

**Policy and Practice Report**

**Overview of Fraser River Sockeye Salmon**

**Net and Gross Escapement Data**

**1 April 2011**

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## **Introduction**

1. In preparation for the hearings, the commission assembled and compiled information on net and gross escapement contained in Fraser River Panel Annual Reports and an excel file titled Fraser River sockeye Catch and Exploitation Rates by stock<sup>1</sup> ("PSC's excel file") provided by the Pacific Salmon Commission.

### *Net escapements*

2. Table 1 on page 6 contains net escapement estimates for the entire Fraser River sockeye salmon stock.
3. Table 2 on page 8 contains net escapement estimates for the Fraser River sockeye salmon Early Stuart Run.
4. Table 3 on page 10 contains net escapement estimates for the Fraser River sockeye salmon Early Summer Run.
5. Table 4 on page 12 contains net escapement estimates for the Fraser River sockeye salmon Summer Run.
6. Table 5 page 14 contains net escapement estimates for the Fraser River sockeye salmon Late Run.

### *Gross escapements*

7. Table 6 on page 16 contains gross escapement estimates for the entire Fraser River sockeye salmon stock.
8. Table 7 on page 18 contains gross escapement estimates for the Fraser River sockeye salmon Early Stuart Run.
9. Table 8 on page 20 contains gross escapement estimates for the Fraser River sockeye salmon Early Summer Run.

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<sup>1</sup> Ringtail Document PSC000011.

10. Table 9 on page 22 contains gross escapement estimates for the Fraser River sockeye salmon Summer Run.
11. Table 10 on page 24 contains gross escapement estimates for the Fraser River sockeye salmon Late Run.

## **Data sources**

12. Most of the estimates in the tables below are sourced from annual reports produced by the Pacific Salmon Commission (“PSC”)’s Fraser River Panel (“FRP”) Annual Reports. In addition to being available in Ringtail, annual reports from 1986-2005 can be found on the PSC’s website at <[http://www.psc.org/publications\\_annual\\_fraserreport.htm](http://www.psc.org/publications_annual_fraserreport.htm)>. Draft reports for 2006 and 2007 are available in Ringtail.<sup>2</sup>
13. Where available, data are referenced to the PSC’s excel file which we understand to be the most up-to-date source of information<sup>3</sup>. We have attempted to note inconsistencies among PSC’s excel file and the FRP Annual Reports, as well as within and between the FRP Annual Reports, by including the symbol †. These inconsistencies are usually minor, but are more than simple differences in precision due to rounding.
14. Where more than one in-season estimate has been provided, we have attempted to report the latest in-season estimate. Missing table values indicate that these data were unavailable from the sources we used for this Policy and Practice Report.

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<sup>2</sup>Ringtail Documents PSC001554 and PSC001632.

<sup>3</sup> Note: the responsibility for estimation of spawning escapement shifted from the International Pacific Salmon Fisheries Commission to Canada (Fisheries and Oceans Canada) with the signing of the Pacific Salmon Treaty in 1985.

## Definitions

### Net escapement (Tables 1-5)

15. Tables 1 to 5 contain estimates of net escapement from 1986 to 2009. The columns are pre-season escapement targets, in-season escapement targets (last available estimates), potential spawning escapement (“PSE”) targets/adjusted escapement targets, in-season potential spawning escapement, post-season escapement targets and post-season estimates of adult escapement to the spawning grounds. Table 1 provides this information for all Fraser River sockeye and Tables 2 to 5, provide this information by run-timing group (Early Stuart, Early Summer, Summer and Late).
16. The second column in Tables 1-5 contains post-season estimates of adult net escapement. This is defined as the spawning escapement of adult male and female spawners as estimated through assessment programs conducted on the spawning grounds, or projected from other data when enumerations programs are not conducted (e.g., Quesnel spawners in 2002). Such escapement numbers represent the total number of fish as assessed on the spawning areas and thus include fish that reached the spawning areas but die prior to spawning (pre-spawn mortality).<sup>4</sup>
17. The third, fourth and seventh columns of Tables 1-5 contain pre-season, in-season and post-season net escapement targets. Net (or spawning) escapement targets are defined by the FRP as the, “[t]arget for total adult spawning escapement for each spawning population as defined each year by Canada’s Spawning Escapement Plan.”<sup>5</sup>
18. Pre-season escapement targets are determined based on the pre-season forecasts of abundance. In-season targets vary through the

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<sup>4</sup> Ringtail Document PSC001554 at 48 and Michael Lapointe, pers. comm., March 24, 2011.

<sup>5</sup> Ringtail Document PSC001554 at 48.

summer with changes in in-season abundance estimates as adopted by the FRP, and post-season escapement targets are calculated based on final estimates of abundance which become available sometime after the management season.

