fish. It consisted of a 20 gal release tank coupled to a 4 in diameter flexible hose. Fish were placed individually into the induction system holding tub, tags activated, and fish released. However, all procedures used in handling, tagging, and recapture of fish in both treatment and control groups were identical. Control fish were released in the turbine Unit 5 discharge (Figure 2-2) primarily to evaluate the effects of handling, tagging, induction, and recapture, as well as to provide additional data on recapture probabilities. Turbine operating status at the time of fish release was recorded and presented in Appendix A.

2.4 Classification of Recaptured Fish

The immediate status of an individual recaptured fish or dislodged balloon(s) was designated as described in RMC and Skalski (1994a,b) and Normandeau Associates *et al.* (1995, 1996a,b,c,d). Immediate direct passage effects on each fish were designated as alive, dead, predation, recapture of dislodged balloons, and unknown. The following criteria have been established to define these designations: (1) alive--recaptured alive and remained so for 1 h; (2) alive--when the fish does not surface but radio signals indicate movement patterns typical of emigrating juveniles; (3) dead--recaptured dead or dead within 1 h of release; (4) dead--when only dislodged inflated tag(s) are recovered without the fish and telemetric tracking or the manner in which tags surfaced is not indicative of predation; (5) unknown--when neither tags nor fish are recovered and radio signals are not received or only briefly and an exact status cannot be ascertained; and (6) predation--when fish are either observed being preyed upon, the predator is buoyed to the surface, distinctive bite marks on recaptured fish are present, or subsequent radio telemetric tracking and/or dislodged tag recovery indicate predation (*i.e.*, rapid movements of tagged fish in and out of turbulent waters or sudden appearance of fully inflated dislodged tags). In estimation of passage survival, these fish are treated as dead. However, fish with injuries attributed to gull attacks (e.g., clear bite marks,

observed attacks) were not included when ascribing injury rates to causal mechanisms induced by the turbine environment.

Injuries were evaluated immediately following recapture and later during a detailed examination after expiration of the 48 h holding period. Injury and descaling were categorized by type, extent, and area of body. A fish was classified descaled if >20% scales were missing on a side. Fish without any visible injuries that were not actively swimming were classified as “loss of equilibrium”. This condition has been noted in past studies and often disappears within 10 to 15 minutes after recapture. Photographs of expired injured fish and injuries were taken with a standard and digital camera. Alive fish with visible injuries were photographed after a 48 h holding period. Photographs of injured fish and a ZIP disk of the digitally acquired photographs, along with a directory of these photos, is presented in Appendix C.

Mortalities occurring >1 h post-passage were considered 48 h mortalities. However, held fish were evaluated at intervals of approximately 12 h. Dead fish were identified by the numbered VI tag or fin clip (if the VI tag was missing) and necropsied to determine the potential cause of death.

An unusual event was uncovered during the fish recapture phase of the experiment. In some initial release trials, observations were made that suggested all the treatment fish may not be exiting the turbine draft tube and were suspected of being “trapped” somewhere. Upon further investigation it was determined that some fish entrapment was occurring in the tailrace stop log slots (Figure 2-1). In all, 121 of the 5,193 treatment fish (2.3%) became entrapped in the tailrace stop log slot and failed to enter the tailrace (Table 2-6). Most (95%) trapped fish were from the blade tip and mid-blade releases. These gate slots are positioned along the ceiling of the draft tube. They are also under the public access road that crosses the tailrace deck at the First Powerhouse. The location of the tail log slots constrained fish retrieval in a timely fashion. An attempt was made to exclude fish from entry into these slots by installing barrier screens and plates (excluders) over the opening into the slots from the draft tube. However, these excluders performed satisfactorily for only a few days until they were damaged by strong hydraulic forces.

Prior to installation of the excluders on 24 November 1999, 13 fish were trapped during seven test days. One additional fish was trapped on 24 November before the installation of the excluders was completed. Only two fish were trapped in the ensuing seven days when power levels were 1, 2, and 3. The first day of power level 4 testing (2 December 1999), three fish were trapped. Subsequently, fish were trapped more frequently.

An underwater camera was lowered to examine the excluder condition on 8 December 1999 while the unit was operating. However, high currents smashed the camera and no information could be obtained. A second underwater camera was successfully deployed to examine the excluders on 13 December 1999. The units were taken offline and the camera revealed that the excluders were damaged with sections missing and other sections bent back which opened areas for the fish to enter into the gate slot. The damaged excluders were removed on 15 December 1999.

After 15 December 1999, the Corps’ maintenance crew generally pulled the tailwater gate slot covers at 1500 h Monday through Thursday. Normandeau personnel used a dip net to recover the fish and separate balloons from the gate slots. Fish trapped in the gate slots on Friday through Sunday were generally not recaptured except for a few occasions. During the course of the study, 57 trapped fish were recaptured from the gate slots. All but five of these fish were alive. Three fish were from Unit 5 and two fish from Unit 6. These five fish had severing type injuries which appeared to be turbine induced. Except for these fish, most alive trapped fish were replaced due to the extra time the fish were trapped prior to recapture. A total of 2,558 and 2,547 fish passed through Units 5 and 6, respectively, were used in the fish survival/condition analysis (Table 2-6).

2.5 Injury Classification

Minimal controlled experiments to replicate and correlate each injury type/characteristic to a specific causative mechanism hamper definitive classification of observed injuries in the field. Though there was a higher probability of accurately identifying injury causal mechanisms in this study than in previous similar studies because the fish were released close to specific potentially hazardous areas of the turbine.

There may still be some element of speculation about the injury causal mechanisms; however, sliced, torn, and pinched fish bodies could be assigned to turbine blade contact with greater certainty. Injuries likely associated with direct contact with turbine runner blades or structural components are classified as mechanical and include: bruises/hemorrhaging, lacerations, and severed/sliced body (Dadswell *et al.* 1986; Eicher Associates 1987; RMC and Skalski 1994a,b). Contact with turbine structural components may also result in swaths of scale loss. Injuries likely attributable to shear forces are partial decapitation or complete decapitation (with the isthmus attached to the body), torn or flared opercula, and inverted or broken gill arches (Dadswell *et al.* 1986). The pressure-related effects can be manifested as bloody eyes, popped eyes, air bladder rupture, and embolism. However, recent injuries observed at Battelle Northwest in the laboratory on juvenile salmon indicated missing and ruptured eyes can also be shear induced (Neitzel *et al.* 2000). Because each fish was equipped with a uniquely numbered VI tag it was possible to identify those injuries that contributed to 48 h mortality.

For ease of understanding, injured fish were divided into two basic groups: (1) fish with visible injuries that included: missing eyes, decapitation, severed bodies, hemorrhaging, lacerations, and (2) fish with descaling or loss of equilibrium. Probable causes of injury (e.g., mechanical, shear, or pressure-related) were ascribed to injured fish depending upon the observed injury characteristics. Description of injuries observed on each fish are given in Appendix C.

2.6 Station Operational Considerations

The test was to be conducted at turbine Unit 5 (existing) and 6 (MGR) at four discrete turbine operating efficiencies (Figure 1-3). These settings correspond to about 6,200, 7,000, 10,500, and 12,000 cfs at a gross head at about 57 ft. The following operational parameters were recorded when fish were released: wicket gate angle, blade angle, output (kw), discharge (cfs), gap size, and gross head (Tables 1-1 and 1-2). Data for each operating scenario when fish were released are presented in Appendix A. These turbine operating efficiencies (power levels) were to be replicated over time. However, in practice, there was more day-to-day variation in turbine operating efficiencies than expected (Table 1-1).

2.7 Data Analysis

All statistical analyses were performed by Dr. John R. Skalski, University of Washington, Seattle, Washington. Results of these analyses, data utilized, and statistical models used are attached as Appendix D. The basic tag-recapture data given in Appendix A form the basis for all the statistical analyses reported herein. Only the summarized results are presented in the main body of the report.

Three separate metrics of survival were computed: absolute survival rate was calculated as survival of treatment group relative to survival of controls released in the draft tube discharge (Appendix D-I), safe passage rate was calculated from alive treatment fish free of injury and loss of equilibrium relative to alive controls free of injury and loss of equilibrium (Appendix D-II), and relative survival was calculated from survival of one treatment group relative to survival of another treatment group (Appendix D-III), controls were ignored in these estimates as was done in the McNary Dam experiment (Normandeau Associates *et al.* 1999).

In the present case, survival probabilities for blade tip and hub released fish were estimated relative to survival of mid-blade released fish. The impetus for these calculations was the earlier hydraulic scale model studies of McNary turbine which had indicated that mid-blade region was expected to have the highest survival relative to other fish release locations. These calculations provide a test of that hypothesis. Appendix D-III provides the likelihood model used, assumptions of the statistical model, and model outputs.

Briefly, the following analyses were performed to satisfy specific needs. Smolt survival rates (both absolute and safe fish passage) under each treatment condition were analyzed to assess the effects of treatment factors (two turbines, three release locations, and four power levels). For this analysis, the 1 h and 48 h survival data from replicate days under similar treatment conditions were pooled; data from all the control releases were also pooled. Thus, 24 treatment conditions and one control condition were simultaneously analyzed to assess the effects of treatment condition on survival. The fish recoveries from the control and 24 treatment releases were analyzed by a joint likelihood model composed of 25 different

independent trinomial distributions (see Appendices D-I and D-II). Analysis of Deviance (ANODEV) was used to assess the effects of treatment factors in the factorial design. Appendices D-I and D-II provide the likelihood models used, assumptions of the statistical models, and the resulting outputs along with graphical displays. Smolt survival for the 24 release conditions is presented in Appendix D-I (absolute survival) and D-II (safe fish passage).

To evaluate the relationships between daily survival and the various turbine operating parameters (efficiency, operational head, wicket gate openings, runner blade angles, and discharge) regression analyses (linear and quadratic) were performed (Appendix D-IV). These analyses examined various characterizations of turbine operations singularly and jointly in attempting to explain daily variation in smolt turbine passage survival. Separate analyses were performed for each turbine. Appendix D-IV provides the data used for these analyses, statistical model, and the resulting outputs with scatter plots.

A likelihood ratio test was used to determine whether recapture probabilities were similar for alive (P_A) and dead (P_D) fish (RMC and Skalski 1994a,b). The statistic tested the null hypothesis of the simplified model ($H_0:P_A=P_D$) versus the alternative of the generalized model ($H_A:P_A \neq P_D$). Depending upon the outcome of this analysis the parameters and their associated standard errors were calculated using either the simplified or generalized model for the absolute, safe passage, and relative survival probabilities.

Chi-square analyses (contingency tables) were performed to test for homogeneity ($P=0.05$) between treatment releases with respect to recapture probabilities of alive, dead, and non-recovered fish (Appendix D-V). Homogeneity between daily trials allowed pooling of data.

Fish recovery locations were divided into four zones and homogeneity in recovery proportions between zones was tested by an $R \times C$ contingency (see Appendix D-VI). Figure 2-11 shows the four recovery zones that were used in the $R \times C$ analyses. The second analysis of fish recovery locations involved the use of Kolmogorov-Smirnov test of equality (Conover 1971) of the empirical distributions for recovery distances. Appendix D-VI provides the detailed analyses of these data.

3.0 RESULTS

3.1 Recapture Rates

Recapture (physical retrieval of alive and dead fish) proportions of all groups were high (Table 3-1). Recapture proportions for treatment groups equaled or exceeded 0.95 while over 0.97 of controls were retrieved. The proportion of alive recaptured fish was >0.95 for all hub and mid-blade release groups; the proportion of alive recaptured fish was less for the blade tip release groups (0.90 to 0.97). The status of less than 0.02 of the total fish in any release group was unknown; it exceeded 0.01 in only three release groups (two for Unit 5 blade tip and one for Unit 6 blade tip). The status of virtually all the controls was known.

Chi-square tests (see contingency tables in Appendix D-V) were conducted to examine the assumption of homogeneity among various release groups for data pooling. In cases where frequencies were too sparse the counts of dead and unknown were summed to form a single joint column. These analyses indicated no significant difference in proportions of alive versus dead and unknown between control groups ($P(\chi^2 \geq 8.13) = 0.001$).

Likelihood ratio test showed significant difference ($P < 0.05$) between the simplified ($H_0:P_A=P_D$) and generalized ($H_A:P_A \neq P_D$) models; recapture probabilities for P_A (alive) and P_D (dead) fish were not equal. Thus, survival probabilities and their associated errors were estimated using the generalized model.

3.2 Retrieval Times and Locations

Average retrieval times for treatment groups (the time between release through the induction system until the fish was retrieved) ranged from 7.2 to 15.4 minutes (Figures 3-1 through 3-4). Control releases were retrieved within seven minutes. Median retrieval times were shorter (4 to 7 min) and similar between the treatment (4 to 7 min) and control (4 to 5 min) groups. The difference in the average retrieval times between the control and treatment fish may be partially related to the passage route and tailrace hydraulics experienced by the different groups of fish. Most control fish were retrieved nearer to the powerhouse and

thus, in shorter time periods, while some of the treatment fish were retrieved at greater distances from the powerhouse. The recapture time was greater than 200 min (maximum 478 min) for 20 treatment fish, while the maximum recovery time for any control fish was 121 min.

Kolmogorov-Smirnov test results indicated that recovery distances of treatment groups were significantly greater ($P < 0.05$) than for controls (see Tables 1 through 6 of Appendix D-VI). Turbine released fish experienced a more diverse distribution pattern upon exiting the draft tube than controls. Controls were released from a fixed location at the draft tube exit. Differences in the hydraulic conditions at the control release site likely contributed to differences in subsequent fish distribution. However, most fish (treatment and control) were retrieved within 500 yd downstream of the powerhouse.

Chi-square contingency tests essentially corroborated the findings from the Kolmogorov-Smirnov test results (Appendix D-VI). The highest proportion of control recaptures occurred near the powerhouse while recapture of treatment groups occurred farther away from the powerhouse.

Within turbine releases, recovery locations of the hub, mid, and blade tip released fish were homogeneous ($P > 0.05$) in turbine 6 (Appendix D-VI). However, in turbine Unit 5, the recovery location of blade tip released fish was significantly different ($P < 0.05$) from that of the hub and mid-blade releases; recovery locations of the latter two were not different ($P > 0.05$) from each other. Recovery locations of blade tip released fish were significantly different ($P < 0.05$) between turbine Units 5 and 6 while the recovery locations of mid and hub released fish were similar ($P > 0.05$).

The retrieval location of most fish occurred from the area immediately in front of the powerhouse (within 500 yds) to a point where the discharge from Bonneville First Powerhouse intersects with the spillway and the Second Powerhouse discharges (Figures 3-5 to 3-7 and Appendix B). Some fish were observed in the roll-back of Units 5 and 6 and would move laterally across the powerhouse, others were not seen, or signals went undetected, in the primary recapture area. However, they were later found downstream after the signal was acquired, indicating they did not approach the surface as soon as other fish.

3.3 Passage Survival Probabilities

3.3.1 1 h Absolute Passage Survival

Except for turbine Unit 5 blade tip at power levels 2 and 4 (survival of 0.93 and 0.91) the estimated immediate (1 h) survival probabilities of the other 22 treatments equaled or exceeded 0.95 (Table 3-2 and Figures 3-8 and 3-9). However, some differences were apparent in absolute survival point estimates between locations within turbines and between turbines. With respect to release locations, fish passage survival probabilities were ≥ 0.96 at mid-blade and hub in both turbines; ranges were 0.96 to 1.01 for Unit 5 and 0.96 to 0.99 for Unit 6. Blade tip releases had lower survival probabilities than mid-blade and hub releases in both turbines at all four power levels tested. Differences in the hub released fish survival and that of the blade tip fish were most pronounced in turbine Unit 5 where the highest differences (0.076 to 0.095) occurred at power levels 2 and 4 (Table 3-2 and Figures 3-8 and 3-9). The blade tip fish survival probabilities were lower at Unit 5 than at Unit 6. The largest difference (0.041) between the two turbines for blade tip released fish occurred at power level 4. In general, there was an increasing gradient of survival from the blade tip towards mid-blade to the hub in both turbine units.

With respect to the relationship of power levels to survival only small differences were observed (Table 3-2). In both units, survival was consistently high (0.96 to 0.99) at power level 3 (beyond the peak operating efficiency). At power level 2, which was slightly below peak operating efficiency, survival was less variable in Unit 6 (0.95 to 0.97) than in Unit 5 (0.93 to 1.01).

The results of the Analysis of Deviance (ANODEV) showed significant ($P < 0.05$) differences in 1 h immediate survival between the blade tip fish and mid-blade and hub released fish in both turbines. No significant effects ($P > 0.05$) of two-way interactions between turbines, power levels, or release locations were evident. Appendix D-I provides the output of the ANODEV and the data used in the analysis.

3.3.2 48 h Absolute Passage Survival

The 48 h survival probabilities followed the pattern similar to the immediate survival (Table 3-2). Little

mortality (<2%) occurred during the holding period. Again, except for lower survival (0.91 to 0.92) of turbine Unit 5 blade tip released fish at power levels 2 and 4, all other (22) survival probabilities equaled or exceeded 0.94. As in the case of 1 h survival, Analysis of Deviance indicated no significant ($P>0.10$) two-way interactions between turbines and power levels, or release locations. Of the main effects, release locations had a significant effect ($P=0.013$; Appendix D-I). Hub released fish at both turbines had significantly ($P<0.05$) higher survival than the blade tip and mid-blade released fish. Blade tip and mid-blade released fish did not have significantly different ($P>0.05$) survival probabilities. Appendix D-I provides detailed results of statistical analyses of the 48 h survival data.

The relationships of 48 h fish survival estimated at seven turbine operating parameters (discharge, head, wicket gate operation, blade angle, generation, and efficiency) were examined by regression analyses (linear and quadratic functions; Table 3-3). Detailed results of these analyses, models used, along with the data used in these analyses, are given in Appendix D-IV. Briefly, the principal highlights of these analyses are as follows. Of the 36 regression analyses performed, none were significant ($P>0.10$); values of R^2 ranged from 0 to 0.1533. Of particular note was an absence of significant relationship ($P>0.10$) between survival and turbine operating efficiency. Figure 3-10 shows the plots of smolt survival versus turbine operating efficiency.

3.3.3 48 h Safe Passage Survival (Unaffected Fish)

Survival probabilities (48 h) were calculated for fish free of injury and/or loss of equilibrium (designated non-affected fish or safe passage); dead or injured fish and those showing loss of equilibrium were assumed dead in this analysis. The resulting data were subjected to the same statistical analyses as was done for the absolute survival estimates discussed above. A likelihood ratio test rejected the simple release-recapture model ($H_0:P_A=P_D$) in favor of the full model ($H_A:P_A\neq P_D$) with ($P(\chi^2\geq 9.06)=0.0026$). Table 3-4 presents the 48 h estimates of safe turbine passage for the 24 different treatments. Overall, passage was safer through Unit 6 than Unit 5. All the survival probabilities in passage through Unit 6 were higher than 0.93 (range 0.931 to 0.986) with most estimates ≥ 0.95 , except at the blade tip at power levels 2 and 4 (0.93). In contrast, three survival estimates (all at blade tip) in Unit 5 were less than 0.92 (range 0.90 to 0.918). The survival ranged from 0.947 to 0.998 for the remaining locations and power levels in Unit 5. Highest safe passage (0.956 to 0.998) occurred for the hub released fish regardless of turbine or power level.

Analysis of Deviance (Appendix D-II) found significantly higher safe passage for blade tip fish in Unit 6 than in Unit 5. However, a significant ($P=0.056$) location-by-turbine interaction was also found rendering the significance of main effects non-interpretable. Because of the significant interaction, survival estimates are obtained by pooling across power levels only. These estimates are summarized by release location for each turbine in Table 3-5. Hub release fish had higher safe fish passage in Unit 5 (0.989) than in Unit 6 (0.969) while the reverse was true for the blade tip fish (0.919 for Unit 5 versus 0.945 for Unit 6). Safe passage was identical (0.953) for mid-blade passed fish at both units.

The differences between the absolute survival and safe passage point estimates at the three passage routes (hub, mid-blade, and blade tip) were less than 0.013 (0.005 to 0.012) indicating most mortality is instantaneous (Table 3-5). The largest differences occurred at the hub release location in Unit 6 (0.011) and at the blade tip in Unit 5 (0.012).

3.3.4 Relative Survival Probabilities

For the sake of completeness and consistency with the recent study at McNary Dam Unit 9 (Normandeau Associates *et al.* 1999), relative survival probabilities were also calculated. Appendix D-III provides the statistical model used and its output. These calculations estimate survival at any location within a turbine relative to the fish survival at another location. Control release data are ignored in this estimation. In the present situation, survival of smolts passing near the blade tip or the hub were estimated relative to those passing the mid-blade region which is hypothesized to be benign (Normandeau Associates *et al.* 1996d, 1999). Separate estimates were made for each turbine. The release-recapture data were pooled across power levels for this comparison because no significant relationship was found between survival and power levels (see Sections 3.3.2 and 3.3.3). A likelihood-ratio test was used to determine whether

recovery probabilities for alive and dead fish were equal. The likelihood ratio test rejected ($P(\chi^2 \geq 4.93) = 0.026$) the null hypothesis ($H_0: P_A = P_D$) for turbine Unit 5 data and thus the fully parameterized likelihood model ($H_A: P_A \neq P_D$) was used in the analyses. However, for turbine Unit 6 data the null hypothesis was not rejected ($P(\chi^2 \geq 2.32) = 0.128$).

Table 3-6 presents the 48 h relative survival probabilities, based on the respective model results, for turbine Units 5 and 6. Differences in survival between release locations were turbine specific. An overall likelihood ratio test rejected the null hypothesis of equal survival probabilities for smolt passing through the tip, mid-blade, and hub locations for Unit 5 ($P(\chi^2 \geq 28.85) < 0.0001$). The blade tip location had a significantly lower survival ($P < 0.05$) than the mid-blade release location while the hub location survival was significantly higher ($P < 0.05$) than the mid-blade release location (Table 3-6).

For Unit 6, the hub release location had a higher survival rate (significant at $\alpha = 0.10$ but not at 0.05 level) than at the mid-blade release location (Table 3-6). There was no difference ($P > 0.05$) between the tip and the mid-blade release locations. For completeness, Appendix D-III provides the results of both the simplified and full models for Unit 6 because the P-value was close to the α -level of the test and because the hypothesis was rejected for turbine Unit 5.

3.4 Injury

All recaptured fish (total 4,974) from Units 5 (97.6%) and 6 (97.3%) were examined for injury type, extent, and general location; nearly all (99%) of the controls were examined (Table 3-7). Some differences in injuries were observed for the two turbines and the three passage locations (hub, mid-blade, and blade tip). Fish injury observed at Units 5 and 6 are presented separately herein and then compared. Detailed information and photos on all injured fish are presented in Appendix C.

3.4.1 Injury Rate

3.4.1.1 Overall Injury Rate

Injury rates differed between the two turbines with Unit 6 fish exhibiting the lower rate (Table 3-7). Overall injury rate of fish passed through Unit 5 was 2.5% (62 of 2,496) and 1.4% (34 of 2,478) for Unit 6 (MGR) fish (Table 3-7); injury rate in Unit 6 is about one-half of that in Unit 5. The rates of fish showing equilibrium loss were identical (1.6%) in both units.

Only 4 (0.2%) of 1,970 control fish exhibited any visible injuries (Table 3-7). Eight (0.4%) of the control fish displayed loss of equilibrium. Adjusted for control injury and loss of equilibrium, Unit 5 fish had an injury rate of 2.3% and loss of equilibrium rate of 1.2%. The respective values for turbine Unit 6 fish are 1.2% and 1.2%.

3.4.1.2 Injury Rate versus Release Location

The injury rate was affected by release location and turbine with the highest injury rate for the blade tip fish in both units. The blade tip fish injury rate was less in Unit 6 (1.9%) than in Unit 5 (3.9%; Table 3-7 and Figure 3-11).

The mid-blade region inflicted a 2.3 and 1.0% injury rate at Units 5 and 6, respectively (Table 3-7). Injury rates were lowest for fish that passed near the hub; only 0.7% of Unit 5 fish displayed any visible injuries, while 1.0% of the Unit 6 fish had injuries.

The incidence of fish displaying loss of equilibrium was similar between the three release locations and ranged from 1.6 to 1.7% at Unit 5 and 1.3 to 1.9% at Unit 6 (Table 3-7). The highest loss of equilibrium was observed for fish passing near the hub at Unit 6. It should be noted that because of a general low incidence of injuries and loss of equilibrium, a small shift in numbers in one way or another can change these percentages.

3.4.1.3 Injury Rate versus Power Level

Data pooled across release locations indicated small differences in injury rates associated with power levels specific to each turbine (Table 3-8). The combined injury rate for fish was similar (2.2 to 2.3%) for power levels 1, 3, and 4 at Unit 5; injury rate was higher (3.1%) at power level 2. At Unit 6 the combined

injury rate was similar (1.5 to 1.8%) at power levels 1, 2, and 4 and least (0.7%) at power level 3.

With respect to the influence of the interaction of release location and power level, the highest injury rates (4.7 and 4.5%) were observed for fish passed near the blade tip of Unit 5 at power levels 2 and 4 (Table 3-8). In contrast, only 0.6 and 0.0% of the hub fish were injured at these power levels. Injury rate was highest (3.3%) at Unit 6 for blade tip fish passed at power level 1; however, injury rate was only 0.9% for blade tip fish passed at power level 3. The mid-blade released fish did not show injuries at power level 1 in Unit 6.

3.4.2 Injury Types

Visible injuries were diverse and ranged from severe (decapitation, body severed) to minor (slight hemorrhage in eye, scrapes). Photos of nearly all injured fish and detailed injury characterization are presented in Appendix C and representative examples are displayed in Figures 3-12 through 3-15. Some fish had a single injury (*i.e.*, missing eye, decapitated) while others had multiple injuries (*i.e.*, missing eye and torn operculum, hemorrhaged eye and internal organ(s)).

Overall, eye damage (hemorrhage, missing) or severed body, including decapitation, were the principal injuries observed at Unit 5. Decapitation or severed body was also dominated at Unit 6 (Table 3-7) followed by eye damage and internal hemorrhaging.

3.4.2.1 Injury Type versus Release Location

The injury types differed somewhat for the three release locations within each turbine (Table 3-7). Eye damage (hemorrhage, ruptured, missing) was the dominant injury of blade tip passed fish at Unit 5, while severed body, including decapitation, was the dominant injury of blade tip passed fish at Unit 6. If laceration type injuries are combined (decapitation, severed body, cut, and tears) at Unit 5, then this becomes the dominant injury type.

Among the injured fish, decapitation/severed body and eye damage/hemorrhage were most common for mid-blade released fish in both units (Table 3-7).

Although few hub passed fish were injured, decapitation/severed body and gill hemorrhage dominated at Unit 5 while eye, gill, and internal injuries were most common at Unit 6 (Table 3-7).

3.4.2.2 Injury Type versus Power Level

Injury type versus power level data are presented in Appendix C, Table 2. Decapitation/severed body and eye injuries were the primary injuries observed for all power levels at Unit 5. Laceration type injuries were the primary injury type at all power levels at Unit 6. Eye damage was also common for power level 2.

3.4.3 Injury Source

Probable injury source was assigned to 62 and 34 visibly injured fish recaptured from Units 5 and 6, respectively (Tables 3-9 and 3-10 and Appendix C, Tables 1 and 2). The forces attributed to inflicting these injuries were shear, mechanical, pressure, and /or a combination of these forces. Combinations appeared to be due to shear and mechanical forces. No injuries were attributed to cavitation; however, both units were not operated where cavitation would likely occur. Additionally, fish injury characteristics due to cavitation have not been well documented in the literature.

Overall, regardless of power level and release locations, shear and mechanical forces appeared to be the primary injury mechanisms for most fish. Some 35.5 and 38.7% of the injuries observed at Unit 5 were attributed to shear and mechanical forces, respectively (Table 3-9). Another 14.5% appeared to be due to probable pressure related causes. The remaining 11.3% was likely due to a combination of shear and mechanical forces. Shear induced injuries (41.2%) were slightly more prevalent than mechanical (32.4%) at Unit 6 (Table 3-9). Pressure related injuries were observed on 17.6% of the injured fish (primarily internal hemorrhaging) and the remaining 8.8% of the fish appeared to have been injured by a combination of forces.

3.4.3.1 Injury Source versus Release Location

Shear and mechanical mechanisms inflicted the majority of injuries at all three release locations at Unit 5 (Table 3-9 and Figure 3-16). Both mechanisms inflicted injuries at similar rates regardless of release location. The percentage of injuries attributed solely to shear or mechanical forces ranged from 33.3 to 40.0% and 36.1 to 42.9%, respectively.

The forces inflicting injury at Unit 6 differed from that at Unit 5 (Table 3-9 and Figure 3-16). Injuries to blade tip passed fish were due primarily to mechanical forces (50%) while shear forces contributed to the majority of the injuries for fish passed mid-blade (66.7%) and near the hub (57.1%). Although very few (7 of 668) hub passed fish were injured, three (42.9%) of these fish displayed injuries that could have been pressure induced (hemorrhaging of internal organs).

3.4.3.2 Injury Source versus Power Level

Examination of the likely injury source (shear, mechanical, pressure) showed some differences between power levels within turbine Unit 5 (Table 3-10). Some 64% and 21% of the injuries were attributed to shear and mechanical forces, respectively, at power level 1 in Unit 5. At power level 4, mechanically inflicted injuries (50.0%) were most prevalent while shear caused injuries diminished (28.6%). In contrast, at Unit 6 shear inflicted injuries were most common (36 to 50%) at power levels 1, 2, and 4 (Table 3-10). At power level 3, 50% of the injuries were mechanically inflicted. Injuries likely related to pressure were less than those due to shear or mechanically-caused injuries for all power levels at both turbines except at power level 3.

4.0 DISCUSSION

The primary objective, that the fish survival in passage through the new MGR Unit 6 at Bonneville Dam is equal to or better than the survival in passage through Unit 5, was fulfilled and the hypothesis was not rejected ($P > 0.10$). In fact, generally the fish injury rate was lower and survival rate higher for Unit 6 than for Unit 5. The secondary objectives of the experiment, estimates of passage survival probabilities of fish released at three discrete locations within turbine Units 5 (existing) and 6 (MGR), and ascertain probable causal mechanisms of injury/mortality were also obtained. The test of the effectiveness of gap minimization appeared to be only partially fulfilled. The experiment succeeded in providing absolute survival, safe fish passage, and relative survival estimates within the prespecified precision (ϵ) level of $\pm 3\%$, 90% of the time. Another hypothesis of practical significance successfully tested in the study was whether fish passage survival is correlated with turbine operating efficiency.

Survival estimates derived in the study are considered valid because many underlying assumptions were met. The following assumptions, primarily related to the tag-recapture process, were fulfilled: handling, tagging, and release procedures do not differentially affect the survival rates of treatment groups; and recapture crews do not differentially retrieve either group of fish. Although insertion of the tag, induction, and tag removal requires fish handling and may result in injury or mortality, these processes had minimal cumulative effects over the 48 h period. Little mortality occurred in any group. All treatment and control groups showed similar post-passage swimming behavior in the holding pools.

The assumption of homogeneity in recapture frequencies of alive and dead and unknown status fish was satisfied to a large extent allowing pooling of replicate releases to increase sample size and hence precision of survival estimates. This test of homogeneity was also deemed necessary because replicate releases were made over a relatively long time period (24 different treatment conditions over 60 days, 16 November 1999 to 29 January 2000) and potential for effects of external variables on survival may have existed. No significant differences ($P > 0.10$) were noted between the control replicate releases. Among the 24 different treatment conditions (two turbines x three release locations x four power levels) two were not homogenous. However, on a random chance alone (null hypothesis) one would expect 5% (1.2 tests) of the tests to show probability (P) values to be less than or equal to 0.05. Therefore, there was little evidence to conclude heterogeneity among the replicate releases during the study. Additionally, fish releases on each day were randomized to minimize serial effects, if any. Thus, there is a reasonable assurance that comparisons between turbine locations were not confounded with time or fluctuations in

hydrological conditions.

A potential source of bias due to non-selective retrieval of fish groups was minimized by not assigning any boat recovery crew to recapture a specific group of fish. Whichever crew was available for fish recapture was assigned the task of individual fish retrieval. Recapture crews were trained in fish handling and retrieved the buoyed fish without inflicting additional external damage. Tagging crew bias was eliminated by rotating the personnel scheduled for tagging each day.

One of the objectives of the experiment, evaluation of the effectiveness of hub gap minimization in Unit 6, may not have been fulfilled due to uncertainty of the exact passage route taken by fish released to pass toward the hub region. The fish may have actually passed along the blade and not been exposed to the hub gaps of Unit 5 (lack of recovery of pinched fish bodies which are reflective of gap passage) and the modified hub of Unit 6. This uncertainty in passage route became apparent too late for a corrective action in the midst of the experiment. Additional computer analysis and evaluation of the video imaging may provide more insight into the actual fish passage route for this release condition.

Analysis of neutrally buoyant particle releases through physical turbine models indicated fish released in the lower injection pipes should move through both Units 5 and 6 runners near the blade tip. Modification to the MGR blade tip improved both absolute survival and safe fish passage estimates. These parameters were higher for Unit 6 blade tip passed fish than for Unit 5. The 48 h absolute survival and safe passage estimates for Unit 5 were 0.931 and 0.919 compared to 0.950 and 0.945 for Unit 6. However, these estimates were not statistically significantly ($P>0.05$). Overall, in a side by side comparison for the four power levels tested, blade tip fish survival in the MGR unit was generally higher; ranging from 0.3% (power level 1, below the point of peak operating efficiency) to 3.1% (power level 4, beyond the point of peak efficiency) higher than for Unit 5 blade tip released fish. Across all power levels and release locations, the overall difference was about 1.9% in favor of the MGR unit. The 3.1% difference at power level 4 for blade tip released fish noted herein is nearly of the same magnitude as that observed at Rocky Reach when the gap at the trailing edge near the hub was closed (Normandeau Associates and Skalski 1996).

Incidence of fish injury also supported the premise that minimization of gaps at the MGR blade tip are safer for fish passage. Injury rate was reduced approximately 50% (3.9% for Unit 5 versus 1.9% for Unit 6). The combination of higher survival and lower injury rate, in the MGR unit, suggests that the new MGR unit offers overall advantages to fish passage effectiveness. Minimizing the blade tip gap alone holds promise in improving survival for fish passing that area by perhaps as much as about 3%. This magnitude of improvement, if it occurs for most fish, is deemed substantial considering that the survival is greater than 94% and the maximum possible is 100%.

Although significant ($P>0.05$) differences in overall absolute survival and safe passage estimates were not observed between the two units, there were significant differences in these estimates between the three release locations. In both units, blade tip absolute survival and safe passage estimates were significantly ($P<0.05$) lower than those for fish passed by the mid-blade and/or hub. Juvenile salmon that passed both units away from the blade tip area appeared to experience relatively safer passage regardless of the power level. All but two (0.947 to 0.949) of the 32 absolute and safe passage survival estimates (48 h) for the mid-blade and hub released fish were greater than 0.95. Incidence of injured fish that passed the mid-blade and near hub region was also low ($<2.0\%$ for 14 of the 16 test conditions).

Even though the effectiveness of hub gap minimization may not have been completely evaluated as planned, the study uncovered hitherto unknown two potential issues which when resolved may result in improvement in overall fish survival and lowered injury rate. First, a comparison of hub and mid-blade survival probabilities indicates that improvement in in-turbine hydraulic geometry can add to enhancement of fish survival. As stated earlier, fish releases designed to pass in the flow near the hub may have actually traversed some distance intermediate between the hub and mid-blade region. Absolute survival probabilities were highest for hub released fish in both turbines (≥ 0.97). Similarly, the injury rates for hub released fish were lower than those for mid-blade fish. Although the localized hydraulic geometry experienced by the hub released fish is unknown it may be surmised from the observed results that if such conditions can be duplicated at other regions of the turbine environment an overall

improvement in survival may be achievable. Whether this is a practical solution from a hydraulic-engineering or turbine design viewpoint remains to be determined.

The second issue uncovered was entrapment of fish passed through the mid and blade tip regions in the tailwater stop log slots and its potential consequence to the broader question of survival improvement particularly at high flows. About 3.0% of the treatment fish introduced at these sites were entrapped. To put this figure into perspective, 78 of the 3,743 fish (2.1%) introduced into the blade tip and mid-blade regions in both units were recaptured dead and 2.2% were injured. The minimal entrapment of hub passed fish (0.4%) suggest that partial inflation of a small percentage of balloon tags prior to fish exiting the draft tube was a minor contributing factor to entrapment. Initiation of balloon tag inflation was adjusted to minimize the chance of the balloon tag inflating prior to exiting the turbine. If tagging was not the principal contributory factor then a potential exists for entrapment of naturally entrained fish. The longer the entrapment time the greater the likelihood of fish experiencing stress and possible death. Secondly, the fish may be transported into a “back roll” like environment, which could make them vulnerable to potential predation upon eventual exit from the draft tube. These findings suggest a critical examination of the presence of naturally entrained unmarked fish to identify the magnitude of the potential problem.

A contemporaneous hypothesis, of practical operational significance, that fish survival is maximized at best turbine operating efficiency (Bell 1981; Eicher Associates 1987) was not statistically supported at Bonneville. Fish survival was not statistically correlated with the operating efficiencies tested in either turbine. While this result may have been expected for Unit 5 which has a broad, flat efficiency curve (see Figure 1-3) over the range tested herein, the results for Unit 6 also seem to be in conflict with the above stated hypothesis. Although the Unit 6 efficiency curve is more “peaked” than flat, the overall average survival probabilities were essentially flat over the range tested. However, only at power level 3 (towards 1% of higher operating limits) of both units survival was relatively high and less variable (0.96 to 0.97 for Unit 5 and 0.96 to 0.98 for Unit 6) between the three release locations. Survival was more variable (0.92 to 1.02 for Unit 5, 0.94 to 0.98 for Unit 6) at power level 2 (within 1% of operating range). Evidence is emerging from other sites that suggests a strong correlation is not apparent between highest turbine operating efficiency and highest fish survival, particularly for the large sized Kaplan turbines such as those at the Bonneville Dam. A recent study at Lower Granite Dam (Mathur *et al.* 2000) reported the highest survival of chinook salmon occurred at the lowest turbine operating efficiency tested. Turbine intakes at Lower Granite Dam are equipped with extended length screens. Similarly, recent statistical analysis of the available data from several dams on the Columbia River Basin by Skalski and Mathur (2000) shows an absence of a correlation between highest survival and maximum operating efficiency.

The physical, hydraulic, and operating conditions can vary even between two similar type turbines operating similarly and the flow path fish traverse may be different subjecting them to different passage risks. These characteristics may affect the nature of the correlation, if any, between highest turbine operating efficiency and highest fish survival. As an example, the estimated survival probabilities of chinook salmon smolts introduced at the same depths of two adjacent Kaplan turbines (without intake fish guidance screens) at Rocky Reach Dam on the Columbia River, producing identical electrical output, differed (Normandeau Associates and Skalski 1996). In one turbine, the survival (0.973) of fish entrained at 10 ft below the intake ceiling was about 0.06 higher than that (0.913) of fish entrained at 30 ft below the intake ceiling. In an adjacent turbine, the trend was opposite; the survival (0.948) of fish entrained at 30 ft below the intake ceiling was about 0.06 higher than that (0.888) of fish entrained at 10 ft. Both turbines were set virtually at identical power levels. The flow distributional pattern within the turbines is unknown which may affect the travel path fish take. At Wanapum Dam on the Columbia River (Kaplan turbines without intake screens) the highest survival of coho salmon smolts, *O. kisutch*, at two depths was observed at less than the peak turbine operating efficiency (Mathur *et al.* 1999); smoother flows within the turbine at that operational level were given as the cause for higher survival. At Lower Granite Dam (equipped with extended length intake fish guidance screens) the highest survival was observed at the lower end of the turbine operating efficiency; the effects of turbine operating in a cavitation mode were also not evident (Mathur *et al.* 2000). Similarly, an investigation of juvenile American shad, *Alosa sapidissima*, showed highest survival towards the lower operating efficiency of a Kaplan turbine at Hadley Falls, Connecticut River (Mathur *et al.* 1994). Thus, it seems that prior to imposing constraints on

turbine operation it would be prudent to base them on empirically derived survival and turbine operating efficiency data. If a strong correlation between survival and specific turbine operating efficiency can be shown, then restricting turbine operation to a mode that maximizes fish survival, particularly during a peak emigration period, would be prudent. Alternatively, however, if no correlation can be demonstrated then a greater operational flexibility may be warranted. The Bonneville study results do not support the position that turbine operating constraints to a portion of the full operating range of the MGR unit would optimize survival.

The observed fish injury rates magnify the effectiveness of the MGR. The MGR unit inflicted considerably less injury to fish than the conventional unit; overall fish injury rate was reduced by approximately 40% (2.5% for Unit 5 versus 1.4% for Unit 6). Most of the difference occurred for fish passing in the vicinity of the blade tip. The incidence of injury for blade tip passed fish was reduced by 50% (3.9% versus 1.9%). This was expected because of the gap closures in the MGR unit. This same trend was also evident for fish passed near mid-blade; 2.3% for Unit 5 and 1.0% for Unit 6; however, there are no gaps in the mid-blade region to modify that could account for the improved fish passage condition. Other factors, including possibly blade geometry, blade thickness, and flow stream lines may account for the decreased injury at the MGR unit.

The hydraulic conditions within the turbine and discharge boil at both units to which test fish were exposed apparently were not conducive to disorienting passed fish. Loss of equilibrium was uncommon for fish passed through both turbines (1.6%) and the control fish (0.4%) released just upstream of the discharge boil. The paucity of fish displaying loss of equilibrium might minimize the opportunities for predator fish residing in the tailrace.

The minimal incidence of fish injury, 0.7% at Unit 5 and 1.0% for Unit 6, for fish directed to pass near the hub at both turbines indicates that the actual path traversed by these fish need to be ascertained and characterized hydraulically. If possible, these hydraulic conditions could be duplicated throughout the turbine environment to minimize fish injury. Based on the paucity of injuries, especially at Unit 5, most fish may not have passed the desired area near the hub, but likely passed along the blade. If the fish had passed through the hub gaps in Unit 5, the incidences of laceration and pinching type injuries should have been greater. Only 1 of the 681 fish released near the hub of Unit 5 had a pinched off head. None of the fish that passed the MGR hub area incurred a laceration or pinching type wound. Laceration and pinching type wounds have been observed at several other large Kaplan type turbines at Columbia River Basin power stations. Approximately half the injured fish at Rock Island Powerhouse I, suspected of passing near the hub region, displayed laceration and pinching type wounds (Normandeau Associates and Skalski 1998). Similar results were observed at Lower Granite Dam (Normandeau Associates *et al.* 1995). However, this phenomenon was not evident at McNary Dam where fish were directed to pass near the hub. Most hub passed fish at McNary displayed hemorrhage to the head or body or eye damage; few had lacerations. Normandeau Associates *et al.* (1999) surmised that the paucity of laceration/pinching type injuries could have been due to the narrow gap openings at the leading (1 in) and trailing (2 in) edge of the blade. However, only one blade setting was tested.

5.0 CONCLUSIONS

The experiment succeeded in establishing that the fish passage through the new Unit 6 (MGR) is equal to or better than the existing Unit 5. Differences in survival were most pronounced at the blade tip and in favor of the MGR. Survival estimates are only reflective of the direct effects of turbine blades, draft tube, and tailrace.

All three metrics of survival, absolute survival of treatment fish estimated relative to tailrace controls, safe passage, based on assuming all injured fish and those exhibiting loss of equilibrium as dead, and survival of hub and blade tip released fish relative to that of mid-blade released fish corroborated the conclusions that the MGR had beneficial effects.

Of the 24 independent absolute survival estimates obtained, 22 (91.7%) were ≥ 0.94 , only 2 (8.3%) were between 0.91 and 0.92. The two lower estimates were both at the blade tip of Unit 5, one each at power

level 2 and 4. The injury rates followed a similar, but an opposing trend, injuries being higher at the blade tip in Unit 5 than at Unit 6.

Overall, the safe passage survival rates for both units were only slightly lower (generally less than 1.5% lower) than the absolute survival rates. The probability of safe passage of mid-blade releases in both units was identical (0.953); blade tip fish had higher safe passage in Unit 6 (0.945) than in Unit 5 (0.919); and “hub” released fish had a better safe passage rate (0.989) in Unit 5 than in Unit 6 (0.969). The lowest safe fish passage rate (0.90) was for Unit 5 blade tip fish released at power level 4. The lowest safe fish passage rate (0.93) at Unit 6 was also for blade tip fish released at power level 4. Highest safe fish passage (0.998) occurred for Unit 5 fish passed near the hub at power levels 2 and 4. The highest safe fish passage (0.986) at Unit 6 also occurred for hub passed fish at power level 3.

Although the effectiveness of minimizing hub gaps could not be fully assessed because fish released to pass near the hub gaps may have actually passed some distance away from the hub, gap minimization is useful in enhancing fish survival. Blade tip gaps were also minimized in MGR Unit 6 and survival there was considerably higher and injury considerably lower than in Unit 5.

The study, a *post priori*, may have produced a desirable outcome for future turbine design. Absolute survival probabilities of “hub” released fish in both turbines exceeded or equaled 0.97 (range 0.97 to 1.0 in Unit 5; all values were 0.98 in Unit 6). It suggests that duplicating the localized hydraulic geometries encountered by these fish elsewhere in the turbine environment could further enhance overall fish survival over a wide range of operating conditions. The engineering feasibility for creating such a favorable geometry in a turbine design needs to be evaluated.

The contemporaneous hypothesis that highest survival is correlated with peak or near operating efficiency was not statistically supported for either turbine, a finding similar to that reported from other similar sized turbines. Qualitatively, point estimates of absolute survival were consistently ≥ 0.96 at power level 3 (beyond the point of peak operating efficiency) in both Units 5 and 6. Absolute survival probabilities at power level 1 (near the lower end of the 1% operating level at Unit 5 and below the 1% level at Unit 6), in both units at all release locations were comparable to those at power level 3.

Finally, the study indicated about 2.3% of the released fish were entrapped in the tailrace gate slots characterized by high turbulence; most fish were from the mid and blade tip releases. Entrapment of naturally passing fish in high turbulence may cause delay in exiting the turbine draft tube, transport fish into a “back roll” like environment or abrasive areas, and subject the fish to stress and eventual predation. Whether the balloon tag contributed to some of this entrapment is unknown, however, the magnitude of this potential problem and its subsequent solution can be ascertained by sampling naturally entrained fish in the tailrace gate slots.

Although the MGR unit inflicted considerably less injuries than the conventional turbine there may be still some room for additional improvements. Shear and mechanical forces appeared to be responsible for most injuries at both units. Across all release locations and power levels shear and mechanical forces inflicted 36 and 39% (Unit 5) and 41 and 32% (MGR) of the injuries, respectively at the two units. An additional 11 and 9% of the injuries at Unit 5 and the MGR, respectively, were also attributed to a combination of these forces. Minimizing and eliminating gaps appeared to diminish the rate of mechanically inflicted cuts and pinched bodies. Injury attributed to mechanical forces was >50% of the total injuries for blade tip passed fish at the MGR unit. The presence of fish torn in half or decapitated indicates that some severe forces may still be present in the MGR blade tip area or other areas associated with blade tip passage. The presence of mechanical and shear inflicted wound may warrant additional model or field testing to ascertain the source of these injuries and whether additional turbine component modification could further reduce turbine related fish injury.

Based on experience at Bonneville Dam and elsewhere, minimizing gaps at the blade tip may improve survival for those fish passing that area, perhaps by 3% or more.

6.0 LITERATURE CITED

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TABLES

FIGURES

APPENDIX A

Daily Record of Turbine Operating Conditions and Fish Releases and Tag-Recapture Data

APPENDIX B

Downstream Retrieval Plots

APPENDIX C

Disk and Directory of Digitally Acquired Photos, Digital Photos of Injured Fish, and Descriptions of Observed Injuries

Appendix C
Disk of Digitally Acquired Photos

APPENDIX D

Statistical Models and Outputs and Summary of Individual Trial Data

- I - Estimating Absolute Survival for the 24 Release Conditions**
- II - Estimating the Overall Effects of Equilibrium Loss, Injury, and Mortality for the 24 Release Conditions (Safe Fish Passage)**
- III - Estimating Relative Survival**
- IV - Relating Survival to Turbine Operations**
- V - Tests of Homogeneity of Replicate Releases**
- VI - Comparison of Recovery Locations**
- Table Detailed Summary of the Condition after Passage Through Units 5 and 6**

APPENDIX D-I
Estimating Absolute Survival for the
24 Release Conditions

APPENDIX D-II

**Estimating the Overall Effects of Equilibrium Loss, Injury,
and Mortality for the 24 Release Conditions
(Safe Fish Passage)**

APPENDIX D-III
Estimating Relative Survival

APPENDIX D-IV
Relating Survival to Turbine Operations

APPENDIX D-V
Tests of Homogeneity of Replicate Releases

APPENDIX D-VI
Comparison of Recovery Locations

APPENDIX D, TABLE
Detailed Summary of the Condition after Passage
Through Units 5 and 6

APPENDIX E

Individual Fish Disposition Data and Associated Condition Codes

Table 1-1

Turbine parameters measured for each turbine on a daily basis during the survival trials at Bonneville Dam, November 1999-January 2000. Data supplied by ACOE.

Date	Release Position	Flow Scenario	Replicate	Head (ft)	Wicket Gate Angle (°C)	Blade Angle (°C)	Generation (kw)	Efficiency (%)	Discharge (cfs)
<i>Unit 5 (Existing)</i>									
11/26/1999	Tip	1	1	55.81	43.99	15.44	25,413	0.885	6,206
11/30/1999	Tip	1	2	58.01	48.31	12.20	25,558	0.882	6,024
12/11/1999	Tip	1	3	56.53	48.31	14.18	27,122	0.886	6,531
1/11/2000	Tip	1	4	55.53	47.03	13.05	24,980	0.884	6,137
1/27/2000	Tip	1	5	56.27	47.03	12.53	24,950	0.883	6,056
11/24/1999	Tip	2	1	59.17	48.28	15.47	30,229	0.886	6,953
12/9/1999	Tip	2	2	58.30	48.31	16.35	30,634	0.870	7,035
12/18/1999	Tip	2	3	53.89	51.01	15.24	27,505	0.889	6,923
1/12/2000	Tip	2	4	55.37	51.04	16.19	29,527	0.890	7,225
1/20/2000	Tip	2	5	56.75	51.03	15.92	30,189	0.889	7,218
1/26/2000	Tip	2	6	55.70	49.72	15.72	29,118	0.889	7,090
11/22/1999	Tip	3	1	58.93	63.11	25.81	47,127	0.889	10,847
12/3/1999	Tip	3	2	58.54	65.81	24.47	45,446	0.891	10,507
12/16/1999	Tip	3	3	55.24	68.49	26.97	45,984	0.888	11,297
1/7/2000	Tip	3	4	57.42	64.42	25.90	46,279	0.888	10,946
1/21/2000	Tip	3	5	56.32	64.44	24.81	43,949	0.892	10,598
11/16/1999	Tip	4	1	61.98	68.42	29.92	56,399	0.881	12,454
12/2/1999	Tip	4	2	55.07	69.78	27.50	46,766	0.887	11,546
12/14/1999	Tip	4	3	57.39	69.78	28.17	50,032	0.885	11,878
1/13/2000	Tip	4	4	56.64	71.21	29.68	51,797	0.882	12,503
1/22/2000	Tip	4	5	56.53	69.82	28.81	50,199	0.885	12,104
1/25/2000	Tip	4	6	56.85	69.82	28.89	50,825	0.883	12,209
11/17/1999	Mid	1	1	60.25	44.56	14.18	27,833	0.882	6,316
12/1/1999	Mid	1	2	57.05	48.31	12.27	25,049	0.883	5,996
12/13/1999	Mid	1	3	55.91	48.31	13.39	25,706	0.885	6,265
1/10/2000	Mid	1	4	54.77	47.04	13.20	24,627	0.885	6,126
1/19/2000	Mid	1	5	54.32	47.03	13.51	24,831	0.886	6,221
11/21/1999	Mid	2	1	60.95	47.21	16.17	31,389	0.885	7,018

12/6/1999	Mid	2	2	58.63	52.36	17.78	33,527	0.889	7,757
12/22/1999	Mid	2	3	55.27	51.02	16.53	30,001	0.891	7,346
1/14/2000	Mid	2	4	54.49	51.04	16.64	29,270	0.891	7,270
1/24/2000	Mid	2	5	57.19	49.73	15.36	29,544	0.888	7,015
1/29/2000	Mid	2	6	53.51	51.04	15.25	27,229	0.889	6,903
11/25/1999	Mid	3	1	59.60	64.38	26.03	48,276	0.888	10,999
11/29/1999	Mid	3	2	58.73	61.73	24.22	44,132	0.892	10,162
12/20/1999	Mid	3	3	54.53	67.14	25.90	44,086	0.889	10,966
1/18/2000	Mid	3	4	54.23	65.85	24.94	42,777	0.883	10,773
1/28/2000	Mid	3	5	56.24	64.44	25.51	44,617	0.890	10,749
11/20/1999	Mid	4	1	59.14	67.38	29.56	52,662	0.883	12,179
12/5/1999	Mid	4	2	56.09	69.78	29.73	50,176	0.884	12,203
12/12/1999	Mid	4	3	55.62	69.78	27.99	48,000	0.887	11,733

Table 1-1

Continued.

Date	Release Position	Flow Scenario	Replicate	Head (ft)	Wicket Gate Angle (°C)	Blade Angle (°C)	Generation (kw)	Efficiency (%)	Discharge (cfs)
1/15/2000	Mid	4	4	54.82	71.22	28.86	48,748	0.884	12,130
1/23/2000	Mid	4	5	57.08	68.52	28.46	50,112	0.886	11,955
11/28/1999	Hub	1	1	56.65	45.34	12.11	24,146	0.883	5,825
12/7/1999	Hub	1	2	59.22	48.31	14.11	28,313	0.885	6,514
12/15/1999	Hub	1	3	55.28	48.31	12.82	24,888	0.886	6,132
1/5/2000	Hub	1	4	56.15	49.73	14.26	27,349	0.887	6,622
11/27/1999	Hub	2	1	53.11	49.35	16.21	26,679	0.890	6,806
12/10/1999	Hub	2	2	57.76	51.04	16.12	30,758	0.889	7,228
12/21/1999	Hub	2	3	54.42	51.00	16.42	29,098	0.891	7,237
1/17/2000	Hub	2	4	54.77	51.04	15.70	28,568	0.890	7,067
11/18/1999	Hub	3	1	60.20	63.02	26.12	48,422	0.889	10,911
12/8/1999	Hub	3	2	57.91	65.83	26.40	47,491	0.886	11,162
12/19/1999	Hub	3	3	53.01	67.14	25.96	42,575	0.888	10,910
1/6/2000	Hub	3	4	54.03	64.42	25.00	41,932	0.891	10,504
11/23/1999	Hub	4	1	59.17	68.46	29.71	53,308	0.883	12,311
12/4/1999	Hub	4	2	60.08	68.48	28.45	53,022	0.884	12,040
12/17/1999	Hub	4	3	55.30	71.20	29.10	49,775	0.884	12,278
1/8/2000	Hub	4	4	55.65	69.82	28.39	48,938	0.885	11,982
Unit 6 (MGR)									
11/26/1999	Tip	1	1	55.70	42.25	16.09	25,238	0.876	6,237
11/30/1999	Tip	1	2	57.78	41.02	16.15	25,752	0.873	6,156
12/11/1999	Tip	1	3	57.07	42.34	16.11	26,340	0.884	6,294
1/11/2000	Tip	1	4	56.17	42.35	16.06	25,878	0.882	6,299
1/27/2000	Tip	1	5	56.76	41.01	16.07	25,256	0.874	6,148
11/24/1999	Tip	2	1	59.13	45.01	16.13	30,106	0.917	6,696
12/9/1999	Tip	2	2	59.34	46.38	16.13	30,962	0.924	6,810
12/18/1999	Tip	2	3	53.80	46.43	16.15	26,845	0.907	6,633
1/12/2000	Tip	2	4	55.46	49.10	16.07	29,752	0.927	6,981
1/20/2000	Tip	2	5	55.74	49.04	16.06	30,133	0.928	7,029
1/26/2000	Tip	2	6	54.79	46.36	18.94	28,630	0.923	6,826

11/22/1999	Tip	3	1	58.98	63.93	24.19	47,166	0.924	10,437
12/3/1999	Tip	3	2	58.87	63.90	24.25	47,266	0.924	10,479
12/16/1999	Tip	3	3	56.92	66.63	24.38	46,345	0.922	10,649
1/7/2000	Tip	3	4	57.77	63.85	24.84	46,959	0.922	10,631
1/21/2000	Tip	3	5	55.30	65.34	22.98	43,027	0.925	10,138
11/16/1999	Tip	4	1	61.93	67.91	28.40	57,040	0.910	12,205
12/2/1999	Tip	4	2	54.92	69.29	26.73	47,054	0.918	11,255
12/14/1999	Tip	4	3	57.26	69.27	27.95	51,308	0.912	11,849
1/13/2000	Tip	4	4	57.50	69.32	27.86	51,930	0.910	11,968
1/22/2000	Tip	4	5	56.11	68.05	27.14	49,158	0.915	11,547
1/25/2000	Tip	4	6	56.77	67.98	27.84	50,600	0.913	11,773
11/17/1999	Mid	1	1	60.65	40.94	16.15	27,773	0.884	6,247
12/1/1999	Mid	1	2	56.84	40.99	16.14	24,973	0.872	6,076
12/13/1999	Mid	1	3	55.64	42.32	16.11	24,948	0.875	6,180

Table 1-1**Continued.**

Date	Release Position	Flow Scenario	Replicate	Head (ft)	Wicket Gate Angle (°C)	Blade Angle (°C)	Generation (kw)	Efficiency (%)	Discharge (cfs)
1/10/2000	Mid	1	4	54.81	42.37	16.15	24,741	0.875	6,221
1/19/2000	Mid	1	5	56.91	42.37	16.06	26,689	0.888	6,363
11/21/1999	Mid	2	1	61.39	45.00	16.18	31,689	0.922	6,751
12/6/1999	Mid	2	2	57.65	47.73	16.12	30,612	0.926	6,915
12/22/1999	Mid	2	3	55.40	49.09	16.47	29,873	0.927	7,015
1/14/2000	Mid	2	4	54.74	49.12	16.07	29,177	0.926	6,941
1/24/2000	Mid	2	5	58.03	46.42	16.04	30,471	0.922	6,868
1/29/2000	Mid	2	6	54.08	47.76	16.10	27,739	0.915	6,760
11/25/1999	Mid	3	1	58.94	62.54	24.67	47,377	0.925	10,480
11/29/1999	Mid	3	2	58.67	62.56	22.84	44,341	0.927	9,831
12/20/1999	Mid	3	3	54.19	66.63	24.70	43,792	0.920	10,593
1/18/2000	Mid	3	4	54.58	65.31	23.45	42,688	0.912	10,341
1/28/2000	Mid	3	5	54.41	63.87	24.70	43,152	0.923	10,371
11/20/1999	Mid	4	1	59.33	66.51	28.31	52,913	0.914	11,769
12/5/1999	Mid	4	2	56.08	67.95	27.61	48,800	0.915	11,468
12/12/1999	Mid	4	3	55.67	67.98	27.19	47,980	0.914	11,371
1/15/2000	Mid	4	4	54.72	69.32	27.70	48,229	0.913	11,642
1/23/2000	Mid	4	5	57.97	67.98	26.86	51,172	0.915	11,634
11/28/1999	Hub	1	1	56.71	40.95	16.11	24,933	0.870	6,094
12/7/1999	Hub	1	2	58.73	41.01	16.12	26,426	0.875	6,201
12/15/1999	Hub	1	3	54.57	42.33	16.15	24,696	0.877	6,223
1/5/2000	Hub	1	4	55.91	43.72	16.09	26,728	0.892	6,463
11/27/1999	Hub	2	1	53.42	47.75	16.16	26,828	0.909	6,663
12/10/1999	Hub	2	2	57.56	46.39	16.15	29,669	0.921	6,749
12/21/1999	Hub	2	3	54.51	50.08	16.14	29,594	0.928	7,055
1/17/2000	Hub	2	4	54.18	49.14	16.07	28,616	0.922	6,913
11/18/1999	Hub	3	1	60.62	62.59	24.64	48,823	0.925	10,499
12/8/1999	Hub	3	2	58.28	65.29	24.68	47,576	0.922	10,677
12/19/1999	Hub	3	3	52.97	66.63	24.62	42,120	0.921	10,411
1/6/2000	Hub	3	4	54.78	63.85	24.01	42,831	0.923	10,222
11/23/1999	Hub	4	1	59.36	67.93	28.22	53,538	0.913	11,913

12/4/1999	Hub	4	2	60.55	67.93	27.06	53,313	0.918	11,566
12/17/1999	Hub	4	3	54.74	69.31	27.77	48,466	0.913	11,695
1/8/2000	Hub	4	4	55.48	69.24	27.79	49,274	0.912	11,743

Table 1-2

Gaps sizes at the hub and blade tip for turbine Unit 5 (existing) at Bonneville Dam, November 1999-January 2000. Gaps eliminated at Unit 6 (MGR). Data supplied by ACOE.

	Flat	Mid	Steep	Condition 1	Condition 2	Condition 3	Condition 4
	(as measured)	(as measured)	(as measured)				
Blade Angle (°):	5.50	18.93	33.70	13.40	16.10	25.60	28.90
Distance from Leading Edge (inch)	Unit 5, Blade Tip Gap						
0	0.7500	2.38	10.25	1.71	2.03	5.93	7.69
6	0.6875	1.88	7.50	1.39	1.62	4.41	5.67
12	0.5000	1.63	5.50	1.16	1.39	3.37	4.24
18	0.3750	1.25	4.00	0.89	1.07	2.49	3.11
24	0.3125	1.00	2.75	0.72	0.86	1.79	2.18
30	0.3125	0.75	1.88	0.57	0.66	1.26	1.51
36	0.3125	0.63	1.44	0.50	0.56	0.99	1.17
42	0.3125	0.63	1.00	0.50	0.56	0.79	0.88
48	0.3125	0.38	0.63	0.35	0.36	0.49	0.54
54	0.3125	0.38	0.56	0.35	0.36	0.46	0.50
60	0.3125	0.38	0.50	0.35	0.36	0.43	0.46
102	0.3750	0.38	0.50	0.38	0.38	0.43	0.46
108	0.5000	0.38	0.63	0.43	0.40	0.49	0.54
114	0.5000	0.44	1.13	0.46	0.45	0.75	0.90
120	0.5000	0.56	1.63	0.54	0.55	1.04	1.28
126	0.6250	0.63	2.56	0.63	0.63	1.50	1.93
132	0.7500	0.88	3.50	0.85	0.85	2.06	2.65
138	0.7500	1.25	4.81	1.14	1.14	2.86	3.65
144	0.7500	1.44	5.81	1.29	1.29	3.41	4.39
150	0.7500	1.69	7.13	1.49	1.49	4.14	5.36
156	0.8750	2.25	8.25	1.96	1.96	4.96	6.30
162	0.8750	2.50	9.75	2.16	2.16	5.77	7.39

168

0.8750

2.88

11.00

2.45

2.45

6.54

8.36

Table 1-2

Continued.

	Flat (as measured)	Mid (as measured)	Steep (as measured)	Condition 1	Condition 2	Condition 3	Condition 4
Blade Angle (°):	5.50	18.93	33.70	13.40	16.10	25.60	28.90
Distance from Leading Edge (inch)	Unit 5, Hub Gap						
0	11.5625	8.3750	3.1250	9.69	9.05	6.00	4.83
4	9.2500	6.7500	2.1875	7.78	7.28	4.69	3.67
8	6.7500	4.9375	1.3125	5.68	5.32	3.30	2.49
12	4.5000	3.3125	0.6250	3.80	3.56	2.10	1.50
16	2.7500	2.2500	0.4375	2.46	2.36	1.43	1.03
20	1.5000	1.5000	0.4375	1.50	1.50	1.02	0.78
24	0.8750	1.0000	0.5000	0.95	0.97	0.77	0.66
27	0.7500	0.7500	0.7500	0.75	0.75	0.75	0.75
31	1.7500	1.7500	1.7500	1.75	1.75	1.75	1.75
Distance from Trailing Edge (inch)	Unit 5, Hub Gap						
0	6.5000	4.0625	0.3125	5.07	4.58	2.37	1.53
4	6.0000	3.7500	0.5625	4.68	4.22	2.31	1.60
8	5.5000	3.3125	0.6250	4.21	3.77	2.10	1.50
12	4.3750	2.6875	0.5000	3.38	3.04	1.70	1.21
16	3.3750	2.3125	0.5000	2.75	2.54	1.49	1.09
20	2.4375	1.5000	0.5000	1.89	1.70	1.05	0.83
24	1.7500	13.7500	0.5000	1.53	1.45	0.98	0.78
28	1.2500	0.9375	0.4375	1.07	1.00	0.71	0.60
30	1.0000	0.8750	0.4375	0.93	0.90	0.68	0.58

Table 2-1

Proposed random testing sequence and sample size distribution of juvenile salmon released via mid-blade, hub, and blade tip of turbine Units 5 (existing) and 6 (MGR) (80 fish split between both turbines at one of four different operating levels) at Bonneville Dam, November 1999-January 2000.

Day	Passage Route and MW/Flow*												Control	TOTAL
	Blade Hub				Blade Tip				Mid-blade					
	1*	2*	3*	4*	1*	2*	3*	4*	1*	2*	3*	4*		
1								80					40	120
2									80				40	120
3			80										40	120
4												80	40	120
5									80				40	120
6							80						40	120
7				80									40	120
8						80							40	120
9											80		40	120
10					80								40	120
11		80											40	120
12	80												40	120
<i>Subtotal</i>	80	80	80	80	80	80	80	80	80	80	80	80	480	1,440
13											80		40	120
14					80								40	120
15									80				40	120
16							80						40	120
17							80						40	120
18				80									40	120
19											80		40	120
20									80				40	120
21	80												40	120
22			80										40	120
23						80							40	120

24		80												40	120
<i>Subtotal</i>	80	80	80	80	80	80	80	80	80	80	80	80	80	480	1,440
25					80									40	120
26													80	40	120
27									80					40	120
28								80						40	120
29	80													40	120
30								80						40	120
31				80										40	120

Table 2-1

Continued.

Day	Passage Route and MW/Flow*												Control	TOTAL	
	Blade Hub				Blade Tip				Mid-blade						
	1*	2*	3*	4*	1*	2*	3*	4*	1*	2*	3*	4*			
32						80								40	120
33			80											40	120
34											80			40	120
35		80												40	120
36										80				40	120
<i>Subtotal</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>		<i>480</i>	<i>1,440</i>
37	80													40	120
38			80											40	120
39							80							40	120
40						80								40	120
41									80					40	120
42					80									40	120
43										80				40	120
44				80										40	120
45							80							40	120
46												80		40	120
47		80												40	120
48											80			40	120
<i>Subtotal</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>	<i>80</i>		<i>480</i>	<i>1,440</i>
49					80									40	120
50		80												40	120
51									80					40	120
52	80													40	120
53					80									40	120
54											80			40	120
55												80		40	120

56								80						40	120
57			80											40	120
58										80				40	120
59								80						40	120
60				80										40	120
	80	80	80	80	80	80	80	80	80	80	80	80	80	480	1,440
TOTAL	400	400	400	400	400	400	400	400	400	400	400	400	400	2,400	7,200

* Four separate MW/flow operating conditions to be tested.

Table 2-2

Actual random testing sequence and sample size distribution of actual number of juvenile salmon released via mid-blade, hub, and blade tip of turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.

Day	Passage Route and MW/Flow*												Control	TOTAL	
	Blade Hub				Blade Tip				Mid-blade						
	1*	2*	3*	4*	1*	2*	3*	4*	1*	2*	3*	4*			
16 Nov								60						20	80
17 Nov									80					40	120
18 Nov			80											40	120
20 Nov												81		40	121
21 Nov									83					40	123
22 Nov							83							40	123
23 Nov				80										40	120
24 Nov						70								40	110
25 Nov												80		40	120
26 Nov					80									40	120
27 Nov		80												40	120
28 Nov	81													40	121
Subtotal	81	80	80	80	80	70	83	60	80	83	80	81		460	1,398
29 Nov												80		40	120
30 Nov					91									40	131
1 Dec									80					40	120
2 Dec								102						44	146
3 Dec							83							40	123
4 Dec				80										40	120
5 Dec												82		40	122
6 Dec										84				40	124
7 Dec	82													40	122
8 Dec			80											40	120
9 Dec						96								40	136

10 Dec		80												40	120
<i>Subtotal</i>	82	80	80	80	91	96	83	102	80	84	80	82		484	1,504
11 Dec					90									30	120
12 Dec													91	30	121
13 Dec									90					30	120
14 Dec								92						30	122
15 Dec	92													30	122
16 Dec								95						30	125
17 Dec				91										30	121

Table 2-2

Continued.

Day	Passage Route and MW/Flow*												Control	TOTAL	
	Blade Hub				Blade Tip				Mid-blade						
	1*	2*	3*	4*	1*	2*	3*	4*	1*	2*	3*	4*			
18 Dec						93								30	123
19 Dec			90											30	120
20 Dec											90			30	120
21 Dec		90												30	120
22 Dec										93				30	123
Subtotal	92	90	90	91	90	93	95	92	90	93	90	91		360	1,457
5 Jan	91													30	121
6 Jan			90											30	120
7 Jan							98							30	128
8 Jan				90										30	120
10 Jan									92					25	117
11 Jan					94									30	124
12 Jan						95								30	125
13 Jan								96						30	126
14 Jan										93				30	123
15 Jan												91		30	121
17 Jan		90												30	120
18 Jan											90			30	120
Subtotal	91	90	90	90	94	95	98	96	92	93	90	91		355	1,465
19 Jan									95					30	125
20 Jan					94									30	124
21 Jan							96							30	126
22 Jan								92						30	122
23 Jan												93		30	123
24 Jan											92			30	122
25 Jan							95							30	125

26 Jan														30	120
27 Jan						94								30	124
28 Jan												92		30	122
29 Jan											95			30	125
	0	0	0	0	94	94	186	187	95	95	184	93		330	1,358
TOTAL	346	340	340	341	449	448	545	537	437	448	524	438		1,989	7,182

* Four separate MW/flow operating conditions tested.

Table 2-3

Required sample sizes (R) if control survival (S) is 0.99, 0.98, or 0.95, recapture rate (P) is 0.98 or 0.95, and expected survival probability τ of treatment fish passed is 0.95, 0.97, and 0.99 to achieve a precision level ϵ of ± 0.03 , 90% of the time.

Control Survival (S)	Expected Survival (τ)		
	0.95	0.97	0.99
<i>Recapture Rate=0.98</i>			
0.99	314	264	212
0.98	372	324	274
0.95	556	513	469
<i>Recapture Rate=0.95</i>			
0.99	495	451	405
0.98	556	513	469
0.95	745	708	670

Table 2-3

Required sample sizes (R) if control survival (S) is 0.99, 0.98, or 0.95, recapture rate (P) is 0.98 or 0.95, and expected survival probability τ of treatment fish passed is 0.95, 0.97, and 0.99 to achieve a precision level ϵ of ± 0.03 , 90% of the time.

Control Survival (S)	Expected Survival (τ)		
	0.95	0.97	0.99
<i>Recapture Rate=0.98</i>			
0.99	314	264	212
0.98	372	324	274
0.95	556	513	469
<i>Recapture Rate=0.95</i>			
0.99	495	451	405
0.98	556	513	469
0.95	745	708	670

Table 2-4

Observed recapture and survival rates of juvenile salmonids passed through Kaplan type turbines at hydro dams on the Columbia and Snake Rivers
All estimates based on balloon tag-recapture technique and portray only direct effects of passage at given operating conditions and entrainment depth.

Station	Species	Average Size (mm)	Sample Size		Recapture Rate (%)		Control Survival	Estimated Survival Percent	Precision (ϵ) ³
			Treatment	Control	Treatment	Control			
<i>Rocky Reach</i>									
1993 Unit 3 (10 ft, 50-100 MW)	Chinook salmon	162	350	350	95	99	98	93.0	0.026
Unit 3 (30 ft, 50-100 MW)	Chinook salmon	162	250	250	96	99	98	94.7	0.025
Unit 8 (10 ft, 130 MW)	Chinook salmon	113	265	265	86	89	89	96.1	0.043
1996 Unit 5 (10 ft, 60 MW)	Chinook salmon	184	75	95	99	100	100	97.3	0.031
Unit 5 (10 ft, 80 MW)	Chinook salmon	184	75	115	99	99	98	98.2	0.035
Unit 5 (10 ft, 100 MW)	Chinook salmon	184	85	90	98	98	94	96.4	0.043
Unit 5 (30 ft, 60 MW)	Chinook salmon	184	71	65	96	95	94	91.3	0.066
Unit 5 (30 ft, 80 MW)	Chinook salmon	184	85	80	96	98	96	98.7	0.049
Unit 5 (30 ft, 100 MW)	Chinook salmon	184	85	75	96	100	100	94.1	0.043
Unit 6 (10 ft, 60 MW) ¹	Chinook salmon	184	125	95	96	100	100	88.8	0.046
Unit 6 (10 ft, 80 MW)	Chinook salmon	184	165	115	99	99	98	97.2	0.028
Unit 6 (10 ft, 100 MW)	Chinook salmon	184	130	90	97	98	94	96.5	0.036
Unit 6 (30 ft, 60 MW)	Chinook salmon	184	75	65	96	95	94	94.8	0.054
Unit 6 (30 ft, 80 MW)	Chinook salmon	184	85	80	99	98	96	96.6	0.053
Unit 6 (30 ft, 100 MW)	Chinook salmon	184	75	75	97	100	100	96.0	0.046
<i>Wanapum Dam</i>									
1996 Unit 9 (10 ft, 9,000 cfs)	Coho salmon	154	160	160	92	99	98	89.7	0.044
Unit 9 (10 ft, 11,000 cfs)	Coho salmon	154	160	160	93	97	96	92.4	0.038
Unit 9 (10 ft, 15,000 cfs)	Coho salmon	154	160	160	94	98	98	94.8	0.036
Unit 9 (10 ft, 17,000 cfs)	Coho salmon	154	160	160	88	99	99	88.5	0.043
Unit 9 (30 ft, 9,000 cfs)	Coho salmon	154	160	160	96	99	98	94.9	0.033
Unit 9 (30 ft, 11,000 cfs)	Coho salmon	154	160	160	96	97	96	96.8	0.028
Unit 9 (30 ft, 15,000 cfs)	Coho salmon	154	160	160	98	98	98	100.0	0.021
Unit 9 (30 ft, 17,000 cfs)	Coho salmon	154	160	160	96	99	99	96.8	0.023

Table 2-4

Continued.

