

BONNEVILLE POWER ADMINISTRATION



*Montana Fish,
Wildlife & Parks*

Wigwam River Bull Trout

**Habitat Conservation Trust Fund
Progress Report (1999)**

by

**James S. Baxter¹
W.T. Westover²
J.R. Roome¹**

¹ Baxter Environmental, 209 Second Street, Nelson, B.C. V1L 2K9

² Ministry of Environment, Lands and Parks, Fisheries Branch, 205 Industrial Road G,
Cranbrook, B.C. V1C 6H3

**Fisheries Project Report KO 57
2000**

**BC
Environment**

ABSTRACT

Baxter, J.S., Westover, W.T., and J.R. Roome. 2000. Wigwam River Bull Trout—Habitat Conservation Trust Fund Progress Report (1999). Fisheries Project Report KO 57, vii + 18p + 1 appendix.

This was the fourth year of running an enumeration fence on the Wigwam River to document the status and life history characteristics of a lacustrine-adfluvial bull trout population which spend their adult life in the Kootenay River and/or Kooconusa Reservoir and spawn in the Wigwam River. Over the past four years 3287 spawning bull trout (872 in 1996, 616 in 1997, 821 in 1998, and 978 in 1999) have been captured through the use of a fish fence, and weighed, measured, and tagged. This does not represent the entire run of bull trout into the Wigwam River drainage since a portion of the population also spawns in the mainstem Wigwam downstream of the fence, and in Lodgepole Creek.

Of the 978 fish sampled, 533 fish (54%) had been previously captured. Of these fish, 269 fish (28%) were recaptures from 1998, 151 fish (15%) were recaptures from 1997, and 113 fish (12%) were recaptures from 1996. Tag retention rates were similar to those calculated in 1998 and 1997. In total 307 males and 662 females (9 fish could not be sexed) were processed through the fence for a sex ratio of 2.2:1 females to males. This result is similar to previous years where females have been the dominant sex sampled. In total, 243 bull trout (24.8%) were caught for the first time migrating upstream, while 735 (75.2%) were caught for the first time heading downstream. After September 21st the majority of the bull trout were sampled migrating downstream suggesting that the peak in spawning had occurred.

With the increase in bull trout escapement there has been an increase in the difference between aerial redd counts and ground counts. In 1999 116.7% more redds were counted from the ground compared to the air. This likely is due to redd superimposition, and suggests that ground redd counts are a more accurate index of escapement than aerial redd counts. Other escapement techniques are discussed for their utility in the Wigwam River.

ACKNOWLEDGEMENTS

The authors wish to acknowledge Sheila Street who worked long hours to monitor the fence and tag fish during a period when J.S.B. had other commitments. Thanks to Gerry Nellestijn who helped with dismantling the fence. Angela Prince and Scott Cope were good conversation at camp, and provided help when needed. We would also like to thank the Kootenay B.C. Environment, Lands and Parks Fisheries Staff (John Bell, Les Fleck, Kevin Heidt, Herb Tepper, Laird Siemens, Ray Gillewicz, Shaun Holder, Ted Antifeau) and staff from the Montana Department of Fish, Wildlife and Parks (Scott Snelson, Neil Benson, Monty Benner, Tom Ostrowski, Mike Hensler, Larry Garrow, Greg Hoffman and Jay Deshazer) that helped in 1999.

This project was jointly funded by the Habitat Conservation Trust Fund, the Bonneville Power Administration, and the Montana Department of Fish, Wildlife and Parks. The Habitat Conservation Trust Fund was created by an act of the legislature to preserve, restore and enhance key areas of habitat for fish and wildlife throughout British Columbia.