19. The fifth column of Tables 1-5 contains adjusted escapement targets (or potential spawning escapement targets). The adjusted escapement target is defined by the FRP as the, “[i] n-season target for PSE by management group, where the PSE is the sum of the spawning escapement target plus the management adjustment (MA) to account for historical differences between in-season and post-season estimates of escapement (DBEs).”<sup>6</sup> If the sum of the spawning escapement target and MA is larger than the adopted estimate of run-size, the spawning escapement target will equal the run-size i.e., the target will not exceed the adopted estimate of run-size.
20. The sixth column of Tables 1-5 contains the PSE, which is defined by the FRP as the “Mission escapement estimate minus First Nations and recreational catches above Mission.”<sup>7</sup> We note that in-season the term PSE can also be estimated from the current adopted run-size minus the observed catch to date in-season.<sup>8</sup>

#### Gross escapement (Tables 6-10)

21. Tables 6 to 10 contain estimates of gross escapement from 1986 to 2009. The columns are in-season gross escapement targets, up-river post-season gross escapement estimates (i.e. estimates from spawning ground enumeration and post-season in-river First Nations and recreational catch estimates) excluding differences between estimates, adjusted gross escapement targets and in-season and post-season

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<sup>6</sup> Ringtail Document PSC001554 at 48.

<sup>7</sup> Ringtail Document PSC001554 at 48.

<sup>8</sup> Ringtail Document PSC001554 at 48.

hydro-acoustic based gross-escapement estimates (i.e. estimates made at Mission plus in-season in-river First Nations and recreational catch estimates). Table 6 provides this information for all Fraser River sockeye and Tables 7 to 10 provide this information by run-timing group (Early Stuart, Early Summer, Summer and Late).

22. The second column of Tables 6-10 contains in-season gross escapement targets, which are defined by the FRP as the in-season spawning escapement target plus management adjustments and catch targets for Fraser River First Nations and recreational fishers.<sup>9</sup>
23. The third column of Tables 6-10 contains up-river post-season gross escapement estimates (excluding differences between estimates), defined by the FRP as the sum of DFO's adult spawning ground escapement estimates and catches in First Nations (Food, Social and Ceremonial and Economic Opportunity), recreational and Excess Salmon to Spawning Requirements ("ESSR") fisheries in the Fraser River watershed.<sup>10</sup>
24. The fourth column of Tables 6-10 contains adjusted gross escapement estimates, defined by the FRP as the sum of in-season gross escapement targets and management adjustments.<sup>11</sup>
25. The fifth column of Tables 6-10 contains in-season hydro-acoustic based gross escapement estimates, defined by the FRP as the sum of the last available in-season estimates of "escapement past Mission plus First Nations, recreational and ESSR catches in the Fraser River below Mission".<sup>12</sup> We note that this is sometimes defined as the sum of in-

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<sup>9</sup> Ringtail Document CAN002566 at 9.

<sup>10</sup> Ringtail Document PSC001554 at 47.

<sup>11</sup> Ringtail Document CAN002564 at 9 and 42-43.

<sup>12</sup> Ringtail Document PSC001554 at 47.

season estimates of escapement past Mission and First Nations catches below Mission.<sup>13</sup>

26. The sixth column of Tables 6-10 contains post-season estimates of hydro-acoustic based gross escapement, defined by the FRP as the sum of post-season estimates of escapement past Mission and First Nations, recreational and ESSR catches in the Fraser River below Mission. We note that this is sometimes defined as the sum of post-season estimates of escapement past Mission and First Nations catches below Mission.<sup>14</sup>

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<sup>13</sup> See e.g., Ringtail Document CAN002564 at 37.

<sup>14</sup> See e.g., Ringtail Document CAN002564 at 37.