Station	Species	Average Size (mm)	Sample Size		Recapture Rate (%)		Control Survival	Estimated Survival Percent	Precision (ε)
			Treatment	Control	Treatment	Control			
<i>Lower Granite</i> ²									
1994 Intake B (30 ft, 18,000 cfs)	Chinook salmon	134	840	821	94	99	89	93.4	0.031
1995 Intake A (10 ft, 18,000 cfs)	Chinook salmon	150	320	320	97	99	92	95.0	0.023
Intake A (40 ft, 13,000 cfs)	Chinook salmon	150	250	250	96	100	93	97.2	0.020
Intake A (40 ft, 18,000 cfs)	Chinook salmon	150	320	320	97	99	92	93.6	0.043
Intake A (40 ft, 19,500 cfs)	Chinook salmon	150	300	300	97	99	97	94.1	0.031
Intake B (40 ft, 18,000 cfs)	Chinook salmon	150	320	320	98	98	90	94.0	0.038
Intake C (40 ft, 18,000 cfs)	Chinook salmon	150	320	320	98	98	90	95.4	0.038
<i>Rock Island</i>									
1997 Powerhouse I-Nagler (12 ft, 8,000 cfs)	Chinook salmon	179	140	110	99	100	100	93.6	0.035
Powerhouse I-Nagler (18 ft, 8,000 cfs)	Chinook salmon	179	139	120	99	100	100	92.8	0.036
Powerhouse I-Kaplan (12 ft, 8,000 cfs)	Chinook salmon	179	140	110	99	100	100	97.1	0.023
Powerhouse I-Kaplan (18 ft, 8,000 cfs)	Chinook salmon	179	141	120	98	100	100	95.0	0.031
Powerhouse II-Bulb (5 ft, 17,000 cfs)	Chinook salmon	179	140	110	100	100	100	96.4	0.026
Powerhouse II-Bulb (25 ft, 17,000 cfs)	Chinook salmon	179	140	110	99	100	100	95.0	0.030

1 - Unit 6 new turbine design.

2 - Reported 120 h survival for Lower Granite; others 48 h survival. Lower Granite turbine equipped with fish guidance screens.

3 - Shaded values reflect the 90% CI±≤4%.

Table 2-5

Condition codes assigned to fish and dislodged balloon tags for fish passage survival evaluations

FISH CODES

A	No visible marks on fish
B	Flesh tear at tag site(s)
C	Minor scale loss, 3 to 20% (%s for entire body in immediate recovery; for detailed injury examination %s are for section only)
D	Major scale loss, >20%
E	Laceration(s); tear(s) on body
F	Severed body parts
G	Hemorrhaging, bruised
H	Stressed (lethargic, swimming poorly or sporadically)
I	Spasmodic movement of body
J	Very weak, barely gilling, died within 60 minutes of recovery
K	Failed to enter system
L	Fish likely preyed on based on telemetry, and/or circumstances relative to Turb'N recapture
M	Substantial bleeding at tag site
N	Bulging or missing eye(s)
P	Observed predator attack or marks indicative of predator
Q	Other information
R	Necropsied, no obvious injuries
S	Necropsied, internal injuries observed
T	Trapped inside tunnel/gate well
V	Fins damaged (ripped, split, torn) or pulled from origin
W	Abrasion/scrape
X	No recovery information at all; fish remains unrecovered
Z	Radio telemetry or other information; fish remains unrecovered

DISSECTION CODES

B	Swim bladder ruptured or expanded
D	Kidneys damaged (hemorrhaging)
E	Broken bones obvious
F	Hemorrhaging internally
L	Organ displacement
N	Heart damage, ruptured, hemorrhaging, etc.
O	Liver damage, ruptured, hemorrhaging, etc.

FISH SURVIVAL CODES

1	Alive when recaptured or not recaptured - assigned <u>alive</u>
2	Dead when recaptured or not recaptured - assigned <u>dead</u>
3	Live/Dead status unknown

TURB'N TAG CODES

A	Fully inflated
B	Partially inflated
C	Pinhole, leaking
D	Burst
E	Not inflated at all
X	Detached from fish

Table 2-6

Number of fish trapped in Units 5 (existing) and 6 (MGR) tailwater stop log slots at Bonneville Dam, November 1999-January 2000.

	Blade Tip	Mid-blade	Hub	Total
<i>Unit 5 (Existing)</i>				
Number released *	992	926	682	2,600
Number entrapped	42	22	1	65
Number alive	20	8	0	28
Number dead	2	1	0	3
Number not recaptured	20	13	1	34
<i>Unit 6 (MGR)</i>				
Number released *	987	921	685	2,593
Number entrapped	33	18	5	56
Number alive	16	7	1	24
Number dead	0	2	0	2
Number not recaptured	17	9	4	30

* Some trapped fish were removed from analysis due to their inaccessibility, these fish were replaced to achieve the desired sample size.

Table 3-1

Summary of tag-recapture data at Bonneville Dam for turbine Units 5 (existing) and 6 (MGR) at various turbine locations and discharges, November 1999-January 2000. Proportions are given in parentheses.

	Unit 5 (Existing)	Unit 6 (MGR)	Control
<i>Tip, Power Level 1 releases</i>			
Number Released	225	221	170
Number Alive	211 (0.938)	209 (0.946)	169 (0.994)
Number Dead	5 (0.022)	5 (0.023)	0 (0.000)
No. Assigned Dead	5 (0.022)	5 (0.023)	0 (0.000)
Unknown	4 (0.018)	2 (0.009)	1 (0.006)
Held	211 (0.938)	209 (0.946)	169 (0.994)
48 h	209 (0.929)	206 (0.932)	165 (0.971)
<i>Tip, Power Level 2 releases</i>			
Number Released	264	266	200
Number Alive	244 (0.924)	250 (0.940)	197 (0.985)
Number Dead	11 (0.042)	3 (0.011)	0 (0.000)
No. Assigned Dead	8 (0.030)	11 (0.041)	2 (0.010)
Unknown	1 (0.004)	2 (0.008)	1 (0.005)
Held	213 (0.807)	218 (0.820)	157 (0.785)
48 h	208 (0.788)	214 (0.805)	156 (0.780)
<i>Tip, Power Level 3 releases</i>			
Number Released	217	218	170
Number Alive	207 (0.954)	211 (0.968)	169 (0.994)
Number Dead	4 (0.018)	3 (0.014)	0 (0.000)
No. Assigned Dead	6 (0.028)	3 (0.014)	1 (0.006)
Unknown	0 (0.000)	1 (0.005)	0 (0.000)
Held	207 (0.954)	211 (0.968)	169 (0.994)
48 h	204 (0.940)	209 (0.959)	167 (0.982)
<i>Tip, Power Level 4 releases</i>			
Number Released	260	258	184
Number Alive	234 (0.900)	242 (0.938)	182 (0.989)
Number Dead	12 (0.046)	6 (0.023)	0 (0.000)
No. Assigned Dead	10 (0.038)	7 (0.027)	1 (0.005)
Unknown	4 (0.015)	3 (0.012)	1 (0.005)
Held	234 (0.900)	242 (0.938)	182 (0.989)
48 h	232 (0.892)	238 (0.922)	181 (0.984)

Table 3-1

Continued.

	Unit 5 (Existing)	Unit 6 (MGR)	Control
<i>Mid-blade, Power Level 1 releases</i>			
Number Released	219	214	165
Number Alive	209 (0.954)	208 (0.972)	163 (0.988)
Number Dead	6 (0.027)	0 (0.000)	0 (0.000)
No. Assigned Dead	3 (0.014)	5 (0.023)	2 (0.012)
Unknown	1 (0.005)	1 (0.005)	0 (0.000)
Held	170 (0.776)	168 (0.785)	125 (0.758)
48 h	167 (0.763)	166 (0.776)	124 (0.752)
<i>Mid-blade, Power Level 2 releases</i>			
Number Released	261	258	200
Number Alive	248 (0.950)	246 (0.953)	198 (0.990)
Number Dead	7 (0.027)	4 (0.016)	0 (0.000)
No. Assigned Dead	4 (0.015)	8 (0.031)	0 (0.000)
Unknown	2 (0.008)	0 (0.000)	2 (0.010)
Held	248 (0.950)	246 (0.953)	198 (0.990)
48 h	245 (0.939)	242 (0.938)	198 (0.990)
<i>Mid-blade, Power Level 3 releases</i>			
Number Released	215	216	170
Number Alive	210 (0.977)	209 (0.968)	169 (0.994)
Number Dead	3 (0.014)	2 (0.009)	0 (0.000)
No. Assigned Dead	1 (0.005)	5 (0.023)	0 (0.000)
Unknown	1 (0.005)	0 (0.000)	1 (0.006)
Held	210 (0.977)	209 (0.968)	169 (0.994)
48 h	205 (0.953)	204 (0.944)	165 (0.971)
<i>Mid-blade, Power Level 4 releases</i>			
Number Released	216	215	170
Number Alive	207 (0.958)	208 (0.967)	166 (0.976)
Number Dead	3 (0.014)	4 (0.019)	0 (0.000)
No. Assigned Dead	6 (0.028)	2 (0.009)	4 (0.024)
Unknown	0 (0.000)	1 (0.005)	0 (0.000)
Held	207 (0.958)	208 (0.967)	166 (0.976)
48 h	206 (0.954)	204 (0.949)	166 (0.976)

Table 3-1

Continued.

	Unit 5 (Existing)	Unit 6 (MGR)	Control
<i>Hub, Power Level 1 releases</i>			
Number Released	171	171	140
Number Alive	167 (0.977)	167 (0.977)	138 (0.986)
Number Dead	1 (0.006)	2 (0.012)	0 (0.000)
No. Assigned Dead	2 (0.012)	2 (0.012)	2 (0.014)
Unknown	1 (0.006)	0 (0.000)	0 (0.000)
Held	167 (0.977)	167 (0.977)	138 (0.986)
48 h	166 (0.971)	165 (0.965)	138 (0.986)
<i>Hub, Power Level 2 releases</i>			
Number Released	170	170	140
Number Alive	170 (0.994)	164 (0.959)	140 (1.000)
Number Dead	0 (0.000)	3 (0.018)	0 (0.000)
No. Assigned Dead	0 (0.000)	2 (0.012)	0 (0.000)
Unknown	0 (0.000)	1 (0.006)	0 (0.000)
Held	170 (0.994)	164 (0.959)	140 (1.000)
48 h	170 (0.994)	164 (0.959)	139 (0.993)
<i>Hub, Power Level 3 releases</i>			
Number Released	170	170	140
Number Alive	163 (0.959)	166 (0.976)	139 (0.993)
Number Dead	3 (0.018)	1 (0.006)	0 (0.000)
No. Assigned Dead	4 (0.024)	3 (0.018)	1 (0.007)
Unknown	0 (0.000)	0 (0.000)	0 (0.000)
Held	163 (0.959)	166 (0.976)	139 (0.993)
48 h	162 (0.953)	164 (0.965)	138 (0.986)
<i>Hub, Power Level 4 releases</i>			
Number Released	170	170	140
Number Alive	169 (0.994)	165 (0.971)	140 (1.000)
Number Dead	1 (0.006)	0 (0.000)	0 (0.000)
No. Assigned Dead	0 (0.000)	5 (0.029)	0 (0.000)
Unknown	0 (0.000)	0 (0.000)	0 (0.000)
Held	169 (0.994)	165 (0.971)	140 (1.000)
48 h	169 (0.994)	164 (0.965)	140 (1.000)

Table 3-2

Estimated absolute survival probabilities (1 h and 48 h), standard errors (SE¹ in parentheses, of juvenile chinook salmon in passage through three locations (blade tip, mid-blade, and hub) under four power levels of Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999 to January 2000.

Power Level	Release Location	Survival Probability	
		1 h	48 h
<i>Unit 5 (Existing)</i>			
1	Tip	0.947 (0.0164) ¹	0.945 (0.0177)
	Mid	0.964 (0.0144)	0.949 (0.0192)
	Hub	0.986 (0.0119)	0.988 (0.0134)*
2	Tip	0.933 (0.0166)	0.920 (0.0199)
	Mid	0.959 (0.0137)	0.955 (0.0154)
	Hub	1.009 (0.0774)	1.017 (0.0780)
3	Tip	0.963 (0.0145)	0.957 (0.0166)
	Mid	0.986 (0.0106)	0.970 (0.0149)
	Hub	0.968 (0.0155)	0.970 (0.0168)*
4	Tip	0.909 (0.0189)	0.908 (0.0197)
	Mid	0.968 (0.0139)	0.971 (0.0148)*
	Hub	1.004 (0.0063)	1.012 (0.0066)*
<i>Unit 6 (MGR)</i>			
1	Tip	0.955 (0.0155)	0.948 (0.0174)
	Mid	0.981 (0.0116)	0.971 (0.0164)
	Hub	0.986 (0.0118)	0.982 (0.0146)
2	Tip	0.949 (0.0149)	0.943 (0.0177)
	Mid	0.963 (0.0134)	0.954 (0.0155)
	Hub	0.974 (0.0144)	0.982 (0.0147)*
3	Tip	0.977 (0.0122)	0.976 (0.0140)
	Mid	0.977 (0.0123)	0.961 (0.0161)
	Hub	0.986 (0.0119)	0.982 (0.0147)
4	Tip	0.947 (0.0153)	0.939 (0.0172)
	Mid	0.977 (0.0124)	0.966 (0.0155)
	Hub	0.980 (0.0132)	0.982 (0.0147)*

* Survival probabilities established at 1 h because 48 h survival cannot exceed 1 h survival.

¹ Multiply standard errors (SE) by 1.645 to obtain 90% confidence intervals; multiply by 1.96 to get 95% confidence intervals. As an example, Unit 5 blade tip 90% confidence intervals on 1 h survival $0.947 \pm (0.0164 \times 1.645) = \pm 0.027$.

Table 3-3

Results of regression analysis of absolute survival versus turbine operating conditions, Bonneville Dam, November 1999-January 2000.

Turbine	Release Location	Independent Variable	Linear		Quadratic		
			P-Value	R ²	P-Value	R ²	
5	Tip	Discharge	0.7922	0.0037	1	< 0.0001	
		Head	1	< 0.0001	0.9129	0.0101	
		Wicket Gate	0.8025	0.0034	0.7949	0.0252	
		Blade Angle	0.7417	0.0059	0.9643	0.004	
		Generation	0.8258	0.026	1	< 0.0001	
		Efficiency	0.6662	0.01	0.977	0.0026	
	Mid	Discharge	0.6251	0.0135	0.7636	0.0312	
		Head	0.5906	0.0164	0.8044	0.0253	
		Wicket Gate	0.6239	0.0136	0.8706	0.0162	
		Blade Angle	0.6268	0.0134	0.6857	0.0434	
		Generation	0.6342	0.0128	0.5064	0.0769	
		Efficiency	0.971	0.0001	0.9691	0.0037	
	Hub	Discharge	0.6686	0.0135	0.8308	0.0281	
		Head	0.1348	0.1528	0.3391	0.1533	
		Wicket Gate	0.797	0.0049	0.8579	0.0233	
		Blade Angle	0.6653	0.0138	0.8999	0.0161	
		Generation	0.5177	0.0305	0.8173	0.0306	
		Efficiency	0.8357	0.0032	0.9782	0.0034	
	6	Tip	Discharge	1	< 0.0001	0.6079	0.0538
			Head	1	< 0.0001	1	< 0.0001
			Wicket Gate	0.8851	0.0011	0.8548	0.0173
Blade Angle			1	< 0.0001	0.8783	0.0143	
Generation			1	< 0.0001	0.5423	0.0657	
Efficiency			0.7089	0.0075	0.9379	0.0071	
Mid		Discharge	1	< 0.0001	0.9623	0.0045	
		Head	0.8598	0.0018	0.9721	0.0033	
		Wicket Gate	1	< 0.0001	0.6909	0.0426	
		Blade Angle	0.9252	0.0005	0.9972	0.0003	
		Generation	1	< 0.0001	0.9851	0.0018	
		Efficiency	0.5629	0.0189	0.8645	0.017	
Hub		Discharge	1	< 0.0001	0.9963	0.0006	
		Head	0.5281	0.029	0.603	0.0749	
		Wicket Gate	1	< 0.0001	1	< 0.0001	
		Blade Angle	1	< 0.0001	0.9289	0.0113	
		Generation	0.8747	0.0018	0.9056	0.0151	
		Efficiency	0.9708	0.0001	0.9578	0.0066	

Table 3-4

Estimated safe fish passage survival probabilities (48 h), with standard errors in parentheses, of juvenile chinook salmon in passage through three locations and four power levels of Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000. Safe passage assigned to fish without mortality, injury, and/or loss of equilibrium.

	Power Level			
	1	2	3	4
<i>Unit 5 (Existing)</i>				
Blade tip	0.918 (0.023)	0.915 (0.021)	0.947 (0.018)	0.900 (0.022)
Mid-blade	0.948 (0.020)	0.948 (0.017)	0.960 (0.017)	0.956 (0.017)
Hub	0.992 (0.014)	0.998 (0.011)	0.968 (0.017)	0.998 (0.011)
<i>Unit 6 (MGR)</i>				
Blade tip	0.948 (0.019)	0.934 (0.019)	0.970 (0.015)	0.931 (0.019)
Mid-blade	0.952 (0.020)	0.947 (0.016)	0.951 (0.017)	0.965 (0.016)
Hub	0.956 (0.019)	0.962 (0.019)	0.986 (0.014)	0.974 (0.016)

Table 3-5

Comparison of 48 h absolute survival, safe passage, and relative survival probabilities of juvenile chinook salmon passed through Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000. Safe passage encompasses live fish without injury and/or loss of equilibrium.

	Absolute Survival	Standard Error*	Safe Passage	Standard Error		Relative Survival	Standard Error
<i>Unit 5 (Existing)</i>							
Tip	0.931	(0.0100)	0.919	(0.0110)	Tip:Mid-blade	0.970	(0.0125)
Mid-blade	0.962	(0.0080)	0.953	(0.0091)	Hub:Mid-blade	1.040	(0.0103)
Hub	0.994	(0.0060)	0.989	(0.0072)			
<i>Unit 6 (MGR)</i>							
Tip	0.950	(0.0080)	0.945	(0.0098)	Tip:Mid-blade	0.994	(0.0114)
Mid-blade	0.961	(0.0080)	0.953	(0.0090)	Hub:Mid-blade	1.020	(0.0110)
Hub	0.980	(0.0080)	0.969	(0.0088)			

Table 3-6

Estimated 48 h relative survival probabilities and standard errors for juvenile chinook salmon in passage through the blade tip and hub regions of turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000. Estimates are based on generalized model (H_A:P_A ne P_D) for Unit 5 and reduced model (H₀:P_A=P_D) for Unit 6.

	Survival Probability	Standard Error*	P-value (H ₀ :R=1)
<i>Unit 5 (Existing)</i>			
Tip:Mid-blade	0.970	0.0125	0.0120
Hub:Mid-blade	1.040	0.0103	0.0004
<i>Unit 6 (MGR)</i>			
Tip:Mid-blade	0.994	0.0114	0.6233
Hub:Mid-blade	1.020	0.0110	0.0763

* Multiply standard errors (SE) by 1.645 to obtain 90% confidence intervals; multiply SE by 1.96 to obtain 95% confidence intervals. As an example, Unit 5 tip:mid-blade 90% confidence interval= 0.97±(1.0125*1.645=±1.666).

Table 3-7

Summary of loss of equilibrium and visible injuries to fish released through Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000. Some fish had multiple injuries.

	Number Released	Number Examined	L.O.E.*		Visible Injury		Injury Type					
			Number	Percent	Number	Percent	Decapitation/ Severed Body	External Hemorrhage/ Scrape	Eye Damage/ Hemorrhage	Cuts/ Tears/ Lacerations	Internal Damage/ Hemorrhage	Gill Hemorrhage
<i>Unit 5 (Existing)</i>												
Blade tip	966	928	16	1.7	36	3.9	9	4	18	10	10	7
Mid-blade	911	894	14	1.6	21	2.3	11	3	5	3	2	4
Hub	681	674	11	1.6	5	0.7	2	1	0	1	1	2
Totals	2,558	2,496	41	1.6	62	2.5	22	8	23	14	13	13
<i>Unit 6 (MGR)</i>												
Blade tip	963	929	12	1.3	18	1.9	10	2	4	2	4	2
Mid-blade	903	881	14	1.6	9	1.0	5	0	2	3	2	1
Hub	681	668	13	1.9	7	1.0	1	0	3	1	3	3
Totals	2,547	2,478	39	1.6	34	1.4	16	2	9	6	9	6
<i>All Controls</i>												
Totals	1,989	1,970	8	0.4	4	0.2	0	1	0	0	3	0

* Fish with only loss of equilibrium, no visible internal or external injuries.

Table 3-8

Summary of fish with visible injuries released through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.

Power Level	Injury			
	Blade Tip	Mid-blade	Hub	Combined
<i>Unit 5 (Existing)</i>				
1	3.2%	2.8%	0.6%	2.3%
2	4.7%	3.5%	0.0%	3.1%
3	2.8%	1.9%	1.8%	2.2%
4	4.5%	1.0%	0.6%	2.2%
<i>Unit 6 (MGR)</i>				
1	3.3%	0.0%	1.2%	1.5%
2	1.2%	1.6%	1.8%	1.5%
3	0.9%	0.5%	0.6%	0.7%
4	2.4%	1.9%	0.6%	1.8%

Table 3-9

Comparison of likely fish injury source and passage routes of fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.

Power Level	Release Location	Number Injured	Shear	Mechanical	Pressure	Combination
<i>Unit 5 (Existing)</i>						
1	Tip	7	6 (85.7%)	1 (14.3%)	0 (0.0%)	0 (0.0%)
2		12	2 (16.7%)	6 (50.0%)	2 (16.7%)	2 (16.7%)
3		6	1 (16.7%)	1 (16.7%)	4 (66.7%)	0 (0.0%)
4		11	4 (36.4%)	5 (45.5%)	0 (0.0%)	2 (18.2%)
	<i>Combined</i>	<i>36</i>	<i>13 (36.1%)</i>	<i>13 (36.1%)</i>	<i>6 (16.7%)</i>	<i>4 (11.1%)</i>
1	Mid	6	2 (33.3%)	2 (33.3%)	2 (33.3%)	2 (33.3%)
2		9	3 (33.3%)	3 (33.3%)	0 (0.0%)	1 (11.1%)
3		4	2 (50.0%)	2 (50.0%)	0 (0.0%)	0 (0.0%)
4		2	0 (0.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)
	<i>Combined</i>	<i>21</i>	<i>7 (33.3%)</i>	<i>9 (42.9%)</i>	<i>2 (9.5%)</i>	<i>3 (14.3%)</i>
1	Hub	1	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
2		0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
3		3	1 (33.3%)	2 (66.7%)	0 (0.0%)	0 (0.0%)
4		1	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
	<i>Combined</i>	<i>5</i>	<i>2 (40.0%)</i>	<i>2 (40.0%)</i>	<i>1 (20.0%)</i>	<i>0 (0.0%)</i>
	<i>Overall Unit 5</i>	<i>62</i>	<i>22 (35.5%)</i>	<i>24 (38.7%)</i>	<i>9 (14.5%)</i>	<i>7 (11.3%)</i>
<i>Unit 6 (MGR)</i>						
1	Tip	7	3 (42.9%)	3 (42.9%)	1 (14.3%)	0 (0.0%)
2		3	0 (0.0%)	3 (100.0%)	0 (0.0%)	0 (0.0%)
3		2	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
4		6	1 (16.7%)	2 (33.3%)	1 (16.7%)	2 (33.3%)
	<i>Combined</i>	<i>18</i>	<i>4 (22.2%)</i>	<i>9 (50.0%)</i>	<i>3 (16.7%)</i>	<i>2 (11.1%)</i>
1	Mid	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
2		4	3 (75.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)
3		1	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
4		4	3 (75.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)
	<i>Combined</i>	<i>9</i>	<i>6 (66.7%)</i>	<i>2 (22.2%)</i>	<i>0 (0.0%)</i>	<i>1 (11.1%)</i>
1	Hub	2	1 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)
2		3	2 (66.7%)	0 (0.0%)	1 (33.3%)	0 (0.0%)
3		1	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
4		1	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
	<i>Combined</i>	<i>7</i>	<i>4 (57.1%)</i>	<i>0 (0.0%)</i>	<i>3 (42.9%)</i>	<i>0 (0.0%)</i>
	<i>Overall Unit 6</i>	<i>34</i>	<i>14 (41.2%)</i>	<i>11 (32.4%)</i>	<i>6 (17.6%)</i>	<i>3 (8.8%)</i>

Table 3-10

Comparison of likely fish injury source and power level of fish passed through turbine Units 5 (existing) and 6 (MGR) at Bonneville Dam, November 1999-January 2000.

Power Level	Release Location	Number Injured	Shear	Mechanical	Pressure	Combination
<i>Unit 5 (Existing)</i>						
1	Tip	7	6 (85.7%)	1 (14.3%)	0 (0.0%)	0 (0.0%)
	Mid	6	2 (33.3%)	2 (33.3%)	0 (0.0%)	2 (33.3%)
	Hub	1	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	<i>Combined</i>	<i>14</i>	<i>9 (64.3%)</i>	<i>3 (21.4%)</i>	<i>0 (0.0%)</i>	<i>2 (14.3%)</i>
2	Tip	12	2 (16.7%)	6 (50.0%)	2 (16.7%)	2 (16.7%)
	Mid	9	3 (33.3%)	3 (33.3%)	2 (22.2%)	1 (11.1%)
	Hub	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	<i>Combined</i>	<i>21</i>	<i>5 (23.8%)</i>	<i>9 (42.9%)</i>	<i>4 (19.0%)</i>	<i>3 (14.3%)</i>
3	Tip	6	1 (16.7%)	1 (16.7%)	4 (66.7%)	0 (0.0%)
	Mid	4	2 (50.0%)	2 (50.0%)	0 (0.0%)	0 (0.0%)
	Hub	3	1 (33.3%)	2 (66.7%)	0 (0.0%)	0 (0.0%)
	<i>Combined</i>	<i>13</i>	<i>4 (30.8%)</i>	<i>5 (38.5%)</i>	<i>4 (30.8%)</i>	<i>0 (0.0%)</i>
4	Tip	11	4 (36.4%)	5 (45.5%)	0 (0.0%)	2 (18.2%)
	Mid	2	0 (0.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)
	Hub	1	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
	<i>Combined</i>	<i>14</i>	<i>4 (28.6%)</i>	<i>7 (50.0%)</i>	<i>1 (7.1%)</i>	<i>2 (14.3%)</i>
<i>Overall Unit 5</i>	<i>62</i>	<i>22 (35.5%)</i>	<i>24 (38.7%)</i>	<i>9 (14.5%)</i>	<i>7 (11.3%)</i>	
<i>Unit 6 (MGR)</i>						
1	Tip	7	3 (42.9%)	3 (42.9%)	1 (14.3%)	0 (0.0%)
	Mid	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Hub	2	1 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)
	<i>Combined</i>	<i>9</i>	<i>4 (44.4%)</i>	<i>3 (33.3%)</i>	<i>2 (22.2%)</i>	<i>0 (0.0%)</i>
2	Tip	3	0 (0.0%)	3 (100.0%)	0 (0.0%)	0 (0.0%)
	Mid	4	3 (75.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)
	Hub	3	2 (66.7%)	0 (0.0%)	1 (33.3%)	0 (0.0%)
	<i>Combined</i>	<i>10</i>	<i>5 (50.0%)</i>	<i>3 (30.0%)</i>	<i>1 (10.0%)</i>	<i>1 (10.0%)</i>
3	Tip	2	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
	Mid	1	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
	Hub	1	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	<i>Combined</i>	<i>4</i>	<i>1 (25.0%)</i>	<i>2 (50.0%)</i>	<i>1 (25.0%)</i>	<i>0 (0.0%)</i>
4	Tip	6	1 (16.7%)	2 (33.3%)	1 (16.7%)	2 (33.3%)
	Mid	4	3 (75.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)
	Hub	1	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
	<i>Combined</i>	<i>11</i>	<i>4 (36.4%)</i>	<i>3 (27.3%)</i>	<i>2 (18.2%)</i>	<i>2 (18.2%)</i>
<i>Overall Unit 6</i>	<i>34</i>	<i>14 (41.2%)</i>	<i>11 (32.4%)</i>	<i>6 (17.6%)</i>	<i>3 (8.8%)</i>	

APPENDIX TABLE E-2.

Short-term turbine passage survival data on individual chinook salmon released in Units 5 & 6 at Bonneville Dam, November 1999 - January 2000. Fish were tagged with Normandeau's HI-Z Turb-N tags. Description of condition codes and details on injured fish are presented in Appendix Table E-1.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
16 November 1999 - Testlot 2 : PL=4, Unit 6, Tip - Water temp=52.5 C								
RM0	13:49	14:01	12	2	ALIVE	A	160	
RM1	13:55	13:58	3	2	ALIVE	A	177	
RM3	13:51	13:57	6	2	ALIVE	A	182	
RM4	13:56	.	.	0	DEAD	QL	163	
RM5	14:07	14:13	6	2	ALIVE	A	181	
RM6	14:15	14:26	11	2	ALIVE	A	172	
RM7	14:14	14:23	9	2	ALIVE	A	130	
RM8	14:06	14:19	13	2	ALIVE	A	172	
RM9	14:06	14:30	24	2	ALIVE	A	144	
RN0	14:33	14:40	7	2	ALIVE	A	168	
RN1	14:32	.	.	0	UNKNOWN	X	171	
RN2	14:51	14:56	5	2	ALIVE	A	177	
RN3	14:45	14:48	3	2	DEAD	F	170	
RN4	14:41	14:47	6	2	ALIVE	A	162	
RN5	15:03	15:10	7	2	ALIVE	A	164	
RN6	15:02	15:05	3	2	ALIVE	A	180	
RN7	15:04	15:13	9	2	ALIVE	A	181	
RN8	15:06	15:14	8	2	ALIVE	A	176	
RN9	15:05	15:08	3	2	ALIVE	A	178	
RP0	15:20	15:44	24	2	ALIVE	A	182	
RP1	15:19	.	.	0	DEAD	Z	177	
RP2	15:14	.	.	0	UNKNOWN	X	179	
RP3	15:13	15:16	3	2	ALIVE	A	176	

RP4	15: 15	15: 21	6	2	ALI VE	A	134
RP5	15: 53	15: 58	5	2	ALI VE	A	174
RP6	15: 55	16: 10	15	2	ALI VE	A	177
RP7	15: 59	16: 03	4	2	ALI VE	A	173
RP8	15: 54	15: 59	5	2	ALI VE	A	164
RP9	15: 59	16: 08	9	2	ALI VE	A	174
RR0	16: 11	.	.	0	UNKNOWN	X	150
RR1	16: 16	16: 31	15	2	ALI VE	A	135
RR2	16: 10	.	.	0	DEAD	Z	175
RR3	16: 06	16: 20	14	2	ALI VE	A	180
RR4	16: 05	16: 06	1	2	ALI VE	A	173
RT9	13: 50	13: 54	4	2	ALI VE	A	179
RX4	8: 53	9: 10	17	2	ALI VE	A	180
RX5	8: 54	8: 56	2	2	ALI VE	A	164
RX6	8: 54	9: 12	18	2	ALI VE	A	165
RX7	8: 52	9: 05	13	2	ALI VE	A	173
RX8	8: 52	9: 20	28	2	ALI VE	A	198
RX9	9: 25	9: 50	25	2	ALI VE	A	191
RY0	9: 18	.	.	0	TAG & PIN		158

E-2

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
RY1	9: 26	9: 29	3	2	ALI VE	A	173	
RY2	9: 19	9: 22	3	1	DEAD	F	163	
RY4	9: 53	10: 13	20	2	ALI VE	A	173	
RY5	9: 55	10: 06	11	2	ALI VE	A	178	
RY6	9: 54	.	.	0	DEAD	Z	189	
RY7	9: 57	.	.	0	DEAD	Z	143	
RY8	9: 56	10: 17	21	2	ALI VE	A	170	
RY9	10: 25	10: 49	24	2	ALI VE	A	160	
RZ0	10: 26	10: 55	29	1	ALI VE	B	180	

RZ1	10: 27	.	.	0	UNKNOWN	X	167
RZ2	10: 27	10: 53	26	2	ALI VE	A	168
RZ3	10: 24	11: 07	43	2	ALI VE	A	172
RZ4	13: 13	13: 38	25	2	ALI VE	A	164
RZ5	13: 14	13: 24	10	2	ALI VE	A	175
RZ6	13: 25	13: 33	8	2	ALI VE	A	170
RZ7	13: 15	13: 38	23	2	ALI VE	A	187
RZ8	13: 26	13: 44	18	2	ALI VE	A	185
RZ9	9: 27	9: 45	18	2	ALI VE	A	167
YX4	11: 45	12: 02	17	2	ALI VE	A	163
YX5	11: 47	11: 55	8	2	ALI VE	A	176
YX6	11: 46	11: 53	7	2	ALI VE	A	172
YX7	11: 45	11: 58	13	2	ALI VE	A	179
YX8	11: 47	11: 50	3	2	ALI VE	A	164
YX9	12: 06	12: 20	14	2	ALI VE	A	136
YY0	12: 05	12: 07	2	2	ALI VE	A	168
YY1	12: 04	12: 09	5	2	ALI VE	A	169
YY2	12: 05	12: 10	5	2	ALI VE	A	163
YY3	12: 03	12: 18	15	2	ALI VE	A	167
YY4	12: 23	12: 25	2	2	ALI VE	A	160
YY5	12: 22	12: 25	3	2	ALI VE	A	175
YY6	12: 24	12: 27	3	2	ALI VE	A	162
YY7	12: 21	12: 32	11	2	ALI VE	A	168
YY8	12: 23	12: 32	9	2	ALI VE	A	153
YY9	12: 36	.	.	0	UNKNOWN	X	160
YZ0	12: 33	12: 52	19	2	ALI VE	A	135
YZ1	12: 35	12: 37	2	2	ALI VE	A	170
YZ2	12: 36	12: 58	22	2	ALI VE	A	177
YZ3	12: 34	12: 55	21	2	ALI VE	A	194

17 November 1999 - Testlot 3 : PL=1, Uni t 6, Mi d - Water temp=52.5 C

RA0	14: 07	14: 14	7	2	ALI VE	TA	172
RA1	14: 04	14: 22	18	2	ALI VE	A	169
RA2	14: 15	14: 39	24	2	ALI VE	A	162
RA3	14: 28	14: 37	9	2	ALI VE	A	175
RA4	14: 30	14: 38	8	2	ALI VE	A	166
RA5	14: 13	14: 38	25	2	ALI VE	A	159
RA6	14: 23	14: 27	4	2	ALI VE	A	183
RA7	14: 39	14: 51	12	2	ALI VE	A	180
RE9	13: 38	13: 50	12	2	ALI VE	A	177

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
RF0	9: 11	9: 19	8	2	ALIVE	A	147	
RF1	9: 09	9: 32	23	2	ALIVE	A	162	
RF2	9: 44	9: 48	4	2	ALIVE	A	157	
RF3	9: 42	9: 45	3	2	ALIVE	A	164	
RF4	9: 33	9: 35	2	2	ALIVE	A	151	
RF5	9: 34	9: 39	5	2	ALIVE	A	183	
RF6	9: 43	9: 45	2	2	ALIVE	A	180	
RF7	9: 51	9: 53	2	2	ALIVE	A	175	
RF8	9: 47	9: 52	5	2	ALIVE	A	180	
RF9	9: 53	10: 00	7	2	ALIVE	A	170	
RH0	9: 46	9: 50	4	2	ALIVE	A	170	
RH1	9: 50	9: 56	6	2	ALIVE	A	176	
RH2	10: 03	10: 14	11	2	ALIVE	A	174	
RH3	10: 01	10: 04	3	2	ALIVE	A	154	
RH4	10: 03	10: 22	19	2	ALIVE	A	199	
RH5	9: 57	10: 02	5	2	ALIVE	A	130	
RH6	9: 56	9: 59	3	2	ALIVE	A	143	
RH7	10: 27	10: 56	29	2	ALIVE	A	158	
RH8	10: 29	10: 43	14	2	ALIVE	A	177	
RH9	10: 25	10: 28	3	2	ALIVE	A	134	
RJ0	10: 26	10: 32	6	2	ALIVE	A	135	
RJ1	10: 33	10: 37	4	2	ALIVE	A	182	
RJ2	10: 52	10: 55	3	2	ALIVE	A	162	
RJ3	10: 53	11: 00	7	2	ALIVE	A	171	
RJ4	10: 44	10: 51	7	2	ALIVE	A	177	
RJ5	10: 39	10: 40	1	2	ALIVE	A	154	
RJ6	10: 42	10: 52	10	2	ALIVE	A	172	
RJ7	11: 06	11: 13	7	2	ALIVE	A	178	
RJ8	11: 04	11: 06	2	2	ALIVE	A	159	
RJ9	11: 07	11: 27	20	2	ALIVE	A	182	
RK0	10: 55	11: 05	10	2	ALIVE	A	165	
RK1	10: 58	11: 06	8	2	ALIVE	A	167	

RK2	11: 28	11: 40	12	2	ALI VE	A	137
RK3	11: 18	11: 27	9	2	ALI VE	A	170
RK4	11: 14	11: 17	3	2	ALI VE	A	178
RK5	11: 27	11: 36	9	2	ALI VE	A	173
RK6	11: 10	11: 33	23	2	ALI VE	A	167
RK7	13: 31	13: 36	5	2	ALI VE	A	180
RK8	13: 21	13: 33	12	2	ALI VE	A	162
RK9	13: 24	13: 31	7	2	ALI VE	A	161
RL0	13: 23	13: 29	6	2	ALI VE	A	176
RL1	13: 20	13: 23	3	2	ALI VE	A	175
RL2	13: 40	13: 46	6	2	ALI VE	A	164
RL4	13: 32	13: 39	7	2	ALI VE	A	173
RL5	13: 45	13: 49	4	2	ALI VE	A	178
RL6	13: 35	13: 44	9	2	ALI VE	A	170
RL7	13: 54	14: 13	19	2	ALI VE	A	183
RL8	13: 53	14: 17	24	2	ALI VE	A	170
RL9	13: 48	14: 03	15	2	ALI VE	A	170
RR5	7: 48	7: 49	1	2	ALI VE	A	187
RR6	7: 47	7: 57	10	2	ALI VE	A	142

E-4

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
RR7	7: 50	8: 01	11	2	ALI VE	A	172	
RR8	7: 49	7: 51	2	2	ALI VE	A	170	
RR9	7: 53	8: 01	8	2	ALI VE	A	189	
RS0	8: 04	8: 09	5	2	ALI VE	A	163	
RS1	8: 06	8: 22	16	2	ALI VE	A	187	
RS2	8: 05	8: 13	8	2	ALI VE	A	161	
RS3	8: 10	8: 16	6	2	ALI VE	A	166	
RS5	8: 17	8: 20	3	2	DEAD	WG	166	
RS6	8: 14	8: 22	8	2	ALI VE	A	180	

RS8	8: 25	13: 12	287	2	ALI VE	TA	161
RS9	8: 22	.	.	2	ALI VE	A	170
RT0	8: 51	8: 56	5	2	ALI VE	A	140
RT1	8: 57	9: 24	27	2	ALI VE	A	165
RT2	8: 34	9: 00	26	2	ALI VE	A	176
RT3	8: 50	9: 02	12	2	ALI VE	A	158
RT4	8: 29	8: 40	11	2	ALI VE	A	173
RT5	9: 20	9: 26	6	2	ALI VE	A	167
RT6	9: 28	9: 38	10	2	ALI VE	A	176
RT7	9: 28	9: 32	4	2	ALI VE	A	162
RT8	7: 59	8: 01	2	2	ALI VE	A	174
TA0	12: 07	12: 22	15	2	ALI VE	A	140
TA1	12: 14	12: 22	8	2	ALI VE	A	180
TA2	12: 02	.	.	0	DEAD	QZL	176
TA3	12: 04	12: 06	2	2	ALI VE	A	174
TA4	12: 38	12: 50	12	2	ALI VE	A	170
TA5	12: 44	12: 52	8	2	ALI VE	A	179
TA6	12: 37	12: 44	7	2	ALI VE	A	175
TA7	12: 45	12: 54	9	2	ALI VE	A	179
TA8	12: 39	12: 43	4	2	ALI VE	A	165
TA9	12: 56	13: 05	9	2	ALI VE	A	174
TB0	12: 53	13: 05	12	2	ALI VE	A	165
TB1	13: 05	13: 09	4	2	ALI VE	A	170
TB2	12: 54	13: 04	10	2	ALI VE	A	173
TB3	12: 52	12: 55	3	2	ALI VE	A	180
TB4	15: 04	15: 08	4	2	ALI VE	A	153
TB5	15: 05	15: 12	7	2	ALI VE	A	141
TB6	15: 09	15: 23	14	2	ALI VE	A	169
TB7	15: 05	15: 09	4	2	ALI VE	A	145
TB8	15: 10	15: 32	22	2	ALI VE	A	154
TB9	15: 24	15: 29	5	2	ALI VE	A	164
TC0	15: 30	15: 35	5	2	ALI VE	A	173
TC1	15: 13	15: 24	11	2	ALI VE	A	170
TC2	15: 25	15: 30	5	2	ALI VE	A	186
TC3	15: 31	15: 36	5	2	ALI VE	A	168
TC4	15: 51	15: 54	3	2	ALI VE	A	179
TC5	15: 55	16: 01	6	2	ALI VE	A	163
TC6	15: 47	15: 51	4	2	ALI VE	A	167
TC7	15: 59	16: 03	4	2	ALI VE	A	167
TC8	15: 54	15: 59	5	2	ALI VE	A	168
TC9	15: 44	15: 46	2	2	ALI VE	A	157
TD0	15: 33	15: 36	3	2	ALI VE	A	172

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
TD1	15:36	15:43	7	2	ALIVE	A	188	
TD2	15:38	15:57	19	2	ALIVE	A	163	
TD3	15:37	.	.	0	DEAD	QZL	157	
TE9	12:09	12:12	3	2	ALIVE	A	186	
YZ4	11:52	11:56	4	2	ALIVE	A	160	
YZ6	11:59	12:05	6	2	ALIVE	A	133	
YZ7	11:50	11:55	5	2	ALIVE	A	183	
YZ8	12:00	12:02	2	2	ALIVE	A	178	
YZ9	11:51	11:59	8	2	ALIVE	A	190	
18 November 1999 - Testlot 4 : PL=3, Unit 6, Hub - Water temp=52.0 C								
RA8	7:40	.	.	0	TAG & PIN		175	
RA9	7:38	7:40	2	2	ALIVE	A	190	
RB0	7:38	7:40	2	2	ALIVE	A	183	
RB1	7:41	7:44	3	2	ALIVE	A	166	
RB2	7:37	7:39	2	2	ALIVE	A	166	
RB3	7:47	7:50	3	2	ALIVE	A	168	
RB4	7:44	7:46	2	2	ALIVE	A	163	
RB5	7:45	15:43	478	2	ALIVE	A	160	
RB6	7:51	7:56	5	2	ALIVE	A	172	
RB7	7:52	8:05	13	2	ALIVE	A	180	
RB8	8:10	8:28	18	2	ALIVE	A	174	
RB9	8:08	8:16	8	2	ALIVE	A	166	
RC0	8:05	8:07	2	2	ALIVE	A	167	
RC1	8:17	8:23	6	2	ALIVE	A	183	
RC2	8:06	8:09	3	2	ALIVE	A	160	
RC3	8:29	8:38	9	2	ALIVE	A	137	
RC4	8:19	8:25	6	2	ALIVE	A	172	
RC5	8:26	8:48	22	1	ALIVE	B	160	
RC6	8:31	8:43	12	2	ALIVE	A	169	

RC7	8: 25	8: 29	4	2	ALI VE	A	164
RC8	8: 54	9: 05	11	2	ALI VE	A	162
RC9	9: 08	9: 16	8	2	ALI VE	A	174
RD0	8: 56	.	.	0	DEAD	ZL	170
RD1	9: 07	9: 17	10	2	ALI VE	A	176
RD2	8: 56	9: 07	11	2	ALI VE	A	154
RD3	9: 24	9: 26	2	2	ALI VE	A	173
RD4	9: 32	9: 39	7	2	ALI VE	A	170
RD5	9: 19	9: 22	3	2	ALI VE	A	180
RD6	9: 31	9: 41	10	2	ALI VE	A	155
RD7	9: 18	9: 27	9	2	ALI VE	A	130
RD8	9: 34	9: 36	2	2	ALI VE	A	170
RD9	9: 42	9: 45	3	2	ALI VE	A	163
RE0	9: 42	9: 46	4	2	ALI VE	A	170
RE1	9: 45	10: 06	21	2	ALI VE	A	170
RE2	9: 37	9: 46	9	2	ALI VE	A	167
RE3	10: 00	10: 09	9	2	ALI VE	A	160
RE4	9: 54	9: 59	5	2	ALI VE	A	188
RE5	9: 50	9: 53	3	2	ALI VE	A	172

E-6

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
RE6	9: 59	10: 03	4	1	DEAD	GJB	170	
RE7	9: 49	9: 53	4	2	ALI VE	A	165	
RE8	10: 25	10: 34	9	2	ALI VE	A	175	
TD4	12: 14	12: 17	3	2	ALI VE	A	166	
TD5	12: 12	12: 21	9	2	ALI VE	A	168	
TD6	12: 18	12: 28	10	2	ALI VE	A	160	
TD7	12: 15	12: 17	2	2	ALI VE	A	182	
TD8	12: 18	12: 24	6	2	ALI VE	A	182	
TD9	12: 30	12: 39	9	2	ALI VE	A	168	

TE0	12: 25	12: 29	4	2	ALI VE	A	166
TE1	12: 26	12: 28	2	2	ALI VE	A	172
TE2	12: 29	12: 49	20	2	ALI VE	A	181
TE3	12: 21	12: 24	3	2	ALI VE	A	186
TE4	12: 39	12: 46	7	2	ALI VE	A	180
TE5	12: 48	12: 52	4	2	ALI VE	A	191
TE6	12: 33	12: 38	5	2	ALI VE	A	166
TE7	12: 48	12: 49	1	2	ALI VE	A	163
TE8	12: 40	12: 46	6	2	ALI VE	A	130
TF0	12: 52	13: 05	13	2	ALI VE	A	172
TF1	12: 57	13: 05	8	2	ALI VE	A	186
TF2	12: 53	12: 56	3	2	ALI VE	A	171
TF3	12: 55	12: 57	2	2	ALI VE	A	182
TF4	12: 50	12: 53	3	2	ALI VE	A	157
TF5	14: 39	14: 44	5	2	ALI VE	A	165
TF6	14: 39	14: 53	14	2	ALI VE	A	172
TF7	14: 37	14: 46	9	2	ALI VE	A	173
TF8	14: 47	15: 02	15	2	ALI VE	A	146
TF9	14: 45	14: 49	4	2	ALI VE	A	132
TH0	14: 59	15: 01	2	2	ALI VE	A	167
TH1	14: 50	15: 02	12	2	ALI VE	A	166
TH2	15: 03	15: 08	5	2	ALI VE	A	188
TH3	15: 04	15: 08	4	2	ALI VE	A	182
TH4	14: 54	14: 57	3	2	ALI VE	A	172
TH5	15: 07	15: 10	3	2	ALI VE	A	152
TH6	15: 13	15: 26	13	2	ALI VE	A	172
TH7	15: 08	15: 28	20	2	ALI VE	A	172
TH8	15: 14	15: 32	18	2	ALI VE	A	173
TH9	15: 09	15: 11	2	2	ALI VE	A	163
TJ0	15: 33	15: 36	3	2	ALI VE	TA	178
TJ1	15: 37	15: 45	8	2	ALI VE	A	191
TJ2	15: 38	15: 41	3	2	ALI VE	A	172
TJ3	15: 29	15: 31	2	2	ALI VE	A	172
TJ4	15: 30	15: 36	6	2	ALI VE	A	189
UA0	10: 22	10: 25	3	2	ALI VE	A	158
UA1	10: 20	10: 39	19	2	ALI VE	A	170
UA2	10: 29	10: 33	4	2	ALI VE	A	148
UA3	10: 34	10: 40	6	2	ALI VE	A	146
UA4	10: 48	10: 50	2	2	ALI VE	A	177
UA5	10: 46	10: 49	3	2	ALI VE	A	170
UA6	10: 45	10: 47	2	2	ALI VE	A	176
UA7	10: 48	10: 59	11	2	ALI VE	A	158

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UA8	10: 49	10: 58	9	2	ALIVE	A	178	
UA9	11: 20	11: 27	7	2	ALIVE	A	190	
UB0	11: 02	11: 32	30	2	ALIVE	A	170	
UB1	11: 03	11: 30	27	2	ALIVE	A	177	
UB2	11: 04	11: 19	15	2	ALIVE	A	177	
UB3	10: 53	11: 03	10	2	ALIVE	A	180	
UB4	11: 29	.	.	0	DEAD	P	166	
UB5	11: 38	11: 39	1	2	ALIVE	A	177	
UB6	11: 41	11: 46	5	2	ALIVE	A	185	
UB7	11: 31	11: 43	12	2	ALIVE	A	161	
UB8	11: 42	11: 52	10	2	ALIVE	A	172	
UB9	13: 27	13: 32	5	2	ALIVE	A	157	
UC0	13: 18	13: 30	12	2	ALIVE	A	188	
UC1	13: 17	13: 23	6	2	ALIVE	A	165	
UC2	13: 24	13: 31	7	2	ALIVE	A	150	
UC3	13: 19	13: 26	7	2	ALIVE	A	136	
UC4	13: 34	13: 36	2	2	ALIVE	A	135	
UC5	13: 31	13: 35	4	2	ALIVE	A	162	
UC6	13: 37	13: 46	9	2	ALIVE	A	167	
UC7	13: 36	13: 39	3	2	ALIVE	A	167	
UC8	13: 32	13: 41	9	2	ALIVE	A	166	
UC9	13: 47	14: 00	13	2	ALIVE	A	165	
UD0	13: 42	13: 51	9	2	ALIVE	A	178	
UD1	13: 47	13: 51	4	2	ALIVE	A	180	
UD2	13: 43	13: 46	3	2	ALIVE	A	175	
UD3	13: 48	13: 53	5	2	ALIVE	A	171	
UD4	13: 52	13: 59	7	2	ALIVE	A	192	
UD5	13: 54	14: 26	32	2	ALIVE	A	178	
UD6	14: 01	14: 16	15	2	ALIVE	A	176	
UD7	14: 04	14: 13	9	2	ALIVE	A	176	
UD8	14: 01	14: 05	4	2	ALIVE	A	171	

20 November 1999 - Testlot 5 : PL=4, Control

- Water temp=50.5 C

TL5	9:29	9:42	13	2	ALIVE	A	164
TL6	9:35	9:41	6	2	ALIVE	A	169
TL7	9:42	9:53	11	2	ALIVE	A	135
TL8	9:52	9:56	4	2	ALIVE	A	166
TL9	9:54	10:07	13	2	ALIVE	A	177
TM0	9:38	9:55	17	2	ALIVE	A	141
TM1	9:28	9:37	9	2	ALIVE	A	145
TM2	9:54	10:08	14	2	ALIVE	A	185
TM3	9:45	9:51	6	2	ALIVE	A	182
TM4	9:28	9:34	6	2	ALIVE	A	188
TM5	10:09	10:15	6	2	ALIVE	A	148
TM6	10:32	10:39	7	2	ALIVE	A	172
TM7	10:28	10:33	5	2	ALIVE	A	181
TM8	10:17	10:25	8	2	ALIVE	A	175
TM9	10:23	10:30	7	2	ALIVE	A	178
TN0	10:20	10:25	5	2	ALIVE	A	178

E-8

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
TN1	9:57	10:00	3	2	ALIVE	A	171	
TN2	10:10	10:24	14	2	ALIVE	A	172	
TN3	10:27	10:32	5	2	ALIVE	A	186	
TN4	10:00	10:19	19	2	ALIVE	A	192	
TN5	12:19	12:26	7	2	ALIVE	A	172	
TN6	11:56	12:02	6	2	ALIVE	A	194	
TN7	12:18	12:21	3	2	ALIVE	A	180	
TN8	12:22	12:26	4	2	ALIVE	A	167	
TN9	11:58	12:15	17	2	ALIVE	A	169	

TP0	12: 02	12: 20	18	2	ALI VE	A	179
TP1	12: 21	12: 38	17	2	ALI VE	A	175
TP2	12: 04	12: 07	3	2	ALI VE	A	174
TP3	11: 57	11: 59	2	2	ALI VE	A	185
TP4	12: 12	12: 16	4	2	ALI VE	A	133
TP5	12: 47	12: 49	2	2	ALI VE	A	187
TP6	12: 42	12: 51	9	2	ALI VE	A	148
TP7	12: 50	12: 56	6	2	ALI VE	A	183
TP8	12: 28	12: 43	15	2	ALI VE	A	149
TP9	12: 30	12: 41	11	2	ALI VE	A	188
TR0	12: 39	12: 42	3	2	ALI VE	A	159
TR1	12: 27	12: 29	2	2	ALI VE	A	162
TR2	12: 30	12: 37	7	2	ALI VE	A	152
TR3	12: 44	12: 45	1	2	ALI VE	A	172
TR4	12: 43	12: 59	16	2	ALI VE	A	174
UD9	7: 34	7: 49	15	2	ALI VE	A	174
UE1	7: 30	.	.	0	DEAD	Z	160
UE2	7: 50	7: 54	4	2	ALI VE	A	179
UE3	7: 30	7: 35	5	2	ALI VE	A	178
UE4	7: 55	7: 57	2	2	ALI VE	A	136
UE5	7: 59	8: 02	3	2	ALI VE	A	134
UE6	7: 53	8: 04	11	2	ALI VE	A	134
UE7	8: 05	8: 19	14	2	ALI VE	A	133
UE8	8: 09	8: 21	12	2	ALI VE	H	163
UE9	8: 23	8: 27	4	2	ALI VE	A	133
UF0	8: 28	8: 43	15	2	ALI VE	A	187
UF1	8: 22	8: 28	6	2	ALI VE	A	174
UF2	8: 21	8: 23	2	2	ALI VE	A	165
UF3	8: 26	8: 35	9	2	ALI VE	A	172
UF4	8: 44	9: 17	33	2	ALI VE	A	140
UF5	8: 43	.	.	0	TAG & PIN		175
UF6	8: 47	9: 01	14	2	ALI VE	A	162
UF7	8: 31	8: 52	21	1	ALI VE	A	137
UF8	8: 39	8: 41	2	2	ALI VE	A	182
UF9	10: 46	10: 52	6	2	ALI VE	A	169
UH0	10: 45	10: 50	5	2	ALI VE	A	175
UH1	10: 50	11: 00	10	2	ALI VE	A	171
UH2	10: 51	10: 58	7	2	ALI VE	A	192
UH3	10: 44	10: 49	5	2	ALI VE	A	134
UH4	11: 00	11: 06	6	2	ALI VE	A	196
UH5	11: 01	11: 04	3	2	ALI VE	A	173
UH6	11: 05	11: 14	9	2	ALI VE	A	170

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UH7	10:54	11:00	6	2	ALIVE	A	185	
UH8	11:03	11:08	5	2	ALIVE	A	166	
UH9	11:16	11:32	16	2	ALIVE	A	170	
UJ0	11:18	11:20	2	2	ALIVE	A	182	
UJ1	11:15	11:28	13	2	ALIVE	A	176	
UJ2	11:08	11:17	9	2	ALIVE	A	133	
UJ3	11:09	11:15	6	2	ALIVE	A	140	
UJ4	11:29	11:37	8	2	ALIVE	A	188	
UJ5	11:34	11:38	4	2	ALIVE	A	187	
UJ6	11:28	11:31	3	2	ALIVE	A	186	
UJ7	11:32	11:38	6	2	ALIVE	A	177	
UJ8	11:21	11:27	6	2	ALIVE	A	180	
UJ9	13:24	13:28	4	2	ALIVE	A	165	
UK0	13:17	13:40	23	2	ALIVE	A	155	
UK1	13:18	13:20	2	2	ALIVE	A	139	
UK2	13:21	13:23	2	2	ALIVE	A	172	
UK3	13:19	13:40	21	2	ALIVE	A	176	
UK4	13:41	13:45	4	2	ALIVE	A	185	
UK5	13:36	13:39	3	2	ALIVE	A	173	
UK6	13:42	13:47	5	2	ALIVE	A	187	
UK7	13:40	13:45	5	2	ALIVE	A	175	
UK8	13:29	13:35	6	2	ALIVE	A	161	
UK9	14:04	14:10	6	2	ALIVE	A	195	
UL0	13:59	14:10	11	2	ALIVE	A	170	
UL1	13:49	14:03	14	2	ALIVE	A	158	
UL2	13:47	14:12	25	2	ALIVE	A	179	
UL3	13:48	13:58	10	2	ALIVE	A	178	
UL4	14:13	14:21	8	2	ALIVE	A	175	
UL5	14:11	14:15	4	2	ALIVE	A	170	
UL6	14:19	14:27	8	2	ALIVE	A	181	
UL7	14:11	14:17	6	2	ALIVE	A	187	
UL8	14:16	14:34	18	2	ALIVE	A	178	

UL9	14: 41	14: 46	5	2	ALI VE	A	170
UM0	14: 42	14: 56	14	2	ALI VE	A	168
UM1	14: 45	15: 01	16	2	ALI VE	A	176
UM2	14: 46	14: 53	7	2	ALI VE	A	187
UM3	14: 43	14: 55	12	2	ALI VE	A	170
UM4	15: 07	15: 12	5	2	ALI VE	A	190
UM5	15: 02	15: 14	12	2	ALI VE	A	144
UM6	14: 58	15: 03	5	2	ALI VE	A	176
UM7	14: 59	15: 07	8	2	ALI VE	A	170
UM8	15: 03	15: 09	6	2	ALI VE	A	142
UM9	15: 19	15: 23	4	2	ALI VE	A	170
UN0	15: 23	15: 27	4	2	ALI VE	A	188
UN1	15: 13	15: 19	6	2	ALI VE	A	178
UN2	15: 16	15: 22	6	2	ALI VE	A	188
UN3	15: 10	15: 28	18	2	ALI VE	A	129
UN4	15: 32	15: 36	4	2	ALI VE	A	159
UN5	15: 25	15: 32	7	2	ALI VE	A	165
UN6	15: 29	15: 32	3	2	ALI VE	A	175
UN7	15: 33	15: 34	1	2	ALI VE	A	179

E-10

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UN8	15: 28	15: 32	4	2	ALI VE	A	141	
UN9	14: 22	14: 35	13	2	ALI VE	A	168	
21 November 1999 - Testlot 6 : PL=2, Control					- Water temp=50.0 C			
TR5	9: 37	9: 39	2	2	ALI VE	A	180	
TR6	9: 40	9: 43	3	2	ALI VE	A	173	
TR7	9: 32	9: 37	5	2	ALI VE	A	186	

TR8	9: 22	9: 36	14	2	ALI VE	A	165
TR9	9: 15	9: 20	5	2	ALI VE	A	173
TS0	9: 21	9: 29	8	2	ALI VE	A	165
TS1	9: 28	9: 30	2	2	ALI VE	A	166
TS2	9: 32	9: 53	21	2	ALI VE	A	173
TS3	9: 14	9: 17	3	2	ALI VE	A	166
TS4	9: 41	9: 53	12	2	ALI VE	A	201
TS5	10: 15	10: 19	4	2	ALI VE	A	170
TS6	9: 55	9: 58	3	2	ALI VE	A	184
TS7	10: 00	10: 14	14	2	ALI VE	A	187
TS8	9: 54	9: 57	3	2	ALI VE	A	168
TS9	10: 12	10: 21	9	2	ALI VE	A	174
TT0	9: 48	9: 57	9	2	ALI VE	A	125
TT1	9: 59	10: 14	15	2	ALI VE	A	176
TT2	9: 44	9: 49	5	2	ALI VE	A	133
TT3	10: 16	10: 38	22	2	ALI VE	A	184
TT4	9: 58	10: 10	12	2	ALI VE	A	142
U00	12: 05	12: 12	7	2	ALI VE	A	176
U01	11: 56	12: 12	16	2	ALI VE	A	175
U02	12: 23	12: 26	3	2	ALI VE	A	177
U03	12: 25	12: 28	3	2	ALI VE	A	171
U04	12: 29	12: 33	4	2	ALI VE	A	169
U05	12: 43	12: 50	7	2	ALI VE	A	158
U06	12: 36	12: 54	18	2	ALI VE	A	138
U07	12: 27	12: 35	8	2	ALI VE	A	172
U08	12: 34	12: 35	1	2	ALI VE	A	180
U09	12: 37	12: 42	5	2	ALI VE	A	182
U10	12: 30	12: 46	16	2	ALI VE	A	161
U11	12: 24	12: 29	5	2	ALI VE	A	176
U12	13: 09	13: 25	16	2	ALI VE	A	169
U13	13: 02	13: 04	2	2	ALI VE	A	178
U14	12: 57	13: 07	10	2	ALI VE	A	173
U15	13: 17	13: 32	15	2	ALI VE	A	168
U16	12: 55	13: 01	6	2	ALI VE	A	170
U17	13: 08	13: 18	10	2	ALI VE	A	176
U18	12: 51	12: 54	3	2	ALI VE	A	183
U19	13: 07	13: 16	9	2	ALI VE	A	168
U20	12: 49	12: 53	4	2	ALI VE	A	186
U21	12: 57	13: 04	7	2	ALI VE	A	135
U23	13: 45	13: 51	6	2	ALI VE	A	167
U24	13: 44	14: 10	26	1	ALI VE	B	172
U25	13: 42	13: 49	7	2	ALI VE	A	168

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
U26	13:50	13:52	2	2	ALIVE	A	138	
U27	14:09	14:14	5	2	ALIVE	A	147	
U28	14:11	14:29	18	2	ALIVE	A	169	
U29	13:55	14:09	14	2	ALIVE	A	188	
U30	14:12	14:19	7	2	ALIVE	A	166	
U31	14:14	14:34	20	2	ALIVE	A	197	
U32	14:21	14:34	13	2	ALIVE	A	132	
U33	14:40	14:44	4	2	ALIVE	A	186	
U34	14:36	.	.	0	TAG & PIN		171	
U35	14:35	14:39	4	2	ALIVE	A	167	
U36	14:30	14:39	9	2	ALIVE	A	162	
U37	14:49	14:58	9	2	ALIVE	A	144	
U38	14:41	14:48	7	2	ALIVE	A	146	
U39	14:53	15:04	11	2	ALIVE	A	170	
U40	14:45	14:54	9	2	ALIVE	A	132	
U41	14:55	15:09	14	2	ALIVE	A	194	
U42	15:36	.	.	0	TAG & PIN		176	
U43	15:39	15:42	3	2	ALIVE	A	177	
U44	15:40	15:44	4	2	ALIVE	A	180	
U45	15:29	15:40	11	2	ALIVE	A	158	
U46	15:43	15:48	5	2	ALIVE	A	177	
U47	15:17	15:30	13	2	ALIVE	A	182	
U48	15:14	15:25	11	2	ALIVE	A	187	
U49	15:12	15:15	3	2	ALIVE	A	156	
U50	15:26	15:36	10	2	ALIVE	A	197	
U51	15:12	15:28	16	2	ALIVE	A	140	
U52	15:49	15:59	10	2	ALIVE	A	177	
U54	15:52	16:10	18	2	ALIVE	A	162	
U55	15:48	15:53	5	2	ALIVE	A	193	
U56	15:46	15:51	5	2	ALIVE	A	139	
U57	16:18	16:21	3	2	ALIVE	A	186	
U58	16:01	16:17	16	2	ALIVE	A	153	

U59	16: 11	16: 14	3	2	ALI VE	A	172
U60	16: 15	16: 18	3	2	ALI VE	A	182
U61	16: 07	16: 10	3	2	ALI VE	A	135
U62	16: 12	16: 21	9	2	ALI VE	A	165
UP1	7: 40	7: 58	18	2	ALI VE	A	190
UP3	7: 29	7: 36	7	2	ALI VE	A	174
UP4	7: 30	7: 52	22	2	ALI VE	A	131
UP5	7: 56	8: 05	9	2	ALI VE	A	172
UP6	8: 07	8: 09	2	2	ALI VE	A	183
UP7	8: 08	8: 16	8	2	ALI VE	A	180
UP8	7: 54	8: 05	11	2	ALI VE	A	135
UP9	7: 59	8: 13	14	2	ALI VE	A	131
UR0	8: 11	8: 15	4	2	ALI VE	A	147
UR1	8: 19	8: 38	19	2	ALI VE	A	180
UR2	8: 17	8: 20	3	2	ALI VE	A	166
UR3	8: 16	8: 25	9	2	ALI VE	A	135
UR4	8: 22	8: 27	5	2	ALI VE	A	203
UR5	8: 28	8: 37	9	2	ALI VE	A	130
UR6	8: 30	8: 36	6	2	ALI VE	A	180

E-12

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UR7	8: 38	8: 47	9	2	ALI VE	A	174	
UR8	8: 27	8: 29	2	2	ALI VE	A	173	
UR9	8: 39	9: 26	47	1	ALI VE	A	176	
US0	10: 42	10: 57	15	2	ALI VE	A	163	
US1	10: 51	10: 55	4	2	ALI VE	A	154	
US2	10: 43	10: 48	5	2	ALI VE	A	175	
US3	10: 40	10: 48	8	2	ALI VE	A	135	
US4	10: 49	11: 08	19	2	ALI VE	A	137	
US5	10: 58	11: 01	3	2	ALI VE	A	132	

US6	11: 01	11: 11	10	2	ALI VE	A	170
US7	11: 03	11: 20	17	2	ALI VE	A	181
US8	11: 09	11: 21	12	2	ALI VE	A	181
US9	11: 02	11: 09	7	2	ALI VE	A	163
UT0	11: 22	11: 46	24	2	ALI VE	A	201
UT1	11: 21	11: 29	8	2	ALI VE	A	125
UT2	11: 30	11: 38	8	2	ALI VE	A	182
UT3	11: 10	11: 18	8	2	ALI VE	A	173
UT4	11: 24	11: 32	8	2	ALI VE	A	174
UT6	11: 34	11: 39	5	2	ALI VE	A	142
UT7	11: 41	11: 44	3	2	ALI VE	A	163
UT8	11: 49	12: 01	12	2	ALI VE	A	162
UT9	11: 45	11: 54	9	2	ALI VE	A	181

22 November 1999 - Testlot 7 : PL=3, Unit 6, Tip - Water temp=50.0 C

T00	9: 39	9: 47	8	2	ALI VE	A	146
T01	9: 44	9: 56	12	2	ALI VE	A	135
T02	10: 02	10: 33	31	1	DEAD	F	187
T03	10: 37	10: 42	5	2	ALI VE	A	171
T04	10: 20	10: 37	17	2	ALI VE	A	190
T05	10: 19	10: 24	5	2	ALI VE	A	167
T07	10: 35	10: 41	6	2	ALI VE	A	157
T08	10: 57	11: 04	7	2	ALI VE	A	177
T09	10: 45	10: 59	14	2	ALI VE	A	135
T10	10: 50	11: 00	10	2	ALI VE	A	180
T11	10: 43	10: 49	6	2	ALI VE	A	184
T12	10: 42	10: 53	11	2	ALI VE	A	189
T13	11: 03	11: 12	9	2	ALI VE	A	183
T14	11: 06	11: 13	7	2	ALI VE	TA	180
T15	11: 09	11: 20	11	2	ALI VE	A	176
T16	11: 01	11: 03	2	2	ALI VE	A	178
T17	10: 59	11: 09	10	2	ALI VE	A	176
T18	11: 21	11: 41	20	2	ALI VE	A	185
T19	11: 13	11: 25	12	2	ALI VE	A	173
T20	11: 14	11: 25	11	2	ALI VE	A	173
T21	11: 26	11: 34	8	2	ALI VE	A	197
T22	11: 25	11: 28	3	2	ALI VE	A	187
T23	11: 43	11: 56	13	2	ALI VE	A	143
T24	11: 51	11: 56	5	2	ALI VE	A	184
T25	11: 43	11: 52	9	2	ALI VE	A	162

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
T26	11: 53	12: 05	12	2	ALIVE	A	176	
T27	11: 44	11: 47	3	2	ALIVE	A	182	
T29	12: 15	12: 15	0	2	ALIVE	A	172	
T30	11: 57	12: 06	9	2	ALIVE	A	169	
T31	12: 06	12: 23	17	2	ALIVE	A	179	
T32	11: 58	12: 12	14	2	ALIVE	A	182	
T33	12: 24	12: 40	16	2	ALIVE	A	172	
T34	12: 32	12: 44	12	2	ALIVE	A	185	
T35	12: 25	12: 37	12	2	ALIVE	A	175	
T36	12: 21	12: 30	9	2	ALIVE	A	137	
T37	12: 17	12: 24	7	2	ALIVE	A	157	
T38	13: 00	13: 09	9	2	ALIVE	A	176	
T39	12: 51	12: 59	8	2	ALIVE	A	177	
T40	12: 48	12: 50	2	2	ALIVE	A	149	
T41	12: 55	13: 10	15	2	ALIVE	A	165	
T42	12: 45	12: 59	14	2	ALIVE	A	132	
T43	13: 41	13: 49	8	2	ALIVE	A	187	
T44	13: 22	13: 45	23	2	ALIVE	A	166	
T45	13: 25	13: 42	17	2	ALIVE	A	181	
T46	13: 24	13: 40	16	2	ALIVE	A	180	
T47	13: 21	13: 23	2	2	ALIVE	A	136	
T48	13: 45	14: 03	18	2	ALIVE	A	191	
T49	14: 06	14: 22	16	2	ALIVE	A	185	
T50	14: 04	14: 14	10	2	ALIVE	A	175	
T51	13: 52	14: 08	16	2	ALIVE	A	174	
T52	13: 43	14: 05	22	2	ALIVE	A	151	
T53	14: 08	14: 11	3	2	ALIVE	A	137	
T54	14: 14	14: 28	14	2	ALIVE	A	175	
T55	14: 29	14: 38	9	2	ALIVE	A	182	
T56	14: 16	14: 34	18	2	ALIVE	A	175	
T57	14: 12	14: 26	14	1	ALIVE	A	178	
T58	14: 34	14: 57	23	2	ALIVE	A	173	

T59	15: 12	15: 24	12	2	ALI VE	A	190
T60	14: 39	15: 10	31	2	ALI VE	A	174
T61	15: 11	15: 25	14	2	ALI VE	A	184
T62	14: 58	15: 26	28	2	ALI VE	A	180
T63	14: 31	15: 11	40	2	ALI VE	A	183
T64	15: 36	15: 40	4	2	ALI VE	A	164
T65	15: 43	15: 49	6	2	ALI VE	A	172
T66	15: 50	15: 52	2	2	ALI VE	A	189
T67	15: 46	15: 53	7	2	ALI VE	A	162
T68	15: 34	15: 37	3	2	ALI VE	A	172
T69	15: 37	15: 40	3	2	ALI VE	A	169
T70	15: 35	15: 39	4	2	ALI VE	A	155
T71	15: 42	15: 44	2	2	ALI VE	A	190
T72	15: 45	15: 51	6	2	ALI VE	A	165
T73	15: 41	15: 42	1	2	ALI VE	A	188
T74	16: 04	16: 10	6	2	ALI VE	A	187
T75	16: 01	16: 14	13	2	ALI VE	A	174
T76	15: 53	16: 16	23	1	ALI VE	B	160
T77	15: 54	16: 01	7	2	ALI VE	A	169

E-14

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
T78	16: 00	16: 02	2	2	ALI VE	A	168	
T79	15: 54	15: 57	3	2	ALI VE	A	153	
T80	16: 08	16: 10	2	2	ALI VE	A	178	
T81	16: 11	16: 15	4	2	ALI VE	A	191	
T82	15: 58	15: 59	1	2	ALI VE	A	176	
T83	16: 03	16: 04	1	2	ALI VE	A	196	
TT5	13: 00	13: 13	13	2	ALI VE	A	166	
TT6	12: 43	12: 49	6	2	ALI VE	A	167	
U63	7: 56	8: 00	4	2	ALI VE	A	172	