Hunters, anglers, trappers and guides contribute to the Trust Fund enhancement projects through license surcharges. Tax deductible donations to assist in the work of the Trust Fund are welcome.

~~~~~  
B O N N E V I L L E   P O W E R   A D M I N I S T R A T I O N



***Montana Fish,  
Wildlife & Parks***

## TABLE OF CONTENTS

|                                            |     |
|--------------------------------------------|-----|
| ABSTRACT.....                              | ii  |
| ACKNOWLEDGEMENTS.....                      | iii |
| TABLE OF CONTENTS.....                     | iv  |
| LIST OF TABLES.....                        | v   |
| LIST OF FIGURES.....                       | vi  |
| LIST OF APPENDICES.....                    | vii |
| <br>                                       |     |
| INTRODUCTION.....                          | 1   |
| <br>                                       |     |
| STUDY AREA.....                            | 1   |
| <br>                                       |     |
| METHODS.....                               | 3   |
| Trapping.....                              | 3   |
| Enumeration, Measurement, and Tagging..... | 3   |
| Redd Counts.....                           | 4   |
| <br>                                       |     |
| RESULTS.....                               | 5   |
| Trapping.....                              | 5   |
| Enumeration, Measurement, and Tagging..... | 5   |
| Tagging.....                               | 5   |
| Fecundity.....                             | 5   |
| Aging Structures.....                      | 6   |
| Tag Retention.....                         | 6   |
| Fish tagged in 1996.....                   | 6   |
| Fish tagged in 1997.....                   | 7   |
| Fish tagged in 1998.....                   | 7   |
| Bull Trout Movement and Timing.....        | 7   |
| Length, Weight, and Sex.....               | 7   |
| Spawning Patterns and Growth.....          | 8   |
| Fish tagged in 1996.....                   | 8   |
| Fish tagged in 1997.....                   | 11  |
| Fish tagged in 1998.....                   | 12  |
| Redd Counts.....                           | 12  |
| <br>                                       |     |
| DISCUSSION.....                            | 15  |
| <br>                                       |     |
| REFERENCES.....                            | 17  |

## LIST OF TABLES

|                                                                                                                                                                                                                   |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Table 1. Fecundity of female bull trout sampled in the Wigwam River in 1999. ....                                                                                                                                 | 5  |
| Table 2. Length and age of female bull trout sampled in the Wigwam River for fecundity estimates in 1999. ....                                                                                                    | 6  |
| Table 3. Frequency of bull trout migration through the Wigwam River fish fence in 1999. ....                                                                                                                      | 9  |
| Table 4. Range, mean fork length, and mean weight of bull trout captured at the Wigwam River fence between September 9 <sup>th</sup> and October 14 <sup>th</sup> 1999. ....                                      | 9  |
| Table 5. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999, 1998, and 1997 that were initially tagged in 1996. These fish were repeat year spawners. ....                     | 10 |
| Table 6. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 and 1998, or 1999 and 1997 and were initially tagged in 1996. These fish were repeat/alternate year spawners. .... | 10 |
| Table 7. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 that were initially tagged in 1996. These fish were did not return in 1997 or 1998. ....                           | 11 |
| Table 8. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 that were initially tagged in 1997. These fish were alternate year spawners and did not return in 1998. ....       | 11 |
| Table 9. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 and 1998 that were initially tagged in 1997. These fish were repeat year spawners. ....                            | 12 |
| Table 10. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 that were initially tagged in 1998. These fish were repeat year spawners. ....                                    | 12 |
| Table 11. Numbers of bull trout redds enumerated in the Wigwam River system over time. ....                                                                                                                       | 13 |

## LIST OF FIGURES

|                                                                                                                                                                                                                             |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1. Location map of the Wigwam River watershed and fence location.....                                                                                                                                                | 2  |
| Figure 2. Frequency and timing of bull trout migration through the Wigwam River fish fence between September 9 <sup>th</sup> and October 14 <sup>th</sup> 1999. The total number of fish captured was 978 individuals. .... | 8  |
| Figure 3. Length frequency distribution of bull trout captured at the Wigwam River fish fence in 1999. ....                                                                                                                 | 9  |
| Figure 4. Total number of bull trout redds counted in the Wigwam River in 1999 compared to previous counts in other years. ....                                                                                             | 14 |

**LIST OF APPENDICES**

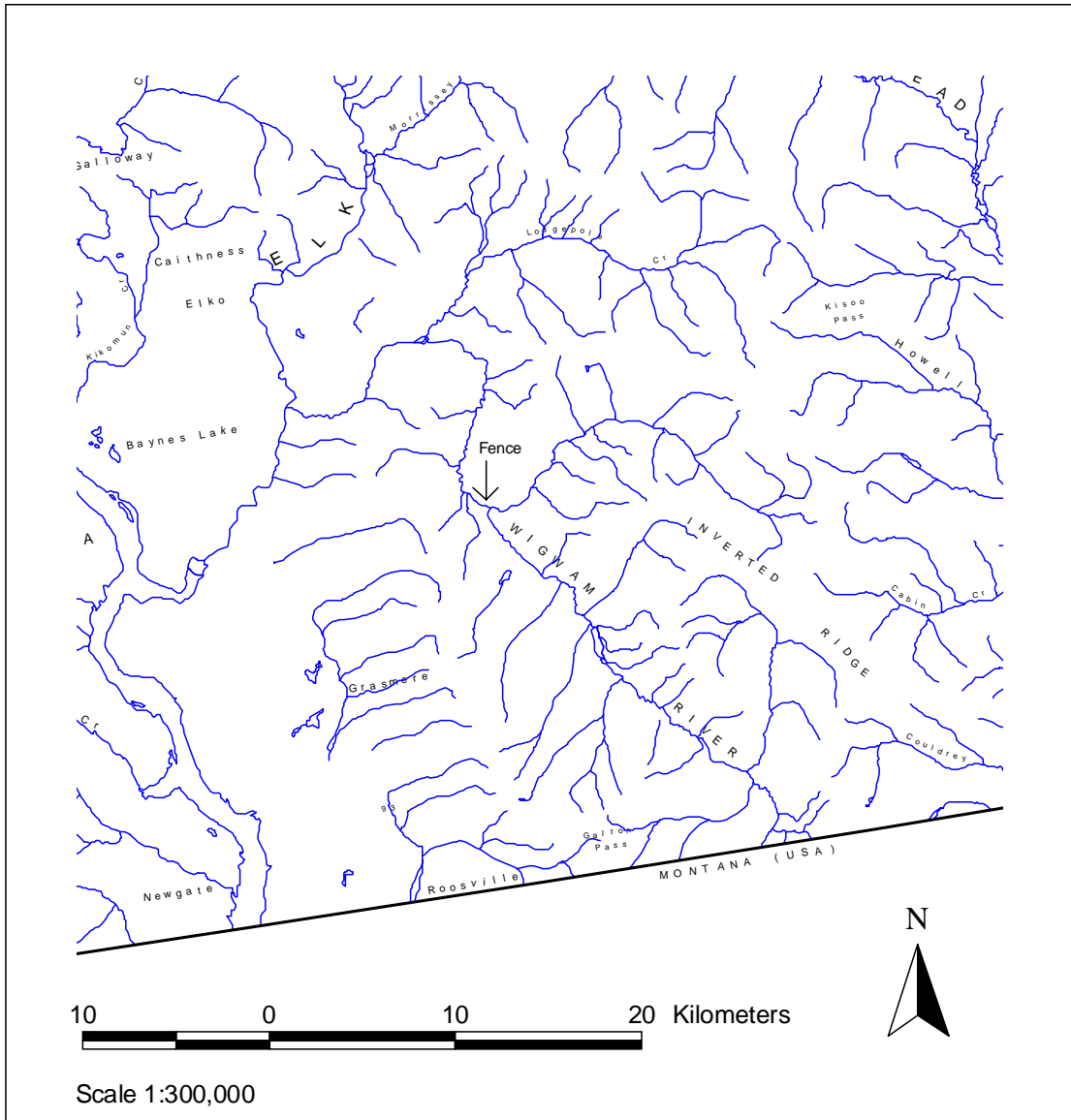
Appendix I. Length, weight, sex and tag number of bull trout captured at the Wigwam River fence in 1999. ....19

## INTRODUCTION

The Wigwam River is a major spawning stream for lacustrine-adfluvial bull trout (*Salvelinus confluentus*) from the mainstem Kootenay River and/or Lake Kooconusa, and is considered the single most important known bull trout spawning stream in the Kootenay Region (Oliver 1979; Westover and Conroy 1997; Chirico and Westover 1998; Baxter and Westover 1999). This has led to an ongoing 5 year study aimed at documenting the status and life history characteristics of the Wigwam River population, and this project marks the fifth year of study on this population that is of international significance. Biologists in both British Columbia (B.C. Ministry of Environment, Lands and Parks) and Montana (Montana Department of Fish, Wildlife and Parks) have worked cooperatively over the past five years to collect baseline population dynamics data in order to monitor the population. The program has had several components including adult surveys, redd counts, radio telemetry studies, substrate condition and habitat suitability work, and juvenile distribution and density studies which were conducted by Cope (1998). The main objective of this report is to summarize the data that was collected in 1999 through the use of an enumeration fence and during redd surveys. The data is related to trends in abundance and population dynamics over the past four years that the fish fence has been operated.

## STUDY AREA

The Wigwam River originates in the Rocky Mountains within the state of Montana and flows approximately 47 km northwest in Canada until it empties into the Elk River, a tributary to Lake Kooconusa (Figure 1). Redd counts were conducted over a large portion of the mainstem Wigwam River from the top of the Wigwam River canyon (km 42) to near its headwaters in Montana, as well as in the lowermost 1.5 km of Bighorn Creek and in Lodgepole Creek upstream to the falls at km 26. A fish fence was operated just downstream of the confluence of the Wigwam River and Bighorn Creek. The goal of this fence was to capture post-spawning emigrants for enumeration, tagging and growth studies, and to collect information from fish that had been previously captured and tagged in 1996, 1997, and 1998.



**Figure 1. Location map of the Wigwam River watershed and fence location.**

## METHODS

### Trapping

A 5.0 cm square coated wire mesh fish fence supported by T-bars was installed across the Wigwam River on September 8<sup>th</sup> 1999, immediately downstream of the Bighorn Creek confluence. The fish fence was set up during this time of the year in order to primarily capture downstream migrating bull trout kelts and minimize the effect the fence might have on the reproductive biology of the fish. Upstream and downstream traps constructed of 2.5 cm wire mesh were used in conjunction with the fence to capture and hold the bull trout until processing. As in 1997 and 1998, a fish fence or trap was not required on Bighorn Creek as the fence was below the Bighorn Creek confluence. Moveable 2.5 cm mesh wire panels were then hinged to the upstream side of the fence in order to allow debris to be quickly removed during storm events by flipping the panels and any accumulated debris to the downstream side of the fence. The purpose of this modification was to prevent the fence from being breached during inclement weather, and during storm events in 1999 these debris catchers functioned well.

Each trap was checked a minimum of twice a day by a two person crew from September 9<sup>th</sup> to October 14<sup>th</sup>, when the fence was removed. Morning checks occurred between 0600 and 0800 hours and evening checks between 2000 and 2400 hours.

### Enumeration, Measurement, and Tagging

In 1999 all captured fish were anaesthetized using clove oil (Soto and Burhanuddin 1995; Anderson et al. 1997) at a concentration of 100 PPM (2 mL in 20 L) in a 100 L cooler. The fish were then subsequently weighed for mass (g), measured for fork length (mm), sexed, and finally tagged. Tags consisted of a Floy tag placed at the base of the dorsal fin, and a coded 125 kHz passive integrated transponder (PIT) tag placed just underneath the skin of the cheek in a dorsal/ventral plane. Floy tags used for this study were Floy FD-94 T-Bar anchor tags, with 1 inch bare monofilament below the tubing, and were inserted with a Mark II super heavy duty tagging gun having a one inch insertion using Mark II long, regular needles (outside diameter = 0.085 inch). PIT tags were inserted using a ST112 small Tag Injector, and were supplied by BioSonics Inc. (tags coded at 125 kHz; 11 mm in length, 2.1 mm in diameter). All tags were placed on the left side of the fish. If recaptured fish from 1996, 1997, and 1998 were missing either tag, only Floy tags were replaced due to limitations in the number of PIT tags available. Also in 1999, a total of eight female bull trout were sacrificed for fecundity estimates and aging structures.

## **Redd Counts**

Redd counts were conducted from the air on October 14<sup>th</sup> 1999, and ground truthing in Lodgepole Creek, Desolation Creek, Bighorn Creek and the upper Wigwam River occurred on October 15<sup>th</sup>. Aerial redd counts were undertaken from a Bell 206 helicopter with a three person observation crew. Ground truthing was performed by a fifteen person crew, divided into groups and each given a specific area to walk and enumerate redds. The lower 1.5 km of Bighorn Creek, Lodgepole Creek (downstream of the falls at km 26), the lower 0.5 km of Desolation Creek and the mainstem Wigwam River (from its confluence with Desolation Creek downstream to the Wigwam River canyon at km 42, and 3 km into Montana) were ground truthed. The total distance walked by the crews in the Wigwam River drainage totaled 34 km.

## RESULTS

### Trapping

The fence was set up and fishing after approximately 4 hours of installation time on September 8<sup>th</sup> 1999. Site conditions experienced during 1999 were favourable, and although water levels were higher than in 1998 the fence was operated continually throughout the study period.

### Enumeration, Measurement, and Tagging

#### *Tagging*

During the study period, a total of 978 bull trout were sampled through the fish fence (Appendix I). Of the 978 fish sampled, a total of 445 fish (46%) did not have any tags present. These fish were tagged with both a Floy tag and a PIT tag. Of the remaining 533 fish (54%) captured, 269 fish (28%) were recaptures from 1998, 151 fish (15%) were recaptures from 1997, and 113 fish (12%) were recaptures from 1996. These fish had either both tags or only one tag present.

#### *Fecundity*

A total of eight female bull trout were sampled for fecundity estimates in 1999. Gravid females were sampled at the fish fence, and sacrificed. All eggs were collected and preserved in ethanol. For each fish the mass of 100 eggs was measured three times, and the average of these measurements was used to estimate the total number of eggs from the total weight of the eggs. A summary of the fecundity measurements is found in Table 1.

**Table 1. Fecundity of female bull trout sampled in the Wigwam River in 1999.**

| <b>Length (mm)</b> | <b>Fecundity</b> |
|--------------------|------------------|
| 485                | 2250             |
| 530                | 2309             |
| 560                | 2592             |
| 600                | 4709             |
| 675                | 5795             |
| 700                | 5604             |
| 775                | 7198             |
| 830                | 7110             |

### *Aging Structures*

Pelvic fin rays and otoliths were collected from the eight females sampled for fecundity estimates. The structures were aged by North/South Consultants Inc. of Winnipeg Manitoba. A summary of the length and age of each sampled female is found in Table 2.

**Table 2. Length and age of female bull trout sampled in the Wigwam River for fecundity estimates in 1999.**

| <b>Length<br/>(mm)</b> | <b>Fin Ray Age<br/>(years)</b> | <b>Otolith Age<br/>(years)</b> |
|------------------------|--------------------------------|--------------------------------|
| 485                    | 7                              | 5                              |
| 530                    | 8                              | 6                              |
| 560                    | 8                              | 7                              |
| 600                    | 7                              | 6                              |
| 675                    | 8                              | 9                              |
| 700                    | 9                              | 9                              |
| 775                    | 11                             | 9                              |
| 830                    | 9                              | 10                             |

### *Tag Retention*

During sampling, all bull trout captured at the Wigwam River fence were inspected for tags that were placed in 1996, 1997, or 1998. Fish were visually inspected for Floy tags, and scanned with a Destron/Fearing Mini Portable PIT Tag Reader (HS-5900L) to determine if it was PIT tagged. For the purposes of calculating tag retention we used double tagged fish as controls as there was likely a low probability of a fish losing both tags, and it is reasonable to assume that the loss of one tag is independent of the loss of the other tag. Thus, the retention rates can be applied to fish that were only given one tag, as we are able to calculate the probability of losing the Floy tag, the PIT tag, or both tags.

#### *Fish tagged in 1996*

During this year's study a total of 113 bull trout were captured that were originally tagged in 1996. Of these fish, there were 69 that returned each year (1997, 1998, and 1999), 36 that returned two of the three years (1997 and 1999 or 1998 and 1999), and 8 that returned in only 1999.

For the fish initially tagged in 1996 that only returned in 1999, the retention of Floy tags was 87.5% while the retention of PIT tags was 100%. Floy tag retention for fish that repeat spawned in 1996, 1997, 1998, and 1999, was 91.3%, 90.9%, and 88.4% after one year, two years, and three years, respectively. PIT tag retention for the 4 year repeat

spawners was 93.3%, 88.9%, and 86.3% after one year, two years, and three years, respectively.

#### *Fish tagged in 1997*

During this year's study a total of 151 bull trout were captured that were originally tagged in 1997, of which 150 had reliable data. Of the 150 fish originally tagged in 1997, 105 were captured in both 1998 and 1999, while 45 were captured only in 1999. All of the 45 fish that were initially tagged in 1997 and only returned in 1999 (alternate year spawners) had been double tagged. After calculating the probability of tag loss, retention of Floy tags and PIT tags was calculated at 94.9% and 86.1% after the two years, respectively.

There were a large number of fish that were repeat year spawners in 1998 and 1999. All of the 105 fish captured that spawned in 1997, 1998, and 1999 had been double tagged. After calculating the probability of tag loss, the tag retention after one year was 97.9% and 89.3% for Floy tags and PIT tags, respectively, while the retention of Floy tags and PIT tags after two years was 86.3% and 81.6%, respectively.

#### *Fish tagged in 1998*

In 1999 a total of 269 fish were recaptured that had been tagged in 1998. Of those 269 bull trout, 232 had been double tagged with a Floy tag and a PIT tag. After calculating the probability of tag loss, tag retention rates for one year were 67.5% for Floy tags, and 86.0% for PIT tags.

### ***Bull Trout Movement and Timing***

Of the 978 fish that were passed through the fence, 243 (24.8%) were caught for the first time migrating upstream, while 735 (75.2%) were caught for the first time heading downstream. After September 21<sup>st</sup> the majority of the bull trout were sampled migrating downstream (Figure 2), suggesting that the peak in spawning had occurred. Bull trout that passed through the fence/trap more than once totaled 229 individuals (23.4%) (Table 3).

### ***Length, Weight, and Sex***

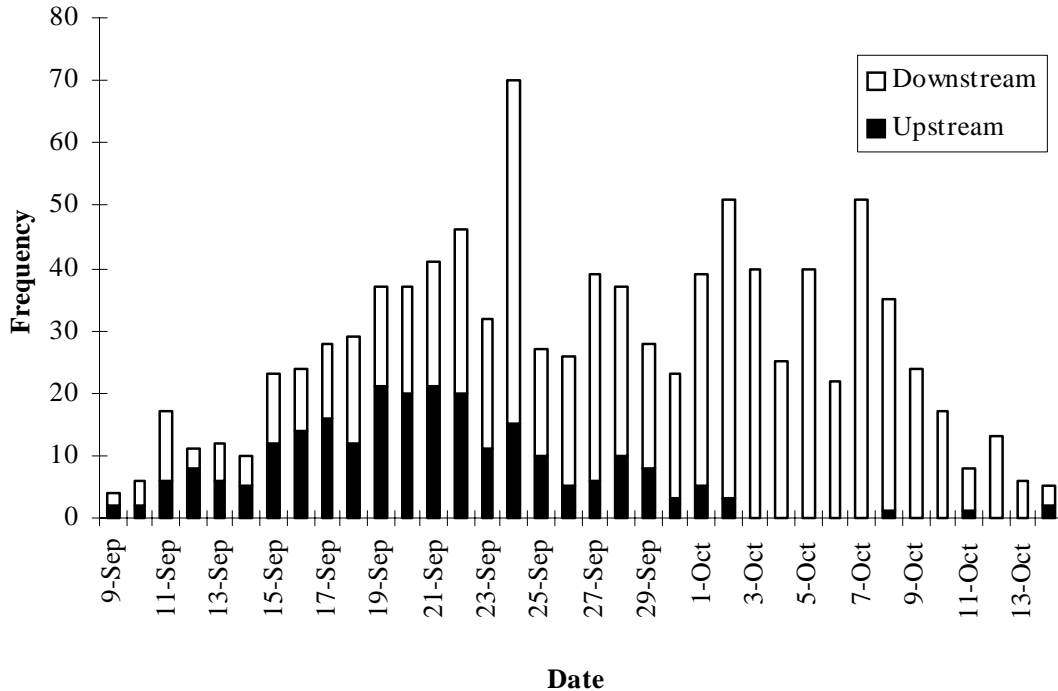
Length, weight, and sex were determined for all of the 978 bull trout captured in 1999. In total, 9 fish of undetermined sex, 307 males and 662 females were processed through the fence for a sex ratio of 2.2:1 females to males. The average lengths and weights of males, females, and both sexes combined are found in Table 4. The length frequency distributions of male and female bull trout are found in Figure 3.

## Spawning Patterns and Growth

### Fish tagged in 1996

A total of 113 of the 978 fish sampled were originally tagged in 1996. Of these fish, 69 (7%) returned to spawn in all four years (repeat year spawners), 36 (4%) returned three out of the four years (repeat/alternate year spawners), and 8 (1%) returned only in 1999.

The average length of repeat spawners that returned to the Wigwam River in 1996, 1997, 1998, and 1999 (n=69) is found in Table 5. The mean fork of males increased 29 mm (4%) from 1996 to 1997, 46 mm (6%) from 1997 to 1998, and 19 mm (2%) from 1998 to 1999. Average female fork length increased 48 mm (7%) from 1996 to 1997, 39 mm (5%) from 1997 to 1998, and 25 mm (3%) from 1998 to 1999.



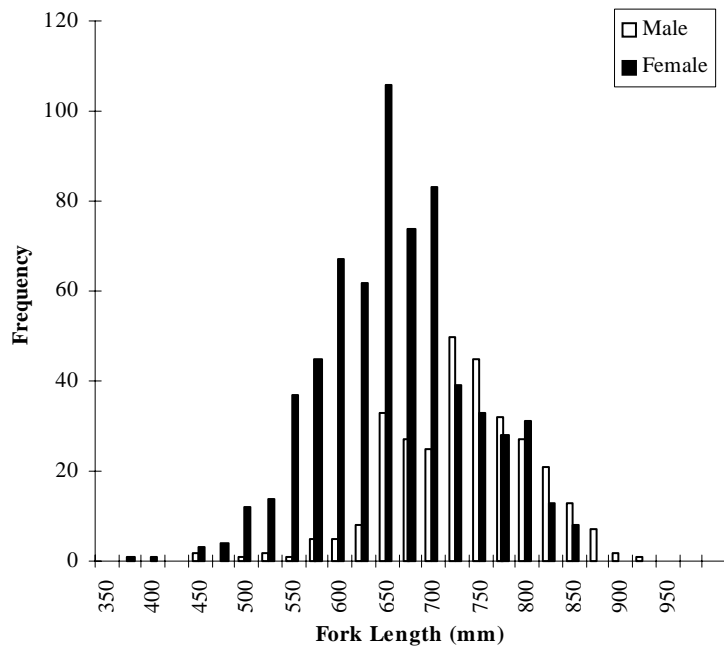
**Figure 2.** Frequency and timing of bull trout migration through the Wigwam River fish fence between September 9<sup>th</sup> and October 14<sup>th</sup> 1999. The total number of fish captured was 978 individuals.

**Table 3. Frequency of bull trout migration through the Wigwam River fish fence in 1999.**

| Number of Times Fish Passed Through Fence | Number of Fish |
|-------------------------------------------|----------------|
| 1                                         | 749            |
| 2                                         | 176            |
| 3                                         | 42             |
| 4                                         | 10             |
| 5                                         | 0              |
| 6                                         | 1              |

**Table 4. Range, mean fork length, and mean weight of bull trout captured at the Wigwam River fence between September 9<sup>th</sup> and October 14<sup>th</sup> 1999.**

|          | n   | Fork Length (mm) |      | Weight (g) |      |
|----------|-----|------------------|------|------------|------|