**Table 1: Aggregated Fraser River Sockeye Estimates of Net (Spawning) Escapement.**

| <b>Year</b>              | <b>Post-Season Estimate (adult)<sup>15</sup></b> | <b>Pre-Season Target</b> | <b>(Final<sup>16</sup>) In-Season Target</b> | <b>PSE Target / Adjusted Target</b> | <b>PSE</b>              | <b>Post-season Target</b> |
|--------------------------|--|--------------------------|--|-------------------------------------|-------------------------|---------------------------|
| <b>2009</b>              | 1,050,126  | 4,515,000 <sup>17</sup>  | 1,148,000 <sup>18</sup>                      | 1,278,000 <sup>19</sup>             | 1,264,460 <sup>20</sup> |                           |
| <b>2008</b>              | 815,472  | 1,549,200 <sup>21</sup>  |  |                                     |                         |                           |
| <b>2007</b>              | 889,286 <sup>†</sup>                             | 2,525,100 <sup>22</sup>  | 1,275,000 <sup>23</sup>                      |                                     |                         |                           |
| <b>2006<sup>24</sup></b> | 4,661,459  | 6,991,500                | 4,518,500                                    | 6,075,500                           | 4,554,000               | 6,158,000                 |
| <b>2005<sup>25</sup></b> | 3,307,950  | 6,160,000                | 5,156,000 <sup>†26</sup>                     | 5,607,000                           | 7,848,000               | 4,542,000 <sup>27</sup>   |
| <b>2004<sup>28</sup></b> | 524,446  | 1,998,000                | 3,069,000                                    |                                     | 1,837,000               | 2,269,800                 |
| <b>2003<sup>29</sup></b> | 1,979,385  | 2,014,000                | 2,023,000                                    | 2,651,000                           | 3,169,000               |                           |
| <b>2002<sup>30</sup></b> | 10,201,057                                       | 6,436,000 <sup>31</sup>  | 8,970,000                                    |                                     |                         |                           |
| <b>2001<sup>32</sup></b> | 5,256,702  | 4,640,000 <sup>33</sup>  |  |                                     |                         |                           |

<sup>15</sup> All values from this column are from Ringtail Document PSC000011.

<sup>16</sup> Where available.

<sup>17</sup> Ringtail Document CAN002556 at 57.

<sup>18</sup> Ringtail Document CAN285372 at 380.

<sup>19</sup> Ringtail Document CAN285372 at 380.

<sup>20</sup> Ringtail Document CAN285372 at 380.

<sup>21</sup> Ringtail Document CAN068006 at 21.

<sup>22</sup> Ringtail Document CAN068006 at 17.

<sup>23</sup> Ringtail Document CAN002571 at 436. Note: CAN002571 at 436 actually lists 768,000 as the Spawning Escapement Target for the total sockeye stock, however this is the sum of only the Early-Stuart, Early-Summer and Summer runs, excluding the Late run, 1,275,000 is the sum of all four run-timing groups.

<sup>24</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>25</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>26</sup> Ringtail Document CAN002567 at 41 (Table 15). Note: CAN002567 at 22 (Table 2) states that this is 5,190,000, however, CAN002567 at 41 and 45 (Tables 17 and 20) support CAN002567 at 41 (Table 15).

<sup>27</sup> Ringtail Document CAN002567 at 20. Note: CAN002567 at 20 actually lists 3,971,000 as the post-season total sockeye stock Spawning Escapement Target, however this is the sum of only the Early-Stuart, Early-Summer and Summer runs, excluding the Late run, 4,542,000 is the sum of all four run-timing groups.

<sup>28</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>29</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>30</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>31</sup> Ringtail Document CAN002564 at 17. Note: CAN002564 at 15 states that the pre-season escapement targets were 5,325,000 at the 50% probability level and 3,967,000 at the 75% probability level, and that the escapement target was maintained at the 50% level.

|                           |                        |                         |           |  |  |  |
|---------------------------|------------------------|-------------------------|-----------|--|--|--|
| <b>2000</b> <sup>34</sup> | 2,352,930              | 1,639,000 <sup>35</sup> |           |  |  |  |
| <b>1999</b> <sup>36</sup> | 1,832,759              | 2,664,500 <sup>37</sup> |           |  |  |  |
| <b>1998</b> <sup>38</sup> | 4,418,998              | 5,770,000               |           |  |  |  |
| <b>1997</b> <sup>39</sup> | 4,251,921              | 4,072,000               |           |  |  |  |
| <b>1996</b> <sup>40</sup> | 2,027,534 <sup>†</sup> | 1,092,000               | 1,441,000 |  |  |  |
| <b>1995</b> <sup>41</sup> | 1,731,233              | 2,900,000               | 2,770,000 |  |  |  |
| <b>1994</b> <sup>42</sup> | 3,128,543              | 5,390,000               | 5,650,000 |  |  |  |
| <b>1993</b> <sup>43</sup> | 5,754,095 <sup>†</sup> | 3,745,000               | 5,100,000 |  |  |  |
| <b>1992</b> <sup>44</sup> | 1,068,805              | 1,558,000               | 1,597,000 |  |  |  |
| <b>1991</b> <sup>45</sup> | 3,306,272              | 3,775,000               | 3,094,000 |  |  |  |
| <b>1990</b> <sup>46</sup> | 6,064,285 <sup>†</sup> | 5,180,000               | 5,360,000 |  |  |  |
| <b>1989</b> <sup>47</sup> | 3,060,183              | 3,011,000               | 3,300,000 |  |  |  |

<sup>32</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>33</sup>Pre-season forecast spawning escapement targets were developed at the 50% and 75% probability level, the forecast presented here is for the 50% probability level, the 75% level was 3,605,000 (Ringtail Document CAN002563 at 7).