U64	7: 48	7: 55	7	2	ALI VE	A	176
U65	7: 44	7: 47	3	2	ALI VE	A	125
U66	8: 05	8: 07	2	2	ALI VE	A	173
U67	7: 42	7: 45	3	2	ALI VE	A	172
U68	7: 43	7: 59	16	2	ALI VE	A	131
U69	7: 45	8: 04	19	2	ALI VE	A	160
U70	8: 08	8: 13	5	2	ALI VE	A	178
U71	8: 00	8: 14	14	2	ALI VE	A	167
U72	8: 01	8: 09	8	2	ALI VE	A	162
U73	8: 23	8: 29	6	2	ALI VE	A	176
U74	8: 14	8: 21	7	2	ALI VE	A	135
U75	8: 26	8: 35	9	2	ALI VE	A	187
U76	8: 24	8: 29	5	2	ALI VE	A	184
U77	8: 20	8: 23	3	2	ALI VE	A	187
U78	8: 16	8: 20	4	2	ALI VE	A	190
U79	8: 27	.	.	0	DEAD	L	177
U80	8: 22	8: 25	3	2	ALI VE	A	174
U81	8: 11	8: 14	3	2	ALI VE	A	130
U82	8: 12	8: 21	9	2	ALI VE	A	184
U83	8: 54	9: 07	13	2	ALI VE	A	165
U84	8: 44	8: 51	7	2	ALI VE	A	135
U85	8: 52	8: 57	5	2	ALI VE	A	157
U86	8: 46	8: 53	7	2	ALI VE	A	140
U88	8: 58	9: 05	7	2	ALI VE	A	165
U89	9: 15	9: 24	9	2	ALI VE	A	178
U90	9: 06	9: 14	8	2	ALI VE	A	178
U91	9: 02	9: 22	20	2	ALI VE	A	161
U92	9: 08	9: 16	8	2	ALI VE	A	187
U93	9: 23	9: 32	9	2	ALI VE	A	139
U94	9: 36	9: 50	14	2	ALI VE	A	178
U95	9: 33	9: 35	2	2	ALI VE	A	167
U96	9: 29	9: 38	9	2	ALI VE	A	168
U97	9: 24	9: 46	22	2	ALI VE	A	168
U98	9: 48	10: 03	15	2	ALI VE	A	167
U99	9: 51	10: 01	10	2	ALI VE	A	190

23 November 1999 - Testlot 8 : PL=4, Unit 6, Hub - Water temp=50.0 C

T84	7: 40	8: 02	22	2	ALI VE	A	176
T85	7: 36	7: 42	6	2	ALI VE	A	176
T86	7: 35	7: 59	24	2	ALI VE	A	177

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
T87	7: 43	7: 51	8	2	ALIVE	A	168	
T88	7: 34	7: 39	5	2	ALIVE	A	168	
T89	8: 02	8: 12	10	2	ALIVE	A	182	
T90	7: 55	8: 04	9	2	ALIVE	A	167	
T91	8: 05	8: 07	2	2	ALIVE	A	187	
T92	7: 52	7: 54	2	2	ALIVE	A	176	
T93	8: 03	8: 08	5	2	ALIVE	A	172	
T94	8: 08	8: 10	2	2	ALIVE	A	177	
T95	8: 14	8: 42	28	2	ALIVE	A	180	
T96	8: 19	8: 22	3	2	ALIVE	A	183	
T97	8: 09	8: 18	9	2	ALIVE	A	172	
T98	8: 14	8: 18	4	2	ALIVE	A	164	
T99	8: 26	8: 29	3	2	ALIVE	A	173	
TA0	12: 02	12: 08	6	2	ALIVE	A	185	
TA1	11: 59	12: 01	2	2	ALIVE	A	167	
TA2	12: 00	12: 04	4	2	ALIVE	A	160	
TA3	11: 57	11: 59	2	2	ALIVE	A	166	
TA4	11: 53	11: 56	3	2	ALIVE	A	126	
TA5	12: 20	12: 26	6	2	ALIVE	A	186	
TA6	12: 16	12: 22	6	2	ALIVE	A	183	
TA7	12: 18	12: 24	6	2	ALIVE	A	168	
TA8	12: 15	12: 17	2	2	ALIVE	A	182	
TA9	11: 13	12: 20	67	2	ALIVE	A	126	
TB0	12: 23	12: 33	10	2	DEAD	HJ	138	
TB1	12: 36	12: 38	2	2	ALIVE	A	162	
TB2	12: 38	12: 48	10	2	ALIVE	A	173	
TB3	12: 27	12: 36	9	2	ALIVE	A	182	
TB4	12: 25	12: 27	2	2	ALIVE	A	127	
TB5	12: 43	12: 54	11	2	ALIVE	A	166	
TB6	12: 48	13: 07	19	2	ALIVE	A	185	
TB7	12: 56	13: 04	8	2	ALIVE	A	176	
TB8	12: 43	12: 48	5	2	ALIVE	H	162	

TB9	12: 40	12: 42	2	2	AL I VE	A	166
TC0	13: 06	13: 12	6	2	AL I VE	A	172
TC1	13: 08	13: 10	2	1	AL I VE	B	173
TC2	12: 57	13: 07	10	2	AL I VE	A	172
TC3	13: 08	13: 23	15	2	AL I VE	A	168
TC4	13: 12	13: 17	5	2	AL I VE	A	170
TC5	13: 35	13: 38	3	2	AL I VE	A	192
TC6	13: 32	13: 36	4	2	AL I VE	A	174
TC7	13: 47	13: 59	12	2	AL I VE	A	183
TC8	13: 37	13: 39	2	2	AL I VE	A	172
TC9	13: 33	13: 38	5	2	AL I VE	A	132
TD0	13: 41	13: 46	5	2	AL I VE	A	181
TD1	13: 39	13: 46	7	2	AL I VE	A	198
TD2	13: 48	13: 50	2	2	AL I VE	A	170
TD3	13: 31	13: 34	3	2	AL I VE	A	185
TD4	13: 40	13: 55	15	2	AL I VE	A	176
TD5	14: 13	14: 17	4	2	AL I VE	A	171
TD6	13: 51	14: 12	21	2	AL I VE	A	185
TD7	14: 09	14: 14	5	2	AL I VE	A	176

E-16

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
TD8	14: 17	14: 21	4	2	AL I VE	A	187	
TD9	14: 00	14: 08	8	2	AL I VE	A	148	
TE0	14: 10	14: 16	6	2	AL I VE	A	174	
TE1	13: 58	14: 05	7	2	AL I VE	A	162	
TE2	13: 57	14: 11	14	2	AL I VE	A	167	
TE3	14: 05	14: 08	3	2	AL I VE	A	152	
TE4	14: 14	14: 19	5	2	AL I VE	A	174	
UU0	8: 21	8: 26	5	2	AL I VE	A	130	
UU1	8: 30	8: 36	6	2	AL I VE	A	187	

UU2	8: 23	8: 25	2	2	ALI VE	A	175
UU3	8: 27	8: 41	14	2	ALI VE	A	176
UU4	8: 50	8: 53	3	2	ALI VE	A	135
UU5	8: 54	8: 56	2	2	ALI VE	A	186
UU6	8: 51	8: 58	7	2	ALI VE	A	132
UU7	8: 57	9: 04	7	2	ALI VE	A	195
UU8	8: 52	9: 03	11	2	ALI VE	A	135
UU9	9: 00	9: 01	1	2	ALI VE	A	170
UV0	9: 02	9: 17	15	2	ALI VE	A	150
UV1	9: 17	9: 24	7	2	ALI VE	A	188
UV2	9: 04	9: 15	11	2	ALI VE	A	170
UV3	9: 06	9: 22	16	2	ALI VE	A	187
UV5	9: 23	9: 36	13	2	ALI VE	A	162
UV6	9: 26	9: 28	2	2	ALI VE	A	182
UV7	9: 34	9: 42	8	2	ALI VE	A	172
UV8	9: 18	9: 33	15	2	ALI VE	A	132
UV9	9: 43	9: 46	3	2	ALI VE	A	181
UW0	9: 44	9: 48	4	2	ALI VE	A	170
UW1	9: 39	9: 48	9	2	ALI VE	A	173
UW2	9: 38	9: 42	4	2	ALI VE	A	142
UW3	9: 47	9: 50	3	2	ALI VE	A	205
UW4	10: 08	10: 11	3	2	ALI VE	A	182
UW5	10: 10	10: 18	8	2	ALI VE	A	177
UW6	10: 06	10: 08	2	2	ALI VE	A	157
UW7	10: 02	10: 05	3	2	ALI VE	A	178
UW8	10: 03	10: 07	4	2	ALI VE	A	174
UW9	10: 00	10: 07	7	2	ALI VE	A	126
UX0	10: 12	10: 13	1	2	ALI VE	A	192
UX1	10: 09	10: 15	6	2	ALI VE	A	161
UX2	9: 59	10: 01	2	2	ALI VE	A	137
UX3	10: 00	10: 02	2	2	ALI VE	A	127
UX4	10: 15	10: 19	4	2	ALI VE	A	185
UX5	10: 22	10: 26	4	2	ALI VE	A	139
UX6	10: 28	10: 38	10	2	ALI VE	A	182
UX7	10: 30	10: 43	13	2	ALI VE	A	177
UX8	10: 37	10: 47	10	2	ALI VE	A	170
UX9	10: 21	10: 25	4	2	ALI VE	A	127
UY0	10: 23	10: 29	6	2	ALI VE	A	158
UY1	10: 26	10: 36	10	2	ALI VE	A	180
UY2	10: 16	10: 20	4	2	ALI VE	TA	178
UY3	10: 30	10: 36	6	2	ALI VE	A	137
UY4	11: 02	11: 07	5	2	ALI VE	A	177

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UY5	11:06	11:17	11	2	ALIVE	A	185	
UY6	10:59	11:01	2	2	ALIVE	A	137	
UY7	11:01	11:05	4	2	ALIVE	A	182	
UY8	11:00	11:14	14	2	ALIVE	A	135	
UY9	11:22	11:28	6	2	ALIVE	A	178	
UZ0	11:16	11:24	8	2	ALIVE	A	166	
UZ1	11:22	11:38	16	2	ALIVE	A	185	
UZ2	11:25	11:28	3	2	ALIVE	A	173	
UZ3	11:13	11:21	8	2	ALIVE	A	132	
UZ4	11:43	11:56	13	2	ALIVE	A	176	
UZ5	11:31	11:37	6	2	ALIVE	A	180	
UZ6	11:29	11:31	2	2	ALIVE	A	170	
UZ7	11:37	11:42	5	2	ALIVE	A	178	
UZ8	11:38	11:51	13	2	ALIVE	A	190	
UZ9	9:29	9:38	9	2	ALIVE	A	167	
24 November 1999 - Testlot 9 : PL=2, Unit 5, Tip - Water temp=52.0 C								
TE5	7:44	8:03	19	2	ALIVE	A	179	
TE6	7:30	7:44	14	2	ALIVE	A	178	
TE7	7:30	7:39	9	2	ALIVE	A	188	
TE8	7:41	7:55	14	2	ALIVE	A	176	
TE9	7:29	7:41	12	2	ALIVE	A	179	
TF0	8:08	8:20	12	1	ALIVE	A	171	
TF1	7:57	8:22	25	2	ALIVE	A	181	
TF2	7:59	8:07	8	2	ALIVE	A	172	
TF3	8:04	8:15	11	2	ALIVE	A	165	
TF4	8:16	8:33	17	2	ALIVE	A	162	
TF6	8:27	.	.	0	TAG & PIN	X	152	
TF7	9:17	9:23	6	2	ALIVE	A	170	
TF8	8:22	8:45	23	2	ALIVE	A	166	

TF9	8: 40	9: 12	32	2	DEAD	E	171
TH0	9: 27	9: 39	12	2	ALI VE	A	168
TH1	9: 24	9: 30	6	2	ALI VE	A	195
TH2	9: 18	9: 22	4	2	ALI VE	A	202
TH3	9: 22	9: 26	4	2	ALI VE	A	178
TH4	9: 23	9: 31	8	1	DEAD	B	189
TH5	10: 11	10: 20	9	2	ALI VE	A	169
TH6	10: 12	10: 24	12	2	ALI VE	A	168
TH7	10: 08	10: 12	4	2	ALI VE	A	193
TH8	9: 57	10: 07	10	2	ALI VE	A	173
TH9	10: 01	10: 14	13	2	ALI VE	A	177
TJ0	9: 51	9: 54	3	2	ALI VE	A	185
TJ1	9: 52	10: 00	8	2	ALI VE	A	172
TJ2	9: 56	9: 59	3	2	ALI VE	A	196
TJ3	9: 50	9: 56	6	2	ALI VE	A	189
TJ4	10: 00	10: 07	7	2	ALI VE	A	165
TJ5	10: 33	10: 35	2	2	ALI VE	A	167
TJ6	10: 31	10: 38	7	2	ALI VE	A	170
TJ7	10: 22	10: 31	9	2	ALI VE	A	183

E-18

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
TJ8	10: 27	10: 31	4	2	ALI VE	A	190	
TJ9	10: 26	10: 30	4	2	ALI VE	A	187	
TK0	10: 16	10: 22	6	2	ALI VE	A	191	
TK1	10: 32	10: 39	7	2	ALI VE	A	140	
TK2	10: 21	10: 25	4	2	ALI VE	A	181	
TK3	10: 39	10: 46	7	2	ALI VE	A	165	
TK4	10: 37	10: 43	6	2	ALI VE	A	175	
TK5	11: 22	11: 27	5	2	ALI VE	A	183	
TK6	11: 25	11: 28	3	2	ALI VE	A	167	

TK7	11: 13	11: 18	5	2	ALI VE	A	171
TK8	11: 18	11: 24	6	2	ALI VE	A	176
TK9	11: 26	11: 46	20	2	ALI VE	A	175
TL0	11: 06	11: 20	14	2	ALI VE	A	160
TL1	11: 05	11: 12	7	2	ALI VE	A	173
TL2	11: 20	11: 28	8	2	ALI VE	A	145
TL3	11: 05	11: 12	7	2	ALI VE	A	184
TL4	11: 14	11: 21	7	2	ALI VE	A	185
TL5	12: 03	12: 16	13	2	ALI VE	A	186
TL6	11: 52	11: 57	5	2	ALI VE	A	187
TL7	11: 57	12: 02	5	2	ALI VE	A	166
TL8	12: 05	12: 12	7	2	ALI VE	A	184
TL9	11: 29	11: 32	3	2	ALI VE	A	175
TM0	12: 05	12: 14	9	2	ALI VE	A	152
TM1	11: 36	11: 51	15	2	ALI VE	A	155
TM2	12: 02	12: 07	5	2	ALI VE	A	162
TM3	11: 58	12: 04	6	2	ALI VE	A	184
TM4	11: 33	11: 38	5	2	ALI VE	A	186
TM5	12: 29	12: 38	9	2	ALI VE	A	170
TM6	12: 30	12: 37	7	2	ALI VE	A	168
TM7	12: 28	12: 34	6	2	ALI VE	A	189
TM8	12: 38	12: 46	8	2	ALI VE	A	177
TM9	12: 34	12: 38	4	2	ALI VE	A	175
TN0	12: 40	12: 45	5	2	ALI VE	A	185
TN1	12: 55	13: 10	15	2	ALI VE	A	172
TN2	12: 53	12: 57	4	2	ALI VE	A	196
TN3	12: 48	12: 54	6	2	ALI VE	A	174
TN4	12: 46	12: 56	10	2	ALI VE	A	178
TN5	13: 08	.	.	0	DEAD	P	180
TN6	12: 58	13: 07	9	2	ALI VE	A	176
TN7	13: 09	13: 17	8	2	ALI VE	A	150
TN8	13: 01	13: 04	3	2	ALI VE	A	181
TN9	13: 15	13: 22	7	2	ALI VE	A	151
TP0	13: 52	.	.	0	DEAD	Z	175
TP1	13: 50	14: 00	10	2	ALI VE	A	174
TP2	13: 56	14: 56	60	2	ALI VE	A	148
TP3	13: 17	13: 46	29	1	ALI VE	B	174
TP4	13: 42	13: 55	13	2	ALI VE	A	181
TP5	14: 47	14: 54	7	2	ALI VE	A	183
TP6	14: 39	14: 43	4	2	ALI VE	A	186
TP7	14: 39	14: 46	7	2	ALI VE	A	171
TP8	14: 38	14: 48	10	2	ALI VE	A	162

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
TP9	14: 44	14: 56	12	2	ALIVE	A	166	
TR0	15: 05	15: 17	12	2	ALIVE	A	175	
TR1	14: 54	15: 17	23	2	ALIVE	A	165	
TR2	14: 58	15: 03	5	1	ALIVE	A	165	
TR3	14: 57	15: 04	7	2	ALIVE	A	170	
TR4	14: 49	14: 57	8	2	ALIVE	A	169	
TR5	15: 20	15: 23	3	2	ALIVE	A	171	
TR6	15: 16	15: 20	4	2	ALIVE	A	178	
TR7	15: 17	15: 25	8	2	ALIVE	A	175	
TR8	15: 23	.	.	0	DEAD	Z	191	
TR9	15: 20	15: 22	2	2	ALIVE	A	161	
TS0	15: 28	15: 33	5	2	ALIVE	A	176	
TS2	15: 38	15: 50	12	2	ALIVE	H	180	
TS3	15: 37	15: 43	6	2	ALIVE	A	186	
TS4	15: 26	15: 37	11	2	ALIVE	A	196	
TS5	15: 54	15: 59	5	2	ALIVE	A	171	
TS6	15: 55	15: 58	3	2	ALIVE	A	179	
TS7	15: 53	15: 57	4	2	ALIVE	A	185	
TS8	15: 50	16: 03	13	2	ALIVE	A	180	
TS9	15: 47	15: 54	7	2	ALIVE	A	172	
TT1	16: 00	16: 03	3	2	ALIVE	A	184	
TT2	16: 08	16: 19	11	2	ALIVE	A	182	
TT3	16: 07	16: 12	5	2	ALIVE	A	182	
TT4	16: 00	16: 07	7	2	ALIVE	A	178	
TU5	15: 04	15: 14	10	2	ALIVE	A	191	
TU6	15: 34	15: 36	2	2	ALIVE	A	178	
25 November 1999 - Testlot 10 : PL=3, Control - Water temp=12.0 C								
AA0	11: 48	11: 50	2	2	ALIVE	A	177	
AA1	11: 58	12: 02	4	2	ALIVE	A	190	

AA2	11: 51	11: 55	4	2	ALI VE	A	165
AA3	11: 53	12: 00	7	2	ALI VE	A	184
AA4	11: 54	11: 57	3	2	ALI VE	A	189
AA5	11: 49	11: 53	4	2	ALI VE	A	186
AA6	11: 55	11: 58	3	2	ALI VE	A	170
AA7	11: 56	11: 58	2	2	ALI VE	A	190
AA8	12: 04	12: 06	2	2	ALI VE	A	141
AA9	12: 13	12: 16	3	2	ALI VE	A	159
AB0	12: 01	12: 05	4	2	ALI VE	A	171
AB1	12: 09	12: 13	4	2	ALI VE	A	175
AB2	12: 01	12: 04	3	2	ALI VE	A	169
AB3	12: 08	12: 12	4	2	ALI VE	A	164
AB4	12: 06	12: 08	2	2	ALI VE	A	136
AB5	12: 04	12: 07	3	2	ALI VE	A	172
AB6	12: 07	12: 16	9	2	ALI VE	A	179
AB7	12: 00	12: 03	3	2	ALI VE	A	181
AB8	12: 16	12: 20	4	2	ALI VE	A	140
AB9	12: 20	12: 23	3	2	ALI VE	A	165
AC0	12: 17	12: 19	2	2	ALI VE	A	166

E-20

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
AC1	12: 15	12: 19	4	2	ALI VE	A	194	
AC2	12: 20	12: 24	4	2	ALI VE	A	202	
AC3	12: 25	12: 31	6	2	ALI VE	A	194	
AC4	12: 24	12: 33	9	2	ALI VE	A	172	
AC5	12: 34	12: 38	4	2	ALI VE	A	168	
AC6	12: 32	12: 35	3	2	ALI VE	A	137	
AC7	12: 26	12: 34	8	2	ALI VE	A	185	
AC8	12: 39	12: 43	4	2	ALI VE	A	182	
AC9	12: 45	12: 48	3	2	ALI VE	A	169	

AD0	12: 48	12: 51	3	2	ALI VE	A	172
AD1	12: 38	12: 40	2	2	ALI VE	A	176
AD2	12: 46	12: 50	4	2	ALI VE	A	182
AD3	12: 40	12: 44	4	2	ALI VE	A	163
AD4	12: 35	12: 37	2	2	ALI VE	A	137
AD5	12: 51	12: 53	2	2	ALI VE	A	176
AD6	12: 36	12: 56	20	2	ALI VE	A	186
AD7	12: 43	12: 50	7	2	ALI VE	A	174
AD8	13: 12	13: 21	9	2	ALI VE	A	137
AD9	13: 14	13: 21	7	2	ALI VE	A	182
AE0	13: 09	13: 11	2	2	ALI VE	A	166
AE1	13: 09	13: 14	5	2	ALI VE	A	176
AE2	13: 09	13: 13	4	2	ALI VE	A	182
AE3	13: 22	13: 27	5	2	ALI VE	A	146
AE4	13: 16	.	.	0	TAG & PIN	X	178
AE5	13: 22	13: 25	3	2	ALI VE	A	180
AE6	13: 27	13: 35	8	2	ALI VE	A	180
AE7	13: 24	13: 39	15	2	ALI VE	A	170
AE8	13: 53	14: 01	8	2	ALI VE	A	179
AE9	13: 45	14: 02	17	2	ALI VE	A	175
AF0	13: 37	13: 44	7	2	ALI VE	A	184
AF1	13: 39	13: 53	14	2	ALI VE	A	155
AF2	13: 44	15: 52	128	2	ALI VE	A	178
AF3	13: 56	14: 03	7	2	ALI VE	A	165
AF4	14: 04	14: 14	10	2	ALI VE	A	180
AF5	14: 17	14: 19	2	2	ALI VE	A	174
AF6	14: 02	14: 11	9	2	ALI VE	A	177
AF7	14: 03	14: 09	6	2	ALI VE	A	161
AF8	14: 18	14: 33	15	2	ALI VE	A	169
TT6	7: 53	8: 02	9	2	ALI VE	A	153
TT7	7: 43	7: 52	9	2	ALI VE	A	180
TT8	8: 01	8: 01	0	2	ALI VE	A	183
TT9	7: 41	7: 54	13	2	ALI VE	A	180
TU0	8: 10	8: 17	7	2	ALI VE	A	182
TU1	8: 03	8: 12	9	2	ALI VE	A	182
TU2	8: 02	8: 09	7	2	ALI VE	A	179
TU3	8: 12	8: 16	4	2	ALI VE	A	177
TU4	8: 13	8: 27	14	2	ALI VE	A	176
TU7	8: 19	8: 26	7	2	ALI VE	A	185
TU8	8: 28	8: 36	8	2	ALI VE	A	146
TU9	8: 26	8: 35	9	2	ALI VE	A	182
TV0	8: 36	8: 55	19	2	ALI VE	A	169

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
TV1	8:37	8:41	4	2	ALIVE	A	173	
TV2	8:51	8:59	8	2	ALIVE	A	166	
TV3	8:43	8:50	7	2	ALIVE	A	185	
TV4	8:57	9:11	14	2	ALIVE	A	175	
TV5	8:59	9:08	9	2	ALIVE	A	167	
TV6	9:08	9:21	13	2	ALIVE	A	185	
TV7	9:23	9:26	3	2	ALIVE	A	184	
TV8	9:15	9:23	8	2	ALIVE	A	174	
TV9	9:14	9:20	6	1	DEAD	EB	175	
TW0	9:24	9:29	5	2	ALIVE	A	176	
TW1	9:23	9:33	10	2	DEAD	F	170	
TW2	9:35	9:40	5	2	ALIVE	A	182	
TW3	9:30	9:34	4	2	ALIVE	A	181	
TW4	9:40	.	.	0	UNKNOWN	X	172	
TW5	9:28	9:48	20	2	ALIVE	N	181	
TW6	9:36	9:40	4	2	ALIVE	A	185	
TW7	9:45	9:48	3	2	ALIVE	A	166	
TW8	9:53	9:56	3	2	ALIVE	A	194	
TW9	9:48	9:51	3	2	ALIVE	A	180	
TX0	9:52	9:57	5	2	ALIVE	A	178	
TX1	9:45	9:53	8	2	ALIVE	A	183	
TX2	10:07	10:10	3	2	ALIVE	A	144	
TX3	10:04	10:09	5	2	ALIVE	A	175	
TX4	10:03	10:06	3	2	ALIVE	A	178	
TX5	9:58	10:02	4	2	ALIVE	A	157	
TX6	9:57	10:02	5	2	ALIVE	A	172	
TX7	10:33	10:37	4	2	ALIVE	A	201	
TX9	10:35	10:41	6	2	ALIVE	A	145	
TY0	10:28	10:38	10	2	ALIVE	A	164	
TY1	10:27	10:34	7	2	ALIVE	A	171	
TY2	10:40	10:45	5	2	ALIVE	A	187	
TY3	10:42	10:47	5	2	ALIVE	A	170	

TY4	10: 47	10: 50	3	2	ALI VE	A	175
TY5	10: 42	10: 55	13	2	ALI VE	A	180
TY6	10: 50	10: 55	5	2	ALI VE	A	180
TY7	10: 55	10: 59	4	2	ALI VE	A	145
TY8	10: 58	11: 00	2	2	ALI VE	A	174
TY9	11: 00	11: 04	4	2	ALI VE	A	185
TZ0	10: 56	11: 04	8	2	ALI VE	A	184
TZ1	11: 01	11: 09	8	2	ALI VE	A	173
TZ2	11: 14	11: 18	4	2	ALI VE	A	160
TZ3	11: 11	11: 24	13	2	ALI VE	A	182
TZ4	11: 04	11: 11	7	2	ALI VE	A	181
TZ5	11: 05	11: 09	4	2	ALI VE	A	181
TZ6	11: 10	11: 13	3	2	ALI VE	A	151
TZ7	10: 29	10: 41	12	2	ALI VE	A	139
TZ8	11: 47	11: 50	3	2	ALI VE	A	167
TZ9	11: 51	11: 52	1	2	ALI VE	A	136

C-22

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
26 November 1999 - Testlot 11 : PL=1, Control - Water temp=11.0 C								
AF9	8: 13	8: 17	4	2	ALI VE	A	176	
AH0	8: 18	8: 21	3	2	ALI VE	A	178	
AH1	7: 45	7: 49	4	2	ALI VE	A	167	
AH2	7: 48	8: 21	33	2	ALI VE	A	192	
AH3	7: 44	7: 57	13	2	ALI VE	A	184	

AH4	7: 43	7: 49	6	2	ALI VE	A	189
AH5	7: 58	8: 02	4	2	ALI VE	A	180
AH6	8: 03	8: 08	5	2	ALI VE	A	157
AH7	7: 50	8: 24	34	2	ALI VE	A	200
AH8	8: 09	8: 12	3	2	ALI VE	A	182
AH9	8: 41	8: 45	4	2	ALI VE	A	180
AJ0	8: 30	8: 33	3	2	ALI VE	A	176
AJ1	8: 36	8: 38	2	2	ALI VE	A	135
AJ2	8: 30	8: 38	8	0	UNKNOWN	X	187
AJ3	8: 38	8: 40	2	2	ALI VE	A	177
AJ4	8: 22	8: 31	9	2	ALI VE	A	164
AJ5	8: 41	8: 44	3	2	ALI VE	A	180
AJ6	8: 44	8: 49	5	2	ALI VE	A	181
AJ7	8: 32	8: 36	4	2	ALI VE	A	172
AJ8	8: 34	8: 37	3	2	ALI VE	A	167
AK0	9: 15	9: 19	4	2	ALI VE	A	186
AK1	9: 20	9: 32	12	2	ALI VE	A	173
AK2	9: 15	9: 19	4	2	ALI VE	A	181
AK3	9: 20	9: 28	8	2	ALI VE	A	172
AK4	9: 35	9: 38	3	2	ALI VE	H	156
AK5	9: 40	9: 45	5	2	ALI VE	A	182
AK6	9: 34	9: 38	4	2	ALI VE	A	171
AK7	9: 39	9: 43	4	2	ALI VE	A	190
AK8	9: 31	9: 34	3	2	ALI VE	A	185
AK9	9: 51	9: 58	7	2	ALI VE	H	140
AL0	9: 52	9: 55	3	2	ALI VE	A	195
AL1	9: 44	9: 46	2	2	ALI VE	A	182
AL2	9: 48	9: 54	6	2	ALI VE	A	175
AL3	9: 46	9: 50	4	2	ALI VE	A	177
AL4	9: 58	10: 02	4	2	ALI VE	A	176
AL5	9: 55	9: 58	3	2	ALI VE	A	174
AL6	9: 56	10: 00	4	2	ALI VE	A	137
AL7	9: 59	10: 06	7	2	ALI VE	A	153
AL8	10: 00	10: 07	7	2	ALI VE	A	192
AL9	10: 38	10: 40	2	2	ALI VE	A	171
AM0	10: 28	10: 35	7	2	ALI VE	A	171
AM1	10: 22	10: 32	10	2	ALI VE		179
AM2	10: 32	10: 38	6	2	ALI VE	A	136
AM3	10: 35	10: 38	3	2	ALI VE	A	142
AM4	10: 15	10: 19	4	2	ALI VE	A	169
AM5	10: 19	10: 27	8	2	ALI VE	A	191
AM6	10: 16	10: 18	2	2	ALI VE	A	179

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
AM7	10: 15	10: 20	5	2	ALIVE	A	177	
AM8	10: 21	10: 44	23	2	ALIVE	A	172	
AM9	10: 46	10: 49	3	2	ALIVE	A	175	
AN0	10: 48	10: 53	5	2	ALIVE	A	178	
AN1	10: 40	10: 45	5	2	ALIVE	A	166	
AN2	10: 41	10: 45	4	2	ALIVE	A	175	
AN3	10: 44	10: 47	3	2	DEAD	F	193	
AN4	10: 50	10: 52	2	2	DEAD	A	171	
AN5	10: 50	.	.	0	UNKNOWN	X	184	
AN6	10: 54	11: 03	9	2	ALIVE	A	175	
AN7	11: 04	11: 16	12	2	ALIVE	A	165	
AN8	10: 53	11: 09	16	2	ALIVE	A	135	
AN9	11: 33	11: 35	2	2	ALIVE	A	184	
AP0	11: 37	11: 45	8	2	ALIVE	A	182	
AP1	11: 26	11: 28	2	2	ALIVE	A	179	
AP2	11: 29	11: 31	2	2	ALIVE	A	179	
AP3	11: 38	11: 42	4	2	ALIVE	A	175	
AP4	11: 32	11: 37	5	2	ALIVE	A	180	
AP5	11: 35	11: 43	8	2	ALIVE	A	178	
AP6	11: 26	11: 29	3	2	ALIVE	A	165	
AP7	11: 43	11: 47	4	2	ALIVE	A	155	
AP8	11: 29	11: 36	7	2	ALIVE	A	135	
AP9	12: 02	12: 08	6	2	ALIVE	A	175	
AR0	12: 12	12: 16	4	2	ALIVE	A	171	
AR1	11: 45	11: 50	5	2	ALIVE	A	160	
AR2	12: 11	12: 16	5	2	ALIVE	A	176	
AR3	12: 09	12: 11	2	2	ALIVE	A	144	
AR4	11: 52	11: 59	7	2	ALIVE	A	186	
AR5	11: 51	12: 05	14	2	ALIVE	A	182	
AR6	12: 06	12: 11	5	2	ALIVE	A	175	
AR7	11: 48	11: 51	3	2	ALIVE	A	180	
AR8	11: 46	12: 00	14	2	ALIVE	A	141	

AR9	12: 24	12: 29	5	2	AL I VE	A	181
AS0	12: 28	12: 35	7	2	AL I VE	A	190
AS1	12: 24	12: 39	15	2	AL I VE	A	177
AS2	12: 29	12: 36	7	2	AL I VE	A	166
AS3	12: 23	12: 27	4	2	AL I VE	A	188
AS4	12: 46	12: 53	7	2	AL I VE	A	181
AS5	12: 40	13: 08	28	2	AL I VE	A	175
AS6	12: 49	12: 54	5	2	AL I VE	A	135
AS7	12: 37	12: 45	8	2	AL I VE	A	189
AS8	12: 36	12: 48	12	2	AL I VE	A	195
AS9	13: 03	13: 16	13	2	AL I VE	A	184
AT0	12: 53	13: 03	10	2	AL I VE	A	190
AT1	13: 08	13: 14	6	2	AL I VE	A	184
AT2	12: 55	13: 01	6	2	AL I VE	A	178
AT3	13: 02	13: 09	7	2	AL I VE	A	195
AT4	13: 16	13: 20	4	2	AL I VE	A	188
AT5	13: 15	13: 25	10	2	AL I VE	A	180
AT6	13: 20	13: 30	10	2	AL I VE	A	180
AT7	13: 12	13: 17	5	2	AL I VE	A	177

E-24

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
AT8	13: 18	13: 21	3	2	AL I VE	A	136	
AT9	13: 39	13: 40	1	2	AL I VE	A	178	
AU0	13: 45	13: 51	6	2	AL I VE	A	135	
AU1	13: 41	13: 52	11	2	AL I VE	A	174	
AU2	13: 39	.	.	0	TAG & PIN		184	
AU3	13: 38	13: 44	6	2	AL I VE	A	153	
AU4	13: 52	13: 57	5	2	AL I VE	A	186	
AU5	13: 58	14: 31	33	2	AL I VE	A	182	
AU6	14: 12	14: 17	5	2	AL I VE	A	188	

AU7	13: 54	13: 58	4	2	ALI VE	A	188
AU8	14: 00	14: 14	14	2	ALI VE	A	171
AU9	14: 17	14: 27	10	2	ALI VE	A	180
AV0	14: 28	14: 32	4	2	ALI VE	A	176
AV1	14: 24	14: 28	4	1	DEAD	BG	182
AV2	14: 22	14: 30	8	2	ALI VE	A	143
AV3	14: 31	14: 34	3	2	ALI VE	A	175
AV4	14: 37	14: 40	3	2	ALI VE	A	128
AV5	14: 33	14: 35	2	2	ALI VE	HN	153
AV6	14: 38	14: 41	3	2	ALI VE	A	155
AV7	14: 32	14: 35	3	2	ALI VE	A	160
AV8	14: 34	14: 38	4	2	ALI VE	A	185
AV9	14: 35	14: 39	4	2	ALI VE	A	186

27 November 1999 - Testlot 12 : PL=2, Unit 5, Hub - Water temp=50.0 C

A00	10: 16	10: 20	4	2	ALI VE	A	185
A01	10: 19	10: 24	5	2	ALI VE	A	169
A02	10: 13	10: 23	10	2	ALI VE	A	172
A03	10: 14	10: 18	4	2	ALI VE	A	167
A04	10: 13	10: 15	2	2	ALI VE	A	135
A05	10: 24	10: 56	32	2	ALI VE	A	126
A06	10: 43	10: 54	11	2	ALI VE	A	186
A08	10: 38	10: 43	5	2	ALI VE	A	175
A09	10: 25	10: 41	16	2	ALI VE	A	166
A10	10: 55	11: 00	5	2	ALI VE	A	167
A11	10: 59	11: 09	10	2	ALI VE	A	129
A12	11: 00	11: 08	8	2	ALI VE	A	134
A13	10: 45	10: 57	12	2	ALI VE	A	178
A14	10: 46	11: 09	23	2	ALI VE	A	183
A15	11: 10	11: 25	15	2	ALI VE	A	183
A16	11: 10	11: 14	4	2	ALI VE	A	177
A17	11: 15	11: 25	10	2	ALI VE	A	172
A18	11: 06	11: 14	8	2	ALI VE	A	165
A19	11: 15	11: 25	10	2	ALI VE	A	170
A20	11: 34	11: 40	6	2	ALI VE	A	170
A21	11: 37	11: 41	4	2	ALI VE	A	167
A22	11: 33	11: 52	19	2	ALI VE	A	172
A23	11: 40	11: 45	5	2	ALI VE	A	164
A24	11: 29	11: 33	4	2	ALI VE	A	188
A25	11: 53	11: 55	2	2	ALI VE	A	170

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
A26	11: 43	11: 58	15	2	ALIVE	A	171	
A27	11: 46	11: 51	5	2	ALIVE	A	136	
A28	11: 52	11: 58	6	2	ALIVE	A	128	
A29	11: 56	11: 59	3	2	ALIVE	A	136	
A30	12: 00	12: 08	8	2	ALIVE	A	187	
A31	12: 04	12: 15	11	2	ALIVE	A	172	
A32	12: 13	12: 29	16	2	ALIVE	A	181	
A33	11: 59	12: 11	12	2	ALIVE	A	204	
A34	12: 00	12: 04	4	2	ALIVE	A	175	
A35	12: 35	12: 48	13	2	ALIVE	A	130	
A36	12: 27	12: 36	9	2	ALIVE	A	165	
A37	12: 18	12: 26	8	2	ALIVE	A	181	
A38	12: 31	12: 35	4	2	ALIVE	A	182	
A39	12: 33	12: 41	8	2	ALIVE	A	189	
A40	13: 17	13: 28	11	2	ALIVE	A	170	
A41	12: 57	12: 59	2	2	ALIVE	A	174	
A42	13: 00	13: 13	13	2	ALIVE	A	162	
A43	12: 58	13: 03	5	2	ALIVE	A	176	
A44	13: 18	13: 23	5	2	ALIVE	A	170	
A45	13: 12	13: 16	4	2	ALIVE	A	177	
A46	13: 14	13: 24	10	2	ALIVE	A	181	
A47	13: 04	13: 16	12	2	ALIVE	A	189	
A48	13: 02	13: 12	10	2	ALIVE	A	132	
A49	12: 57	13: 01	4	2	ALIVE	A	127	
A50	13: 43	13: 45	2	2	ALIVE	A	172	
A51	13: 24	13: 33	9	2	ALIVE	A	139	
A52	13: 29	13: 33	4	2	ALIVE	A	175	
A53	13: 34	13: 42	8	2	ALIVE	A	175	
A54	13: 28	13: 31	3	2	ALIVE	A	182	
A55	13: 44	13: 48	4	2	ALIVE	A	201	
A56	13: 32	13: 39	7	2	ALIVE	A	168	
A57	13: 23	13: 27	4	2	ALIVE	A	162	

A58	13: 42	13: 45	3	2	ALI VE	A	176
A59	13: 39	13: 43	4	2	ALI VE	A	131
A60	13: 35	13: 41	6	2	ALI VE	A	204
A61	13: 57	14: 04	7	2	ALI VE	A	190
A62	13: 58	14: 08	10	2	ALI VE	A	163
A63	14: 05	14: 14	9	2	ALI VE	A	180
A64	13: 59	14: 03	4	2	ALI VE	A	185
A65	14: 05	14: 13	8	2	ALI VE	A	182
A66	14: 14	14: 18	4	2	ALI VE	A	180
A67	14: 15	14: 18	3	2	ALI VE	A	160
A68	14: 09	14: 16	7	2	ALI VE	A	186
A69	14: 16	14: 23	7	2	ALI VE	A	183
A70	14: 18	14: 30	12	2	ALI VE	A	187
A71	14: 31	14: 37	6	2	ALI VE	A	180
A72	14: 24	14: 27	3	2	ALI VE	A	191
A73	14: 28	14: 41	13	2	ALI VE	A	185
A74	14: 21	14: 27	6	2	ALI VE	A	176
A75	14: 27	14: 33	6	2	ALI VE	A	176
A76	14: 41	14: 43	2	2	ALI VE	A	171

E-26

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
A77	14: 42	14: 59	17	1	ALI VE	B	177	
A78	14: 34	14: 37	3	2	ALI VE	A	131	
A79	14: 38	14: 40	2	2	ALI VE	A	169	
A80	14: 38	14: 43	5	2	DEAD	J	202	
A81	12: 27	12: 32	5	2	ALI VE	A	182	
AW0	7: 50	7: 53	3	2	ALI VE	A	180	
AW1	7: 48	7: 51	3	2	ALI VE	A	188	
AW2	7: 51	8: 00	9	2	ALI VE	A	186	
AW3	7: 29	7: 45	16	2	ALI VE	A	176	

AW4	7: 28	7: 45	17	2	ALI VE	A	177
AW5	7: 37	7: 44	7	2	ALI VE	A	167
AW6	7: 28	7: 36	8	2	ALI VE	A	164
AW7	7: 45	7: 48	3	2	ALI VE	A	165
AW8	7: 46	7: 49	3	2	ALI VE	A	172
AW9	7: 47	7: 50	3	2	ALI VE	A	165
AX0	8: 01	8: 05	4	2	ALI VE	A	160
AX1	8: 13	8: 18	5	2	ALI VE	A	167
AX2	7: 53	7: 59	6	2	ALI VE	A	167
AX4	8: 00	8: 04	4	2	ALI VE	A	160
AX5	8: 06	8: 10	4	2	ALI VE	A	164
AX6	8: 10	8: 18	8	2	ALI VE	A	170
AX7	8: 17	8: 32	15	2	ALI VE	A	165
AX8	8: 02	8: 12	10	2	ALI VE	A	182
AX9	7: 54	8: 01	7	2	ALI VE	A	173
AY0	8: 57	9: 08	11	2	ALI VE	A	175
AY1	8: 51	8: 59	8	2	ALI VE	A	205
AY2	8: 50	8: 56	6	2	ALI VE	A	138
AY3	8: 51	8: 54	3	2	ALI VE	A	141
AY4	8: 55	.	.	0	TAG & PIN		125
AY5	9: 16	9: 31	15	2	ALI VE	A	193
AY6	9: 18	9: 24	6	2	ALI VE	A	170
AY7	9: 09	9: 17	8	2	ALI VE	A	136
AY8	9: 00	9: 09	9	2	ALI VE	A	180
AY9	9: 32	9: 48	16	2	ALI VE	A	166
AZ0	9: 38	9: 55	17	2	ALI VE	A	167
AZ1	9: 25	9: 31	6	2	ALI VE	A	146
AZ2	9: 10	9: 23	13	2	ALI VE	A	192
AZ3	9: 24	9: 37	13	2	ALI VE	A	179
AZ4	9: 32	9: 41	9	2	ALI VE	A	171
AZ5	9: 54	10: 05	11	2	ALI VE	A	170
AZ6	9: 41	9: 46	5	2	ALI VE	A	175
AZ7	9: 45	9: 54	9	2	ALI VE	A	176
AZ8	9: 48	9: 58	10	2	ALI VE	A	170
AZ9	9: 55	10: 01	6	2	ALI VE	A	183

28 November 1999 - Testlot 13 : PL=1, Control

- Water temp=50.0 C

A82	7: 24	7: 34	10	2	ALI VE	A	167
A83	7: 34	7: 41	7	2	ALI VE	A	192
A84	7: 34	7: 39	5	2	ALI VE	A	152

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
A85	7: 41	7: 46	5	2	ALIVE	A	184	
A86	7: 47	7: 50	3	2	ALIVE	A	134	
A87	7: 40	7: 46	6	2	ALIVE	A	195	
A88	7: 46	7: 51	5	2	ALIVE	A	200	
A89	7: 25	7: 45	20	2	ALIVE	A	184	
A90	7: 26	7: 28	2	2	ALIVE	A	178	
A91	7: 29	7: 33	4	2	ALIVE	A	179	
A92	8: 02	8: 09	7	2	ALIVE	A	177	
A93	7: 51	7: 54	3	2	ALIVE	A	148	
A94	8: 01	8: 04	3	2	ALIVE	A	169	
A95	8: 09	8: 12	3	2	ALIVE	A	140	
A96	7: 49	8: 01	12	2	ALIVE	A	178	
A97	8: 05	8: 10	5	2	ALIVE	A	161	
A98	7: 54	8: 03	9	2	ALIVE	A	132	
A99	8: 07	8: 13	6	2	ALIVE	A	178	
TT7	10: 41	10: 48	7	2	ALIVE	A	185	
TU0	7: 50	8: 02	12	2	ALIVE	A	135	
TU1	8: 04	8: 07	3	2	ALIVE	A	171	
TU2	8: 27	8: 31	4	2	ALIVE	A	184	
TU3	8: 20	8: 23	3	2	ALIVE	A	170	
TU4	8: 25	8: 28	3	2	ALIVE	A	175	
TU5	8: 21	8: 26	5	2	ALIVE	A	176	
TU6	8: 24	8: 28	4	2	ALIVE	A	177	
TU7	8: 40	8: 45	5	2	ALIVE	A	190	
TU8	8: 44	8: 48	4	2	ALIVE	A	139	
TU9	8: 32	8: 43	11	2	ALIVE	A	174	
TV0	8: 31	8: 39	8	2	ALIVE	A	138	
TV1	8: 30	8: 49	19	2	ALIVE	A	179	
TV2	8: 49	8: 58	9	2	ALIVE	A	162	
TV3	8: 59	9: 07	8	2	ALIVE	A	176	
TV4	8: 47	8: 55	8	2	ALIVE	A	137	
TV5	8: 49	8: 58	9	2	ALIVE	A	160	

TV6	8: 55	9: 03	8	2	ALI VE	A	147
TV7	9: 08	9: 14	6	2	ALI VE	A	189
TV8	9: 02	9: 05	3	2	ALI VE	A	199
TV9	9: 09	9: 14	5	2	ALI VE	A	185
TW0	9: 06	9: 09	3	2	ALI VE	A	160
TW1	9: 04	9: 08	4	2	ALI VE	A	146
TW2	9: 44	9: 50	6	2	ALI VE	A	180
TW3	9: 20	9: 36	16	2	ALI VE	A	195
TW4	9: 20	9: 42	22	2	ALI VE	A	162
TW5	9: 25	9: 42	17	2	ALI VE	A	183
TW6	9: 21	9: 43	22	2	ALI VE	A	160
TW7	9: 45	9: 51	6	2	ALI VE	A	193
TW8	9: 55	9: 58	3	2	ALI VE	A	170
TW9	9: 46	9: 52	6	2	ALI VE	H	183
TX0	9: 51	9: 59	8	2	ALI VE	A	168
TX1	9: 52	9: 55	3	2	ALI VE	A	186
TX2	10: 03	10: 09	6	2	ALI VE	A	131
TX3	9: 57	9: 59	2	2	ALI VE	A	133
TX4	9: 59	10: 02	3	2	ALI VE	A	178

E-28

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
TX5	10: 01	10: 08	7	2	ALI VE	A	180	
TX6	10: 01	10: 07	6	2	ALI VE	A	185	
TX7	10: 10	10: 13	3	2	DEAD	E	179	
TX8	10: 15	10: 19	4	2	ALI VE	A	178	
TX9	10: 07	10: 18	11	2	ALI VE	A	165	
TY0	10: 07	10: 11	4	2	ALI VE	A	175	
TY1	10: 12	10: 14	2	2	ALI VE	A	152	
TY2	10: 43	10: 47	4	2	ALI VE	A	178	
TY3	10: 32	10: 40	8	2	ALI VE	A	176	

TY4	10: 45	10: 50	5	2	ALI VE	A	134
TY5	10: 35	10: 40	5	2	ALI VE	A	206
TY6	10: 42	10: 44	2	2	ALI VE	A	167
TY7	10: 33	10: 35	2	2	ALI VE	A	166
TY8	10: 47	10: 49	2	2	ALI VE	A	181
TY9	10: 51	10: 55	4	2	ALI VE	A	174
TZ0	10: 32	10: 34	2	2	ALI VE	A	163
TZ1	10: 36	10: 40	4	2	ALI VE	A	191
TZ2	10: 57	10: 59	2	2	ALI VE	A	170
TZ3	10: 55	11: 00	5	2	ALI VE	A	182
TZ4	10: 53	10: 57	4	2	ALI VE	A	185
TZ6	11: 00	11: 03	3	2	ALI VE	A	179
TZ7	10: 58	11: 01	3	2	ALI VE	A	175
TZ8	10: 49	10: 52	3	2	ALI VE	A	182
TZ9	10: 57	11: 02	5	2	ALI VE	A	134
V00	10: 53	10: 56	3	2	ALI VE	A	135
V01	10: 49	10: 53	4	2	ALI VE	A	177
V02	11: 18	11: 24	6	2	ALI VE	A	175
V03	11: 17	11: 23	6	2	ALI VE	A	196
V04	11: 24	11: 28	4	2	ALI VE	A	170
V05	11: 23	11: 27	4	2	ALI VE	A	166
V06	11: 17	11: 25	8	2	ALI VE	A	182
V07	11: 35	11: 49	14	2	ALI VE	A	169
V08	11: 28	11: 33	5	2	ALI VE	A	173
V09	11: 27	11: 34	7	2	ALI VE	A	190
V10	11: 37	11: 43	6	2	ALI VE	A	187
V11	11: 27	11: 36	9	2	ALI VE	A	170
V12	11: 42	11: 45	3	2	ALI VE	A	188
V13	11: 43	11: 45	2	2	ALI VE	A	135
V14	11: 39	11: 41	2	2	ALI VE	A	177
V15	11: 47	11: 50	3	2	ALI VE	A	193
V16	11: 45	11: 49	4	2	ALI VE	A	168
V18	11: 51	11: 58	7	2	ALI VE	A	175
V19	11: 58	12: 06	8	2	ALI VE	A	188
V20	11: 50	11: 55	5	2	ALI VE	A	185
V21	11: 54	12: 00	6	2	ALI VE	A	136
V22	12: 29	12: 37	8	2	ALI VE	A	173
V23	12: 38	12: 41	3	2	ALI VE	A	176
V24	12: 35	12: 41	6	2	ALI VE	A	136
V25	12: 30	12: 38	8	2	ALI VE	A	176
V26	12: 29	12: 34	5	2	ALI VE	A	165
V27	12: 42	12: 53	11	2	ALI VE	A	195

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
V28	12: 46	12: 50	4	2	ALIVE	A	166	
V29	12: 42	12: 45	3	2	ALIVE	A	178	
V30	12: 40	12: 44	4	2	ALIVE	A	204	
V31	12: 45	12: 47	2	2	ALIVE	A	182	
V32	12: 48	12: 52	4	2	ALIVE	A	175	
V33	12: 57	13: 00	3	2	ALIVE	A	188	
V34	12: 54	12: 58	4	2	ALIVE	A	176	
V36	12: 50	12: 57	7	2	ALIVE	A	178	
V37	12: 59	13: 02	3	2	ALIVE	A	187	
V38	12: 58	.	.	0	DEAD	P	175	
V39	13: 01	13: 03	2	2	ALIVE	A	134	
V40	13: 04	13: 08	4	2	ALIVE	A	142	
V41	13: 02	13: 07	5	2	ALIVE	A	182	
V42	12: 53	12: 56	3	2	ALIVE	A	150	
V43	13: 12	13: 20	8	2	ALIVE	A	176	
29 November 1999 - Testlot 14 : PL=3, Unit 5, Mid - Water temp=50.0 C								
BA0	7: 36	7: 49	13	2	ALIVE	A	171	
BA1	7: 26	7: 36	10	2	ALIVE	A	192	
BA3	7: 29	7: 45	16	2	ALIVE	A	154	
BA4	7: 26	7: 35	9	2	ALIVE	A	185	
BA5	7: 45	7: 49	4	2	ALIVE	A	179	
BA6	7: 49	7: 52	3	2	ALIVE	A	172	
BA7	7: 38	7: 45	7	2	ALIVE	A	145	
BA8	7: 50	8: 01	11	2	ALIVE	A	167	
BA9	7: 46	7: 56	10	2	ALIVE	A	174	
BB0	8: 01	8: 05	4	2	ALIVE	A	190	
BB1	8: 00	8: 11	11	2	ALIVE	A	178	
BB2	7: 56	8: 00	4	2	ALIVE	A	179	
BB3	7: 58	8: 04	6	2	ALIVE	A	180	

BB4	7: 53	7: 57	4	2	ALI VE	A	135
BB5	8: 04	8: 12	8	2	ALI VE	A	163
BB6	8: 17	8: 20	3	2	ALI VE	A	164
BB7	8: 12	8: 17	5	2	ALI VE	A	176
BB8	8: 13	8: 21	8	2	ALI VE	A	166
BB9	8: 06	8: 09	3	2	ALI VE	A	173
BC0	8: 34	8: 38	4	2	ALI VE	A	146
BC1	8: 34	8: 43	9	2	ALI VE	A	183
BC2	8: 35	8: 49	14	2	ALI VE	A	172
BC3	8: 39	8: 49	10	2	ALI VE	A	140
BC4	8: 44	8: 52	8	2	ALI VE	A	143
BC5	8: 51	9: 00	9	2	ALI VE	A	181
BC6	8: 59	9: 20	21	2	ALI VE	A	169
BC7	8: 58	9: 01	3	2	ALI VE	A	167
BC8	8: 50	8: 58	8	2	ALI VE	A	171
BC9	8: 53	8: 57	4	2	ALI VE	A	168
BD0	9: 11	9: 28	17	2	ALI VE	A	171
BD1	9: 02	9: 10	8	2	ALI VE	A	176
BD2	9: 05	9: 10	5	2	ALI VE	A	178

E-30

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
BD3	9: 01	9: 04	3	2	DEAD	J	184	
BD4	9: 11	9: 20	9	2	ALI VE	A	158	
BD5	9: 30	9: 36	6	2	ALI VE	A	155	
BD6	9: 21	9: 27	6	2	ALI VE	A	185	
BD7	9: 36	9: 45	9	2	ALI VE	A	202	
BD8	9: 29	9: 36	7	2	ALI VE	A	127	
BD9	9: 21	9: 35	14	2	ALI VE	A	165	
BE0	10: 08	10: 11	3	2	ALI VE	A	170	
BE1	9: 52	9: 57	5	2	ALI VE	A	171	

BE2	9: 52	9: 57	5	2	ALI VE	A	180
BE3	9: 59	10: 07	8	2	ALI VE	A	176
BE4	9: 51	9: 59	8	2	ALI VE	A	184
BE5	10: 00	10: 06	6	2	ALI VE	A	186
BE6	10: 05	10: 07	2	2	ALI VE	A	183
BE7	10: 07	10: 11	4	2	ALI VE	A	170
BE8	10: 02	10: 08	6	2	ALI VE	A	202
BE9	9: 58	10: 01	3	2	ALI VE	A	147
BF0	10: 21	10: 26	5	2	ALI VE	A	168
BF1	10: 12	10: 15	3	2	ALI VE	A	141
BF2	10: 27	10: 30	3	2	ALI VE	A	165
BF3	10: 11	10: 19	8	2	ALI VE	A	180
BF4	10: 23	10: 25	2	2	ALI VE	A	182
BF5	10: 10	10: 18	8	2	ALI VE	A	178
BF6	10: 26	10: 31	5	2	ALI VE	A	146
BF7	10: 19	10: 27	8	2	ALI VE	A	163
BF8	10: 28	10: 31	3	2	ALI VE	A	169
BF9	10: 15	10: 22	7	2	ALI VE	A	180
BH0	10: 38	10: 41	3	2	ALI VE	A	194
BH1	10: 49	11: 06	17	2	ALI VE	A	174
BH2	10: 55	10: 58	3	2	ALI VE	A	134
BH3	10: 42	10: 45	3	2	ALI VE	A	180
BH4	10: 46	10: 54	8	2	ALI VE	A	170
BH5	10: 36	10: 47	11	2	ALI VE	A	178
BH6	10: 32	10: 36	4	2	ALI VE	A	182
BH7	10: 34	10: 37	3	2	ALI VE	A	173
BH8	10: 31	10: 33	2	2	ALI VE	A	174
BH9	10: 37	11: 03	26	2	ALI VE	A	184
BJ0	11: 08	11: 12	4	2	ALI VE	A	176
BJ1	11: 23	11: 27	4	2	ALI VE	A	184
BJ2	11: 25	11: 31	6	2	ALI VE	A	197
BJ3	11: 07	11: 12	5	2	ALI VE	A	194
BJ4	11: 14	11: 23	9	2	ALI VE	A	192
BJ5	11: 18	11: 20	2	2	ALI VE	A	189
BJ6	11: 13	11: 22	9	2	ALI VE	A	170
BJ7	10: 59	11: 04	5	2	ALI VE	A	175
BJ8	11: 21	11: 37	16	2	ALI VE	A	177
BJ9	11: 04	11: 08	4	2	ALI VE	A	179
BK0	11: 47	11: 51	4	2	ALI VE	A	183
BK1	11: 51	11: 57	6	2	ALI VE	A	185
BK2	11: 45	11: 53	8	2	ALI VE	A	184
BK3	11: 52	11: 56	4	2	ALI VE	A	170

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
BK4	11: 46	11: 50	4	2	ALIVE	A	162	
BK5	11: 56	12: 23	27	2	ALIVE	A	188	
BK6	12: 10	12: 29	19	2	ALIVE	A	169	
BK7	11: 54	12: 08	14	2	ALIVE	A	189	
BK8	11: 57	12: 09	12	2	ALIVE	A	160	
BL0	12: 53	13: 10	17	2	ALIVE	A	183	
BL1	12: 24	12: 44	20	2	ALIVE	A	174	
BL2	12: 54	13: 00	6	2	ALIVE	A	165	
BL3	12: 51	12: 58	7	2	ALIVE	A	173	
BL4	12: 31	12: 50	19	2	ALIVE	A	171	
BL5	13: 00	13: 08	8	2	ALIVE	A	180	
BL6	13: 08	13: 11	3	2	ALIVE	A	176	
BL7	13: 04	13: 13	9	2	ALIVE	A	133	
BL8	12: 59	13: 04	5	2	ALIVE	A	173	
BL9	13: 12	13: 24	12	2	ALIVE	A	180	
BMO	13: 42	13: 49	7	2	ALIVE	A	172	
BM1	13: 40	13: 48	8	2	ALIVE	A	179	
BM2	13: 49	13: 53	4	2	ALIVE	A	186	
BM3	13: 48	.	.	0	TAG & PIN		183	
BM4	13: 45	13: 59	14	2	ALIVE	A	177	
BM5	13: 27	13: 38	11	2	ALIVE	A	171	
BM6	13: 37	13: 44	7	2	ALIVE	A	190	
BM7	13: 28	13: 37	9	2	ALIVE	A	184	
BM8	13: 35	13: 41	6	2	ALIVE	A	160	
BM9	13: 28	13: 34	6	2	ALIVE	A	190	
BNO	14: 14	14: 21	7	2	ALIVE	A	131	
BN1	13: 51	14: 03	12	2	ALIVE	A	130	
BN2	13: 53	13: 58	5	2	ALIVE	A	176	
BN3	14: 18	14: 25	7	2	ALIVE	A	166	
BN4	14: 14	14: 19	5	2	ALIVE	A	180	
BN5	14: 30	14: 37	7	2	ALIVE	A	186	
BN6	14: 26	14: 32	6	2	ALIVE	A	127	

BN7	14: 19	14: 26	7	2	ALI VE	A	131
BN8	14: 23	14: 30	7	2	ALI VE	A	175
BN9	14: 28	14: 46	18	2	ALI VE	A	176
V44	8: 10	8: 18	8	2	ALI VE	A	185
V45	13: 10	13: 16	6	2	ALI VE	A	181

30 November 1999 - Testlot 15 : PL=1, Unit 6, Tip - Water temp=50.0 C

B00	12: 17	12: 22	5	2	ALI VE	A	184
B01	12: 22	12: 30	8	2	ALI VE	A	181
B02	12: 16	12: 23	7	2	ALI VE	A	199
B03	12: 25	12: 27	2	2	ALI VE	A	170
B04	12: 17	12: 23	6	2	ALI VE	A	149
B05	12: 41	12: 46	5	2	ALI VE	A	175
B06	12: 38	12: 41	3	2	ALI VE	A	193
B07	12: 38	12: 44	6	2	ALI VE	A	187
B08	12: 43	12: 48	5	2	ALI VE	A	175
B09	12: 37	12: 46	9	2	ALI VE	A	181

E-32

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
B10	12: 48	13: 00	12	2	ALI VE	A	169	
B11	12: 53	13: 03	10	2	ALI VE	A	190	
B12	12: 53	12: 56	3	2	ALI VE	A	190	
B13	12: 48	12: 52	4	2	ALI VE	A	188	
B14	12: 47	12: 53	6	2	ALI VE	A	150	
B15	13: 08	13: 16	8	2	ALI VE	A	190	
B16	13: 03	13: 08	5	2	ALI VE	A	182	
B17	13: 06	13: 09	3	2	ALI VE	H	180	
B18	13: 01	13: 05	4	2	ALI VE	A	180	

B19	12: 56	13: 08	12	2	ALI VE	A	179
B20	13: 09	13: 15	6	2	ALI VE	A	165
B21	13: 15	13: 33	18	2	ALI VE	A	192
B22	13: 16	13: 19	3	2	ALI VE	A	195
B23	13: 10	13: 15	5	2	ALI VE	A	185
B24	13: 17	13: 21	4	2	ALI VE	A	128
B25	13: 25	13: 28	3	2	ALI VE	A	190
B26	13: 21	13: 24	3	2	ALI VE	A	178
B27	13: 28	13: 35	7	2	ALI VE	A	180
B28	13: 24	13: 27	3	2	ALI VE	A	171
B29	13: 19	13: 24	5	2	ALI VE	A	175
BP0	7: 30	7: 36	6	2	ALI VE	A	176
BP1	7: 30	7: 35	5	2	ALI VE	A	187
BP2	7: 41	8: 00	19	2	ALI VE	A	172
BP3	7: 49	7: 58	9	2	ALI VE	A	186
BP4	7: 35	7: 38	3	2	ALI VE	A	170
BP5	7: 38	7: 50	12	2	ALI VE	A	183
BP6	7: 50	7: 54	4	2	ALI VE	A	165
BP7	7: 31	7: 49	18	2	ALI VE	A	184
BP8	7: 54	7: 58	4	2	ALI VE	A	185
BP9	7: 36	7: 40	4	2	ALI VE	A	183
BR0	7: 58	8: 01	3	2	ALI VE	A	190
BR1	8: 07	8: 10	3	2	ALI VE	A	149
BR2	8: 05	8: 08	3	2	ALI VE	A	133
BR3	7: 59	8: 01	2	2	ALI VE	A	189
BR4	8: 08	8: 14	6	2	ALI VE	A	196
BR5	8: 02	8: 07	5	2	ALI VE	A	195
BR6	8: 02	8: 07	5	2	ALI VE	A	176
BR7	8: 13	8: 16	3	2	ALI VE	A	170
BR8	8: 11	8: 14	3	2	ALI VE	A	182
BR9	8: 10	8: 20	10	2	ALI VE	A	139
BS0	8: 28	8: 35	7	2	ALI VE	A	195
BS1	8: 33	8: 41	8	2	ALI VE	A	180
BS2	8: 27	8: 43	16	2	ALI VE	A	164
BS3	8: 36	8: 38	2	2	ALI VE	A	166
BS4	8: 28	8: 33	5	2	ALI VE	A	188
BS5	8: 48	8: 54	6	2	ALI VE	A	170
BS6	8: 42	8: 46	4	2	ALI VE	A	167
BS7	8: 38	8: 47	9	2	ALI VE	A	150
BS8	8: 43	8: 51	8	2	ALI VE	A	179
BS9	8: 48	8: 55	7	2	ALI VE	A	175
BT0	8: 56	9: 04	8	2	ALI VE	A	205

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
BT1	8:56	9:01	5	2	ALIVE	A	190	
BT2	8:52	9:00	8	2	ALIVE	A	162	
BT3	8:54	8:58	4	2	ALIVE	A	174	
BT4	9:00	9:08	8	2	ALIVE	A	168	
BT5	9:05	9:14	9	2	ALIVE	A	165	
BT6	9:16	9:24	8	2	ALIVE	A	190	
BT7	9:08	9:17	9	2	ALIVE	A	180	
BT8	9:02	9:16	14	2	ALIVE	A	200	
BT9	9:17	9:23	6	2	ALIVE	A	136	
BU0	9:42	9:49	7	2	ALIVE	A	173	
BU1	9:35	9:46	11	2	ALIVE	A	185	
BU2	9:40	9:46	6	2	ALIVE	A	184	
BU3	9:47	9:55	8	2	ALIVE	A	181	
BU4	9:31	9:35	4	2	ALIVE	A	182	
BU5	9:30	9:42	12	2	ALIVE	A	175	
BU6	9:35	9:40	5	2	ALIVE	A	178	
BU7	9:46	9:50	4	2	ALIVE	A	130	
BU8	9:50	9:59	9	2	ALIVE	A	177	
BU9	9:31	9:34	3	2	ALIVE	A	186	
BV0	10:17	10:21	4	2	ALIVE	A	170	
BV1	10:19	10:27	8	2	ALIVE	A	177	
BV2	9:56	10:03	7	2	ALIVE	A	134	
BV3	10:01	10:19	18	2	ALIVE	A	173	
BV4	10:06	10:21	15	2	ALIVE	A	182	
BV5	9:51	9:53	2	2	ALIVE	A	167	
BV6	10:02	10:15	13	2	ALIVE	A	185	
BV7	9:54	9:57	3	2	ALIVE	A	189	
BV8	10:22	10:31	9	2	ALIVE	A	152	
BV9	9:58	10:01	3	2	ALIVE	A	186	
BW0	10:41	10:44	3	2	ALIVE	A	126	
BW1	10:40	10:44	4	2	ALIVE	A	167	
BW2	10:47	10:49	2	2	ALIVE	A	128	

BW3	10: 44	10: 47	3	2	AL I VE	A	167
BW4	10: 48	10: 53	5	2	AL I VE	A	180
BW5	10: 49	10: 51	2	2	AL I VE	A	172
BW6	10: 51	11: 05	14	2	AL I VE	A	192
BW7	10: 45	10: 48	3	2	AL I VE	A	202
BW8	10: 44	10: 49	5	2	AL I VE	A	168
BW9	10: 40	10: 43	3	2	AL I VE	A	162
BX0	11: 01	11: 04	3	2	AL I VE	A	185
BX1	11: 05	11: 09	4	2	AL I VE	A	196
BX2	11: 08	11: 12	4	2	AL I VE	A	183
BX3	10: 52	10: 54	2	2	AL I VE	A	185
BX4	11: 04	11: 07	3	2	AL I VE	A	173
BX5	10: 55	10: 59	4	2	AL I VE	A	155
BX6	11: 07	11: 09	2	2	AL I VE	A	175
BX8	10: 54	10: 58	4	2	AL I VE	A	193
BX9	10: 59	11: 01	2	2	AL I VE	A	184
BY0	11: 25	11: 30	5	2	AL I VE	A	182
BY1	11: 25	11: 34	9	2	AL I VE	A	175
BY2	11: 31	11: 37	6	2	AL I VE	A	180

E-34

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
BY3	11: 25	.	.	0	TAG & PIN		176	
BY4	11: 32	11: 40	8	2	AL I VE	A	188	
BY5	11: 41	11: 46	5	2	AL I VE	A	167	
BY6	11: 37	11: 41	4	2	AL I VE	A	165	
BY7	11: 40	11: 44	4	2	DEAD	E	184	
BY8	11: 45	11: 50	5	2	AL I VE	A	189	
BZ0	11: 52	11: 56	4	2	AL I VE	A	177	
BZ1	11: 48	11: 52	4	2	AL I VE	A	166	
BZ2	11: 56	12: 01	5	2	AL I VE	A	185	

BZ3	11: 52	12: 03	11	2	ALI VE	A	150
BZ4	11: 51	12: 00	9	2	ALI VE	A	179
BZ5	12: 05	12: 10	5	2	ALI VE	A	144
BZ6	12: 06	12: 13	7	2	ALI VE	A	176
BZ7	12: 02	12: 04	2	2	ALI VE	A	183
BZ8	12: 01	12: 05	4	2	ALI VE	A	182
BZ9	12: 04	12: 08	4	2	ALI VE	A	135
V46	10: 59	11: 06	7	2	ALI VE	A	172
V47	12: 25	12: 30	5	2	ALI VE	A	141

1 December 1999 - Testlot 16 : PL=1, Unit 6, Mid - Water temp=50.0 C

B30	7: 17	7: 32	15	2	ALI VE	A	192
B31	7: 24	7: 40	16	2	ALI VE	A	190
B32	7: 33	7: 38	5	2	ALI VE	A	153
B33	7: 18	7: 33	15	2	ALI VE	A	170
B34	7: 18	7: 23	5	2	ALI VE	A	196
B35	7: 47	7: 52	5	2	ALI VE	A	180
B36	7: 34	7: 38	4	2	ALI VE	A	185
B37	7: 39	7: 56	17	2	ALI VE	A	208
B38	7: 36	7: 46	10	2	ALI VE	A	190
B39	7: 44	7: 54	10	2	ALI VE	A	167
B40	7: 53	8: 02	9	2	ALI VE	A	176
B41	8: 03	8: 06	3	2	ALI VE	A	177
B42	7: 57	8: 02	5	2	ALI VE	A	190
B43	8: 03	8: 06	3	2	ALI VE	A	152
B44	7: 54	8: 15	21	2	ALI VE	A	184
B45	8: 07	8: 13	6	2	ALI VE	A	151
B46	8: 14	8: 17	3	2	ALI VE	A	177
B47	8: 06	8: 09	3	2	ALI VE	A	170
B48	8: 09	8: 17	8	2	ALI VE	A	163
B49	8: 15	8: 21	6	2	ALI VE	A	175
B50	8: 47	8: 49	2	2	ALI VE	A	185
B51	8: 49	8: 52	3	2	ALI VE	A	173
B52	8: 40	8: 45	5	2	ALI VE	A	172
B53	8: 43	8: 48	5	2	ALI VE	A	186
B54	8: 41	8: 43	2	2	ALI VE	A	186
B55	8: 45	8: 49	4	2	ALI VE	A	130
B56	8: 44	8: 47	3	2	ALI VE	A	142
B57	8: 40	8: 43	3	2	ALI VE	A	183
B58	8: 49	8: 52	3	2	ALI VE	A	186

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
B59	8: 47	8: 56	9	2	ALIVE	A	147	
B60	9: 08	9: 11	3	2	ALIVE	A	177	
B61	8: 59	9: 10	11	2	ALIVE	A	135	
B62	8: 56	8: 59	3	2	ALIVE	A	183	
B63	9: 00	9: 03	3	2	ALIVE	A	184	
B64	9: 06	9: 09	3	2	ALIVE	A	134	
B65	8: 53	8: 59	6	2	ALIVE	A	183	
B66	8: 57	9: 01	4	2	ALIVE	A	207	
B67	9: 02	9: 05	3	2	ALIVE	A	182	
B68	9: 04	9: 08	4	2	ALIVE	A	196	
B69	8: 52	8: 55	3	2	ALIVE	A	173	
B70	9: 21	9: 27	6	2	ALIVE	A	205	
B71	9: 23	9: 28	5	2	ALIVE	A	158	
B72	9: 21	9: 23	2	2	ALIVE	A	175	
B73	9: 25	9: 28	3	2	DEAD	HJ	185	
B74	9: 20	9: 25	5	2	ALIVE	A	139	
B75	9: 33	9: 45	12	2	ALIVE	A	132	
B76	9: 29	9: 33	4	2	ALIVE	A	128	
B77	9: 34	9: 39	5	2	ALIVE	A	195	
B78	9: 30	9: 40	10	2	ALIVE	A	180	
B79	9: 27	9: 32	5	2	ALIVE	A	186	
B80	9: 38	9: 44	6	2	ALIVE	A	175	
B81	9: 48	9: 57	9	2	ALIVE	A	191	
B82	9: 45	9: 49	4	2	ALIVE	A	176	
B83	9: 40	9: 44	4	2	ALIVE	A	174	
B84	9: 44	9: 48	4	2	ALIVE	A	173	
B85	10: 01	10: 24	23	2	ALIVE	B	182	
B86	9: 51	9: 54	3	2	ALIVE	A	201	
B87	9: 50	10: 01	11	2	ALIVE	A	168	
B88	9: 57	10: 09	12	2	ALIVE	A	173	
B89	9: 55	10: 03	8	2	ALIVE	A	190	
B90	10: 58	11: 02	4	2	ALIVE	A	186	

B91	10: 56	11: 01	5	2	ALI VE	A	198
B92	10: 55	10: 58	3	2	ALI VE	A	181
B93	10: 55	11: 04	9	2	ALI VE	A	185
B94	11: 02	11: 18	16	2	ALI VE	A	169
B95	11: 11	.	.	0	DEAD	P	196
B96	11: 03	11: 09	6	2	ALI VE	A	151
B97	11: 10	11: 31	21	2	ALI VE	A	176
B98	11: 05	11: 09	4	2	ALI VE	A	186
B99	11: 20	11: 27	7	2	ALI VE	A	173
V48	12: 54	13: 03	9	2	ALI VE	A	164
V49	14: 15	14: 19	4	2	ALI VE	A	173
V50	11: 31	11: 39	8	2	ALI VE	A	187
V51	11: 37	11: 42	5	2	ALI VE	A	176
V52	11: 40	11: 44	4	2	ALI VE	A	185
V53	11: 27	11: 35	8	2	ALI VE	A	186
V54	11: 32	11: 40	8	2	ALI VE	A	180
V56	11: 56	12: 08	12	2	ALI VE	A	184
V57	11: 41	11: 55	14	2	ALI VE	A	185
V58	11: 56	12: 00	4	2	ALI VE	A	190