|          |     | Range            | Mean | Range      | Mean |
| Males    | 307 | 435-905          | 722  | 1400-7700  | 4079 |
| Females  | 662 | 370-850          | 651  | 1100-6800  | 3091 |
| Combined | 978 | 370-905          | 672  | 1100-7700  | 3388 |



**Figure 3. Length frequency distribution of bull trout captured at the Wigwam River fish fence in 1999.**

**Table 5. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999, 1998, and 1997 that were initially tagged in 1996. These fish were repeat year spawners.**

|         | n  | Fork Length 1996 (mm) |      | Fork Length 1997 (mm) |      | Fork Length 1998 (mm) |      | Fork Length 1999 (mm) |      | 1996/97                  | 1997/98                  | 1998/99                  |
|---------|----|-----------------------|------|-----------------------|------|-----------------------|------|-----------------------|------|--------------------------|--------------------------|--------------------------|
|         |    | Range                 | Mean | Range                 | Mean | Range                 | Mean | Range                 | Mean | Average Mean Growth (mm) | Average Mean Growth (mm) | Average Mean Growth (mm) |
| Males   | 8  | 685-760               | 720  | 680-800               | 749  | 750-835               | 795  | 770-880               | 814  | 29                       | 46                       | 19                       |
| Females | 61 | 440-765               | 643  | 500-795               | 691  | 530-820               | 730  | 540-840               | 755  | 48                       | 39                       | 25                       |
| Total   | 69 | 440-765               | 652  | 500-800               | 697  | 530-835               | 738  | 540-880               | 762  | 45                       | 41                       | 24                       |

**Table 6. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 and 1998, or 1999 and 1997 and were initially tagged in 1996. These fish were repeat/alternate year spawners.**

|         | n  | Fork Length 1996 (mm) |      | Fork Length 1997 (mm) |      | Fork Length 1998 (mm) |      | Fork Length 1999 (mm) |      | 1996/98                         | 1998/99                         |
|---------|----|-----------------------|------|-----------------------|------|-----------------------|------|-----------------------|------|---------------------------------|---------------------------------|
|         |    | Range                 | Mean | Range                 | Mean | Range                 | Mean | Range                 | Mean | Average Mean Growth (mm)        | Average Mean Growth (mm)        |
| Males   | 11 | 620-750               | 693  |                       |      | 705-865               | 800  | 740-890               | 820  | 107                             | 20                              |
| Females | 14 | 565-810               | 640  |                       |      | 615-785               | 709  | 645-820               | 741  | 69                              | 32                              |
| Total   | 25 | 565-810               | 663  |                       |      | 615-865               | 749  | 645-890               | 776  | 86                              | 24                              |
|         |    |                       |      |                       |      |                       |      |                       |      | <b>1996/97</b>                  | <b>1997/99</b>                  |
|         |    |                       |      |                       |      |                       |      |                       |      | <b>Average Mean Growth (mm)</b> | <b>Average Mean Growth (mm)</b> |
| Males   | 1  | 704                   | 704  | 740                   | 740  |                       |      | 765                   | 765  | 36                              | 25                              |
| Females | 10 | 525-680               | 606  | 580-750               | 655  |                       |      | 635-800               | 711  | 45                              | 56                              |
| Total   | 11 | 525-704               | 615  | 580-750               | 663  |                       |      | 635-800               | 716  | 48                              | 53                              |

The average length of repeat/alternate year spawners that returned to the Wigwam three out of the past four years (n=36) is found in Table 6, while the average length of spawners that only returned in 1999 after tagging in 1996 is found in Table 7.

**Table 7. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 that were initially tagged in 1996. These fish were did not return in 1997 or 1998.**

|         | n | Fork Length 1996 (mm) |      | Fork Length 1999 (mm) |      | 1996/99<br>Average Mean<br>Growth (mm) |
|---------|---|-----------------------|------|-----------------------|------|----------------------------------------|
|         |   | Range                 | Mean | Range                 | Mean |                                        |
| Males   | 0 |                       |      |                       |      |                                        |
| Females | 8 | 615-790               | 681  | 680-800               | 758  | 77                                     |
| Total   | 8 | 615-790               | 681  | 680-800               | 758  | 77                                     |

*Fish tagged in 1997*

During this year's fence operations 151 of the 978 fish sampled were originally tagged in 1997. One hundred and five (11%) of these fish were repeat year spawners, and 46 (5%) were alternate year spawners.

The average fork length of alternate year spawners increased 89 mm (12%) and 91 mm (14%) respectively, for males and females over the two year period (Table 8).

**Table 8. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 that were initially tagged in 1997. These fish were alternate year spawners and did not return in 1998.**

|         | n  | Fork Length 1997 (mm) |      | Fork Length 1999 (mm) |      | Average Mean<br>Growth (mm) |
|---------|----|-----------------------|------|-----------------------|------|-----------------------------|
|         |    | Range                 | Mean | Range                 | Mean |                             |
| Males   | 21 | 495-850               | 678  | 680-865               | 767  | 89                          |
| Females | 25 | 515-730               | 579  | 535-795               | 670  | 91                          |
| Total   | 46 | 495-850               | 624  | 535-865               | 715  | 91                          |

The average length of repeat spawners that returned to spawn in the Wigwam River in 1997, 1998, and 1999 (n=105) is found in Table 9. The mean fork of males increased 60 mm (9%) from 1997 to 1998, and 40 mm (6%) from 1998 to 1999. Average female fork length increased 51 mm (8%) and 53 mm (8%) from 1997 to 1998 and from 1998 to 1999, respectively.

**Table 9. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 and 1998 that were initially tagged in 1997. These fish were repeat year spawners.**

|         | n   | Fork Length 1997 (mm) |      | Fork Length 1998 (mm) |      | Fork Length 1999 (mm) |      | 1997/98                  | 1998/99                  |
|---------|-----|-----------------------|------|-----------------------|------|-----------------------|------|--------------------------|--------------------------|
|         |     | Range                 | Mean | Range                 | Mean | Range                 | Mean | Average Mean Growth (mm) | Average Mean Growth (mm) |
| Males   | 22  | 465-705               | 631  | 505-770               | 691  | 520-820               | 731  | 60                       | 40                       |
| Females | 118 | 460-840               | 578  | 520-840               | 629  | 535-845               | 682  | 51                       | 53                       |
| Total   | 140 | 460-840               | 583  | 505-840               | 636  | 520-845               | 687  | 53                       | 51                       |

*Fish tagged in 1998*

Of the 978 fish processed in 1999, 269 were repeat spawners from 1998 (28%). The mean fork length of recaptured male and female bull trout increased 51 mm (7%) and 50 mm (8%), respectively (Table 10).

**Table 10. Comparison of fork lengths of bull trout recaptured at the Wigwam River fence in 1999 that were initially tagged in 1998. These fish were repeat year spawners.**

|         | n   | Fork Length 1998(mm) |      | Fork Length 1999 (mm) |      | Average Mean |
|---------|-----|----------------------|------|-----------------------|------|--------------|
|         |     | Range                | Mean | Range                 | Mean | Growth (mm)  |
| Males   | 74  | 425-880              | 691  | 480-905               | 742  | 51           |
| Females | 193 | 430-810              | 601  | 500-840               | 651  | 50           |
| Total   | 267 | 425-880              | 625  | 480-905               | 676  | 51           |

**Redd Counts**

A total of 382 bull trout redds were enumerated from the air on October 14<sup>th</sup> 1999. Over the entire redd count study area, the fifteen person ground truthing crew counted 849 bull trout redds (Table 11). In 1995, 1996, 1997, and 1998, 36.9%, 32.5%, 59.7% and 90.1% more redds, respectively, were seen from the ground than from the air (Westover & Conroy 1997; Chirico and Westover 1998; Baxter and Westover 1999). In 1999, 116.7% more redds were seen from the ground than from the air.

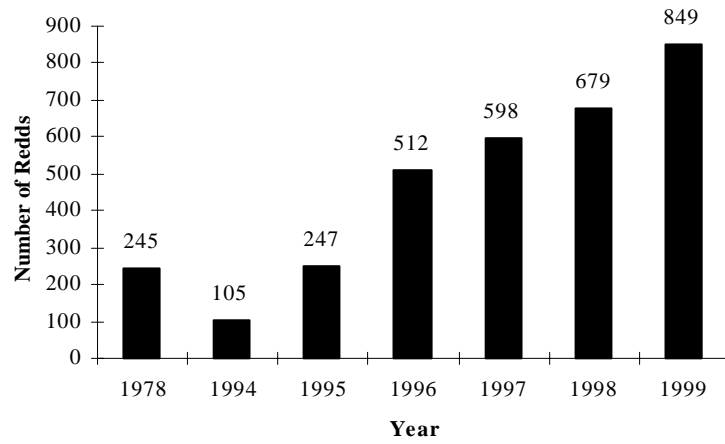
Assuming that all 978 fish passed through the traps spawned upstream of the fence, there was an average of 1.4 bull trout per redd (number of fish migrating through the fence/number of redds upstream of the fence (n=704)). Of these 978 fish a total of 662 were females. Assuming that all of the females spawned upstream of the fence there was an average of 0.94 females per redd.

The increasing trend in the number of bull trout redds present in the study area over the past 4 years continued in 1999 (Table 11, Figure 4). This suggests that the limited harvest of bull trout in the lower Elk and the Wigwam rivers over the past four years has substantially increased escapement.

The final calculation that can be made is an estimate of the total escapement to the Wigwam River system based on the number of fish per redd (calculated upstream of the fence) and the total redd count. Based on these calculations it is possible that 1189 bull trout migrated to the Wigwam River to spawn in 1999.

**Table 11. Numbers of bull trout redds enumerated in the Wigwam River system over time.**

| <b>Location</b>                              | <b>1996</b> | <b>1997</b> | <b>1998</b> | <b>1999</b> |
|----------------------------------------------|-------------|-------------|-------------|-------------|
| Bighorn Cr. (above bridge)                   | 12          | 18          | 34          | 83          |
| Bighorn Cr. (below bridge)                   | 12          | 3           | 14          | 3           |
| Desolation Cr. (Falls to Wigwam River)       | 9           | 7           | 10          | 17          |
| Lodgepole Cr. (below falls)                  | 10          | 9           | 43          | 40          |
| Rabbit Creek (end of road to Wigwam River)   | 4           | N/A         | N/A         | N/A         |
| Wigwam River (in Montana)                    | 12          | 17          | 6           | 21          |
| Wigwam River (Montana border to Rabbit Cr.)  | 1           | 31          | N/A         | N/A         |
| Wigwam River (Rabbit Cr. to Desolation Cr.)  | 0           | 0           | N/A         | N/A         |
| Wigwam River (Desolation Cr. to end of road) | 32          | 33          | 61          | 55          |
| Wigwam River (end of road to upper fence)    | 37          | 47          | 91          | 73          |
| Wigwam River (upper fence to lower fence)    | 168         | 255         | 193         | 247         |
| Wigwam River (lower fence to Snowshoe Trail) | 40          | 55          | 73          | 147         |
| Wigwam River (Snowshoe Trail to Bighorn Cr.) | 62          | 53          | 61          | 58          |
| Wigwam River (Bighorn Cr. to km 42)          | 113         | 63          | 93          | 105         |
| <b>TOTAL</b>                                 | <b>512</b>  | <b>598</b>  | <b>679</b>  | <b>849</b>  |



**Figure 4. Total number of bull trout redds counted in the Wigwam River in 1999 compared to previous counts in other years.**

## DISCUSSION

The trend of increased bull trout escapement to the Wigwam River continued in 1999, with both total numbers of fish passed through the index fence and redd counts increasing substantially. The restrictive regulation amendments in the mid 1990's coupled with an increase in education and awareness about the status of bull trout in the East Kootenays have resulted in the increasing abundance trend, and suggests that bull trout stocks can be rebuilt by conservative fisheries management.

Similar trends in migration timing, sex ratio, and biological data were observed in 1999 when compared to other years that the fence has been in operation. This suggests that the use of the enumeration fence has been an effective technique in gathering large amounts of data on the bull trout population, and for monitoring life-history and population trends. Although the total number of fish through the fence is a good index of run strength, and coupled with redd count data can provide a rough estimate of escapement, it is not known how accurate the generated escapement estimate is each year. Most likely the estimate of escapement is low. It is recommended that the fish fence not be used on an annual basis in the future (once every five years may be an option), and that alternative methods to deriving escapement estimates be explored. These options are discussed below.

Given the generally clear viewing conditions that are observed in the Wigwam River during the bull trout spawning period, aerial overflights to enumerate spawning fish offer the best opportunity to estimate escapement. For other salmonids, and fall spawning Pacific salmon (genus *Oncorhynchus*) in particular, aerial overflights of actual fish and/or redds are used to generate escapement estimates (Bevan 1961; Cousens et al. 1982; Hill 1997), and various techniques are generally implemented to develop the estimate. The more simple method is to take the peak fish count that is made over a number of flights, and multiply it by an expansion factor (Farwell et al. 1999). These expansion factors have been developed for Pacific salmon, and are generally constructed by comparing a peak live count to a mark-recapture estimate to develop the ratio (Farwell et al. 1999). For bull trout these expansion factors have not been developed, and would need to be examined in order for the technique to be used (may be possible with future use of the fence).

The more detailed, and preferred, method is to count the number of spawners (on redds or in spawning habitat) that are observed over time during repeat flights, and develop an area-under-the-curve (AUC) escapement estimate (Irvine et al. 1992). This technique relies on two key variables (observer efficiency of seeing fish, and the residency time of fish on redds). It would be possible to develop numbers for these variables for bull trout, or they may be available from studies in other areas and other species. Flights on the system would need to be conducted 4 to 5 times over the course of the spawning period, and would need to incorporate the beginning, peak, and end of spawning if possible. We feel that this technique could be directly used in the Wigwam River to develop fairly accurate escapement estimates.

The third technique that could be employed is through the continued use of ground counts that have been utilized in the past. Given the fact that bull trout are such site specific spawners (Baxter and McPhail 1999), and that the aerial redd count in the Wigwam River has been shown to under estimate the number of redds due superimposition, we recommend the use of aerial redd counts on the Wigwam River should be discontinued. If the methodologies that have been utilized in the past on the Wigwam River to estimate escapement are chosen to be continued, the use of ground redd counts offers the best opportunity to estimate a reasonably accurate level of escapement. For this methodology it is recommended that the following steps be employed in 2000.

1. If possible, ground redd counts should occur on 3 occasions (September 15, October 1, October 15).
2. Although the number of bull trout per redd that has been calculated from data collected at the enumeration fence and during redd counts, it is unknown whether this estimate is biased. It may be biased due to fish still being above the fence when it is removed and by the biology of the different sexes of bull trout (males are known to remain in spawning areas longer than females). Therefore on the three occasions that bull trout redd counts may be done this year it is recommended that actual observational data on the number of fish per redd be collected. This would identify whether the number of bull trout per redd changes over the spawning period, and allow a calculation from actual observations.

The four year program of operation of the fish fence has been a successful undertaking that has resulted in an extensive increase in our knowledge about bull trout in the Wigwam River, and about bull trout in general. With the increased forestry and angling activity that is likely going to occur in the Wigwam River watershed in the next 5 years, the bull trout spawning population needs to be closely monitored, and if needed appropriate conservation measures put in place to protect it.

## REFERENCES

- Anderson, W.G., McKinley, R.S., and M. Colavecchia. 1997. The use of clove oil as an anesthetic for rainbow trout and its effects on swimming performance. *North American Journal of Fisheries Management* 17:301-307.
- Baxter, J.S., and W.T. Westover. 1999. Wigwam River Bull Trout—Habitat Conservation Trust Fund Progress Report (1998). Fisheries Project Report KO 54, 21p.
- Baxter, J.S., and J.D. McPhail. 1999. The influence of redd site selection, groundwater upwelling, and over-winter incubation temperature on survival of bull trout (*Salvelinus confluentus*) from egg to alevin. *Canadian Journal of Zoology* 77:1233-1239.
- Bevan, D.E. 1961. Variability in aerial counts of spawning salmon. *Journal of the Fisheries Research Board of Canada* 18:337-348.
- Chirico, A., and W.T. Westover. 1998. Wigwam River Bull Trout—Habitat Conservation Trust Fund Progress Report (1997). Fisheries Project Report KO 53, 16p.
- Cope, S. 1998. Wigwam River fish - forestry study: preliminary surveys (1997). Report prepared for British Columbia Ministry of Environment, Lands and Parks, Fisheries Branch, Nelson, British Columbia by Interior Reforestation Co. Ltd., Cranbrook, British Columbia, 53 p.
- Cousens, N.B.F., Thomas, G.A., Swann, C.G., and M.C. Healey. 1982. A review of salmon escapement estimation techniques. *Canadian Technical Report of Fisheries and Aquatic Sciences* 1108, 122p.
- Farwell, M.K., Bailey, R.E., and Rosenberger, B. 1999. Enumeration of the Nicola River chinook salmon escapement. *Canadian Manuscript Report of Fisheries and Aquatic Sciences* 2491, 44p.
- Hill, R.A. 1997. Optimizing aerial count frequency for the area-under-the-curve method of estimating escapement. *North American Journal of Fisheries Management* 17:461-466.
- Irvine, J.R., Bocking, R.C., English, K.K., and M. Labelle. 1992. Estimating coho salmon (*Oncorhynchus kisutch*) spawning escapements by conducting visual surveys in areas selected using stratified random and stratified index sampling designs. *Canadian Journal of Fisheries and Aquatic Sciences* 49:1972-1981.

- Oliver, G.G. 1979. A final report on the present fisheries use of the Wigwam River with an emphasis on the migration, life history and spawning behaviour of Dolly Varden char. Fish and Wildlife Branch, Kootenay Region, Cranbrook, British Columbia, 82 p.
- Soto, C.G., and C.G. Burhanuddin. 1995. Clove oil as a fish anaesthetic for measuring length and weight of rabbitfish (*Siganus lineatus*). Aquaculture 136:149-152.
- Westover, W.T., and D. Conroy. 1997. Wigwam River Bull Trout--Habitat Conservation Trust Fund Progress Report (1996). Fisheries Project Report KO 51, 19 p.

**Appendix I. Length, weight, sex and tag number of bull trout captured at the Wigwam River fence in 1999.**

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag #    | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|-----------|-----------|------------|--------------|
| 9-Sep  | 57.5        | 1.7        | F   | ↓         | 0467      | BLUE      |            | Wigwam       |
| 9-Sep  | 70.5        | 3.8        | M   | ↓         | 0471      | BLUE      | 411271077A | Wigwam       |
| 9-Sep  | 66.5        | 3.5        | M   | ↑         | 0001      | RED       | 411E573D5F | Wigwam       |
| 9-Sep  | 83.0        | 6.3        | M   | ↑         | 0172      | BLUE      | 411300164D | Wigwam       |
| 10-Sep | 81.0        | 6.0        | M   | ↑         | 0010      | ORANGE    |            | Wigwam       |
| 10-Sep | 71.5        | 4.0        | M   | ↑         | 0002      | RED       | 411E473278 | Wigwam       |
| 10-Sep | 67.5        | 3.1        | M   | ↓         | 0003      | RED       | 411E68654D | Wigwam       |
| 10-Sep | 64.5        | 2.9        | F   | ↓         | 0071/0069 | BLUE      |            | Wigwam       |
| 10-Sep | 41.5        | 0.7        | ?   | ↓         | 0004      | RED       |            | Wigwam       |
| 10-Sep | 71.5        | 3.6        | M   | ↓         | 0005      | RED       | 411E50617B | Wigwam       |
| 11-Sep | 69.5        | 2.6        | M   | ↓         | 0006      | RED       | 7F7D0A3E1C | Wigwam       |
| 11-Sep | 74.0        | 4.0        | M   | ↓         | 0007      | RED       | 7F7D0D640D | Wigwam       |
| 11-Sep | 63.5        | 2.2        | F   | ↓         | 0008      | RED       | 7F7D0F6202 | Wigwam       |
| 11-Sep | 70.5        | 3.4        | F   | ↓         | 0002      | BLUE      | 411300464A | Wigwam       |
| 11-Sep | 59.5        | 2.1        | M   | ↓         | 0009      | RED       | 7F7D101F6C | Wigwam       |
| 11-Sep | 70.0        | 3.3        | M   | ↓         | 0010      | RED       | 7F7D0A6A2F | Wigwam       |
| 12-Sep | 71.5        | 3.7        | M   | ↓         | 0011      | RED       | 7F7D0D5D3D | Wigwam       |
| 12-Sep | 58.5        | 2.3        | F   | ↓         | 0012      | RED       | 7F7D0A2D73 | Wigwam       |
| 12-Sep | 59.5        | 2.4        | M   | ↓         | 0013      | RED       | 7F7D0D6F5F | Wigwam       |
| 12-Sep | 87.5        | 6.2        | M   | ↑         | 0159      | BLUE      | 41123E4F0C | Wigwam       |
| 12-Sep | 75.0        | 4.7        | M   | ↑         | 0014      | RED       | 7F7D0A2C20 | Wigwam       |
| 12-Sep | 74.5        | 3.7        | F   | ↑         | 0682      | BLUE      | 411E6C7F4D | Wigwam       |
| 12-Sep | 74.5        | 3.8        | M   | ↑         | 0853      | BLUE      | 411E5F000A | Wigwam       |
| 12-Sep | 76.5        | 4.1        | M   | ↑         | 0015      | RED       | 4111785E48 | Wigwam       |
| 12-Sep | 49.0        | 1.2        | F   | ↓         | 0016      | RED       | 7F7D0F671E | Wigwam       |
| 12-Sep | 83.0        | 5.9        | M   | ↓         | 0017      | RED       | 7F7D0C0731 | Wigwam       |
| 12-Sep | 55.5        | 1.8        | M   | ↑         | 0018      | RED       | 7F7D0C163C | Wigwam       |
| 13-Sep | 71.5        | 3.6        | M   | ↓         | 0019      | RED       | 7F7D0D6000 | Wigwam       |
| 13-Sep | 71.5        | 3.1        | F   | ↓         | 0411      | BLUE      | 4103744759 | Wigwam       |
| 13-Sep | 71.5        | 3.1        | F   | ↓         | 0020      | RED       | 7F7D0C106D | Wigwam       |
| 13-Sep | 72.0        | 3.7        | M   | ↑         | 0021      | RED       | 7F7D0C0106 | Wigwam       |
| 13-Sep | 80.0        | 4.5        | M   | ↑         | 0242      | BLUE      | 41125D1C19 | Wigwam       |
| 13-Sep | 84.0        | 5.9        | M   | ↑         | 0447      | BLUE      | 4112484321 | Wigwam       |
| 13-Sep | 67.5        | 3.1        | M   | ↑         | 0022      | RED       | 41373D4368 | Wigwam       |
| 13-Sep | 69.5        | 3.4        | F   | ↑         | 0299      | ORANGE    | 4103580827 | Wigwam       |
| 13-Sep | 72.5        | 3.8        | M   | ↑         | 0023      | RED       | 41366F5318 | Wigwam       |
| 13-Sep | 80.5        | 6.1        | F   | ↑         | 0436      | BLUE      | 41125C4262 | Wigwam       |
| 13-Sep | 73.0        | 3.8        | M   | ↑         | 0025      | RED       | 4136713106 | Wigwam       |
| 14-Sep | 62.0        | 2.3        | M   | ↑         | 0024      | RED       | 41366B5E6B | Wigwam       |
| 14-Sep | 66.0        | 2.6        | M   | ↑         | 0026      | RED       | 4136607A56 | Wigwam       |
| 14-Sep | 57.0        | 1.6        | F   | ↓         | 0478      | BLUE      | 41125A7579 | Wigwam       |
| 14-Sep | 68.0        | 3.0        | F   | ↓         | 0114      | BLUE      | 4112745B39 | Wigwam       |
| 14-Sep | 70.0        | 3.4        | F   | ↓         | 0523      | BLUE      | 4112520A61 | Wigwam       |
| 14-Sep | 67.5        | 3.3        | M   | ↑         | 0027      | RED       | 41365C262D | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 14-Sep | 76.0        | 4.4        | M   | ↑         | 0498   | BLUE      | 4112634C59 | Wigwam       |
| 14-Sep | 85.0        | 5.9        | M   | ↑         | 0922   | ORANGE    |            | Wigwam       |
| 14-Sep | 67.5        | 3.0        | F   | ↓         | 0031   | RED       | 41365A2D17 | Wigwam       |
| 14-Sep | 59.0        | 1.8        | F   | ↓         | 0028   | RED       | 4137340748 | Wigwam       |
| 14-Sep | 42.0        | 0.8        | ?   | ↓         | 0029   | RED       | 41373D7002 | Wigwam       |
| 14-Sep | 64.0        | 2.5        | F   | ↑         | 0015   | BLUE      | 4112682756 | Wigwam       |
| 15-Sep | 65.0        | 2.7        | F   | ↓         | 0537   | BLUE      | 4112605412 | Wigwam       |
| 15-Sep | 53.0        | 1.5        | F   | ↓         | 0030   | RED       | 4137366561 | Wigwam       |
| 15-Sep | 63.0        | 2.1        | F   | ↓         | 0087   | BLUE      | 41127B5A32 | Wigwam       |
| 15-Sep | 80.0        | 4.5        | F   | ↓         | 0862   | ORANGE    |            | Wigwam       |
| 15-Sep | 70.0        | 3.1        | F   | ↓         | 0464   | BLUE      | 4112782320 | Wigwam       |
| 15-Sep | 86.0        | 5.2        | M   | ↑         | 0894   | ORANGE    |            | Wigwam       |
| 15-Sep | 74.5        | 3.9        | M   | ↑         | 0032   | RED       | 4137312D21 | Wigwam       |
| 15-Sep | 73.5        | 3.9        | M   | ↑         | 0033   | RED       | 41374C3A07 | Wigwam       |
| 15-Sep | 71.0        | 3.6        | M   | ↑         | 0732   | BLUE      | 411E6A2F21 | Wigwam       |
| 15-Sep | 70.5        | 3.5        | F   | ↑         | 0108   | BLUE      |            | Wigwam       |
| 16-Sep | 81.0        | 4.6        | F   | ↓         | 0174   | ORANGE    | 410348446E | Wigwam       |
| 16-Sep | 72.5        | 3.9        | M   | ↓         | 0034   | RED       | 4136600D5F | Wigwam       |
| 16-Sep | 73.0        | 3.5        | F   | ↓         | 0035   | RED       | 4136511E59 | Wigwam       |
| 16-Sep | 58.5        | 1.7        | F   | ↓         | 0036   | RED       | 411276200B | Wigwam       |
| 16-Sep | 64.5        | 2.2        | F   | ↓         | 0037   | RED       | 4136471E5E | Wigwam       |
| 16-Sep | 69.0        | 2.6        | F   | ↓         | 0660   | BLUE      |            | Wigwam       |
| 16-Sep | 68.0        | 2.7        | F   | ↓         | 0038   | RED       | 41374E3131 | Wigwam       |
| 16-Sep | 83.0        | 5.1        | F   | ↑         | 0430   | BLUE      | 410347626B | Wigwam       |
| 16-Sep | 77.0        | 4.8        | M   | ↑         | 0049   | BLUE      | 411305D41F | Wigwam       |
| 16-Sep | 67.5        | 3.1        | F   | ↑         | 0584   | BLUE      |            | Wigwam       |
| 16-Sep | 67.0        | 2.8        | M   | ↑         | 0010   | BLUE      | 41131A0B10 | Wigwam       |
| 16-Sep | 73.0        | 4.1        | M   | ↑         | 0039   | RED       | 4137506803 | Wigwam       |
| 16-Sep | 69.5        | 3.1        | F   | ↓         | 0040   | RED       | 4137430E48 | Wigwam       |
| 16-Sep | 74.0        | 3.8        | F   | ↓         | 0281   | BLUE      | 41122D1C03 | Wigwam       |
| 16-Sep | 63.0        | 2.8        | F   | ↓         | 0132   | BLUE      | 41130E6F10 | Wigwam       |
| 16-Sep | 54.0        | 1.5        | F   | ↓         | 0041   | RED       | 4137326054 | Wigwam       |
| 16-Sep | 64.0        | 2.7        | F   | ↑         | 0042   | RED       | 4137285156 | Wigwam       |
| 16-Sep | 67.0        | 3.1        | M   | ↑         | 0043   | RED       | 41374D347B | Wigwam       |
| 16-Sep | 69.0        | 3.4        | F   | ↑         | 0206   | BLUE      |            | Wigwam       |
| 16-Sep | 73.0        | 4.3        | F   | ↑         | 0044   | RED       | 41125A1E52 | Wigwam       |
| 16-Sep | 60.0        | 2.2        | F   | ↑         | 0405   | BLUE      | 4112480F04 | Wigwam       |
| 16-Sep | 69.0        | 3.1        | M   | ↑         | 0045   | RED       | 41373A1C58 | Wigwam       |
| 16-Sep | 71.0        | 3.4        | M   | ↑         | 0513   | BLUE      | 4112684A53 | Wigwam       |
| 17-Sep | 67.5        | 2.8        | F   | ↓         | 0244   | BLUE      | 4112674704 | Wigwam       |
| 17-Sep | 77.0        | 4.6        | F   | ↓         | 0046   | RED       | 41373F6E73 | Wigwam       |
| 17-Sep | 82.5        | 4.8        | F   | ↓         | 0200   | ORANGE    | 410368701E | Wigwam       |
| 17-Sep | 64.5        | 2.4        | F   | ↓         | 0163   | BLUE      | 4112664B4C | Wigwam       |
| 17-Sep | 68.5        | 3.0        | F   | ↓         | 0056   | BLUE      | 41124F692F | Wigwam       |
| 17-Sep | 68.5        | 3.9        | F   | ↓         | 0655   | BLUE      |            | Wigwam       |
| 17-Sep | 73.0        | 3.5        | F   | ↓         | 0345   | ORANGE    | 4103637420 | Wigwam       |
| 17-Sep | 62.5        | 2.4        | F   | ↓         | 0047   | RED       | 4137282A03 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 17-Sep | 63.0        | 2.5        | F   | ↓         | 0563   | BLUE      |            | Wigwam       |
| 17-Sep | 79.0        | 5.1        | M   | ↑         | 0997   | ORANGE    | 4103555029 | Wigwam       |
| 17-Sep | 77.5        | 4.9        | F   | ↑         | 0461   | ORANGE    | 4103517B77 | Wigwam       |
| 17-Sep | 62.0        | 2.6        | M   | ↑         | 0048   | RED       | 4137364D24 | Wigwam       |
| 17-Sep | 67.5        | 3.0        | M   | ↑         | 0049   | RED       | 41372D1F5F | Wigwam       |
| 17-Sep | 71.0        | 3.9        | F   | ↑         | 0032   | BLUE      | 41034F7076 | Wigwam       |
| 17-Sep | 71.5        | 2.5        | M   | ↑         | 0506   | BLUE      | 41125F7442 | Wigwam       |
| 17-Sep | 80.0        | 5.6        | F   | ↑         | 0682   | ORANGE    |            | Wigwam       |
| 17-Sep | 77.5        | 4.3        | M   | ↑         | 0392   | BLUE      | 41126F7B72 | Wigwam       |
| 17-Sep | 74.0        | 3.7        | M   | ↑         | 0859   | BLUE      | 411E68624D | Wigwam       |
| 17-Sep | 69.0        | 3.4        | M   | ↑         | 0050   | RED       | 4136657208 | Wigwam       |
| 17-Sep | 71.0        | 3.7        | M   | ↑         | 0051   | RED       | 4137304D4F | Wigwam       |
| 17-Sep | 63.0        | 2.9        | F   | ↑         | 0052   | RED       | 41365B0E17 | Wigwam       |
| 17-Sep | 64.5        | 3.2        | M   | ↑         | 0053   | RED       | 41373E323C | Wigwam       |
| 17-Sep | 64.0        | 2.8        | M   | ↑         | 0054   | RED       | 4136700D33 | Wigwam       |
| 17-Sep | 47.0        | 1.2        | ?   | ↓         | 0055   | RED       | 4137434059 | Wigwam       |
| 18-Sep | 74.0        | 4.7        | M   | ↓         | 0056   | RED       | 41365A5555 | Wigwam       |
| 18-Sep | 55.0        | 1.7        | F   | ↓         | 0057   | RED       | 4136466212 | Wigwam       |
| 18-Sep | 68.0        | 3.0        | F   | ↓         | 0653   | BLUE      |            | Wigwam       |
| 18-Sep | 69.5        | 3.2        | F   | ↓         | 0589   | BLUE      |            | Wigwam       |
| 18-Sep | 73.5        | 4.2        | F   | ↓         | 0228   | ORANGE    | 4103676B19 | Wigwam       |
| 18-Sep | 60.5        | 2.3        | F   | ↓         | 0058   | RED       | 41374C5415 | Wigwam       |
| 18-Sep | 56.0        | 1.9        | F   | ↑         |        |           |            | Wigwam       |
| 18-Sep | 67.5        | 3.4        | M   | ↑         | 0554   | BLUE      |            | Wigwam       |
| 18-Sep | 64.5        | 3.2        | M   | ↑         | 0059   | RED       | 41372D663E | Wigwam       |
| 18-Sep | 80.0        | 5.1        | M   | ↑         | 0707   | BLUE      | 411E68596C | Wigwam       |
| 18-Sep | 60.5        | 2.4        | F   | ↑         | 0060   | RED       | 4137400267 | Wigwam       |
| 18-Sep | 66.5        | 2.8        | M   | ↑         | 0061   | RED       | 41374F7E17 | Wigwam       |
| 18-Sep | 75.5        | 4.8        | F   | ↑         | 0494   | ORANGE    | 410357735A | Wigwam       |
| 18-Sep | 77.5        | 4.9        | M   | ↑         | 0287   | BLUE      | 4112750C27 | Wigwam       |
| 18-Sep | 78.5        | 4.8        | M   | ↑         | 0062   | RED       | 41365F7C2B | Wigwam       |
| 18-Sep | 69.0        | 4.0        | F   | ↑         | 0577   | BLUE      | 41125A2669 | Wigwam       |
| 18-Sep | 68.0        | 3.6        | M   | ↑         | 0063   | RED       | 4137462E53 | Wigwam       |
| 18-Sep | 72.5        | 4.0        | M   | ↑         | 0669   | BLUE      | 411E5A3E07 | Wigwam       |
| 18-Sep | 68.5        | 3.5        | F   | ↑         | 0064   | RED       | 4112191511 | Wigwam       |
| 18-Sep | 68.5        | 3.6        | M   | ↑         | 0065   | RED       | 4136724052 | Wigwam       |
| 18-Sep | 67.0        | 3.1        | M   | ↑         | 0066   | RED       | 4137276B71 | Wigwam       |
| 18-Sep | 69.5        | 3.5        | F   | ↑         | 0198   | BLUE      | 115553547A | Wigwam       |
| 18-Sep | 67.5        | 3.4        | M   | ↓         | 0544   | BLUE      |            | Wigwam       |
| 18-Sep | 67.5        | 2.9        | F   | ↓         | 0703   | BLUE      | 411E4F6A6E | Wigwam       |
| 18-Sep | 67.5        | 3.0        | F   | ↓         | 0067   | RED       | 411271423A | Wigwam       |
| 18-Sep | 80.0        | 4.7        | F   | ↓         | 0192   | ORANGE    | 4103731E44 | Wigwam       |
| 18-Sep | 58.5        | 2.1        | F   | ↓         | 0511   | BLUE      |            | Wigwam       |
| 18-Sep | 64.5        | 2.5        | F   | ↓         | 0521   | BLUE      | 41117A5F0C | Wigwam       |
| 19-Sep | 50.5        | 1.2        | F   | ↓         | 0068   | RED       | 413745027F | Wigwam       |
| 19-Sep | 66.5        | 2.9        | F   | ↓         | 0261   | BLUE      |            | Wigwam       |
| 19-Sep | 72.0        | 3.7        | F   | ↓         | 0069   | RED       | 41036B506E | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 19-Sep | 58.0        | 2.2        | F   | ↓         | 0070   | RED       | 41365F1C51 | Wigwam       |
| 19-Sep | 74.0        | 3.5        | F   | ↓         | 0071   | RED       | 41127F7576 | Wigwam       |
| 19-Sep | 75.5        | 4.0        | F   | ↓         | 0152   | ORANGE    | 410357080F | Wigwam       |
| 19-Sep | 67.0        | 2.6        | F   | ↓         | 0756   | ORANGE    |            | Wigwam       |
| 19-Sep | 64.0        | 2.9        | F   | ↓         | 0276   | BLUE      | 4112703309 | Wigwam       |
| 19-Sep | 65.0        | 2.8        | F   | ↓         | 0155   | BLUE      |            | Wigwam       |
| 19-Sep | 51.0        | 1.7        | M   | ↑         | 0072   | RED       | 41373A7F36 | Wigwam       |
| 19-Sep | 67.0        | 3.3        | F   | ↑         | 0037   | BLUE      |            | Wigwam       |
| 19-Sep | 81.0        | 5.4        | M   | ↑         | 0343   | BLUE      | 4103702F69 | Wigwam       |
| 19-Sep | 80.0        | 4.3        | F   | ↓         | 0081   | ORANGE    | 4103717E59 | Wigwam       |
| 19-Sep | 71.5        | 3.5        | F   | ↓         | 0307   | ORANGE    | 4103723736 | Wigwam       |
| 19-Sep | 68.0        | 3.1        | F   | ↑         | 0034   | BLUE      | 41035E0410 | Wigwam       |
| 19-Sep | 71.0        | 3.9        | M   | ↑         | 0073   | RED       | 413748E15  | Wigwam       |
| 19-Sep | 75.0        | 4.5        | M   | ↑         | 0527   | BLUE      | 4113042305 | Wigwam       |
| 19-Sep | 63.0        | 3.2        | F   | ↑         | 0068   | BLUE      | 411244414E | Wigwam       |
| 19-Sep | 68.0        | 3.2        | M   | ↑         | 0807   | BLUE      | 411E530817 | Wigwam       |
| 19-Sep | 69.0        | 3.1        | F   | ↓         | 0018   | BLUE      | 41036E623F | Wigwam       |
| 19-Sep | 59.0        | 2.2        | F   | ↓         | 0074   | RED       | 41374C0A7A | Wigwam       |
| 19-Sep | 70.0        | 3.7        | F   | ↓         | 0534   | BLUE      | 4112760F43 | Wigwam       |
| 19-Sep | 58.0        | 1.8        | F   | ↓         | 0075   | RED       | 41365E7A11 | Wigwam       |
| 19-Sep | 64.0        | 2.5        | F   | ↓         | 0076   | RED       | 41366D3E7A | Wigwam       |
| 19-Sep | 62.0        | 2.5        | F   | ↓         | 0077   | RED       | 4112452D7C | Wigwam       |
| 19-Sep | 81.0        | 6.5        | F   | ↑         | 0287   | ORANGE    |            | Wigwam       |
| 19-Sep | 72.0        | 4.5        | M   | ↑         | 0078   | RED       | 4137492013 | Wigwam       |
| 19-Sep | 74.0        | 4.7        | M   | ↑         | 0508   | BLUE      | 41125B6A58 | Wigwam       |
| 19-Sep | 72.0        | 3.5        | M   | ↑         | 0816   | BLUE      |            | Wigwam       |
| 20-Sep | 73.5        | 3.9        | F   | ↓         | 0171   | ORANGE    | 4103661A2A | Wigwam       |
| 20-Sep | 75.5        | 3.9        | F   | ↓         | 0079   | RED       | 41374B4E66 | Wigwam       |
| 20-Sep | 64.0        | 2.6        | F   | ↓         | 0510   | BLUE      | 41127B2921 | Wigwam       |
| 20-Sep | 59.0        | 1.7        | F   | ↓         | 0469   | BLUE      | 4112330152 | Wigwam       |
| 20-Sep | 67.0        | 3.0        | F   | ↓         | 0714   | BLUE      | 411E6A171A | Wigwam       |
| 20-Sep | 76.0        | 4.9        | F   | ↓         | 0399   | ORANGE    | 41035F0713 | Wigwam       |
| 20-Sep | 68.0        | 3.1        | F   | ↓         | 0639   | BLUE      |            | Wigwam       |
| 20-Sep | 67.0        | 3.4        | M   | ↓         | 0907   | BLUE      | 411E530817 | Wigwam       |
| 20-Sep | 63.0        | 2.5        | F   | ↑         | 0066   | BLUE      | 4112620D17 | Wigwam       |
| 20-Sep | 77.0        | 5.5        | F   | ↑         | 0134   | BLUE      | 4103701752 | Wigwam       |
| 20-Sep | 64.0        | 2.6        | F   | ↓         | 0054   | BLUE      | 4112393C60 | Wigwam       |
| 20-Sep | 83.0        | 6.3        | F   | ↑         | 0286   | ORANGE    | 41034C1546 | Wigwam       |
| 20-Sep | 81.0        | 5.6        | M   | ↑         | 0080   | RED       | 41373D2D7A | Wigwam       |
| 20-Sep | 64.0        | 3.2        | F   | ↑         | 0501   | BLUE      | 4112780872 | Wigwam       |
| 20-Sep | 64.0        | 2.9        | M   | ↑         | 0081   | RED       | 4136554F71 | Wigwam       |
| 20-Sep | 78.0        | 5.6        | F   | ↑         | 0669   | ORANGE    |            | Wigwam       |
| 20-Sep | 73.0        | 4.5        | M   | ↑         | 0561   | BLUE      | 411231571C | Wigwam       |
| 20-Sep | 81.0        | 5.1        | M   | ↑         | 0689   | ORANGE    |            | Wigwam       |
| 20-Sep | 74.0        | 4.4        | M   | ↑         | 0685   | BLUE      | 4112776C3A | Wigwam       |
| 20-Sep | 62.0        | 2.9        | F   | ↑         | 0557   | BLUE      | 41125D6D3E | Wigwam       |
| 20-Sep | 70.0        | 4.7        | F   | ↑         | 0082   | RED       | 411257084D | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 20-Sep | 77.0        | 5.1        | F   | ↑         | 0609   | ORANGE    | 4103602808 | Wigwam       |
| 20-Sep | 71.5        | 4.6        | F   | ↑         | 0564   | BLUE      | 4112142B4B | Wigwam       |
| 20-Sep | 69.0        | 3.5        | F   | ↑         | 0496   | BLUE      | 4103552720 | Wigwam       |
| 20-Sep | 76.0        | 5.0        | F   | ↑         | 0618   | BLUE      | 410370434F | Wigwam       |
| 20-Sep | 78.0        | 5.2        | F   | ↑         | 0081   | BLUE      | 4103664752 | Wigwam       |
| 20-Sep | 80.0        | 4.9        | M   | ↑         | 0465   | BLUE      | 41124C6A4B | Wigwam       |
| 20-Sep | 67.0        | 3.8        | M   | ↑         | 0083   | RED       | 4137247D52 | Wigwam       |
| 20-Sep | 79.0        | 4.9        | F   | ↑         | 0058   | BLUE      | 4103655171 | Wigwam       |
| 20-Sep | 65.0        | 3.2        | F   | ↑         | 0329   | BLUE      | 41125C786D | Wigwam       |