E-36

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
V59	11: 43	11: 55	12	2	ALI VE	A	178	
V60	12: 26	12: 33	7	2	ALI VE	A	186	
V61	12: 26	12: 31	5	2	ALI VE	A	186	
V62	12: 37	12: 40	3	2	ALI VE	A	193	
V63	12: 25	12: 36	11	2	ALI VE	A	190	
V64	12: 46	12: 51	5	2	ALI VE	A	151	
V65	12: 34	12: 46	12	2	ALI VE	A	171	
V66	12: 40	12: 45	5	2	ALI VE	A	190	
V67	12: 47	12: 53	6	2	ALI VE	A	187	

V68	12: 42	12: 48	6	2	ALI VE	A	185
V69	12: 31	12: 40	9	2	ALI VE	A	174
V70	13: 02	13: 08	6	2	ALI VE	A	184
V71	13: 09	13: 14	5	2	ALI VE	A	208
V72	13: 04	13: 14	10	2	ALI VE	A	181
V73	13: 14	13: 22	8	2	ALI VE	A	169
V74	13: 15	13: 23	8	2	ALI VE	A	199
V75	13: 03	13: 09	6	2	ALI VE	A	177
V76	12: 49	13: 03	14	2	ALI VE	A	183
V78	13: 10	13: 20	10	2	ALI VE	A	188
V79	12: 54	13: 02	8	2	ALI VE	A	201
V80	13: 33	13: 36	3	2	ALI VE	A	136
V81	13: 28	13: 32	4	2	ALI VE	A	167
V82	13: 28	13: 43	15	2	ALI VE	A	190
V83	13: 27	13: 31	4	2	ALI VE	A	180
V84	13: 32	13: 35	3	2	ALI VE	A	173
V85	13: 42	13: 47	5	2	ALI VE	A	185
V86	13: 36	13: 42	6	2	ALI VE	A	165
V87	13: 36	13: 43	7	2	ALI VE	A	180
V88	13: 44	13: 53	9	2	ALI VE	A	148
V89	13: 43	13: 50	7	2	ALI VE	A	180
V90	13: 51	14: 11	20	1	ALI VE	A	190
V91	13: 52	13: 57	5	2	ALI VE	A	180
V92	13: 48	13: 52	4	2	ALI VE	A	169
V93	13: 57	14: 01	4	2	ALI VE	A	130
V94	13: 53	13: 58	5	2	ALI VE	A	161
V95	14: 05	14: 11	6	2	ALI VE	A	173
V96	14: 07	14: 15	8	2	ALI VE	A	177
V97	14: 01	14: 06	5	2	ALI VE	A	177
V98	13: 58	14: 01	3	2	ALI VE	A	181
V99	14: 02	14: 02	0	2	ALI VE	A	175

2 December 1999 - Testlot 17 : PL=4, Unit 5, Tip - Water temp=50.0 C

TT8	9: 18	9: 21	3	2	ALI VE	A	180
VA0	7: 35	7: 36	1	2	ALI VE	A	187
VA1	7: 29	7: 51	22	2	ALI VE	A	172
VA2	7: 36	7: 46	10	2	ALI VE	A	175
VA3	7: 28	7: 35	7	2	ALI VE	A	172
VA4	7: 30	7: 34	4	2	DEAD	N	182
VA5	7: 47	8: 01	14	2	ALI VE	A	181

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
VA6	7: 44	7: 53	9	2	ALIVE	A	181	
VA7	7: 38	7: 43	5	2	ALIVE	A	189	
VA8	7: 54	7: 58	4	2	ALIVE	A	146	
VA9	7: 55	8: 01	6	2	ALIVE	A	185	
VB0	8: 01	8: 07	6	2	ALIVE	A	184	
VB1	8: 08	.	.	0	DEAD	L	171	
VB2	7: 59	8: 08	9	2	ALIVE	A	180	
VB3	8: 02	8: 07	5	2	ALIVE	A	195	
VB4	8: 09	8: 11	2	2	ALIVE	A	180	
VB5	8: 14	8: 16	2	1	ALIVE	B	136	
VB6	8: 19	8: 27	8	2	ALIVE	A	146	
VB7	8: 11	8: 14	3	2	ALIVE	A	143	
VB8	8: 15	8: 18	3	2	ALIVE	A	187	
VB9	8: 17	8: 27	10	2	ALIVE	A	174	
VC0	8: 37	8: 41	4	2	ALIVE	A	181	
VC1	8: 35	8: 46	11	2	ALIVE	A	186	
VC2	8: 31	8: 37	6	2	ALIVE	A	165	
VC3	8: 27	8: 31	4	2	DEAD	E	177	
VC4	8: 28	8: 35	7	1	DEAD	BN	190	
VC5	8: 46	8: 57	11	2	ALIVE	A	177	
VC6	8: 41	8: 50	9	2	ALIVE	A	190	
VC7	8: 42	8: 45	3	2	ALIVE	A	185	
VC8	8: 50	8: 52	2	2	ALIVE	A	170	
VC9	8: 47	8: 50	3	2	ALIVE	A	140	
VD0	8: 54	9: 05	11	2	ALIVE	A	131	
VD1	9: 01	9: 04	3	2	ALIVE	A	185	
VD2	8: 58	9: 01	3	2	ALIVE	A	168	
VD3	8: 54	8: 58	4	2	ALIVE	A	186	
VD4	8: 58	9: 00	2	2	ALIVE	A	180	
VD5	9: 05	.	.	1	DEAD	L	176	
VD6	9: 11	9: 19	8	2	ALIVE	A	139	
VD7	9: 10	9: 13	3	2	ALIVE	A	183	

VD8	9: 04	9: 10	6	2	ALI VE	A	171
VD9	9: 06	9: 11	5	2	ALI VE	A	140
VE0	9: 21	9: 25	4	2	ALI VE	A	171
VE2	9: 19	9: 34	15	2	ALI VE	A	179
VE3	9: 14	9: 17	3	2	ALI VE	A	177
VE4	9: 25	9: 34	9	2	ALI VE	A	172
VE5	9: 45	9: 53	8	2	ALI VE	A	184
VE6	9: 52	10: 01	9	2	ALI VE	A	180
VE7	9: 44	9: 51	7	2	ALI VE	A	186
VE8	9: 45	9: 47	2	2	DEAD	N	185
VE9	9: 52	10: 19	27	2	ALI VE	A	179
VF0	10: 12	10: 13	1	2	ALI VE	A	175
VF1	10: 07	10: 09	2	2	ALI VE	A	174
VF2	9: 55	10: 11	16	2	ALI VE	A	177
VF3	10: 02	10: 06	4	2	ALI VE	A	183
VF4	10: 09	10: 20	11	2	ALI VE	A	182
VF5	10: 20	10: 24	4	2	ALI VE	A	182
VF6	10: 25	10: 33	8	2	ALI VE	A	190
VF7	10: 15	10: 19	4	1	ALI VE	A	185

E-38

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
VF8	10: 20	10: 32	12	2	ALI VE	A	175	
VF9	10: 29	10: 46	17	2	ALI VE	A	164	
VH0	11: 06	11: 14	8	2	ALI VE	A	130	
VH1	10: 53	11: 05	12	2	ALI VE	A	177	
VH2	11: 05	11: 12	7	2	ALI VE	A	182	
VH3	10: 55	11: 03	8	2	ALI VE	A	188	
VH4	11: 09	11: 26	17	2	ALI VE	A	184	
VH5	10: 34	10: 40	6	2	ALI VE	A	184	
VH6	10: 41	10: 51	10	2	ALI VE	A	176	

VH7	10: 33	10: 52	19	2	ALI VE	A	188
VH8	10: 47	10: 54	7	2	ALI VE	A	147
VH9	10: 52	11: 08	16	2	ALI VE	A	141
VJ0	11: 40	11: 44	4	2	ALI VE	A	203
VJ1	11: 41	11: 50	9	2	ALI VE	A	197
VJ2	11: 44	11: 50	6	2	ALI VE	A	170
VJ3	11: 52	12: 06	14	2	ALI VE	A	195
VJ4	11: 50	12: 01	11	2	ALI VE	A	174
VJ5	11: 51	11: 57	6	2	ALI VE	A	180
VJ6	11: 58	12: 01	3	2	ALI VE	A	175
VJ7	11: 38	11: 45	7	2	ALI VE	A	176
VJ8	11: 45	11: 52	7	2	ALI VE	A	187
VJ9	11: 39	11: 44	5	2	ALI VE	A	141
VK0	12: 18	12: 21	3	2	ALI VE	A	142
VK1	12: 15	12: 18	3	2	ALI VE	A	140
VK2	12: 25	12: 30	5	2	ALI VE	A	182
VK3	12: 03	12: 06	3	2	ALI VE	A	184
VK4	12: 20	12: 25	5	2	ALI VE	A	180
VK5	12: 07	12: 10	3	2	ALI VE	A	169
VK6	12: 02	12: 09	7	2	ALI VE	A	190
VK7	12: 11	12: 13	2	2	ALI VE	A	154
VK8	12: 27	12: 30	3	2	ALI VE	A	136
VK9	12: 24	12: 29	5	2	ALI VE	A	184
VL0	12: 19	12: 22	3	2	ALI VE	A	160
VL1	12: 19	12: 21	2	2	ALI VE	A	172
VL2	12: 22	12: 25	3	2	ALI VE	A	185
VL3	12: 16	12: 20	4	2	ALI VE	A	176
VL4	12: 14	12: 17	3	2	ALI VE	A	175
VL5	12: 46	12: 55	9	2	ALI VE	A	172
VL6	12: 45	12: 55	10	2	ALI VE	A	200
VL7	12: 59	13: 03	4	2	ALI VE	A	179
VL9	12: 49	13: 03	14	2	ALI VE	A	186
VMO	13: 05	13: 40	35	2	ALI VE	A	184
VM1	13: 07	13: 10	3	2	ALI VE	H	186
VM2	13: 10	13: 23	13	2	ALI VE	A	180
VM3	13: 05	13: 10	5	2	ALI VE	A	145
VM4	13: 11	13: 13	2	2	ALI VE	A	180
VM5	13: 35	14: 03	28	2	ALI VE	A	176
VM6	13: 33	13: 44	11	2	ALI VE	A	195
VM7	13: 14	.	.	0	TAG & PIN		177
VM8	13: 23	13: 35	12	2	ALI VE	A	190
VNO	14: 03	14: 07	4	2	ALI VE	A	194

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
VN2	14: 01	14: 16	15	2	ALIVE	A	187	
VN3	13: 56	13: 59	3	2	ALIVE	A	185	
VN4	13: 44	13: 55	11	2	ALIVE	A	190	
VN5	14: 30	14: 32	2	2	ALIVE	A	180	
VN6	14: 30	14: 33	3	2	ALIVE	A	176	
VN7	14: 35	14: 37	2	2	ALIVE	A	185	
VN8	14: 37	14: 39	2	2	ALIVE	A	172	
VN9	14: 40	14: 44	4	2	ALIVE	A	151	
VP0	14: 35	14: 39	4	2	ALIVE	A	198	
VP1	14: 40	14: 44	4	2	ALIVE	A	177	
VP2	14: 29	14: 35	6	2	ALIVE	A	185	
VP3	14: 39	14: 42	3	2	ALIVE	A	186	
VP4	14: 32	14: 38	6	2	ALIVE	A	166	
VP5	14: 53	14: 57	4	2	ALIVE	A	135	
VP6	14: 54	14: 56	2	2	ALIVE	A	169	
VP7	14: 44	14: 46	2	2	ALIVE	A	166	
VP8	14: 57	.	.	0	DEAD	L	189	
VR0	14: 45	14: 53	8	2	ALIVE	A	176	
VR1	14: 46	14: 49	3	2	ALIVE	A	181	
VR2	14: 50	14: 51	1	2	ALIVE	A	179	
VR3	14: 58	15: 04	6	2	ALIVE	A	191	
VR4	14: 42	14: 44	2	2	ALIVE	A	144	
VR5	14: 07	14: 12	5	2	ALIVE	A	175	
VR6	14: 12	14: 12	0	2	ALIVE	A	191	
VR7	15: 30	15: 37	7	2	ALIVE	A	186	
VR8	15: 18	15: 30	12	2	ALIVE	A	184	
VR9	15: 32	15: 39	7	2	ALIVE	A	159	
VS0	15: 40	15: 44	4	2	ALIVE	A	188	
VS1	15: 44	15: 49	5	2	ALIVE	A	166	
VS2	15: 42	15: 47	5	2	ALIVE	A	185	
VS3	15: 47	15: 51	4	2	ALIVE	A	198	
VS4	15: 41	15: 47	6	2	ALIVE	A	146	

VS5	15: 28	15: 42	14	2	ALI VE	A	192
VS6	15: 37	15: 40	3	2	ALI VE	A	145

3 December 1999 - Testlot 18 : PL=3, Control - Water temp=50.0 C

MM0	11: 30	11: 39	9	2	ALI VE	A	192
MM1	11: 39	11: 50	11	2	ALI VE	A	165
MM2	11: 29	11: 35	6	2	ALI VE	A	185
MM3	11: 24	11: 30	6	2	ALI VE	A	176
MM4	11: 20	11: 25	5	2	ALI VE	A	190
MM5	11: 24	11: 26	2	2	ALI VE	A	193
MM6	11: 36	11: 44	8	2	ALI VE	A	197
MM7	11: 27	11: 29	2	2	ALI VE	A	180
MM8	11: 31	11: 52	21	2	ALI VE	A	167
MM9	11: 25	11: 30	5	2	ALI VE	A	170
MNO	12: 03	12: 16	13	2	ALI VE	A	131
MN1	12: 04	12: 17	13	2	ALI VE	A	183
MN2	12: 04	12: 09	5	2	ALI VE	A	171

E-40

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MN3	12: 13	12: 19	6	2	ALI VE	A	181	
MN4	12: 10	12: 12	2	2	ALI VE	A	189	
MN5	12: 21	12: 37	16	2	ALI VE	A	179	
MN6	12: 32	12: 35	3	2	ALI VE	A	163	
MN7	12: 28	12: 52	24	2	ALI VE	A	190	
MN8	12: 21	12: 24	3	2	ALI VE	A	195	
MN9	12: 24	12: 32	8	2	ALI VE	H	180	
MP0	12: 43	12: 45	2	2	ALI VE	A	157	
MP1	12: 46	13: 11	25	2	ALI VE	A	187	

MP3	12: 38	12: 59	21	2	ALI VE	A	183
MP4	12: 36	12: 40	4	2	ALI VE	A	178
MP5	13: 03	13: 15	12	2	ALI VE	A	193
MP6	13: 14	13: 23	9	2	ALI VE	A	182
MP7	13: 06	13: 10	4	2	ALI VE	A	167
MP8	13: 10	13: 18	8	2	ALI VE	A	176
MP9	13: 00	13: 01	1	2	ALI VE	A	188
MR0	13: 33	13: 38	5	2	ALI VE	A	189
MR1	13: 30	13: 32	2	2	ALI VE	A	181
MR2	13: 30	13: 34	4	2	ALI VE	A	171
MR3	13: 35	13: 38	3	2	ALI VE	A	193
MR4	13: 33	13: 36	3	2	ALI VE	A	163
MR5	13: 41	13: 43	2	2	DEAD	J	192
MR6	13: 43	14: 03	20	2	ALI VE	A	180
MR7	13: 40	13: 46	6	2	ALI VE	A	132
MR8	13: 37	13: 41	4	2	ALI VE	A	164
MR9	13: 38	13: 40	2	2	ALI VE	A	197
MS0	13: 56	14: 00	4	2	ALI VE	A	185
MS2	14: 04	14: 14	10	2	ALI VE	A	173
MS3	13: 44	13: 51	7	2	ALI VE	A	171
MS4	13: 51	13: 56	5	2	ALI VE	H	187
MS5	14: 13	14: 18	5	2	ALI VE	A	179
MS6	14: 18	14: 20	2	2	ALI VE	A	175
MS7	14: 14	14: 18	4	2	ALI VE	A	175
MS8	14: 21	14: 26	5	2	ALI VE	A	134
MS9	14: 19	14: 22	3	2	ALI VE	A	165
TT9	14: 32	14: 36	4	2	ALI VE	A	190
VS7	8: 21	8: 28	7	2	ALI VE	A	177
VS8	13: 16	13: 19	3	2	ALI VE	A	136
VS9	14: 28	14: 32	4	2	ALI VE	A	182
VT0	7: 22	7: 28	6	2	ALI VE	A	180
VT1	7: 31	.	.	0	TAG & PIN		180
VT2	7: 23	7: 31	8	2	ALI VE	A	163
VT3	7: 29	7: 47	18	2	ALI VE	A	138
VT4	7: 22	7: 31	9	2	ALI VE	A	180
VT5	7: 48	7: 55	7	2	ALI VE	A	187
VT6	7: 34	7: 41	7	2	ALI VE	A	178
VT7	8: 01	8: 15	14	2	ALI VE	A	182
VT8	7: 42	.	.	0	DEAD	L	182
VT9	7: 58	8: 21	23	2	ALI VE	A	188
VU0	8: 15	8: 24	9	2	ALI VE	A	181
VU1	8: 24	8: 31	7	2	ALI VE	A	184

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
VU2	8: 27	8: 42	15	2	ALIVE	A	176	
VU4	8: 34	8: 37	3	2	ALIVE	A	181	
VU5	8: 38	8: 40	2	2	ALIVE	A	180	
VU6	8: 34	8: 42	8	2	ALIVE	A	203	
VU7	8: 28	8: 33	5	2	ALIVE	A	172	
VU8	8: 23	8: 25	2	2	ALIVE	A	165	
VU9	8: 41	8: 47	6	2	ALIVE	A	137	
VV0	9: 01	9: 05	4	2	ALIVE	A	180	
VV1	9: 12	9: 15	3	2	ALIVE	A	130	
VV2	9: 05	9: 09	4	2	ALIVE	A	187	
VV3	9: 06	9: 08	2	2	ALIVE	A	182	
VV4	9: 09	9: 13	4	2	ALIVE	A	181	
VV5	9: 01	9: 04	3	2	ALIVE	A	163	
VV6	9: 01	9: 09	8	2	ALIVE	A	186	
VV7	9: 13	9: 19	6	2	ALIVE	A	185	
VV8	9: 10	9: 12	2	2	ALIVE	A	183	
VV9	9: 10	9: 12	2	2	ALIVE	A	135	
VW0	9: 14	9: 16	2	2	ALIVE	A	170	
VW1	9: 16	9: 19	3	2	ALIVE	A	194	
VW2	9: 19	9: 22	3	2	ALIVE	A	178	
VW3	9: 15	9: 21	6	2	ALIVE	A	184	
VW4	9: 25	9: 29	4	2	ALIVE	A	140	
VW5	9: 22	9: 24	2	2	ALIVE	A	177	
VW6	9: 20	9: 25	5	2	ALIVE	A	170	
VW7	9: 25	9: 29	4	2	ALIVE	A	193	
VW8	9: 26	9: 32	6	2	ALIVE	A	177	
VW9	9: 21	9: 26	5	2	ALIVE	A	181	
VX0	9: 43	9: 55	12	2	ALIVE	A	190	
VX1	9: 44	9: 48	4	2	ALIVE	A	190	
VX2	9: 49	9: 55	6	2	ALIVE	A	168	
VX3	9: 47	9: 55	8	2	ALIVE	A	187	
VX4	9: 42	9: 47	5	2	ALIVE	A	191	

VX5	10: 01	10: 07	6	2	ALI VE	A	176
VX6	9: 55	.	.	0	DEAD	Z	160
VX7	10: 01	10: 07	6	2	ALI VE	A	182
VX8	9: 56	10: 00	4	2	ALI VE	A	178
VX9	9: 57	10: 01	4	2	ALI VE	A	176
VY0	10: 07	10: 14	7	2	ALI VE	A	178
VY2	10: 11	10: 14	3	2	ALI VE	A	183
VY3	10: 15	10: 21	6	2	ALI VE	A	198
VY4	10: 08	10: 12	4	2	ALI VE	A	170
VY5	10: 30	10: 34	4	2	ALI VE	A	178
VY6	10: 33	10: 47	14	2	ALI VE	A	182
VY7	10: 29	10: 38	9	2	ALI VE	A	167
VY8	10: 35	10: 48	13	2	ALI VE	A	133
VY9	10: 22	10: 29	7	2	ALI VE	A	180
VZ0	11: 18	11: 20	2	2	ALI VE	A	159
VZ1	10: 56	11: 04	8	2	ALI VE	A	186
VZ2	10: 58	11: 16	18	2	ALI VE	A	159
VZ3	10: 55	10: 59	4	2	ALI VE	A	178
VZ4	11: 07	11: 23	16	2	ALI VE	A	190

E-42

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
VZ5	11: 12	11: 17	5	2	ALI VE	A	172	
VZ6	11: 09	11: 13	4	2	ALI VE	A	161	
VZ7	10: 59	11: 08	9	2	ALI VE	A	182	
VZ8	11: 16	11: 23	7	2	ALI VE	A	186	
VZ9	10: 59	11: 06	7	2	ALI VE	A	177	

4 December 1999 - Testlot 19 : PL=4, Unit 5, Hub - Water temp= 9.5 C

MT0	7: 13	7: 23	10	2	ALI VE	A	175
MT1	7: 23	7: 31	8	2	ALI VE	A	180
MT2	7: 14	7: 27	13	2	ALI VE	A	185
MT3	7: 14	7: 45	31	2	ALI VE	H	200
MT4	7: 27	7: 47	20	2	ALI VE	A	179
MT5	7: 47	7: 51	4	2	ALI VE	A	195
MT6	7: 43	7: 44	1	2	ALI VE	A	172
MT7	7: 33	7: 42	9	2	ALI VE	A	133
MT8	7: 48	7: 56	8	2	ALI VE	A	196
MT9	7: 48	7: 59	11	2	ALI VE	A	194
MU0	7: 59	8: 04	5	2	ALI VE	A	164
MU1	7: 54	7: 55	1	2	ALI VE	A	192
MU2	7: 57	8: 08	11	2	ALI VE	A	181
MU3	7: 56	8: 04	8	2	ALI VE	A	182
MU4	7: 51	7: 53	2	2	ALI VE	A	162
MU5	8: 13	8: 17	4	2	ALI VE	A	145
MU6	8: 09	8: 13	4	2	ALI VE	A	140
MU7	8: 09	8: 12	3	2	ALI VE	A	142
MU8	8: 04	8: 08	4	2	ALI VE	A	188
MU9	8: 05	8: 14	9	2	ALI VE	A	171
MV0	8: 46	8: 51	5	2	ALI VE	A	180
MV1	8: 52	8: 56	4	2	ALI VE	A	192
MV2	8: 56	9: 00	4	2	ALI VE	A	182
MV3	8: 57	9: 01	4	2	ALI VE	A	182
MV4	9: 00	9: 05	5	2	ALI VE	A	200
MV5	8: 59	9: 02	3	2	ALI VE	A	132
MV6	8: 48	8: 51	3	2	ALI VE	A	133
MV7	8: 52	8: 56	4	2	ALI VE	A	184
MV8	8: 47	8: 52	5	2	ALI VE	A	187
MV9	8: 53	8: 59	6	2	ALI VE	A	184
MW0	9: 10	9: 16	6	2	ALI VE	A	184
MW1	9: 12	9: 17	5	2	ALI VE	A	177
MW2	9: 18	9: 22	4	2	ALI VE	A	146
MW3	9: 05	9: 08	3	2	ALI VE	A	186
MW4	9: 25	9: 31	6	2	ALI VE	A	185
MW5	9: 23	9: 27	4	2	ALI VE	A	193
MW6	9: 17	9: 25	8	2	ALI VE	A	190
MW7	9: 02	9: 10	8	2	ALI VE	A	155
MW8	9: 03	9: 10	7	2	ALI VE	A	144
MW9	9: 08	10: 14	66	1	ALI VE	BH	178
MX0	9: 43	9: 48	5	2	ALI VE	A	172
MX1	9: 42	9: 47	5	1	ALI VE	B	181

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MX2	9: 42	9: 49	7	2	ALIVE	A	179	
MX3	9: 48	9: 52	4	2	ALIVE	A	166	
MX4	9: 49	9: 52	3	2	ALIVE	A	175	
MX5	9: 56	10: 14	18	2	ALIVE	A	145	
MX6	9: 52	9: 57	5	2	ALIVE	A	185	
MX7	10: 01	10: 09	8	2	ALIVE	A	141	
MX8	9: 54	9: 56	2	2	ALIVE	A	188	
MX9	9: 57	10: 00	3	2	ALIVE	A	186	
MY0	10: 15	10: 21	6	2	ALIVE	A	196	
MY1	10: 14	10: 17	3	2	ALIVE	A	183	
MY2	10: 09	10: 13	4	2	ALIVE	A	180	
MY3	10: 04	10: 15	11	2	ALIVE	A	130	
MY4	10: 16	10: 27	11	2	ALIVE	A	135	
MY5	10: 22	10: 24	2	2	ALIVE	A	182	
MY6	10: 24	10: 27	3	2	ALIVE	A	174	
MY7	10: 22	10: 26	4	2	ALIVE	A	182	
MY8	10: 19	10: 21	2	2	ALIVE	A	172	
MY9	10: 26	10: 35	9	2	ALIVE	A	151	
MZ0	10: 49	10: 52	3	2	ALIVE	A	128	
MZ1	11: 01	11: 04	3	2	ALIVE	A	130	
MZ2	10: 46	10: 52	6	2	ALIVE	A	192	
MZ3	10: 57	11: 00	3	2	ALIVE	A	171	
MZ4	10: 42	10: 49	7	2	ALIVE	A	167	
MZ5	11: 04	11: 12	8	2	ALIVE	A	163	
MZ6	10: 43	10: 46	3	2	ALIVE	A	165	
MZ7	10: 52	11: 14	22	2	ALIVE	A	201	
MZ8	10: 45	10: 49	4	2	ALIVE	A	192	
MZ9	10: 53	11: 12	19	2	ALIVE	A	141	
V00	11: 28	11: 33	5	2	ALIVE	A	189	
V01	11: 19	11: 22	3	2	ALIVE	A	167	
V02	11: 15	11: 18	3	2	ALIVE	A	190	
V03	11: 20	11: 38	18	2	ALIVE	A	148	

V04	11: 19	11: 22	3	2	ALI VE	A	193
V05	11: 23	11: 31	8	2	ALI VE	A	180
V06	11: 14	11: 19	5	2	ALI VE	A	151
V07	11: 26	11: 27	1	2	ALI VE	A	175
V08	11: 23	11: 25	2	2	ALI VE	A	185
V09	11: 14	11: 19	5	2	ALI VE	A	184
V10	12: 25	12: 44	19	2	ALI VE	A	128
V11	12: 42	.	.	0	DEAD	P	130
V12	12: 19	12: 25	6	2	ALI VE	A	165
V13	12: 19	12: 39	20	2	ALI VE	A	181
V14	12: 20	.	.	0	DEAD	Z	173
V15	12: 46	12: 52	6	2	ALI VE	A	196
V16	12: 53	12: 56	3	2	ALI VE	A	183
V17	12: 51	12: 55	4	2	ALI VE	A	196
V18	12: 48	12: 53	5	2	ALI VE	A	178
V19	12: 53	12: 57	4	2	ALI VE	A	145
V20	12: 59	13: 05	6	1	ALI VE	H	186
V21	12: 58	13: 00	2	2	ALI VE	A	170
V22	13: 00	13: 02	2	2	ALI VE	A	173

E-44

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
V23	12: 56	12: 59	3	2	ALI VE	A	185	
V24	12: 55	12: 58	3	2	ALI VE	A	191	
V25	13: 05	13: 12	7	2	ALI VE	A	179	
V26	13: 06	13: 08	2	2	ALI VE	A	187	
V27	13: 09	13: 13	4	2	ALI VE	A	182	
V28	13: 01	13: 04	3	2	ALI VE	A	180	
V29	13: 03	13: 08	5	2	ALI VE	A	199	
V30	13: 18	13: 24	6	2	ALI VE	A	186	
V31	13: 14	13: 29	15	2	ALI VE	A	168	

V32	13: 12	13: 17	5	2	ALI VE	A	188
V33	13: 13	13: 22	9	2	ALI VE	A	180
V34	13: 10	13: 14	4	2	ALI VE	A	163
V35	13: 29	13: 39	10	2	ALI VE	A	187
V36	13: 22	13: 25	3	2	ALI VE	A	180
V37	13: 30	13: 34	4	2	ALI VE	A	166
V38	13: 24	13: 34	10	2	ALI VE	H	170
V39	13: 26	13: 28	2	2	ALI VE	A	165
V40	13: 39	13: 42	3	2	ALI VE	A	145
V41	13: 40	13: 43	3	2	ALI VE	A	185
V42	13: 34	13: 37	3	2	ALI VE		189
V43	13: 38	13: 40	2	2	ALI VE	A	194
V44	13: 34	.	.	0	TAG & PIN		175
V45	13: 46	13: 49	3	2	ALI VE	A	131
V46	13: 42	13: 44	2	2	ALI VE	A	174
V47	13: 43	13: 46	3	2	ALI VE	A	174
V48	13: 43	13: 53	10	2	ALI VE	A	175
V49	13: 45	13: 48	3	2	ALI VE	A	177

5 December 1999 - Testlot 20 : PL=4, Control

- Water temp= 9.5 C

V50	7: 31	7: 35	4	2	ALI VE	A	183
V51	7: 30	7: 33	3	2	ALI VE	A	192
V52	7: 44	7: 51	7	2	ALI VE	A	180
V53	7: 44	7: 47	3	2	ALI VE	A	184
V54	7: 45	7: 52	7	2	ALI VE	A	170
V55	7: 30	7: 33	3	2	ALI VE	A	196
V56	7: 35	7: 43	8	2	ALI VE	A	187
V57	7: 34	7: 39	5	2	ALI VE	A	195
V58	7: 34	7: 44	10	2	ALI VE	A	186
V59	7: 40	7: 44	4	2	ALI VE	A	183
V60	7: 56	7: 58	2	2	ALI VE	A	183
V61	8: 02	8: 06	4	2	ALI VE	A	180
V62	7: 58	8: 01	3	2	ALI VE	A	175
V63	7: 56	7: 59	3	2	ALI VE	A	135
V64	7: 48	7: 49	1	2	ALI VE	A	197
V65	7: 57	8: 01	4	2	ALI VE	A	172
V66	8: 01	8: 04	3	2	ALI VE	A	171
V67	7: 50	7: 54	4	2	ALI VE	A	190
V68	7: 59	8: 01	2	2	ALI VE	A	135
V69	7: 51	7: 55	4	2	ALI VE	A	172

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
V70	8: 26	8: 35	9	2	ALIVE	A	174	
V71	8: 27	8: 41	14	2	ALIVE	A	175	
V72	8: 41	8: 47	6	2	ALIVE	A	183	
V73	8: 27	8: 40	13	2	ALIVE	A	128	
V74	8: 36	8: 43	7	2	ALIVE	A	183	
V75	8: 44	8: 57	13	2	ALIVE	A	179	
V76	8: 43	8: 50	7	2	DEAD	GNE	190	
V77	8: 57	9: 08	11	2	ALIVE	A	176	
V79	8: 47	8: 57	10	2	ALIVE	A	161	
V80	9: 04	9: 08	4	2	ALIVE	A	145	
V81	9: 07	9: 12	5	2	ALIVE	A	202	
V82	9: 08	9: 17	9	2	ALIVE	A	179	
V83	9: 03	9: 07	4	2	ALIVE	A	192	
V84	8: 59	9: 04	5	2	ALIVE	A	158	
V85	9: 13	9: 17	4	2	ALIVE	A	164	
V86	9: 18	9: 28	10	2	ALIVE	A	138	
V87	9: 18	9: 23	5	1	ALIVE	B	143	
V88	9: 23	9: 36	13	2	ALIVE	A	135	
V89	9: 10	9: 28	18	2	ALIVE	A	181	
V90	9: 52	9: 55	3	2	ALIVE	A	194	
V91	9: 48	9: 51	3	2	ALIVE	A	185	
V92	9: 51	9: 55	4	1	ALIVE	A	194	
V93	9: 48	9: 51	3	2	ALIVE	A	167	
V95	9: 55	10: 00	5	2	ALIVE	A	181	
V96	9: 56	9: 56	0	2	ALIVE	A	182	
V97	10: 04	10: 09	5	2	ALIVE	A	137	
V98	10: 00	10: 04	4	2	ALIVE	A	193	
V99	10: 00	10: 12	12	2	ALIVE	A	171	
VA0	10: 22	10: 26	4	2	ALIVE	A	177	
VA1	10: 10	10: 21	11	2	ALIVE	A	191	
VA2	10: 17	10: 21	4	2	ALIVE	A	182	
VA3	10: 13	10: 17	4	2	ALIVE	A	192	

VA4	10: 21	10: 28	7	2	ALIVE	A	182
VA5	10: 28	10: 33	5	2	ALIVE	A	197
VA6	10: 27	10: 29	2	2	ALIVE	A	195
VA7	10: 29	10: 36	7	2	ALIVE	A	181
VA8	10: 30	10: 33	3	2	ALIVE	A	190
VA9	10: 25	10: 27	2	2	ALIVE	A	195
VB0	10: 33	10: 40	7	2	ALIVE	A	130
VB1	10: 39	10: 43	4	2	ALIVE	A	186
VB2	10: 40	10: 49	9	2	ALIVE	A	150
VB3	10: 34	10: 41	7	2	ALIVE	A	190
VB4	10: 41	.	.	0	TAG & PIN		133
VB5	10: 54	11: 00	6	2	ALIVE	A	185
VB6	10: 52	10: 54	2	2	ALIVE	A	181
VB7	10: 49	10: 52	3	2	ALIVE	A	192
VB8	10: 44	10: 58	14	2	ALIVE	A	203
VB9	10: 59	11: 09	10	2	ALIVE	A	150
VC0	11: 10	11: 14	4	2	ALIVE	A	179
VC1	11: 05	11: 10	5	2	ALIVE	A	185
VC2	11: 10	11: 13	3	2	ALIVE	A	179

E-46

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
VC3	11: 07	11: 11	4	2	DEAD	F	177	
VC4	11: 02	11: 05	3	2	ALIVE	A	180	
VC5	11: 23	11: 26	3	2	ALIVE	A	134	
VC6	11: 13	11: 23	10	2	ALIVE	A	178	
VC7	11: 15	11: 20	5	2	ALIVE	A	143	
VC9	11: 20	11: 23	3	2	ALIVE	A	153	
VD0	11: 50	11: 54	4	1	DEAD	F	130	
VD1	11: 37	11: 50	13	2	ALIVE	A	182	
VD2	11: 50	11: 57	7	2	ALIVE	A	195	

VD3	11: 38	11: 52	14	2	ALI VE	A	191
VD4	11: 37	11: 48	11	2	ALI VE	A	188
VD5	11: 53	11: 57	4	2	ALI VE	A	188
VD6	11: 57	12: 02	5	2	ALI VE	A	196
VD7	11: 52	11: 55	3	2	ALI VE	A	185
VD8	11: 58	12: 03	5	2	ALI VE	A	150
VD9	11: 56	11: 59	3	2	ALI VE	A	200
VE0	12: 00	12: 16	16	2	ALI VE	A	176
VE1	12: 14	12: 20	6	2	ALI VE	A	180
VE2	12: 04	12: 15	11	2	ALI VE	A	200
VE3	12: 16	12: 30	14	2	ALI VE	A	191
VE5	12: 34	12: 39	5	2	ALI VE	A	180
VE6	12: 21	12: 30	9	2	ALI VE	A	180
VE7	12: 18	12: 24	6	2	ALI VE	A	196
VE8	12: 31	12: 49	18	2	ALI VE	A	201
VE9	12: 24	12: 33	9	2	ALI VE	A	200
VF0	13: 11	13: 14	3	2	ALI VE	A	186
VF1	13: 13	13: 19	6	2	ALI VE	A	180
VF2	13: 02	13: 07	5	2	ALI VE	A	200
VF3	13: 09	13: 12	3	2	ALI VE	A	204
VF4	13: 05	13: 07	2	2	ALI VE	A	131
VF5	13: 06	13: 09	3	2	ALI VE	A	182
VF6	13: 08	13: 18	10	2	ALI VE	A	152
VF7	13: 08	13: 10	2	2	ALI VE	A	150
VF8	13: 01	13: 06	5	2	ALI VE	A	181
VF9	13: 01	13: 05	4	2	ALI VE	A	194
VH0	13: 20	13: 25	5	2	ALI VE	A	178
VH1	13: 19	13: 21	2	2	ALI VE	A	180
VH2	13: 32	13: 33	1	2	ALI VE	A	170
VH3	13: 15	.	.	0	DEAD	P	168
VH4	13: 23	13: 32	9	2	ALI VE	A	185
VH5	13: 26	13: 36	10	2	ALI VE	A	194
VH6	13: 22	13: 25	3	2	ALI VE	A	195
VH7	13: 32	13: 36	4	2	ALI VE	A	151
VH8	13: 18	13: 20	2	2	ALI VE	A	176
VH9	13: 27	13: 30	3	2	ALI VE	A	172
VZ0	9: 49	.	.	0	TAG & PIN		180
VZ1	12: 30	12: 44	14	2	ALI VE	A	186
VZ2	12: 46	12: 51	5	2	ALI VE	A	178
VZ3	12: 48	12: 57	9	2	ALI VE	A	188

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
6 December 1999 - Testlot 21 : PL=2, Unit 6, Mid - Water temp=50.0 C								
VJ0	7:31	7:40	9	2	ALIVE	A	189	
VJ1	7:25	.	.	0	DEAD	L	186	
VJ2	7:25	7:31	6	2	ALIVE	A	180	
VJ3	7:37	7:52	15	2	ALIVE	A	199	
VJ4	7:40	7:48	8	2	ALIVE	A	182	
VJ5	8:02	8:15	13	2	ALIVE	A	168	
VJ7	7:48	8:12	24	2	ALIVE	A	196	
VJ8	7:55	8:02	7	2	ALIVE	A	181	
VJ9	8:14	.	.	2	DEAD	Z	186	
VK0	8:27	8:38	11	2	ALIVE	A	168	
VK1	8:17	8:22	5	2	ALIVE	A	190	
VK2	8:16	8:21	5	2	ALIVE	A	165	
VK3	8:22	8:26	4	2	ALIVE	A	162	
VK4	8:21	8:35	14	2	ALIVE	A	176	
VK5	9:04	.	.	0	DEAD	P	193	
VK6	8:45	9:01	16	2	ALIVE	A	130	
VK7	8:41	8:45	4	2	ALIVE	A	175	
VK8	9:09	9:12	3	2	ALIVE	A	190	
VK9	8:41	9:08	27	2	ALIVE	A	141	
VL0	10:10	10:12	2	2	ALIVE	A	130	
VL1	10:05	10:18	13	2	ALIVE	A	183	
VL2	10:06	10:10	4	2	ALIVE	A	184	
VL3	10:02	10:04	2	2	ALIVE	A	188	
VL4	10:20	10:21	1	2	ALIVE	A	190	
VL5	10:03	10:04	1	2	ALIVE	A	135	
VL7	10:12	10:23	11	2	ALIVE	A	191	
VL8	10:01	10:04	3	2	ALIVE	A	185	
VL9	10:06	10:08	2	2	ALIVE	A	143	

VM0	10: 30	10: 31	1	2	ALI VE	A	178
VM1	10: 33	10: 52	19	2	ALI VE	A	164
VM2	10: 44	10: 47	3	2	ALI VE	A	194
VM3	10: 48	10: 54	6	2	ALI VE	A	198
VM4	10: 33	10: 38	5	2	ALI VE	A	150
VM5	10: 39	10: 42	3	2	ALI VE	A	163
VM6	10: 23	10: 30	7	2	ALI VE	A	200
VM7	10: 29	10: 33	4	2	ALI VE	A	135
VM8	10: 47	10: 51	4	2	ALI VE	A	155
VM9	.	10: 51	.	2	ALI VE	A	177
VN0	11: 07	11: 12	5	2	ALI VE	A	173
VN1	11: 13	11: 17	4	2	ALI VE	A	140
VN2	11: 13	11: 23	10	2	ALI VE	A	175
VN3	11: 08	11: 13	5	2	ALI VE	A	195
VN4	11: 08	11: 28	20	2	ALI VE	A	130
VN5	11: 32	11: 38	6	2	ALI VE	A	135
VN6	11: 17	11: 27	10	2	ALI VE	A	190
VN7	11: 27	11: 31	4	2	ALI VE	A	140
VN8	11: 24	11: 31	7	2	ALI VE	A	178

E-48

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
VP0	11: 38	11: 54	16	2	ALI VE	A	135	
VP1	11: 41	11: 50	9	2	ALI VE	A	141	
VP2	11: 48	11: 56	8	2	ALI VE	A	132	
VP3	11: 34	11: 37	3	2	ALI VE	A	176	
VP4	11: 37	11: 41	4	2	ALI VE	A	191	
VP5	12: 00	12: 14	14	2	ALI VE	A	195	
VP6	11: 56	12: 01	5	2	ALI VE	A	190	
VP7	11: 57	12: 01	4	2	ALI VE	A	190	
VP8	12: 01	12: 23	22	2	ALI VE	A	189	

VP9	11: 55	11: 59	4	2	ALI VE	A	180
VR0	12: 38	12: 43	5	2	ALI VE	A	131
VR1	12: 31	12: 36	5	2	ALI VE	A	130
VR2	12: 32	12: 38	6	2	ALI VE	A	185
VR3	12: 36	12: 40	4	2	ALI VE	A	185
VR4	12: 32	12: 38	6	2	ALI VE	A	172
VR6	12: 52	12: 57	5	2	ALI VE	A	181
VR7	12: 43	12: 54	11	2	ALI VE	A	186
VR8	12: 40	12: 52	12	2	ALI VE	A	138
VR9	12: 54	13: 01	7	2	ALI VE	A	140
VS0	13: 06	13: 19	13	2	ALI VE	A	137
VS1	12: 59	13: 04	5	2	ALI VE	A	188
VS2	13: 01	13: 05	4	2	ALI VE	A	175
VS3	13: 04	13: 21	17	2	ALI VE	A	150
VS4	12: 57	13: 12	15	2	ALI VE	A	190
VS5	13: 23	13: 28	5	2	ALI VE	A	175
VS6	13: 13	13: 22	9	2	ALI VE	A	198
VS7	13: 19	13: 23	4	2	ALI VE	A	190
VS8	13: 21	13: 27	6	2	ALI VE	A	190
VT0	13: 44	13: 54	10	2	ALI VE	A	196
VT1	13: 28	13: 38	10	2	ALI VE	A	189
VT2	13: 41	13: 44	3	2	ALI VE	A	130
VT3	13: 39	13: 44	5	2	ALI VE	A	199
VT4	13: 28	13: 39	11	2	ALI VE	A	139
VT5	13: 55	14: 03	8	2	ALI VE	A	137
VT6	13: 46	13: 51	5	2	ALI VE	A	176
VT7	13: 52	13: 59	7	2	ALI VE	A	195
VT8	13: 59	14: 03	4	2	ALI VE	A	145
VT9	13: 56	14: 10	14	2	ALI VE	A	132
VU0	14: 18	14: 29	11	2	ALI VE	A	141
VU1	14: 04	14: 12	8	2	ALI VE	A	181
VU2	14: 10	14: 20	10	2	ALI VE	A	182
VU3	14: 12	14: 23	11	2	ALI VE	A	180
VU4	14: 06	14: 16	10	2	ALI VE	A	193
VU5	14: 24	14: 30	6	2	ALI VE	A	176
VU6	14: 39	14: 46	7	2	ALI VE	A	181
VU7	14: 27	14: 35	8	2	ALI VE	A	174
VU8	14: 32	14: 45	13	2	ALI VE	A	186
VU9	14: 35	14: 39	4	2	ALI VE	A	162
VV0	14: 55	14: 56	1	2	ALI VE	A	180
VV1	14: 56	14: 58	2	2	ALI VE	A	180
VV2	14: 57	15: 02	5	2	ALI VE	A	168

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
VV3	14:52	14:54	2	2	ALIVE	A	185	
VV4	14:58	15:00	2	2	ALIVE	A	140	
VV5	14:53	14:55	2	2	ALIVE	A	130	
VV6	14:52	14:55	3	2	ALIVE	A	130	
VV7	15:00	15:04	4	2	ALIVE	A	132	
VV8	14:59	15:10	11	2	ALIVE	A	180	
VV9	15:02	15:05	3	2	ALIVE	A	186	
VW0	15:17	15:22	5	2	ALIVE	A	181	
VW1	15:09	15:11	2	2	ALIVE	A	193	
VW2	15:18	15:22	4	2	ALIVE	A	155	
VW3	15:25	15:28	3	2	ALIVE	A	140	
VW4	15:28	15:32	4	2	ALIVE	A	130	
VW5	15:23	15:28	5	2	ALIVE	A	185	
VW6	15:06	15:16	10	2	ALIVE	A	181	
VW7	15:21	15:24	3	2	ALIVE	A	184	
VW8	15:05	15:07	2	2	ALIVE	A	188	
VW9	15:22	15:27	5	2	ALIVE	A	185	
VZ4	11:52	11:55	3	1	DEAD	B	178	
VZ5	12:02	12:05	3	2	ALIVE	A	145	
VZ6	14:21	14:27	6	2	ALIVE	A	136	
VZ7	14:31	14:46	15	2	ALIVE	A	147	
VZ8	15:17	15:22	5	2	ALIVE	A	186	
7 December 1999 - Testlot 22 : PL=1, Control - Water temp=49.0 C								
CA0	9:28	9:31	3	2	ALIVE	A	170	
CA1	9:21	9:28	7	2	ALIVE	A	193	
CA2	9:09	9:13	4	2	ALIVE	A	136	
CA3	9:10	9:14	4	2	ALIVE	A	170	
CA4	9:26	9:30	4	2	ALIVE	A	179	
CA5	9:14	9:28	14	2	ALIVE	A	185	

CA6	9: 08	9: 12	4	2	ALI VE	A	125
CA7	9: 22	9: 26	4	2	ALI VE	A	200
CA8	9: 13	9: 20	7	2	ALI VE	A	183
CA9	9: 15	9: 19	4	2	ALI VE	A	180
CB0	9: 37	9: 41	4	2	ALI VE	A	186
CB1	9: 46	9: 50	4	2	ALI VE	A	182
CB2	9: 31	9: 33	2	2	ALI VE	A	187
CB3	9: 36	9: 46	10	2	ALI VE	A	149
CB4	9: 34	9: 37	3	2	ALI VE	A	173
CB5	9: 29	9: 31	2	2	ALI VE	A	178
CB6	9: 32	9: 36	4	2	ALI VE	A	174
CB7	9: 30	9: 36	6	2	ALI VE	A	182
CB8	9: 37	9: 45	8	2	ALI VE	A	196
CB9	9: 41	9: 47	6	2	ALI VE	A	171
CC0	9: 50	9: 57	7	2	ALI VE	A	195
CC1	9: 48	9: 51	3	2	ALI VE	A	174
CC2	10: 01	10: 05	4	2	ALI VE	A	138
CC3	9: 57	10: 00	3	2	ALI VE	A	154
CC4	9: 47	9: 57	10	2	ALI VE	A	180

E-50

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
CC5	9: 52	9: 55	3	2	ALI VE	A	176	
CC6	9: 58	10: 01	3	2	ALI VE	A	176	
CC7	10: 00	10: 10	10	2	ALI VE	A	175	
CC8	9: 58	10: 01	3	2	ALI VE	A	210	
CC9	9: 55	9: 58	3	2	ALI VE	A	180	
CD0	10: 13	10: 17	4	2	ALI VE	A	180	
CD1	10: 17	10: 20	3	2	ALI VE	A	205	
CD2	10: 27	10: 32	5	2	ALI VE	A	164	
CD3	10: 22	10: 27	5	2	ALI VE	A	180	

CD4	10: 18	10: 21	3	2	ALI VE	A	192
CD5	10: 20	10: 27	7	2	ALI VE	A	178
CD6	10: 21	10: 26	5	2	ALI VE	A	132
CD7	10: 14	10: 17	3	2	ALI VE	A	190
CD8	10: 14	10: 18	4	2	ALI VE	A	192
CD9	10: 18	10: 22	4	2	ALI VE	A	181
CE0	10: 50	10: 56	6	2	ALI VE	A	188
CE1	10: 44	10: 50	6	2	ALI VE	A	186
CE2	10: 47	10: 57	10	2	ALI VE	A	162
CE3	10: 47	11: 01	14	2	ALI VE	A	173
CE4	10: 56	11: 00	4	2	ALI VE	A	150
CE5	10: 59	11: 05	6	2	ALI VE	A	179
CE6	11: 06	11: 12	6	2	ALI VE	A	189
CE7	11: 07	11: 14	7	2	ALI VE	A	156
CE8	11: 01	11: 06	5	2	ALI VE	A	198
CE9	11: 04	11: 07	3	2	ALI VE	A	192
CF0	11: 18	11: 22	4	2	ALI VE	A	184
CF1	11: 12	11: 18	6	2	ALI VE	A	189
CF2	11: 18	11: 23	5	2	ALI VE	A	149
CF3	11: 09	11: 17	8	2	ALI VE	A	196
CF4	11: 14	11: 27	13	2	ALI VE	A	198
CF5	11: 23	11: 30	7	2	ALI VE	A	200
CF6	11: 27	11: 32	5	2	ALI VE	A	195
CF7	11: 24	11: 31	7	2	ALI VE	A	192
CF8	11: 30	11: 35	5	2	ALI VE	A	191
CF9	11: 32	11: 35	3	2	ALI VE	A	189
CH0	11: 56	12: 02	6	2	ALI VE	A	176
CH1	11: 58	12: 02	4	2	ALI VE	A	177
CH2	11: 51	11: 55	4	2	ALI VE	A	190
CH3	11: 52	11: 59	7	2	ALI VE	A	180
CH4	11: 52	11: 58	6	2	ALI VE	A	189
CH5	12: 05	12: 26	21	2	ALI VE	A	180
CH6	12: 04	12: 12	8	2	ALI VE	A	182
CH7	12: 06	12: 11	5	2	ALI VE	A	195
CH8	12: 02	12: 06	4	2	ALI VE	A	186
CH9	12: 00	12: 04	4	2	ALI VE	A	138
CJ0	12: 23	12: 38	15	2	ALI VE	A	170
CJ1	12: 19	12: 22	3	2	ALI VE	A	131
CJ2	12: 13	12: 19	6	2	ALI VE	A	185
CJ3	12: 12	12: 19	7	2	ALI VE	A	150
CJ4	12: 19	12: 23	4	2	ALI VE	A	194
CJ5	12: 39	12: 53	14	2	ALI VE	A	185

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
CJ6	12: 29	12: 38	9	2	ALIVE	A	185	
CJ7	12: 31	12: 48	17	2	ALIVE	A	184	
CJ8	12: 26	12: 29	3	2	ALIVE	A	173	
CJ9	12: 39	12: 45	6	2	ALIVE	A	178	
CK0	13: 08	13: 11	3	2	ALIVE	A	182	
CK1	13: 11	13: 15	4	2	ALIVE	A	171	
CK2	13: 08	13: 27	19	2	ALIVE	A	179	
CK3	13: 13	13: 17	4	2	ALIVE	A	140	
CK4	13: 08	13: 15	7	2	ALIVE	A	152	
CK5	13: 22	13: 25	3	2	ALIVE	A	185	
CK6	13: 20	13: 32	12	2	ALIVE	A	181	
CK7	13: 15	13: 38	23	2	ALIVE	A	180	
CK8	13: 17	13: 20	3	2	ALIVE	A	191	
CK9	13: 25	13: 29	4	2	ALIVE	A	143	
CL0	13: 52	13: 59	7	2	ALIVE	A	193	
CL1	13: 33	14: 10	37	2	ALIVE	A	193	
CL2	13: 47	13: 51	4	2	ALIVE	A	185	
CL3	13: 39	13: 46	7	2	ALIVE	A	173	
CL4	13: 28	14: 12	44	1	ALIVE	A	177	
CL5	14: 16	14: 21	5	2	ALIVE	A	181	
CL6	13: 59	14: 26	27	2	ALIVE	A	188	
CL7	14: 07	14: 19	12	2	ALIVE	A	142	
CL8	14: 07	14: 09	2	1	DEAD	B	187	
CL9	14: 08	14: 18	10	2	ALIVE	A	194	
CM0	14: 18	14: 28	10	2	ALIVE	A	165	
VX0	7: 23	7: 40	17	2	ALIVE	A	178	
VX1	7: 24	7: 32	8	2	ALIVE	A	195	
VX2	7: 25	7: 35	10	2	ALIVE	H	134	
VX3	7: 36	7: 47	11	2	ALIVE	A	132	
VX4	7: 33	7: 37	4	2	ALIVE	A	190	
VX5	7: 40	7: 56	16	2	ALIVE	A	182	
VX6	7: 56	8: 14	18	2	ALIVE	A	183	

VX7	7: 48	8: 13	25	2	ALIVE	A	185
VX8	7: 38	7: 56	18	2	ALIVE	A	165
VX9	7: 57	8: 03	6	2	ALIVE	A	186
VY0	8: 23	8: 26	3	2	ALIVE	A	130
VY1	8: 04	.	.	0	TAG & PIN		134
VY2	8: 15	8: 20	5	2	DEAD	HJ	182
VY3	8: 13	8: 20	7	2	ALIVE	H	179
VY4	8: 21	8: 40	19	2	ALIVE	A	190
VY5	8: 40	8: 45	5	2	ALIVE	A	178
VY6	8: 47	9: 02	15	2	ALIVE	A	142
VY7	8: 39	8: 46	7	2	ALIVE	A	197
VY9	8: 26	8: 47	21	2	ALIVE	A	184
VZ9	12: 25	12: 31	6	2	ALIVE	A	205

8 December 1999 - Testlot 23 : PL=3, Unit 6, Hub - Water temp= 9.5 C

C00	14: 15	14: 27	12	2	ALIVE	A	195
C01	14: 03	14: 06	3	2	ALIVE	A	191

E-52

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
C02	14: 06	14: 11	5	2	ALIVE	A	200	
C03	14: 14	14: 20	6	2	ALIVE	A	186	
C04	14: 11	14: 16	5	2	ALIVE	A	138	
C05	14: 20	14: 26	6	2	ALIVE	A	199	
C06	14: 32	14: 37	5	2	ALIVE	A	186	
C07	14: 36	14: 42	6	2	ALIVE	A	199	
C08	14: 27	14: 32	5	2	ALIVE	A	181	
C09	14: 28	14: 39	11	2	ALIVE	A	183	
CM1	14: 22	14: 28	6	2	ALIVE	A	196	

CN0	7: 20	7: 34	14	2	ALI VE	A	198
CN1	7: 21	7: 27	6	2	ALI VE	A	196
CN2	7: 27	7: 33	6	2	ALI VE	A	144
CN3	7: 35	7: 41	6	2	ALI VE	A	140
CN4	7: 21	7: 34	13	2	ALI VE	A	178
CN5	7: 44	7: 53	9	2	ALI VE	A	192
CN6	7: 41	7: 47	6	2	ALI VE	A	178
CN7	7: 46	.	.	0	DEAD	Z	135
CN8	7: 37	7: 44	7	2	ALI VE	A	126
CN9	7: 37	7: 45	8	2	ALI VE	A	176
CP0	7: 53	8: 09	16	2	ALI VE	A	173
CP1	7: 48	7: 54	6	2	ALI VE	A	185
CP2	8: 08	8: 13	5	2	ALI VE	A	181
CP3	7: 54	8: 03	9	2	ALI VE	A	175
CP4	8: 04	8: 07	3	2	ALI VE	A	180
CP5	8: 10	8: 17	7	2	ALI VE	A	186
CP6	8: 20	8: 25	5	2	ALI VE	A	184
CP7	8: 14	8: 20	6	2	ALI VE	A	188
CP8	8: 17	8: 21	4	2	ALI VE	A	186
CP9	8: 18	8: 35	17	2	ALI VE	A	145
CR0	8: 59	9: 10	11	2	ALI VE	A	146
CR1	9: 04	9: 08	4	2	ALI VE	A	147
CR2	9: 00	9: 03	3	2	ALI VE	A	167
CR3	8: 51	8: 55	4	2	ALI VE	A	180
CR4	9: 07	9: 11	4	2	ALI VE	A	146
CR5	8: 52	9: 00	8	2	ALI VE	A	200
CR6	8: 56	8: 59	3	2	ALI VE	A	185
CR7	9: 01	9: 06	5	2	ALI VE	A	198
CR8	8: 58	9: 01	3	2	ALI VE	A	140
CR9	8: 51	8: 57	6	2	ALI VE	A	197
CS0	9: 08	9: 11	3	2	ALI VE	A	192
CS1	9: 12	9: 19	7	2	ALI VE	A	203
CS2	9: 27	9: 30	3	2	ALI VE	A	144
CS3	9: 21	9: 31	10	2	ALI VE	A	178
CS4	9: 20	9: 24	4	2	ALI VE	A	142
CS5	9: 12	9: 15	3	2	ALI VE	A	129
CS6	9: 25	9: 27	2	2	ALI VE	A	139
CS7	9: 10	9: 21	11	2	ALI VE	A	185
CS8	9: 16	9: 21	5	2	ALI VE	A	130
CS9	9: 22	9: 27	5	2	ALI VE	A	169
CT0	9: 43	9: 51	8	2	ALI VE	A	171
CT1	9: 37	9: 53	16	2	ALI VE	A	169

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
CT2	9: 36	9: 43	7	2	ALIVE	A	194	
CT3	9: 40	9: 49	9	2	ALIVE	A	177	
CT4	9: 37	9: 40	3	2	ALIVE	A	200	
CT5	9: 58	10: 08	10	2	ALIVE	A	182	
CT7	9: 47	9: 58	11	2	ALIVE	A	188	
CT8	9: 52	10: 01	9	2	ALIVE	A	149	
CT9	10: 02	10: 05	3	2	ALIVE	A	144	
CU0	10: 17	10: 21	4	2	ALIVE	A	179	
CU1	10: 16	10: 30	14	2	ALIVE	A	127	
CU2	10: 22	10: 26	4	2	ALIVE	A	195	
CU3	10: 08	10: 16	8	2	ALIVE	A	190	
CU4	10: 05	10: 17	12	2	ALIVE	A	186	
CU5	10: 25	10: 38	13	2	ALIVE	A	202	
CU6	10: 31	10: 35	4	2	ALIVE	A	200	
CU7	10: 27	10: 34	7	2	ALIVE	A	167	
CU8	10: 34	10: 40	6	2	ALIVE	A	196	
CU9	10: 36	10: 45	9	2	ALIVE	A	142	
CV0	11: 42	11: 46	4	2	ALIVE	A	183	
CV1	11: 44	11: 47	3	2	ALIVE	A	177	
CV2	11: 47	11: 50	3	2	ALIVE	A	190	
CV3	11: 41	11: 43	2	2	ALIVE	A	170	
CV4	11: 41	12: 00	19	2	ALIVE	A	189	
CV5	11: 49	11: 52	3	2	ALIVE	A	130	
CV6	11: 56	12: 18	22	2	ALIVE	A	150	
CV7	12: 01	12: 08	7	2	ALIVE	A	180	
CV8	11: 51	12: 11	20	2	ALIVE	A	173	
CV9	11: 55	11: 55	0	2	ALIVE	A	186	
CW0	12: 08	12: 14	6	2	ALIVE	A	190	
CW1	12: 15	12: 19	4	2	ALIVE	A	172	
CW2	12: 14	12: 18	4	2	ALIVE	A	185	
CW3	12: 11	12: 14	3	2	ALIVE	A	194	
CW4	12: 18	12: 24	6	2	ALIVE	A	196	

CW5	12: 21	12: 26	5	2	ALIVE	A	135
CW6	12: 25	.	.	0	TAG & PIN		202
CW7	12: 24	12: 31	7	2	ALIVE	A	175
CW8	12: 20	12: 23	3	2	ALIVE	A	182
CW9	12: 23	12: 27	4	2	ALIVE	A	185
CX0	13: 01	13: 09	8	2	ALIVE	A	191
CX1	12: 57	13: 00	3	2	ALIVE	A	165
CX2	12: 57	13: 01	4	2	ALIVE	A	186
CX3	13: 10	13: 13	3	2	ALIVE	A	191
CX4	13: 14	13: 24	10	2	ALIVE	A	139
CX5	13: 00	13: 05	5	2	ALIVE	A	180
CX6	13: 08	13: 14	6	2	ALIVE	A	185
CX7	13: 14	13: 16	2	2	ALIVE	A	172
CX8	13: 06	13: 08	2	2	ALIVE	A	165
CX9	13: 15	13: 21	6	2	ALIVE	A	136
CY0	13: 21	13: 25	4	2	ALIVE	A	174
CY1	13: 28	13: 36	8	2	ALIVE	A	197
CY2	13: 21	13: 24	3	2	ALIVE	A	187
CY3	13: 26	13: 30	4	2	ALIVE	A	188

E-54

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
CY4	13: 31	13: 34	3	2	ALIVE	A	190	
CY5	13: 25	13: 32	7	2	ALIVE	A	175	
CY6	13: 17	13: 20	3	2	ALIVE	A	203	
CY7	13: 32	13: 36	4	2	ALIVE	A	174	
CY8	13: 35	13: 36	1	2	ALIVE	A	178	
CY9	13: 24	13: 27	3	2	ALIVE	A	149	
CZ0	13: 44	13: 47	3	2	ALIVE	A	184	
CZ1	13: 45	13: 51	6	2	ALIVE	A	188	
CZ2	13: 49	13: 53	4	2	ALIVE	A	190	

CZ3	13:45	13:48	3	2	ALIVE	A	183
CZ4	13:48	13:58	10	2	ALIVE	A	160
CZ5	13:52	13:55	3	2	ALIVE	A	184
CZ6	13:57	14:15	18	2	ALIVE	A	176
CZ7	13:59	14:03	4	2	ALIVE	A	170
CZ8	13:54	13:56	2	2	ALIVE	A	184
CZ9	13:56	.	.	0	DEAD	Z	194

9 December 1999 - Testlot 24 : PL=2, Unit 6, Tip - Water temp=48.5 C

C10	7:59	8:09	10	2	ALIVE	A	197
C11	8:05	8:16	11	2	ALIVE	A	172
C12	8:10	8:17	7	2	ALIVE	A	183
C13	8:21	8:36	15	2	ALIVE	A	172
C14	8:23	8:33	10	2	ALIVE	A	188
C15	8:15	8:22	7	2	ALIVE	A	177
C16	8:17	8:27	10	2	ALIVE	A	196
C17	8:38	8:42	4	2	ALIVE	A	187
C18	8:37	8:45	8	2	ALIVE	A	176
C19	8:34	8:40	6	2	ALIVE	A	180
C20	8:41	8:45	4	2	ALIVE	A	206
C21	8:29	8:36	7	2	ALIVE	A	192
C22	8:55	8:58	3	2	ALIVE	A	159
C23	9:00	9:02	2	2	ALIVE	A	188
C24	9:03	9:07	4	2	ALIVE	A	198
C25	8:54	9:06	12	2	ALIVE	A	193
C26	8:56	9:02	6	2	ALIVE	A	155
C27	9:08	9:11	3	2	ALIVE	A	177
C28	9:04	9:11	7	2	ALIVE	A	183
C29	9:14	9:16	2	2	ALIVE	A	180
C30	9:15	9:19	4	2	ALIVE	A	162
C31	9:06	9:16	10	2	ALIVE	A	136
C32	9:20	9:24	4	2	ALIVE	A	191
C33	9:30	9:37	7	2	ALIVE	A	197
C34	9:29	9:55	26	2	ALIVE	A	188
C35	9:41	9:47	6	2	ALIVE	A	190
C36	9:38	9:40	2	2	ALIVE	A	144
C37	9:26	9:28	2	2	ALIVE	A	183
C38	9:25	9:28	3	2	ALIVE	A	184
C39	9:18	9:23	5	2	ALIVE	A	172
C40	9:29	9:41	12	2	ALIVE	A	178

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
C41	9: 17	9: 25	8	2	ALIVE	A	187	
C42	10: 02	10: 07	5	2	ALIVE	A	177	
C43	10: 07	10: 12	5	2	ALIVE	A	164	
C45	10: 04	10: 09	5	2	ALIVE	A	150	
C46	10: 03	10: 21	18	2	ALIVE	A	131	
C47	10: 22	10: 29	7	2	ALIVE	A	171	
C48	10: 29	10: 36	7	2	ALIVE	A	180	
C49	10: 18	10: 22	4	2	ALIVE	A	186	
C50	10: 26	.	.	0	DEAD	Z	182	
C51	10: 13	10: 17	4	2	ALIVE	A	161	
C52	10: 38	10: 42	4	2	ALIVE	A	182	
C53	10: 44	10: 52	8	2	ALIVE	A	186	
C54	10: 42	10: 55	13	2	ALIVE	A	176	
C55	10: 39	10: 41	2	2	ALIVE	A	165	
C56	10: 54	11: 01	7	2	ALIVE	A	157	
C57	11: 02	11: 12	10	2	ALIVE	A	188	
C58	10: 57	11: 01	4	2	ALIVE	A	177	
C59	11: 13	11: 16	3	2	ALIVE	A	192	
C60	11: 03	11: 18	15	2	ALIVE	A	134	
C61	11: 10	11: 14	4	2	ALIVE	A	185	
C62	11: 33	11: 38	5	2	ALIVE	A	187	
C63	11: 31	11: 33	2	2	ALIVE	A	180	
C64	11: 35	11: 43	8	2	ALIVE	A	180	
C65	11: 34	11: 37	3	2	ALIVE	A	187	
C66	11: 29	11: 32	3	2	ALIVE	A	146	
C67	11: 32	11: 34	2	2	ALIVE	A	177	
C68	11: 28	11: 30	2	2	ALIVE	A	188	
C69	11: 36	11: 40	4	2	ALIVE	A	176	
C70	11: 38	11: 48	10	2	ALIVE	A	182	
C71	11: 28	11: 31	3	2	ALIVE	A	135	
C72	11: 47	11: 48	1	2	ALIVE	A	181	
C73	11: 50	11: 52	2	2	ALIVE	A	188	

C74	11: 49	11: 50	1	2	ALIVE	A	198
C75	11: 41	11: 45	4	2	ALIVE	A	133
C76	11: 44	11: 46	2	2	ALIVE	A	125
C77	11: 54	12: 01	7	2	ALIVE	A	186
C78	11: 52	11: 54	2	2	ALIVE	A	187
C79	11: 46	11: 53	7	2	ALIVE	A	176
C80	11: 55	11: 57	2	2	ALIVE	A	203
C81	11: 53	11: 55	2	2	ALIVE	A	192
C82	12: 14	12: 21	7	2	ALIVE	A	192
C83	12: 19	12: 23	4	2	ALIVE	A	190
C84	12: 15	12: 18	3	2	ALIVE	A	192
C85	12: 15	12: 19	4	2	ALIVE	A	178
C86	12: 20	12: 24	4	2	ALIVE	A	180
C87	12: 26	12: 35	9	2	ALIVE	A	143
C88	12: 25	12: 29	4	2	ALIVE	A	174
C89	12: 23	12: 26	3	2	ALIVE	A	178
C90	12: 28	.	.	0	TAG & PIN		157
C91	12: 31	12: 33	2	2	ALIVE	A	182
C92	12: 37	12: 42	5	2	ALIVE	A	186

E-56

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
C93	12: 37	12: 39	2	2	ALIVE	A	177	
C94	12: 39	12: 47	8	2	ALIVE	A	167	
C95	12: 42	12: 45	3	2	ALIVE	A	180	
C96	12: 35	12: 36	1	2	ALIVE	A	183	
C98	12: 49	12: 51	2	2	ALIVE	A	176	
C99	13: 00	13: 05	5	2	ALIVE	A	196	
CM2	7: 41	7: 46	5	2	ALIVE	A	180	
CM3	7: 39	7: 48	9	2	ALIVE	A	182	
CM4	7: 43	7: 50	7	2	ALIVE	A	194	

CM5	7: 40	7: 42	2	2	ALI VE	A	172
CM6	7: 47	7: 55	8	2	ALI VE	A	172
CM9	7: 51	8: 04	13	2	ALI VE	A	192
M00	12: 58	12: 59	1	1	DEAD	EN	194
M01	12: 52	12: 54	2	2	ALI VE	H	190
M02	13: 19	13: 23	4	1	ALI VE	HB	178
M03	13: 12	13: 14	2	2	ALI VE	A	188
M04	13: 11	13: 16	5	2	ALI VE	A	192
M05	13: 17	13: 18	1	2	ALI VE	A	192
M06	13: 12	13: 20	8	2	ALI VE	A	174
M07	13: 16	13: 18	2	2	ALI VE	A	176
M08	13: 46	13: 53	7	2	ALI VE	A	180
M09	13: 53	13: 57	4	2	ALI VE	A	192
M10	13: 45	13: 51	6	2	ALI VE	A	189
M11	13: 52	13: 54	2	2	ALI VE	A	178
M12	13: 44	14: 01	17	2	ALI VE	A	171
M13	13: 58	14: 03	5	2	ALI VE	A	142
M14	13: 56	14: 12	16	2	ALI VE	A	127
M15	14: 02	14: 18	16	2	ALI VE	A	176
M16	14: 04	14: 15	11	2	ALI VE	A	172
M17	14: 13	14: 19	6	2	ALI VE	A	172
M19	14: 19	14: 23	4	2	ALI VE	A	165
M20	14: 26	14: 28	2	2	ALI VE	A	175
M22	14: 20	14: 25	5	2	ALI VE	A	177
M23	14: 55	15: 00	5	2	ALI VE	A	182
M24	14: 56	15: 02	6	1	ALI VE	A	183
M25	14: 30	14: 48	18	2	ALI VE	A	144
M26	14: 46	14: 55	9	2	ALI VE	A	187
M27	14: 55	14: 56	1	2	ALI VE	A	183
M28	15: 03	15: 05	2	2	ALI VE	A	152
M29	15: 02	15: 11	9	2	ALI VE	A	176
M30	15: 07	15: 27	20	2	ALI VE	A	180
M31	15: 13	15: 35	22	2	ALI VE	A	197
M32	15: 12	15: 18	6	2	ALI VE	A	192
M33	14: 58	15: 11	13	2	ALI VE	A	140
M34	15: 35	.	.	0	UNKNOWN	X	190
M35	15: 28	15: 56	28	2	ALI VE	A	142
M36	15: 20	15: 33	13	2	ALI VE	A	135
M99	13: 22	13: 32	10	2	ALI VE	A	192

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
10 December 1999 - Testlot 25 : PL=2, Unit 5, Hub - Water temp=48.0 C								
M37	7:35	7:38	3	2	ALIVE	A	179	
M38	7:37	7:50	13	2	ALIVE	A	172	
M39	7:39	7:49	10	2	ALIVE	A	183	
M40	7:36	7:40	4	2	ALIVE	A	136	
M41	7:43	8:06	23	1	ALIVE	A	185	
M42	8:07	8:23	16	2	ALIVE	A	181	
M43	7:59	8:08	9	2	ALIVE	A	163	
M44	8:09	8:38	29	2	ALIVE	A	203	
M45	7:49	7:57	8	2	ALIVE	A	181	
M46	7:51	8:08	17	2	ALIVE	A	133	
M47	8:24	8:33	9	2	ALIVE	A	149	
M48	8:37	8:40	3	2	ALIVE	A	193	
M49	8:23	8:39	16	2	ALIVE	A	177	
M50	8:11	8:22	11	2	ALIVE	A	135	
M51	8:34	8:38	4	2	ALIVE	A	192	
M52	8:45	9:09	24	2	ALIVE	A	145	
M53	8:48	8:53	5	2	ALIVE	A	190	
M54	8:40	8:56	16	2	ALIVE	A	145	
M55	8:40	8:44	4	2	ALIVE	A	182	
M56	8:50	8:55	5	2	ALIVE	A	191	
M57	9:04	9:14	10	2	ALIVE	A	138	
M58	9:12	9:38	26	2	ALIVE	A	179	
M59	9:10	9:31	21	2	ALIVE	A	130	
M60	9:15	9:17	2	2	ALIVE	A	142	
M61	9:18	9:29	11	2	ALIVE	A	181	
M62	9:32	9:39	7	2	ALIVE	A	143	
M63	9:31	9:36	5	2	ALIVE	A	145	
M64	9:30	9:34	4	2	ALIVE	A	139	

M65	9: 35	9: 47	12	2	ALI VE	A	179
M66	9: 37	9: 47	10	2	ALI VE	A	205
M67	9: 44	10: 01	17	2	ALI VE	A	176
M68	9: 45	9: 48	3	2	ALI VE	A	178
M69	9: 41	9: 43	2	2	ALI VE	A	131
M70	9: 46	9: 52	6	2	ALI VE	A	165
M71	9: 40	9: 43	3	2	ALI VE	A	140
M72	9: 53	9: 57	4	2	ALI VE	A	182
M73	9: 49	9: 56	7	2	ALI VE	A	174
M74	9: 59	10: 02	3	2	ALI VE	A	174
M75	9: 55	9: 57	2	2	ALI VE	A	186
M76	9: 58	10: 02	4	2	ALI VE	A	194
M77	10: 24	10: 31	7	2	ALI VE	A	192
M78	10: 16	10: 39	23	2	ALI VE	A	184
M79	10: 18	10: 27	9	2	ALI VE	A	135
M80	10: 24	10: 30	6	2	ALI VE	A	190
M81	10: 17	10: 24	7	2	ALI VE	A	155
M82	10: 41	10: 52	11	2	ALI VE	A	187
M83	10: 35	10: 47	12	2	ALI VE	A	143

E-58

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
M84	10: 41	10: 44	3	2	ALI VE	A	188	
M85	10: 33	10: 36	3	2	ALI VE	A	179	
M86	10: 34	10: 42	8	2	ALI VE	A	136	
M87	10: 48	10: 57	9	2	ALI VE	A	184	
M88	10: 53	10: 59	6	2	ALI VE	A	183	
M89	10: 57	11: 08	11	2	ALI VE	H	191	
M90	10: 51	11: 09	18	2	ALI VE	A	189	
M91	10: 46	10: 50	4	2	ALI VE	H	180	
M92	10: 08	11: 15	67	2	ALI VE	A	190	

M93	11: 00	11: 05	5	2	ALI VE	A	190
M94	11: 14	11: 28	14	2	ALI VE	A	155
M95	11: 10	11: 14	4	2	ALI VE	A	135
M96	11: 01	11: 12	11	2	ALI VE	A	174
M97	11: 59	12: 14	15	2	ALI VE	A	175
M98	11: 29	11: 55	26	2	ALI VE	A	178
MA0	11: 58	12: 04	6	2	ALI VE	TA	177
MA1	11: 30	11: 35	5	2	ALI VE	A	207
MA2	11: 36	11: 38	2	2	ALI VE	A	134
MA3	11: 38	11: 54	16	2	ALI VE	A	175
MA4	11: 31	11: 35	4	2	ALI VE	A	184
MA5	11: 52	11: 58	6	2	ALI VE	A	199
MA6	11: 52	11: 56	4	2	ALI VE	TA	145
MA7	11: 37	12: 01	24	2	ALI VE	A	185
MA8	12: 18	12: 23	5	2	ALI VE	A	180
MA9	12: 13	12: 21	8	2	ALI VE	A	165
MB0	12: 10	12: 12	2	2	ALI VE	A	135
MB1	12: 21	12: 30	9	2	ALI VE	A	197
MB2	12: 02	12: 08	6	2	ALI VE	A	152
MB3	12: 19	12: 24	5	2	ALI VE	A	178
MB4	12: 15	12: 17	2	2	ALI VE	A	191
MB5	12: 08	12: 10	2	2	ALI VE	A	137
MB6	12: 11	12: 17	6	2	ALI VE	A	134
MB7	12: 05	12: 10	5	2	ALI VE	A	180
MB8	12: 43	12: 58	15	2	ALI VE	A	153
MB9	12: 42	12: 54	12	2	ALI VE	A	182
MC0	12: 48	13: 09	21	2	ALI VE	A	130
MC1	12: 58	13: 01	3	2	ALI VE	A	194
MC2	12: 41	12: 58	17	2	ALI VE	A	170
MC3	13: 01	13: 05	4	2	ALI VE	A	182
MC4	13: 01	13: 11	10	2	ALI VE	A	186
MC5	13: 07	13: 24	17	2	ALI VE	A	177
MC6	13: 04	13: 06	2	2	ALI VE	A	190
MC7	13: 10	13: 13	3	2	ALI VE	A	189
MC8	13: 24	13: 30	6	2	ALI VE	H	178
MC9	13: 16	13: 37	21	2	ALI VE	A	136
MD0	13: 13	13: 34	21	2	ALI VE	A	170
MD1	13: 13	13: 22	9	2	ALI VE	A	170
MD2	13: 28	13: 34	6	2	ALI VE	A	182
MD3	13: 36	13: 54	18	2	ALI VE	A	195
MD4	13: 50	13: 58	8	2	ALI VE	A	187
MD5	13: 52	13: 58	6	2	ALI VE	A	205

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MD6	13:31	13:49	18	2	ALIVE	A	138	
MD7	13:35	14:07	32	2	ALIVE	A	194	
MD8	14:14	14:19	5	2	ALIVE	A	170	
MD9	14:20	14:38	18	2	ALIVE	A	182	
ME0	14:33	14:36	3	2	ALIVE	A	192	
ME1	14:37	14:38	1	2	ALIVE	A	171	
ME2	14:15	14:33	18	2	ALIVE	A	138	
ME3	14:30	14:33	3	2	ALIVE	A	147	
ME4	14:20	14:27	7	2	ALIVE	A	157	
ME5	14:15	14:24	9	2	ALIVE	A	179	
ME6	14:34	14:42	8	2	ALIVE	A	178	
ME7	14:28	14:32	4	2	ALIVE	TA	185	
ME8	14:52	15:02	10	2	ALIVE	A	196	
ME9	14:43	14:46	3	2	ALIVE	A	188	
MF0	14:47	14:49	2	2	ALIVE	A	195	
MF1	14:48	14:51	3	2	ALIVE	A	137	
MF2	14:50	15:10	20	2	ALIVE	A	189	
MF3	14:41	14:48	7	2	ALIVE	A	188	
MF4	14:51	15:12	21	2	ALIVE	A	190	
MF5	14:44	14:50	6	2	ALIVE	A	148	
MF6	14:40	14:42	2	2	ALIVE	A	136	
MF7	14:39	14:41	2	2	ALIVE	A	189	
11 December 1999 - Testlot 26 : PL=1, Control - Water temp=46.0 C								
MF8	7:58	8:02	4	2	ALIVE	A	191	
MF9	7:57	8:02	5	2	ALIVE	A	190	
MH0	7:54	7:58	4	2	ALIVE	A	178	
MH1	7:46	7:49	3	2	ALIVE	A	202	
MH2	7:38	7:41	3	2	ALIVE	A	130	
MH3	7:59	8:02	3	2	ALIVE	A	168	

MH4	7: 51	7: 56	5	1	ALI VE	A	178
MH5	7: 42	7: 57	15	2	ALI VE	A	183
MH6	7: 40	7: 53	13	2	ALI VE	A	162
MH7	7: 39	7: 45	6	2	ALI VE	A	175
MH8	8: 14	8: 45	31	1	ALI VE	A	201
MH9	8: 06	8: 14	8	2	ALI VE	A	172
MJ0	8: 04	8: 23	19	2	ALI VE	A	130
MJ1	8: 07	8: 18	11	2	ALI VE	A	144
MJ2	8: 03	8: 04	1	2	ALI VE	A	141
MJ3	8: 52	9: 01	9	2	ALI VE	A	201
MJ4	8: 46	8: 57	11	2	ALI VE	A	153
MJ5	8: 49	8: 53	4	2	ALI VE	A	191
MJ6	8: 54	8: 58	4	2	ALI VE	A	184
MJ7	8: 42	8: 51	9	2	ALI VE	A	137
MJ8	8: 59	9: 02	3	2	ALI VE	A	128
MJ9	9: 06	9: 12	6	2	ALI VE	A	188
MK0	9: 02	9: 23	21	2	ALI VE	A	187
MK1	8: 59	9: 05	6	2	ALI VE	A	176
MK2	9: 03	9: 09	6	2	ALI VE	A	183

E-60

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MK3	9: 13	9: 28	15	2	ALI VE	A	142	
MK4	9: 19	9: 24	5	2	ALI VE	A	170	
MK5	9: 25	9: 44	19	2	ALI VE	A	188	
MK6	9: 09	9: 18	9	2	ALI VE	A	188	
MK7	9: 24	9: 31	7	2	ALI VE	A	197	
MK8	9: 36	9: 43	7	2	ALI VE	A	167	
MK9	9: 29	9: 47	18	2	ALI VE	A	135	
ML0	9: 45	9: 55	10	2	ALI VE	A	170	
ML1	9: 44	9: 47	3	2	ALI VE	A	167	

ML2	9: 32	9: 35	3	2	ALI VE	A	169
ML3	10: 10	10: 17	7	2	ALI VE	A	167
ML4	10: 02	10: 08	6	2	ALI VE	A	172
ML5	10: 01	10: 07	6	2	ALI VE	A	142
ML6	10: 00	10: 14	14	2	ALI VE	A	183
ML7	10: 09	10: 11	2	2	ALI VE	A	147
ML8	10: 33	10: 45	12	2	ALI VE	A	155
MM0	10: 45	10: 52	7	2	ALI VE	A	192
MM1	10: 50	10: 54	4	2	ALI VE	A	188
MM2	10: 32	10: 44	12	2	ALI VE	A	185
MM3	10: 55	10: 58	3	2	ALI VE	A	136
MM4	10: 54	10: 59	5	2	ALI VE	A	144
MM5	11: 10	11: 16	6	1	ALI VE	WHB	141
MM6	11: 02	11: 09	7	2	ALI VE	A	170
MM7	11: 00	11: 10	10	2	ALI VE	A	181
MM8	11: 18	11: 51	33	2	ALI VE	A	193
MM9	11: 24	11: 31	7	2	ALI VE	A	186
MNO	11: 12	11: 18	6	2	ALI VE	A	201
MN1	11: 27	11: 33	6	2	ALI VE	A	186
MN2	11: 17	11: 26	9	2	ALI VE	A	202
MN3	11: 53	11: 56	3	2	ALI VE	A	138
MN4	11: 49	11: 55	6	1	ALI VE	A	140
MN5	11: 56	12: 05	9	2	ALI VE	A	141
MN6	11: 57	12: 00	3	2	ALI VE	A	182
MN7	11: 47	11: 55	8	2	ALI VE	A	137
MN8	12: 03	12: 05	2	2	ALI VE	A	137
MN9	12: 01	12: 04	3	2	ALI VE	A	143
MP0	11: 59	12: 02	3	2	ALI VE	A	144
MP1	12: 04	12: 10	6	2	ALI VE	A	154
MP2	12: 05	.	.	0	UNKNOWN	X	188
MP3	12: 33	12: 40	7	2	ALI VE	A	197
MP4	12: 08	12: 19	11	2	ALI VE	A	147
MP5	12: 27	12: 31	4	2	ALI VE	A	172
MP6	12: 10	.	.	0	UNKNOWN	X	195
MP7	12: 20	12: 24	4	1	ALI VE	A	186
MP8	12: 40	12: 47	7	2	ALI VE	A	141
MP9	12: 45	12: 48	3	2	ALI VE	A	182
MR0	12: 44	12: 56	12	2	ALI VE	A	175
MR1	12: 50	12: 56	6	2	ALI VE	A	198
MR2	12: 51	.	.	0	UNKNOWN	X	188
MR3	12: 58	.	.	0	DEAD	Z	180
MR4	13: 17	13: 25	8	2	ALI VE	A	190

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MR5	13:00	13:08	8	2	ALIVE	A	205	
MR6	13:16	13:25	9	2	ALIVE	A	192	
MR7	13:26	13:34	8	2	ALIVE	A	181	
MR8	13:50	14:00	10	2	ALIVE	A	170	
MR9	13:41	13:49	8	2	ALIVE	A	140	
MS1	13:42	13:54	12	2	ALIVE	A	192	
MS2	13:43	13:59	16	2	ALIVE	A	193	
MS3	14:23	14:26	3	2	ALIVE	A	172	
MS4	14:17	14:21	4	2	ALIVE	A	192	
MS5	14:25	14:32	7	2	ALIVE	A	183	
MS6	14:26	14:36	10	2	ALIVE	A	157	
MS7	14:24	14:36	12	2	ALIVE	A	183	
MS8	14:38	15:03	25	2	ALIVE	A	186	
MS9	14:39	14:45	6	2	ALIVE	A	185	
MT0	14:34	14:37	3	2	ALIVE	A	142	
MT1	14:46	14:57	11	2	ALIVE	A	183	
MT2	14:37	14:52	15	2	ALIVE	A	142	
MT3	15:11	15:14	3	2	ALIVE	A	161	
MT4	15:13	15:20	7	2	ALIVE	A	175	
MT5	15:14	15:21	7	2	ALIVE	A	187	
MT6	14:54	14:59	5	2	ALIVE	A	141	
MT7	15:06	15:09	3	2	ALIVE	A	130	
MT8	15:17	15:22	5	2	ALIVE	A	192	
MT9	10:47	10:49	2	2	ALIVE	A	195	
MU0	15:23	15:27	4	2	ALIVE	A	203	
MU1	15:24	15:32	8	2	ALIVE	A	187	
MU2	15:28	15:36	8	2	ALIVE	A	200	
MU3	15:26	15:29	3	2	ALIVE	A	176	
MU4	15:22	15:24	2	1	ALIVE	B	165	
MU5	15:43	15:49	6	2	ALIVE	A	188	
MU6	15:42	15:57	15	2	ALIVE	A	170	
MU7	15:52	15:54	2	2	ALIVE	A	167	

MU8	15:55	15:57	2	2	ALIVE	A	200
MU9	15:50	15:52	2	2	ALIVE	A	132
MV0	15:47	15:53	6	2	ALIVE	A	133
MV1	15:58	16:02	4	2	ALIVE	A	190
MV2	15:54	16:05	11	2	ALIVE	A	180
MV3	15:59	16:01	2	2	ALIVE	A	206
MV4	16:06	16:14	8	2	ALIVE	A	191
MV5	16:02	16:04	2	2	ALIVE	A	146
MV6	16:03	16:13	10	2	ALIVE	A	138
MV7	16:08	16:13	5	2	ALIVE	A	188
MV8	16:05	16:07	2	2	ALIVE	A	190
MZ9	15:41	15:46	5	2	ALIVE	A	186

12 December 1999 - Testlot 27 : PL=4, Unit 6, Mid - Water temp=47.5 C

MM0	10:53	10:56	3	2	ALIVE	A	181
MM1	10:56	11:10	14	2	ALIVE	A	131
MM2	10:55	11:03	8	2	ALIVE	A	127

E-62

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MM3	10:59	11:01	2	2	ALIVE	A	142	
MM4	10:57	11:00	3	1	DEAD	F	201	
MM5	11:14	11:19	5	2	ALIVE	A	140	
MM6	11:11	11:16	5	2	ALIVE	A	186	
MM7	11:04	11:09	5	2	ALIVE	A	181	
MM8	11:10	11:16	6	2	ALIVE	A	130	
MM9	11:02	11:14	12	2	ALIVE	A	160	
MN0	11:22	11:25	3	2	ALIVE	A	162	
MN1	11:18	11:21	3	2	ALIVE	A	142	

MN2	11: 21	11: 52	31	2	ALI VE	A	136
MN3	11: 20	11: 43	23	2	ALI VE	A	185
MN4	11: 17	11: 19	2	2	ALI VE	A	188
MN5	11: 33	12: 02	29	2	ALI VE	A	150
MN6	11: 54	11: 57	3	2	ALI VE	A	201
MN7	12: 19	15: 48	209	2	ALI VE	A	197
MN8	12: 03	12: 07	4	2	ALI VE	A	139
MN9	12: 05	12: 14	9	2	ALI VE	A	186
MP0	12: 08	12: 17	9	2	ALI VE	A	183
MP1	12: 16	12: 17	1	2	ALI VE	A	195
MP2	12: 38	12: 40	2	2	ALI VE	A	134
MP3	12: 36	12: 37	1	2	ALI VE	A	140
MP4	12: 42	12: 44	2	2	ALI VE	A	168
MP5	12: 54	12: 55	1	2	ALI VE	A	189
MP6	12: 45	.	.	0	DEAD	P	140
MP7	12: 37	12: 42	5	2	ALI VE	A	139
MP8	12: 56	12: 58	2	2	ALI VE	A	170
MP9	12: 43	12: 52	9	2	ALI VE	A	191
MR0	12: 57	12: 59	2	2	ALI VE	A	205
MR1	12: 41	12: 42	1	2	ALI VE	A	192
MR2	13: 00	13: 04	4	2	ALI VE	A	171
MR3	13: 04	.	.	0	DEAD	Z	140
MR4	13: 00	13: 03	3	2	ALI VE	A	180
MR5	13: 11	13: 13	2	2	ALI VE	A	201
MR6	13: 05	13: 08	3	2	ALI VE	A	205
MR7	12: 01	12: 07	6	2	ALI VE	A	137
MR8	13: 06	13: 08	2	2	ALI VE	A	142
MR9	13: 08	13: 24	16	2	ALI VE	A	192
MS0	13: 09	13: 12	3	2	ALI VE	A	189
MS1	13: 07	13: 10	3	2	ALI VE	A	190
MS2	13: 02	13: 04	2	2	ALI VE	A	140
MS3	13: 41	.	.	0	DEAD	ZP	184
MS4	13: 33	13: 34	1	2	ALI VE	A	151
MS5	13: 28	13: 31	3	2	ALI VE	A	200
MS6	13: 30	13: 32	2	2	ALI VE	A	163
MS7	13: 34	13: 40	6	2	ALI VE	H	183
MS8	13: 35	13: 42	7	2	ALI VE	A	132
MS9	13: 32	13: 34	2	2	ALI VE	A	139
MT0	11: 27	11: 41	14	2	ALI VE	A	185
MT1	11: 45	12: 18	33	2	ALI VE	A	181
MT2	11: 58	12: 00	2	2	ALI VE	A	176
MT3	13: 28	13: 30	2	2	ALI VE	A	190

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MT4	13: 42	13: 44	2	2	ALIVE	A	196	
MT5	13: 30	13: 32	2	2	ALIVE	A	153	
MT6	14: 16	14: 19	3	2	ALIVE	A	175	
MT7	14: 23	14: 26	3	2	ALIVE	A	186	
MT8	14: 15	14: 22	7	1	ALIVE	HB	195	
MT9	14: 20	14: 31	11	2	ALIVE	A	170	
MU0	14: 19	14: 22	3	1	ALIVE	B	200	
MU1	14: 31	14: 37	6	2	ALIVE	A	187	
MU2	14: 25	14: 39	14	2	ALIVE	A	180	
MU3	14: 27	14: 34	7	2	ALIVE	A	180	
MU4	14: 38	14: 43	5	2	ALIVE	A	187	
MU5	14: 35	14: 40	5	2	ALIVE	A	185	
MU6	14: 54	14: 58	4	2	ALIVE	A	195	
MU7	14: 47	15: 08	21	2	ALIVE	A	195	
MU8	14: 41	.	.	0	TAG & PIN		150	
MU9	14: 44	14: 47	3	2	ALIVE	A	188	
MV0	14: 42	14: 59	17	2	ALIVE	A	143	
MV1	15: 00	15: 05	5	2	ALIVE	A	150	
MV2	15: 05	15: 12	7	2	ALIVE	A	179	
MV4	14: 59	15: 04	5	2	ALIVE	A	130	
MV5	15: 06	15: 12	6	1	ALIVE	A	194	
MV6	15: 14	15: 19	5	1	ALIVE	A	185	
MV7	15: 12	15: 14	2	1	ALIVE	A	182	
MV8	15: 20	15: 37	17	1	ALIVE	A	173	
MV9	8: 07	8: 16	9	2	ALIVE	A	188	
MW0	8: 02	8: 19	17	2	ALIVE	A	138	
MW1	15: 16	15: 55	39	1	ALIVE	A	178	
MW2	7: 56	8: 01	5	2	ALIVE	A	160	
MW3	8: 17	8: 22	5	2	ALIVE	A	191	
MW4	8: 20	.	.	0	DEAD	P	185	
MW5	8: 23	8: 34	11	2	ALIVE	A	190	
MW6	8: 34	8: 41	7	2	ALIVE	A	182	

MW7	8: 29	8: 42	13	2	ALI VE	A	147
MW8	8: 31	8: 35	4	2	ALI VE	A	183
MW9	8: 44	8: 48	4	2	ALI VE	A	170
MX0	8: 42	8: 46	4	2	ALI VE	A	134
MX1	8: 36	8: 41	5	2	ALI VE	A	141
MX2	8: 38	8: 45	7	2	ALI VE	A	196
MX3	8: 46	9: 01	15	2	ALI VE	A	215
MX4	9: 00	9: 02	2	2	ALI VE	A	187
MX5	9: 01	9: 12	11	2	ALI VE	A	183
MX6	8: 49	9: 00	11	2	ALI VE	A	145
MX7	8: 48	8: 59	11	2	ALI VE	A	188
MX8	9: 04	9: 09	5	2	ALI VE	A	210
MX9	9: 23	9: 34	11	2	ALI VE	A	149
MY0	9: 17	9: 27	10	2	ALI VE	A	153
MY1	9: 22	9: 41	19	2	ALI VE	A	134
MY2	9: 18	9: 21	3	2	ALI VE	A	170
MY3	9: 17	9: 20	3	2	ALI VE	A	150
MY4	9: 31	9: 41	10	2	ALI VE	A	189
MY5	9: 28	9: 39	11	2	ALI VE	A	183

E-64

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MY6	9: 40	.	.	.	UNKNOWN		192	
MY7	9: 42	9: 46	4	2	ALI VE	A	185	
MY8	9: 43	9: 46	3	2	ALI VE	A	199	
MY9	9: 47	9: 49	2	2	ALI VE	A	148	
MZ0	9: 54	10: 06	12	2	ALI VE	A	139	
MZ1	9: 50	9: 52	2	2	ALI VE	HB	185	
MZ2	9: 53	10: 09	16	2	ALI VE	A	213	
MZ3	9: 48	9: 54	6	2	ALI VE	A	140	
MZ4	10: 07	10: 14	7	2	ALI VE	A	143	

MZ5	10: 09	10: 25	16	2	ALI VE	A	142
MZ6	10: 18	10: 50	32	2	ALI VE	A	185
MZ7	10: 10	10: 20	10	2	ALI VE	A	168
MZ8	10: 15	10: 23	8	2	ALI VE	A	196
MZ9	15: 09	15: 11	2	2	ALI VE	A	171
ZV9	15: 15	.	.	0	TAG & PIN		161
ZW0	15: 23	15: 26	3	1	ALI VE	A	174

13 December 1999 - Testlot 28 : PL=1, Unit 5, Mid - Water temp=47.5 C

KA0	10: 16	10: 18	2	2	ALI VE	A	176
KA1	10: 18	10: 22	4	2	ALI VE	A	192
KA2	10: 08	10: 15	7	2	ALI VE	A	183
KA3	10: 23	10: 36	13	2	ALI VE	A	130
KA4	10: 24	10: 31	7	2	ALI VE	A	181
KA5	10: 32	10: 36	4	2	ALI VE	A	184
KA6	10: 36	10: 39	3	2	ALI VE	A	175
KA8	10: 41	10: 49	8	2	ALI VE	A	147
KA9	10: 47	10: 52	5	2	ALI VE	A	144
KB0	10: 43	10: 46	3	2	ALI VE	A	132
KB1	10: 39	10: 42	3	2	ALI VE	A	138
KB2	10: 51	11: 00	9	2	ALI VE	A	186
KB3	11: 03	11: 13	10	2	ALI VE	A	181
KB4	11: 04	11: 06	2	2	ALI VE	A	190
KB5	11: 02	11: 04	2	2	ALI VE	A	146
KB6	10: 55	11: 02	7	2	ALI VE	A	135
KB7	10: 55	11: 01	6	1	DEAD	F	155
KB8	11: 17	11: 36	19	2	ALI VE	A	165
KB9	11: 18	11: 32	14	2	ALI VE	A	197
KC0	11: 34	11: 38	4	2	ALI VE	A	201
KC1	11: 19	11: 30	11	2	ALI VE	A	196
KC2	11: 33	11: 42	9	2	ALI VE	A	193
KC3	11: 44	11: 48	4	2	ALI VE	A	167
KC4	11: 39	11: 48	9	2	ALI VE	A	138
KC5	11: 37	11: 43	6	2	ALI VE	A	138
KC6	11: 43	11: 56	13	2	ALI VE	A	158
KC7	11: 49	11: 55	6	2	ALI VE	A	160
KC8	12: 01	12: 20	19	2	ALI VE	A	183
KC9	11: 57	12: 05	8	2	ALI VE	A	182
KD0	11: 55	12: 00	5	2	ALI VE	A	156
KD1	12: 07	.	.	0	DEAD	ZL	148

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
KD2	11: 51	.	.	0	TAG & PIN		147	
KD3	12: 22	12: 27	5	2	ALIVE	A	140	
KD4	12: 41	12: 46	5	2	ALIVE	WH	187	
KD6	12: 36	12: 40	4	2	ALIVE	A	198	
KD7	12: 31	12: 40	9	2	ALIVE	A	146	
KD8	12: 48	12: 51	3	2	ALIVE	A	177	
KD9	12: 43	12: 46	3	2	ALIVE	A	192	
KE0	12: 49	12: 56	7	2	ALIVE	A	182	
KE1	12: 42	12: 49	7	2	ALIVE	A	187	
KE2	12: 50	.	.	0	UNKNOWN	X	191	
KE4	13: 37	13: 40	3	2	ALIVE	A	200	
KE5	13: 16	13: 18	2	2	ALIVE	A	165	
KE6	13: 30	13: 32	2	2	ALIVE	A	132	
KE7	13: 36	13: 38	2	2	ALIVE	A	149	
KE8	13: 15	13: 18	3	2	ALIVE	A	140	
KE9	13: 36	13: 49	13	2	ALIVE	A	186	
KF0	13: 13	13: 15	2	2	ALIVE	A	127	
KF1	13: 19	13: 23	4	2	ALIVE	A	140	
KF2	13: 08	13: 14	6	2	ALIVE	A	132	
KF3	13: 28	13: 30	2	2	ALIVE	A	206	
KF4	13: 07	13: 12	5	2	ALIVE	A	152	
KF5	13: 24	13: 27	3	2	ALIVE	A	188	
KF6	13: 23	13: 31	8	2	ALIVE	A	174	
KF7	13: 19	13: 27	8	2	ALIVE	A	150	
KF8	13: 32	13: 35	3	2	ALIVE	A	147	
KF9	13: 59	14: 25	26	2	ALIVE	H	202	
KH0	13: 59	14: 06	7	2	ALIVE	A	168	
KH1	14: 07	14: 15	8	2	ALIVE	A	197	
KH2	14: 02	14: 08	6	2	ALIVE	A	202	
KH3	13: 58	14: 01	3	2	ALIVE	A	157	
KH4	14: 17	14: 30	13	2	ALIVE	A	180	
KH5	14: 19	14: 22	3	2	DEAD	F	188	

KH6	14: 16	14: 19	3	2	ALI VE	A	188
KH7	14: 14	14: 17	3	2	ALI VE	A	142
KH8	14: 10	14: 13	3	2	ALI VE	A	160
KH9	14: 27	.	.	0	DEAD	Z	137
KJ0	14: 31	14: 37	6	2	ALI VE	A	175
KJ1	14: 36	14: 44	8	2	ALI VE	A	199
KJ2	14: 26	14: 30	4	2	ALI VE	A	176
KJ3	14: 30	14: 35	5	2	ALI VE	A	142
KJ4	14: 54	14: 59	5	2	ALI VE	A	128
KJ5	14: 57	14: 59	2	2	ALI VE	A	138
KJ6	14: 39	14: 53	14	2	ALI VE	A	135
KJ7	14: 58	15: 03	5	2	ALI VE	A	187
KJ9	15: 08	15: 11	3	2	ALI VE	A	192
KK1	15: 03	15: 08	5	2	ALI VE	A	186
KK2	15: 09	15: 12	3	2	ALI VE	A	186
KK3	15: 05	15: 07	2	2	ALI VE	A	149
KK4	15: 06	15: 11	5	2	ALI VE	A	140
KK5	15: 12	15: 31	19	2	ALI VE	A	173
MW2	7: 47	7: 51	4	2	ALI VE	A	202

E-66

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
MW3	7: 51	8: 02	11	2	ALI VE	A	195	
MW4	7: 54	7: 58	4	2	ALI VE	A	195	
MW5	7: 33	7: 47	14	2	ALI VE	A	135	
MW6	7: 32	7: 36	4	2	ALI VE	A	140	
MW7	7: 37	7: 43	6	2	ALI VE	A	161	
MW8	7: 52	7: 56	4	2	ALI VE	A	170	
MW9	7: 34	7: 53	19	2	ALI VE	A	141	
MX0	7: 43	7: 46	3	2	ALI VE	A	158	
MX1	7: 48	7: 50	2	2	ALI VE	A	215	

MX2	8:00	8:04	4	2	ALIVE	A	135
MX3	7:59	8:01	2	2	ALIVE	A	130
MX4	8:02	8:18	16	2	ALIVE	A	128
MX5	8:04	8:10	6	2	ALIVE	A	192
MX6	7:57	7:59	2	2	ALIVE	A	152
MX7	8:24	8:30	6	2	ALIVE	A	181
MX8	8:22	8:26	4	2	ALIVE	A	205
MX9	8:31	8:37	6	2	ALIVE	A	183
MY0	8:27	8:45	18	2	ALIVE	A	145
MY1	8:23	.	.	0	TAG & PIN		140
MY2	8:39	8:43	4	2	ALIVE	A	136
MY3	8:49	.	.	0	DEAD	P	141
MY4	8:48	8:54	6	2	ALIVE	A	141
MY5	8:55	9:00	5	2	ALIVE	A	180
MY6	8:48	8:54	6	2	ALIVE	A	133
MY7	9:21	9:36	15	2	ALIVE	A	145
MY8	8:57	9:17	20	2	ALIVE	H	194
MY9	9:03	9:20	17	2	ALIVE	A	127
MZ0	9:22	10:14	52	1	ALIVE	A	192
MZ1	9:34	9:38	4	2	ALIVE	A	186
MZ2	9:53	9:58	5	2	ALIVE	A	190
MZ3	9:49	9:53	4	2	ALIVE	A	183
MZ4	9:44	9:52	8	2	ALIVE	A	166
MZ5	9:41	9:49	8	2	ALIVE	A	193
MZ6	9:36	9:43	7	2	ALIVE	A	161
MZ7	10:05	10:23	18	2	ALIVE	A	186
MZ8	10:04	10:08	4	2	ALIVE	A	175

14 December 1999 - Testlot 29 : PL=4, Unit 6, Tip - Water temp=47.0 C

KK6	7:59	8:02	3	2	DEAD	F	171
KK7	7:47	7:55	8	2	ALIVE	H	163
KK8	7:48	7:55	7	2	ALIVE	A	137
KK9	7:51	8:02	11	2	ALIVE	A	185
KL0	7:47	7:50	3	2	ALIVE	A	135
KL1	8:04	8:18	14	2	ALIVE	A	183
KL2	8:07	8:15	8	2	ALIVE	A	195
KL4	8:08	8:14	6	2	ALIVE	A	190
KL5	8:04	8:07	3	2	ALIVE	A	143
KL6	8:18	.	.	0	TAG & PIN		130
KL7	8:39	8:42	3	2	ALIVE	A	165

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
KL8	8: 32	8: 37	5	2	ALIVE	A	147	
KL9	8: 14	8: 23	9	2	ALIVE	TA	187	
KM0	8: 24	8: 30	6	2	ALIVE	A	196	
KM1	8: 48	9: 18	30	2	ALIVE	A	195	
KM2	8: 43	8: 45	2	2	ALIVE	TA	130	
KM3	8: 40	.	.	0	DEAD	L	136	
KM4	8: 45	8: 55	10	2	ALIVE	A	140	
KM5	8: 47	8: 48	1	2	ALIVE	A	183	
KM6	9: 11	9: 22	11	2	ALIVE	H	150	
KM7	9: 15	9: 24	9	2	ALIVE	A	140	
KM8	9: 19	9: 22	3	2	ALIVE	A	141	
KM9	9: 23	9: 37	14	2	ALIVE	A	182	
KN0	9: 12	9: 14	2	2	ALIVE	A	141	
KN1	9: 41	.	.	0	DEAD	ZL	195	
KN2	9: 38	9: 40	2	2	ALIVE	H	193	
KN3	9: 34	.	.	0	UNKNOWN	X	148	
KN4	9: 27	.	.	0	TAG & PIN		139	
KN5	9: 29	9: 33	4	2	ALIVE	A	130	
KN6	10: 20	10: 22	2	2	ALIVE	A	190	
KN7	10: 18	10: 20	2	2	ALIVE	A	184	
KN8	10: 07	10: 08	1	2	ALIVE	A	150	
KN9	10: 15	10: 16	1	2	ALIVE	A	155	
KP0	10: 09	10: 14	5	2	ALIVE	A	173	
KP1	10: 04	.	.	0	DEAD	P	146	
KP2	10: 24	10: 53	29	2	ALIVE	A	142	
KP3	10: 23	10: 53	30	2	ALIVE	A	193	
KP4	10: 46	10: 49	3	2	ALIVE	A	200	
KP5	10: 26	10: 45	19	2	ALIVE	A	192	
KP6	11: 05	11: 16	11	2	ALIVE	A	138	
KP7	11: 11	11: 33	22	2	ALIVE	A	143	
KP8	11: 07	11: 09	2	2	ALIVE	A	151	
KP9	11: 20	11: 32	12	2	ALIVE	A	191	

KR0	11: 06	11: 11	5	2	ALI VE	A	152
KR1	11: 16	11: 19	3	2	ALI VE	A	144
KR2	11: 37	11: 40	3	2	ALI VE	A	165
KR3	11: 36	11: 38	2	2	ALI VE	A	181
KR4	11: 05	11: 06	1	2	ALI VE	A	140
KR5	11: 17	11: 27	10	2	ALI VE	A	187
KR6	11: 42	11: 44	2	2	ALI VE	A	139
KR7	11: 41	11: 45	4	2	ALI VE	A	167
KR8	11: 45	11: 47	2	2	ALI VE	A	187
KR9	11: 46	11: 47	1	2	ALI VE	A	180
KS0	11: 47	11: 56	9	2	ALI VE	A	190
KS1	12: 16	12: 48	32	2	ALI VE	A	204
KS2	12: 04	12: 07	3	1	ALI VE	HB	197
KS3	12: 05	12: 20	15	2	ALI VE	A	171
KS4	12: 03	.	.	0	DEAD	P	132
KS5	12: 20	12: 27	7	2	ALI VE	A	199
KS6	12: 37	12: 42	5	2	ALI VE	A	185
KS7	12: 43	12: 51	8	2	ALI VE	A	191
KS8	12: 22	.	.	0	UNKNOWN	X	202

E-68

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
KS9	12: 28	12: 32	4	2	ALI VE	A	198	
KT0	12: 32	12: 51	19	2	ALI VE	A	138	
KT1	13: 08	13: 23	15	2	DEAD	P	203	
KT2	13: 00	13: 07	7	2	ALI VE	A	182	
KT4	12: 52	12: 58	6	2	ALI VE	H	191	
KT5	12: 52	13: 13	21	2	ALI VE	A	146	
KT6	13: 14	13: 20	6	2	ALI VE	A	182	
KT7	13: 24	13: 29	5	2	ALI VE	A	188	
KT8	13: 15	13: 29	14	2	ALI VE	A	133	

KU0	13: 21	13: 23	2	2	ALI VE	A	185
KU1	13: 31	13: 35	4	2	ALI VE	A	178
KU2	13: 37	13: 57	20	2	ALI VE	A	200
KU3	13: 27	13: 33	6	2	ALI VE	A	186
KU4	13: 32	13: 40	8	2	ALI VE	A	175
KU5	13: 35	13: 42	7	2	ALI VE	A	170
KU7	14: 12	14: 14	2	2	ALI VE	A	173
KU8	14: 08	14: 11	3	2	ALI VE	A	176
KU9	14: 08	14: 12	4	2	ALI VE	A	190
KV1	14: 07	14: 08	1	2	ALI VE	A	142
KV2	14: 21	.	.	0	UNKNOWN	X	166
KV3	14: 15	14: 25	10	2	ALI VE	A	201
KV4	14: 15	14: 16	1	2	ALI VE	A	185
KV5	14: 17	14: 20	3	2	ALI VE	A	160
KV6	14: 26	.	.	0	DEAD	Z	190
KV7	14: 44	14: 48	4	2	ALI VE	A	130
KV8	14: 48	14: 54	6	2	ALI VE	TA	164
KV9	14: 46	14: 58	12	2	ALI VE	A	182
KW0	14: 51	14: 52	1	2	ALI VE	A	184
KW1	14: 55	14: 57	2	2	ALI VE	A	179
KW2	14: 58	15: 01	3	2	ALI VE	A	143
KW3	15: 02	15: 06	4	2	ALI VE	A	188
KW4	15: 00	15: 00	0	2	ALI VE	A	181
KW5	14: 58	15: 01	3	2	ALI VE	A	182
KW6	15: 02	15: 09	7	2	ALI VE	A	187
KW8	15: 11	15: 24	13	2	ALI VE	A	191
KW9	15: 13	15: 16	3	2	ALI VE	A	189
KX1	15: 17	15: 19	2	2	ALI VE	A	184
KX3	15: 46	15: 47	1	2	ALI VE	A	193
KX4	15: 39	15: 45	6	2	ALI VE	A	207
KX5	15: 38	15: 45	7	2	ALI VE	A	167
KX6	15: 47	15: 48	1	2	ALI VE	A	173
KX7	15: 44	15: 46	2	2	ALI VE	A	187
KX8	16: 00	16: 02	2	2	ALI VE	A	143
KX9	15: 56	15: 58	2	2	ALI VE	A	151
KY0	16: 03	16: 20	17	2	ALI VE	A	187
KY1	15: 53	15: 55	2	2	ALI VE	A	143
KY2	15: 55	16: 01	6	2	ALI VE	A	186
KY3	15: 52	16: 02	10	2	ALI VE	A	182
KY4	15: 48	15: 49	1	2	ALI VE	A	190
KY5	15: 48	15: 51	3	2	ALI VE	A	181
KY6	15: 51	16: 07	16	2	ALI VE	A	180

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
KY7	15: 49	15: 52	3	2	ALIVE	A	179	
KZ8	13: 38	13: 40	2	2	ALIVE	A	158	
KZ9	13: 11	13: 13	2	2	ALIVE	A	159	
15 December 1999 - Testlot 30 : PL=1, Unit 6, Hub - Water temp=47.0 C								
H00	13: 25	13: 28	3	2	ALIVE	A	171	
H01	13: 13	13: 17	4	2	ALIVE	A	192	
H02	13: 31	13: 34	3	2	ALIVE	A	188	
H03	13: 34	13: 36	2	2	ALIVE	A	201	
H04	14: 19	14: 21	2	2	ALIVE	A	200	
H05	13: 30	13: 32	2	2	ALIVE	A	139	
H06	13: 36	13: 38	2	2	ALIVE	A	170	
H07	14: 13	14: 16	3	2	ALIVE	A	182	
H08	13: 58	14: 09	11	2	ALIVE	A	181	
H09	13: 53	13: 58	5	2	ALIVE	A	160	
H10	13: 54	14: 02	8	2	ALIVE	A	194	
H11	13: 52	14: 17	25	1	ALIVE	BH	172	
H12	14: 15	14: 25	10	2	ALIVE	A	187	
H13	14: 17	14: 20	3	2	ALIVE	A	188	
HA0	8: 05	8: 07	2	2	ALIVE	A	150	
HA1	8: 08	8: 11	3	2	ALIVE	A	185	
HA2	8: 10	8: 17	7	2	ALIVE	A	182	
HA3	8: 07	8: 18	11	2	ALIVE	A	154	
HA4	8: 04	8: 07	3	2	ALIVE	A	144	
HA5	8: 18	8: 20	2	2	ALIVE	A	193	
HA6	8: 18	8: 26	8	2	ALIVE	A	184	
HA7	8: 12	8: 15	3	2	ALIVE	A	182	
HA8	8: 16	8: 19	3	2	ALIVE	A	147	
HA9	8: 19	8: 23	4	2	ALIVE	A	177	
HBO	9: 12	9: 14	2	2	ALIVE	A	180	

HB1	9: 18	9: 32	14	2	ALI VE	A	197
HB2	8: 45	8: 48	3	2	ALI VE	A	180
HB3	8: 59	.	.	0	DEAD	Z	147
HB4	8: 59	9: 02	3	2	ALI VE	A	135
HB5	9: 08	9: 10	2	2	ALI VE	A	186
HB6	9: 15	9: 16	1	2	ALI VE	A	197
HB7	9: 16	9: 18	2	2	ALI VE	A	199
HB8	9: 02	9: 06	4	2	ALI VE	A	182
HB9	9: 19	9: 25	6	2	ALI VE	A	198
HC0	8: 44	8: 46	2	2	ALI VE	A	137
HC1	8: 46	8: 48	2	2	ALI VE		137
HC2	9: 07	9: 11	4	2	ALI VE	A	179
HC3	8: 58	9: 01	3	2	ALI VE	A	182
HC4	9: 03	9: 05	2	2	ALI VE	A	174
HC5	10: 02	10: 07	5	2	ALI VE	A	188
HC6	9: 39	9: 42	3	2	ALI VE	A	182
HC7	9: 49	9: 59	10	2	ALI VE	A	195
HC8	9: 45	9: 47	2	2	ALI VE	A	139
HC9	9: 39	9: 41	2	2	ALI VE	A	136

E-70

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
HD0	9: 58	10: 01	3	2	ALI VE	A	202	
HD1	9: 38	9: 43	5	2	ALI VE	A	159	
HD2	9: 59	10: 04	5	2	ALI VE	A	202	
HD3	9: 52	9: 59	7	2	ALI VE	A	183	
HD4	9: 47	9: 50	3	2	ALI VE	A	182	
HD5	9: 43	9: 46	3	2	ALI VE	A	187	
HD6	9: 48	9: 51	3	2	ALI VE	A	142	
HD7	9: 51	9: 57	6	2	ALI VE	A	190	
HD9	9: 42	9: 47	5	2	ALI VE	A	104	

HE0	10: 30	10: 36	6	2	ALI VE	A	197
HE1	10: 26	10: 29	3	2	ALI VE	A	203
HE2	10: 25	10: 59	34	2	ALI VE	A	198
HE3	10: 26	10: 35	9	2	ALI VE	A	204
HE4	10: 36	10: 40	4	2	ALI VE	A	207
HE5	10: 42	10: 44	2	2	ALI VE	A	197
HE6	10: 54	10: 57	3	2	ALI VE	A	188
HE7	10: 49	10: 51	2	2	ALI VE	A	176
HE8	10: 44	10: 48	4	2	ALI VE	A	146
HE9	10: 00	10: 14	14	2	ALI VE	A	190
HF0	10: 39	.	.	0	DEAD	L	136
HF1	11: 01	11: 12	11	2	ALI VE	A	130
HF2	11: 07	11: 10	3	2	ALI VE	A	187
HF3	11: 02	11: 25	23	2	ALI VE	A	196
HF4	11: 11	11: 14	3	2	ALI VE	A	187
HF5	11: 03	11: 06	3	2	ALI VE	A	173
HF6	11: 16	11: 29	13	2	ALI VE	A	146
HF7	11: 30	11: 33	3	2	ALI VE	A	154
HF8	11: 31	11: 38	7	2	ALI VE	A	167
HF9	11: 34	11: 39	5	2	ALI VE	A	194
HH0	11: 29	11: 37	8	2	ALI VE	A	141
HH1	14: 28	14: 31	3	2	ALI VE	A	187
HH2	14: 32	14: 41	9	2	ALI VE	A	196
HH3	14: 27	14: 31	4	2	ALI VE	A	177
HH4	14: 28	.	.	0	UNKNOWN	X	172
HH5	14: 31	14: 39	8	2	ALI VE	A	193
HH6	11: 55	11: 57	2	2	ALI VE	A	135
HH7	11: 54	11: 57	3	1	ALI VE	BH	142
HH8	11: 59	12: 02	3	2	ALI VE	A	188
HH9	11: 53	11: 56	3	2	ALI VE	A	135
HJ0	11: 57	12: 00	3	2	ALI VE	A	176
HJ1	12: 03	12: 06	3	2	ALI VE	A	180
HJ2	12: 05	12: 09	4	2	ALI VE	A	205
HJ3	12: 08	12: 12	4	2	ALI VE	A	180
HJ4	12: 10	12: 14	4	2	ALI VE	A	187
HJ5	12: 04	12: 09	5	2	ALI VE	A	142
HJ6	12: 13	12: 24	11	2	ALI VE	A	183
HJ7	12: 19	12: 20	1	2	ALI VE	A	141
HJ8	12: 21	12: 27	6	2	ALI VE	A	161
HJ9	12: 15	12: 17	2	2	ALI VE	A	147
HK0	12: 12	12: 21	9	2	ALI VE	A	136
HK1	12: 29	12: 34	5	2	ALI VE	A	195

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
HK2	12: 29	12: 34	5	2	ALIVE	A	197	
HK3	12: 27	12: 29	2	2	ALIVE	A	187	
HK4	12: 23	12: 26	3	2	ALIVE	A	176	
HK5	12: 25	12: 29	4	2	ALIVE	A	177	
HK7	12: 45	12: 48	3	2	ALIVE	A	176	
HK8	12: 41	12: 43	2	2	ALIVE	A	188	
HK9	12: 44	13: 04	20	2	ALIVE	A	191	
HL0	12: 41	12: 43	2	2	ALIVE	A	172	
HL1	12: 40	12: 44	4	2	ALIVE	A	135	
HL2	12: 49	12: 50	1	2	ALIVE	A	164	
HL3	12: 55	12: 58	3	2	ALIVE	A	192	
HL4	13: 10	13: 21	11	2	ALIVE	A	180	
HL6	12: 47	12: 53	6	2	ALIVE	A	140	
HL7	13: 14	13: 20	6	2	ALIVE	A	193	
HL8	13: 26	13: 30	4	2	ALIVE	A	197	
KY8	7: 39	7: 47	8	2	ALIVE	A	187	
KY9	7: 42	7: 48	6	2	ALIVE	A	199	
KZ0	7: 38	7: 46	8	2	ALIVE	A	138	
KZ1	7: 47	8: 06	19	2	ALIVE	A	159	
KZ2	7: 38	7: 42	4	2	ALIVE	A	168	
KZ3	7: 49	7: 52	3	2	ALIVE	A	133	
KZ4	7: 50	8: 02	12	2	ALIVE	A	203	
KZ5	8: 02	8: 04	2	2	ALIVE	A	174	
KZ6	7: 59	8: 01	2	2	ALIVE	A	166	
KZ7	7: 52	7: 58	6	2	ALIVE	A	138	
16 December 1999 - Testlot 31 : PL=3, Control - Water temp=48.0 C								
H14	7: 54	7: 58	4	2	ALIVE	A	196	
H15	7: 54	7: 59	5	2	ALIVE	A	130	
H16	7: 50	7: 53	3	2	ALIVE	A	154	

H17	7: 46	7: 51	5	2	ALI VE	A	184
H18	7: 48	8: 16	28	2	ALI VE	A	132
H19	7: 49	7: 52	3	2	ALI VE	A	131
H20	7: 41	7: 43	2	2	ALI VE	A	138
H21	7: 40	7: 42	2	2	ALI VE	A	182
H22	8: 04	8: 10	6	1	ALI VE	B	202
H23	7: 57	8: 04	7	2	ALI VE	A	173
H24	7: 45	7: 48	3	2	ALI VE	A	144
H25	7: 40	7: 44	4	2	ALI VE	A	200
H26	7: 56	7: 59	3	2	ALI VE	A	145
H27	7: 52	7: 56	4	2	ALI VE	A	148
H28	7: 43	7: 45	2	2	ALI VE	A	182
H29	8: 33	8: 37	4	2	ALI VE	A	148
H30	8: 28	8: 40	12	2	ALI VE	A	135
H31	8: 41	8: 45	4	2	ALI VE	A	185
H32	8: 27	8: 33	6	2	ALI VE	A	169
H33	8: 37	.	.	0	DEAD	Z	201
H34	8: 47	8: 56	9	2	ALI VE	A	140
H35	9: 09	9: 12	3	2	ALI VE	A	190

E-72

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
H36	8: 56	9: 03	7	2	ALI VE	A	146	
H37	9: 00	9: 08	8	2	ALI VE	A	158	
H38	9: 09	9: 15	6	2	ALI VE	A	187	
H39	9: 32	9: 43	11	2	ALI VE	A	186	
H40	9: 13	9: 35	22	2	ALI VE	A	152	
H41	9: 34	9: 42	8	2	ALI VE	A	204	
H42	9: 16	9: 18	2	2	ALI VE	A	142	
H43	9: 19	9: 34	15	2	ALI VE	A	135	
H44	9: 41	9: 46	5	2	ALI VE	A	183	

H45	9: 42	9: 54	12	2	ALI VE	A	193
H46	9: 46	9: 52	6	2	ALI VE	A	180
H47	9: 43	9: 52	9	2	ALI VE	A	189
H48	9: 37	9: 41	4	2	ALI VE	A	132
H49	10: 15	10: 18	3	2	ALI VE	A	133
H50	10: 21	10: 26	5	2	ALI VE	A	132
H51	10: 30	10: 33	3	2	ALI VE	A	203
H52	10: 19	10: 22	3	2	ALI VE	A	145
H53	10: 05	10: 06	1	2	ALI VE	A	204
H54	10: 12	10: 14	2	2	ALI VE	A	146
H55	10: 02	10: 05	3	2	ALI VE	A	145
H56	10: 06	10: 08	2	2	ALI VE	A	160
H57	10: 03	10: 17	14	2	ALI VE	A	160
H58	10: 08	10: 11	3	2	ALI VE	A	197
H59	10: 23	10: 26	3	2	ALI VE	A	186
H60	10: 20	10: 38	18	2	ALI VE	A	160
H61	10: 26	10: 30	4	2	ALI VE	A	190
H62	10: 25	10: 40	15	2	ALI VE	A	184
H63	10: 33	10: 36	3	2	ALI VE	A	207
H64	10: 50	10: 53	3	2	ALI VE	A	158
H65	10: 49	10: 51	2	2	ALI VE	A	140
H66	10: 48	10: 54	6	2	ALI VE	A	135
H67	10: 54	11: 00	6	2	ALI VE	A	190
H68	10: 52	10: 56	4	2	ALI VE	A	190
H69	10: 59	11: 11	12	2	ALI VE	A	155
H70	11: 01	11: 08	7	2	ALI VE	A	167
H71	10: 57	11: 00	3	2	ALI VE	A	169
H72	11: 01	11: 05	4	2	ALI VE	A	145
H73	11: 05	11: 09	4	2	ALI VE	A	138
H74	11: 10	11: 14	4	2	ALI VE	A	138
H75	11: 14	11: 18	4	2	ALI VE	A	138
H76	11: 11	11: 15	4	2	ALI VE	A	137
H77	11: 09	11: 15	6	2	ALI VE	A	184
H78	11: 15	11: 24	9	2	ALI VE	A	193
H79	11: 17	11: 25	8	2	ALI VE	A	159
H80	11: 26	11: 33	7	2	ALI VE	A	195
H81	11: 24	11: 47	23	2	ALI VE	A	152
H82	11: 18	11: 41	23	2	ALI VE	A	174
H83	11: 34	11: 36	2	2	DEAD	A	202
H84	11: 59	.	.	0	DEAD	Z	142
H85	11: 57	12: 01	4	2	ALI VE	A	197
H86	12: 00	12: 06	6	2	ALI VE	A	154

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
H87	11: 58	12: 01	3	2	ALIVE	A	139	
H88	12: 02	12: 08	6	2	ALIVE	A	194	
H89	12: 07	15: 15	188	2	ALIVE	A	150	
H90	12: 25	12: 34	9	2	ALIVE	A	188	
H91	12: 09	12: 27	18	2	ALIVE	A	149	
H92	12: 22	12: 24	2	2	ALIVE	A	187	
H93	12: 18	12: 21	3	2	ALIVE	A	197	
H94	12: 42	15: 15	153	2	ALIVE	A	192	
H95	12: 39	12: 53	14	2	ALIVE	A	147	
H96	12: 35	12: 41	6	2	ALIVE	A	192	
H97	12: 28	12: 50	22	2	ALIVE	A	130	
H98	12: 36	12: 39	3	2	ALIVE	A	185	
H99	12: 57	13: 07	10	2	ALIVE	A	192	
HM0	13: 01	14: 00	59	2	ALIVE	A	203	
HM1	12: 56	.	.	0	TAG & PIN		147	
HM2	12: 54	12: 57	3	2	ALIVE	A	154	
HM3	12: 53	13: 03	10	2	ALIVE	A	179	
HM4	13: 08	13: 10	2	2	ALIVE	A	143	
HM5	13: 08	13: 23	15	2	ALIVE	A	131	
HM6	13: 26	13: 31	5	2	ALIVE	A	192	
HM7	13: 27	13: 32	5	2	ALIVE	A	190	
HM8	13: 25	13: 27	2	2	ALIVE	A	197	
HM9	13: 48	13: 50	2	2	ALIVE	A	150	
HNO	13: 51	14: 23	32	2	ALIVE	A	189	
HN1	14: 12	14: 25	13	2	ALIVE	A	189	
HN4	14: 19	15: 02	43	2	ALIVE	A	203	
HN5	14: 24	14: 27	3	2	ALIVE	A	138	
HN6	14: 33	14: 36	3	2	ALIVE	A	187	
HN7	14: 26	14: 32	6	2	ALIVE	A	146	
HN8	14: 31	15: 15	44	2	ALIVE	A	190	
HN9	14: 37	14: 48	11	2	ALIVE	A	198	
HP0	14: 49	15: 07	18	2	ALIVE	A	174	

HP1	14: 58	15: 04	6	2	ALI VE	A	191
HP2	14: 39	15: 39	60	2	ALI VE	AT	193
HP3	14: 48	15: 39	51	2	ALI VE	AT	163
HP4	15: 05	.	.	0	UNKNOWN	X	183
HP5	15: 06	15: 09	3	2	ALI VE	A	138
HP6	15: 30	15: 38	8	2	ALI VE	A	148
HP7	15: 10	15: 37	27	2	ALI VE	A	185
HP8	15: 40	15: 46	6	2	ALI VE	A	178
HP9	15: 11	.	.	0	DEAD	Z	135
HR0	15: 47	15: 49	2	2	ALI VE	A	134
HR1	15: 46	15: 51	5	2	DEAD		163
HR2	15: 50	15: 53	3	2	ALI VE	A	181
HR3	15: 41	15: 45	4	2	ALI VE	A	139
HR4	15: 49	16: 08	19	2	ALI VE	A	187
HR5	15: 52	15: 55	3	2	ALI VE	H	165
HR6	15: 53	16: 01	8	2	ALI VE	A	145
HR7	15: 55	16: 01	6	2	ALI VE	BH	189
HT7	13: 34	13: 36	2	2	ALI VE	A	145
HT8	13: 33	13: 40	7	2	ALI VE	A	201

E-74

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
HT9	13: 12	13: 24	12	2	ALI VE	A	179	
17 December 1999 - Testlot 32 : PL=4, Unit 5, Hub - Water temp=47.5 C								
HR8	7: 42	7: 49	7	2	ALI VE	A	182	
HR9	7: 40	7: 46	6	2	ALI VE	A	187	
HS0	7: 35	7: 44	9	2	ALI VE	A	166	
HS1	7: 35	7: 39	4	2	ALI VE	A	133	

HS2	7: 38	7: 41	3	2	ALI VE	A	167
HS3	7: 50	7: 52	2	2	ALI VE	A	145
HS4	7: 45	7: 50	5	2	ALI VE	A	135
HS5	7: 51	8: 00	9	2	ALI VE	A	178
HS6	7: 52	8: 00	8	2	ALI VE	A	187
HS7	7: 46	7: 51	5	2	ALI VE	A	158
HS8	8: 06	8: 16	10	2	ALI VE	A	170
HS9	8: 00	8: 04	4	2	ALI VE	A	146
HT0	8: 05	8: 20	15	2	ALI VE		144
HT1	8: 01	8: 04	3	2	ALI VE	A	141
HT2	7: 55	8: 06	11	2	ALI VE	A	147
HT3	8: 26	8: 31	5	2	ALI VE	A	203
HT4	8: 18	8: 31	13	2	ALI VE	A	187
HT5	8: 23	8: 31	8	2	ALI VE	A	198
HT6	8: 17	8: 27	10	2	ALI VE	H	155
HU0	8: 41	8: 46	5	2	ALI VE	A	152
HU1	8: 38	8: 40	2	2	ALI VE	A	155
HU2	8: 40	8: 47	7	2	ALI VE	A	150
HU3	8: 53	8: 57	4	2	ALI VE	A	137
HU4	8: 57	9: 08	11	2	ALI VE	A	137
HU5	8: 50	8: 52	2	2	ALI VE	A	149
HU6	8: 56	9: 09	13	2	ALI VE	A	192
HU7	8: 50	8: 55	5	2	ALI VE	A	184
HU8	9: 11	9: 19	8	2	ALI VE	A	193
HU9	9: 13	9: 22	9	2	ALI VE	A	176
HV0	9: 04	9: 08	4	2	ALI VE	A	186
HV1	9: 08	9: 11	3	2	ALI VE	A	132
HV2	9: 09	9: 17	8	2	ALI VE	A	191
HV3	9: 17	9: 40	23	2	ALI VE	A	132
HV4	9: 25	9: 27	2	2	ALI VE	A	168
HV5	9: 20	9: 24	4	2	ALI VE	A	131
HV6	9: 23	9: 31	8	2	ALI VE	A	144
HV7	9: 28	9: 43	15	2	ALI VE	A	190
HV8	10: 05	10: 11	6	2	ALI VE	A	190
HV9	10: 00	10: 04	4	2	ALI VE	A	192
HW0	10: 00	10: 04	4	2	ALI VE	A	182
HW1	10: 01	10: 09	8	2	ALI VE	A	178
HW2	10: 04	10: 16	12	2	ALI VE	A	203
HW3	10: 14	10: 20	6	2	ALI VE	A	174
HW4	10: 20	10: 23	3	2	ALI VE	A	167
HW5	10: 17	10: 24	7	2	ALI VE	A	205
HW6	10: 19	10: 26	7	2	ALI VE	A	206

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
HW7	10: 10	10: 13	3	2	ALIVE	A	152	
HW8	10: 23	10: 32	9	2	ALIVE	A	188	
HW9	10: 28	10: 35	7	2	ALIVE	A	152	
HX0	10: 27	10: 31	4	2	ALIVE	A	196	
HX1	10: 57	11: 04	7	2	ALIVE	A	146	
HX2	10: 24	10: 27	3	2	ALIVE	A	157	
HX3	10: 59	11: 03	4	2	ALIVE	A	140	
HX4	11: 08	11: 14	6	2	ALIVE	A	192	
HX5	11: 07	11: 11	4	2	ALIVE	A	141	
HX6	11: 12	11: 12	0	2	ALIVE	A	132	
HX8	11: 28	11: 34	6	2	ALIVE	A	178	
HX9	11: 34	11: 40	6	2	ALIVE	A	196	
HY0	11: 31	11: 34	3	2	ALIVE	A	195	
HY1	11: 24	11: 26	2	2	ALIVE	A	143	
HY2	11: 27	11: 30	3	2	ALIVE	A	145	
HY3	12: 44	12: 49	5	2	ALIVE	A	186	
HY4	12: 15	12: 18	3	2	ALIVE	A	206	
HY5	12: 37	12: 48	11	2	ALIVE	A	162	
HY6	12: 18	12: 26	8	2	ALIVE	A	139	
HY7	12: 05	12: 16	11	2	ALIVE	H	190	
HY8	12: 36	12: 45	9	2	ALIVE	A	132	
HY9	11: 56	12: 00	4	2	ALIVE	A	131	
HZ0	12: 11	12: 14	3	2	ALIVE	A	176	
HZ1	12: 39	12: 43	4	2	ALIVE	A	192	
HZ2	12: 28	12: 38	10	2	ALIVE	A	184	
HZ3	12: 02	12: 04	2	2	ALIVE	A	188	
HZ4	12: 27	12: 34	7	2	ALIVE	A	130	
HZ5	11: 56	12: 10	14	2	ALIVE	A	143	
HZ6	11: 57	12: 03	6	2	ALIVE	A	148	
HZ7	8: 36	8: 41	5	2	ALIVE	A	190	
HZ8	8: 37	8: 42	5	2	ALIVE	A	202	
HZ9	8: 08	8: 16	8	2	ALIVE	A	138	

PA0	12: 04	12: 08	4	2	ALI VE	A	173
PA1	13: 44	13: 54	10	2	ALI VE	A	177
PA2	13: 18	13: 20	2	2	ALI VE	A	133
PA3	13: 37	13: 41	4	2	ALI VE	A	181
PA4	12: 59	13: 05	6	2	ALI VE	A	136
PA5	13: 39	13: 43	4	2	ALI VE	A	194
PA6	13: 13	13: 17	4	2	ALI VE	A	142
PA7	13: 08	13: 12	4	2	ALI VE	A	138
PA8	13: 21	13: 33	12	2	ALI VE	A	182
PA9	13: 02	13: 05	3	2	ALI VE	A	142
PB0	13: 09	13: 14	5	2	ALI VE	A	145
PB1	12: 58	13: 01	3	2	ALI VE	A	135
PB2	13: 19	13: 36	17	2	ALI VE	A	137
PB3	13: 06	13: 08	2	2	ALI VE	A	135
PB4	13: 14	13: 15	1	2	ALI VE	A	133
PB5	13: 42	13: 49	7	2	ALI VE	A	179
PB6	14: 10	14: 20	10	2	ALI VE	A	153
PB7	14: 22	14: 24	2	2	ALI VE	A	190
PB8	14: 09	14: 21	12	2	ALI VE	A	177

E-76

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
PB9	14: 08	14: 11	3	2	ALI VE	A	180	
PC0	14: 13	14: 44	31	2	ALI VE	A	194	
PC1	14: 26	14: 33	7	2	ALI VE	A	135	
PC2	14: 37	14: 42	5	2	ALI VE	A	145	
PC3	14: 24	14: 38	14	2	ALI VE	A	134	
PC4	14: 43	14: 54	11	2	ALI VE	A	186	
PC5	14: 40	15: 00	20	2	ALI VE	A	186	
PC6	15: 02	15: 14	12	2	ALI VE	A	194	
PC7	15: 00	15: 04	4	2	ALI VE	A	140	

PC8	14: 49	14: 54	5	2	ALI VE	A	200
PC9	14: 56	15: 10	14	2	ALI VE	A	197
PD0	14: 55	14: 59	4	2	ALI VE	A	170
PD1	15: 11	15: 14	3	2	ALI VE	A	144
PD2	15: 15	15: 21	6	2	ALI VE	A	134
PD3	15: 05	15: 09	4	2	ALI VE	A	131
PD4	15: 10	15: 14	4	2	ALI VE	A	130
PD5	15: 16	15: 26	10	2	ALI VE	A	152
PD6	15: 24	15: 27	3	2	ALI VE	A	138
PD7	15: 26	15: 39	13	2	ALI VE	A	146
PD8	15: 19	15: 23	4	2	ALI VE	A	131
PD9	15: 27	15: 52	25	2	ALI VE	A	194
PE0	15: 21	15: 29	8	2	ALI VE	A	187
PE9	11: 39	11: 49	10	2	ALI VE	A	188

18 December 1999 - Testlot 33 : PL=2, Unit 5, Tip - Water temp=46.5 C

BP3	13: 08	15: 39	151	1	DEAD	F	137
PE1	7: 36	7: 49	13	2	ALI VE	A	141
PE2	7: 37	.	.	0	DEAD	Z	137
PE3	7: 43	7: 47	4	2	ALI VE	A	149
PE4	7: 35	7: 42	7	2	ALI VE	A	167
PE5	7: 47	7: 52	5	2	ALI VE	A	140
PE6	7: 58	8: 03	5	2	ALI VE	A	148
PE7	7: 49	7: 55	6	2	ALI VE	A	145
PE8	7: 55	8: 02	7	2	ALI VE	A	135
PF0	8: 02	8: 25	23	2	ALI VE	A	136
PF1	7: 52	7: 58	6	2	ALI VE	A	186
PF2	8: 41	8: 46	5	2	ALI VE	A	145
PF3	8: 05	8: 10	5	2	ALI VE	A	146
PF4	8: 11	8: 40	29	1	DEAD	F	140
PF5	8: 28	8: 55	27	2	ALI VE	A	167
PF6	8: 10	.	.	0	UNKNOWN	X	136
PF7	8: 47	9: 00	13	2	ALI VE	A	142
PF8	8: 44	8: 45	1	2	ALI VE	A	141
PF9	8: 46	8: 55	9	2	ALI VE	A	165
PH0	8: 56	8: 59	3	2	ALI VE	A	178
PH1	8: 56	9: 06	10	2	ALI VE	A	194
PH2	9: 07	9: 15	8	2	ALI VE	A	137
PH3	9: 09	9: 21	12	2	ALI VE	A	138
PH4	9: 11	9: 15	4	2	ALI VE	A	140

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
PH5	9: 15	9: 20	5	2	ALIVE	A	159	
PH6	9: 08	9: 11	3	2	ALIVE	A	138	
PH7	9: 21	9: 26	5	2	ALIVE	A	131	
PH8	9: 23	.	.	0	UNKNOWN	X	140	
PH9	9: 22	9: 31	9	2	ALIVE	A	209	
PJ0	9: 25	9: 28	3	2	ALIVE	A	192	
PJ1	9: 18	9: 23	5	2	ALIVE	A	188	
PJ2	9: 28	9: 33	5	2	ALIVE	A	141	
PJ3	9: 51	15: 39	348	1	DEAD	F	174	
PJ4	9: 32	9: 35	3	2	ALIVE	A	154	
PJ5	9: 35	.	.	0	DEAD	Z	187	
PJ6	9: 36	10: 07	31	1	ALIVE	B	145	
PJ7	10: 12	10: 17	5	2	ALIVE	A	131	
PJ8	10: 14	10: 31	17	2	ALIVE	A	136	
PJ9	9: 57	9: 59	2	2	ALIVE	A	147	
PK0	10: 18	10: 25	7	2	ALIVE	A	137	
PK1	10: 00	15: 37	337	2	ALIVE	A	135	
PK2	10: 52	11: 00	8	2	ALIVE	A	133	
PK3	11: 00	11: 03	3	2	ALIVE	A	180	
PK4	10: 15	10: 49	34	2	ALIVE	A	148	
PK5	10: 51	10: 55	4	2	ALIVE	A	180	
PK6	10: 53	11: 00	7	2	ALIVE	A	134	
PK7	10: 56	10: 59	3	2	ALIVE	A	139	
PK8	10: 46	10: 49	3	2	ALIVE	H	187	
PK9	10: 40	10: 44	4	2	ALIVE	A	133	
PL0	11: 00	11: 02	2	2	ALIVE	A	132	
PL1	11: 02	11: 05	3	2	ALIVE	A	132	
PL2	10: 42	10: 44	2	2	ALIVE	A	143	
PL3	10: 49	10: 51	2	2	ALIVE	A	147	
PL4	10: 41	10: 47	6	2	ALIVE	A	181	
PL5	10: 48	10: 50	2	2	ALIVE	A	135	
PL6	11: 01	.	.	0	DEAD	Z	132	

PL7	11: 27	11: 36	9	2	AL I VE	A	133
PL8	11: 26	11: 30	4	2	AL I VE	A	148
PL9	11: 26	11: 34	8	2	AL I VE	A	193
PM0	11: 34	11: 57	23	2	AL I VE	A	142
PM1	11: 31	11: 33	2	2	AL I VE	A	139
PM2	11: 41	11: 44	3	2	AL I VE	B	139
PM3	11: 40	11: 43	3	2	AL I VE	A	133
PM4	11: 40	11: 45	5	2	AL I VE	A	195
PM5	11: 38	11: 40	2	2	AL I VE	A	131
PM6	11: 36	11: 40	4	2	AL I VE	A	166
PM7	11: 45	11: 48	3	2	AL I VE	A	131
PM8	11: 50	11: 55	5	2	AL I VE	A	146
PM9	11: 48	15: 39	231	2	AL I VE	A	162
PN0	11: 46	11: 48	2	2	AL I VE	A	151
PN1	11: 49	11: 52	3	2	AL I VE	A	137
PN2	12: 05	12: 10	5	2	AL I VE	A	192
PN3	11: 58	12: 04	6	2	AL I VE	A	143
PN4	11: 58	12: 01	3	2	AL I VE	A	159
PN5	12: 04	12: 07	3	2	AL I VE	A	181

E-78

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
PN6	12: 01	12: 18	17	2	AL I VE	A	135	
PN7	12: 18	.	.	0	TAG & PIN		134	
PN8	12: 16	12: 23	7	2	AL I VE	A	196	
PN9	12: 10	12: 18	8	2	AL I VE	A	142	
PP0	12: 08	12: 15	7	2	AL I VE	A	146	
PP1	12: 25	12: 27	2	2	AL I VE	A	140	
PP2	13: 06	13: 09	3	2	AL I VE	A	144	
PP4	13: 03	13: 12	9	2	AL I VE	A	137	
PP5	13: 04	13: 06	2	2	AL I VE	A	138	

PP6	13: 03	13: 34	31	2	ALI VE	H	176
PP7	13: 32	13: 35	3	2	ALI VE	A	153
PP8	13: 13	13: 16	3	2	ALI VE	A	140
PP9	13: 27	13: 32	5	2	ALI VE	A	137
PR0	13: 22	13: 27	5	2	ALI VE	A	185
PR1	13: 17	13: 22	5	2	ALI VE	A	147
PR2	13: 44	.	.	0	TAG & PIN		140
PR3	13: 36	13: 55	19	2	ALI VE	A	145
PR4	13: 43	13: 56	13	2	ALI VE	A	175
PR5	13: 38	13: 42	4	2	ALI VE	A	144
PR6	13: 56	14: 03	7	2	ALI VE	A	192
PR7	14: 01	14: 13	12	2	ALI VE	A	141
PR8	14: 05	14: 17	12	2	ALI VE	A	143
PR9	13: 58	14: 01	3	2	ALI VE	A	192
PS0	14: 14	14: 20	6	1	DEAD	ENB	130
PS1	14: 04	14: 14	10	2	ALI VE	A	145
PS2	14: 21	14: 24	3	2	ALI VE	A	143
PS3	14: 27	14: 30	3	2	ALI VE	A	129
PS4	14: 19	14: 29	10	2	ALI VE	A	139
PS5	14: 15	14: 31	16	2	ALI VE	A	133
PS6	14: 24	14: 27	3	2	ALI VE	A	142
PS7	14: 29	14: 38	9	2	ALI VE	A	139
PS8	15: 06	15: 06	0	2	ALI VE	A	138
PS9	14: 54	14: 59	5	2	ALI VE	A	131
PT0	15: 08	15: 08	0	2	ALI VE	A	148
PT1	14: 51	14: 51	0	2	ALI VE	A	133
PT2	14: 54	14: 54	0	2	ALI VE	A	125
PT3	15: 02	15: 02	0	2	ALI VE	A	131
PT4	15: 10	15: 10	0	2	ALI VE	A	199
PT5	14: 50	14: 54	4	2	ALI VE	A	148
PT6	15: 07	15: 07	0	2	ALI VE	A	135
PT7	15: 01	15: 01	0	2	ALI VE	A	154
PT9	12: 28	12: 32	4	2	ALI VE	A	136
PU0	15: 01	15: 09	8	2	ALI VE	A	131
PU1	14: 46	14: 57	11	2	ALI VE	A	146
PU2	14: 54	15: 00	6	2	ALI VE	A	201
PU3	14: 45	14: 49	4	2	ALI VE	A	161
PU4	14: 46	14: 48	2	2	ALI VE	A	190
PU5	14: 31	14: 34	3	2	ALI VE	A	181

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
19 December 1999 - Testlot 34 : PL=3, Unit 6, Hub - Water temp=47.0 C								
PU6	7: 31	7: 37	6	2	ALIVE	A	177	
PU7	7: 38	7: 42	4	2	ALIVE	A	142	
PU8	7: 31	7: 46	15	2	ALIVE	A	145	
PU9	7: 32	7: 33	1	1	ALIVE	B	205	
PV0	7: 36	7: 38	2	2	ALIVE	A	188	
PV1	7: 48	7: 54	6	2	ALIVE	A	133	
PV2	7: 54	8: 00	6	2	ALIVE	A	146	
PV3	7: 49	7: 53	4	2	ALIVE	A	155	
PV4	7: 40	7: 47	7	2	ALIVE	A	198	
PV5	7: 43	7: 47	4	2	ALIVE	A	132	
PV6	8: 00	8: 04	4	2	ALIVE	A	135	
PV7	8: 05	8: 11	6	2	ALIVE	A	131	
PV8	8: 03	8: 25	22	2	ALIVE	A	132	
PV9	8: 12	8: 23	11	2	ALIVE	A	149	
PW0	7: 56	8: 02	6	2	ALIVE	A	190	
PW1	8: 26	8: 48	22	2	ALIVE	A	191	
PW2	8: 21	8: 31	10	2	ALIVE	A	205	
PW3	8: 25	8: 34	9	2	ALIVE	A	136	
PW4	8: 32	8: 36	4	2	ALIVE	A	135	
PW5	8: 35	8: 49	14	2	ALIVE	A	135	
PW6	9: 10	9: 14	4	2	ALIVE	A	192	
PW7	9: 33	9: 39	6	2	ALIVE	A	196	
PW8	9: 13	9: 19	6	2	ALIVE	A	197	
PW9	9: 15	9: 21	6	2	ALIVE	A	174	
PX0	9: 24	9: 32	8	2	ALIVE	A	158	
PX1	9: 28	9: 36	8	2	ALIVE	A	187	
PX2	9: 09	9: 19	10	2	ALIVE	A	134	
PX3	9: 40	9: 43	3	2	ALIVE	A	137	

PX4	9: 46	9: 50	4	2	ALI VE	A	180
PX5	9: 41	9: 45	4	2	ALI VE	A	195
PX6	9: 08	9: 13	5	2	ALI VE	A	180
PX7	9: 44	9: 47	3	2	ALI VE	A	196
PX8	9: 44	9: 59	15	2	ALI VE	A	186
PX9	9: 39	9: 43	4	2	ALI VE	A	117
PY0	9: 24	9: 27	3	2	ALI VE	A	166
PY1	10: 20	10: 24	4	2	ALI VE	A	141
PY2	10: 17	10: 26	9	2	ALI VE	A	180
PY3	10: 15	10: 19	4	2	ALI VE	A	136
PY4	10: 12	10: 16	4	2	ALI VE	A	138
PY5	10: 11	10: 14	3	2	ALI VE	A	186
PY6	10: 27	10: 34	7	2	ALI VE	A	148
PY7	10: 25	10: 35	10	2	ALI VE	A	131
PY8	10: 37	10: 39	2	2	ALI VE	A	140
PY9	10: 36	10: 56	20	2	ALI VE	A	186
PZ0	10: 40	10: 50	10	2	ALI VE	A	158
PZ1	10: 57	11: 05	8	2	ALI VE	A	195
PZ2	10: 05	11: 27	82	2	ALI VE	A	193