| 20-Sep | 60.0        | 2.2        | F   | ↓         | 0084   | RED       | 41373D7B53 | Wigwam       |
| 20-Sep | 67.0        | 3.1        | F   | ↓         | 0147   | BLUE      | 41126D4423 | Wigwam       |
| 20-Sep | 78.0        | 5.9        | F   | ↓         | 0502   | BLUE      | 41036F697A | Wigwam       |
| 20-Sep | 67.0        | 3.0        | F   | ↓         | 0547   | BLUE      | 4112776252 | Wigwam       |
| 20-Sep | 57.0        | 2.0        | F   | ↓         | 0085   | RED       | 41366F7A7E | Wigwam       |
| 20-Sep | 68.0        | 3.2        | F   | ↓         | 0642   | BLUE      |            | Wigwam       |
| 20-Sep | 62.0        | 2.8        | F   | ↓         | 0086   | RED       | 41364C3225 | Wigwam       |
| 21-Sep | 74.0        | 4.1        | F   | ↑         | 0297   | ORANGE    | 410369284B | Wigwam       |
| 21-Sep | 68.5        | 3.3        | M   | ↓         | 0087   | RED       | 413729755B | Wigwam       |
| 21-Sep | 75.0        | 3.6        | F   | ↓         | 0331   | ORANGE    | 41034E0D19 | Wigwam       |
| 21-Sep | 67.0        | 3.3        | F   | ↓         | 0099   | BLUE      | 41125E4A43 | Wigwam       |
| 21-Sep | 53.5        | 1.6        | F   | ↓         | 0570   | BLUE      |            | Wigwam       |
| 21-Sep | 64.5        | 2.9        | F   | ↓         | 0088   | RED       | 4136564744 | Wigwam       |
| 21-Sep | 76.0        | 4.1        | F   | ↓         | 0241   | ORANGE    | 41036C2D6A | Wigwam       |
| 21-Sep | 50.5        | 1.5        | F   | ↓         | 0460   | BLUE      | 41131E7B18 | Wigwam       |
| 21-Sep | 58.0        | 2.3        | F   | ↑         | 0543   | BLUE      | 4111254632 | Wigwam       |
| 21-Sep | 71.5        | 3.1        | M   | ↑         | 0004   | BLUE      | 4112305312 | Wigwam       |
| 21-Sep | 76.0        | 4.7        | M   | ↑         | 0089   | RED       | 41372A5977 | Wigwam       |
| 21-Sep | 67.0        | 3.5        | F   | ↑         | 0090   | RED       | 4136452B7D | Wigwam       |
| 21-Sep | 81.0        | 5.6        | M   | ↑         | 0091   | RED       | 41123A2326 | Wigwam       |
| 21-Sep | 63.5        | 3.0        | M   | ↑         | 0092   | RED       | 4136450C73 | Wigwam       |
| 21-Sep | 44.0        | 1.2        | F   | ↑         | 0093   | RED       | 4137245E46 | Wigwam       |
| 21-Sep | 82.0        | 5.2        | M   | ↑         | 0806   | ORANGE    |            | Wigwam       |
| 21-Sep | 71.0        | 4.4        | F   | ↑         | 0094   | RED       | 41117A5669 | Wigwam       |
| 21-Sep | 64.0        | 3.0        | F   | ↑         | 0515   | BLUE      | 4113245316 | Wigwam       |
| 21-Sep | 74.0        | 4.1        | M   | ↑         | 0095   | RED       | 7F7D0B7F5A | Wigwam       |
| 21-Sep | 74.5        | 4.7        | F   | ↑         | 0466   | ORANGE    | 410361172A | Wigwam       |
| 21-Sep | 80.0        | 5.8        | F   | ↑         | 0583   | BLUE      | 41036A7F32 | Wigwam       |
| 21-Sep | 73.0        | 4.2        | M   | ↑         | 0558   | BLUE      | 4112704D65 | Wigwam       |
| 21-Sep | 74.5        | 4.2        | M   | ↑         | 0096   | RED       | 4136487147 | Wigwam       |
| 21-Sep | 68.5        | 4.1        | F   | ↑         | 0254   | BLUE      |            | Wigwam       |
| 21-Sep | 57.0        | 2.3        | F   | ↑         | 0097   | RED       | 4137491379 | Wigwam       |
| 21-Sep | 67.0        | 3.3        | F   | ↑         | 0041   | BLUE      | 41126D7270 | Wigwam       |
| 21-Sep | 51.0        | 1.7        | F   | ↑         | 0098   | RED       | 41372B4078 | Wigwam       |
| 21-Sep | 74.0        | 4.3        | M   | ↓         | 0670   | BLUE      | 4103587C39 | Wigwam       |
| 21-Sep | 84.0        | 5.6        | F   | ↓         | 0197   | ORANGE    | 41035F5520 | Wigwam       |
| 21-Sep | 46.0        | 1.2        | F   | ↓         | 0099   | RED       | 4137283E67 | Wigwam       |
| 21-Sep | 60.0        | 2.3        | F   | ↓         | 0524   | BLUE      | 4113040E79 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 21-Sep | 59.0        | 2.2        | F   | ↓         | 0385   | ORANGE    | 4103586A69 | Wigwam       |
| 21-Sep | 59.5        | 2.5        | F   | ↓         | 0424   | BLUE      | 41123D7453 | Wigwam       |
| 21-Sep | 69.5        | 3.5        | F   | ↓         | 0146   | BLUE      | 41123C205A | Wigwam       |
| 21-Sep | 79.5        | 4.9        | F   | ↓         | 0821   | ORANGE    |            | Wigwam       |
| 21-Sep | 61.0        | 2.6        | F   | ↓         | 0100   | RED       | 7F7D0D663F | Wigwam       |
| 21-Sep | 61.0        | 2.5        | F   | ↓         | 0101   | RED       | 7F7F006C18 | Wigwam       |
| 22-Sep | 59.0        | 2.3        | F   | ↑         | 0590   | BLUE      |            | Wigwam       |
| 22-Sep | 63.0        | 3.1        | M   | ↑         | 0102   | RED       | 41374B631A | Wigwam       |
| 22-Sep | 75.0        | 4.4        | M   | ↑         | 0103   | RED       | 413653594A | Wigwam       |
| 22-Sep | 70.0        | 3.5        | F   | ↓         | 0615   | ORANGE    | 4103487D76 | Wigwam       |
| 22-Sep | 69.5        | 3.3        | F   | ↓         | 0104   | RED       | 4136466331 | Wigwam       |
| 22-Sep | 57.5        | 2.0        | F   | ↓         | 0431   | BLUE      | 4112171971 | Wigwam       |
| 22-Sep | 66.0        | 3.1        | F   | ↓         | 0105   | RED       | 413649431A | Wigwam       |
| 22-Sep | 62.5        | 1.6        | F   | ↓         | 0106   | RED       | 41364A615E | Wigwam       |
| 22-Sep | 69.0        | 3.2        | F   | ↓         | 0469   | ORANGE    |            | Wigwam       |
| 22-Sep | 74.0        | 4.6        | F   | ↓         | 0504   | BLUE      | 410362721A | Wigwam       |
| 22-Sep | 63.5        | 2.7        | F   | ↓         | 0107   | RED       | 4137496A18 | Wigwam       |
| 22-Sep | 79.0        | 5.2        | F   | ↑         | 0887   | ORANGE    |            | Wigwam       |
| 22-Sep | 75.5        | 4.1        | M   | ↑         | 0108   | RED       | 7F7DOC062C | Wigwam       |
| 22-Sep | 71.0        | 4.1        | F   | ↑         | 0619   | BLUE      | 4112645961 | Wigwam       |
| 22-Sep | 77.0        | 4.5        | M   | ↓         | 0109   | RED       | 41374B5A02 | Wigwam       |
| 22-Sep | 69.0        | 3.4        | F   | ↓         | 0117   | BLUE      | 411306123C | Wigwam       |
| 22-Sep | 68.0        | 3.5        | M   | ↑         | 0110   | RED       | 41373C7F5D | Wigwam       |
| 22-Sep | 74.0        | 4.5        | M   | ↑         | 0111   | RED       | 41373A1629 | Wigwam       |
| 22-Sep | 64.0        | 3.0        | M   | ↑         | 0112   | RED       | 41364C7A1A | Wigwam       |
| 22-Sep | 70.0        | 3.6        | F   | ↑         | 0536   | BLUE      |            | Wigwam       |
| 22-Sep | 66.0        | 3.5        | F   | ↑         | 0822   | BLUE      |            | Wigwam       |
| 22-Sep | 76.5        | 4.2        | F   | ↑         | 0113   | RED       | 4137332423 | Wigwam       |
| 22-Sep | 40.0        | 1.0        | ?   | ↑         | 0114   | RED       | 4136532E43 | Wigwam       |
| 22-Sep | 74.0        | 4.2        | M   | ↑         | 0495   | BLUE      | 41126D1424 | Wigwam       |
| 22-Sep | 78.5        | 5.1        | M   | ↑         | 0115   | RED       | 41366B3B28 | Wigwam       |
| 22-Sep | 74.0        | 4.6        | F   | ↑         | 0426   | ORANGE    | 41034F5778 | Wigwam       |
| 22-Sep | 67.5        | 3.5        | F   | ↑         | 0419   | BLUE      | 41121B1A3D | Wigwam       |
| 22-Sep | 78.5        | 4.3        | F   | ↓         | 0116   | RED       | 4136492C2B | Wigwam       |
| 22-Sep | 75.5        | 4.8        | F   | ↑         | 0718   | ORANGE    |            | Wigwam       |
| 22-Sep | 52.0        | 1.8        | F   | ↑         | 0117   | RED       | 4137424D32 | Wigwam       |
| 22-Sep | 81.5        | 6.0        | M   | ↑         | 0118   | RED       | 4136573059 | Wigwam       |
| 22-Sep | 65.0        | 3.2        | F   | ↑         | 0036   | BLUE      | 41122D2335 | Wigwam       |
| 22-Sep | 67.0        | 3.2        | F   | ↓         | 0190   | BLUE      | 4112720A76 | Wigwam       |
| 22-Sep | 71.5        | 4.1        | M   | ↓         | 0559   | BLUE      | 4112704D65 | Wigwam       |
| 22-Sep | 54.0        | 2.0        | F   | ↓         | 0513   | ORANGE    | 41036B4224 | Wigwam       |
| 22-Sep | 69.0        | 3.2        | F   | ↓         | 0142   | BLUE      | 41123C6865 | Wigwam       |
| 22-Sep | 71.5        | 3.5        | F   | ↓         | 0084   | BLUE      | 411174507B | Wigwam       |
| 22-Sep | 58.5        | 2.2        | F   | ↓         | 0637   | BLUE      |            | Wigwam       |
| 22-Sep | 47.5        | 1.6        | ?   | ↓         | 0119   | RED       | 4136614D32 | Wigwam       |
| 22-Sep | 75.0        | 4.1        | F   | ↓         | 0512   | ORANGE    | 41035E296C | Wigwam       |
| 22-Sep | 63.0        | 2.9        | F   | ↓         | 0308   | BLUE      | 4112724C21 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 23-Sep | 71.0        | 3.6        | M   | ↑         | 0120   | RED       | 4136721176 | Wigwam       |
| 23-Sep | 72.0        | 3.7        | M   | ↑         | 0121   | RED       | 4137423667 | Wigwam       |
| 23-Sep | 63.0        | 2.5        | M   | ↑         | 0556   | BLUE      | 41126E2876 | Wigwam       |
| 23-Sep | 74.0        | 4.4        | F   | ↓         | 0324   | ORANGE    | 41036E046B | Wigwam       |
| 23-Sep | 74.0        | 3.7        | F   | ↓         | 0520   | ORANGE    | 4103550723 | Wigwam       |
| 23-Sep | 71.5        | 3.5        | F   | ↓         | 0537   | ORANGE    | 41035B7A64 | Wigwam       |
| 23-Sep | 67.5        | 3.2        | F   | ↓         | 0713   | BLUE      | 411E467336 | Wigwam       |
| 23-Sep | 56.5        | 2.1        | F   | ↓         | 0122   | RED       | 4137480E6C | Wigwam       |
| 23-Sep | 67.0        | 3.3        | F   | ↓         | 0123   | RED       | 115674645A | Wigwam       |
| 23-Sep | 58.5        | 2.3        | F   | ↓         | 0124   | RED       | 41372E1A15 | Wigwam       |
| 23-Sep | 63.0        | 2.7        | F   | ↓         | 0125   | RED       | 4137435F6C | Wigwam       |
| 23-Sep | 57.0        | 2.1        | F   | ↓         | 0126   | RED       | 413650151C | Wigwam       |
| 23-Sep | 66.5        | 2.9        | F   | ↓         | 0185   | BLUE      | 411300455D | Wigwam       |
| 23-Sep | 48.5        | 1.4        | F   | ↓         | 0127   | RED       | 4137233A59 | Wigwam       |
| 23-Sep | 46.0        | 1.4        | F   | ↓         | 0128   | RED       | 41372F7E61 | Wigwam       |
| 23-Sep | 70.0        | 3.9        | F   | ↓         | 0666   | BLUE      | 115677386A | Wigwam       |
| 23-Sep | 55.0        | 1.7        | F   | ↓         | 0517   | BLUE      | 411274440C | Wigwam       |
| 23-Sep | 74.0        | 3.8        | F   | ↓         | 0129   | RED       | 41034B3845 | Wigwam       |
| 23-Sep | 70.0        | 2.4        | F   | ↑         | 0657   | ORANGE    |            | Wigwam       |
| 23-Sep | 78.5        | 6.5        | F   | ↑         | 0628   | BLUE      |            | Wigwam       |
| 23-Sep | 66.5        | 3.6        | F   | ↑         | 0442   | BLUE      |            | Wigwam       |
| 23-Sep | 68.0        | 3.6        | F   | ↑         | 0218   | ORANGE    |            | Wigwam       |
| 23-Sep | 76.5        | 4.2        | M   | ↑         | 0673   | ORANGE    |            | Wigwam       |
| 23-Sep | 76.0        | 4.6        | F   | ↑         | 0501   | ORANGE    | 4103703F17 | Wigwam       |
| 23-Sep | 68.0        | 3.4        | F   | ↑         | 0795   | ORANGE    |            | Wigwam       |
| 23-Sep | 63.5        | 3.0        | F   | ↑         | 0418   | ORANGE    |            | Wigwam       |
| 23-Sep | 83.0        | 5.9        | M   | ↑         | 0130   | RED       | 4136475455 | Wigwam       |
| 23-Sep | 65.0        | 3.2        | F   | ↑         | 0181   | BLUE      | 41127A110E | Wigwam       |
| 23-Sep | 54.5        | 2.5        | F   | ↑         | 0131   | RED       | 4136723933 | Wigwam       |
| 23-Sep | 64.5        | 3.4        | F   | ↑         | 0353   | BLUE      | 411270055A | Wigwam       |
| 23-Sep | 71.0        | 3.9        | F   | ↓         | 0132   | RED       | 4112555B3A | Wigwam       |
| 23-Sep | 66.0        | 3.0        | F   | ↓         | 0090   | BLUE      | 41125F5441 | Wigwam       |
| 23-Sep | 53.5        | 1.9        | F   | ↓         | 0133   | RED       | 4136593372 | Wigwam       |
| 23-Sep | 62.0        | 2.9        | F   | ↑         | 0134   | RED       | 41374C177B | Wigwam       |
| 23-Sep | 64.0        | 3.0        | F   | ↑         | 0135   | RED       | 4136706115 | Wigwam       |
| 23-Sep | 55.5        | 2.1        | F   | ↑         | 0136   | RED       | 413751021F | Wigwam       |
| 23-Sep | 64.0        | 3.2        | F   | ↑         | 0601   | BLUE      |            | Wigwam       |
| 23-Sep | 63.0        | 3.0        | F   | ↑         | 0137   | RED       | 41365F5832 | Wigwam       |
| 23-Sep | 79.0        | 5.1        | F   | ↓         | 0635   | ORANGE    |            | Wigwam       |
| 23-Sep | 67.5        | 3.0        | F   | ↓         | 0518   | BLUE      | 4112624306 | Wigwam       |
| 23-Sep | 68.0        | 3.1        | F   | ↓         | 0067   | BLUE      | 4112496944 | Wigwam       |
| 23-Sep | 51.0        | 1.6        | F   | ↓         | 0138   | RED       | 41372F3367 | Wigwam       |
| 23-Sep | 75.0        | 4.9        | F   | ↓         | 0582   | BLUE      |            | Wigwam       |
| 23-Sep | 66.0        | 3.2        | F   | ↓         | 0357   | BLUE      | 411270055A | Wigwam       |
| 23-Sep | 75.0        | 4.3        | F   | ↓         | 0550   | BLUE      |            | Wigwam       |
| 23-Sep | 64.0        | 2.5        | F   | ↓         | 0139   | RED       | 41126A6271 | Wigwam       |
| 24-Sep | 67.5        | 3.3        | F   | ↑         | 0348   | BLUE      | 41130D6C74 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 24-Sep | 69.0        | 3.4        | F   | ↑         | 0643   | BLUE      |            | Wigwam       |
| 24-Sep | 56.0        | 2.1        | M   | ↑         | 0140   | RED       | 41374C7A7E | Wigwam       |
| 24-Sep | 52.5        | 1.8        | F   | ↑         | 0141   | RED       | 41364B6473 | Wigwam       |
| 24-Sep | 77.5        | 4.6        | F   | ↓         | 0261   | ORANGE    | 4103604A46 | Wigwam       |
| 24-Sep | 65.0        | 2.7        | F   | ↓         | 0086   | BLUE      | 411267754D | Wigwam       |
| 24-Sep | 67.5        | 3.4        | F   | ↓         | 0575   | BLUE      | 411315082F | Wigwam       |
| 24-Sep | 56.0        | 2.0        | F   | ↓         | 0533   | BLUE      | 411275583A | Wigwam       |
| 24-Sep | 65.0        | 3.0        | F   | ↓         | 0795   | BLUE      | 411E6C4F30 | Wigwam       |
| 24-Sep | 55.0        | 1.9        | F   | ↓         | 0142   | RED       | 41373C2D6E | Wigwam       |
| 24-Sep | 56.5        | 2.0        | F   | ↓         | 0567   | BLUE      | 41126F5866 | Wigwam       |
| 24-Sep | 44.0        | 1.2        | F   | ↓         | 0143   | RED       | 41374D013F | Wigwam       |
| 24-Sep | 63.0        | 2.0        | F   | ↓         | 0585   | BLUE      |            | Wigwam       |
| 24-Sep | 51.0        | 1.6        | F   | ↓         | 0144   | RED       | 4136726172 | Wigwam       |
| 24-Sep | 64.5        | 2.9        | F   | ↓         | 0145   | RED       | 4137314D5B | Wigwam       |
| 24-Sep | 71.0        | 3.7        | M   | ↑         | 0146   | RED       | 4136653920 | Wigwam       |
| 24-Sep | 72.0        | 4.5        | F   | ↑         | 0807   | ORANGE    |            | Wigwam       |
| 24-Sep | 62.0        | 2.7        | F   | ↑         | 0729   | BLUE      | 411E523616 | Wigwam       |
| 24-Sep | 70.0        | 4.2        | M   | ↑         | 0147   | RED       | 41366E7715 | Wigwam       |
| 24-Sep | 79.0        | 5.2        | F   | ↑         | 0576   | BLUE      | 411315225E | Wigwam       |
| 24-Sep | 71.0        | 3.5        | F   | ↓         | 0148   | RED       | 4137370B67 | Wigwam       |
| 24-Sep | 63.5        | 3.2        | F   | ↑         | 0606   | BLUE      |            | Wigwam       |
| 24-Sep | 65.0        | 3.3        | F   | ↑         | 0626   | BLUE      |            | Wigwam       |
| 24-Sep | 72.0        | 4.2        | F   | ↓         | 0176   | BLUE      | 4112680A2A | Wigwam       |
| 24-Sep | 77.5        | 4.9        | F   | ↓         | 0455   | ORANGE    | 410368455A | Wigwam       |
| 24-Sep | 57.0        | 2.1        | F   | ↓         | 0149   | RED       | 410A361615 | Wigwam       |
| 24-Sep | 76.0        | 4.5        | F   | ↓         | 0462   | ORANGE    | 410370760B | Wigwam       |
| 24-Sep | 54.5        | 1.9        | F   | ↓         | 0599   | BLUE      |            | Wigwam       |
| 24-Sep | 63.5        | 2.8        | F   | ↓         | 0150   | RED       | 4112674627 | Wigwam       |
| 24-Sep | 62.0        | 2.5        | F   | ↓         | 0188   | BLUE      | 4112645842 | Wigwam       |
| 24-Sep | 62.0        | 2.7        | F   | ↓         | 0151   | RED       | 4136615956 | Wigwam       |
| 24-Sep | 50.0        | 1.6        | F   | ↓         | 0152   | RED       | 41373A0B28 | Wigwam       |
| 25-Sep | 66.0        | 3.3        | F   | ↑         | 0720   | BLUE      | 411E466A2D | Wigwam       |
| 25-Sep | 70.0        | 4.0        | F   | ↑         | 0687   | BLUE      | 411E545B78 | Wigwam       |
| 25-Sep | 67.0        | 3.3        | F   | ↓         | 0369   | BLUE      |            | Wigwam       |
| 25-Sep | 62.0        | 2.4        | F   | ↓         | 0153   | RED       | 4137470949 | Wigwam       |
| 25-Sep | 64.5        | 2.7        | F   | ↓         | 0545   | ORANGE    |            | Wigwam       |
| 25-Sep | 67.0        | 3.1        | F   | ↓         | 0328   | BLUE      | 4113047E7D | Wigwam       |
| 25-Sep | 65.0        | 2.9        | F   | ↓         | 0070   | BLUE      | 4112715A02 | Wigwam       |
| 25-Sep | 60.0        | 2.3        | F   | ↓         | 0724   | BLUE      |            | Wigwam       |
| 25-Sep | 79.0        | 5.5        | F   | ↓         | 0141   | BLUE      | 41122B2F02 | Wigwam       |
| 25-Sep | 75.0        | 3.7        | F   | ↓         | 0487   | ORANGE    | 41035C0908 | Wigwam       |
| 25-Sep | 66.0        | 3.2        | F   | ↓         | 0565   | BLUE      | 41123B6565 | Wigwam       |
| 25-Sep | 77.0        | 4.4        | M   | ↓         | 0301   | ORANGE    |            | Wigwam       |
| 25-Sep | 61.5        | 2.6        | F   | ↓         | 0154   | RED       | 41364F4820 | Wigwam       |
| 25-Sep | 60.0        | 2.3        | F   | ↓         | 0596   | BLUE      |            | Wigwam       |
| 25-Sep | 61.0        | 2.6        | F   | ↓         | 0155   | RED       | 4136575D5C | Wigwam       |
| 25-Sep | 56.0        | 2.0        | F   | ↓         | 0569   | BLUE      | 41132D7E29 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 25-Sep | 61.0        | 2.4        | F   | ↓         | 0156   | RED       | 4137311D5C | Wigwam       |
| 25-Sep | 63.0        | 2.8        | F   | ↓         | 0157   | RED       | 41364E3F3D | Wigwam       |
| 25-Sep | 65.0        | 3.0        | F   | ↓         | 0566   | BLUE      | 41126D1B6F | Wigwam       |
| 25-Sep | 58.0        | 2.3        | F   | ↓         | 0158   | RED       | 413734320C | Wigwam       |
| 25-Sep | 65.5        | 3.1        | M   | ↓         | 0159   | RED       | 413655132A | Wigwam       |
| 25-Sep | 76.0        | 4.4        | F   | ↓         | 0130   | ORANGE    | 41035D036E | Wigwam       |
| 25-Sep | 64.5        | 3.1        | F   | ↓         | 0160   | RED       | 4112704634 | Wigwam       |
| 25-Sep | 64.0        | 2.6        | F   | ↓         | 0538   | BLUE      | 41131C5603 | Wigwam       |
| 25-Sep | 76.0        | 5.0        | F   | ↓         | 0033   | BLUE      | 4112337A07 | Wigwam       |
| 25-Sep | 60.0        | 2.3        | F   | ↓         | 0161   | RED       | 413749752D | Wigwam       |
| 25-Sep | 56.5        | 2.2        | F   | ↓         | 0162   | RED       | 4137251E2B | Wigwam       |
| 25-Sep | 63.0        | 3.2        | F   | ↓         | 0163   | RED       | 41374D7715 | Wigwam       |
| 25-Sep | 69.0        | 3.5        | F   | ↓         | 0693   | BLUE      | 411E521F70 | Wigwam       |
| 25-Sep | 60.0        | 2.4        | F   | ↓         | 0164   | RED       | 41373E6D70 | Wigwam       |
| 25-Sep | 71.0        | 3.6        | F   | ↓         | 0233   | BLUE      | 411243706F | Wigwam       |
| 25-Sep | 79.5        | 4.7        | F   | ↓         | 0722   | BLUE      | 410364695E | Wigwam       |
| 25-Sep | 54.5        | 1.7        | F   | ↓         | 0165   | RED       | 413733157D | Wigwam       |
| 25-Sep | 76.0        | 4.5        | F   | ↓         | 0788   | ORANGE    |            | Wigwam       |