E-80

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
PZ3	10: 15	10: 54	39	2	ALI VE	A	133	
PZ4	10: 43	11: 03	20	2	ALI VE	A	140	
PZ5	11: 03	11: 08	5	2	ALI VE	A	130	
PZ6	11: 22	11: 27	5	2	ALI VE	A	185	
PZ7	11: 12	11: 20	8	2	ALI VE	A	200	
PZ8	11: 20	11: 31	11	2	ALI VE	A	180	
PZ9	11: 09	11: 12	3	2	ALI VE	A	205	
SM0	11: 27	11: 30	3	2	ALI VE	A	146	
SM1	11: 32	11: 38	6	2	ALI VE	A	146	

SM2	11: 34	12: 14	40	2	ALI VE	A	177
SM3	11: 37	11: 43	6	2	ALI VE	A	198
SM4	11: 32	11: 34	2	2	ALI VE	A	154
SM5	11: 31	11: 34	3	2	ALI VE	A	135
SM6	12: 16	12: 19	3	2	ALI VE	A	133
SM7	12: 37	12: 43	6	2	ALI VE	A	179
SM8	12: 24	12: 39	15	2	ALI VE	A	195
SM9	12: 40	12: 44	4	2	ALI VE	A	186
SN0	12: 22	12: 23	1	2	ALI VE	A	190
SN1	12: 28	12: 29	1	2	ALI VE	A	141
SN2	12: 35	12: 38	3	2	ALI VE	A	135
SN3	12: 19	12: 21	2	2	ALI VE	A	135
SN4	12: 15	12: 19	4	2	ALI VE	A	154
SN5	12: 20	12: 24	4	2	ALI VE	A	154
SN6	12: 41	13: 01	20	2	ALI VE	A	160
SN7	12: 32	12: 36	4	2	ALI VE	A	139
SN8	12: 30	12: 35	5	2	ALI VE	A	133
SN9	12: 23	12: 27	4	2	ALI VE	A	137
SP0	12: 25	12: 31	6	2	ALI VE	A	131
SP1	13: 15	13: 18	3	2	ALI VE	A	188
SP2	13: 18	13: 25	7	2	ALI VE	A	192
SP3	13: 12	13: 15	3	2	ALI VE	A	146
SP4	13: 13	13: 31	18	2	ALI VE	A	157
SP5	13: 26	13: 29	3	2	ALI VE	A	139
SP6	13: 21	13: 25	4	2	ALI VE	A	137
SP7	13: 29	13: 35	6	2	ALI VE	A	135
SP8	13: 32	13: 37	5	2	ALI VE	A	132
SP9	13: 25	13: 31	6	2	ALI VE	A	131
SR0	13: 41	13: 46	5	2	ALI VE	A	191
SR1	13: 37	13: 41	4	2	ALI VE	A	188
SR2	13: 35	13: 39	4	2	ALI VE	A	194
SR3	13: 36	13: 42	6	2	ALI VE	A	168
SR4	13: 39	13: 45	6	2	ALI VE	A	190
SR5	13: 46	13: 52	6	2	ALI VE	A	194
SR6	13: 52	13: 59	7	2	ALI VE	A	156
SR7	13: 44	13: 50	6	2	ALI VE	A	131
SR8	13: 52	13: 53	1	2	ALI VE	A	151
SR9	13: 45	13: 51	6	2	ALI VE	A	140
SS0	14: 12	14: 16	4	2	ALI VE	A	180
SS1	14: 07	14: 10	3	2	ALI VE	A	164
SS2	14: 08	14: 10	2	2	ALI VE	A	196
SS3	14: 08	14: 12	4	2	ALI VE	A	188

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
SS4	14: 11	14: 14	3	2	ALIVE	A	163	
SS5	14: 15	14: 17	2	2	ALIVE	A	185	
SS6	14: 17	14: 26	9	2	ALIVE	A	173	
SS7	14: 25	14: 28	3	2	ALIVE	A	193	
SS8	14: 18	14: 24	6	2	ALIVE	A	162	
SS9	14: 17	14: 32	15	2	ALIVE	A	134	
ST0	14: 26	14: 29	3	2	ALIVE	A	144	
ST1	14: 29	14: 42	13	2	ALIVE	A	133	
ST2	14: 39	14: 46	7	2	ALIVE	A	146	
ST3	14: 31	14: 42	11	2	ALIVE	A	136	
ST4	13: 11	13: 17	6	2	ALIVE	A	162	
ST5	8: 53	8: 57	4	2	ALIVE	A	191	
ST6	8: 47	8: 52	5	2	ALIVE	A	195	
ST7	8: 39	8: 46	7	2	ALIVE	A	198	
ST8	8: 52	9: 00	8	2	ALIVE	A	160	
ST9	8: 57	9: 00	3	2	ALIVE	A	159	
SU0	14: 33	14: 38	5	2	ALIVE	A	146	
SU1	14: 55	15: 01	6	2	ALIVE	A	178	
SU2	14: 48	14: 56	8	2	ALIVE	H	180	
SU3	14: 52	14: 55	3	2	ALIVE	A	190	
SU4	14: 43	14: 54	11	2	ALIVE	A	190	
SU5	14: 45	14: 51	6	2	ALIVE	A	181	
20 December 1999 - Testlot 35 : PL=3, Unit 6, Mid - Water temp=46.0 C								
DA0	10: 43	11: 02	19	2	ALIVE	A	132	
DA1	10: 54	.	.	0	DEAD	Z	170	
DA2	11: 04	11: 26	22	2	ALIVE	A	199	
DA3	11: 03	11: 05	2	2	ALIVE	A	185	
DA4	10: 51	10: 58	7	2	ALIVE	A	175	
DA5	10: 59	11: 03	4	2	ALIVE	A	147	

DA6	11: 36	11: 42	6	2	ALI VE	A	150
DA7	11: 43	11: 48	5	2	ALI VE	A	190
DA8	11: 44	15: 44	240	2	ALI VE	A	178
DA9	11: 37	11: 42	5	2	ALI VE	A	177
DB0	11: 38	11: 42	4	2	ALI VE	A	188
DB1	11: 49	12: 08	19	2	ALI VE	A	140
DB2	12: 11	12: 20	9	2	ALI VE	A	183
DB3	11: 47	12: 04	17	2	ALI VE	A	185
DB4	12: 10	12: 15	5	2	ALI VE	A	192
DB5	12: 07	12: 11	4	2	ALI VE	A	130
DB6	12: 24	12: 26	2	2	ALI VE	A	190
DB7	12: 23	12: 31	8	2	ALI VE	A	186
DB8	12: 22	12: 29	7	2	ALI VE	A	184
DB9	12: 15	12: 21	6	2	ALI VE	A	132
DC0	12: 21	12: 23	2	2	ALI VE	A	145
DC1	12: 30	12: 32	2	2	ALI VE	A	198
DC2	12: 33	12: 39	6	2	ALI VE	A	131
DC3	12: 32	12: 42	10	2	ALI VE	A	133
DC5	12: 31	12: 33	2	2	ALI VE	A	170

E-82

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
DC6	12: 45	12: 47	2	2	ALI VE	A	201	
DC7	12: 40	12: 44	4	2	ALI VE	A	194	
DC8	12: 43	12: 49	6	2	ALI VE	A	183	
DC9	12: 36	12: 43	7	2	ALI VE	A	204	
DD0	12: 44	13: 00	16	2	ALI VE	A	133	
DD1	13: 36	13: 38	2	2	ALI VE	A	164	
DD2	13: 38	13: 39	1	2	ALI VE	A	174	
DD3	13: 08	13: 11	3	2	ALI VE	A	203	
DD4	13: 07	13: 12	5	2	ALI VE	A	200	

DD5	13: 42	14: 00	18	2	ALI VE	A	146
DD6	13: 13	13: 15	2	2	ALI VE	A	131
DD7	13: 08	13: 18	10	2	ALI VE	A	199
DD8	13: 30	13: 45	15	2	ALI VE	A	169
DD9	13: 40	13: 42	2	2	ALI VE	A	190
DE0	13: 16	13: 20	4	2	ALI VE	A	154
DE1	13: 26	13: 30	4	2	ALI VE	A	148
DE2	13: 12	13: 15	3	2	ALI VE	A	172
DE3	13: 23	13: 28	5	2	ALI VE	A	143
DE4	13: 17	13: 20	3	2	ALI VE	A	143
DE5	13: 35	13: 37	2	2	ALI VE	A	145
DE6	14: 09	14: 12	3	2	ALI VE	A	165
DE7	14: 14	14: 19	5	2	ALI VE	A	141
DE8	14: 11	14: 14	3	2	ALI VE	A	150
DE9	12: 27	12: 30	3	2	ALI VE	A	162
DF0	14: 24	15: 40	76	2	ALI VE	H	177
DF1	14: 19	14: 23	4	2	ALI VE	A	137
DF2	14: 39	14: 41	2	2	ALI VE	A	148
DF3	14: 41	14: 49	8	2	ALI VE	A	185
DF4	14: 31	14: 37	6	2	ALI VE	A	177
DF5	14: 34	14: 38	4	2	ALI VE	A	191
DF6	14: 38	14: 43	5	2	ALI VE	A	183
DF7	14: 49	14: 55	6	2	ALI VE	A	180
DF8	14: 55	15: 00	5	2	ALI VE	A	188
DF9	14: 44	14: 46	2	2	ALI VE	A	138
DH0	14: 51	14: 54	3	2	ALI VE	A	177
DH1	14: 47	14: 50	3	2	ALI VE	A	147
DH2	15: 01	15: 05	4	2	ALI VE	A	141
DH3	15: 01	15: 07	6	2	ALI VE	A	177
DH4	15: 05	15: 08	3	2	ALI VE	A	202
DH5	15: 08	15: 12	4	2	ALI VE	A	195
DH6	14: 57	15: 00	3	2	ALI VE	A	152
SU6	7: 47	7: 48	1	2	ALI VE	A	134
SU7	7: 49	7: 54	5	2	ALI VE	A	167
SU8	7: 44	7: 47	3	2	ALI VE	A	137
SU9	7: 48	7: 52	4	2	ALI VE	A	153
SV0	8: 01	8: 04	3	2	ALI VE	A	133
SV1	7: 52	8: 01	9	2	ALI VE	A	164
SV2	7: 53	7: 57	4	2	ALI VE	A	132
SV3	7: 41	7: 48	7	2	ALI VE	A	141
SV4	7: 54	8: 28	34	2	ALI VE	A	187
SV5	7: 57	8: 00	3	2	ALI VE	A	188

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
SV6	7: 39	7: 43	4	2	ALIVE	A	148	
SV7	7: 41	7: 45	4	2	ALIVE	A	166	
SV8	7: 38	7: 41	3	2	ALIVE	A	205	
SV9	7: 49	7: 52	3	2	ALIVE	A	132	
SW0	8: 01	8: 06	5	2	ALIVE	A	147	
SW1	8: 29	8: 46	17	2	ALIVE	A	160	
SW2	8: 31	8: 39	8	2	ALIVE	A	139	
SW3	8: 22	8: 28	6	2	ALIVE	A	147	
SW4	8: 23	8: 46	23	2	ALIVE	A	146	
SW5	8: 40	8: 46	6	2	ALIVE	A	191	
SW6	8: 47	8: 49	2	2	ALIVE	A	113	
SW7	8: 53	8: 58	5	2	ALIVE	A	188	
SW8	8: 51	8: 56	5	2	ALIVE	A	172	
SW9	8: 48	8: 54	6	2	ALIVE	A	156	
SX0	8: 50	8: 52	2	2	ALIVE	A	191	
SX1	9: 04	9: 10	6	2	ALIVE	A	192	
SX2	9: 01	9: 05	4	2	ALIVE	A	157	
SX3	8: 59	9: 04	5	2	ALIVE	A	181	
SX4	8: 55	9: 03	8	2	ALIVE	A	135	
SX5	8: 57	9: 01	4	2	ALIVE	A	131	
SX6	9: 16	9: 25	9	1	DEAD	B	191	
SX7	9: 10	9: 22	12	2	ALIVE	A	181	
SX8	9: 12	9: 15	3	1	ALIVE	B	138	
SX9	9: 05	9: 12	7	2	ALIVE	A	152	
SY0	9: 08	9: 15	7	2	ALIVE	H	190	
SY1	9: 55	10: 03	8	2	ALIVE	A	138	
SY2	9: 53	10: 02	9	2	ALIVE	A	196	
SY3	10: 04	10: 12	8	2	ALIVE	A	152	
SY4	9: 51	.	.	0	DEAD	Z	187	
SY5	9: 50	9: 55	5	2	ALIVE	A	132	
SY6	10: 20	10: 25	5	2	ALIVE	A	163	
SY7	10: 11	10: 16	5	2	ALIVE	A	145	

SY8	10: 16	10: 22	6	2	ALI VE	A	145
SY9	10: 13	10: 19	6	2	ALI VE	A	135
SZ0	10: 23	10: 28	5	2	ALI VE	A	205
SZ1	10: 25	10: 28	3	2	ALI VE	A	135
SZ2	10: 39	10: 45	6	2	ALI VE	A	179
SZ3	10: 29	10: 43	14	2	ALI VE	A	136
SZ4	10: 35	10: 46	11	2	ALI VE	A	200
SZ5	10: 29	10: 32	3	2	ALI VE	A	145
SZ6	10: 31	10: 38	7	2	ALI VE	A	134
SZ7	10: 46	10: 49	3	2	ALI VE	A	188
SZ8	10: 49	10: 53	4	2	ALI VE	A	197
SZ9	10: 45	10: 49	4	2	ALI VE	A	193

21 December 1999 - Testlot 36 : PL=2, Unit 6, Hub - Water temp=46.0 C

DH7	7: 36	7: 42	6	2	ALI VE	A	143
DH8	7: 35	7: 38	3	2	ALI VE	A	153
DH9	7: 42	7: 47	5	2	ALI VE	A	183

E-84

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
DJ0	7: 34	7: 45	11	2	ALI VE	A	134	
DJ1	7: 37	7: 44	7	2	ALI VE	A	135	
DJ2	7: 46	7: 56	10	2	ALI VE	A	138	
DJ3	7: 52	7: 54	2	2	ALI VE	A	163	
DJ4	7: 45	7: 48	3	2	ALI VE	A	170	
DJ5	7: 51	7: 55	4	2	ALI VE	A	205	
DJ6	7: 48	7: 51	3	2	ALI VE	A	137	
DJ7	8: 01	8: 06	5	2	ALI VE	A	141	
DJ8	7: 57	8: 00	3	2	ALI VE	A	138	

DJ9	8: 03	8: 06	3	2	ALI VE	A	187
DK0	7: 56	8: 02	6	2	ALI VE	A	185
DK1	7: 57	8: 02	5	2	ALI VE	A	183
DK2	8: 08	8: 14	6	1	DEAD	HJ	139
DK3	8: 05	8: 08	3	2	ALI VE	A	143
DK4	8: 07	8: 14	7	2	ALI VE	A	140
DK5	8: 16	8: 27	11	2	ALI VE	A	153
DK6	8: 10	8: 19	9	2	ALI VE	A	172
DK7	9: 31	9: 35	4	2	ALI VE	A	187
DK8	9: 22	9: 28	6	2	ALI VE	A	171
DK9	9: 29	9: 31	2	2	ALI VE	A	180
DL1	9: 23	9: 30	7	2	ALI VE	A	184
DL2	9: 21	9: 30	9	2	ALI VE	A	183
DL3	9: 34	9: 38	4	2	ALI VE	A	192
DL4	9: 39	9: 51	12	2	ALI VE	A	175
DL5	9: 37	9: 40	3	2	ALI VE	A	161
DL6	9: 34	9: 36	2	2	ALI VE	A	135
DL7	9: 51	10: 02	11	2	ALI VE	A	186
DL8	9: 42	9: 45	3	2	ALI VE	A	132
DL9	9: 42	9: 49	7	2	ALI VE	A	153
DM0	9: 49	9: 53	4	2	ALI VE	A	191
DM1	9: 45	9: 48	3	2	ALI VE	A	140
DM2	9: 54	10: 00	6	2	ALI VE	A	187
DM3	10: 03	10: 10	7	2	ALI VE	A	169
DM4	9: 54	10: 03	9	2	ALI VE	A	205
DM5	10: 04	10: 13	9	2	ALI VE	A	188
DM6	10: 01	10: 08	7	2	ALI VE	A	188
DM7	9: 02	9: 05	3	2	ALI VE	A	194
DM8	8: 29	8: 49	20	2	ALI VE	A	192
DM9	9: 02	9: 12	10	2	ALI VE	A	183
DNO	8: 22	8: 24	2	2	ALI VE	A	161
DN1	8: 25	.	.	0	UNKNOWN	X	147
DN2	10: 11	10: 14	3	2	ALI VE	A	182
DN3	10: 16	10: 25	9	2	ALI VE	A	151
DN4	10: 13	10: 18	5	2	ALI VE	A	132
DN5	10: 08	10: 13	5	2	ALI VE	A	151
DN6	10: 14	10: 31	17	2	ALI VE	A	200
DN7	10: 19	10: 28	9	2	ALI VE	A	133
DN8	10: 26	10: 30	4	2	ALI VE	A	190
DN9	10: 31	10: 34	3	2	ALI VE	A	186
DPO	10: 29	10: 32	3	2	ALI VE	A	201
DP1	10: 32	10: 40	8	2	ALI VE	A	192

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
DP2	10: 49	10: 57	8	2	ALIVE	A	198	
DP3	11: 04	11: 07	3	2	ALIVE	A	180	
DP4	10: 52	10: 55	3	2	ALIVE	H	181	
DP5	10: 57	11: 02	5	2	ALIVE	A	133	
DP6	10: 58	11: 04	6	2	ALIVE	A	191	
DP7	11: 08	11: 11	3	2	ALIVE	A	134	
DP8	11: 12	11: 15	3	2	ALIVE	A	145	
DP9	11: 09	11: 14	5	2	ALIVE	A	136	
DR0	11: 15	11: 31	16	2	ALIVE	A	204	
DR1	11: 06	11: 08	2	2	ALIVE	A	134	
DR2	11: 22	11: 25	3	2	ALIVE	A	132	
DR3	11: 17	11: 23	6	2	ALIVE	A	168	
DR4	11: 28	11: 36	8	2	ALIVE	A	182	
DR5	11: 23	11: 30	7	2	ALIVE	A	170	
DR6	11: 26	11: 29	3	2	ALIVE	A	195	
DR7	11: 46	11: 48	2	2	ALIVE	A	193	
DR8	12: 05	12: 08	3	2	ALIVE	A	183	
DR9	12: 24	12: 27	3	2	ALIVE	A	185	
DS0	11: 54	12: 09	15	2	ALIVE	A	201	
DS1	12: 14	12: 21	7	2	ALIVE	A	148	
DS2	11: 54	11: 59	5	2	ALIVE	A	150	
DS3	12: 09	12: 16	7	2	ALIVE	A	137	
DS4	11: 47	11: 48	1	2	ALIVE	A	134	
DS5	12: 29	12: 35	6	2	ALIVE	A	186	
DS6	11: 50	11: 53	3	2	ALIVE	A	133	
DS7	12: 17	12: 57	40	2	ALIVE	A	194	
DS8	12: 00	12: 08	8	2	ALIVE	A	191	
DS9	11: 49	11: 53	4	2	ALIVE	A	190	
DT0	12: 22	12: 24	2	2	ALIVE	A	163	
DT1	12: 10	12: 14	4	2	ALIVE	A	138	
DT2	12: 36	12: 53	17	2	ALIVE	A	199	
DT3	12: 38	12: 43	5	2	ALIVE	A	203	

DT4	12: 41	12: 44	3	2	ALI VE	A	196
DT5	12: 48	12: 55	7	2	ALI VE	A	191
DT6	12: 57	13: 00	3	2	ALI VE	A	156
DT7	12: 53	12: 56	3	2	ALI VE	A	150
DT8	12: 44	12: 46	2	2	ALI VE	A	172
DT9	9: 36	9: 40	4	2	ALI VE	A	192
DU0	12: 45	12: 52	7	2	ALI VE	A	188
DU1	12: 57	13: 00	3	2	ALI VE	A	190
DU2	13: 01	13: 31	30	2	ALI VE	A	192
DU3	12: 54	12: 57	3	2	ALI VE	A	158
DU4	12: 59	13: 01	2	2	ALI VE	A	165
DU5	12: 35	12: 37	2	2	ALI VE	A	182
DU6	12: 32	12: 34	2	2	ALI VE	A	150
DU7	12: 37	12: 40	3	2	ALI VE	A	138
DU8	13: 43	13: 47	4	2	ALI VE	A	165
DU9	13: 48	13: 50	2	2	ALI VE	A	187
DV0	13: 47	13: 52	5	2	ALI VE	A	190
DV1	13: 44	13: 46	2	2	ALI VE	A	192
DV2	13: 43	13: 54	11	2	ALI VE	A	179

E-86

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
DV3	13: 53	14: 01	8	2	ALI VE	A	160	
DV4	13: 51	13: 56	5	2	ALI VE	A	193	
DV5	13: 59	14: 08	9	2	ALI VE	A	201	
DV6	13: 57	14: 00	3	2	ALI VE	A	178	
DV7	13: 52	13: 59	7	2	ALI VE	A	194	
DV8	14: 07	14: 10	3	2	ALI VE	A	131	
DV9	14: 01	14: 06	5	2	ALI VE	A	160	
DW0	14: 02	14: 04	2	2	ALI VE	A	188	
DW1	14: 05	14: 10	5	2	ALI VE	A	202	

DW2	14: 09	14: 19	10	2	ALI VE	A	197
DW3	14: 12	14: 18	6	2	ALI VE	A	144
DW4	14: 20	14: 32	12	2	ALI VE	A	156
DW5	14: 15	14: 22	7	2	ALI VE	A	142
DW6	14: 19	14: 30	11	2	ALI VE	A	146
DW7	14: 11	14: 14	3	2	ALI VE	A	148

22 December 1999 - Testlot 37 : PL=2, Control - Water temp=46.0 C

DW8	7: 47	7: 53	6	2	ALI VE	A	202
DW9	7: 44	7: 46	2	2	ALI VE	A	191
DX0	7: 56	8: 00	4	2	ALI VE	A	198
DX1	7: 48	7: 50	2	2	ALI VE	A	150
DX2	7: 40	7: 47	7	2	ALI VE	A	144
DX3	7: 35	7: 39	4	2	ALI VE	A	135
DX4	7: 34	7: 37	3	2	ALI VE	A	185
DX5	7: 51	7: 55	4	2	ALI VE	A	171
DX6	7: 38	7: 40	2	2	ALI VE	A	180
DX7	7: 34	7: 39	5	2	ALI VE	A	195
DX8	7: 47	7: 55	8	2	ALI VE	A	197
DX9	7: 55	7: 58	3	2	ALI VE	A	201
DY0	7: 39	7: 43	4	2	ALI VE	A	178
DY1	7: 56	7: 58	2	2	ALI VE	A	186
DY2	7: 42	7: 46	4	2	ALI VE	A	138
DY3	8: 16	8: 20	4	2	ALI VE	A	143
DY4	8: 17	8: 25	8	2	ALI VE	A	132
DY5	8: 22	8: 28	6	2	ALI VE	A	182
DY6	8: 16	8: 20	4	2	ALI VE	A	187
DY7	8: 21	8: 28	7	2	ALI VE	A	196
DY8	8: 31	8: 35	4	2	ALI VE	A	147
DY9	8: 30	8: 40	10	2	ALI VE	A	135
DZ0	8: 35	8: 41	6	2	ALI VE	A	203
DZ1	8: 30	8: 34	4	2	ALI VE	A	140
DZ2	8: 26	8: 29	3	2	ALI VE	A	135
DZ3	8: 41	8: 44	3	2	ALI VE	A	185
DZ4	8: 45	8: 52	7	2	ALI VE	A	186
DZ5	8: 38	8: 46	8	2	ALI VE	A	195
DZ6	8: 47	9: 08	21	2	ALI VE	A	174
DZ7	8: 42	8: 46	4	2	ALI VE	A	144
DZ8	8: 50	9: 02	12	2	ALI VE	A	134
DZ9	9: 02	9: 10	8	2	ALI VE	A	143

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
NA0	9: 04	9: 07	3	2	ALIVE	A	142	
NA1	9: 01	9: 03	2	2	ALIVE	A	179	
NA2	8: 52	8: 56	4	1	DEAD	F	184	
NA3	9: 10	9: 45	35	2	ALIVE	A	191	
NA4	9: 15	9: 18	3	2	ALIVE	A	190	
NA5	9: 09	9: 12	3	2	ALIVE	A	187	
NA6	9: 13	9: 21	8	2	ALIVE	A	146	
NA7	9: 10	9: 14	4	2	ALIVE	A	143	
NA8	9: 59	10: 06	7	2	ALIVE	A	195	
NA9	10: 12	10: 23	11	2	ALIVE	A	182	
NB0	9: 49	9: 53	4	2	ALIVE	A	190	
NB1	9: 45	9: 53	8	2	ALIVE	A	192	
NB2	10: 27	10: 33	6	2	ALIVE	A	203	
NB3	9: 54	9: 59	5	2	ALIVE	A	163	
NB4	10: 25	10: 26	1	2	ALIVE	A	139	
NB5	9: 50	.	.	0	UNKNOWN	X	132	
NB6	10: 10	10: 20	10	2	ALIVE	A	167	
NB7	10: 03	10: 09	6	2	ALIVE	A	153	
NB8	10: 06	10: 09	3	2	ALIVE	A	143	
NB9	10: 25	10: 32	7	2	ALIVE	A	142	
NC0	9: 53	9: 56	3	2	ALIVE	A	145	
NC1	10: 23	10: 26	3	2	ALIVE	A	156	
NC2	9: 57	10: 01	4	2	ALIVE	A	187	
NC4	10: 52	10: 57	5	2	ALIVE	A	169	
NC5	10: 53	10: 57	4	2	ALIVE	A	194	
NC6	10: 58	11: 03	5	2	ALIVE	A	193	
NC7	10: 54	10: 58	4	2	ALIVE	A	178	
NC8	11: 09	11: 12	3	2	ALIVE	A	180	
NC9	11: 07	11: 10	3	2	ALIVE	A	187	
ND0	11: 05	11: 08	3	2	ALIVE	A	188	
ND1	11: 00	11: 03	3	2	ALIVE	A	203	
ND2	11: 10	11: 13	3	2	ALIVE	A	201	

ND3	11: 14	11: 17	3	2	ALIVE	A	143
ND4	11: 22	11: 29	7	2	ALIVE	A	137
ND5	11: 18	11: 23	5	2	ALIVE	A	132
ND6	11: 15	11: 19	4	2	ALIVE	A	179
ND7	11: 20	11: 24	4	2	ALIVE	A	188
ND8	11: 33	11: 35	2	2	ALIVE	A	156
ND9	11: 37	11: 43	6	2	ALIVE	A	193
NE0	11: 34	11: 42	8	2	ALIVE	A	149
NE1	11: 36	11: 46	10	2	ALIVE	A	133
NE2	11: 30	11: 35	5	2	ALIVE	A	147
NE3	12: 21	12: 24	3	2	ALIVE	A	188
NE4	12: 05	12: 12	7	2	ALIVE	A	197
NE5	12: 21	12: 33	12	2	ALIVE	A	185
NE6	12: 13	.	.	0	TAG & PIN		151
NE7	11: 52	11: 59	7	1	ALIVE	B	144
NE8	12: 25	12: 29	4	2	ALIVE	A	161
NE9	12: 30	12: 35	5	2	ALIVE	A	134
NF0	12: 33	12: 56	23	2	ALIVE	A	143
NF1	12: 37	12: 46	9	2	ALIVE	A	194

E-88

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
NF2	12: 47	12: 51	4	2	DEAD	GE	183	
NF4	13: 11	13: 18	7	2	ALIVE	A	195	
NF5	12: 54	12: 59	5	2	ALIVE	A	150	
NF6	12: 49	12: 54	5	2	ALIVE	A	162	
NF7	13: 00	13: 03	3	2	ALIVE	A	135	
NF8	13: 19	13: 23	4	2	ALIVE	A	137	
NH0	15: 20	15: 25	5	2	ALIVE	A	147	
NH1	13: 26	13: 29	3	2	ALIVE	A	140	
NH2	13: 12	13: 19	7	2	ALIVE	A	147	

NH4	13: 45	13: 47	2	2	ALI VE	A	195
NH5	13: 37	13: 40	3	2	ALI VE	A	168
NH6	13: 41	13: 44	3	2	ALI VE	A	151
NH7	13: 36	13: 40	4	2	ALI VE	A	150
NH8	14: 06	14: 18	12	2	ALI VE	A	193
NH9	14: 00	14: 05	5	2	ALI VE	A	200
NJ0	13: 57	14: 00	3	2	ALI VE	A	184
NJ1	13: 56	.	.	0	TAG & PIN		157
NJ2	13: 55	14: 05	10	2	DEAD	JHE	197
NJ3	14: 28	14: 35	7	2	ALI VE	A	188
NJ4	14: 18	14: 34	16	2	ALI VE	A	137
NJ5	14: 24	14: 27	3	2	ALI VE	A	142
NJ6	14: 11	14: 16	5	2	ALI VE	H	140
NJ7	14: 19	14: 21	2	2	ALI VE	A	138
NJ8	14: 36	14: 41	5	2	ALI VE	A	132
NJ9	14: 37	15: 00	23	2	ALI VE	A	146
NK0	14: 50	14: 52	2	2	ALI VE	A	132
NK1	14: 42	15: 02	20	2	ALI VE	A	193
NK2	14: 37	14: 49	12	2	ALI VE	A	190
NK3	15: 02	15: 04	2	2	ALI VE	A	182
NK4	14: 53	14: 56	3	2	ALI VE	A	182
NK5	15: 02	.	.	0	UNKNOWN	X	172
NK6	15: 07	15: 17	10	2	ALI VE	A	163
NK7	15: 05	15: 12	7	2	ALI VE	A	170
NK8	15: 33	15: 33	0	2	ALI VE	A	187
NK9	15: 23	15: 28	5	2	ALI VE	A	188
NL0	15: 23	15: 31	8	2	ALI VE	A	136

5 January 2000 - Testlot 38 : PL=1, Unit 6, Hub - Water temp=42.0 C

NL1	13: 28	15: 35	127	2	ALI VE	A	165
W00	8: 11	8: 13	2	2	ALI VE	A	199
W01	8: 02	8: 14	12	2	ALI VE	A	212
W02	8: 02	8: 05	3	2	ALI VE	A	209
W03	7: 55	7: 59	4	2	ALI VE	A	194
W04	7: 57	8: 01	4	2	ALI VE	A	201
W05	8: 07	8: 12	5	2	ALI VE	A	141
W06	8: 14	8: 17	3	2	ALI VE	A	133
W07	8: 12	8: 18	6	2	ALI VE	A	174
W08	7: 51	7: 55	4	2	ALI VE	A	191
W09	8: 13	8: 21	8	2	ALI VE	A	193

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
W10	8:16	8:20	4	2	ALIVE	A	157	
W11	7:51	7:57	6	2	ALIVE	A	136	
W12	7:59	8:06	7	2	ALIVE	A	141	
W13	8:05	8:10	5	2	ALIVE	A	201	
W14	7:52	7:56	4	2	ALIVE	A	211	
W15	8:43	8:48	5	2	ALIVE	A	212	
W16	8:35	8:43	8	2	ALIVE	A	146	
W17	8:41	9:01	20	2	ALIVE	A	146	
W18	8:35	8:41	6	2	ALIVE	A	147	
W19	8:36	8:58	22	2	ALIVE	A	161	
W20	9:00	9:04	4	2	ALIVE	A	141	
W21	8:58	9:02	4	2	ALIVE	A	153	
W22	8:48	8:54	6	2	ALIVE	A	195	
W23	8:57	8:59	2	2	ALIVE	H	157	
W24	8:53	8:58	5	2	ALIVE	A	154	
W25	9:03	9:10	7	2	ALIVE	A	138	
W26	9:07	9:14	7	2	ALIVE	A	150	
W27	9:02	9:19	17	2	ALIVE	A	143	
W28	9:04	9:07	3	2	ALIVE	A	150	
W29	9:11	9:14	3	2	ALIVE	A	180	
W30	9:15	9:21	6	2	ALIVE	A	137	
W31	9:15	9:18	3	2	ALIVE	A	196	
W32	9:20	9:24	4	2	ALIVE	A	185	
W33	9:18	9:22	4	2	ALIVE	H	134	
W34	9:22	9:31	9	2	ALIVE	A	143	
W35	9:33	9:38	5	2	ALIVE	A	161	
W36	9:38	9:43	5	2	ALIVE	A	164	
W37	9:28	9:30	2	2	ALIVE	A	150	
W38	9:31	.	.	0	TAG & PIN		145	
W39	9:26	16:00	394	2	ALIVE	A	180	
W40	10:08	10:13	5	2	ALIVE	A	193	
W41	10:03	10:09	6	2	ALIVE	A	203	

W42	10: 02	10: 07	5	2	ALI VE	A	191
W43	9: 57	10: 02	5	2	ALI VE	A	146
W44	9: 58	10: 01	3	2	ALI VE	A	159
W45	10: 23	10: 36	13	2	ALI VE	A	187
W46	10: 19	10: 23	4	2	ALI VE	H	180
W47	10: 11	10: 19	8	2	ALI VE	A	204
W48	10: 15	10: 26	11	2	ALI VE	A	146
W49	10: 12	10: 29	17	2	ALI VE	A	202
W50	10: 36	10: 41	5	2	ALI VE	A	152
W51	10: 32	10: 42	10	2	ALI VE	A	159
W52	10: 41	10: 46	5	2	ALI VE	A	142
W53	10: 29	10: 51	22	2	ALI VE	A	139
W54	10: 26	10: 32	6	2	ALI VE	A	182
W55	10: 55	11: 12	17	2	ALI VE	A	140
W56	10: 51	11: 17	26	2	ALI VE	A	135
W57	10: 46	10: 53	7	2	ALI VE	A	198
W58	10: 43	10: 55	12	2	ALI VE	A	144
W59	10: 53	11: 16	23	2	ALI VE	A	145
W60	11: 16	11: 27	11	2	ALI VE	A	200

E-90

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
W61	11: 20	11: 42	22	2	ALI VE	A	175	
W62	11: 16	11: 30	14	2	ALI VE	A	174	
W63	11: 12	11: 19	7	2	ALI VE	A	135	
W64	11: 19	11: 37	18	2	ALI VE	A	152	
W65	12: 00	12: 11	11	2	ALI VE	A	195	
W66	12: 01	12: 11	10	2	ALI VE	A	180	
W67	11: 52	12: 00	8	2	ALI VE	A	184	
W68	11: 52	12: 00	8	2	ALI VE	A	133	
W69	11: 51	12: 12	21	2	ALI VE	A	195	

W70	12: 18	12: 45	27	2	ALI VE	A	168
W71	12: 12	12: 34	22	2	ALI VE	A	179
W72	12: 34	13: 00	26	2	ALI VE	A	185
W73	12: 14	12: 18	4	2	ALI VE	A	139
W74	12: 11	12: 42	31	2	ALI VE	A	141
W75	13: 00	13: 20	20	2	ALI VE	A	196
W76	12: 45	13: 11	26	2	ALI VE	A	200
W77	12: 48	12: 56	8	2	ALI VE	A	167
W78	12: 58	13: 12	14	2	ALI VE	A	190
W79	13: 12	13: 20	8	2	ALI VE	A	194
W80	13: 21	13: 24	3	2	ALI VE	A	147
W81	13: 32	13: 36	4	2	ALI VE	A	173
W82	13: 14	13: 28	14	2	ALI VE	A	144
W83	13: 22	13: 50	28	2	ALI VE	A	160
W84	13: 24	13: 28	4	2	ALI VE	A	189
W85	14: 42	14: 46	4	2	ALI VE	A	202
W86	14: 08	14: 13	5	2	ALI VE	A	198
W87	14: 31	14: 35	4	2	ALI VE	A	163
W88	14: 22	14: 25	3	2	ALI VE	A	154
W89	14: 02	14: 09	7	2	ALI VE	A	201
W90	13: 59	.	.	0	DEAD	ZL	193
W91	14: 46	15: 05	19	2	ALI VE	A	188
W92	14: 47	14: 56	9	2	ALI VE	A	164
W93	14: 12	14: 16	4	2	ALI VE	A	135
W94	14: 35	14: 40	5	2	ALI VE	A	132
W95	13: 59	14: 20	21	2	ALI VE	A	167
W96	14: 39	14: 46	7	2	ALI VE	A	200
W97	14: 24	14: 30	6	2	ALI VE	A	194
W98	14: 56	15: 00	4	2	ALI VE	A	145
W99	13: 58	14: 01	3	2	ALI VE	A	196
WA0	15: 26	15: 37	11	2	ALI VE	A	199
WA1	15: 16	15: 23	7	2	ALI VE	A	185
WA2	15: 31	15: 35	4	2	ALI VE	A	144
WA3	15: 17	15: 37	20	2	ALI VE	A	154
WA4	15: 24	15: 31	7	2	ALI VE	A	135
WA5	15: 43	15: 47	4	2	ALI VE	A	180
WA6	15: 40	15: 49	9	2	ALI VE	A	175
WA7	15: 38	15: 42	4	2	ALI VE	A	200
WA8	15: 35	15: 39	4	2	ALI VE	A	146
WA9	15: 37	15: 49	12	2	ALI VE	A	145
WB0	15: 52	15: 56	4	2	ALI VE	A	149
WB1	15: 54	16: 02	8	2	ALI VE	A	201

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
WB2	15:48	15:52	4	2	ALIVE	A	190	
WB3	15:54	15:58	4	2	ALIVE	A	152	
WB4	15:49	15:54	5	2	ALIVE	A	142	
WB5	16:06	16:10	4	2	ALIVE	A	136	
WB6	15:58	16:03	5	2	ALIVE	A	176	
WB7	16:02	16:10	8	2	ALIVE	A	164	
WB8	16:04	16:06	2	2	ALIVE	A	161	
WB9	15:57	16:07	10	2	ALIVE	A	152	
6 January 2000 - Testlot 39 : PL=3, Unit 6, Hub								- Water temp=42.0 C
NL2	10:32	10:37	5	2	ALIVE	A	207	
WC0	7:49	7:53	4	2	ALIVE	A	208	
WC1	7:40	7:52	12	2	ALIVE	A	149	
WC2	7:32	7:48	16	2	ALIVE	A	195	
WC3	7:33	7:52	19	2	ALIVE	A	187	
WC4	7:32	7:39	7	2	ALIVE	A	150	
WC5	8:01	8:05	4	2	ALIVE	A	140	
WC6	7:53	8:00	7	2	ALIVE	A	146	
WC7	8:02	8:09	7	2	ALIVE	A	186	
WC8	7:54	8:01	7	2	ALIVE	A	178	
WC9	7:55	8:00	5	2	ALIVE	A	206	
WD0	8:05	8:13	8	2	ALIVE	A	194	
WD1	8:04	8:20	16	2	ALIVE	A	192	
WD2	8:17	8:22	5	2	ALIVE	A	177	
WD4	8:09	8:16	7	2	ALIVE	A	152	
WD5	8:30	8:38	8	2	ALIVE	A	136	
WD6	8:40	8:45	5	2	ALIVE	A	155	
WD7	8:23	8:28	5	2	ALIVE	A	184	
WD8	8:29	8:39	10	2	ALIVE	A	151	
WD9	8:20	8:29	9	2	ALIVE	A	206	

WE0	8: 42	8: 50	8	2	ALI VE	A	199
WE1	8: 51	8: 54	3	2	ALI VE	A	138
WE2	8: 51	8: 56	5	2	ALI VE	A	200
WE3	8: 54	8: 58	4	2	ALI VE	A	161
WE4	8: 46	8: 53	7	2	ALI VE	A	155
WE5	9: 31	9: 34	3	2	ALI VE	A	146
WE6	9: 08	9: 11	3	2	ALI VE	A	144
WE7	9: 20	9: 27	7	2	ALI VE	A	192
WE8	9: 29	9: 31	2	2	ALI VE	A	202
WE9	9: 18	9: 22	4	2	ALI VE	A	147
WFO	9: 26	9: 28	2	2	ALI VE	A	185
WF1	9: 28	9: 33	5	2	ALI VE	A	202
WF2	9: 23	9: 25	2	2	ALI VE	A	153
WF3	9: 06	9: 10	4	2	ALI VE	A	196
WF4	9: 28	9: 32	4	2	ALI VE	A	203
WF5	9: 33	9: 35	2	2	ALI VE	A	157
WF6	9: 11	9: 19	8	2	ALI VE	H	148
WF7	9: 09	9: 17	8	2	ALI VE	A	136
WF8	9: 21	9: 27	6	2	ALI VE	A	197

E-92

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
WF9	9: 11	9: 21	10	2	ALI VE	A	204	
WHO	9: 49	9: 53	4	2	ALI VE	A	137	
WH1	9: 50	9: 56	6	2	ALI VE	A	151	
WH2	9: 46	9: 48	2	2	ALI VE	A	146	
WH3	9: 46	9: 49	3	2	ALI VE	A	147	
WH4	9: 45	10: 08	23	2	ALI VE	A	205	
WH5	9: 53	9: 57	4	2	ALI VE	A	203	
WH6	10: 01	10: 08	7	2	ALI VE	A	180	
WH7	10: 02	10: 06	4	2	ALI VE	A	155	

WH8	9: 57	10: 00	3	2	ALI VE	A	143
WH9	9: 58	10: 01	3	1	DEAD	FB	142
WJ0	10: 09	10: 17	8	2	ALI VE	A	193
WJ1	10: 18	10: 28	10	2	ALI VE	A	184
WJ2	10: 08	10: 17	9	2	ALI VE	A	197
WJ3	10: 11	10: 21	10	2	ALI VE	A	151
WJ4	10: 18	10: 20	2	2	ALI VE	A	206
WJ5	10: 07	10: 11	4	2	ALI VE	A	195
WJ6	10: 29	10: 33	4	2	ALI VE	A	180
WJ7	10: 21	10: 25	4	2	ALI VE	A	205
WJ8	10: 26	10: 31	5	2	ALI VE	A	190
WJ9	10: 23	.	.	0	DEAD	Z	164
WK0	11: 33	11: 35	2	2	ALI VE	A	173
WK1	11: 37	11: 42	5	2	ALI VE	A	158
WK2	11: 35	11: 38	3	2	ALI VE	A	180
WK3	11: 30	11: 32	2	2	ALI VE	A	137
WK4	12: 04	12: 10	6	2	ALI VE	A	157
WK5	11: 19	.	.	0	DEAD	Z	141
WK6	11: 21	11: 27	6	2	ALI VE	A	203
WK7	11: 12	11: 40	28	2	ALI VE	A	204
WK8	11: 14	11: 17	3	2	ALI VE	A	150
WK9	11: 47	12: 11	24	2	ALI VE	A	143
WL0	11: 17	11: 20	3	2	ALI VE	A	151
WL1	11: 43	11: 46	3	2	ALI VE	A	150
WL2	11: 54	11: 58	4	2	ALI VE	A	197
WL3	11: 27	11: 29	2	2	ALI VE	A	190
WL4	11: 13	11: 18	5	2	ALI VE	A	189
WL5	10: 44	10: 46	2	2	ALI VE	A	155
WL6	10: 48	10: 51	3	2	ALI VE	A	137
WL7	10: 54	10: 56	2	2	ALI VE	A	156
WL8	10: 48	10: 53	5	2	ALI VE	A	174
WL9	10: 52	11: 02	10	2	ALI VE	A	195
WMO	12: 25	12: 28	3	2	ALI VE	A	142
WM1	12: 36	12: 41	5	2	ALI VE	A	147
WM2	12: 28	12: 36	8	2	ALI VE	A	175
WM3	12: 26	12: 35	9	2	ALI VE	A	157
WM4	12: 35	12: 39	4	2	ALI VE	A	196
WM5	12: 42	12: 45	3	2	ALI VE	A	144
WM6	12: 42	13: 00	18	2	ALI VE	A	135
WM7	12: 45	12: 50	5	2	ALI VE	A	205
WM8	12: 40	12: 46	6	2	ALI VE	A	182
WM9	12: 47	12: 52	5	2	ALI VE	A	153

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
WN0	12: 53	12: 56	3	2	ALIVE	A	187	
WN1	12: 52	13: 01	9	2	ALIVE	H	195	
WN2	13: 01	13: 06	5	2	ALIVE	A	147	
WN3	12: 51	12: 53	2	2	ALIVE	A	159	
WN4	12: 57	13: 02	5	2	ALIVE	A	206	
WN5	13: 12	13: 17	5	2	ALIVE	A	191	
WN6	13: 07	13: 12	5	2	ALIVE	A	140	
WN7	13: 05	13: 09	4	1	DEAD	EB	201	
WN8	13: 04	13: 11	7	2	ALIVE	H	145	
WN9	13: 09	13: 12	3	2	ALIVE	A	150	
WP0	13: 17	13: 22	5	2	ALIVE	A	161	
WP1	13: 22	13: 34	12	2	ALIVE	A	194	
WP2	13: 16	13: 23	7	2	ALIVE	A	196	
WP3	13: 23	13: 53	30	2	ALIVE	A	154	
WP4	13: 15	13: 21	6	2	ALIVE	A	193	
WP5	13: 30	13: 35	5	2	ALIVE	A	207	
WP6	13: 40	13: 48	8	2	ALIVE	A	186	
WP7	13: 37	13: 59	22	2	ALIVE	A	185	
WP8	13: 37	13: 40	3	1	DEAD	FB	149	
WP9	13: 26	13: 28	2	2	ALIVE	A	151	
WR0	13: 49	13: 51	2	2	ALIVE	A	150	
WR1	13: 59	14: 05	6	2	ALIVE	A	192	
WR2	13: 51	13: 57	6	2	ALIVE	A	146	
WR3	13: 53	14: 03	10	2	ALIVE	A	150	
WR4	13: 58	14: 00	2	2	ALIVE	A	135	
WR5	14: 06	14: 08	2	2	ALIVE	A	196	
WR6	14: 08	14: 19	11	2	ALIVE	A	147	
WR7	14: 02	14: 05	3	2	ALIVE	A	159	
WR8	14: 08	14: 18	10	2	ALIVE	A	136	
WR9	14: 03	14: 06	3	2	ALIVE	A	154	

7 January 2000 - Testlot 40 : PL=3, Unit 5, Tip - Water temp= 5.5 C

NL4	13:09	13:13	4	2	ALIVE	A	145
NL5	13:12	13:16	4	2	ALIVE	A	145
NL8	13:17	13:23	6	2	ALIVE	A	190
NL9	13:32	14:08	36	2	ALIVE	A	198
NM0	12:52	12:55	3	2	ALIVE	A	172
NM1	13:10	13:12	2	2	ALIVE	A	202
NM2	13:10	13:16	6	2	ALIVE	A	151
NM3	12:57	13:02	5	2	ALIVE	A	141
NM4	13:16	13:20	4	2	ALIVE	A	146
NM5	13:58	14:03	5	2	ALIVE	A	187
NM6	14:08	14:21	13	2	ALIVE	A	198
NM7	14:03	14:11	8	2	ALIVE	A	187
NM8	14:12	14:23	11	2	ALIVE	A	146
NM9	14:00	14:27	27	2	ALIVE	A	199
NNO	14:34	14:52	18	2	ALIVE	A	151
NN1	14:30	14:52	22	2	ALIVE	A	206
NN2	14:22	14:29	7	2	ALIVE	A	134

E-94

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
NN3	14:24	14:34	10	2	ALIVE	A	190	
NN4	14:28	14:35	7	2	ALIVE	A	159	
NN5	14:52	15:13	21	2	ALIVE	A	192	
NN6	14:51	14:59	8	2	ALIVE	A	184	
NN7	14:46	14:49	3	2	ALIVE	A	155	
NN8	14:41	14:45	4	2	ALIVE	A	156	
NN9	14:36	14:40	4	2	ALIVE	A	136	
NP0	15:12	15:33	21	2	ALIVE	A	132	
NP1	15:00	15:06	6	2	ALIVE	A	205	

NP2	14: 56	15: 02	6	2	ALI VE	A	187
NP3	15: 05	15: 14	9	2	ALI VE	A	205
NP4	15: 06	15: 10	4	2	ALI VE	A	145
NP5	16: 11	16: 17	6	2	ALI VE	A	140
NP6	16: 03	16: 11	8	2	ALI VE	A	160
NP7	15: 58	16: 04	6	2	ALI VE	A	153
NP8	15: 57	16: 04	7	2	ALI VE	A	193
NP9	16: 09	16: 14	5	2	ALI VE	A	180
NR0	16: 06	16: 09	3	2	ALI VE	A	154
NR1	15: 43	15: 46	3	2	ALI VE	A	139
NR2	15: 39	15: 43	4	2	ALI VE	A	193
NR3	15: 40	15: 43	3	2	ALI VE	A	131
NR4	15: 51	15: 55	4	2	ALI VE	A	195
NR5	16: 05	16: 11	6	2	ALI VE	A	201
NR6	15: 48	15: 57	9	2	ALI VE	A	200
NR7	15: 54	15: 57	3	2	ALI VE	A	142
NR8	15: 42	15: 48	6	2	ALI VE	A	140
NR9	15: 46	15: 50	4	2	ALI VE	A	205
NZ8	15: 18	15: 21	3	2	ALI VE	A	206
NZ9	15: 02	15: 05	3	2	ALI VE	A	175
WS0	7: 40	8: 07	27	2	ALI VE	A	191
WS1	7: 41	7: 44	3	2	ALI VE	A	203
WS2	7: 45	7: 49	4	2	ALI VE	A	195
WS3	7: 41	7: 49	8	2	ALI VE	A	135
WS4	7: 49	7: 49	0	2	ALI VE	A	139
WS5	8: 01	8: 05	4	2	ALI VE	A	144
WS6	8: 06	8: 10	4	2	ALI VE	A	141
WS8	8: 04	8: 13	9	2	ALI VE	A	194
WS9	7: 54	7: 59	5	1	DEAD	B	139
WT0	8: 10	8: 13	3	2	ALI VE	A	145
WT1	8: 21	8: 24	3	2	ALI VE	A	155
WT2	8: 14	8: 39	25	2	ALI VE	A	154
WT3	8: 13	8: 32	19	2	ALI VE	A	138
WT4	8: 24	8: 52	28	2	ALI VE	A	200
WT5	8: 48	8: 54	6	2	ALI VE	A	203
WT7	8: 45	8: 47	2	2	ALI VE	A	131
WT9	8: 53	8: 55	2	2	ALI VE	A	195
WU0	9: 00	9: 03	3	2	ALI VE	A	198
WU1	9: 03	9: 13	10	2	ALI VE	A	202
WU2	9: 11	9: 22	11	2	ALI VE	A	200
WU3	9: 14	9: 32	18	2	ALI VE	A	146
WU4	9: 10	9: 15	5	2	ALI VE	A	157

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
WU5	9: 32	9: 56	24	2	ALIVE	A	177	
WU6	9: 40	9: 45	5	2	ALIVE	A	164	
WU7	9: 46	10: 00	14	2	ALIVE	A	166	
WU8	9: 31	9: 54	23	2	ALIVE	A	139	
WU9	9: 33	9: 39	6	2	ALIVE	A	134	
WV0	9: 55	10: 01	6	2	ALIVE	A	202	
WV1	10: 04	10: 31	27	2	ALIVE	A	197	
WV2	10: 02	10: 03	1	2	ALIVE	A	142	
WV3	10: 00	10: 12	12	2	ALIVE	A	137	
WV4	9: 59	10: 06	7	2	ALIVE	A	140	
WV5	10: 23	10: 52	29	2	ALIVE	A	194	
WV6	10: 15	10: 45	30	2	ALIVE	A	199	
WV7	10: 07	10: 14	7	2	ALIVE	A	148	
WV8	10: 13	10: 23	10	2	ALIVE	A	137	
WV9	10: 36	10: 39	3	2	ALIVE	A	138	
WV0	10: 39	10: 51	12	2	ALIVE	A	190	
WW1	10: 50	10: 56	6	2	ALIVE	A	156	
WW2	10: 55	11: 19	24	2	ALIVE	A	160	
WW3	10: 57	11: 16	19	2	ALIVE	A	143	
WW4	10: 50	10: 57	7	2	ALIVE	A	148	
WW6	11: 22	11: 42	20	2	ALIVE	A	199	
WW7	11: 17	11: 27	10	2	ALIVE	A	202	
WW8	11: 15	11: 23	8	2	ALIVE	A	182	
WW9	11: 00	.	.	0	DEAD	Z	155	
WX0	11: 51	11: 54	3	2	ALIVE	A	147	
WX1	12: 03	12: 07	4	2	ALIVE	A	152	
WX2	11: 44	11: 52	8	2	ALIVE	A	206	
WX3	11: 47	11: 50	3	2	ALIVE	A	200	
WX4	11: 43	11: 48	5	2	ALIVE	A	199	
WX5	11: 50	11: 58	8	2	ALIVE	A	152	
WX6	12: 01	12: 06	5	2	ALIVE	A	169	
WX7	11: 56	12: 00	4	2	ALIVE	A	140	

WX8	12: 00	12: 04	4	2	ALI VE	A	134
WX9	12: 01	12: 06	5	2	ALI VE	A	132
WY0	11: 53	11: 56	3	2	ALI VE	A	184
WY1	11: 45	11: 54	9	2	ALI VE	A	199
WY2	12: 05	12: 08	3	2	ALI VE	A	195
WY3	11: 58	12: 00	2	2	ALI VE	A	160
WY4	11: 56	12: 00	4	2	ALI VE	A	160
WY5	12: 24	12: 46	22	2	ALI VE	A	186
WY6	12: 20	12: 27	7	2	ALI VE	A	195
WY7	12: 19	12: 22	3	2	ALI VE	A	168
WY8	12: 19	12: 25	6	2	ALI VE	A	138
WY9	12: 21	12: 25	4	2	ALI VE	A	152
WZ1	12: 29	12: 39	10	2	ALI VE	A	176
WZ2	12: 38	12: 43	5	2	ALI VE	A	192
WZ3	12: 27	12: 30	3	2	ALI VE	A	165
WZ4	12: 42	12: 46	4	2	ALI VE	A	155
WZ5	12: 44	12: 50	6	2	ALI VE	A	205
WZ6	12: 49	12: 52	3	2	ALI VE	A	207
WZ7	12: 50	12: 59	9	2	ALI VE	A	142

E-96

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
WZ8	12: 47	12: 52	5	2	ALI VE	A	140	
8 January 2000 - Testlot 41 : PL=4, Control					- Water temp= 6.0 C			
F00	11: 50	11: 58	8	2	ALI VE	A	207	
F01	11: 49	11: 53	4	2	ALI VE	A	147	
F02	11: 54	11: 56	2	2	ALI VE	A	145	
F03	11: 53	11: 59	6	2	ALI VE	A	161	

F04	12: 06	12: 18	12	2	ALI VE	A	150
F05	12: 20	12: 22	2	2	ALI VE	A	205
F06	12: 22	12: 26	4	2	ALI VE	A	150
F07	11: 59	12: 01	2	2	ALI VE	A	140
F08	12: 21	12: 26	5	2	ALI VE	A	134
F09	11: 58	12: 17	19	2	ALI VE	A	142
F10	12: 53	12: 55	2	2	ALI VE	A	142
F11	12: 48	13: 04	16	2	ALI VE	A	207
F12	12: 49	12: 52	3	2	ALI VE	A	200
F13	12: 54	13: 02	8	2	ALI VE	A	174
F14	12: 48	12: 57	9	2	ALI VE	A	151
F15	13: 11	13: 15	4	2	ALI VE	A	183
F16	13: 03	13: 15	12	2	ALI VE	A	139
F17	13: 07	13: 11	4	2	ALI VE	A	146
F18	12: 56	13: 05	9	2	ALI VE	A	135
F19	13: 06	13: 11	5	2	ALI VE	A	195
F20	13: 18	13: 41	23	2	ALI VE	A	165
F21	13: 17	13: 21	4	2	ALI VE	A	206
F22	13: 22	13: 28	6	2	ALI VE	A	185
F23	13: 14	13: 22	8	2	ALI VE	A	200
F24	13: 23	13: 30	7	2	ALI VE	A	179
F25	13: 31	13: 50	19	2	ALI VE	A	202
F26	13: 42	13: 44	2	2	ALI VE	A	155
F27	13: 30	13: 31	1	2	ALI VE	A	141
F28	13: 33	13: 38	5	2	ALI VE	A	200
F29	13: 40	13: 41	1	2	ALI VE	A	161
F30	13: 58	14: 03	5	2	ALI VE	A	185
F31	13: 59	14: 01	2	2	ALI VE	A	190
F32	14: 02	14: 14	12	2	ALI VE	A	203
F33	14: 01	14: 05	4	2	ALI VE	A	196
F34	14: 03	14: 14	11	2	ALI VE	A	142
F35	14: 19	14: 26	7	2	ALI VE	A	201
F36	14: 10	14: 15	5	2	ALI VE	A	160
F37	14: 15	14: 19	4	2	ALI VE	A	161
F38	14: 16	14: 23	7	2	ALI VE	A	153
F39	14: 17	14: 23	6	2	ALI VE	A	143
F40	14: 30	14: 36	6	2	ALI VE	A	198
F41	14: 25	14: 33	8	2	ALI VE	A	150
F42	14: 26	14: 29	3	2	ALI VE	A	154
F43	14: 34	14: 36	2	2	ALI VE	A	154
F44	14: 24	14: 29	5	2	ALI VE	A	156
F45	14: 48	14: 55	7	2	ALI VE	A	207

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
F46	14: 44	14: 49	5	2	ALIVE	A	146	
F47	14: 37	14: 43	6	2	ALIVE	A	131	
F48	14: 50	15: 52	62	2	ALIVE	A	143	
F49	14: 38	14: 47	9	2	ALIVE	A	176	
NS0	7: 58	8: 00	2	2	ALIVE	A	181	
NS1	7: 36	7: 39	3	2	ALIVE	A	198	
NS2	7: 36	7: 39	3	2	ALIVE	A	145	
NS3	8: 04	8: 07	3	2	ALIVE	A	201	
NS4	7: 42	7: 52	10	2	ALIVE	A	203	
NS5	7: 37	7: 55	18	2	ALIVE	A	160	
NS6	7: 43	7: 47	4	2	ALIVE	A	196	
NS7	8: 05	8: 28	23	2	ALIVE	A	146	
NS8	8: 01	8: 04	3	2	ALIVE	A	159	
NS9	7: 47	7: 56	9	2	ALIVE	A	159	
NT0	7: 57	8: 15	18	2	ALIVE	A	205	
NT1	7: 40	7: 45	5	2	ALIVE	A	204	
NT2	7: 39	7: 41	2	2	ALIVE	A	140	
NT3	7: 53	7: 55	2	2	ALIVE	A	151	
NT4	7: 56	8: 04	8	2	ALIVE	A	140	
NT5	8: 25	8: 43	18	2	ALIVE	A	150	
NT6	8: 25	8: 29	4	2	ALIVE	A	205	
NT7	8: 31	8: 34	3	2	ALIVE	A	198	
NT8	8: 26	8: 31	5	2	ALIVE	A	191	
NT9	8: 30	8: 43	13	2	ALIVE	A	155	
NU0	8: 45	8: 52	7	1	ALIVE	A	166	
NU1	8: 34	8: 40	6	2	ALIVE	A	149	
NU2	8: 42	8: 58	16	2	ALIVE	A	202	
NU3	8: 44	8: 49	5	2	ALIVE	A	205	
NU4	8: 49	8: 53	4	2	ALIVE	A	139	
NU5	9: 17	9: 19	2	2	ALIVE	A	167	
NU6	9: 02	9: 14	12	2	ALIVE	A	136	
NU7	9: 01	9: 16	15	2	ALIVE	A	204	

NU8	8: 55	8: 59	4	2	ALI VE	A	205
NU9	8: 54	.	.	0	DEAD	Z	136
NV0	9: 19	9: 20	1	2	ALI VE	A	143
NV1	9: 21	9: 24	3	2	ALI VE	A	202
NV2	9: 22	9: 32	10	2	ALI VE	A	139
NV3	9: 25	.	.	0	DEAD	Z	141
NV4	9: 26	9: 28	2	2	ALI VE	A	190
NV5	9: 28	9: 31	3	2	ALI VE	A	153
NV6	9: 36	9: 41	5	2	ALI VE	A	198
NV7	9: 33	9: 34	1	2	ALI VE	A	151
NV8	9: 33	9: 35	2	2	ALI VE	A	182
NV9	9: 35	9: 42	7	2	ALI VE	A	146
NW0	9: 58	10: 04	6	2	ALI VE	A	196
NW1	9: 59	10: 20	21	2	ALI VE	A	205
NW2	9: 55	9: 58	3	2	ALI VE	A	207
NW3	9: 55	9: 58	3	2	ALI VE	A	191
NW4	9: 58	10: 01	3	2	ALI VE	A	197
NW5	10: 06	10: 52	46	2	ALI VE	A	199
NW6	10: 16	10: 30	14	2	ALI VE	A	137

E-98

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
NW7	10: 01	10: 04	3	2	ALI VE	A	150	
NW8	10: 05	10: 15	10	2	ALI VE	A	193	
NW9	10: 25	10: 28	3	2	ALI VE	A	148	
NX0	10: 45	10: 57	12	2	ALI VE	A	203	
NX1	10: 46	10: 48	2	2	ALI VE	A	143	
NX2	10: 39	10: 45	6	2	ALI VE	A	198	
NX3	10: 31	10: 44	13	2	ALI VE	A	135	
NX4	10: 30	10: 39	9	2	ALI VE	A	195	
NX5	10: 52	10: 56	4	2	ALI VE	A	198	

NX6	10: 48	10: 51	3	2	ALI VE	A	138
NX7	10: 56	11: 00	4	2	ALI VE	A	187
NX8	11: 01	11: 14	13	2	ALI VE	A	160
NX9	10: 58	11: 00	2	2	ALI VE	A	132
NY0	11: 28	11: 32	4	2	ALI VE	A	192
NY1	11: 13	11: 35	22	2	ALI VE	A	140
NY2	11: 16	11: 26	10	2	ALI VE	A	191
NY3	11: 33	11: 41	8	2	ALI VE	A	201
NY4	11: 04	11: 11	7	2	ALI VE	A	207
NY5	12: 00	12: 05	5	2	ALI VE	A	193
NY6	12: 26	12: 28	2	2	ALI VE	A	151
NY7	12: 20	12: 25	5	2	ALI VE	A	199
NY8	12: 01	12: 18	17	2	ALI VE	A	200
NY9	11: 51	11: 53	2	2	ALI VE	A	145

10 January 2000 - Testlot 42 : PL=1, Unit 5, Mid - Water temp=41.9 C

F55	8: 02	8: 06	4	2	ALI VE	A	203
F58	7: 59	8: 13	14	2	ALI VE	A	121
F60	8: 37	9: 00	23	2	ALI VE	A	142
F61	8: 25	8: 28	3	2	ALI VE	A	193
F62	8: 32	8: 46	14	2	ALI VE	A	207
F63	8: 29	8: 32	3	2	ALI VE	A	131
F64	8: 48	9: 18	30	2	ALI VE	A	149
F65	9: 10	9: 17	7	2	ALI VE	A	151
F66	9: 01	9: 09	8	2	ALI VE	A	206
F67	8: 56	9: 00	4	2	ALI VE	A	152
F68	9: 18	9: 32	14	2	ALI VE	A	150
F69	9: 00	.	.	0	UNKNOWN	X	148
F70	9: 46	10: 19	33	2	ALI VE	A	164
F71	9: 21	9: 42	21	2	ALI VE	A	207
F72	9: 33	9: 45	12	2	ALI VE	A	152
F73	9: 40	10: 08	28	2	ALI VE	A	140
F74	9: 32	.	.	0	DEAD	Z	150
F75	11: 18	11: 28	10	2	ALI VE	A	152
F77	11: 30	11: 50	20	2	ALI VE	A	151
F78	11: 29	12: 11	42	2	ALI VE	A	208
F79	11: 26	11: 41	15	2	ALI VE	A	150
F80	11: 42	11: 54	12	2	ALI VE	A	145
F81	12: 13	12: 16	3	2	ALI VE	A	150
F82	11: 55	12: 16	21	2	ALI VE	A	142

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
F83	12: 01	12: 16	15	2	ALIVE	A	146	
F84	11: 51	12: 00	9	2	ALIVE	A	131	
F85	12: 18	12: 43	25	2	ALIVE	A	137	
F86	12: 19	12: 33	14	2	ALIVE	A	143	
F88	12: 33	12: 45	12	2	ALIVE	A	145	
F89	12: 21	12: 30	9	2	ALIVE	A	201	
F90	10: 29	11: 29	60	2	ALIVE	A	200	
F91	10: 39	11: 12	33	2	ALIVE	A	191	
F92	10: 28	10: 33	5	2	ALIVE	A	209	
F93	10: 23	10: 56	33	2	ALIVE	A	165	
F94	10: 34	10: 37	3	2	ALIVE	A	130	
F95	12: 46	12: 57	11	2	ALIVE	A	195	
F96	12: 45	12: 53	8	2	ALIVE	A	139	
F97	12: 47	13: 06	19	2	ALIVE	A	152	
F98	12: 43	12: 46	3	2	ALIVE	A	189	
F99	12: 54	13: 25	31	2	ALIVE	A	138	
FA0	13: 18	13: 47	29	2	ALIVE	A	206	
FA1	13: 18	13: 20	2	2	ALIVE	A	165	
FA2	13: 21	13: 44	23	2	ALIVE	A	199	
FA3	13: 31	13: 39	8	2	ALIVE	A	141	
FA4	13: 40	13: 51	11	2	ALIVE	A	145	
FA5	13: 46	14: 05	19	2	ALIVE	A	136	
FA6	13: 57	14: 01	4	2	ALIVE	A	211	
FA7	13: 52	14: 03	11	2	ALIVE	A	197	
FA8	13: 47	13: 52	5	2	ALIVE	A	198	
FA9	13: 53	13: 57	4	2	ALIVE	A	147	
FB0	14: 04	14: 18	14	2	ALIVE	A	195	
FB1	14: 05	14: 11	6	2	ALIVE	A	202	
FB2	14: 11	14: 20	9	2	ALIVE	A	201	
FB3	14: 06	14: 12	6	2	ALIVE	A	196	
FB4	14: 01	14: 05	4	2	ALIVE	A	152	
FB5	14: 20	14: 24	4	2	ALIVE	A	176	

FB6	14: 25	14: 28	3	2	ALI VE	A	132
FB7	14: 19	14: 26	7	2	ALI VE	A	133
FB8	14: 25	14: 25	0	2	ALI VE	A	127
FB9	14: 20	14: 24	4	2	ALI VE	A	189
FC0	14: 49	14: 51	2	2	ALI VE	A	194
FC1	15: 13	15: 15	2	2	ALI VE	A	195
FC2	14: 59	15: 06	7	2	ALI VE	A	152
FC3	15: 06	15: 09	3	2	ALI VE	A	146
FC4	14: 54	14: 57	3	2	ALI VE	A	146
FC5	14: 48	14: 49	1	2	ALI VE	A	155
FC6	14: 51	14: 51	0	2	ALI VE	A	201
FC7	15: 08	15: 09	1	2	ALI VE	A	139
FC8	14: 52	15: 02	10	2	ALI VE	A	202
FC9	14: 57	15: 11	14	2	ALI VE	A	203
FD0	15: 03	15: 05	2	2	ALI VE	A	180
FD1	15: 10	15: 12	2	2	ALI VE	A	205
FD2	14: 47	14: 51	4	2	ALI VE	A	136
FD3	14: 52	14: 56	4	2	ALI VE	A	205
FD4	15: 09	15: 12	3	2	ALI VE	A	158

E-100

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
FD5	15: 22	15: 35	13	2	ALI VE	A	155	
FD6	15: 23	15: 45	22	2	ALI VE	A	137	
FD7	15: 25	15: 35	10	2	ALI VE	A	132	
FD8	15: 36	15: 54	18	2	ALI VE	A	204	
FD9	15: 23	15: 25	2	2	ALI VE	A	190	
FE0	15: 44	15: 57	13	2	ALI VE	A	192	
FE1	15: 54	16: 02	8	2	ALI VE	A	187	
FE2	15: 37	15: 44	7	2	ALI VE	A	176	
FE3	15: 58	16: 03	5	2	ALI VE	A	168	

FE4	15: 46	16: 04	18	2	ALI VE	A	145
FE5	16: 02	16: 22	20	2	ALI VE	A	150
FE6	16: 09	16: 12	3	2	ALI VE	A	205
FE7	16: 04	16: 08	4	2	ALI VE	A	146
FE8	16: 03	16: 07	4	2	ALI VE	A	139
FE9	16: 07	16: 10	3	2	ALI VE	A	135
FF0	16: 26	16: 30	4	2	ALI VE	A	146
FF1	16: 23	16: 36	13	2	ALI VE	A	185
FF2	16: 13	16: 38	25	2	ALI VE	A	143
FF3	16: 20	16: 27	7	2	ALI VE	A	138
FF4	16: 11	16: 16	5	2	ALI VE	A	142
FF5	16: 43	16: 44	1	2	ALI VE	A	130
FF9	16: 41	16: 41	0	2	ALI VE	A	207
FH0	16: 39	16: 40	1	2	ALI VE	A	206
FH1	16: 46	16: 52	6	2	ALI VE	A	188
FH2	16: 38	16: 42	4	2	ALI VE	A	130
FH3	16: 42	16: 44	2	2	ALI VE	A	207
FH6	16: 44	16: 53	9	2	ALI VE	A	155
FH7	16: 39	16: 53	14	2	ALI VE	A	146
FH8	16: 33	16: 38	5	2	ALI VE	A	140
FH9	16: 32	16: 33	1	2	ALI VE	A	164
FL8	16: 16	16: 19	3	2	ALI VE	A	142
FL9	12: 58	13: 03	5	2	ALI VE	A	195
NZ0	7: 53	8: 11	18	2	ALI VE	A	204
NZ1	7: 56	8: 01	5	2	ALI VE	A	200
NZ2	7: 45	7: 55	10	2	ALI VE	A	205
NZ3	7: 48	7: 57	9	2	ALI VE	A	152
NZ4	7: 47	7: 52	5	2	ALI VE	A	143
NZ5	8: 15	8: 24	9	2	ALI VE	A	157
NZ6	8: 13	8: 36	23	2	ALI VE	A	206
NZ7	8: 08	.	.	0	DEAD	Z	143

11 January 2000 - Testlot 43 : PL=1, Control

- Water temp=41.0 C

FJ0	7: 55	7: 57	2	2	ALI VE	A	184
FJ1	7: 56	8: 00	4	2	ALI VE	A	150
FJ2	7: 39	7: 42	3	2	ALI VE	A	172
FJ3	7: 46	7: 49	3	2	ALI VE	A	155
FJ4	7: 40	7: 45	5	2	ALI VE	A	134
FJ5	7: 38	7: 49	11	2	ALI VE	A	154
FJ6	7: 52	7: 55	3	2	ALI VE	A	186

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
FJ7	7: 54	8: 13	19	2	ALIVE	A	152	
FJ8	7: 50	7: 52	2	2	ALIVE	A	146	
FJ9	7: 42	7: 45	3	2	ALIVE	A	144	
FK0	7: 46	7: 54	8	2	ALIVE	A	134	
FK1	8: 00	8: 04	4	2	ALIVE	A	192	
FK2	7: 38	7: 40	2	2	ALIVE	A	195	
FK3	7: 57	8: 05	8	2	ALIVE	A	190	
FK4	7: 50	7: 53	3	2	ALIVE	A	147	
FK5	8: 16	8: 28	12	2	ALIVE	A	151	
FK6	8: 17	8: 18	1	2	ALIVE	A	143	
FK7	8: 17	8: 29	12	2	ALIVE	A	140	
FK8	8: 19	8: 28	9	2	ALIVE	A	157	
FK9	8: 29	8: 34	5	2	ALIVE	A	146	
FL0	13: 13	13: 30	17	2	ALIVE	A	144	
FL1	13: 14	13: 21	7	2	ALIVE	A	183	
FL2	13: 41	13: 44	3	2	ALIVE	A	185	
FL3	13: 45	13: 48	3	2	ALIVE	A	203	
FL4	14: 06	14: 09	3	2	ALIVE	H	203	
FMO	8: 32	8: 36	4	2	ALIVE	H	167	
FM1	8: 38	8: 39	1	2	ALIVE	A	141	
FM2	8: 38	8: 42	4	2	ALIVE	A	190	
FM3	8: 33	8: 36	3	2	ALIVE	A	152	
FM4	8: 37	8: 45	8	2	ALIVE	A	204	
FM5	8: 43	8: 46	3	2	ALIVE	A	155	
FM6	8: 44	8: 46	2	2	ALIVE	A	147	
FM7	8: 47	8: 49	2	2	ALIVE	A	171	
FM8	8: 40	8: 45	5	2	ALIVE	A	150	
FM9	8: 46	8: 49	3	2	ALIVE	A	169	
FNO	8: 51	8: 53	2	2	ALIVE	A	146	
FN1	8: 49	8: 51	2	2	ALIVE	A	143	
FN2	8: 50	8: 52	2	2	ALIVE	A	154	
FN3	8: 52	8: 54	2	2	ALIVE	A	183	

FN4	8: 53	8: 58	5	2	ALI VE	A	147
FN5	8: 55	9: 00	5	1	ALI VE	HB	137
FN6	8: 58	9: 01	3	2	ALI VE	A	135
FN7	9: 01	9: 19	18	1	ALI VE	B	140
FN8	8: 56	8: 59	3	2	ALI VE	A	149
FN9	8: 59	9: 03	4	2	ALI VE	A	162
FP0	9: 31	9: 33	2	2	ALI VE	A	195
FP1	9: 23	9: 27	4	2	ALI VE	A	201
FP2	9: 14	9: 23	9	2	ALI VE	A	146
FP3	9: 19	9: 22	3	2	ALI VE	A	181
FP4	9: 28	9: 30	2	2	ALI VE	A	152
FP5	9: 33	9: 35	2	2	ALI VE	A	160
FP6	9: 31	9: 35	4	2	ALI VE	A	166
FP7	9: 24	9: 26	2	2	ALI VE	A	140
FP8	9: 27	9: 29	2	2	ALI VE	A	133
FP9	9: 18	9: 30	12	2	ALI VE	A	135
FR0	9: 27	9: 50	23	2	ALI VE	A	205
FR1	9: 36	9: 41	5	2	ALI VE	A	144
FR2	9: 24	9: 26	2	2	ALI VE	A	136

E-102

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
FR3	9: 16	9: 17	1	2	ALI VE	A	140	
FR4	9: 37	9: 38	1	2	ALI VE	A	150	
FR5	9: 56	9: 58	2	2	ALI VE	A	134	
FR6	9: 52	9: 55	3	2	ALI VE	A	141	
FR7	9: 55	9: 58	3	2	ALI VE	A	132	
FR8	9: 51	9: 53	2	2	ALI VE	A	194	
FR9	9: 53	9: 56	3	2	ALI VE	A	157	
FS0	10: 03	10: 06	3	2	ALI VE	A	151	
FS1	9: 58	10: 01	3	2	ALI VE	A	170	

FS2	10:02	10:04	2	2	ALIVE	A	144
FS3	10:04	10:07	3	2	ALIVE	A	142
FS4	9:59	10:06	7	2	ALIVE	A	150
FS5	10:13	10:16	3	2	ALIVE	A	151
FS6	10:06	10:12	6	2	ALIVE	A	143
FS7	10:07	.	.	2	DEAD	Z	152
FS8	10:08	10:11	3	2	ALIVE	A	132
FS9	10:12	10:15	3	2	ALIVE	A	147
FT0	10:18	10:20	2	2	ALIVE	A	158
FT1	10:22	10:27	5	2	ALIVE	A	130
FT2	10:22	10:25	3	2	ALIVE	A	144
FT3	10:17	10:20	3	2	ALIVE	A	140
FT4	10:25	10:32	7	2	ALIVE	A	144
FT5	10:27	10:42	15	1	ALIVE	HB	204
FT6	10:43	10:45	2	2	ALIVE	A	145
FT7	10:33	10:43	10	2	ALIVE	A	146
FT8	10:44	10:48	4	2	ALIVE	A	139
FT9	10:46	10:53	7	2	ALIVE	A	136
FU0	11:00	11:03	3	2	ALIVE	A	195
FU1	11:01	11:15	14	2	ALIVE	A	132
FU2	11:02	11:04	2	2	ALIVE	A	145
FU3	11:04	11:08	4	2	ALIVE	A	135
FU4	11:06	11:12	6	2	ALIVE	A	132
FU5	11:13	11:39	26	2	ALIVE	A	146
FU6	11:12	11:13	1	2	ALIVE	A	145
FU7	11:20	11:39	19	2	ALIVE	A	155
FU8	11:19	11:21	2	2	ALIVE	A	147
FU9	11:15	.	.	0	TAG & PIN		144
FV0	11:43	12:00	17	2	ALIVE	A	150
FV1	11:43	11:47	4	2	ALIVE	A	185
FV2	11:23	11:37	14	2	ALIVE	A	147
FV3	11:42	11:48	6	2	ALIVE	A	151
FV4	11:49	11:58	9	2	ALIVE	A	145
FV5	11:51	11:58	7	2	ALIVE	A	203
FV6	12:04	12:23	19	2	ALIVE	A	158
FV7	12:01	12:07	6	2	ALIVE	A	140
FV8	11:59	12:03	4	2	ALIVE	A	145
FV9	12:00	12:04	4	2	ALIVE	A	135
FW0	12:24	12:34	10	1	DEAD	B	150
FW1	12:23	12:27	4	2	ALIVE	A	145
FW2	12:25	15:30	185	2	ALIVE	A	136
FW3	12:20	12:24	4	2	DEAD	J	133

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
FW4	12: 19	12: 22	3	2	ALIVE	A	170	
FW5	12: 29	15: 30	181	2	ALIVE	A	137	
FW6	12: 46	.	.	0	UNKNOWN	X	159	
FW7	12: 45	12: 48	3	2	ALIVE	A	155	
FW8	12: 37	12: 44	7	2	ALIVE	A	204	
FW9	12: 44	12: 47	3	2	DEAD	EN	205	
FX0	12: 55	12: 59	4	2	ALIVE	A	168	
FX1	12: 53	12: 56	3	2	ALIVE	A	148	
FX3	12: 50	12: 53	3	2	ALIVE	A	145	
FX4	12: 51	12: 54	3	2	ALIVE	A	138	
FX5	13: 48	15: 30	102	2	ALIVE	A	143	
FX6	13: 00	15: 30	150	2	ALIVE	A	150	
FX7	13: 22	13: 31	9	2	ALIVE	A	138	
FX8	13: 32	13: 39	7	2	ALIVE	A	191	
FX9	13: 34	13: 55	21	2	ALIVE	A	147	
12 January 2000 - Testlot 44 : PL=2, Unit 5, Tip - Water temp=41.0 C								
FL5	11: 12	11: 15	3	2	ALIVE	A	168	
FL6	12: 25	12: 46	21	2	ALIVE	A	145	
FL7	12: 24	12: 26	2	2	ALIVE	A	154	
FY0	7: 45	7: 52	7	2	ALIVE	A	151	
FY1	7: 45	8: 00	15	2	ALIVE	A	148	
FY2	7: 53	8: 05	12	2	ALIVE	A	147	
FY3	7: 46	7: 52	6	2	ALIVE	A	184	
FY4	7: 52	7: 58	6	2	ALIVE	A	149	
FY5	8: 01	8: 04	3	2	ALIVE	A	205	
FY6	8: 06	8: 08	2	2	ALIVE	A	141	
FY7	8: 05	8: 26	21	2	ALIVE	A	137	
FY8	8: 10	.	.	0	DEAD	Z	135	
FY9	7: 59	8: 35	36	2	ALIVE	A	192	

FZ0	8: 28	8: 46	18	2	ALI VE	A	200
FZ1	8: 56	9: 07	11	2	ALI VE	A	135
FZ2	8: 38	8: 50	12	2	ALI VE	A	142
FZ3	8: 47	8: 56	9	2	ALI VE	A	145
FZ4	8: 50	8: 57	7	2	ALI VE	A	160
FZ5	9: 00	.	.	0	DEAD	Z	188
FZ6	8: 59	9: 23	24	2	ALI VE	A	185
FZ7	9: 07	9: 11	4	2	ALI VE	A	146
FZ8	9: 13	9: 45	32	2	ALI VE	A	191
FZ9	9: 12	9: 22	10	2	ALI VE	A	146
LA0	9: 24	10: 15	51	2	ALI VE	A	198
LA1	9: 23	9: 28	5	2	ALI VE	A	140
LA2	9: 50	9: 54	4	2	ALI VE	A	138
LA3	9: 52	9: 59	7	2	ALI VE	A	164
LA4	9: 29	9: 48	19	2	ALI VE	A	145
LA5	10: 07	10: 19	12	2	ALI VE	A	190
LA6	10: 04	10: 09	5	2	ALI VE	A	201
LA7	10: 19	10: 22	3	2	ALI VE	A	146
LA8	10: 10	10: 35	25	2	ALI VE	A	147

E-104

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
LA9	10: 05	10: 10	5	2	ALI VE	A	150	
LB1	10: 22	10: 25	3	2	ALI VE	A	205	
LB2	10: 33	10: 40	7	2	ALI VE	A	192	
LB4	10: 26	10: 36	10	2	ALI VE	A	183	
LB5	10: 43	10: 50	7	2	ALI VE	A	156	
LB6	10: 39	10: 41	2	2	ALI VE	A	200	
LB7	10: 45	11: 03	18	2	ALI VE	A	152	
LB8	10: 42	10: 49	7	2	ALI VE	A	136	
LB9	10: 41	10: 43	2	2	ALI VE	A	135	

LC0	10: 52	10: 54	2	2	ALI VE	A	145
LC1	10: 55	11: 04	9	2	ALI VE	A	200
LC2	10: 53	11: 00	7	2	ALI VE	A	200
LC3	11: 00	11: 04	4	2	ALI VE	A	205
LC4	11: 02	11: 10	8	2	ALI VE	A	142
LC5	11: 04	11: 07	3	2	ALI VE	A	142
LC6	11: 12	11: 16	4	2	ALI VE	A	156
LC7	11: 11	11: 15	4	2	ALI VE	A	140
LC8	11: 05	11: 11	6	2	ALI VE	A	161
LC9	11: 07	11: 10	3	2	ALI VE	A	140
LD0	11: 27	11: 51	24	2	ALI VE	A	149
LD1	11: 26	11: 32	6	2	ALI VE	A	160
LD2	11: 28	11: 48	20	2	ALI VE	A	153
LD3	11: 48	11: 55	7	2	ALI VE	A	141
LD4	11: 32	11: 48	16	2	ALI VE	A	150
LD5	11: 59	12: 31	32	1	ALI VE	HB	206
LD6	11: 55	12: 03	8	2	ALI VE	A	200
LD7	11: 50	15: 30	220	2	ALI VE	A	202
LD8	11: 52	11: 59	7	2	ALI VE	A	185
LD9	12: 00	12: 03	3	2	ALI VE	A	147
LE0	12: 17	12: 33	16	2	ALI VE	A	155
LE1	12: 10	12: 19	9	2	ALI VE	A	206
LE2	12: 04	15: 30	206	2	ALI VE	A	155
LE3	12: 14	12: 17	3	2	ALI VE	A	140
LE4	12: 03	15: 30	207	2	ALI VE	A	134
LE5	12: 42	12: 49	7	2	ALI VE	A	142
LE6	12: 39	12: 41	2	2	ALI VE	A	140
LE7	12: 19	12: 23	4	2	ALI VE	A	139
LE8	12: 43	12: 57	14	2	ALI VE	A	160
LE9	12: 34	12: 42	8	2	ALI VE	A	193
LF0	13: 02	13: 07	5	2	ALI VE	A	195
LF1	13: 12	13: 21	9	2	ALI VE	A	190
LF2	13: 08	13: 10	2	2	ALI VE	A	151
LF3	13: 00	13: 19	19	2	ALI VE	A	185
LF4	13: 01	13: 34	33	2	ALI VE	A	154
LF5	13: 26	15: 08	102	2	ALI VE	A	140
LF6	13: 39	13: 41	2	2	ALI VE	A	145
LF7	13: 29	13: 49	20	2	ALI VE	A	150
LF8	13: 21	13: 24	3	2	ALI VE	A	145
LF9	13: 23	13: 28	5	2	ALI VE	A	148
LH0	13: 50	13: 57	7	2	ALI VE	A	145
LH1	13: 41	13: 44	3	2	ALI VE	A	132

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
LH3	13:44	13:50	6	2	ALIVE	A	156	
LH4	13:51	14:04	13	2	ALIVE	A	137	
LH5	13:57	14:05	8	2	ALIVE	A	202	
LH6	14:06	14:12	6	2	ALIVE	A	135	
LH7	14:13	14:20	7	2	ALIVE	A	190	
LH8	14:04	14:10	6	2	ALIVE	A	151	
LH9	14:10	14:17	7	2	DEAD		180	
LJ0	14:56	15:01	5	2	ALIVE	A	139	
LJ1	15:00	15:03	3	2	ALIVE	A	145	
LJ2	14:44	14:57	13	2	ALIVE	A	137	
LJ3	14:39	14:40	1	2	ALIVE	A	145	
LJ4	14:52	.	.	0	UNKNOWN	X	206	
LJ5	15:02	15:05	3	2	ALIVE	A	147	
LJ6	14:43	14:50	7	2	ALIVE	A	150	
LJ7	14:53	14:56	3	2	ALIVE	A	136	
LJ8	14:48	14:50	2	2	ALIVE	A	141	
LJ9	14:41	14:44	3	2	ALIVE	A	159	
LK0	14:40	14:47	7	2	ALIVE	A	140	
LK1	14:58	15:00	2	2	ALIVE	A	138	
LK2	14:39	14:43	4	2	ALIVE	A	145	
LK3	15:03	15:09	6	2	ALIVE	A	141	
LK4	14:51	14:53	2	2	ALIVE	A	138	
LK5	15:30	15:33	3	2	ALIVE	A	191	
LK6	15:40	15:43	3	2	ALIVE	A	200	
LK7	15:39	15:42	3	2	ALIVE	A	136	
LK8	15:37	15:39	2	2	ALIVE	A	133	
LK9	15:05	15:09	4	2	ALIVE	A	195	
LL0	15:32	15:36	4	2	ALIVE	A	197	
LL1	15:11	15:15	4	2	ALIVE	A	152	
LL2	15:35	15:35	0	2	ALIVE	A	142	
LL3	15:33	15:40	7	2	ALIVE	A	190	
LL4	15:14	15:33	19	2	ALIVE	A	185	

LL5	15:13	15:29	16	2	ALIVE	A	185
LL6	15:37	15:38	1	2	ALIVE	A	154
LL7	15:26	15:31	5	2	ALIVE	A	204
LL8	15:43	15:44	1	2	ALIVE	A	144
LL9	15:42	15:49	7	2	ALIVE	A	149
LV3	10:36	10:39	3	2	DEAD	F	190
LZ7	14:21	14:32	11	2	ALIVE	A	184
LZ8	14:17	14:20	3	2	ALIVE	A	151
LZ9	12:33	12:39	6	2	ALIVE	A	162

13 January 2000 - Testlot 45 : PL=4, Control - Water temp=41.0 C

L00	13:48	13:51	3	2	ALIVE	A	197
L01	13:46	13:48	2	2	ALIVE	A	202
L02	13:40	13:42	2	2	ALIVE	A	187
L03	13:51	14:04	13	2	ALIVE	A	145
L04	14:08	14:14	6	2	ALIVE	A	132
L05	13:40	13:41	1	2	ALIVE	A	144

E-106

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
L06	14:08	14:10	2	2	ALIVE	A	143	
L07	13:43	13:46	3	2	ALIVE	A	138	
L08	13:52	13:56	4	2	ALIVE	A	154	
L09	13:44	13:51	7	2	ALIVE	A	145	
LMO	7:43	7:49	6	1	DEAD	JB	151	
LM1	7:42	7:52	10	2	ALIVE	A	161	
LM2	7:45	7:50	5	2	ALIVE	A	148	
LM3	7:41	7:43	2	2	ALIVE	A	147	
LM4	7:50	7:51	1	2	ALIVE	A	134	

LM5	8: 02	.	.	0	TAG & PIN		146
LM6	7: 57	7: 57	0	2	ALI VE	A	141
LM7	7: 54	8: 11	17	2	ALI VE	A	147
LM8	7: 53	8: 05	12	2	ALI VE	A	144
LM9	7: 59	8: 00	1	2	ALI VE	A	140
LN0	8: 31	8: 36	5	2	ALI VE	A	144
LN1	8: 30	8: 33	3	2	ALI VE	HM	132
LN2	8: 30	8: 50	20	2	ALI VE	A	179
LN3	8: 36	8: 41	5	2	ALI VE	A	141
LN4	8: 34	8: 57	23	2	ALI VE	A	153
LN5	8: 55	8: 58	3	2	ALI VE	A	154
LN6	8: 59	9: 03	4	2	ALI VE	A	150
LN7	8: 46	8: 49	3	2	ALI VE	A	151
LN8	8: 50	8: 54	4	2	ALI VE	A	147
LN9	8: 42	9: 03	21	2	ALI VE	A	148
LP0	9: 09	9: 17	8	2	ALI VE	A	137
LP1	9: 07	9: 12	5	2	ALI VE	A	151
LP2	9: 04	9: 07	3	2	ALI VE	A	146
LP3	9: 13	15: 30	377	2	ALI VE	A	133
LP4	9: 02	9: 06	4	2	ALI VE	A	134
LP5	9: 33	9: 35	2	2	ALI VE	A	147
LP6	9: 22	9: 32	10	2	ALI VE	A	160
LP7	9: 21	9: 26	5	2	ALI VE	A	195
LP8	9: 32	9: 56	24	2	ALI VE	A	142
LP9	9: 27	9: 31	4	2	ALI VE	A	139
LR0	9: 36	9: 44	8	2	ALI VE	A	205
LR1	9: 44	9: 47	3	2	ALI VE	A	147
LR2	9: 48	9: 55	7	2	ALI VE	A	135
LR3	9: 43	9: 48	5	2	ALI VE	A	153
LR4	9: 39	9: 43	4	2	ALI VE	A	197
LR5	9: 57	10: 01	4	1	DEAD	EB	195
LR6	9: 54	9: 57	3	2	ALI VE	A	206
LR7	9: 50	9: 53	3	2	ALI VE	A	162
LR8	9: 59	10: 04	5	2	ALI VE	A	148
LR9	10: 02	10: 04	2	2	ALI VE	A	152
LS0	10: 08	10: 11	3	2	ALI VE	A	138
LS1	10: 11	10: 14	3	2	ALI VE	A	147
LS2	10: 13	10: 17	4	2	ALI VE	A	145
LS3	10: 06	10: 12	6	2	ALI VE	A	137
LS4	10: 10	10: 11	1	1	ALI VE	HB	134
LS5	10: 17	10: 19	2	2	ALI VE	A	204
LS6	10: 15	10: 20	5	2	ALI VE	A	200

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
LS7	10: 21	10: 23	2	2	ALIVE	A	136	
LS8	10: 19	10: 21	2	2	ALIVE	A	193	
LS9	10: 20	10: 22	2	2	ALIVE	A	132	
LT0	10: 46	10: 47	1	2	ALIVE	A	200	
LT2	10: 39	10: 41	2	2	ALIVE	A	196	
LT3	10: 42	10: 44	2	2	ALIVE	A	147	
LT4	10: 45	10: 52	7	2	ALIVE	A	198	
LT5	10: 50	10: 53	3	2	ALIVE	A	162	
LT6	10: 35	10: 37	2	2	ALIVE	A	170	
LT7	10: 42	10: 44	2	2	ALIVE	A	183	
LT8	10: 48	10: 50	2	2	ALIVE	A	154	
LT9	10: 41	10: 42	1	2	ALIVE	A	149	
LU0	10: 37	10: 40	3	2	ALIVE	A	150	
LU1	10: 48	10: 54	6	2	ALIVE	A	140	
LU2	10: 43	10: 47	4	2	ALIVE	A	139	
LU3	10: 38	10: 41	3	2	ALIVE	A	164	
LU4	10: 33	10: 36	3	2	ALIVE	A	134	
LU5	11: 08	11: 10	2	2	ALIVE	A	151	
LU6	11: 06	11: 08	2	2	ALIVE	A	186	
LU7	11: 10	11: 11	1	2	ALIVE	A	139	
LU8	11: 11	11: 14	3	2	ALIVE	A	136	
LU9	11: 07	11: 17	10	2	ALIVE	A	159	
LV0	11: 18	15: 30	252	2	ALIVE	A	143	
LV1	11: 17	11: 18	1	2	ALIVE	A	201	
LV2	11: 16	11: 17	1	2	ALIVE	A	205	
LV3	11: 20	11: 25	5	2	ALIVE	A	147	
LV4	11: 13	11: 15	2	2	ALIVE	A	163	
LV5	11: 31	11: 33	2	2	ALIVE	A	153	
LV6	11: 26	11: 32	6	2	ALIVE	A	135	
LV7	11: 28	15: 30	242	2	ALIVE	A	134	
LV8	11: 21	15: 30	249	2	ALIVE	A	151	
LV9	11: 27	11: 31	4	2	ALIVE	A	144	

LW0	11: 43	12: 03	20	2	ALI VE	A	144
LW1	11: 38	11: 41	3	2	ALI VE	A	168
LW2	11: 45	12: 09	24	2	ALI VE	A	147
LW3	11: 39	11: 41	2	2	ALI VE	A	150
LW4	11: 35	11: 37	2	2	ALI VE	A	176
LW5	12: 14	12: 22	8	2	ALI VE	A	142
LW6	12: 12	12: 18	6	2	ALI VE	A	205
LW7	12: 19	12: 50	31	2	ALI VE	A	156
LW8	12: 13	12: 17	4	2	ALI VE	A	156
LW9	12: 20	12: 22	2	2	ALI VE	A	137
LX0	12: 46	12: 48	2	2	ALI VE	A	144
LX1	12: 24	12: 38	14	1	DEAD	EB	136
LX2	12: 35	.	.	0	TAG & PIN		160
LX3	12: 23	12: 34	11	2	ALI VE	A	190
LX4	12: 38	12: 45	7	2	ALI VE	A	159
LX5	12: 50	12: 54	4	2	ALI VE	A	202
LX6	13: 06	13: 08	2	2	ALI VE	A	165
LX7	12: 58	13: 08	10	2	ALI VE	A	200
LX8	12: 55	13: 05	10	2	ALI VE	A	155

E-108

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
LX9	13: 08	13: 11	3	2	ALI VE	A	155	
LY0	13: 12	13: 13	1	2	ALI VE	A	147	
LY1	13: 18	13: 27	9	2	ALI VE	A	159	
LY2	13: 15	15: 30	135	2	ALI VE	A	175	
LY3	13: 10	13: 20	10	2	ALI VE	A	148	
LY4	13: 14	13: 17	3	2	ALI VE	A	145	
LY5	13: 47	13: 51	4	2	ALI VE	A	145	
LY6	14: 05	14: 09	4	2	ALI VE	A	136	
LY7	13: 41	13: 45	4	2	ALI VE	A	204	

LY8	13: 53	14: 09	16	2	ALI VE	A	148
LY9	13: 56	14: 02	6	2	ALI VE	A	147
LZ0	13: 28	13: 30	2	2	ALI VE	A	139
LZ1	13: 21	13: 33	12	2	ALI VE	A	144
LZ2	11: 58	12: 00	2	2	ALI VE	A	140
LZ3	11: 52	11: 57	5	2	ALI VE	A	164
LZ4	10: 35	10: 38	3	2	ALI VE	A	132
LZ5	11: 49	11: 51	2	2	ALI VE	A	152
LZ6	11: 34	11: 38	4	2	ALI VE	A	143

14 January 2000 - Testlot 46 : PL=2, Unit 5, Mid - Water temp=41.0 C

L10	7: 55	8: 09	14	2	ALI VE	A	151
L11	7: 46	8: 00	14	2	ALI VE	A	150
L12	7: 48	7: 54	6	2	ALI VE	A	198
L13	7: 56	8: 04	8	2	ALI VE	A	190
L14	7: 47	7: 54	7	2	ALI VE	A	144
L15	8: 12	8: 14	2	2	ALI VE	A	163
L16	8: 02	8: 07	5	2	ALI VE	A	166
L17	8: 11	8: 20	9	2	ALI VE	A	138
L18	8: 08	8: 17	9	2	ALI VE	A	145
L19	8: 06	8: 10	4	2	ALI VE	A	140
L20	8: 17	8: 21	4	2	ALI VE	A	151
L21	8: 15	8: 19	4	2	ALI VE	A	139
L22	8: 21	8: 37	16	2	ALI VE	A	146
L23	8: 19	8: 33	14	2	ALI VE	A	144
L24	8: 20	8: 29	9	2	ALI VE	A	135
L25	8: 39	8: 43	4	2	ALI VE	A	143
L26	8: 43	8: 50	7	2	ALI VE	A	138
L27	8: 33	8: 44	11	2	ALI VE	A	143
L28	8: 37	8: 44	7	2	ALI VE	A	171
L29	8: 29	8: 39	10	2	ALI VE	A	207
L30	8: 50	8: 58	8	2	ALI VE	A	149
L31	8: 48	8: 51	3	2	ALI VE	A	202
L32	8: 45	8: 48	3	2	ALI VE	A	166
L33	8: 46	8: 50	4	2	ALI VE	A	197
L34	8: 51	.	.	0	TAG & PIN		156
L35	9: 23	9: 25	2	2	ALI VE	A	202
L36	9: 34	9: 40	6	2	ALI VE	A	140
L37	9: 06	9: 12	6	2	ALI VE	A	148
L38	9: 19	9: 22	3	2	ALI VE	A	144

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
L40	9: 29	9: 32	3	2	ALIVE	A	156	
L41	9: 28	9: 34	6	2	ALIVE	A	194	
L42	9: 21	9: 23	2	2	ALIVE	A	156	
L43	9: 10	9: 14	4	2	ALIVE	A	184	
L44	9: 15	9: 19	4	2	ALIVE	A	195	
L45	9: 25	9: 27	2	2	ALIVE	A	142	
L46	9: 17	9: 19	2	2	ALIVE	A	145	
L47	9: 27	9: 29	2	2	ALIVE	A	140	
L48	9: 09	9: 12	3	2	ALIVE	A	142	
L49	9: 33	9: 35	2	2	ALIVE	A	155	
L50	10: 23	10: 28	5	2	ALIVE	A	185	
L51	10: 00	10: 27	27	2	ALIVE	A	199	
L52	9: 59	10: 11	12	1	ALIVE	B	146	
L54	10: 28	10: 48	20	2	ALIVE	A	142	
L55	10: 35	10: 42	7	2	ALIVE	A	193	
L56	10: 31	10: 35	4	2	ALIVE	A	140	
L57	10: 42	10: 47	5	2	ALIVE	A	161	
L58	10: 48	10: 51	3	2	ALIVE	A	145	
L59	10: 49	.	.	0	DEAD	Z	145	
L60	10: 51	10: 54	3	2	ALIVE	A	201	
L61	10: 52	10: 56	4	2	ALIVE	A	204	
L62	10: 55	11: 01	6	2	ALIVE	A	185	
L63	11: 01	11: 05	4	2	ALIVE	A	205	
L64	10: 56	11: 00	4	2	ALIVE	A	138	
L65	11: 13	11: 26	13	2	ALIVE	A	206	
L66	11: 09	11: 13	4	2	ALIVE	A	195	
L67	11: 03	11: 08	5	2	ALIVE	A	203	
L68	11: 06	11: 18	12	2	ALIVE	A	206	
L69	11: 12	11: 17	5	2	ALIVE	A	164	
L70	11: 34	11: 38	4	2	ALIVE	A	205	
L71	11: 32	11: 49	17	2	DEAD	F	147	
L72	11: 38	11: 43	5	2	ALIVE	A	194	

L73	11: 35	11: 39	4	2	ALI VE	A	198
L74	11: 33	11: 35	2	2	ALI VE	A	148
L75	11: 46	12: 12	26	2	ALI VE	A	136
L77	11: 41	11: 45	4	2	ALI VE	A	137
L78	11: 44	15: 30	226	2	ALI VE	A	144
L79	11: 56	12: 04	8	2	ALI VE	A	147
L80	12: 17	12: 19	2	2	ALI VE	A	172
L82	12: 09	12: 16	7	2	ALI VE	A	183
L83	12: 16	12: 19	3	2	ALI VE	A	138
L84	12: 06	12: 07	1	2	ALI VE	A	185
L85	12: 24	12: 27	3	2	ALI VE	A	149
L86	12: 26	12: 30	4	2	ALI VE	A	152
L87	12: 28	12: 32	4	2	ALI VE	A	149
L88	12: 21	12: 23	2	2	ALI VE	A	195
L89	12: 20	12: 23	3	2	ALI VE	A	160
L90	12: 45	12: 49	4	2	ALI VE	A	186
L91	12: 38	12: 45	7	2	ALI VE	A	146
L93	12: 58	13: 06	8	2	ALI VE	A	150
L94	12: 55	12: 57	2	2	ALI VE	A	148

E-110

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
L95	13: 39	13: 41	2	2	ALI VE	A	181	
L96	13: 28	13: 38	10	2	ALI VE	A	205	
L97	13: 14	13: 20	6	2	ALI VE	A	181	
L98	13: 42	13: 45	3	2	ALI VE	A	178	
L99	13: 13	13: 19	6	2	ALI VE	A	160	
LT1	13: 22	13: 24	2	2	ALI VE	A	150	
LV8	11: 17	11: 21	4	2	ALI VE	A	190	
X00	13: 12	13: 13	1	2	ALI VE	A	145	
X02	13: 21	13: 27	6	2	ALI VE	A	145	

X03	13: 19	13: 21	2	2	ALI VE	A	191
X04	13: 32	13: 47	15	2	ALI VE	A	135
X05	13: 13	13: 36	23	2	ALI VE	A	147
X06	13: 42	13: 46	4	2	ALI VE	A	155
X07	13: 27	13: 32	5	2	ALI VE	A	158
X08	13: 24	13: 27	3	2	ALI VE	A	133
X09	13: 38	13: 41	3	2	ALI VE	A	152
X10	13: 41	13: 51	10	2	ALI VE	A	138
X11	14: 02	14: 04	2	2	ALI VE	A	154
X12	14: 01	14: 04	3	2	ALI VE	A	183
X13	14: 05	14: 07	2	2	ALI VE	A	202
X14	14: 00	14: 01	1	2	ALI VE	A	144
X15	14: 03	14: 06	3	2	ALI VE	A	148
X16	14: 06	14: 08	2	2	ALI VE	A	182
X17	14: 09	14: 10	1	2	ALI VE	A	184
X18	14: 09	14: 12	3	2	ALI VE	A	139
X19	14: 11	14: 15	4	2	ALI VE	A	149
X20	14: 07	14: 09	2	2	ALI VE	A	145
X21	14: 23	14: 26	3	2	ALI VE	A	131
X22	14: 16	14: 27	11	2	ALI VE	A	135
X23	14: 14	14: 24	10	2	ALI VE	A	197
X24	14: 12	14: 22	10	2	ALI VE	A	206
X26	14: 35	14: 40	5	2	ALI VE	A	146
X27	14: 26	14: 30	4	2	ALI VE	A	148
X28	14: 28	14: 30	2	2	ALI VE	A	146
X29	14: 34	14: 38	4	2	ALI VE	A	205
X30	14: 32	14: 35	3	2	ALI VE	A	175
X96	14: 49	14: 52	3	2	ALI VE	A	198
X97	14: 32	14: 37	5	2	ALI VE	A	205
X98	12: 49	12: 54	5	2	ALI VE	A	164
X99	12: 33	12: 38	5	2	ALI VE	A	194

15 January 2000 - Testlot 47 : PL=4, Unit 5, Mid - Water temp=40.1 C

X31	7: 36	7: 51	15	2	ALI VE	A	140
X32	7: 35	7: 52	17	2	ALI VE	A	191
X33	7: 52	7: 56	4	1	DEAD	FB	150
X34	7: 48	7: 54	6	2	ALI VE	A	156
X35	7: 34	7: 48	14	2	ALI VE	A	143
X36	8: 05	8: 29	24	2	ALI VE	A	168
X37	7: 56	8: 04	8	2	ALI VE	A	208

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
X38	8:00	8:10	10	2	ALIVE	A	141	
X39	7:58	8:07	9	2	ALIVE	A	152	
X40	7:56	8:00	4	2	ALIVE	A	145	
X41	8:24	8:33	9	2	ALIVE	A	140	
X42	8:12	8:40	28	2	ALIVE	A	207	
X43	8:32	8:34	2	2	ALIVE	A	168	
X44	8:14	8:21	7	1	ALIVE	H	139	
X45	8:09	8:13	4	2	ALIVE	A	144	
X46	8:39	9:03	24	2	ALIVE	A	134	
X47	8:36	8:39	3	2	ALIVE	A	139	
X48	8:41	9:15	34	2	ALIVE	A	176	
X49	8:35	8:37	2	2	ALIVE	A	136	
X50	8:37	9:01	24	2	ALIVE	A	144	
X51	9:23	9:26	3	2	ALIVE	A	158	
X52	9:03	9:09	6	2	ALIVE	A	144	
X53	9:22	9:26	4	2	ALIVE	A	143	
X54	9:11	9:15	4	2	ALIVE	A	179	
X55	9:05	9:28	23	2	ALIVE	A	205	
X56	10:03	10:08	5	2	ALIVE	A	205	
X57	10:08	10:09	1	2	ALIVE	A	147	
X58	10:02	10:04	2	2	ALIVE	A	207	
X59	9:57	10:01	4	2	ALIVE	A	152	
X60	9:57	10:02	5	2	ALIVE	A	206	
X61	9:58	10:01	3	2	ALIVE	A	152	
X62	10:06	10:07	1	2	ALIVE	A	144	
X63	10:04	10:11	7	2	ALIVE	A	153	
X64	9:51	9:53	2	2	ALIVE	A	205	
X65	9:48	9:51	3	2	ALIVE	A	146	
X66	9:46	9:56	10	2	ALIVE	A	152	
X67	9:54	9:56	2	2	ALIVE	A	168	
X68	9:54	9:56	2	2	ALIVE	A	167	
X69	10:03	10:05	2	2	ALIVE	A	149	

X70	9: 47	9: 53	6	2	ALI VE	A	199
X71	9: 28	9: 32	4	2	ALI VE	A	208
X72	9: 35	9: 38	3	2	ALI VE	A	141
X73	9: 32	9: 39	7	2	ALI VE	A	155
X74	9: 27	9: 33	6	2	ALI VE	A	145
X75	9: 33	9: 39	6	2	ALI VE	A	142
X76	10: 21	10: 41	20	2	ALI VE	A	196
X77	10: 37	10: 42	5	2	ALI VE	A	158
X78	10: 22	10: 35	13	2	ALI VE	A	197
X79	10: 23	10: 34	11	2	ALI VE	A	193
X80	10: 35	10: 50	15	2	ALI VE	A	206
X81	10: 49	10: 55	6	2	ALI VE	A	195
X82	10: 53	10: 54	1	2	ALI VE	A	176
X83	10: 54	10: 54	0	2	ALI VE	A	141
X84	10: 48	10: 51	3	2	ALI VE	A	149
X85	10: 51	10: 52	1	2	ALI VE	A	200
X86	11: 01	11: 12	11	2	ALI VE	A	153
X87	10: 57	10: 58	1	2	ALI VE	A	141
X88	11: 00	11: 07	7	2	ALI VE	A	134

E-112

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
X89	10: 58	11: 00	2	2	ALI VE	A	189	
X90	10: 56	10: 59	3	2	ALI VE	A	197	
X91	14: 44	14: 50	6	2	ALI VE	A	152	
XA0	11: 02	11: 05	3	2	ALI VE	A	149	
XA1	11: 05	11: 10	5	2	ALI VE	A	200	
XA2	11: 07	11: 14	7	2	ALI VE	A	150	
XA3	11: 13	11: 21	8	2	ALI VE	A	153	
XA4	11: 11	11: 15	4	2	ALI VE	A	171	
XA5	11: 28	11: 37	9	2	ALI VE	A	143	

XA6	11: 26	11: 33	7	2	ALI VE	A	144
XA7	11: 25	11: 29	4	2	ALI VE	A	182
XA8	11: 24	11: 28	4	2	ALI VE	A	200
XA9	11: 30	11: 58	28	2	ALI VE	A	141
XB0	11: 50	12: 11	21	2	ALI VE	A	141
XB1	11: 47	11: 54	7	2	ALI VE	A	153
XB2	11: 42	11: 46	4	2	ALI VE	A	172
XB3	11: 46	11: 49	3	2	ALI VE	A	150
XB4	11: 40	11: 45	5	2	ALI VE	A	205
XB5	12: 12	12: 15	3	2	ALI VE	A	144
XB6	12: 04	12: 21	17	2	ALI VE	A	156
XB7	12: 03	12: 05	2	2	ALI VE	A	155
XB8	11: 55	12: 03	8	2	ALI VE	A	145
XB9	12: 06	12: 22	16	2	ALI VE	A	153
XC0	12: 24	12: 32	8	2	ALI VE	A	144
XC1	12: 32	12: 36	4	2	ALI VE	A	192
XC2	12: 16	12: 52	36	2	ALI VE	A	198
XC3	12: 23	12: 46	23	2	ALI VE	A	196
XC4	12: 21	12: 24	3	2	ALI VE	A	153
XC5	13: 10	13: 35	25	2	ALI VE	A	203
XC6	13: 28	13: 33	5	2	ALI VE	A	151
XC7	13: 14	13: 15	1	2	ALI VE	A	137
XC8	13: 09	13: 12	3	2	ALI VE	A	135
XC9	13: 16	13: 23	7	2	ALI VE	A	145
XD0	13: 23	13: 24	1	2	ALI VE	A	190
XD1	13: 26	13: 30	4	2	ALI VE	A	190
XD2	13: 31	13: 37	6	2	ALI VE	A	154
XD3	13: 17	13: 18	1	2	ALI VE	A	151
XD4	13: 25	13: 27	2	2	ALI VE	A	148
XD5	12: 57	13: 14	17	2	ALI VE	A	201
XD6	12: 56	13: 08	12	2	ALI VE	A	157
XD7	13: 02	13: 07	5	2	ALI VE	A	136
XD8	12: 58	13: 01	3	2	ALI VE	A	147
XD9	13: 18	13: 21	3	2	ALI VE	A	153
XE0	13: 56	13: 59	3	2	ALI VE	A	153
XE1	13: 54	14: 01	7	2	ALI VE	A	152
XE2	13: 59	14: 06	7	2	ALI VE	A	156
XE3	14: 02	14: 09	7	2	ALI VE	A	160
XE4	13: 55	14: 01	6	2	ALI VE	A	145
XE5	14: 09	14: 12	3	2	ALI VE	A	157
XE6	14: 03	14: 06	3	2	ALI VE	A	152
XE7	14: 07	14: 10	3	2	ALI VE	A	140

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
XE8	14: 08	.	.	0	UNKNOWN	X	141	
XF0	14: 19	14: 22	3	2	ALIVE	A	147	
XF1	14: 15	14: 19	4	2	ALIVE	A	194	
XF2	14: 22	14: 24	2	2	ALIVE	A	140	
XF3	14: 18	14: 22	4	2	ALIVE	A	206	
XF4	14: 13	14: 15	2	2	ALIVE	A	165	
XF5	14: 50	15: 02	12	2	ALIVE	A	139	
XF6	14: 24	14: 46	22	2	ALIVE	A	190	
XF7	14: 46	15: 07	21	2	ALIVE	A	166	
XF8	14: 23	14: 39	16	2	ALIVE	A	192	
XF9	14: 47	14: 56	9	2	ALIVE	A	161	
17 January 2000 - Testlot 48 : PL=2, Unit 5, Hub - Water temp=41.0 C								
X92	14: 16	14: 19	3	2	ALIVE	A	145	
XJ5	8: 36	8: 39	3	2	ALIVE	A	155	
XJ6	8: 25	8: 28	3	2	ALIVE	A	160	
XJ7	8: 28	8: 32	4	2	ALIVE	A	150	
XJ8	8: 22	8: 26	4	2	ALIVE	A	182	
XJ9	8: 23	8: 32	9	2	ALIVE	A	161	
XK0	8: 34	8: 40	6	2	ALIVE	A	150	
XK1	8: 17	8: 20	3	2	ALIVE	A	146	
XK2	8: 18	8: 23	5	2	ALIVE	A	147	
XK3	8: 32	8: 34	2	2	ALIVE	A	139	
XK4	8: 31	8: 37	6	2	ALIVE	H	148	
XK5	8: 24	8: 29	5	2	ALIVE	A	151	
XK6	8: 33	8: 37	4	2	ALIVE	A	140	
XK7	8: 29	8: 31	2	2	ALIVE	A	158	
XK8	8: 18	8: 22	4	2	ALIVE	A	137	
XK9	8: 20	8: 30	10	2	ALIVE	A	151	
XL0	9: 08	9: 09	1	2	ALIVE	A	141	

XL1	9: 07	9: 10	3	2	ALI VE	H	135
XL2	9: 07	9: 09	2	2	DEAD		165
XL3	9: 11	9: 22	11	2	ALI VE	A	150
XL4	9: 11	9: 35	24	2	ALI VE	A	151
XL5	9: 29	9: 34	5	2	ALI VE	A	140
XL6	9: 13	9: 16	3	2	ALI VE	A	142
XL7	9: 17	9: 20	3	2	ALI VE	A	139
XL8	9: 23	.	.	0	TAG & PIN		144
XL9	9: 22	9: 29	7	2	ALI VE	A	155
XM0	10: 30	10: 36	6	2	ALI VE	A	166
XM1	10: 25	10: 49	24	2	ALI VE	A	167
XM2	10: 32	10: 35	3	2	ALI VE	A	190
XM3	10: 25	10: 31	6	2	ALI VE	A	156
XM4	10: 36	10: 47	11	2	ALI VE	A	168
XM5	10: 48	10: 54	6	2	ALI VE	A	143
XM6	10: 54	11: 06	12	2	ALI VE	A	137
XM7	10: 49	11: 08	19	2	ALI VE	A	154
XM8	10: 50	11: 03	13	2	ALI VE	A	136
XM9	10: 38	10: 48	10	2	ALI VE	A	162

E-114

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
XN0	11: 05	11: 07	2	2	ALI VE	A	164	
XN1	11: 09	11: 20	11	2	ALI VE	A	147	
XN2	11: 08	11: 26	18	2	ALI VE	A	153	
XN3	11: 30	11: 34	4	2	ALI VE	A	162	
XN4	11: 08	11: 11	3	2	ALI VE	A	137	
XN5	11: 24	11: 26	2	2	ALI VE	A	140	
XN6	11: 16	11: 22	6	2	ALI VE	A	153	
XN7	11: 27	11: 29	2	2	ALI VE	A	150	
XN8	11: 13	11: 14	1	2	ALI VE	A	142	

XP0	11: 33	11: 35	2	2	ALI VE	A	140
XP1	11: 34	11: 37	3	2	ALI VE	A	137
XP2	11: 37	11: 40	3	2	ALI VE	A	143
XP3	11: 40	11: 43	3	2	ALI VE	A	140
XP4	11: 36	11: 41	5	2	ALI VE	A	163
XP5	12: 02	12: 04	2	2	ALI VE	A	145
XP6	11: 59	12: 02	3	2	ALI VE	A	148
XP7	12: 05	12: 08	3	2	ALI VE	A	165
XP8	12: 19	12: 23	4	2	ALI VE	A	165
XP9	12: 13	12: 18	5	2	ALI VE	A	139
XR0	12: 09	12: 19	10	2	ALI VE	A	157
XR1	11: 55	11: 57	2	2	ALI VE	A	140
XR2	11: 55	12: 02	7	2	ALI VE	A	139
XR3	12: 19	12: 27	8	2	ALI VE	A	159
XR4	12: 03	12: 06	3	2	ALI VE	A	135
XR5	12: 06	12: 08	2	2	ALI VE	A	141
XR6	12: 08	12: 19	11	2	ALI VE	A	140
XR7	11: 58	12: 00	2	2	ALI VE	A	165
XR8	12: 03	12: 06	3	2	ALI VE	A	147
XR9	12: 00	12: 02	2	2	ALI VE	A	150
XS0	12: 38	12: 40	2	2	ALI VE	A	156
XS1	12: 40	12: 43	3	2	ALI VE	A	136
XS2	12: 40	12: 45	5	2	ALI VE	A	158
XS3	12: 41	12: 42	1	2	ALI VE	A	164
XS4	12: 43	12: 48	5	2	ALI VE	A	150
XS5	12: 49	12: 51	2	2	ALI VE	A	139
XS6	12: 52	12: 57	5	2	ALI VE	A	162
XS7	12: 54	12: 57	3	2	ALI VE	A	148
XS8	12: 47	12: 52	5	2	ALI VE	A	141
XS9	12: 45	12: 53	8	2	ALI VE	A	158
XT0	12: 55	12: 59	4	2	ALI VE	A	161
XT1	13: 01	13: 09	8	2	ALI VE	A	144
XT2	13: 00	13: 06	6	2	ALI VE	A	190
XT3	12: 57	13: 19	22	2	ALI VE	A	145
XT4	12: 58	13: 00	2	2	ALI VE	A	140
XT5	13: 09	13: 40	31	2	ALI VE	A	141
XT6	13: 06	13: 12	6	2	ALI VE	A	152
XT7	13: 21	13: 25	4	2	ALI VE	A	145
XT8	13: 13	13: 20	7	2	ALI VE	A	145
XT9	13: 22	13: 25	3	2	ALI VE	A	140
XU0	13: 48	13: 51	3	2	ALI VE	A	140
XU1	13: 44	13: 49	5	2	ALI VE	A	142

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
XU2	13: 45	13: 48	3	2	ALIVE	A	106	
XU3	13: 43	13: 47	4	2	ALIVE	A	149	
XU4	13: 48	13: 50	2	2	ALIVE	A	172	
XU5	13: 55	13: 57	2	2	ALIVE	A	158	
XU6	13: 51	13: 54	3	2	ALIVE	A	154	
XU7	13: 56	13: 58	2	2	ALIVE	A	150	
XU8	13: 50	14: 09	19	2	ALIVE	A	135	
XU9	13: 51	13: 54	3	2	ALIVE	H	145	
XV0	14: 02	14: 08	6	2	ALIVE	A	156	
XV1	14: 01	14: 18	17	2	ALIVE	A	150	
XV2	13: 58	14: 01	3	2	ALIVE	A	151	
XV3	13: 59	14: 02	3	2	ALIVE	H	140	
XV4	14: 09	14: 15	6	2	ALIVE	A	139	
XV5	14: 19	14: 28	9	2	ALIVE	A	140	
XV6	14: 20	14: 41	21	2	ALIVE	A	155	
XV7	14: 11	14: 13	2	2	ALIVE	A	160	
XV8	14: 13	14: 17	4	2	ALIVE	A	170	
XV9	14: 17	14: 22	5	2	ALIVE	A	150	
XW0	9: 39	9: 44	5	2	ALIVE	A	146	
XW1	9: 41	9: 50	9	2	ALIVE	A	133	
XW2	9: 34	9: 56	22	2	ALIVE	A	152	
XW3	9: 29	9: 35	6	2	ALIVE	A	140	
XW4	9: 35	9: 40	5	2	ALIVE	A	151	
XW5	9: 44	9: 50	6	2	ALIVE	A	178	
XW6	9: 52	10: 05	13	2	ALIVE	A	140	
XW7	9: 56	10: 04	8	2	ALIVE	A	141	
XW8	9: 57	10: 08	11	2	ALIVE	A	140	
XW9	9: 51	9: 55	4	2	ALIVE	A	154	
XX0	10: 10	10: 30	20	2	ALIVE	A	160	
XX1	10: 08	10: 12	4	2	ALIVE	H	168	
XX2	10: 05	10: 07	2	2	ALIVE	A	195	
XX3	10: 09	10: 15	6	2	ALIVE	A	176	

XX4 10:06 10:09 3 2 ALIVE A 163

18 January 2000 - Testlot 49 : PL=3, Unit 6, Mid - Water temp=41.0 C

E00	8:58	9:08	10	2	ALIVE	A	142
E01	9:12	9:19	7	2	ALIVE	A	155
E02	9:10	9:14	4	2	ALIVE	A	160
E03	9:03	9:11	8	2	ALIVE	A	176
E04	8:55	9:03	8	2	ALIVE	A	189
E05	9:19	9:25	6	2	ALIVE	A	136
E06	9:15	9:22	7	2	ALIVE	A	136
E07	9:18	.	.	0	TAG & PIN		151
E08	9:26	9:30	4	2	ALIVE	A	160
E09	9:23	9:58	35	2	ALIVE	A	147
E10	9:40	9:44	4	2	ALIVE	A	142
E11	9:32	9:35	3	2	ALIVE	A	149
E12	9:31	9:43	12	2	ALIVE	A	183
E13	9:36	9:40	4	2	ALIVE	A	145

E-116

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
E14	9:43	9:53	10	2	ALIVE	A	159	
E15	10:00	10:13	13	2	ALIVE	A	142	
E16	9:52	9:57	5	2	ALIVE	A	164	
E17	9:54	9:59	5	2	ALIVE	A	170	
E18	9:57	10:09	12	2	ALIVE	A	144	
E19	9:45	10:00	15	2	ALIVE	A	150	
E20	10:15	10:21	6	2	ALIVE	A	140	
E21	10:09	10:30	21	2	ALIVE	A	178	
E22	10:10	10:16	6	2	ALIVE	A	149	

E23	10: 02	10: 08	6	2	ALI VE	A	137
E24	10: 18	10: 20	2	2	ALI VE	A	146
E25	10: 37	10: 51	14	2	ALI VE	A	133
E26	10: 50	10: 56	6	2	ALI VE	A	145
E27	10: 41	10: 44	3	2	ALI VE	A	157
E28	10: 43	10: 47	4	2	ALI VE	A	137
E29	11: 01	11: 05	4	2	ALI VE	A	146
E30	10: 38	10: 41	3	2	ALI VE	H	158
E31	10: 46	10: 59	13	2	ALI VE	A	162
E32	10: 45	10: 46	1	2	ALI VE	A	171
E33	10: 53	10: 56	3	2	ALI VE	A	154
E34	10: 52	10: 56	4	2	ALI VE	A	149
E35	10: 36	10: 43	7	2	ALI VE	A	144
E36	11: 05	11: 10	5	2	ALI VE	A	138
E37	10: 57	11: 01	4	2	ALI VE	A	138
E38	11: 01	11: 04	3	2	ALI VE	A	155
E39	10: 47	10: 50	3	2	ALI VE	A	152
E40	11: 13	11: 19	6	2	ALI VE	A	155
E41	11: 14	11: 30	16	2	ALI VE	A	146
E42	11: 45	11: 51	6	2	ALI VE	A	145
E43	11: 54	12: 16	22	2	ALI VE	A	156
E44	11: 50	11: 53	3	2	ALI VE	A	132
E45	11: 31	11: 36	5	2	ALI VE	A	160
E46	11: 52	11: 56	4	2	ALI VE	A	137
E47	11: 19	11: 55	36	2	ALI VE	A	152
E48	11: 34	11: 44	10	2	ALI VE	A	136
E49	11: 20	11: 26	6	2	ALI VE	A	135
E50	11: 26	11: 32	6	2	ALI VE	A	135
E51	11: 32	11: 34	2	2	ALI VE	A	161
E52	11: 12	11: 19	7	2	ALI VE	A	150
E53	11: 42	11: 50	8	2	ALI VE	A	167
E54	11: 37	11: 41	4	2	ALI VE	A	145
E55	12: 26	12: 31	5	2	ALI VE	A	156
E56	12: 23	12: 32	9	2	ALI VE	A	168
E57	12: 16	12: 22	6	2	ALI VE	A	144
E58	12: 22	12: 35	13	2	ALI VE	A	141
E59	12: 16	12: 19	3	2	ALI VE	A	143
E60	12: 32	12: 42	10	2	ALI VE	A	155
E61	12: 41	12: 42	1	2	ALI VE	A	163
E62	12: 33	12: 41	8	2	ALI VE	A	148
E63	12: 43	12: 50	7	2	ALI VE	A	150
E64	12: 37	12: 40	3	2	ALI VE	A	145

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
E65	12: 50	13: 01	11	2	ALIVE	A	140	
E66	12: 53	13: 03	10	2	ALIVE	A	160	
E67	12: 44	12: 49	5	2	ALIVE	A	157	
E68	12: 49	12: 53	4	2	ALIVE	A	141	
E69	12: 43	12: 55	12	2	ALIVE	A	137	
E70	13: 06	13: 14	8	2	ALIVE	A	155	
E71	12: 56	13: 09	13	2	ALIVE	A	164	
E72	13: 02	13: 05	3	2	ALIVE	A	147	
E73	13: 03	13: 06	3	2	ALIVE	A	151	
E74	13: 05	13: 11	6	2	ALIVE	A	165	
E75	13: 27	13: 33	6	2	ALIVE	A	133	
E76	13: 25	13: 36	11	2	ALIVE	A	170	
E77	13: 22	13: 24	2	2	ALIVE	H	180	
E78	13: 23	13: 26	3	2	ALIVE	A	144	
E79	13: 22	13: 26	4	2	ALIVE	A	157	
E80	13: 37	13: 41	4	2	ALIVE	A	156	
E81	13: 33	13: 49	16	2	ALIVE	A	149	
E82	13: 34	13: 40	6	2	ALIVE	A	162	
E83	13: 40	13: 47	7	2	ALIVE	A	155	
E84	13: 33	13: 33	0	2	ALIVE	A	145	
E85	13: 49	13: 53	4	2	ALIVE	A	153	
E86	13: 51	13: 52	1	2	ALIVE	A	150	
E87	13: 52	13: 59	7	2	ALIVE	A	150	
E88	13: 47	13: 51	4	2	ALIVE	A	160	
E89	13: 44	13: 49	5	2	ALIVE	A	137	
E90	14: 00	14: 02	2	2	ALIVE	A	144	
E91	13: 58	14: 00	2	2	ALIVE	A	148	
E92	13: 54	13: 57	3	2	ALIVE	A	166	
E93	13: 57	14: 31	34	2	ALIVE	A	174	
E94	13: 54	13: 57	3	2	ALIVE	A	146	
XX5	7: 33	7: 45	12	2	ALIVE	A	182	
XX6	7: 32	7: 38	6	2	ALIVE	A	180	

XX7	7: 39	7: 44	5	2	AL I VE	A	136
XX8	7: 31	7: 38	7	2	AL I VE	A	159
XX9	7: 38	7: 43	5	2	AL I VE	A	160
XY0	7: 53	7: 58	5	2	AL I VE	A	135
XY1	7: 46	7: 49	3	2	AL I VE	A	145
XY2	7: 48	7: 53	5	2	AL I VE	A	146
XY3	7: 44	7: 57	13	2	AL I VE	A	152
XY4	7: 43	7: 46	3	2	DEAD	F	151
XY5	8: 00	8: 18	18	2	AL I VE	A	149
XY6	7: 57	8: 03	6	2	AL I VE	A	145
XY7	7: 59	8: 22	23	2	AL I VE	A	169
XY8	8: 11	8: 16	5	2	AL I VE	A	132
XY9	8: 04	8: 09	5	2	AL I VE	A	185
XZ0	8: 28	8: 29	1	2	AL I VE	A	139
XZ1	8: 18	8: 19	1	2	AL I VE	A	143
XZ2	8: 29	8: 31	2	2	AL I VE	A	165
XZ3	8: 20	8: 27	7	2	AL I VE	A	144
XZ4	8: 24	8: 26	2	2	AL I VE	A	153
XZ5	8: 36	8: 40	4	2	AL I VE	A	171

E-118

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
XZ6	8: 30	8: 40	10	2	AL I VE	A	156	
XZ7	8: 40	8: 55	15	2	AL I VE	A	156	
XZ8	8: 32	8: 34	2	2	AL I VE	A	160	
XZ9	8: 41	8: 45	4	2	AL I VE	A	164	
19 January 2000 - Testlot 50 : PL=1, Uni t 5, Mi d - Water temp=41.0 C								
E95	10: 34	10: 47	13	2	AL I VE	A	134	

E96	10: 25	10: 33	8	2	ALI VE	A	150
E97	10: 36	10: 39	3	2	ALI VE	A	150
E98	10: 32	10: 36	4	2	ALI VE	A	150
E99	10: 27	10: 36	9	2	ALI VE	A	161
EA0	7: 40	7: 44	4	2	ALI VE	A	140
EA1	7: 45	7: 51	6	2	DEAD	EN	147
EA2	7: 44	14: 00	376	2	ALI VE	TA	140
EA3	7: 39	7: 45	6	2	ALI VE	A	151
EA4	7: 38	7: 45	7	2	ALI VE	A	153
EA5	7: 49	7: 52	3	2	ALI VE	A	132
EA6	7: 52	7: 56	4	2	ALI VE	A	156
EA7	8: 01	8: 07	6	2	ALI VE	A	138
EA8	7: 57	14: 00	363	2	ALI VE	TA	136
EA9	7: 54	8: 00	6	2	ALI VE	A	136
EB0	8: 15	14: 00	345	2	ALI VE	A	181
EB1	8: 11	8: 15	4	2	ALI VE	A	153
EB2	8: 05	8: 10	5	2	ALI VE	A	162
EB3	8: 10	8: 14	4	2	ALI VE	A	143
EB4	8: 08	14: 00	352	2	ALI VE	A	130
EB5	8: 54	9: 07	13	2	ALI VE	A	172
EB6	8: 46	8: 49	3	2	ALI VE	A	167
EB7	8: 45	8: 48	3	2	ALI VE	A	141
EB8	8: 49	8: 53	4	2	ALI VE	A	165
EB9	8: 50	8: 57	7	2	ALI VE	A	147
EC0	9: 15	9: 18	3	2	ALI VE	A	165
EC1	9: 11	9: 14	3	2	ALI VE	A	172
EC2	9: 20	9: 25	5	2	ALI VE	A	159
EC3	9: 08	9: 11	3	2	ALI VE	A	142
EC5	9: 10	9: 15	5	2	ALI VE	A	139
EC6	9: 20	9: 28	8	2	ALI VE	A	146
EC7	9: 30	9: 38	8	2	ALI VE	A	156
EC8	9: 18	9: 22	4	2	ALI VE	A	136
EC9	9: 23	9: 31	8	2	ALI VE	A	133
ED0	10: 06	10: 10	4	2	ALI VE	A	153
ED1	10: 07	10: 13	6	2	ALI VE	A	166
ED2	10: 09	10: 12	3	2	ALI VE	A	148
ED3	9: 55	10: 01	6	2	ALI VE	A	148
ED4	10: 06	10: 08	2	2	ALI VE	A	150
ED5	9: 32	9: 44	12	1	DEAD	E	152
ED6	9: 38	9: 43	5	2	ALI VE	A	146
ED7	9: 30	9: 36	6	2	ALI VE	A	156
ED8	9: 37	9: 42	5	2	ALI VE	A	146

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
ED9	9: 45	10: 01	16	2	ALIVE	A	141	
EE0	10: 14	10: 20	6	2	ALIVE	C	176	
EE1	10: 19	10: 23	4	2	ALIVE	A	146	
EE2	10: 13	10: 19	6	2	ALIVE	H	151	
EE3	10: 12	10: 15	3	2	ALIVE	A	140	
EE4	10: 24	10: 27	3	2	ALIVE	A	145	
EE5	11: 21	11: 24	3	2	ALIVE	A	142	
EE6	11: 18	11: 20	2	2	ALIVE	A	166	
EE7	11: 05	11: 07	2	2	ALIVE	A	147	
EE8	11: 03	11: 17	14	2	ALIVE	A	140	
EE9	11: 15	11: 18	3	2	ALIVE	A	146	
EF0	11: 04	11: 20	16	2	ALIVE	A	136	
EF1	11: 23	11: 29	6	2	ALIVE	A	157	
EF2	11: 13	11: 17	4	2	ALIVE	A	160	
EF3	11: 25	11: 51	26	2	ALIVE	A	148	
EF4	11: 43	11: 47	4	2	ALIVE	A	137	
EF5	11: 30	11: 42	12	2	ALIVE	A	139	
EF6	11: 23	11: 36	13	2	ALIVE	A	157	
EF7	11: 09	11: 14	5	2	ALIVE	A	134	
EF8	11: 03	11: 04	1	2	ALIVE	A	130	
EF9	11: 20	11: 22	2	2	ALIVE	A	135	
EH0	12: 07	12: 08	1	2	ALIVE	A	157	
EH1	12: 13	12: 23	10	2	ALIVE	A	162	
EH2	11: 45	11: 55	10	2	ALIVE	A	157	
EH3	12: 17	12: 20	3	2	ALIVE	A	146	
EH4	11: 53	11: 54	1	2	ALIVE	TA	142	
EH5	11: 38	11: 41	3	2	ALIVE	A	140	
EH6	12: 03	12: 05	2	2	ALIVE	A	137	
EH7	11: 48	11: 51	3	2	ALIVE	A	144	
EH8	11: 58	12: 02	4	2	ALIVE	A	142	
EH9	12: 07	12: 15	8	2	ALIVE	A	132	
EJ0	12: 05	12: 22	17	2	ALIVE	A	146	

EJ1	11: 56	12: 03	7	2	ALI VE	A	137
EJ2	12: 01	12: 04	3	2	ALI VE	A	157
EJ3	11: 58	12: 00	2	2	ALI VE	A	147
EJ4	12: 08	12: 11	3	2	ALI VE	A	146
EJ5	12: 41	13: 03	22	2	ALI VE	A	146
EJ6	12: 35	12: 40	5	2	ALI VE	A	148
EJ7	12: 42	12: 50	8	2	ALI VE	A	171
EJ8	12: 38	12: 41	3	2	ALI VE	A	160
EJ9	12: 39	12: 44	5	2	ALI VE	A	142
EK0	12: 49	12: 54	5	2	ALI VE	A	131
EK1	12: 45	12: 49	4	2	ALI VE	A	132
EK2	12: 56	12: 59	3	2	ALI VE	A	142
EK3	12: 55	12: 59	4	2	ALI VE	A	170
EK4	12: 51	12: 55	4	2	ALI VE	A	142
EK5	13: 25	13: 34	9	2	ALI VE	A	147
EK7	13: 33	13: 40	7	2	ALI VE	A	144
EK8	13: 27	13: 31	4	2	ALI VE	A	135
EK9	13: 33	13: 39	6	2	ALI VE	A	153
ELO	13: 40	13: 44	4	2	ALI VE	A	163

E-120

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
EL1	13: 36	13: 40	4	2	ALI VE	A	168	
EL2	13: 45	13: 48	3	2	ALI VE	A	174	
EL3	13: 42	13: 48	6	2	ALI VE	A	165	
EL4	13: 41	13: 51	10	2	ALI VE	A	152	
EL5	14: 01	14: 06	5	2	ALI VE	H	146	
EL6	14: 05	14: 10	5	2	ALI VE	A	170	
EL7	14: 02	14: 04	2	2	ALI VE	A	161	
EL8	14: 00	14: 11	11	2	ALI VE	A	153	
EL9	14: 07	14: 31	24	2	ALI VE	A	145	

EM0	14: 17	14: 21	4	2	ALI VE	A	168
EM1	14: 31	14: 40	9	2	ALI VE	A	144
EM2	14: 22	14: 31	9	2	ALI VE	A	150
EM3	14: 13	14: 35	22	2	ALI VE	A	167
EM4	14: 12	14: 16	4	2	ALI VE	A	145
EM5	14: 49	14: 52	3	2	ALI VE	H	153
EM6	14: 43	14: 46	3	2	ALI VE	A	146
EM7	14: 38	14: 46	8	2	ALI VE	A	147
EM8	14: 47	14: 52	5	2	ALI VE	A	140
EM9	14: 36	14: 41	5	2	ALI VE	A	154
EN0	14: 53	14: 57	4	2	ALI VE	A	146
EN1	14: 56	15: 20	24	2	ALI VE	A	167
EN2	14: 59	15: 15	16	2	ALI VE	A	170
EN3	15: 00	15: 07	7	2	ALI VE	H	178
EN4	15: 10	15: 18	8	2	ALI VE	A	150
EN5	15: 21	15: 32	11	2	ALI VE	A	138
EN6	15: 40	15: 44	4	2	ALI VE	A	142
EN7	15: 27	15: 37	10	2	ALI VE	A	145
EN8	15: 39	15: 45	6	2	ALI VE	A	141
EN9	15: 32	15: 37	5	2	ALI VE	A	140
X93	9: 26	9: 28	2	2	ALI VE	A	174
X94	15: 24	15: 24	0	2	ALI VE	QH	137

20 January 2000 - Testlot 51 : PL=2, Unit 6, Tip - Water temp=40.1 C

EP0	7: 44	7: 49	5	2	ALI VE	A	165
EP1	7: 42	7: 53	11	2	ALI VE	A	148
EP2	7: 40	7: 50	10	2	ALI VE	A	150
EP3	7: 38	7: 44	6	2	ALI VE	A	147
EP4	7: 38	7: 41	3	2	ALI VE	A	134
EP5	7: 56	8: 09	13	2	ALI VE	A	156
EP6	7: 51	8: 04	13	2	ALI VE	A	144
EP7	7: 59	8: 14	15	2	ALI VE	A	140
EP8	7: 55	7: 59	4	2	ALI VE	A	151
EP9	7: 50	7: 55	5	2	ALI VE	A	147
ER0	8: 15	8: 17	2	2	ALI VE	A	155
ER1	8: 12	8: 19	7	2	ALI VE	A	137
ER2	8: 04	8: 09	5	2	ALI VE	A	139
ER3	8: 10	8: 14	4	2	ALI VE	A	178
ER4	8: 14	8: 25	11	2	ALI VE	A	143
ER5	8: 19	8: 27	8	2	ALI VE	A	130

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
ER6	8:39	8:45	6	2	ALIVE	A	165	
ER7	8:21	8:24	3	2	DEAD	F	137	
ER8	8:27	8:38	11	2	ALIVE	A	176	
ER9	8:24	8:41	17	2	ALIVE	A	149	
ES0	9:00	9:11	11	2	ALIVE	A	161	
ES2	8:42	9:00	18	2	ALIVE	A	151	
ES3	9:01	9:10	9	2	ALIVE	A	137	
ES4	8:41	8:59	18	2	ALIVE	A	160	
ES5	9:23	9:27	4	2	ALIVE	A	153	
ES6	9:28	9:32	4	2	ALIVE	A	137	
ES7	9:15	9:21	6	2	ALIVE	A	145	
ES8	9:21	9:31	10	2	ALIVE	A	145	
ES9	9:25	9:27	2	2	ALIVE	A	150	
ET0	9:17	9:23	6	2	ALIVE	A	156	
ET1	9:27	9:28	1	2	ALIVE	A	151	
ET2	9:29	9:31	2	2	ALIVE	A	133	
ET3	9:33	9:36	3	2	ALIVE	A	140	
ET4	9:36	9:38	2	2	ALIVE	A	146	
ET5	9:34	9:38	4	2	ALIVE	A	151	
ET6	9:31	9:36	5	2	ALIVE	A	143	
ET7	9:32	9:35	3	2	ALIVE	A	146	
ET8	9:37	9:40	3	2	ALIVE	A	185	
ET9	9:16	9:23	7	2	ALIVE	A	155	
EU0	9:57	9:59	2	2	DEAD	NF	170	
EU1	9:56	10:09	13	2	ALIVE	A	132	
EU2	10:00	10:03	3	2	ALIVE	A	165	
EU3	9:59	10:06	7	2	ALIVE	A	165	
EU4	9:55	9:58	3	2	ALIVE	A	155	
EU5	10:10	10:20	10	2	ALIVE	A	134	
EU6	10:04	10:07	3	2	ALIVE	A	143	
EU7	10:11	.	.	0	TAG & PIN		132	
EU8	10:06	10:12	6	2	ALIVE	A	135	

EU9	10: 07	10: 10	3	2	ALI VE	A	136
EVO	10: 23	10: 29	6	2	ALI VE	A	130
EV1	10: 20	10: 24	4	2	ALI VE	A	151
EV2	10: 19	10: 21	2	2	ALI VE	A	140
EV3	10: 14	10: 20	6	2	ALI VE	A	150
EV4	10: 22	10: 35	13	2	ALI VE	A	136
EV5	10: 30	10: 33	3	2	ALI VE	A	175
EV6	10: 34	10: 37	3	2	ALI VE	A	156
EV7	10: 32	10: 33	1	2	ALI VE	A	154
EV8	10: 35	10: 43	8	2	ALI VE	A	139
EV9	10: 26	10: 31	5	2	ALI VE	A	145
EW0	10: 38	10: 48	10	2	ALI VE	A	137
EW1	10: 38	10: 44	6	2	ALI VE	A	165
EW2	10: 49	10: 56	7	2	ALI VE	A	160
EW3	10: 45	10: 51	6	2	ALI VE	A	140
EW4	10: 43	10: 52	9	2	ALI VE	A	147
EW5	11: 04	11: 12	8	2	ALI VE	A	130
EW6	11: 20	11: 24	4	2	ALI VE	A	156
EW7	11: 13	11: 15	2	2	ALI VE	A	157

E-122

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
EW8	11: 26	11: 29	3	2	ALI VE	A	147	
EW9	11: 14	11: 18	4	2	ALI VE	A	134	
EX0	11: 16	11: 17	1	2	ALI VE	H	135	
EX1	11: 17	11: 25	8	2	ALI VE	A	150	
EX2	11: 02	11: 09	7	2	ALI VE	A	139	
EX3	11: 13	.	.	0	DEAD	LZ	153	
EX4	11: 10	11: 11	1	2	ALI VE	A	152	
EX5	11: 03	11: 13	10	2	ALI VE	A	134	
EX6	11: 18	11: 22	4	2	ALI VE	A	176	

EX7	11: 25	11: 27	2	2	ALI VE	A	173
EX8	11: 11	11: 13	2	2	ALI VE	A	145
EX9	11: 01	11: 03	2	2	ALI VE	A	161
EY0	11: 47	11: 53	6	2	ALI VE	A	148
EY1	11: 52	11: 53	1	2	ALI VE	A	156
EY2	11: 48	12: 02	14	2	ALI VE	A	140
EY3	11: 48	11: 51	3	2	ALI VE	A	140
EY4	11: 53	11: 55	2	2	ALI VE	A	165
EY5	12: 08	12: 11	3	2	ALI VE	A	147
EY6	11: 56	11: 58	2	2	ALI VE	A	145
EY7	11: 59	12: 11	12	2	ALI VE	A	131
EY8	12: 00	12: 07	7	2	ALI VE	A	156
EY9	12: 02	12: 13	11	2	ALI VE	A	155
EZ0	12: 12	12: 17	5	2	ALI VE	A	166
EZ1	12: 11	12: 15	4	2	ALI VE	A	140
EZ2	12: 16	.	.	0	DEAD	Z	166
EZ3	12: 14	12: 18	4	2	ALI VE	H	147
EZ4	12: 19	12: 29	10	2	ALI VE	A	146
EZ5	12: 21	12: 25	4	2	ALI VE	A	134
EZ6	12: 30	15: 30	180	2	ALI VE	TA	143
EZ7	12: 26	12: 41	15	2	ALI VE	A	142
EZ8	12: 48	12: 51	3	2	ALI VE	A	140
EZ9	12: 47	12: 51	4	2	ALI VE	A	135
T00	13: 01	15: 30	149	2	ALI VE	TA	140
T01	13: 00	13: 02	2	2	ALI VE	A	136
T02	13: 05	13: 10	5	2	ALI VE	A	153
T03	13: 03	13: 08	5	2	ALI VE	A	142
T04	12: 59	13: 03	4	2	ALI VE	A	145
T05	13: 10	.	.	0	DEAD	Z	134
T06	13: 12	13: 20	8	2	ALI VE	A	139
T07	13: 17	13: 20	3	2	ALI VE	A	139
T08	13: 09	13: 15	6	2	ALI VE	A	163
T09	13: 20	13: 26	6	2	ALI VE	A	131
T10	13: 27	13: 30	3	2	ALI VE	A	145
T11	13: 28	13: 31	3	2	ALI VE	A	144
T12	13: 31	13: 35	4	2	ALI VE	A	153
T13	13: 30	13: 32	2	2	ALI VE	A	155
T14	13: 31	15: 30	119	2	ALI VE	TA	169
T16	13: 53	14: 08	15	2	ALI VE	A	138
T17	13: 43	13: 47	4	2	ALI VE	A	144
T18	13: 36	13: 38	2	2	ALI VE	A	155
T19	13: 39	13: 42	3	2	ALI VE	A	184

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
T20	13:37	13:50	13	2	ALIVE	A	150	
T21	13:52	13:55	3	2	ALIVE	A	143	
T22	13:35	13:48	13	2	ALIVE	A	154	
T23	13:49	14:01	12	2	ALIVE	A	140	
T24	13:48	13:53	5	2	ALIVE	A	145	
X95	8:46	8:59	13	2	ALIVE	A	143	
21 January 2000 - Testlot 52 : PL=3, Unit 6, Tip					- Water temp=41.0 C			
T30	7:40	8:00	20	2	ALIVE	A	153	
T31	7:40	7:58	18	2	ALIVE	A	140	
T32	7:41	7:52	11	2	ALIVE	A	159	
T33	7:53	7:56	3	2	ALIVE	A	156	
T34	7:56	7:59	3	2	ALIVE	TA	145	
T35	8:09	8:15	6	2	ALIVE	A	135	
T38	7:59	8:06	7	2	ALIVE	A	138	
T39	8:08	8:11	3	2	ALIVE	A	135	
T40	8:12	8:13	1	2	ALIVE	A	141	
T42	8:14	8:19	5	2	ALIVE	A	153	
T43	8:17	8:29	12	2	ALIVE	A	151	
T44	8:12	8:17	5	2	ALIVE	A	143	
T45	8:19	8:23	4	2	ALIVE	A	140	
T46	8:22	8:29	7	2	ALIVE	A	153	
T47	8:26	8:28	2	2	ALIVE	H	144	
T48	8:23	8:25	2	2	ALIVE	A	150	
T49	8:28	8:33	5	2	ALIVE	A	148	
T50	8:31	8:34	3	2	ALIVE	A	136	
T51	8:33	8:39	6	2	ALIVE	A	146	
T52	8:32	8:40	8	2	ALIVE	A	150	
T53	8:40	8:44	4	2	ALIVE	A	160	
T54	8:35	8:43	8	2	ALIVE	A	151	