| 25-Sep | 60.0        | 2.3        | F   | ↓         | 0166   | RED       | 413652366F | Wigwam       |
| 25-Sep | 75.0        | 4.0        | F   | ↓         | 0573   | BLUE      | 4103611B76 | Wigwam       |
| 25-Sep | 69.0        | 3.6        | F   | ↑         | 0544   | BLUE      |            | Wigwam       |
| 25-Sep | 85.0        | 6.2        | F   | ↑         | 0167   | RED       | 41366A0529 | Wigwam       |
| 25-Sep | 81.5        | 5.6        | M   | ↑         | 0168   | RED       | 4136725A5E | Wigwam       |
| 25-Sep | 79.0        | 4.9        | F   | ↑         | 0754   | ORANGE    |            | Wigwam       |
| 25-Sep | 81.5        | 6.8        | F   | ↑         | 0182   | BLUE      | 41127F2452 | Wigwam       |
| 25-Sep | 80.0        | 5.3        | F   | ↓         | 0711   | BLUE      | 115631324A | Wigwam       |
| 25-Sep | 68.5        | 3.1        | F   | ↓         | 0001   | BLUE      | 4112696321 | Wigwam       |
| 25-Sep | 71.0        | 4.4        | M   | ↓         | 0170   | RED       | 41374D4251 | Wigwam       |
| 25-Sep | 68.5        | 3.3        | F   | ↓         | 0169   | RED       | 115711497A | Wigwam       |
| 25-Sep | 67.0        | 3.3        | F   | ↓         | 0612   | BLUE      |            | Wigwam       |
| 25-Sep | 75.5        | 5.5        | F   | ↑         | 0347   | BLUE      |            | Wigwam       |
| 25-Sep | 71.0        | 4.2        | F   | ↑         | 0191   | BLUE      | 41124B4C19 | Wigwam       |
| 25-Sep | 74.0        | 4.5        | F   | ↑         | 0456   | ORANGE    | 41036A3F4B | Wigwam       |
| 25-Sep | 72.0        | 4.0        | M   | ↓         | 0171   | RED       | 413670450C | Wigwam       |
| 25-Sep | 51.5        | 1.9        | F   | ↑         | 0172   | RED       | 413727234E | Wigwam       |
| 25-Sep | 68.0        | 3.3        | F   | ↑         | 0173   | RED       | 41365C7F4F | Wigwam       |
| 25-Sep | 50.0        | 1.7        | F   | ↑         | 0174   | RED       | 4136663870 | Wigwam       |
| 25-Sep | 58.0        | 2.4        | F   | ↑         | 0175   | RED       | 4137234F64 | Wigwam       |
| 25-Sep | 55.5        | 2.1        | M   | ↓         | 0176   | RED       | 41372B541C | Wigwam       |
| 25-Sep | 68.0        | 3.3        | F   | ↓         | 0177   | RED       | 4112795B76 | Wigwam       |
| 25-Sep | 58.5        | 2.3        | F   | ↓         | 0178   | RED       | 41374C4F3A | Wigwam       |
| 25-Sep | 79.5        | 4.4        | F   | ↓         | 0458   | ORANGE    | 41034A352E | Wigwam       |
| 25-Sep | 65.0        | 3.0        | F   | ↓         | 0179   | RED       | 4137362944 | Wigwam       |
| 25-Sep | 58.5        | 2.2        | F   | ↓         | 0621   | BLUE      |            | Wigwam       |
| 25-Sep | 68.0        | 3.2        | F   | ↓         | 0702   | BLUE      | 411E57460A | Wigwam       |
| 25-Sep | 73.0        | 4.3        | F   | ↓         | 0120   | BLUE      | 4112592C68 | Wigwam       |
| 25-Sep | 70.0        | 3.3        | F   | ↓         | 0678   | BLUE      | 411E611E58 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 25-Sep | 64.0        | 2.8        | F   | ↓         | 0689   | BLUE      | 411E5B6466 | Wigwam       |
| 25-Sep | 58.0        | 2.3        | F   | ↓         | 0615   | BLUE      |            | Wigwam       |
| 25-Sep | 59.0        | 2.4        | F   | ↓         | 0180   | RED       | 41372F2414 | Wigwam       |
| 25-Sep | 57.0        | 2.1        | F   | ↓         | 0181   | RED       | 4136522879 | Wigwam       |
| 25-Sep | 65.0        | 3.2        | F   | ↓         | 0299   | BLUE      | 41126A3C1E | Wigwam       |
| 25-Sep | 49.0        | 1.3        | F   | ↑         | 0182   | RED       | 4137251459 | Wigwam       |
| 25-Sep | 64.5        | 3.2        | M   | ↓         | 0183   | RED       | 4137345927 | Wigwam       |
| 26-Sep | 69.0        | 4.1        | F   | ↑         | 0184   | RED       | 4113240F4D | Wigwam       |
| 26-Sep | 76.0        | 4.8        | M   | ↓         | 0185   | RED       | 41374C7535 | Wigwam       |
| 26-Sep | 80.0        | 5.1        | F   | ↓         | 0186   | RED       | 4137350156 | Wigwam       |
| 26-Sep | 53.0        | 1.8        | F   | ↓         | 0552   | BLUE      |            | Wigwam       |
| 26-Sep | 61.0        | 2.2        | F   | ↓         | 0187   | RED       | 4136550C74 | Wigwam       |
| 26-Sep | 66.0        | 2.9        | F   | ↓         | 0635   | BLUE      |            | Wigwam       |
| 26-Sep | 68.0        | 2.6        | F   | ↓         | 0188   | RED       | 41036E3701 | Wigwam       |
| 26-Sep | 82.0        | 5.2        | F   | ↓         | 0496   | ORANGE    | 4103716F04 | Wigwam       |
| 26-Sep | 89.0        | 7.7        | M   | ↑         | 0026   | ORANGE    | 4103491370 | Wigwam       |
| 26-Sep | 64.5        | 2.9        | F   | ↑         | 0811   | BLUE      | 411E551F0F | Wigwam       |
| 26-Sep | 67.0        | 2.2        | F   | ↑         | 0358   | ORANGE    | 410360216D | Wigwam       |
| 26-Sep | 80.0        | 5.6        | F   | ↑         | 0179   | BLUE      | 41035C006D | Wigwam       |
| 26-Sep | 69.0        | 4.0        | F   | ↑         | 0208   | BLUE      | 4112705A16 | Wigwam       |
| 26-Sep | 65.5        | 3.4        | F   | ↑         | 0690   | BLUE      | 411E5B6A0E | Wigwam       |
| 26-Sep | 71.5        | 4.1        | M   | ↑         | 0189   | RED       | 41365C6C26 | Wigwam       |
| 26-Sep | 71.0        | 4.4        | F   | ↑         | 0337   | BLUE      | 4112671A7C | Wigwam       |
| 26-Sep | 77.0        | 5.1        | F   | ↑         | 0427   | ORANGE    | 41034C253B | Wigwam       |
| 26-Sep | 67.5        | 3.0        | F   | ↓         | 0121   | BLUE      | 4112314641 | Wigwam       |
| 26-Sep | 51.0        | 1.6        | F   | ↓         | 0190   | RED       | 41365C6C26 | Wigwam       |
| 26-Sep | 58.0        | 2.1        | F   | ↓         | 0191   | RED       | 4137317677 | Wigwam       |
| 26-Sep | 63.0        | 2.4        | F   | ↓         | 0192   | RED       | 4137461D39 | Wigwam       |
| 26-Sep | 54.5        | 1.8        | F   | ↓         | 0193   | RED       | 4136506944 | Wigwam       |
| 26-Sep | 79.5        | 4.6        | M   | ↓         | 0865   | ORANGE    |            | Wigwam       |
| 26-Sep | 59.5        | 2.2        | F   | ↓         | 0194   | RED       | 41366D4016 | Wigwam       |
| 26-Sep | 73.0        | 3.7        | M   | ↓         | 0195   | RED       | 41366C7651 | Wigwam       |
| 26-Sep | 72.5        | 2.7        | F   | ↓         | 0314   | BLUE      | 4113051158 | Wigwam       |
| 26-Sep | 60.5        | 2.3        | F   | ↓         | 0196   | RED       | 4137302D35 | Wigwam       |
| 27-Sep | 71.0        | 3.5        | F   | ↓         | 0252   | BLUE      | 4112521554 | Wigwam       |
| 27-Sep | 65.5        | 3.0        | F   | ↓         | 0197   | RED       | 41372C170D | Wigwam       |
| 27-Sep | 65.0        | 2.7        | F   | ↓         | 0248   | BLUE      | 41127F1E5D | Wigwam       |
| 27-Sep | 55.5        | 2.0        | F   | ↓         | 0198   | RED       | 4136571440 | Wigwam       |
| 27-Sep | 50.0        | 1.6        | F   | ↓         | 0199   | RED       | 4136534051 | Wigwam       |
| 27-Sep | 77.5        | 4.6        | F   | ↓         | 0256   | ORANGE    | 41036B225E | Wigwam       |
| 27-Sep | 60.0        | 2.5        | F   | ↓         | 0610   | BLUE      |            | Wigwam       |
| 27-Sep | 62.0        | 2.5        | F   | ↓         | 0203   | BLUE      | 41126F2D5B | Wigwam       |
| 27-Sep |             | 2.2        | F   | ↓         | 0200   | RED       | 41366C2078 | Wigwam       |
| 27-Sep | 66.5        | 3.1        | F   | ↓         | 0169   | BLUE      | 41127F3C6A | Wigwam       |
| 27-Sep | 82.5        | 6.4        | F   | ↑         | 0421   | ORANGE    | 410348165D | Wigwam       |
| 27-Sep | 66.0        | 2.9        | F   | ↑         | 0591   | BLUE      |            | Wigwam       |
| 27-Sep | 56.5        | 2.1        | F   | ↑         | 0201   | RED       | 4137256350 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 27-Sep | 70.0        | 3.4        | F   | ↑         | 0202   | RED       | 4136591820 | Wigwam       |
| 27-Sep | 56.5        | 1.9        | ?   | ↓         | 0433   | BLUE      | 4112422F37 | Wigwam       |
| 27-Sep | 69.0        | 2.4        | F   | ↓         | 0061   | BLUE      | 41125D1352 | Wigwam       |
| 27-Sep | 68.0        | 3.3        | F   | ↓         | 0259   | ORANGE    | 4103712321 | Wigwam       |
| 27-Sep | 61.0        | 2.4        | F   | ↓         | 0551   | BLUE      |            | Wigwam       |
| 27-Sep | 72.0        | 3.6        | M   | ↓         | 0237   | BLUE      | 4112075847 | Wigwam       |
| 27-Sep | 68.0        | 3.0        | F   | ↓         | 0203   | RED       | 41365D6640 | Wigwam       |
| 27-Sep | 60.5        | 2.4        | M   | ↓         | 0204   | RED       | 4137271729 | Wigwam       |
| 27-Sep | 68.5        | 3.5        | F   | ↓         | 0205   | RED       | 4112557765 | Wigwam       |
| 27-Sep | 61.5        | 2.6        | F   | ↓         | 0519   | BLUE      |            | Wigwam       |
| 27-Sep | 71.0        | 3.9        | F   | ↓         | 0318   | BLUE      | 41132C3515 | Wigwam       |
| 27-Sep | 63.5        | 2.6        | F   | ↓         | 0231   | BLUE      | 41123C5818 | Wigwam       |
| 27-Sep | 64.5        | 3.1        | M   | ↑         | 0206   | RED       | 4137422203 | Wigwam       |
| 28-Sep | 77.0        | 4.9        | F   | ↓         | 0337   | ORANGE    |            | Wigwam       |
| 28-Sep | 67.0        | 3.2        | F   | ↓         | 0164   | BLUE      | 4112553A63 | Wigwam       |
| 28-Sep | 68.0        | 2.2        | F   | ↓         | 0800   | BLUE      | 411E643C74 | Wigwam       |
| 28-Sep | 69.0        | 3.8        | M   | ↓         | 0207   | RED       | 41365A3222 | Wigwam       |
| 28-Sep | 71.5        | 3.8        | M   | ↓         | 0620   | BLUE      |            | Wigwam       |
| 28-Sep | 71.5        | 3.4        | F   | ↓         | 0770   | ORANGE    |            | Wigwam       |
| 28-Sep | 68.0        | 3.2        | F   | ↓         | 0671   | BLUE      | 411273040A | Wigwam       |
| 28-Sep | 64.5        | 2.8        | F   | ↓         | 0668   | BLUE      |            | Wigwam       |
| 28-Sep | 52.0        | 1.8        | M   | ↓         | 0003   | BLUE      | 411223376D | Wigwam       |
| 28-Sep | 69.5        | 3.2        | F   | ↓         | 0212   | BLUE      | 4112324228 | Wigwam       |
| 28-Sep | 57.0        | 2.2        | F   | ↓         | 0705   | BLUE      | 411E5A6765 | Wigwam       |
| 28-Sep | 71.5        | 3.9        | M   | ↑         | 0208   | RED       | 4137495851 | Wigwam       |
| 28-Sep | 85.0        | 5.6        | M   | ↑         | 0781   | BLUE      | 411E49677A | Wigwam       |
| 28-Sep | 65.5        | 2.8        | F   | ↓         | 0209   | RED       | 115546721A | Wigwam       |
| 28-Sep | 61.0        | 2.2        | F   | ↓         | 0186   | BLUE      |            | Wigwam       |
| 28-Sep | 64.5        | 2.9        | F   | ↓         | 0767   | BLUE      | 411E62095B | Wigwam       |
| 28-Sep | 46.5        | 1.3        | ?   | ↓         | 0210   | RED       | 4137325029 | Wigwam       |
| 28-Sep | 45.0        | 1.2        | ?   | ↓         | 0211   | RED       | 41372C4F4C | Wigwam       |
| 28-Sep | 55.5        | 2.0        | F   | ↓         | 0212   | RED       | 41374B0E1F | Wigwam       |
| 29-Sep | 63.0        | 3.0        | M   | ↑         | 0213   | RED       | 41373B037A | Wigwam       |
| 28-Sep | 76.5        | 5.1        | F   | ↑         | 0886   | ORANGE    |            | Wigwam       |
| 28-Sep | 62.0        | 2.8        | F   | ↑         | 0345   | BLUE      | 411267265D | Wigwam       |
| 28-Sep | 62.5        | 2.6        | F   | ↓         | 0214   | RED       | 4136487901 | Wigwam       |
| 28-Sep | 82.0        | 5.0        | F   | ↓         | 0180   | BLUE      | 41127D344B | Wigwam       |
| 28-Sep | 64.5        | 2.9        | F   | ↓         | 0684   | BLUE      | 4112753963 | Wigwam       |
| 28-Sep | 67.0        | 3.6        | F   | ↓         | 0732   | BLUE      | 411E6A2F21 | Wigwam       |
| 28-Sep | 82.0        | 5.0        | F   | ↓         | 0515   | ORANGE    | 410361460E | Wigwam       |
| 28-Sep | 64.5        | 2.8        | F   | ↓         | 0215   | RED       | 4136705E23 | Wigwam       |
| 28-Sep | 72.0        | 3.8        | F   | ↓         | 0472   | ORANGE    | 4103511446 | Wigwam       |
| 28-Sep | 67.0        | 3.1        | F   | ↓         | 0129   | BLUE      | 41123A3D30 | Wigwam       |
| 28-Sep | 59.0        | 2.1        | F   | ↓         | 0216   | RED       | 4137515602 | Wigwam       |
| 28-Sep | 65.0        | 2.8        | F   | ↓         | 0217   | RED       | 4136540340 | Wigwam       |
| 28-Sep | 58.0        | 2.4        | F   | ↓         | 0581   | BLUE      |            | Wigwam       |
| 28-Sep | 57.0        | 2.2        | F   | ↓         | 0218   | RED       | 4136705E23 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 28-Sep | 69.5        | 3.3        | F   | ↓         | 0641   | BLUE      |            | Wigwam       |
| 28-Sep | 49.5        | 1.6        | F   | ↓         | 0219   | RED       | 4136654D3E | Wigwam       |
| 28-Sep | 61.5        | 2.6        | F   | ↓         | 0220   | RED       | 413647342F | Wigwam       |
| 28-Sep | 56.0        | 1.9        | F   | ↓         | 0525   | BLUE      | 41124F5F7C | Wigwam       |
| 28-Sep | 66.5        | 3.2        | F   | ↑         | 0221   | RED       | 41374C0D77 | Wigwam       |
| 28-Sep | 65.5        | 3.1        | M   | ↑         | 0222   | RED       | 41372E522A | Wigwam       |
| 29-Sep | 75.0        | 3.9        | M   | ↓         | 0745   | BLUE      | 411E475B67 | Wigwam       |
| 29-Sep | 63.0        | 3.0        | F   | ↓         | 0698   | BLUE      | 411E6D3E03 | Wigwam       |
| 29-Sep | 62.0        | 2.5        | F   | ↓         | 0440   | BLUE      |            | Wigwam       |
| 29-Sep | 66.5        | 3.0        | F   | ↓         | 0235   | BLUE      | 4112744A64 | Wigwam       |
| 29-Sep | 68.5        | 3.5        | F   | ↓         | 0223   | RED       | 41374A0374 | Wigwam       |
| 29-Sep | 75.5        | 4.6        | M   | ↓         | 0224   | RED       | 4137364178 | Wigwam       |
| 29-Sep | 65.0        | 2.9        | M   | ↓         | 0225   | RED       | 4137432A51 | Wigwam       |
| 29-Sep | 81.5        | 5.8        | F   | ↓         | 0338   | ORANGE    |            | Wigwam       |
| 29-Sep | 67.5        | 3.1        | F   | ↓         | 0226   | RED       | 41374E4C4A | Wigwam       |
| 29-Sep | 55.0        | 1.9        | F   | ↓         | 0227   | RED       | 41372B0847 | Wigwam       |
| 29-Sep | 53.0        | 2.0        | F   | ↑         |        |           |            | Wigwam       |
| 29-Sep | 67.0        | 3.1        | F   | ↑         | 0228   | RED       | 4137354D57 | Wigwam       |
| 29-Sep | 84.5        | 5.6        | F   | ↓         | 0229   | RED       | 4103712870 | Wigwam       |
| 29-Sep | 69.5        | 3.7        | M   | ↑         | 0230   | RED       | 41364A0A75 | Wigwam       |
| 29-Sep | 56.0        | 2.0        | F   | ↑         | 0609   | BLUE      | 4112795C7B | Wigwam       |
| 29-Sep | 70.0        | 4.1        | F   | ↑         | 0410   | BLUE      | 4112722310 | Wigwam       |
| 29-Sep | 79.5        | 5.1        | F   | ↑         | 0327   | ORANGE    | 4103506D33 | Wigwam       |
| 29-Sep | 63.5        | 2.7        | F   | ↓         | 0231   | RED       | 4136522B6E | Wigwam       |
| 29-Sep | 65.5        | 3.0        | F   | ↓         | 0548   | BLUE      | 4111422A1D | Wigwam       |
| 29-Sep | 63.5        | 2.7        | M   | ↓         | 0232   | RED       | 4137460F73 | Wigwam       |
| 29-Sep | 68.0        | 3.4        | F   | ↓         | 0656   | BLUE      |            | Wigwam       |
| 29-Sep | 66.0        | 3.3        | F   | ↓         | 0340   | BLUE      | 4113036719 | Wigwam       |
| 29-Sep | 68.0        | 3.2        | F   | ↓         | 0243   | BLUE      | 41126D6D45 | Wigwam       |
| 29-Sep | 64.5        | 3.1        | F   | ↓         | 0218   | BLUE      | 4112782D48 | Wigwam       |
| 29-Sep | 66.0        | 3.3        | M   | ↓         | 0233   | RED       | 41366B3463 | Wigwam       |
| 29-Sep | 60.0        | 2.4        | F   | ↓         | 0234   | RED       | 4137406724 | Wigwam       |
| 29-Sep | 68.0        | 3.4        | F   | ↓         | 0225   | BLUE      | 411266622A | Wigwam       |
| 29-Sep | 57.0        | 2.0        | F   | ↓         | 0235   | RED       | 41372D790B | Wigwam       |
| 29-Sep | 64.0        | 2.9        | F   | ↓         | 0309   | BLUE      | 4112614375 | Wigwam       |
| 29-Sep | 57.5        | 2.1        | F   | ↓         | 0766   | BLUE      | 411E505106 | Wigwam       |
| 29-Sep | 65.0        | 2.8        | F   | ↓         | 0779   | BLUE      | 411E4B0C36 | Wigwam       |
| 29-Sep | 62.0        | 2.4        | F   | ↓         | 0546   | BLUE      | 41122C7C6D | Wigwam       |
| 29-Sep | 50.0        | 1.5        | F   | ↓         | 0738   | BLUE      |            | Wigwam       |
| 29-Sep | 64.0        | 3.3        | F   | ↑         | 0236   | RED       | 4137304509 | Wigwam       |
| 29-Sep | 55.0        | 2.3        | F   | ↑         | 0649   | BLUE      |            | Wigwam       |
| 29-Sep | 64.0        | 3.4        | F   | ↑         | 0237   | RED       | 413746220F | Wigwam       |
| 30-Sep | 80.0        | 5.4        | F   | ↓         | 0097   | BLUE      | 411244552A | Wigwam       |
| 30-Sep | 63.5        | 2.5        | F   | ↓         | 0646   | BLUE      | 115528172A | Wigwam       |
| 30-Sep | 57.5        | 2.3        | F   | ↓         | 0238   | RED       | 41373E0F3E | Wigwam       |
| 30-Sep | 82.5        | 5.8        | F   | ↓         | 0523   | ORANGE    | 41035B6B39 | Wigwam       |
| 30-Sep | 60.0        | 2.5        | M   | ↓         | 0239   | RED       | 413733087C | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 30-Sep | 64.0        | 2.9        | F   | ↓         | 0240   | RED       | 413649312A | Wigwam       |
| 30-Sep | 71.5        | 3.7        | F   | ↓         | 0241   | RED       | 4137384C3B | Wigwam       |
| 30-Sep | 62.0        | 2.6        | F   | ↓         | 0242   | RED       | 4136476A40 | Wigwam       |
| 30-Sep | 74.5        | 4.1        | F   | ↓         | 0824   | ORANGE    |            | Wigwam       |
| 30-Sep | 77.0        | 5.3        | F   | ↑         | 0325   | BLUE      | 4112713410 | Wigwam       |
| 30-Sep | 70.0        | 4.0        | M   | ↑         | 0243   | RED       | 41365D1644 | Wigwam       |
| 30-Sep | 75.5        | 4.9        | M   | ↑         | 0486   | BLUE      | 41126C7050 | Wigwam       |
| 30-Sep | 62.0        | 2.9        | F   | ↑         | 0607   | BLUE      |            | Wigwam       |
| 30-Sep | 67.0        | 3.8        | F   | ↑         | 0694   | BLUE      | 411E4B714D | Wigwam       |
| 30-Sep | 58.0        | 2.5        | F   | ↑         | 0802   | BLUE      | 411E6D6F27 | Wigwam       |
| 30-Sep | 66.0        | 3.1        | M   | ↓         | 0278   | BLUE      |            | Wigwam       |
| 30-Sep | 66.0        | 3.2        | M   | ↓         | 0244   | RED       | 41366D363C | Wigwam       |
| 30-Sep | 60.0        | 2.4        | F   | ↓         | 0245   | RED       | 4137502D43 | Wigwam       |
| 30-Sep | 60.0        | 2.2        | F   | ↓         | 0569   | ORANGE    | 41036A362E | Wigwam       |
| 30-Sep | 61.5        | 2.4        | F   | ↓         | 0686   | BLUE      | 411E5A425F | Wigwam       |
| 30-Sep | 63.5        | 2.9        | F   | ↓         | 0246   | RED       | 41126D2E2B | Wigwam       |
| 30-Sep | 62.5        | 2.6        | F   | ↓         | 0796   | BLUE      | 411E69285F | Wigwam       |
| 30-Sep | 57.0        | 2.2        | F   | ↓         | 0457   | BLUE      | 411272691B | Wigwam       |
| 30-Sep | 56.0        | 2.1        | F   | ↓         | 0060   | BLUE      | 411267123A | Wigwam       |
| 30-Sep | 60.0        | 2.6        | F   | ↓         | 0247   | RED       | 41121C3B62 | Wigwam       |
| 30-Sep | 60.0        | 2.4        | F   | ↓         | 0633   | BLUE      |            | Wigwam       |
| 30-Sep | 68.0        | 3.9        | F   | ↑         | 0858   | BLUE      | 411E437734 | Wigwam       |
| 30-Sep | 64.0        | 3.2        | F   | ↑         | 0764   | BLUE      |            | Wigwam       |
| 1-Oct  | 78.5        | 5.2        | F   | ↓         | 0775   | ORANGE    |            | Wigwam       |
| 1-Oct  | 64.0        | 2.9        | M   | ↓         | 0248   | RED       | 41373D0006 | Wigwam       |
| 1-Oct  | 72.0        | 3.7        | F   | ↓         | 0465   | ORANGE    | 41035B740C | Wigwam       |
| 1-Oct  | 82.0        | 5.6        | F   | ↓         | 0371   | ORANGE    | 41035C6639 | Wigwam       |