T55	9: 27	9: 34	7	2	ALI VE	A	142
T56	9: 23	9: 24	1	2	ALI VE	A	160
T57	9: 09	9: 15	6	2	ALI VE	A	149
T58	9: 27	9: 30	3	2	ALI VE	A	165
T59	9: 25	9: 32	7	2	ALI VE	A	146
T60	9: 08	9: 14	6	2	ALI VE	A	142
T61	9: 20	9: 23	3	2	ALI VE	A	146
T62	9: 24	9: 26	2	2	ALI VE	A	137
T63	9: 31	9: 35	4	2	ALI VE	A	204
T64	9: 16	9: 17	1	2	ALI VE	A	154
T65	9: 18	9: 26	8	2	ALI VE	A	162
T66	9: 15	9: 19	4	2	ALI VE	A	152
T67	9: 20	9: 22	2	2	ALI VE	A	153
T68	9: 34	9: 40	6	2	ALI VE	A	157
T69	9: 33	9: 35	2	2	ALI VE	A	145
T70	9: 50	10: 08	18	1	ALI VE	A	146
T71	9: 56	10: 02	6	2	ALI VE	A	144
T72	10: 01	10: 17	16	2	ALI VE	A	160
T74	9: 49	10: 00	11	2	ALI VE	A	137

E-124

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
T76	10: 03	10: 06	3	2	ALI VE	A	149	
T77	10: 07	10: 09	2	2	ALI VE	A	137	
T78	10: 11	10: 26	15	2	ALI VE	A	135	
T79	10: 14	10: 20	6	1	ALI VE	A	136	
T80	10: 27	10: 32	5	2	ALI VE	A	166	
T81	10: 25	10: 36	11	2	ALI VE	A	155	
T82	10: 37	10: 40	3	2	ALI VE	A	168	
T83	10: 41	10: 48	7	2	ALI VE	A	196	
T84	10: 34	10: 41	7	2	ALI VE	A	154	

T85	10: 53	10: 56	3	2	ALI VE	A	161
T86	10: 52	11: 03	11	2	ALI VE	A	152
T87	10: 43	10: 51	8	2	ALI VE	A	140
T88	10: 54	11: 05	11	2	ALI VE	A	160
T89	10: 48	10: 52	4	2	ALI VE	A	154
T90	11: 06	11: 16	10	2	ALI VE	A	150
T91	11: 12	11: 18	6	2	ALI VE	A	167
T92	11: 08	11: 14	6	2	ALI VE	A	163
T93	11: 29	11: 30	1	2	ALI VE	A	146
T94	11: 27	11: 29	2	2	ALI VE	A	151
T95	11: 28	11: 38	10	2	ALI VE	A	136
T96	11: 26	11: 29	3	2	ALI VE	A	142
T97	11: 31	.	.	0	TAG & PIN		161
T98	11: 42	11: 45	3	2	DEAD	A	136
T99	10: 10	10: 13	3	2	ALI VE	A	146
U00	11: 39	11: 41	2	2	ALI VE	A	132
U01	11: 35	11: 36	1	2	ALI VE	A	140
U02	11: 37	11: 39	2	2	ALI VE	A	137
U03	11: 39	11: 42	3	2	ALI VE	A	146
U04	10: 57	11: 12	15	2	ALI VE	A	147
U05	11: 14	11: 16	2	2	ALI VE	A	146
U06	11: 47	11: 48	1	2	ALI VE	A	150
U07	11: 47	11: 49	2	2	ALI VE	A	153
U08	11: 50	11: 54	4	2	ALI VE	A	146
U09	11: 45	11: 46	1	2	ALI VE	A	150
U10	11: 50	11: 51	1	2	ALI VE	A	141
U11	12: 04	12: 11	7	2	ALI VE	A	157
U12	11: 56	12: 02	6	2	ALI VE	A	141
U13	12: 03	12: 08	5	2	ALI VE	A	146
U14	11: 53	11: 55	2	2	ALI VE	A	146
U15	11: 54	12: 03	9	2	ALI VE	A	140
U16	12: 13	12: 15	2	2	ALI VE	A	158
U17	12: 14	12: 21	7	2	ALI VE	A	156
U18	12: 12	12: 14	2	2	ALI VE	A	150
U20	12: 09	12: 11	2	2	ALI VE	A	138
U21	13: 02	13: 16	14	2	ALI VE	A	168
U22	12: 38	12: 43	5	2	ALI VE	A	152
U23	13: 04	13: 09	5	2	ALI VE	A	171
U24	12: 54	12: 57	3	2	ALI VE	A	138
U25	12: 54	13: 00	6	2	ALI VE	A	156
U26	12: 47	12: 49	2	2	ALI VE	A	137
U27	13: 00	13: 01	1	2	ALI VE	A	138

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
U28	12: 52	12: 54	2	2	ALIVE	A	132	
U29	12: 44	12: 49	5	2	ALIVE	A	168	
U30	12: 50	12: 53	3	2	ALIVE	A	147	
U31	12: 38	12: 47	9	2	ALIVE	A	142	
U32	12: 58	12: 59	1	2	ALIVE	A	138	
U33	12: 39	13: 49	70	2	ALIVE	A	136	
U34	13: 01	13: 04	3	2	ALIVE	A	180	
U35	12: 50	12: 51	1	2	ALIVE	A	156	
U36	13: 29	13: 31	2	2	ALIVE	A	142	
U37	13: 32	13: 34	2	2	ALIVE	A	158	
U38	13: 27	13: 30	3	2	ALIVE	A	135	
U39	13: 30	13: 39	9	2	ALIVE	A	147	
U40	13: 28	13: 31	3	2	ALIVE	A	140	
U41	13: 34	13: 38	4	2	ALIVE	A	142	
U42	13: 40	13: 43	3	2	ALIVE	A	158	
U43	13: 42	13: 45	3	2	ALIVE	A	178	
U44	13: 39	13: 41	2	2	ALIVE	A	142	
U45	13: 36	13: 59	23	2	ALIVE	A	145	
U46	13: 46	13: 54	8	2	ALIVE	A	159	
U47	13: 25	13: 31	6	1	ALIVE	DH	187	
U48	13: 55	13: 57	2	2	DEAD	F	150	
U50	13: 48	13: 51	3	2	ALIVE	A	167	
U51	14: 06	14: 09	3	2	ALIVE	A	151	
U52	14: 01	14: 03	2	2	ALIVE	A	158	
U53	13: 58	14: 00	2	2	ALIVE	A	150	
U54	14: 02	14: 10	8	2	ALIVE	A	147	
U55	14: 02	14: 27	25	2	ALIVE	A	176	
U56	14: 10	14: 12	2	2	ALIVE	A	166	

22 January 2000 - Testlot 53 : PL=4, Unit 5, Tip

- Water temp=41.0 C

PA0	9: 52	9: 53	1	2	AL I VE	A	140
PA1	9: 53	10: 07	14	2	AL I VE	A	152
PA2	9: 49	9: 51	2	2	AL I VE	A	143
PA3	9: 50	9: 51	1	2	AL I VE	A	144
PA4	9: 48	9: 51	3	2	AL I VE	A	135
PA5	9: 56	9: 58	2	2	AL I VE	A	131
PA6	10: 02	10: 08	6	2	AL I VE	A	149
PA7	9: 55	9: 58	3	2	DEAD	A	148
PA8	9: 58	10: 00	2	2	DEAD	NQ	170
PA9	10: 00	10: 04	4	2	AL I VE	A	175
PB0	10: 09	10: 11	2	2	AL I VE	A	167
PB1	10: 12	10: 15	3	2	AL I VE	A	171
PB2	10: 15	10: 29	14	2	AL I VE	A	149
PB3	10: 08	10: 14	6	1	DEAD	NB	137
PB4	10: 05	10: 21	16	2	AL I VE	A	130
PB5	10: 22	.	.	0	TAG & PIN		152
PB6	10: 21	10: 25	4	2	AL I VE	A	141
PB7	10: 29	10: 33	4	2	AL I VE	A	155
PB8	10: 18	10: 20	2	2	AL I VE	A	137

E-126

APPENDIX TABLE E-2. Conti nued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
PB9	10: 31	10: 35	4	2	AL I VE	A	157	
PC0	10: 50	10: 51	1	2	AL I VE	A	150	
PC1	10: 46	10: 50	4	2	DEAD	Q	160	
PC2	10: 50	10: 54	4	2	AL I VE	A	145	
PC3	10: 44	10: 48	4	2	AL I VE	H	167	
PC4	10: 52	10: 54	2	2	AL I VE	A	142	
PC5	11: 11	11: 16	5	2	AL I VE	A	155	
PC6	11: 06	11: 11	5	2	AL I VE	A	145	
PC7	11: 01	11: 10	9	2	AL I VE	A	158	

PC8	11: 03	11: 06	3	2	ALI VE	A	129
PC9	11: 02	11: 12	10	2	ALI VE	A	164
PD0	11: 13	11: 18	5	2	ALI VE	A	137
PD1	11: 16	11: 18	2	2	ALI VE	A	137
PD2	11: 18	11: 22	4	2	ALI VE	A	152
PD3	11: 17	11: 31	14	2	ALI VE	A	151
PD4	11: 12	11: 15	3	2	ALI VE	A	160
PD5	11: 23	11: 27	4	2	ALI VE	A	158
PD6	11: 29	11: 36	7	2	ALI VE	A	140
PD7	11: 24	11: 26	2	2	ALI VE	A	133
PD8	11: 28	11: 39	11	2	ALI VE	A	144
PD9	11: 27	11: 29	2	2	ALI VE	A	138
PE0	11: 40	11: 46	6	2	ALI VE	A	156
PE1	11: 45	11: 48	3	2	ALI VE	A	162
PE2	11: 38	11: 43	5	2	ALI VE	H	165
PE3	11: 37	11: 39	2	2	ALI VE	A	184
PE4	11: 39	11: 49	10	2	ALI VE	A	135
PE5	11: 47	11: 52	5	2	ALI VE	A	132
PE6	12: 03	12: 06	3	2	ALI VE	A	145
PE7	12: 01	12: 08	7	2	ALI VE	A	135
PE8	12: 05	12: 15	10	2	ALI VE	A	137
PE9	12: 00	12: 04	4	2	ALI VE	A	170
PF0	12: 06	12: 10	4	2	ALI VE	A	158
PF1	12: 12	12: 14	2	2	ALI VE	A	167
PF2	12: 10	12: 12	2	2	ALI VE	A	135
PF3	12: 09	12: 15	6	1	DEAD	F	159
PF4	12: 16	12: 17	1	2	ALI VE	A	171
PF5	12: 15	12: 17	2	2	ALI VE	A	184
PF6	12: 19	12: 25	6	2	ALI VE	A	135
PF7	12: 18	12: 27	9	2	ALI VE	A	146
PF8	12: 26	12: 37	11	2	ALI VE	A	195
PF9	12: 20	12: 23	3	2	ALI VE	A	154
PH0	12: 24	12: 26	2	2	ALI VE	A	147
PH1	12: 30	12: 32	2	2	ALI VE	A	158
PH2	12: 32	12: 35	3	2	ALI VE	A	141
PH3	12: 37	12: 39	2	2	ALI VE	A	151
PH4	12: 29	12: 35	6	2	ALI VE	H	155
PH5	12: 26	14: 30	124	2	ALI VE	TA	176
PH6	13: 06	13: 10	4	2	ALI VE	A	165
PH7	13: 19	13: 24	5	2	ALI VE	A	155
PH8	13: 12	13: 21	9	2	ALI VE	A	150
PH9	13: 40	13: 42	2	2	ALI VE	A	154

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
PJ0	13: 23	13: 25	2	2	ALIVE	A	137	
PJ1	13: 22	13: 24	2	2	ALIVE	A	145	
PJ2	13: 24	13: 28	4	2	ALIVE	A	150	
PJ3	13: 35	13: 40	5	2	ALIVE	A	165	
PJ4	13: 31	13: 49	18	2	ALIVE	A	155	
PJ5	13: 03	13: 06	3	2	ALIVE	A	137	
PJ6	13: 09	13: 12	3	2	ALIVE	A	140	
PJ8	13: 34	13: 43	9	2	ALIVE	A	150	
PJ9	13: 39	13: 49	10	2	ALIVE	A	169	
PK0	13: 26	13: 30	4	2	ALIVE	A	152	
U57	7: 31	7: 40	9	2	ALIVE	A	158	
U58	7: 39	7: 44	5	2	ALIVE	A	176	
U59	7: 31	7: 38	7	2	ALIVE	A	137	
U60	7: 41	7: 47	6	2	ALIVE	A	150	
U61	7: 32	7: 43	11	2	ALIVE	A	149	
U62	7: 49	7: 53	4	2	ALIVE	A	146	
U63	7: 52	7: 58	6	2	ALIVE	A	137	
U65	7: 44	7: 55	11	2	ALIVE	A	156	
U66	7: 45	7: 46	1	2	ALIVE	A	140	
U67	7: 47	7: 51	4	2	ALIVE	A	152	
U68	7: 54	8: 07	13	2	ALIVE	A	132	
U69	8: 00	8: 16	16	2	ALIVE	A	135	
U70	7: 59	8: 03	4	2	ALIVE	A	146	
U71	8: 04	8: 12	8	2	ALIVE	A	158	
U72	7: 56	7: 58	2	2	ALIVE	A	160	
U73	8: 08	8: 16	8	2	ALIVE	A	141	
U74	8: 17	8: 23	6	2	ALIVE	A	163	
U75	8: 18	8: 23	5	2	ALIVE	A	147	
U76	8: 13	8: 16	3	2	ALIVE	A	138	
U77	8: 18	8: 21	3	2	ALIVE	A	157	
U79	8: 24	.	.	0	DEAD	Z	139	
U80	8: 34	8: 46	12	2	ALIVE	A	150	

U81	8:36	8:44	8	2	ALIVE	A	181
U82	8:22	8:35	13	2	ALIVE	A	153
U83	8:59	9:03	4	2	ALIVE	A	136
U84	9:20	9:26	6	2	ALIVE	A	145
U85	9:04	9:11	7	2	ALIVE	A	147
U86	9:00	9:02	2	2	ALIVE	A	160
U87	9:07	9:09	2	2	ALIVE	A	142
U88	9:01	9:05	4	2	ALIVE	A	148
U89	9:06	9:24	18	2	ALIVE	A	142
U90	9:32	9:40	8	2	ALIVE	A	153
U91	9:03	9:06	3	2	ALIVE	A	132
U92	9:27	9:34	7	2	ALIVE	A	166
U93	9:28	9:32	4	2	ALIVE	A	157
U94	9:15	9:19	4	2	ALIVE	A	141
U95	9:31	9:34	3	2	ALIVE	A	139
U96	9:08	9:30	22	2	ALIVE	A	142
U97	9:12	9:14	2	2	ALIVE	A	164
U98	13:04	13:08	4	2	ALIVE	A	149
U99	13:16	13:33	17	2	ALIVE	A	145

C-128

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
23 January 2000 - Testlot 54 : PL=4, Unit 5, Mid - Water temp=41.0 C								
J96	14:28	14:31	3	2	ALIVE	A	143	
J97	14:29	14:39	10	2	ALIVE	A	160	
J98	14:27	14:29	2	2	ALIVE	A	144	
J99	12:07	12:30	23	2	ALIVE	A	143	
PK1	7:38	7:41	3	2	ALIVE	A	162	

PK2	7: 29	8: 01	32	2	ALI VE	A	160
PK3	8: 35	8: 52	17	2	ALI VE	A	143
PK4	7: 37	7: 39	2	2	ALI VE	A	155
PK5	7: 30	7: 36	6	2	ALI VE	A	147
PK6	7: 55	8: 03	8	2	ALI VE	A	137
PK7	7: 49	7: 52	3	2	ALI VE	A	192
PK8	7: 53	8: 08	15	2	ALI VE	A	150
PK9	7: 40	7: 55	15	2	ALI VE	A	140
PL0	7: 41	7: 48	7	2	ALI VE	H	141
PL1	8: 12	8: 15	3	2	DEAD	I J	168
PL2	8: 11	8: 21	10	2	ALI VE	A	173
PL3	8: 07	8: 09	2	2	ALI VE	A	137
PL4	8: 10	8: 12	2	2	ALI VE	A	138
PL5	8: 03	8: 11	8	2	ALI VE	A	137
PL6	8: 19	8: 22	3	2	ALI VE	A	130
PL7	8: 16	8: 30	14	2	ALI VE	A	133
PL9	8: 24	8: 26	2	2	ALI VE	A	141
PM0	8: 14	8: 18	4	2	ALI VE	A	140
PM1	8: 45	8: 46	1	2	ALI VE	A	157
PM3	8: 41	8: 44	3	2	ALI VE	A	162
PM4	8: 37	8: 40	3	2	ALI VE	A	153
PM5	8: 48	8: 51	3	2	ALI VE	A	158
PM6	9: 25	9: 40	15	2	ALI VE	A	152
PM7	9: 19	9: 23	4	2	ALI VE	A	160
PM8	9: 23	9: 31	8	2	ALI VE	A	153
PM9	9: 20	9: 22	2	2	ALI VE	A	138
PN0	9: 24	9: 30	6	2	ALI VE	A	146
PN1	9: 03	9: 09	6	2	ALI VE	A	157
PN2	9: 09	9: 13	4	2	ALI VE	A	155
PN3	9: 01	9: 06	5	2	ALI VE	A	147
PN4	9: 02	9: 08	6	2	ALI VE	A	141
PN5	9: 07	9: 10	3	2	ALI VE	A	153
PN6	9: 17	9: 24	7	2	ALI VE	A	169
PN7	9: 15	9: 19	4	2	ALI VE	A	155
PN8	9: 11	9: 14	3	2	ALI VE	A	153
PN9	9: 11	9: 17	6	2	ALI VE	A	135
PP0	9: 13	9: 16	3	2	ALI VE	A	137
PP1	9: 43	.	.	0	DEAD	Z	141
PP2	9: 32	9: 42	10	2	ALI VE	A	135
PP3	9: 31	9: 37	6	2	ALI VE	A	165
PP4	9: 38	9: 52	14	2	ALI VE	A	146
PP5	9: 43	9: 46	3	2	ALI VE	A	137

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
PP6	10: 15	10: 28	13	2	ALIVE	A	140	
PP7	10: 04	10: 26	22	1	ALIVE	A	140	
PP8	10: 07	10: 12	5	2	ALIVE	A	140	
PP9	10: 03	10: 06	3	2	ALIVE	A	135	
PR0	10: 15	10: 30	15	2	ALIVE	A	142	
PR1	10: 29	10: 38	9	2	ALIVE	A	145	
PR2	10: 28	10: 40	12	2	ALIVE	A	147	
PR3	10: 39	10: 43	4	1	ALIVE	I	170	
PR4	10: 30	10: 36	6	2	ALIVE	A	146	
PR5	10: 38	10: 42	4	2	ALIVE	A	165	
PR6	10: 59	11: 27	28	2	ALIVE	A	165	
PR7	10: 52	11: 08	16	2	ALIVE	A	168	
PR8	10: 52	10: 55	3	2	ALIVE	A	150	
PR9	10: 53	10: 57	4	1	ALIVE	A	150	
PS0	10: 56	10: 58	2	2	ALIVE	A	140	
PS1	11: 32	11: 43	11	2	ALIVE	A	161	
PS2	11: 18	11: 32	14	2	ALIVE	A	147	
PS3	11: 33	12: 09	36	1	ALIVE	A	160	
PS4	11: 01	11: 26	25	2	ALIVE	A	154	
PS5	11: 10	11: 17	7	2	DEAD	F	133	
PS6	11: 58	12: 04	6	2	ALIVE	A	165	
PS7	12: 04	12: 18	14	2	ALIVE	A	153	
PS8	11: 45	12: 04	19	2	ALIVE	A	164	
PS9	11: 35	11: 54	19	2	ALIVE	A	147	
PT0	12: 27	12: 34	7	2	ALIVE	A	156	
PT1	12: 29	12: 31	2	2	ALIVE	A	157	
PT2	12: 26	12: 28	2	2	ALIVE	A	160	
PT3	12: 42	12: 46	4	2	ALIVE	A	138	
PT4	12: 37	12: 40	3	2	ALIVE	A	154	
PT5	12: 32	12: 34	2	2	ALIVE	A	139	
PT6	12: 40	12: 42	2	2	ALIVE	A	150	
PT7	12: 41	12: 44	3	2	ALIVE	A	138	

PT8	12: 34	12: 36	2	2	ALI VE	A	144
PT9	12: 45	12: 46	1	2	ALI VE	A	142
PU0	12: 35	12: 38	3	2	ALI VE	A	153
PU1	12: 36	12: 39	3	2	ALI VE	A	153
PU2	12: 43	12: 45	2	2	ALI VE	A	150
PU3	12: 47	12: 59	12	2	ALI VE	A	142
PU4	12: 46	12: 52	6	2	ALI VE	A	142
PU5	13: 12	13: 28	16	2	ALI VE	A	147
PU6	13: 01	13: 09	8	2	ALI VE	A	152
PU7	13: 02	13: 09	7	2	ALI VE	A	140
PU8	13: 20	13: 23	3	2	ALI VE	A	142
PU9	12: 52	12: 55	3	2	ALI VE	A	143
PV0	13: 24	13: 26	2	2	ALI VE	A	143
PV1	12: 54	13: 00	6	2	ALI VE	A	167
PV2	13: 16	13: 24	8	2	ALI VE	A	155
PV3	13: 10	13: 15	5	2	ALI VE	A	147
PV4	12: 49	12: 52	3	2	ALI VE	A	145
PV5	13: 15	13: 19	4	2	ALI VE	A	132
PV6	13: 01	13: 09	8	2	ALI VE	A	144

E-130

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
PV7	13: 11	13: 15	4	2	ALI VE	A	134	
PV8	12: 15	13: 02	47	2	ALI VE	A	134	
PV9	13: 25	13: 30	5	2	ALI VE	A	160	
PW0	13: 47	13: 50	3	2	ALI VE	A	144	
PW1	13: 41	13: 56	15	2	ALI VE	A	153	
PW2	13: 51	13: 53	2	2	ALI VE	A	142	
PW3	13: 43	13: 59	16	2	ALI VE	A	141	
PW4	13: 54	13: 56	2	2	ALI VE	A	147	
PW5	14: 03	14: 07	4	2	ALI VE	A	140	

PW6	14: 00	14: 03	3	2	ALI VE	A	140
PW7	14: 02	14: 05	3	2	ALI VE	A	142
PW8	13: 58	14: 01	3	2	ALI VE	A	137
PW9	13: 57	14: 05	8	2	ALI VE	A	140
PX0	14: 08	14: 11	3	2	ALI VE	A	172
PX1	14: 07	14: 11	4	2	ALI VE	A	160
PX2	14: 08	14: 20	12	2	ALI VE	A	156
PX3	14: 12	14: 21	9	2	ALI VE	A	164
PX4	14: 06	14: 08	2	2	ALI VE	A	155
PX5	14: 16	14: 22	6	2	ALI VE	A	140
PX6	14: 14	14: 16	2	2	ALI VE	A	139
PX7	14: 22	14: 48	26	2	ALI VE	A	179
PX8	14: 17	14: 24	7	2	ALI VE	A	132
PX9	14: 23	14: 24	1	2	ALI VE	A	138

24 January 2000 - Testlot 55 : PL=2, Unit 5, Mid - Water temp=40.1 C

J00	9: 02	9: 06	4	2	ALI VE	A	144
J01	8: 47	9: 03	16	2	ALI VE	A	148
J02	8: 50	9: 01	11	2	ALI VE	A	138
J04	8: 49	8: 52	3	1	ALI VE	I B	142
J05	9: 08	9: 19	11	2	ALI VE	A	135
J06	9: 16	9: 19	3	2	ALI VE	A	152
J07	9: 10	9: 18	8	2	ALI VE	A	133
J08	9: 19	9: 24	5	2	ALI VE	A	165
J09	9: 09	9: 15	6	2	ALI VE	A	173
J10	9: 21	9: 43	22	2	ALI VE	A	147
J11	9: 25	9: 28	3	2	ALI VE	A	153
J12	9: 28	9: 31	3	2	ALI VE	A	158
J14	9: 30	9: 34	4	2	ALI VE	A	145
J15	9: 43	10: 17	34	2	ALI VE	A	150
J16	9: 55	10: 00	5	2	ALI VE	A	154
J17	9: 33	9: 38	5	2	ALI VE	A	134
J18	9: 45	9: 56	11	2	ALI VE	A	143
J19	9: 36	9: 44	8	2	DEAD	F	155
J20	10: 08	10: 20	12	2	ALI VE	A	169
J21	10: 03	10: 07	4	2	ALI VE	A	150
J22	10: 01	10: 12	11	2	ALI VE	A	174
J23	10: 13	10: 22	9	2	ALI VE	A	147
J24	9: 57	10: 02	5	2	ALI VE	A	160
J25	10: 56	10: 59	3	2	ALI VE	A	164

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
J26	11: 06	11: 10	4	2	ALIVE	A	156	
J27	10: 40	10: 42	2	2	ALIVE	A	139	
J28	11: 07	11: 11	4	2	ALIVE	A	152	
J29	10: 52	10: 56	4	2	ALIVE	A	152	
J30	10: 39	10: 42	3	2	ALIVE	A	144	
J31	10: 40	10: 43	3	2	ALIVE	A	140	
J32	10: 47	11: 05	18	2	ALIVE	A	143	
J33	10: 59	11: 01	2	2	ALIVE	A	138	
J34	10: 43	10: 46	3	2	ALIVE	A	142	
J35	11: 01	11: 15	14	2	ALIVE	A	151	
J36	10: 44	10: 49	5	2	ALIVE	A	152	
J37	10: 42	10: 49	7	2	ALIVE	A	151	
J38	10: 50	10: 52	2	2	ALIVE	A	154	
J39	10: 53	11: 06	13	2	ALIVE	A	165	
J40	11: 23	11: 25	2	2	ALIVE	A	177	
J41	11: 24	11: 29	5	2	ALIVE	A	139	
J42	11: 25	11: 41	16	2	ALIVE	A	146	
J43	11: 30	11: 34	4	2	ALIVE	A	140	
J44	11: 27	11: 35	8	2	ALIVE	A	157	
J45	11: 41	11: 46	5	2	ALIVE	A	148	
J46	11: 35	11: 37	2	1	ALIVE	A	133	
J47	11: 36	11: 40	4	2	ALIVE	A	143	
J48	11: 42	11: 55	13	2	ALIVE	A	145	
J49	11: 38	11: 42	4	2	ALIVE	A	158	
J50	11: 44	11: 50	6	2	ALIVE	A	160	
J51	11: 51	11: 59	8	2	ALIVE	A	151	
J52	11: 56	12: 04	8	2	ALIVE	A	146	
J53	11: 47	12: 10	23	2	ALIVE	A	173	
J54	12: 00	12: 05	5	2	ALIVE	A	172	
J55	12: 11	12: 18	7	2	ALIVE	A	138	
J56	12: 15	12: 18	3	2	ALIVE	A	148	
J57	12: 05	12: 08	3	2	ALIVE	A	153	

J58	12: 06	12: 08	2	2	ALI VE	A	139
J59	12: 12	12: 14	2	2	ALI VE	A	149
J60	12: 24	12: 39	15	2	ALI VE	A	158
J61	12: 23	12: 26	3	2	ALI VE	A	143
J62	12: 18	12: 22	4	2	ALI VE	A	157
J63	12: 17	12: 22	5	2	ALI VE	A	149
J64	12: 20	12: 28	8	2	ALI VE	A	146
J65	12: 35	12: 38	3	2	ALI VE	A	177
J66	12: 29	12: 38	9	2	ALI VE	A	140
J67	12: 38	12: 42	4	1	ALI VE	A	154
J68	12: 27	12: 29	2	2	ALI VE	A	152
J69	12: 31	12: 34	3	2	ALI VE	A	135
J70	12: 42	12: 51	9	2	ALI VE	A	139
J71	12: 42	13: 00	18	2	ALI VE	A	147
J72	12: 41	12: 49	8	2	ALI VE	A	140
J73	12: 50	12: 54	4	2	ALI VE	A	147
J74	12: 52	13: 00	8	2	ALI VE	A	132
J75	13: 05	13: 09	4	2	ALI VE	A	160
J76	13: 07	13: 12	5	2	ALI VE	A	154

E-132

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
J77	13: 02	13: 06	4	2	ALI VE	A	145	
J78	13: 00	13: 15	15	2	DEAD	F	144	
J79	12: 54	13: 03	9	2	ALI VE	A	177	
J80	13: 10	13: 17	7	2	ALI VE	A	151	
J81	13: 16	13: 19	3	2	ALI VE	H	134	
J82	13: 13	.	.	0	DEAD	Z	140	
J83	13: 18	13: 24	6	2	ALI VE	A	142	
J84	13: 19	13: 24	5	2	ALI VE	A	142	
J94	10: 18	10: 28	10	2	ALI VE	A	144	

J95	10: 22	10: 28	6	2	ALI VE	A	148
PY0	7: 40	7: 48	8	2	ALI VE	A	142
PY1	7: 34	7: 39	5	2	ALI VE	A	142
PY2	7: 36	7: 46	10	2	ALI VE	A	160
PY3	7: 47	8: 08	21	2	ALI VE	A	146
PY4	7: 35	7: 48	13	2	ALI VE	A	158
PY5	7: 57	8: 02	5	2	ALI VE	A	147
PY6	7: 53	8: 03	10	2	ALI VE	A	142
PY7	7: 49	7: 56	7	2	ALI VE	A	154
PY8	8: 03	8: 07	4	1	DEAD	E	165
PY9	7: 50	7: 52	2	2	ALI VE	A	145
PZ0	8: 18	8: 46	28	2	ALI VE	A	139
PZ1	8: 12	8: 17	5	2	ALI VE	A	136
PZ2	8: 19	8: 26	7	2	ALI VE	A	145
PZ3	8: 16	8: 21	5	2	ALI VE	A	138
PZ4	8: 11	8: 19	8	2	ALI VE	A	139
PZ5	8: 22	8: 43	21	2	ALI VE	HQ	138
PZ6	8: 36	8: 41	5	2	ALI VE	A	145
PZ7	8: 30	8: 35	5	2	ALI VE	A	144
PZ8	8: 26	8: 29	3	2	ALI VE	A	155
PZ9	8: 42	8: 48	6	2	ALI VE	A	145
SA0	13: 47	13: 49	2	2	ALI VE	A	148
SA1	13: 54	13: 57	3	2	ALI VE	A	144
SA2	14: 04	14: 07	3	2	ALI VE	A	172
SA3	13: 50	13: 57	7	2	ALI VE	A	143
SA4	13: 43	13: 54	11	2	ALI VE	A	151
SA5	13: 41	13: 43	2	2	ALI VE	A	143
SA6	13: 39	13: 48	9	2	ALI VE	A	161
SA7	14: 03	14: 06	3	2	ALI VE	A	141
SA8	13: 58	14: 01	3	2	ALI VE	A	155
SA9	14: 00	14: 01	1	2	ALI VE	A	178
SB0	13: 48	13: 49	1	2	ALI VE	A	180
SB1	13: 40	13: 43	3	2	ALI VE	A	164
SB2	14: 08	14: 12	4	2	ALI VE	A	152
SB3	13: 49	13: 56	7	2	ALI VE	A	145
SB4	13: 44	13: 46	2	2	ALI VE	A	144

25 January 2000 - Testlot 56 : PL=4, Unit 6, Tip - Water temp=40.1 C

J85	12: 00	12: 02	2	2	ALI VE	H	150
J86	12: 02	12: 06	4	2	ALI VE	A	148

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
SB5	8:10	8:12	2	2	ALIVE	A	152	
SB6	8:06	8:15	9	2	ALIVE	A	153	
SB7	7:52	7:55	3	2	ALIVE	A	151	
SB8	7:54	8:21	27	2	ALIVE	A	146	
SB9	7:51	7:55	4	2	ALIVE	A	143	
SC0	8:01	8:09	8	2	ALIVE	A	153	
SC1	7:57	7:59	2	2	ALIVE	A	142	
SC2	7:50	7:53	3	2	ALIVE	A	167	
SC3	7:46	7:49	3	2	ALIVE	A	183	
SC4	8:03	8:05	2	2	ALIVE	A	183	
SC5	7:45	7:49	4	2	ALIVE	A	132	
SC6	8:00	8:02	2	2	ALIVE	A	153	
SC7	7:45	7:50	5	2	ALIVE	A	148	
SC8	7:57	7:59	2	2	ALIVE	A	160	
SC9	8:13	8:15	2	2	ALIVE	A	162	
SD0	8:50	8:59	9	2	ALIVE	A	154	
SD1	8:38	8:45	7	2	ALIVE	A	157	
SD2	8:46	8:49	3	2	ALIVE	A	146	
SD3	8:49	8:53	4	2	ALIVE	A	143	
SD4	8:38	8:48	10	2	ALIVE	A	143	
SD6	8:58	9:00	2	2	ALIVE	A	140	
SD7	8:56	8:57	1	2	ALIVE	A	144	
SD8	8:59	9:08	9	2	ALIVE	A	160	
SD9	8:53	8:55	2	2	ALIVE	A	152	
SE0	9:19	9:22	3	2	ALIVE	A	153	
SE1	9:19	9:27	8	2	ALIVE	A	144	
SE2	9:08	9:18	10	2	ALIVE	A	152	
SE3	9:15	9:18	3	2	ALIVE	A	142	
SE4	9:23	9:25	2	2	ALIVE	A	140	
SE5	9:30	9:35	5	2	ALIVE	A	136	
SE6	9:28	9:35	7	2	ALIVE	A	140	
SE7	9:26	9:32	6	1	ALIVE	A	148	

SE8	9: 28	9: 29	1	2	ALI VE	A	152
SE9	9: 33	9: 35	2	2	ALI VE	A	133
SF0	9: 40	9: 49	9	2	ALI VE	A	168
SF1	9: 41	9: 43	2	2	ALI VE	A	190
SF2	9: 37	9: 39	2	2	ALI VE	A	191
SF3	9: 36	9: 47	11	2	ALI VE	A	167
SF4	9: 38	9: 39	1	2	ALI VE	A	150
SF5	9: 58	10: 00	2	2	ALI VE	A	142
SF6	10: 01	10: 03	2	2	ALI VE	A	146
SF7	10: 04	10: 08	4	2	ALI VE	A	139
SF8	9: 59	10: 05	6	2	ALI VE	A	144
SF9	9: 57	10: 00	3	1	DEAD	F	157
SH0	10: 12	10: 23	11	2	ALI VE	A	150
SH1	10: 06	10: 13	7	2	ALI VE	A	139
SH2	10: 07	10: 09	2	2	ALI VE	A	147
SH4	10: 09	10: 11	2	2	ALI VE	A	131
SH5	10: 16	10: 21	5	2	ALI VE	A	136
SH6	10: 18	10: 21	3	2	ALI VE	A	158
SH7	10: 22	10: 50	28	1	ALI VE	A	153

E-134

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
SH8	10: 21	10: 23	2	2	ALI VE	A	157	
SH9	10: 15	10: 17	2	2	ALI VE	A	160	
SJ0	10: 36	10: 39	3	2	ALI VE	A	150	
SJ1	10: 30	10: 33	3	2	ALI VE	A	157	
SJ2	10: 33	10: 36	3	2	ALI VE	A	144	
SJ3	10: 26	10: 39	13	1	ALI VE	H	162	
SJ4	10: 27	10: 30	3	2	ALI VE	A	144	
SJ6	10: 46	10: 48	2	2	ALI VE	A	166	
SJ7	10: 51	10: 56	5	2	ALI VE	A	158	

SJ8	10: 49	10: 57	8	2	DEAD	N	161
SJ9	10: 53	10: 55	2	2	ALI VE	A	155
SK0	11: 05	11: 07	2	2	ALI VE	A	162
SK1	11: 15	11: 21	6	2	ALI VE	A	142
SK2	11: 09	11: 10	1	2	ALI VE	A	155
SK3	11: 06	11: 23	17	2	ALI VE	A	154
SK4	11: 05	11: 14	9	2	ALI VE	A	153
SK5	11: 22	11: 31	9	2	ALI VE	A	168
SK6	11: 33	11: 36	3	2	ALI VE	A	161
SK7	11: 19	11: 32	13	2	ALI VE	A	162
SK8	11: 31	11: 35	4	2	ALI VE	A	158
SK9	11: 25	11: 42	17	2	ALI VE	A	182
SL0	11: 36	11: 39	3	2	ALI VE	A	155
SL1	11: 44	11: 54	10	2	ALI VE	A	157
SL2	11: 43	11: 45	2	2	ALI VE	A	145
SL3	11: 39	11: 42	3	2	ALI VE	A	142
SL4	11: 40	11: 43	3	2	ALI VE	A	151
SL5	11: 46	11: 48	2	2	ALI VE	A	156
SL6	11: 55	12: 00	5	2	ALI VE	A	151
SL7	11: 53	12: 02	9	2	ALI VE	A	162
SL9	11: 49	11: 52	3	2	ALI VE	Q	148
SM0	12: 34	12: 42	8	2	ALI VE	A	173
SM1	12: 30	12: 33	3	2	ALI VE	A	180
SM2	12: 52	12: 56	4	2	ALI VE	A	180
SM3	12: 54	13: 02	8	2	ALI VE	A	185
SM4	12: 33	12: 53	20	2	ALI VE	A	158
SM5	12: 28	12: 29	1	2	ALI VE	A	154
SM6	12: 19	12: 26	7	2	ALI VE	A	146
SM7	12: 51	12: 55	4	2	ALI VE	A	150
SM8	12: 17	12: 21	4	2	ALI VE	A	135
SM9	12: 48	12: 51	3	2	ALI VE	A	134
SNO	12: 45	12: 48	3	2	ALI VE	A	133
SN1	12: 22	12: 42	20	2	ALI VE	A	146
SN2	12: 43	12: 50	7	2	ALI VE	A	135
SN3	12: 16	12: 18	2	2	ALI VE	A	141
SN4	12: 16	12: 31	15	2	ALI VE	A	134
SN5	13: 10	13: 12	2	2	ALI VE	A	151
SN6	13: 12	13: 14	2	2	ALI VE	A	150
SN7	13: 11	13: 16	5	2	ALI VE	A	146
SN8	13: 09	13: 11	2	2	ALI VE	A	167
SN9	13: 13	13: 16	3	2	ALI VE	A	145
SPO	13: 16	13: 18	2	2	ALI VE	HQ	136

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
SP1	13:19	13:23	4	2	ALIVE	A	160	
SP2	13:17	13:22	5	2	ALIVE	A	142	
SP3	13:20	13:26	6	2	ALIVE	A	173	
SP4	13:15	13:18	3	1	ALIVE	A	152	
SP5	13:28	13:31	3	2	ALIVE	A	170	
SP6	13:27	13:29	2	2	ALIVE	A	150	
SP7	13:30	13:31	1	2	ALIVE	A	173	
SP8	13:26	13:28	2	2	ALIVE	A	148	
SP9	13:23	13:27	4	2	ALIVE	A	135	
SR0	13:34	.	.	0	DEAD	L	138	
SR1	13:38	13:42	4	2	ALIVE	A	148	
SR2	13:36	13:55	19	2	ALIVE	A	140	
SR3	13:31	13:34	3	2	ALIVE	A	163	
SR4	13:32	13:37	5	2	ALIVE	A	148	
SR5	14:04	14:05	1	2	ALIVE	A	150	
SR7	14:16	14:18	2	2	ALIVE	A	158	
26 January 2000 - Testlot 57 : PL=2, Unit 6, Tip - Water temp=41.0 C								
NM0	12:22	12:25	3	2	ALIVE	A	146	
NM1	12:41	12:44	3	1	DEAD	B	145	
NM2	12:45	12:48	3	2	ALIVE	A	150	
NM3	12:39	12:54	15	2	ALIVE	A	157	
NM4	12:26	12:40	14	2	ALIVE	A	157	
NM5	12:55	12:58	3	2	ALIVE	A	146	
NM6	12:56	.	.	0	DEAD	P	133	
NM7	12:52	12:54	2	2	ALIVE	A	149	
NM8	12:57	13:02	5	2	ALIVE	A	150	
NM9	12:53	12:56	3	2	ALIVE	A	136	
NN0	13:17	13:24	7	2	ALIVE	A	136	
NN1	13:33	13:37	4	2	ALIVE	A	141	

NN2	12: 26	13: 28	62	2	ALI VE	A	153
NN3	13: 25	13: 32	7	2	ALI VE	A	158
NN4	13: 29	13: 36	7	2	ALI VE	A	164
NN5	13: 40	13: 49	9	2	ALI VE	A	138
NN6	13: 37	13: 42	5	2	ALI VE	A	133
NN7	13: 35	13: 39	4	2	DEAD	HJ	143
NN8	13: 43	13: 45	2	2	ALI VE	A	158
NN9	13: 38	13: 42	4	2	ALI VE	A	139
NP0	13: 45	13: 48	3	2	ALI VE	A	145
NP1	13: 04	14: 02	58	2	ALI VE	A	140
NP2	13: 46	13: 48	2	2	ALI VE	A	148
NP3	13: 51	13: 58	7	2	ALI VE	A	177
NP4	13: 50	13: 53	3	2	ALI VE	A	144
NP5	13: 59	14: 01	2	1	ALI VE	HB	143
NP6	13: 54	13: 57	3	2	ALI VE	A	146
NP7	14: 03	14: 12	9	2	ALI VE	A	154
NP8	14: 02	14: 05	3	2	ALI VE	A	143
NP9	13: 58	14: 03	5	2	ALI VE	A	131
NRO	14: 43	14: 49	6	2	ALI VE	A	146

E-136

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
NR1	14: 21	14: 29	8	2	ALI VE	A	147	
NR2	14: 20	14: 23	3	2	ALI VE	A	153	
NR3	14: 35	14: 42	7	2	ALI VE	A	141	
NR4	14: 43	14: 44	1	2	ALI VE	A	142	
NR5	14: 30	14: 33	3	2	ALI VE	A	158	
NR6	14: 26	14: 34	8	2	ALI VE	A	160	
NR7	14: 24	14: 27	3	2	ALI VE	A	140	
NR8	14: 40	14: 42	2	2	ALI VE	A	160	
NR9	14: 22	14: 25	3	2	ALI VE	A	146	

NS0	14: 37	14: 39	2	2	ALI VE	A	154
NS1	14: 27	14: 35	8	2	ALI VE	A	174
NS2	14: 33	14: 36	3	2	ALI VE	A	175
NS3	14: 39	14: 44	5	2	ALI VE	A	156
NS4	14: 36	14: 38	2	2	ALI VE	A	149
SR8	7: 28	7: 36	8	2	ALI VE	A	167
SR9	7: 30	8: 17	47	2	ALI VE	A	155
SS0	7: 42	.	.	0	UNKNOWN	X	146
SS1	7: 38	7: 41	3	2	ALI VE	A	140
SS2	7: 29	8: 04	35	2	ALI VE	A	154
SS3	8: 11	8: 14	3	2	ALI VE	A	140
SS4	8: 07	8: 12	5	2	ALI VE	A	136
SS5	8: 12	8: 27	15	2	ALI VE	A	133
SS6	8: 06	8: 10	4	2	ALI VE	A	135
SS7	7: 57	8: 02	5	2	ALI VE	A	147
SS8	8: 51	8: 58	7	2	ALI VE	A	154
SS9	8: 15	8: 19	4	2	ALI VE	H	170
ST0	8: 53	9: 21	28	2	ALI VE	A	151
ST1	8: 16	8: 24	8	2	ALI VE	A	159
ST2	8: 52	8: 56	4	2	ALI VE	A	139
ST3	9: 05	9: 19	14	2	ALI VE	A	146
ST4	9: 04	9: 08	4	2	ALI VE	A	145
ST5	8: 58	9: 02	4	2	ALI VE	A	155
ST6	8: 57	9: 03	6	2	ALI VE	A	144
ST7	9: 02	9: 05	3	2	ALI VE	A	150
ST8	9: 24	9: 30	6	2	ALI VE	A	142
ST9	9: 08	9: 23	15	2	ALI VE	A	153
SU0	9: 20	9: 23	3	2	ALI VE	A	166
SU1	9: 22	9: 25	3	2	ALI VE	H	145
SU2	9: 25	9: 28	3	2	ALI VE	A	143
SU3	9: 35	9: 48	13	2	ALI VE	A	139
SU4	9: 36	9: 38	2	2	ALI VE	A	145
SU5	9: 41	10: 04	23	2	ALI VE	A	175
SU6	9: 34	9: 42	8	2	ALI VE	A	152
SU7	9: 39	9: 41	2	2	ALI VE	A	134
SU8	9: 44	9: 50	6	2	ALI VE	A	138
SU9	9: 56	9: 58	2	2	ALI VE	A	137
SV0	9: 51	.	.	0	UNKNOWN	X	147
SV1	9: 59	10: 08	9	2	ALI VE	A	137
SV2	9: 49	9: 55	6	2	ALI VE	A	152
SV3	10: 11	10: 14	3	2	ALI VE	A	143
SV4	10: 12	10: 15	3	2	ALI VE	A	151

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
SV5	10: 16	10: 21	5	2	ALIVE	A	144	
SV6	10: 15	10: 23	8	2	ALIVE	A	150	
SV7	10: 13	10: 16	3	2	ALIVE	A	140	
SV8	10: 25	10: 27	2	1	DEAD	ENB	149	
SV9	10: 20	10: 24	4	2	ALIVE	A	154	
SW0	10: 22	10: 29	7	2	ALIVE	A	141	
SW1	10: 23	10: 38	15	2	ALIVE	A	148	
SW2	10: 28	10: 37	9	2	ALIVE	A	197	
SW3	10: 39	10: 43	4	2	ALIVE	A	159	
SW4	10: 29	10: 32	3	2	ALIVE	A	160	
SW5	10: 37	10: 43	6	2	ALIVE	A	136	
SW6	10: 32	10: 39	7	2	ALIVE	A	137	
SW7	10: 40	10: 43	3	2	ALIVE	A	180	
SW8	11: 02	11: 05	3	2	ALIVE	A	158	
SW9	11: 18	11: 21	3	2	ALIVE	A	135	
SX0	10: 55	11: 01	6	2	ALIVE	A	154	
SX1	11: 09	11: 14	5	2	ALIVE	A	148	
SX2	10: 57	11: 06	9	2	ALIVE	A	142	
SX3	11: 08	11: 15	7	2	ALIVE	A	143	
SX4	10: 56	10: 59	3	2	ALIVE	A	175	
SX5	11: 17	11: 21	4	2	ALIVE	A	142	
SX6	11: 14	11: 20	6	2	ALIVE	A	159	
SX7	11: 00	11: 08	8	2	ALIVE	A	133	
SX8	11: 18	11: 29	11	2	ALIVE	A	169	
SX9	11: 15	11: 18	3	2	ALIVE	A	175	
SY0	11: 05	11: 08	3	2	ALIVE	A	156	
SY1	11: 22	11: 32	10	2	ALIVE	A	153	
SY2	11: 09	11: 16	7	2	ALIVE	A	167	
SY3	11: 42	.	.	0	UNKNOWN	X	132	
SY4	11: 38	12: 04	26	2	ALIVE	A	162	
SY5	11: 39	11: 42	3	2	ALIVE	A	137	
SY6	11: 40	12: 00	20	2	ALIVE	A	145	

SY7	12: 07	12: 35	28	2	ALI VE	A	150
SY8	12: 00	12: 07	7	2	ALI VE	A	144
SY9	12: 06	12: 09	3	2	ALI VE	A	137
SZ0	12: 09	12: 43	34	2	ALI VE	A	145
SZ1	12: 10	12: 21	11	2	ALI VE	A	186
SZ2	12: 03	12: 06	3	2	ALI VE	A	152

27 January 2000 - Testlot 58 : PL=1, Unit 5, Tip - Water temp=40.1 C

NS5	7: 35	7: 46	11	2	ALI VE	A	142
NS6	7: 38	.	.	0	UNKNOWN	X	146
NS7	7: 32	7: 41	9	2	ALI VE	A	156
NS8	7: 42	7: 48	6	2	ALI VE	A	148
NS9	7: 33	7: 37	4	2	ALI VE	A	134
NT0	8: 07	8: 13	6	2	ALI VE	A	133
NT1	8: 06	8: 08	2	2	ALI VE	A	142
NT2	8: 02	8: 05	3	2	ALI VE	A	145
NT3	8: 11	8: 15	4	2	ALI VE	A	146

E-138

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
NT4	8: 00	8: 06	6	2	ALI VE	A	137	
NT5	8: 13	8: 16	3	2	ALI VE	A	150	
NT6	8: 17	8: 20	3	2	ALI VE	A	143	
NT7	8: 20	8: 22	2	2	ALI VE	A	157	
NT8	8: 16	8: 21	5	1	DEAD	F	143	
NU0	8: 31	8: 34	3	2	ALI VE	A	141	
NU1	8: 34	8: 39	5	2	ALI VE	A	147	
NU2	8: 41	8: 43	2	2	ALI VE	A	134	
NU3	8: 24	8: 31	7	2	ALI VE	A	154	

NU4	8: 44	.	.	0	TAG & PIN		162
NU5	8: 47	8: 51	4	2	ALI VE	A	151
NU6	8: 54	8: 59	5	2	ALI VE	A	161
NU7	9: 01	.	.	0	TAG & PIN		150
NU8	8: 57	9: 00	3	2	ALI VE	A	142
NU9	8: 53	8: 56	3	2	ALI VE	A	147
NV0	9: 08	9: 15	7	2	ALI VE	A	141
NV1	9: 31	9: 36	5	2	ALI VE	A	157
NV2	9: 16	9: 20	4	2	ALI VE	A	143
NV3	9: 30	9: 34	4	2	ALI VE	A	146
NV4	9: 03	9: 27	24	1	ALI VE	A	144
NV5	9: 41	9: 45	4	2	ALI VE	A	164
NV6	9: 46	9: 48	2	2	ALI VE	A	133
NV7	9: 46	9: 49	3	2	ALI VE	A	141
NV8	9: 40	9: 44	4	2	ALI VE	A	155
NV9	9: 41	9: 44	3	2	ALI VE	A	152
NW0	9: 59	10: 02	3	2	ALI VE	A	142
NW1	9: 48	10: 03	15	2	ALI VE	A	160
NW2	9: 49	9: 59	10	2	ALI VE	A	153
NW3	9: 55	9: 58	3	2	ALI VE	A	147
NW4	9: 51	9: 54	3	2	ALI VE	A	156
NW5	10: 07	10: 09	2	2	ALI VE	A	137
NW6	10: 09	10: 16	7	2	ALI VE	A	135
NW7	10: 00	10: 02	2	2	ALI VE	A	135
NW8	10: 04	10: 11	7	2	ALI VE	A	144
NW9	10: 03	10: 07	4	2	ALI VE	A	155
NX0	10: 42	10: 45	3	2	ALI VE	A	133
NX2	10: 42	.	.	0	UNKNOWN	X	150
NX3	11: 17	11: 30	13	2	ALI VE	A	140
NX4	10: 43	11: 22	39	2	ALI VE	A	137
NX5	11: 25	11: 36	11	2	ALI VE	A	146
NX6	11: 18	11: 24	6	2	ALI VE	A	137
NX7	11: 31	11: 38	7	2	ALI VE	A	158
NX8	11: 26	11: 30	4	2	ALI VE	A	157
NX9	11: 21	11: 24	3	2	ALI VE	A	135
NY0	11: 37	.	.	0	TAG & PIN		152
NY1	11: 51	11: 56	5	2	ALI VE	A	132
NY2	11: 33	.	.	0	DEAD	Z	132
NY3	11: 39	11: 49	10	2	ALI VE	A	140
NY4	11: 52	11: 58	6	2	ALI VE	A	152
NY5	12: 00	12: 04	4	2	ALI VE	A	137
NY6	11: 58	12: 06	8	2	ALI VE	A	164

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
NY7	11: 59	12: 02	3	2	ALIVE	A	165	
NY8	12: 04	12: 10	6	2	ALIVE	A	162	
NY9	12: 03	12: 10	7	2	ALIVE	A	162	
NZ0	12: 07	12: 17	10	2	ALIVE	A	155	
NZ1	12: 18	12: 27	9	1	ALIVE	A	156	
NZ2	12: 15	12: 20	5	2	ALIVE	A	142	
NZ3	12: 12	12: 18	6	2	ALIVE	A	138	
NZ4	12: 11	12: 14	3	2	ALIVE	A	143	
NZ5	12: 25	12: 31	6	2	ALIVE	A	160	
NZ6	12: 29	12: 35	6	2	DEAD	FN	165	
NZ7	12: 28	12: 36	8	2	ALIVE	A	156	
NZ8	12: 20	12: 27	7	2	ALIVE	A	143	
NZ9	12: 21	12: 24	3	2	ALIVE	A	145	
SZ3	10: 10	10: 18	8	2	ALIVE	A	134	
SZ4	10: 11	10: 25	14	2	ALIVE	A	131	
SZ5	13: 12	13: 19	7	2	ALIVE	A	141	
SZ6	13: 13	13: 23	10	2	ALIVE	A	132	
UA0	12: 41	12: 46	5	2	ALIVE	A	148	
UA1	12: 38	12: 43	5	2	ALIVE	A	132	
UA2	12: 35	12: 40	5	2	ALIVE	A	143	
UA3	12: 42	12: 53	11	2	ALIVE	A	138	
UA4	12: 36	12: 39	3	2	ALIVE	A	142	
UA5	12: 53	12: 56	3	2	ALIVE	A	160	
UA6	12: 48	13: 04	16	2	ALIVE	A	145	
UA7	12: 44	12: 52	8	2	ALIVE	A	152	
UA8	12: 57	13: 01	4	1	DEAD	F	145	
UA9	12: 54	12: 58	4	2	ALIVE	A	112	
UB0	12: 59	13: 07	8	2	ALIVE	A	146	
UB1	13: 08	13: 11	3	2	ALIVE	A	147	
UB2	13: 02	13: 06	4	2	ALIVE	A	143	
UB3	13: 07	13: 15	8	2	ALIVE	HG	153	
UB4	13: 05	13: 12	7	2	ALIVE	A	143	

UB5	13: 38	13: 40	2	2	ALI VE	A	142
UB6	14: 07	14: 10	3	2	ALI VE	A	158
UB7	14: 03	14: 06	3	2	ALI VE	A	168
UB8	13: 35	13: 41	6	2	ALI VE	A	163
UB9	13: 36	13: 38	2	2	ALI VE	A	140
UC0	13: 55	14: 02	7	2	ALI VE	A	150
UC1	13: 42	13: 48	6	2	ALI VE	A	145
UC2	13: 42	13: 54	12	2	ALI VE	A	138
UC3	13: 50	13: 54	4	2	ALI VE	A	144
UC4	13: 54	14: 00	6	2	ALI VE	A	148
UC5	14: 05	14: 12	7	2	ALI VE	A	196
UC6	14: 01	14: 04	3	2	ALI VE	A	145
UC7	14: 02	14: 08	6	2	ALI VE	A	145
UC8	13: 49	13: 53	4	2	ALI VE	A	142
UC9	13: 55	14: 01	6	2	ALI VE	A	133
UD0	14: 22	14: 24	2	2	ALI VE	A	154
UD1	14: 39	14: 41	2	2	ALI VE	A	142
UD2	14: 15	14: 20	5	2	ALI VE	A	191
UD3	14: 42	14: 47	5	2	ALI VE	A	187

E-140

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UD4	14: 25	14: 37	12	2	ALI VE	A	132	
UD5	14: 25	14: 27	2	2	ALI VE	A	157	
UD6	14: 20	14: 24	4	2	ALI VE	A	138	
UD7	14: 40	14: 47	7	2	ALI VE	A	147	
UD8	14: 33	14: 36	3	2	ALI VE	A	142	
UD9	14: 23	14: 24	1	2	ALI VE	A	137	
UE0	14: 26	14: 31	5	2	ALI VE	A	151	
UE1	14: 31	14: 33	2	2	ALI VE	A	156	
UE2	14: 39	14: 43	4	2	ALI VE	A	155	

UE3	14: 29	14: 39	10	2	ALI VE	A	132
UE4	14: 16	14: 19	3	2	ALI VE	A	163

28 January 2000 - Testlot 59 : PL=3, Control - Water temp=40.1 C

J87	13: 54	13: 56	2	2	ALI VE	A	152
SZ7	10: 59	11: 05	6	2	ALI VE	A	140
SZ8	10: 58	11: 09	11	2	ALI VE	A	129
SZ9	13: 15	13: 20	5	2	ALI VE	A	198
UE5	7: 49	7: 55	6	2	ALI VE	A	164
UE6	7: 55	8: 01	6	2	ALI VE	A	163
UE7	7: 50	7: 54	4	2	ALI VE	A	156
UE8	7: 56	8: 04	8	2	ALI VE	A	181
UE9	7: 49	8: 00	11	2	ALI VE	A	145
UF0	8: 06	8: 19	13	2	ALI VE	A	182
UF1	8: 05	8: 14	9	2	ALI VE	A	173
UF2	8: 07	8: 12	5	2	ALI VE	A	174
UF3	8: 02	8: 04	2	2	ALI VE	A	148
UF4	8: 01	8: 05	4	2	ALI VE	A	141
UF5	8: 20	8: 38	18	1	ALI VE	B	162
UF6	8: 16	8: 20	4	2	ALI VE	A	141
UF7	8: 28	8: 41	13	2	ALI VE	A	145
UF8	8: 21	8: 35	14	2	ALI VE	A	150
UF9	8: 15	8: 27	12	2	ALI VE	A	172
UH0	8: 44	8: 48	4	2	ALI VE	A	142
UH1	8: 36	8: 40	4	2	ALI VE	A	145
UH2	8: 42	8: 49	7	2	ALI VE	A	148
UH3	8: 41	9: 04	23	2	ALI VE	A	167
UH4	8: 39	8: 44	5	2	ALI VE	A	159
UH5	8: 55	9: 02	7	2	ALI VE	A	152
UH6	8: 52	8: 55	3	2	ALI VE	A	165
UH7	8: 49	8: 52	3	2	ALI VE	A	151
UH8	8: 49	8: 51	2	2	ALI VE	A	162
UH9	8: 53	9: 02	9	2	ALI VE	A	135
UJ0	9: 19	9: 31	12	2	ALI VE	A	150
UJ1	9: 26	9: 35	9	2	ALI VE	A	168
UJ2	9: 27	9: 30	3	2	ALI VE	A	153
UJ3	9: 23	9: 26	3	2	ALI VE	A	146
UJ4	9: 36	9: 45	9	2	ALI VE	A	195
UJ5	9: 31	9: 38	7	2	ALI VE	A	147
UJ6	9: 14	9: 17	3	2	ALI VE	A	158

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UJ7	9: 20	9: 22	2	2	ALIVE	A	176	
UJ8	9: 15	9: 19	4	2	ALIVE	A	149	
UJ9	9: 33	9: 37	4	2	ALIVE	A	160	
UK0	9: 30	9: 33	3	2	ALIVE	A	180	
UK1	9: 16	9: 19	3	2	ALIVE	A	169	
UK2	9: 21	9: 25	4	2	ALIVE	A	159	
UK3	9: 36	9: 49	13	2	ALIVE	A	152	
UK4	9: 17	9: 20	3	2	ALIVE	A	163	
UK5	10: 00	10: 04	4	2	ALIVE	A	148	
UK6	9: 55	10: 06	11	2	ALIVE	A	135	
UK7	10: 04	10: 13	9	2	ALIVE	A	157	
UK8	9: 58	10: 04	6	2	ALIVE	A	175	
UK9	9: 56	10: 00	4	2	ALIVE	A	159	
UL0	10: 06	10: 09	3	2	ALIVE	A	166	
UL1	10: 05	10: 08	3	2	ALIVE	A	179	
UL2	10: 09	10: 12	3	2	ALIVE	A	135	
UL3	10: 10	10: 14	4	2	ALIVE	A	150	
UL4	10: 12	10: 24	12	2	ALIVE	A	137	
UL5	10: 17	10: 30	13	2	ALIVE	A	148	
UL7	10: 17	10: 18	1	2	ALIVE	A	164	
UL8	10: 26	10: 46	20	2	ALIVE	H	146	
UL9	10: 25	10: 29	4	2	ALIVE	A	133	
UM0	10: 31	10: 39	8	2	ALIVE	A	166	
UM1	10: 34	10: 54	20	2	ALIVE	H	165	
UM2	10: 30	10: 33	3	2	ALIVE	A	180	
UM3	10: 40	.	.	0	UNKNOWN	X	192	
UM4	10: 47	10: 58	11	2	ALIVE	A	165	
UM5	11: 28	11: 30	2	2	ALIVE	A	145	
UM6	11: 29	11: 36	7	2	ALIVE	A	145	
UM7	11: 31	11: 42	11	2	ALIVE	A	153	
UM8	11: 29	11: 32	3	2	ALIVE	A	170	
UM9	11: 33	11: 44	11	2	ALIVE	A	176	

UN0	11: 46	11: 48	2	2	ALI VE	A	167
UN1	11: 40	11: 44	4	2	ALI VE	H	141
UN2	11: 44	11: 52	8	2	ALI VE	A	164
UN3	11: 45	11: 47	2	2	ALI VE	A	170
UN4	11: 37	11: 39	2	2	ALI VE	A	143
UN5	11: 57	12: 05	8	2	ALI VE	?	142
UN6	11: 50	11: 57	7	2	ALI VE	A	138
UN7	11: 52	11: 56	4	2	ALI VE	H	142
UN8	11: 53	12: 01	8	2	ALI VE	A	166
UN9	11: 56	12: 00	4	2	ALI VE	A	136
UP0	12: 01	12: 19	18	2	ALI VE	A	156
UP1	12: 01	12: 04	3	2	ALI VE	A	145
UP2	12: 05	12: 09	4	2	ALI VE	A	146
UP3	12: 03	12: 07	4	2	ALI VE	A	155
UP4	12: 08	12: 10	2	2	ALI VE	A	160
UP5	12: 09	12: 11	2	2	ALI VE	A	151
UP6	12: 11	12: 13	2	2	ALI VE	A	162
UP7	12: 16	12: 34	18	2	ALI VE	A	144
UP8	12: 12	12: 15	3	2	ALI VE	A	163

E-142

APPENDIX TABLE E-2. Continued.

Fi sh No.	Ti me			No. of Turb-N Tags recovered	Fi sh Data			Comments
	Re- leased	Re- covered	At Large (mi n.)		Al ive/ Dead	Condi ti on Codes	Total Length (mm)	
UP9	12: 14	12: 17	3	2	ALI VE	A	149	
UR0	12: 38	12: 40	2	2	ALI VE	A	139	
UR1	12: 41	12: 48	7	2	ALI VE	A	185	
UR2	12: 40	12: 42	2	2	ALI VE	A	150	
UR3	12: 26	12: 30	4	2	ALI VE	A	140	
UR4	12: 39	12: 49	10	2	ALI VE	A	166	
UR5	12: 44	12: 47	3	2	ALI VE	A	159	
UR6	12: 47	12: 49	2	2	ALI VE	A	152	
UR7	12: 48	12: 51	3	2	ALI VE	A	153	

UR8	12: 49	12: 55	6	2	ALI VE	A	165
UR9	12: 50	12: 52	2	2	ALI VE	A	152
US0	12: 53	12: 55	2	2	ALI VE	A	164
US1	12: 56	12: 58	2	2	ALI VE	A	147
US2	12: 57	12: 59	2	1	ALI VE	A	148
US3	12: 52	12: 57	5	2	ALI VE	A	154
US4	12: 58	13: 08	10	2	ALI VE	A	144
US5	13: 13	13: 19	6	2	ALI VE	A	170
US6	13: 00	13: 04	4	2	ALI VE	A	156
US7	12: 14	13: 22	68	2	ALI VE	A	152
US8	12: 59	13: 07	8	2	ALI VE	A	163
UT0	13: 36	13: 47	11	2	ALI VE	A	153
UT1	13: 59	14: 03	4	2	ALI VE	A	153
UT2	13: 48	13: 53	5	2	ALI VE	A	190
UT3	13: 38	13: 40	2	2	ALI VE	A	140
UT4	13: 55	14: 03	8	2	ALI VE	A	158
UT5	13: 35	13: 38	3	2	ALI VE	A	151
UT6	13: 35	13: 38	3	2	ALI VE	A	173
UT7	14: 04	14: 06	2	2	ALI VE	A	139
UT8	13: 46	13: 51	5	2	ALI VE	A	176
UT9	13: 54	13: 54	0	2	ALI VE	A	140
UU1	14: 08	14: 19	11	2	ALI VE	A	150
UU2	13: 55	13: 59	4	2	ALI VE	A	143
UU3	13: 39	.	.	0	UNKNOWN	X	135
UU4	14: 10	14: 32	22	2	ALI VE	A	185

29 January 2000 - Testlot 60 : PL=2, Unit 5, Mid - Water temp=39.2 C

AZ5	8: 48	.	.	0	DEAD	TF	132
J88	12: 24	12: 30	6	2	ALI VE	A	143
J89	12: 23	12: 25	2	2	ALI VE	A	137
J90	13: 10	13: 12	2	2	ALI VE	A	135
J91	13: 09	13: 15	6	2	ALI VE	A	170
J92	14: 27	14: 32	5	2	ALI VE	A	150
J93	14: 23	14: 26	3	2	ALI VE	A	140
JA0	11: 03	11: 07	4	2	ALI VE	A	140
JA2	11: 09	11: 11	2	2	ALI VE	H	161
JA3	11: 11	11: 16	5	2	ALI VE	A	163
JA4	11: 07	11: 16	9	2	ALI VE	A	158
JA5	11: 19	11: 24	5	2	ALI VE	A	161
JA6	11: 15	11: 18	3	2	ALI VE	A	156

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
JA7	11: 18	11: 30	12	2	ALIVE	A	168	
JA8	11: 22	11: 26	4	2	ALIVE	A	157	
JA9	11: 18	11: 21	3	2	ALIVE	A	156	
JB0	11: 39	11: 41	2	2	ALIVE	A	146	
JB1	11: 44	11: 48	4	2	ALIVE	A	155	
JB2	11: 40	11: 51	11	2	ALIVE	A	137	
JB3	11: 42	11: 46	4	2	ALIVE	A	137	
JB4	11: 38	11: 44	6	2	ALIVE	A	154	
JB5	11: 52	11: 55	3	2	ALIVE	A	142	
JB6	11: 47	12: 01	14	2	ALIVE	A	150	
JB7	11: 53	12: 00	7	2	ALIVE	A	136	
JB8	11: 49	11: 51	2	2	DEAD	F	132	
JB9	11: 59	12: 04	5	2	ALIVE	A	144	
JC0	12: 06	12: 07	1	2	ALIVE	A	143	
JC1	12: 01	12: 05	4	2	ALIVE	A	143	
JC2	12: 08	12: 11	3	2	ALIVE	A	147	
JC3	12: 05	12: 07	2	2	ALIVE	A	158	
JC4	12: 03	12: 09	6	2	ALIVE	H	145	
JC5	12: 12	12: 15	3	2	ALIVE	A	143	
JC6	12: 17	12: 21	4	2	DEAD	N	201	
JC7	12: 16	12: 19	3	2	ALIVE	A	160	
JC8	12: 14	12: 20	6	2	ALIVE	A	168	
JC9	12: 14	12: 14	0	2	ALIVE	A	138	
JD0	12: 23	12: 29	6	1	ALIVE	A	132	
JD1	12: 56	12: 58	2	2	ALIVE	A	143	
JD2	12: 51	12: 53	2	2	ALIVE	A	150	
JD4	13: 13	15: 15	122	2	ALIVE	A	165	
JD5	12: 58	13: 03	5	2	ALIVE	A	148	
JD6	13: 03	13: 21	18	2	ALIVE	A	168	
JD7	12: 54	12: 55	1	2	ALIVE	A	140	
JD8	13: 04	13: 08	4	2	ALIVE	A	150	
JD9	12: 50	12: 54	4	2	ALIVE	H	162	

JE0	13: 16	13: 19	3	2	ALI VE	A	166
JE1	13: 05	13: 08	3	2	ALI VE	A	140
JE2	12: 52	13: 02	10	2	ALI VE	A	152
JE3	12: 57	13: 00	3	2	ALI VE	A	160
JE4	13: 01	13: 02	1	2	ALI VE	A	132
JE6	13: 35	13: 44	9	2	ALI VE	A	166
JE7	13: 36	13: 43	7	2	ALI VE	A	147
JE8	13: 42	14: 04	22	2	ALI VE	A	149
JE9	13: 37	13: 40	3	2	ALI VE	A	148
JF0	13: 54	13: 57	3	2	ALI VE	A	162
JF1	13: 46	13: 53	7	2	ALI VE	A	142
JF2	13: 56	14: 00	4	2	ALI VE	A	172
JF3	13: 57	14: 19	22	2	ALI VE	A	202
JF4	13: 51	13: 55	4	2	ALI VE	A	162
JF5	14: 08	14: 18	10	2	ALI VE	A	140
JF6	14: 12	14: 16	4	2	ALI VE	A	135
JF7	14: 01	14: 06	5	2	ALI VE	A	148
JF8	14: 17	14: 21	4	2	ALI VE	A	175
JF9	14: 07	14: 11	4	2	ALI VE	A	145

E-144

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
JH0	14: 22	14: 24	2	2	ALI VE	A	152	
JH1	14: 29	14: 38	9	2	ALI VE	A	165	
JH2	14: 33	14: 53	20	2	ALI VE	H	168	
JH3	14: 20	.	.	0	DEAD	Z	157	
JH4	14: 25	14: 28	3	2	ALI VE	A	150	
UU5	7: 35	7: 42	7	2	ALI VE	A	156	
UU6	7: 34	7: 44	10	2	ALI VE	A	147	
UU7	7: 33	7: 39	6	2	ALI VE	A	130	
UU8	7: 43	7: 54	11	2	ALI VE	A	166	

UU9	7: 40	7: 42	2	2	ALI VE	A	142
UV0	8: 05	8: 17	12	2	ALI VE	A	152
UV1	7: 45	.	.	0	UNKNOWN	X	148
UV2	7: 44	.	.	0	DEAD	Z	156
UV3	8: 01	8: 15	14	2	ALI VE	A	147
UV4	7: 55	8: 06	11	2	ALI VE	A	152
UV6	8: 18	8: 21	3	2	ALI VE	A	141
UV7	8: 19	8: 21	2	2	ALI VE	A	135
UV8	8: 19	8: 25	6	2	ALI VE	A	153
UV9	8: 22	8: 28	6	2	ALI VE	A	142
UW0	8: 38	8: 40	2	2	ALI VE	A	130
UW1	8: 41	8: 47	6	2	ALI VE	A	144
UW2	8: 33	8: 40	7	2	ALI VE	A	141
UW3	8: 42	8: 46	4	2	ALI VE	H	176
UW4	8: 35	8: 37	2	2	ALI VE	A	161
UW5	8: 52	8: 58	6	2	ALI VE	A	152
UW6	8: 46	8: 52	6	2	ALI VE	A	152
UW7	8: 49	8: 59	10	2	ALI VE	A	155
UW8	8: 45	8: 49	4	2	ALI VE	A	136
UX0	9: 32	9: 37	5	2	ALI VE	A	141
UX1	9: 23	9: 25	2	2	ALI VE	A	172
UX2	9: 15	9: 18	3	2	ALI VE	A	135
UX3	9: 10	9: 12	2	2	ALI VE	A	134
UX4	9: 06	9: 09	3	2	ALI VE	A	132
UX5	9: 27	9: 30	3	2	ALI VE	A	146
UX6	9: 26	.	.	0	UNKNOWN	X	141
UX7	9: 20	9: 27	7	2	ALI VE	A	145
UX8	9: 06	9: 22	16	2	ALI VE	A	146
UX9	9: 12	9: 14	2	2	ALI VE	A	140
UY0	9: 07	9: 23	16	2	ALI VE	A	147
UY1	9: 18	9: 19	1	2	ALI VE	A	167
UY2	9: 28	9: 30	2	2	ALI VE	A	196
UY3	9: 31	9: 33	2	2	ALI VE	A	168
UY4	9: 26	9: 28	2	2	ALI VE	A	150
UY5	10: 18	10: 32	14	2	ALI VE	A	163
UY6	10: 13	10: 35	22	2	ALI VE	H	151
UY7	10: 14	10: 17	3	2	ALI VE	A	150
UY8	10: 36	10: 38	2	2	ALI VE	A	148
UY9	10: 15	10: 38	23	2	ALI VE	A	142
UZ0	10: 39	10: 48	9	2	ALI VE	A	164
UZ1	10: 43	10: 47	4	2	ALI VE	A	158
UZ2	10: 45	10: 48	3	2	ALI VE	A	133

APPENDIX TABLE E-2. Continued.

Fish No.	Time			No. of Turb-N Tags recovered	Fish Data			Comments
	Re-leased	Re-covered	At Large (min.)		Alive/Dead	Condition Codes	Total Length (mm)	
UZ3	10:47	10:57	10	2	ALIVE	A	135	
UZ4	10:40	10:45	5	2	ALIVE	A	132	
UZ5	10:54	10:57	3	2	ALIVE	A	162	
UZ6	10:58	11:02	4	2	ALIVE	A	154	
UZ7	10:56	11:08	12	2	ALIVE	A	148	
UZ8	10:59	11:06	7	2	ALIVE	A	195	
UZ9	10:49	10:52	3	2	ALIVE	A	145	