| 1-Oct  | 62.5        | 2.6        | F   | ↓         | 0636   | BLUE      |            | Wigwam       |
| 1-Oct  | 63.0        | 2.6        | F   | ↓         | 0249   | RED       | 4136592F50 | Wigwam       |
| 1-Oct  | 78.5        | 5.2        | M   | ↓         | 0250   | RED       | 4136564C15 | Wigwam       |
| 1-Oct  | 58.0        | 2.4        | F   | ↓         | 0251   | RED       | 413735433F | Wigwam       |
| 1-Oct  | 68.0        | 2.6        | F   | ↓         | 0794   | BLUE      | 411E643606 | Wigwam       |
| 1-Oct  | 70.0        | 3.8        | F   | ↓         | 0368   | BLUE      |            | Wigwam       |
| 1-Oct  | 75.5        | 4.2        | M   | ↓         | 0252   | RED       | 41365C1B2F | Wigwam       |
| 1-Oct  | 74.0        | 4.2        | F   | ↓         | 0704   | ORANGE    |            | Wigwam       |
| 1-Oct  | 68.0        | 3.3        | F   | ↓         | 0224   | BLUE      | 41130D1B7D | Wigwam       |
| 1-Oct  | 73.0        | 4.1        | M   | ↓         | 0797   | BLUE      | 411E5D2474 | Wigwam       |
| 1-Oct  | 73.5        | 4.3        | M   | ↓         | 0680   | BLUE      | 411E655668 | Wigwam       |
| 1-Oct  | 69.5        | 4.3        | M   | ↓         | 0253   | RED       | 41365C1B2F | Wigwam       |
| 1-Oct  | 64.0        | 3.1        | F   | ↓         | 0850   | BLUE      |            | Wigwam       |
| 1-Oct  | 66.0        | 3.0        | F   | ↓         | 0124   | BLUE      | 4112730133 | Wigwam       |
| 1-Oct  | 53.5        | 1.8        | F   | ↓         | 0230   | BLUE      | 41126A174C | Wigwam       |
| 1-Oct  | 53.5        | 1.9        | F   | ↓         | 0254   | RED       | 4136557047 | Wigwam       |
| 1-Oct  | 55.0        | 2.4        | F   | ↑         | 0255   | RED       | 41374C7C50 | Wigwam       |
| 1-Oct  | 57.5        | 2.5        | F   | ↑         | 0256   | RED       | 4137360A50 | Wigwam       |
| 1-Oct  | 67.0        | 3.8        | M   | ↑         | 0257   | RED       | 413748607E | Wigwam       |
| 2-Oct  | 69.0        | 4.0        | M   | ↓         | 0258   | RED       | 413747033B | Wigwam       |

| Date  | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|-------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 2-Oct | 78.0        | 4.7        | M   | ↓         | 0128   | BLUE      |            | Wigwam       |
| 2-Oct | 68.0        | 3.5        | M   | ↓         | 0677   | BLUE      | 411E4C3646 | Wigwam       |
| 2-Oct | 74.5        | 4.0        | F   | ↓         | 0674   | ORANGE    |            | Wigwam       |
| 2-Oct | 76.5        | 5.1        | M   | ↓         | 0259   | RED       | 4137267B1B | Wigwam       |
| 2-Oct | 71.0        | 4.0        | M   | ↓         | 0683   | BLUE      | 411E6D3C37 | Wigwam       |
| 2-Oct | 64.0        | 2.9        | F   | ↓         | 0317   | BLUE      | 4112593F01 | Wigwam       |
| 2-Oct | 66.0        | 3.1        | F   | ↓         | 0213   | BLUE      | 411272124E | Wigwam       |
| 2-Oct | 68.0        | 3.1        | F   | ↓         | 0597   | BLUE      |            | Wigwam       |
| 2-Oct | 68.0        | 3.2        | F   | ↓         | 0695   | BLUE      | 411E490F46 | Wigwam       |
| 2-Oct | 55.0        | 1.8        | F   | ↓         | 0260   | RED       | 413657243D | Wigwam       |
| 2-Oct | 61.0        | 2.9        | F   | ↑         | 0748   | BLUE      | 411E587A03 | Wigwam       |
| 2-Oct | 83.0        | 6.0        | M   | ↓         | 0261   | RED       | 41374F7F34 | Wigwam       |
| 2-Oct | 70.0        | 2.8        | F   | ↓         | 0319   | BLUE      |            | Wigwam       |
| 2-Oct | 76.0        | 4.1        | F   | ↓         | 0262   | RED       | 4103713745 | Wigwam       |
| 2-Oct | 77.5        | 5.1        | M   | ↑         | 0263   | RED       | 41374F0776 | Wigwam       |
| 2-Oct | 65.5        | 3.9        | F   | ↑         | 0264   | RED       | 41366A606A | Wigwam       |
| 2-Oct | 62.5        | 3.2        | F   | ↑         | 0265   | RED       | 41372E6063 | Wigwam       |
| 2-Oct | 69.0        | 4.1        | F   | ↑         | 0266   | RED       | 41365D6D11 | Wigwam       |
| 2-Oct | 70.5        | 3.9        | M   | ↓         | 0402   | BLUE      |            | Wigwam       |
| 2-Oct | 77.0        | 4.3        | M   | ↓         | 0116   | BLUE      | 41123E3E2B | Wigwam       |
| 2-Oct | 66.0        | 3.3        | F   | ↓         | 0283   | BLUE      |            | Wigwam       |
| 2-Oct | 58.0        | 2.4        | F   | ↓         | 0267   | RED       | 4137395417 | Wigwam       |
| 2-Oct | 60.0        | 2.4        | F   | ↓         | 0268   | RED       | 41127C4C1D | Wigwam       |
| 2-Oct | 66.5        | 3.2        | F   | ↓         | 0843   | BLUE      |            | Wigwam       |
| 2-Oct | 78.5        | 5.3        | M   | ↓         | 0708   | BLUE      |            | Wigwam       |
| 2-Oct | 63.0        | 2.8        | F   | ↓         | 0269   | RED       | 4136583F3A | Wigwam       |
| 2-Oct | 66.0        | 3.1        | M   | ↓         | 0270   | RED       | 4136557164 | Wigwam       |
| 2-Oct | 64.0        | 3.0        | F   | ↓         | 0166   | BLUE      | 4112631D7D | Wigwam       |
| 2-Oct | 72.5        | 3.8        | M   | ↓         | 0196   | BLUE      | 115711386A | Wigwam       |
| 2-Oct | 66.0        | 3.2        | F   | ↓         | 0271   | RED       | 4137320A5C | Wigwam       |
| 2-Oct | 78.0        | 5.2        | M   | ↓         | 0721   | BLUE      | 41034A4C4F | Wigwam       |
| 2-Oct | 59.0        | 2.4        | F   | ↓         | 0272   | RED       | 41373C690D | Wigwam       |
| 2-Oct | 56.5        | 2.2        | F   | ↓         | 0273   | RED       | 41364E6F3A | Wigwam       |
| 2-Oct | 74.0        | 4.5        | F   | ↓         | 0896   | ORANGE    |            | Wigwam       |
| 2-Oct | 73.0        | 3.7        | F   | ↓         | 0161   | BLUE      | 411304552F | Wigwam       |
| 2-Oct | 67.0        | 3.5        | F   | ↓         | 0867   | BLUE      | 411E692403 | Wigwam       |
| 2-Oct | 60.5        | 2.4        | F   | ↓         | 0274   | RED       | 4136541F62 | Wigwam       |
| 2-Oct | 62.5        | 2.8        | F   | ↓         | 0275   | RED       | 413647227F | Wigwam       |
| 3-Oct | 82.5        | 5.5        | M   | ↓         | 0171   | BLUE      | 41127E6E4D | Wigwam       |
| 3-Oct | 75.0        | 4.2        | F   | ↓         | 0805   | BLUE      |            | Wigwam       |
| 3-Oct | 77.0        | 4.7        | M   | ↓         | 0276   | RED       | 4136476E5A | Wigwam       |
| 3-Oct | 78.0        | 5.1        | F   | ↓         | 0277   | RED       | 413673003F | Wigwam       |
| 3-Oct | 65.0        | 3.1        | F   | ↓         | 0857   | BLUE      | 411E6D6258 | Wigwam       |
| 3-Oct | 66.0        | 3.2        | F   | ↓         | 0866   | BLUE      | 411E564113 | Wigwam       |
| 3-Oct | 79.5        | 5.1        | F   | ↓         | 0444   | ORANGE    | 4103481150 | Wigwam       |
| 3-Oct | 67.0        | 3.6        | F   | ↓         | 0278   | RED       | 4136575217 | Wigwam       |
| 3-Oct | 57.0        | 2.1        | M   | ↓         | 0023   | BLUE      | 411274090A | Wigwam       |

| Date  | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|-------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 3-Oct | 56.0        | 2.0        | F   | ↓         | 0497   | BLUE      | 4112630B2D | Wigwam       |
| 3-Oct | 64.5        | 2.9        | F   | ↓         | 0139   | BLUE      | 41123C1C7B | Wigwam       |
| 3-Oct | 37.0        | 1.1        | F   | ↓         | 0279   | RED       |            | Wigwam       |
| 3-Oct | 72.0        | 4.2        | M   | ↓         | 0280   | RED       | 411E601027 | Wigwam       |
| 3-Oct | 54.0        | 2.0        | F   | ↓         | 0281   | RED       | 4136617113 | Wigwam       |
| 3-Oct | 76.5        | 4.5        | M   | ↓         | 0018   | ORANGE    |            | Wigwam       |
| 3-Oct | 68.0        | 3.6        | M   | ↓         | 0282   | RED       | 4137290371 | Wigwam       |
| 3-Oct | 70.0        | 3.8        | M   | ↓         | 0283   | RED       | 4136711C7A | Wigwam       |
| 3-Oct | 78.0        | 4.6        | M   | ↓         | 0284   | RED       | 41374C7D73 | Wigwam       |
| 3-Oct | 68.0        | 3.3        | F   | ↓         | 0645   | BLUE      |            | Wigwam       |
| 3-Oct | 72.0        | 4.2        | F   | ↓         | 0824   | BLUE      | 411E642678 | Wigwam       |
| 3-Oct | 71.0        | 4.0        | F   | ↓         | 0364   | BLUE      |            | Wigwam       |
| 3-Oct | 62.0        | 2.7        | M   | ↓         | 0817   | BLUE      | 411E457814 | Wigwam       |
| 3-Oct | 62.0        | 2.6        | M   | ↓         | 0481   | BLUE      | 41127F4206 | Wigwam       |
| 3-Oct | 69.0        | 4.0        | F   | ↑         | 0285   | RED       | 4112370D02 | Wigwam       |
| 3-Oct | 66.0        | 3.3        | F   | ↑         | 0726   | ORANGE    |            | Wigwam       |
| 3-Oct | 48.5        | 1.6        | F   | ↑         |        |           |            | Wigwam       |
| 3-Oct | 69.5        | 3.5        | M   | ↓         | 0286   | RED       | 41365A6E79 | Wigwam       |
| 3-Oct | 78.5        | 5.1        | M   | ↓         | 0699   | BLUE      | 411E705F79 | Wigwam       |
| 3-Oct | 77.0        | 4.2        | F   | ↓         | 0607   | ORANGE    | 4103731515 | Wigwam       |
| 3-Oct | 63.0        | 2.8        | M   | ↓         | 0287   | RED       | 413727451A | Wigwam       |
| 3-Oct | 71.0        | 3.5        | M   | ↓         | 0288   | RED       | 411E5B615F | Wigwam       |
| 3-Oct | 73.0        | 3.9        | M   | ↓         | 0289   | RED       | 41366E6A14 | Wigwam       |
| 3-Oct | 74.0        | 4.2        | M   | ↓         | 0825   | BLUE      | 411E6B1F48 | Wigwam       |
| 3-Oct | 63.0        | 2.8        | M   | ↓         | 0290   | RED       | 4137381A12 | Wigwam       |
| 3-Oct | 63.5        | 2.7        | F   | ↓         | 0872   | BLUE      |            | Wigwam       |
| 3-Oct | 79.0        | 5.0        | M   | ↓         | 0291   | RED       | 410362156D | Wigwam       |
| 3-Oct | 71.0        | 4.0        | M   | ↓         | 0292   | RED       | 413660626E | Wigwam       |
| 3-Oct | 62.0        | 2.7        | F   | ↓         | 0733   | BLUE      | 411E60360A | Wigwam       |
| 3-Oct | 72.0        | 3.9        | M   | ↓         | 0293   | RED       | 41374D785E | Wigwam       |
| 3-Oct | 74.5        | 4.7        | F   | ↓         | 0294   | RED       | 41366A382B | Wigwam       |
| 3-Oct | 72.0        | 3.7        | M   | ↓         | 0295   | RED       | 411251601A | Wigwam       |
| 3-Oct | 75.0        | 4.6        | F   | ↓         | 0232   | BLUE      | 4112374A76 | Wigwam       |
| 3-Oct | 64.5        | 3.1        | M   | ↓         | 0296   | RED       | 41374B3E62 | Wigwam       |
| 3-Oct | 63.0        | 2.9        | M   | ↓         | 0297   | RED       | 4136476874 | Wigwam       |
| 3-Oct | 69.0        | 3.7        | M   | ↓         | 0611   | BLUE      |            | Wigwam       |
| 3-Oct | 57.0        | 2.2        | F   | ↓         | 0298   | RED       | 41364C1D6D | Wigwam       |
| 3-Oct | 63.0        | 2.9        | F   | ↓         | 0299   | RED       | 41366B0A76 | Wigwam       |
| 3-Oct | 55.0        | 2.1        | F   | ↓         | 0300   | RED       | 41372B7708 | Wigwam       |
| 3-Oct | 61.0        | 2.5        | F   | ↓         | 0728   | BLUE      |            | Wigwam       |
| 3-Oct | 65.0        | 2.9        | F   | ↓         | 0692   | BLUE      |            | Wigwam       |
| 3-Oct | 59.0        | 2.2        | F   | ↓         | 0301   | RED       | 4136532B7A | Wigwam       |
| 4-Oct | 82.0        | 5.3        | M   | ↓         | 0302   | RED       | 4112414C29 | Wigwam       |
| 4-Oct | 85.5        | 6.0        | M   | ↓         | 0266   | BLUE      | 41127E3438 | Wigwam       |
| 4-Oct | 87.5        | 7.1        | M   | ↓         | 0433   | ORANGE    | 41034D2B47 | Wigwam       |
| 4-Oct | 73.0        | 4.0        | F   | ↓         | 0785   | BLUE      |            | Wigwam       |
| 4-Oct | 60.0        | 2.6        | F   | ↓         | 0303   | RED       | 4137295C3D | Wigwam       |

| Date  | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|-------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 4-Oct | 68.0        | 3.5        | F   | ↓         | 0789   | BLUE      |            | Wigwam       |
| 4-Oct | 67.0        | 3.0        | F   | ↓         | 0801   | BLUE      | 411E551921 | Wigwam       |
| 4-Oct | 67.0        | 3.6        | M   | ↓         | 0304   | RED       | 41364C371C | Wigwam       |
| 4-Oct | 62.0        | 2.6        | M   | ↓         | 0305   | RED       | 41372F0E65 | Wigwam       |
| 4-Oct | 76.0        | 4.8        | M   | ↓         | 0306   | RED       | 411E60B53  | Wigwam       |
| 4-Oct | 72.0        | 4.1        | F   | ↓         | 0307   | RED       | 4136675442 | Wigwam       |
| 4-Oct | 79.0        | 4.7        | M   | ↓         | 0112   | BLUE      | 4103590156 | Wigwam       |
| 4-Oct | 79.0        | 5.0        | F   | ↓         | 0308   | RED       | 41125A187C | Wigwam       |
| 4-Oct | 71.0        | 4.0        | F   | ↓         | 0803   | BLUE      | 411E45686A | Wigwam       |
| 4-Oct | 63.0        | 2.6        | F   | ↓         | 0734   | BLUE      | 411E640813 | Wigwam       |
| 4-Oct | 64.5        | 2.8        | F   | ↓         | 0309   | RED       | 41364F6C39 | Wigwam       |
| 4-Oct | 67.0        | 3.5        | F   | ↓         | 0841   | BLUE      | 411E647C0D | Wigwam       |
| 4-Oct | 73.0        | 4.1        | M   | ↓         | 0297   | BLUE      |            | Wigwam       |
| 4-Oct | 74.0        | 5.2        | M   | ↓         | 0310   | RED       | 4103686D1F | Wigwam       |
| 4-Oct | 59.0        | 2.3        | F   | ↓         | 0311   | RED       | 413672344C | Wigwam       |
| 4-Oct | 61.0        | 2.5        | F   | ↓         | 0312   | RED       | 4136466D59 | Wigwam       |
| 4-Oct | 57.0        | 2.2        | M   | ↓         | 0313   | RED       | 413659664C | Wigwam       |
| 4-Oct | 56.0        | 2.1        | F   | ↓         | 0314   | RED       | 4137421A38 | Wigwam       |
| 4-Oct | 84.0        | 5.8        | F   | ↓         | 0246   | ORANGE    |            | Wigwam       |
| 4-Oct | 66.0        | 2.9        | F   | ↓         | 0315   | RED       | 4136706953 | Wigwam       |
| 4-Oct | 62.0        | 3.0        | M   | ↓         | 0316   | RED       | 4136516E5D | Wigwam       |
| 4-Oct | 60.0        | 2.6        | M   | ↓         | 0317   | RED       | 413651092A | Wigwam       |
| 4-Oct | 63.0        | 2.7        | F   | ↓         | 0318   | RED       | 4137492A61 | Wigwam       |
| 4-Oct | 59.0        | 2.4        | M   | ↓         | 0319   | RED       | 41374E737C | Wigwam       |
| 4-Oct | 80.0        | 5.4        | M   | ↓         | 0320   | RED       | 4136612320 | Wigwam       |
| 4-Oct | 63.0        | 2.7        | F   | ↓         | 0321   | RED       | 4137382D62 | Wigwam       |
| 4-Oct | 62.0        | 2.8        | F   | ↓         | 0322   | RED       | 4136652F70 | Wigwam       |
| 4-Oct | 59.5        | 2.5        | F   | ↓         | 0323   | RED       | 41366E2B4E | Wigwam       |
| 4-Oct | 63.0        | 2.8        | F   | ↓         | 0324   | RED       | 4137376D33 | Wigwam       |
| 4-Oct | 64.5        | 3.1        | M   | ↓         | 0325   | RED       | 4137372322 | Wigwam       |
| 4-Oct | 54.0        | 2.0        | F   | ↓         | 0336   | RED       | 41374E725F | Wigwam       |
| 4-Oct | 69.0        | 3.6        | F   | ↓         | 0327   | RED       | 4137267F01 | Wigwam       |
| 4-Oct | 64.0        | 2.8        | F   | ↓         | 0083   | BLUE      | 4112494335 | Wigwam       |
| 4-Oct | 75.0        | 4.2        | M   | ↓         | 0328   | RED       | 4136514618 | Wigwam       |
| 4-Oct | 54.0        | 2.0        | F   | ↓         | 0329   | RED       | 41366F731B | Wigwam       |
| 5-Oct | 54.0        | 1.9        | F   | ↓         | 0330   | RED       | 4137387717 | Wigwam       |
| 5-Oct | 71.0        | 3.5        | F   | ↓         | 0324   | BLUE      |            | Wigwam       |
| 5-Oct | 84.5        | 6.2        | F   | ↓         | 0810   | BLUE      | 411E5A0A60 | Wigwam       |
| 5-Oct | 51.0        | 1.7        | F   | ↓         | 0331   | RED       | 4137466804 | Wigwam       |
| 5-Oct | 65.0        | 3.1        | M   | ↓         | 0332   | RED       | 4137445C04 | Wigwam       |
| 5-Oct | 65.0        | 3.2        | F   | ↓         | 0374   | BLUE      |            | Wigwam       |
| 5-Oct | 61.0        | 2.5        | F   | ↓         | 0333   | RED       | 41364D5A0D | Wigwam       |
| 5-Oct | 78.0        | 4.7        | F   | ↓         | 0183   | BLUE      | 4103474C00 | Wigwam       |
| 5-Oct | 65.0        | 2.8        | F   | ↓         | 0334   | RED       | 411E5E2D62 | Wigwam       |
| 5-Oct | 54.5        | 2.0        | F   | ↓         | 0441   | BLUE      |            | Wigwam       |
| 5-Oct | 61.0        | 2.6        | F   | ↓         | 0335   | RED       | 4136462445 | Wigwam       |
| 5-Oct | 62.0        | 2.5        | F   | ↓         | 0336   | RED       | 41365B3002 | Wigwam       |

| Date  | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|-------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 5-Oct | 59.0        | 2.3        | F   | ↓         | 0337   | RED       | 41374D3B30 | Wigwam       |
| 5-Oct | 56.0        | 2.1        | F   | ↓         | 0338   | RED       | 413728565B | Wigwam       |
| 5-Oct | 65.5        | 3.1        | M   | ↓         | 0339   | RED       | 4137291A6A | Wigwam       |
| 5-Oct | 73.0        | 4.1        | M   | ↓         | 0344   | BLUE      | 41130B4579 | Wigwam       |
| 5-Oct | 65.0        | 2.9        | F   | ↓         | 0845   | BLUE      | 411E453A59 | Wigwam       |
| 5-Oct | 67.0        | 3.2        | F   | ↓         | 0257   | BLUE      | 41122C3E20 | Wigwam       |
| 5-Oct | 63.0        | 2.7        | F   | ↓         | 0340   | RED       | 413659522B | Wigwam       |
| 5-Oct | 74.0        | 4.3        | M   | ↓         | 0341   | RED       | 41374E0B3E | Wigwam       |
| 5-Oct | 63.5        | 2.9        | F   | ↓         | 0880   | BLUE      | 411E6C562B | Wigwam       |
| 5-Oct | 54.0        | 2.1        | F   | ↓         | 0342   | RED       | 4136585128 | Wigwam       |
| 5-Oct | 52.5        | 1.8        | F   | ↓         | 0343   | RED       | 41364F0631 | Wigwam       |
| 5-Oct | 62.0        | 2.7        | F   | ↓         | 0344   | RED       | 41373A5E16 | Wigwam       |
| 5-Oct | 54.0        | 2.0        | F   | ↓         | 0345   | RED       | 4136636029 | Wigwam       |
| 6-Oct | 74.0        | 4.6        | M   | ↓         | 0346   | RED       | 41372B4775 | Wigwam       |
| 6-Oct | 76.0        | 4.6        | M   | ↓         | 0347   | RED       | 4136723D29 | Wigwam       |
| 6-Oct | 64.5        | 3.0        | M   | ↓         | 0348   | RED       | 41374D376C | Wigwam       |
| 6-Oct | 68.0        | 3.2        | F   | ↓         | 0665   | BLUE      |            | Wigwam       |
| 6-Oct | 75.5        | 4.4        | M   | ↓         | 0349   | RED       | 4137474758 | Wigwam       |
| 6-Oct | 58.0        | 2.5        | F   | ↓         | 0473   | BLUE      | 4112730856 | Wigwam       |
| 6-Oct | 43.5        | 1.4        | M   | ↓         | 0350   | RED       | 4136574938 | Wigwam       |
| 6-Oct | 59.0        | 2.5        | F   | ↓         | 0351   | RED       | 41373E1C57 | Wigwam       |
| 6-Oct | 67.0        | 3.2        | F   | ↓         | 0240   | BLUE      | 4112417008 | Wigwam       |
| 6-Oct | 54.5        | 2.1        | F   | ↓         | 0352   | RED       | 41372C1846 | Wigwam       |
| 6-Oct | 63.5        | 3.1        | M   | ↓         | 0403   | BLUE      | 41126C133D | Wigwam       |
| 6-Oct | 47.0        | 1.6        | F   | ↓         | 0353   | RED       | 41374F1126 | Wigwam       |
| 6-Oct | 62.5        | 2.8        | F   | ↓         | 0594   | BLUE      |            | Wigwam       |
| 6-Oct | 53.5        | 2.0        | F   | ↓         | 0354   | RED       | 413742061A | Wigwam       |
| 6-Oct | 48.0        | 1.6        | F   | ↓         | 0355   | RED       | 41373E431B | Wigwam       |
| 6-Oct | 60.0        | 2.5        | F   | ↓         | 0356   | RED       | 4137290D19 | Wigwam       |
| 6-Oct | 67.0        | 3.1        | F   | ↓         | 0293   | BLUE      | 4112663F52 | Wigwam       |
| 6-Oct | 82.0        | 5.2        | ?   | ↓         | 0357   | RED       | 4112402D64 | Wigwam       |
| 6-Oct | 67.0        | 3.1        | F   | ↓         | 0836   | BLUE      | 4112791349 | Wigwam       |
| 6-Oct | 59.0        | 2.2        | F   | ↓         | 0791   | BLUE      | 411E701E23 | Wigwam       |
| 6-Oct | 80.0        | 5.3        | M   | ↓         | 0358   | RED       | 411E5C0E11 | Wigwam       |
| 6-Oct | 70.5        | 3.8        | M   | ↓         | 0359   | RED       | 413653086E | Wigwam       |
| 6-Oct | 72.0        | 3.8        | M   | ↓         | 0806   | BLUE      | 411E5F2B58 | Wigwam       |
| 6-Oct | 71.0        | 4.0        | M   | ↓         | 0360   | RED       | 4137476341 | Wigwam       |
| 6-Oct | 58.0        | 2.2        | F   | ↓         | 0454   | BLUE      | 41131A574B | Wigwam       |
| 6-Oct | 64.0        | 2.3        | F   | ↓         | 0361   | RED       | 4137247F66 | Wigwam       |
| 6-Oct | 72.0        | 4.0        | F   | ↓         | 0798   | BLUE      | 411E43732E | Wigwam       |
| 6-Oct | 75.0        | 4.2        | M   | ↓         | 0362   | RED       | 4137255D45 | Wigwam       |
| 6-Oct | 63.0        | 2.8        | F   | ↓         | 0363   | RED       | 4136717268 | Wigwam       |
| 6-Oct | 66.0        | 3.4        | M   | ↓         | 0364   | RED       | 41374C0E60 | Wigwam       |
| 6-Oct | 62.0        | 2.6        | F   | ↓         | 0833   | BLUE      |            | Wigwam       |
| 6-Oct | 71.0        | 3.9        | M   | ↓         | 0365   | RED       | 413736243B | Wigwam       |
| 6-Oct | 74.0        | 4.4        | M   | ↓         | 0855   | BLUE      | 411E6E1401 | Wigwam       |
| 6-Oct | 59.0        | 2.6        | F   | ↓         | 0737   | BLUE      | 411E492F45 | Wigwam       |

| Date  | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|-------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 6-Oct | 60.0        | 2.2        | F   | ↓         | 0413   | BLUE      |            | Wigwam       |
| 6-Oct | 65.0        | 3.0        | F   | ↓         | 0799   | BLUE      | 411E486C3F | Wigwam       |
| 6-Oct | 68.0        | 3.3        | F   | ↓         | 0375   | BLUE      |            | Wigwam       |
| 6-Oct | 61.0        | 2.4        | F   | ↓         | 0366   | RED       | 4137260E26 | Wigwam       |
| 6-Oct | 65.0        | 3.1        | M   | ↓         | 0367   | RED       | 41372F7B58 | Wigwam       |
| 6-Oct | 58.5        | 2.2        | F   | ↓         | 0368   | RED       | 4137373168 | Wigwam       |
| 7-Oct | 71.0        | 3.6        | F   | ↓         | 0832   | BLUE      |            | Wigwam       |
| 7-Oct | 84.0        | 6.5        | M   | ↓         | 0484   | ORANGE    | 4103667B73 | Wigwam       |
| 7-Oct | 70.0        | 3.8        | M   | ↓         | 0369   | RED       | 41374F5C20 | Wigwam       |
| 7-Oct | 76.0        | 5.0        | M   | ↓         | 0370   | RED       | 4137295376 | Wigwam       |
| 7-Oct | 69.0        | 3.5        | F   | ↓         | 0856   | BLUE      |            | Wigwam       |
| 7-Oct | 47.0        | 1.5        | F   | ↓         | 0371   | RED       | 413749106E | Wigwam       |
| 7-Oct | 63.0        | 2.9        | F   | ↓         | 0372   | RED       | 4137407057 | Wigwam       |
| 7-Oct | 87.0        | 6.1        | M   | ↓         | 0373   | RED       | 411278335E | Wigwam       |
| 7-Oct | 80.5        | 5.0        | M   | ↓         | 0228   | BLUE      | 4112753232 | Wigwam       |
| 7-Oct | 62.5        | 2.6        | F   | ↓         | 0790   | BLUE      | 411E573B71 | Wigwam       |
| 7-Oct | 65.0        | 3.1        | M   | ↓         | 0374   | RED       | 41374B777E | Wigwam       |
| 7-Oct | 64.0        | 2.9        | M   | ↓         | 0375   | RED       | 41372A5012 | Wigwam       |
| 7-Oct | 71.0        | 3.8        | M   | ↓         | 0376   | RED       | 41373F2478 | Wigwam       |
| 7-Oct | 66.0        | 3.3        | M   | ↓         | 0377   | RED       | 41374E2D13 | Wigwam       |
| 7-Oct | 71.0        | 3.7        | F   | ↓         | 0378   | RED       | 4136715348 | Wigwam       |
| 7-Oct | 64.0        | 2.8        | F   | ↓         | 0379   | RED       | 41374E525C | Wigwam       |
| 7-Oct | 64.0        | 2.8        | F   | ↓         | 0380   | RED       | 4136546514 | Wigwam       |
| 7-Oct | 64.5        | 2.9        | F   | ↓         | 0381   | RED       | 411E663D30 | Wigwam       |
| 7-Oct | 61.5        | 2.6        | F   | ↓         | 0382   | RED       | 41374B6417 | Wigwam       |
| 7-Oct | 51.5        | 1.7        | F   | ↓         | 0383   | RED       | 413752034F | Wigwam       |
| 7-Oct | 44.0        | 1.2        | F   | ↓         | 0384   | RED       | 4136557D38 | Wigwam       |
| 7-Oct | 65.0        | 3.0        | M   | ↓         | 0385   | RED       | 41372A5226 | Wigwam       |
| 8-Oct | 60.0        | 2.3        | F   | ↓         | 0386   | RED       | 4136642E47 | Wigwam       |
| 8-Oct | 77.0        | 4.3        | M   | ↓         | 0697   | BLUE      | 411E62787C | Wigwam       |
| 8-Oct | 78.0        | 5.5        | M   | ↓         | 0290   | BLUE      |            | Wigwam       |
| 8-Oct | 82.0        | 5.6        | M   | ↓         | 0126   | BLUE      | 4112691F79 | Wigwam       |
| 8-Oct | 75.0        | 4.9        | M   | ↓         | 0409   | BLUE      | 4112721C26 | Wigwam       |
| 8-Oct | 82.0        | 5.8        | M   | ↓         | 0256   | BLUE      |            | Wigwam       |
| 8-Oct | 69.0        | 3.5        | M   | ↓         | 0387   | RED       | 41373D3B2A | Wigwam       |
| 8-Oct | 82.0        | 5.2        | M   | ↓         | 0672   | ORANGE    |            | Wigwam       |
| 8-Oct | 83.0        | 5.5        | F   | ↓         | 0712   | ORANGE    |            | Wigwam       |
| 8-Oct | 55.0        | 2.1        | M   | ↓         | 0388   | RED       | 4136641B03 | Wigwam       |
| 8-Oct | 79.0        | 5.2        | F   | ↓         | 0760   | ORANGE    |            | Wigwam       |
| 8-Oct | 72.0        | 4.0        | M   | ↓         | 0389   | RED       | 4136710442 | Wigwam       |
| 8-Oct | 74.0        | 4.0        | M   | ↓         | 0718   | BLUE      | 411E670E4E | Wigwam       |
| 8-Oct | 62.5        | 2.9        | F   | ↓         | 0390   | RED       | 4136622353 | Wigwam       |
| 8-Oct | 76.5        | 4.3        | F   | ↓         | 0391   | RED       | 413668577D | Wigwam       |
| 8-Oct | 61.0        | 2.7        | F   | ↓         | 0392   | RED       | 4136570107 | Wigwam       |
| 8-Oct | 74.0        | 4.4        | M   | ↓         | 0393   | RED       | 4137472722 | Wigwam       |
| 8-Oct | 63.0        | 2.9        | M   | ↓         | 0394   | RED       | 41372B553F | Wigwam       |
| 8-Oct | 60.0        | 2.6        | F   | ↓         | 0286   | BLUE      | 41131B394D | Wigwam       |

| Date  | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|-------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 8-Oct | 56.0        | 2.2        | F   | ↓         | 0395   | RED       | 41372A6B3E | Wigwam       |
| 8-Oct | 59.0        | 2.3        | F   | ↓         | 0396   | RED       | 4136666954 | Wigwam       |
| 8-Oct | 73.0        | 4.4        | M   | ↓         | 0397   | RED       | 413662266A | Wigwam       |
| 8-Oct | 77.0        | 4.9        | M   | ↓         | 0398   | RED       | 41126F2A56 | Wigwam       |
| 8-Oct | 73.0        | 3.9        | F   | ↓         | 0336   | BLUE      | 411265306A | Wigwam       |
| 8-Oct | 63.0        | 3.1        | M   | ↓         | 0399   | RED       | 4136683B5B | Wigwam       |
| 8-Oct | 74.0        | 4.2        | M   | ↓         | 0360   | BLUE      | 41124F6664 | Wigwam       |
| 8-Oct | 64.5        | 3.1        | M   | ↓         | 0400   | RED       | 41366B7B51 | Wigwam       |
| 8-Oct | 44.0        | 1.4        | M   | ↓         | 0401   | RED       | 4137320600 | Wigwam       |
| 8-Oct | 62.0        | 2.6        | F   | ↓         | 0402   | RED       | 41372F1B22 | Wigwam       |
| 8-Oct | 71.0        | 3.8        | F   | ↓         | 0403   | RED       | 4136703B60 | Wigwam       |
| 8-Oct | 80.0        | 5.5        | M   | ↓         | 0846   | BLUE      | 411E5B336C | Wigwam       |
| 8-Oct | 70.0        | 3.7        | M   | ↓         | 0404   | RED       | 41365F4624 | Wigwam       |
| 8-Oct | 66.0        | 3.1        | F   | ↓         | 0211   | BLUE      | 4112670C2C | Wigwam       |
| 8-Oct | 82.0        | 4.8        | M   | ↓         | 0264   | BLUE      | 41126C6D51 | Wigwam       |
| 8-Oct | 75.0        | 4.1        | M   | ↓         | 0405   | RED       | 413745004B | Wigwam       |
| 8-Oct | 66.0        | 3.2        | F   | ↓         | 0333   | BLUE      | 41127B411D | Wigwam       |
| 8-Oct | 71.5        | 4.0        | M   | ↓         | 0852   | BLUE      | 41131E7C15 | Wigwam       |
| 8-Oct | 85.0        | 6.1        | M   | ↓         | 0406   | RED       | 4137326812 | Wigwam       |
| 8-Oct | 76.0        | 4.3        | M   | ↓         | 0407   | RED       | 41372F646D | Wigwam       |
| 8-Oct | 71.0        | 3.9        | F   | ↓         | 0408   | RED       | 41366D1132 | Wigwam       |
| 8-Oct | 71.0        | 3.7        | F   | ↓         | 0815   | BLUE      |            | Wigwam       |
| 8-Oct | 80.5        | 5.2        | M   | ↓         | 0409   | RED       | 4136450E47 | Wigwam       |
| 8-Oct | 54.0        | 2.1        | F   | ↓         | 0410   | RED       | 41366D652C | Wigwam       |
| 8-Oct | 67.0        | 3.3        | M   | ↓         | 0411   | RED       | 4137294A6D | Wigwam       |
| 8-Oct | 63.5        | 2.9        | F   | ↓         | 0412   | RED       | 413750174C | Wigwam       |
| 8-Oct | 49.5        | 1.8        | F   | ↓         | 0413   | RED       | 4137514A20 | Wigwam       |
| 8-Oct | 72.0        | 4.2        | M   | ↓         | 0414   | RED       | 41373C2132 | Wigwam       |
| 8-Oct | 83.0        | 5.5        | M   | ↓         | 0805   | ORANGE    |            | Wigwam       |
| 8-Oct | 69.0        | 3.3        | F   | ↓         | 0415   | RED       | 41364C3857 | Wigwam       |
| 8-Oct | 57.0        | 2.3        | F   | ↓         | 0416   | RED       | 41373D4A0D | Wigwam       |
| 8-Oct | 53.0        | 1.9        | F   | ↓         |        |           |            | Wigwam       |
| 9-Oct | 77.5        | 5.0        | M   | ↓         | 0758   | BLUE      | 411270130A | Wigwam       |
| 9-Oct | 74.0        | 4.4        | M   | ↓         | 0417   | RED       | 41374A5A16 | Wigwam       |
| 9-Oct | 64.0        | 2.9        | F   | ↓         | 0418   | RED       | 41374C4071 | Wigwam       |
| 9-Oct | 72.0        | 4.2        | M   | ↓         | 0303   | BLUE      | 41125E6A40 | Wigwam       |
| 9-Oct | 72.0        | 3.8        | M   | ↓         | 0427   | BLUE      | 4112716D72 | Wigwam       |
| 9-Oct | 77.0        | 4.9        | M   | ↓         | 0419   | RED       | 4112750C27 | Wigwam       |
| 9-Oct | 61.5        | 2.8        | F   | ↓         | 0420   | RED       | 4137417160 | Wigwam       |
| 9-Oct | 82.0        | 4.8        | F   | ↓         | 0507   | BLUE      | 41126C5815 | Wigwam       |
| 9-Oct | 70.0        | 4.1        | M   | ↓         | 0658   | BLUE      |            | Wigwam       |
| 9-Oct | 66.0        | 3.4        | F   | ↓         | 0421   | RED       | 41366F4914 | Wigwam       |
| 9-Oct | 76.0        | 4.5        | M   | ↓         | 0422   | RED       | 41373F113C | Wigwam       |
| 9-Oct | 77.0        | 5.1        | M   | ↓         | 0753   | BLUE      |            | Wigwam       |
| 9-Oct | 70.5        | 3.9        | F   | ↓         | 0377   | BLUE      | 411242370F | Wigwam       |
| 9-Oct | 68.0        | 3.2        | F   | ↓         | 0320   | BLUE      |            | Wigwam       |
| 9-Oct | 64.0        | 3.0        | M   | ↓         | 0423   | RED       | 4137304876 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 9-Oct  | 68.0        | 3.4        | F   | ↓         | 0827   | BLUE      | 411E5C224E | Wigwam       |
| 9-Oct  | 62.0        | 2.8        | F   | ↓         | 0424   | RED       | 41364D1B57 | Wigwam       |
| 9-Oct  | 59.0        | 2.4        | F   | ↓         | 0412   | BLUE      | 41127C095D | Wigwam       |
| 9-Oct  | 73.5        | 4.3        | M   | ↓         | 0426   | RED       | 413653502F | Wigwam       |
| 9-Oct  | 73.5        | 4.6        | M   | ↓         | 0427   | RED       | 413744451F | Wigwam       |
| 9-Oct  | 81.5        | 5.0        | M   | ↓         | 0747   | ORANGE    |            | Wigwam       |
| 9-Oct  | 72.0        | 4.1        | F   | ↓         | 0848   | BLUE      | 411E6A1851 | Wigwam       |
| 9-Oct  | 54.5        | 2.0        | F   | ↓         | 0428   | RED       | 41366A5F5C | Wigwam       |
| 9-Oct  | 62.5        | 2.7        | F   | ↓         | 0429   | RED       | 41374A0F28 | Wigwam       |
| 9-Oct  | 78.0        | 5.3        | M   | ↓         | 0430   | RED       | 4137480B55 | Wigwam       |
| 9-Oct  | 84.0        | 6.3        | M   | ↓         | 0431   | RED       | 4103565179 | Wigwam       |
| 9-Oct  | 64.0        | 2.9        | F   | ↓         | 0216   | BLUE      | 4112681C7A | Wigwam       |
| 9-Oct  | 57.0        | 2.4        | F   | ↓         | 0432   | RED       | 41365B4125 | Wigwam       |
| 9-Oct  | 72.0        | 3.9        | M   | ↓         | 0459   | BLUE      | 4112156D08 | Wigwam       |
| 9-Oct  | 61.0        | 2.5        | F   | ↓         | 0433   | RED       | 4137291F53 | Wigwam       |
| 9-Oct  | 64.5        | 3.0        | F   | ↓         | 0434   | RED       | 413666280E | Wigwam       |
| 9-Oct  | 77.0        | 4.5        | M   | ↓         | 0435   | RED       | 41372A606F | Wigwam       |
| 9-Oct  | 58.0        | 2.2        | F   | ↓         | 0812   | BLUE      | 411E4A524D | Wigwam       |
| 9-Oct  | 56.0        | 2.2        | F   | ↑         | 0436   | RED       | 41374D1907 | Wigwam       |
| 9-Oct  | 72.5        | 4.2        | M   | ↓         | 0475   | BLUE      | 41121C3110 | Wigwam       |
| 10-Oct | 73.5        | 4.2        | M   | ↓         | 0437   | RED       | 4136667809 | Wigwam       |
| 10-Oct | 67.5        | 3.4        | F   | ↓         | 0438   | RED       | 413740244A | Wigwam       |
| 10-Oct | 87.0        | 6.2        | M   | ↓         | 0439   | RED       | 4112587B76 | Wigwam       |
| 10-Oct | 63.5        | 2.9        | M   | ↓         | 0771   | BLUE      | 411E434802 | Wigwam       |
| 10-Oct | 69.0        | 3.5        | M   | ↓         | 0440   | RED       | 41373E5151 | Wigwam       |
| 10-Oct | 66.0        | 3.1        | F   | ↓         | 0381   | BLUE      | 41126A657C | Wigwam       |
| 10-Oct | 78.0        | 4.8        | M   | ↓         | 0743   | BLUE      | 411E696254 | Wigwam       |
| 10-Oct | 67.0        | 3.3        | F   | ↓         | 0379   | BLUE      |            | Wigwam       |
| 10-Oct | 79.0        | 5.0        | M   | ↓         | 0442   | RED       | 4136556423 | Wigwam       |
| 10-Oct | 83.0        | 5.7        | M   | ↓         | 0441   | RED       | 411E6F1536 | Wigwam       |
| 10-Oct | 79.0        | 5.2        | M   | ↓         | 0362   | BLUE      | 4112605D77 | Wigwam       |
| 10-Oct | 86.0        | 6.5        | M   | ↓         | 0133   | BLUE      | 41127C0D47 | Wigwam       |
| 10-Oct | 81.0        | 5.3        | M   | ↓         | 0854   | BLUE      |            | Wigwam       |
| 10-Oct | 72.0        | 3.9        | M   | ↓         | 0443   | RED       | 4137443F69 | Wigwam       |
| 10-Oct | 62.0        | 2.6        | M   | ↓         | 0444   | RED       | 41374A3309 | Wigwam       |
| 10-Oct | 54.0        | 2.1        | F   | ↓         | 0445   | RED       | 4137391D0B | Wigwam       |
| 10-Oct | 57.0        | 2.4        | F   | ↓         | 0730   | BLUE      | 411E4D2B53 | Wigwam       |
| 10-Oct | 62.0        | 2.7        | F   | ↓         | 0446   | RED       | 41374C1658 | Wigwam       |
| 10-Oct | 56.0        | 2.2        | F   | ↓         | 0432   | BLUE      | 41122C5428 | Wigwam       |
| 10-Oct | 57.0        | 2.2        | F   | ↓         | 0447   | RED       | 41373B2557 | Wigwam       |
| 10-Oct | 60.0        | 2.5        | F   | ↓         | 0448   | RED       | 411741061A | Wigwam       |
| 10-Oct | 75.5        | 4.5        | M   | ↓         | 0754   | BLUE      | 411E597B34 | Wigwam       |
| 10-Oct | 56.0        | 2.2        | F   | ↓         | 0449   | RED       | 41166A6019 | Wigwam       |
| 10-Oct | 62.0        | 2.8        | F   | ↓         | 0451   | RED       | 4117334030 | Wigwam       |
| 11-Oct | 79.0        | 5.3        | F   | ↓         | 0900   | ORANGE    |            | Wigwam       |
| 11-Oct | 82.0        | 5.5        | M   | ↓         | 0452   | RED       | 411743067D | Wigwam       |
| 11-Oct | 64.0        | 4.0        | M   | ↓         | 0453   | RED       | 41172C3915 | Wigwam       |

| Date   | Length (mm) | Weight (g) | Sex | Direction | Spag # | Tag Color | Pit Tag #  | Tag Location |
|--------|-------------|------------|-----|-----------|--------|-----------|------------|--------------|
| 11-Oct | 78.0        | 4.7        | M   | ↓         | 0454   | RED       | 411761693C | Wigwam       |
| 11-Oct | 48.0        | 1.6        | M   | ↓         | 0480   | BLUE      |            | Wigwam       |
| 11-Oct | 55.0        | 2.1        | F   | ↓         | 0455   | RED       | 4117364A5A | Wigwam       |
| 11-Oct | 60.5        | 2.5        | F   | ↓         | 0456   | RED       | 41171A6B36 | Wigwam       |
| 11-Oct | 59.5        | 2.4        | F   | ↓         | 0457   | RED       | 41171E6A19 | Wigwam       |
| 11-Oct | 78.0        | 4.7        | M   | ↓         | 0757   | BLUE      | 411E6A0A18 | Wigwam       |
| 11-Oct | 66.0        | 3.1        | F   | ↓         | 0458   | RED       | 4117315029 | Wigwam       |
| 11-Oct | 51.0        | 1.9        | F   | ↓         | 0574   | BLUE      |            | Wigwam       |
| 11-Oct | 64.5        | 2.9        | F   | ↓         | 0459   | RED       | 4117327C05 | Wigwam       |
| 11-Oct | 40.0        | 1.3        | F   | ↓         | 0460   | RED       | 411750504B | Wigwam       |
| 11-Oct | 62.0        | 2.7        | F   | ↓         | 0819   | BLUE      | 411E444615 | Wigwam       |
| 11-Oct | 55.0        | 2.2        | F   | ↓         | 0461   | RED       | 410A307C76 | Wigwam       |
| 11-Oct | 56.0        | 2.4        | F   | ↓         | 0462   | RED       | 41172C031A | Wigwam       |
| 11-Oct | 48.0        | 1.7        | F   | ↓         | 0463   | RED       | 41173E253C | Wigwam       |
| 12-Oct | 72.0        | 4.1        | M   | ↓         | 0464   | RED       | 4117584F29 | Wigwam       |
| 12-Oct | 78.0        | 5.0        | M   | ↓         | 0785   | ORANGE    |            | Wigwam       |
| 12-Oct | 56.0        | 2.2        | F   | ↓         | 0465   | RED       | 4118005A71 | Wigwam       |
| 12-Oct | 66.5        | 3.4        | M   | ↓         | 0339   | BLUE      | 41131D1925 | Wigwam       |
| 12-Oct | 69.0        | 3.5        | F   | ↓         | 0466   | RED       | 4117225D49 | Wigwam       |
| 12-Oct | 56.0        | 2.3        | F   | ↓         | 0467   | RED       | 41173A4150 | Wigwam       |
| 12-Oct | 59.0        | 2.4        | F   | ↓         | 0468   | RED       | 4117187F35 | Wigwam       |
| 12-Oct | 78.5        | 5.0        | M   | ↑         | 0526   | BLUE      | 4112770711 | Wigwam       |
| 13-Oct | 75.0        | 4.5        | M   | ↓         | 0830   | BLUE      | 411E5D1855 | Wigwam       |
| 13-Oct | 82.0        | 5.2        | M   | ↓         | 0469   | RED       | 411E45775F | Wigwam       |
| 13-Oct | 88.0        | 6.7        | M   | ↓         | 0561   | ORANGE    | 4103667A50 | Wigwam       |
| 13-Oct | 90.5        | 7.3        | M   | ↓         | 0874   | BLUE      | 411E5F5F46 | Wigwam       |
| 13-Oct | 84.5        | 5.6        | M   | ↓         | 0470   | RED       | 4117290718 | Wigwam       |
| 13-Oct | 70.5        | 4.2        | M   | ↓         | 0258   | BLUE      | 41172B2152 | Wigwam       |
| 13-Oct | 68.0        | 3.4        | F   | ↓         | 0471   | RED       | 41172B2152 | Wigwam       |
| 13-Oct | 59.0        | 2.4        | F   | ↓         | 0458   | BLUE      | 4112787113 | Wigwam       |
| 13-Oct | 54.0        | 2.0        | F   | ↓         | 0472   | RED       | 4117305F76 | Wigwam       |
| 13-Oct | 81.0        | 5.1        | M   | ↓         | 0871   | BLUE      | 411E6A0E01 | Wigwam       |
| 13-Oct | 52.5        | 1.8        | F   | ↓         | 0473   | RED       | 4117347111 | Wigwam       |
| 13-Oct | 58.0        | 2.4        | F   | ↓         | 0475   | RED       | 411752502C | Wigwam       |
| 13-Oct | 60.5        | 2.7        | F   | ↓         | 0476   | RED       | 4117516335 | Wigwam       |
| 14-Oct | 63.5        | 2.7        | F   | ↓         | 0768   | BLUE      | 411E6A6E7B | Wigwam       |
| 14-Oct | 60.0        | 2.5        | F   | ↓         | 0477   | RED       | 411755275A | Wigwam       |
| 14-Oct | 64.5        | 3.3        | M   | ↓         | 0478   | RED       | 41173B5B48 | Wigwam       |
| 14-Oct | 57.0        | 2.5        | F   | ↓         | 0735   | BLUE      | 411E664C17 | Wigwam       |
| 14-Oct | 64.5        | 3.2        | F   | ↓         | 0479   | RED       | 411747581E | Wigwam       |
| 14-Oct | 68.0        | 3.4        | F   | ↓         | 0480   | RED       | 4117622D2C | Wigwam       |