<sup>34</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>35</sup>Pre-season forecast spawning escapement targets were developed at the 50%, 60%, and 75% probability level. The forecast presented here is for the 50% probability level, the 60% level was 1,468,000 and the 75% level was 1,158,000 (Ringtail Document CAN002562 at 7).

<sup>36</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>37</sup>Ringtail Document CAN002561 at 18. Note: CAN002561 at 7 mentions that the spawning escapement target was 2,687,000.

<sup>38</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>39</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>40</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>41</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>42</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>43</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>44</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>45</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>46</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>47</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

|                           |                        |                         |                         |  |  |  |
|---------------------------|------------------------|-------------------------|-------------------------|--|--|--|
| <b>1988</b> <sup>48</sup> | 1,370,339              | 1,000,000               | 1,082,000               |  |  |  |
| <b>1987</b> <sup>49</sup> | 1,905,471 <sup>†</sup> | 1,760,000               |                         |  |  |  |
| <b>1986</b> <sup>50</sup> | 3,657,738              | 4,100,000 <sup>51</sup> | 4,200,000 <sup>52</sup> |  |  |  |

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<sup>48</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail DocumentCAN002614.

<sup>49</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail DocumentCAN002613.

<sup>50</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

<sup>51</sup>Includes a 100,000 escapement overage expected at Weaver Creek (Ringtail Document CAN002612 at 25).

<sup>52</sup>DFO raised the Weaver Creek overage to 200,000 during the season (Ringtail Document CAN002612 at 25).

**Table 2: Fraser River Sockeye Early-Stuart Run Estimates of Net (Spawning) Escapement**

| <b>Year</b>              | <b>Post-Season Estimate (adult)<sup>53</sup></b> | <b>Pre-Season Target</b> | <b>(Final<sup>54</sup>) In-Season Target</b> | <b>PSE Target / Adjusted Target</b> | <b>PSE</b>           | <b>Post-season Target</b> |
|--------------------------|--|--------------------------|--|-------------------------------------|----------------------|---------------------------|
| <b>2009</b>              | 45,297   | 156,000 <sup>55</sup>    | 85,000 <sup>56</sup>                         | 85,000 <sup>57</sup>                | 76,400 <sup>58</sup> |                           |
| <b>2008</b>              | 29,867   | 35,000 <sup>59</sup>     |  |                                     |                      |                           |
| <b>2007</b>              | 5,347  | 44,500 <sup>60</sup>     | 13,000 <sup>61</sup>                         |                                     |                      |                           |
| <b>2006<sup>62</sup></b> | 35,816   | 82,500                   | 68,500                                       | 68,500                              | 73,000               | 54,000                    |
| <b>2005<sup>63</sup></b> | 98,537   | 194,000                  | 164,000                                      | 208,000 <sup>64</sup>               | 189,000              | 171,000                   |
| <b>2004<sup>65</sup></b> | 9,281  | 90,000                   | 163,000                                      |                                     |                      | 90,000                    |
| <b>2003<sup>66</sup></b> | 13,166   | 56,000                   | 29,000                                       | 29,000                              | 28,000               |                           |
| <b>2002<sup>67</sup></b> | 24,637   | 75,000                   | 58,000                                       |                                     |                      |                           |
| <b>2001<sup>68</sup></b> | 170,906  |                          |  |                                     |                      |                           |
| <b>2000<sup>69</sup></b> | 89,747   |                          |  |                                     |                      |                           |
| <b>1999<sup>70</sup></b> | 24,532   | 127,500 <sup>71</sup>    |  |                                     |                      |                           |

<sup>53</sup> All values from this column are from Ringtail Document PSC000011.

<sup>54</sup> Where available.

<sup>55</sup> Ringtail Document CAN002556 at 57.

<sup>56</sup> Ringtail Document CAN285372 at 380.

<sup>57</sup> Ringtail Document CAN285372 at 380.

<sup>58</sup> Ringtail Document CAN285372 at 380.

<sup>59</sup> Ringtail Document CAN068006 at 21.

<sup>60</sup> Ringtail Document CAN068006 at 17.

<sup>61</sup> Ringtail Document CAN002571 at 436.

<sup>62</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>63</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>64</sup> Ringtail Document CAN002567 at 41, however Table 20 lists this as 210,000 (CAN002567 at 45).

<sup>65</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>66</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>67</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>68</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>69</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>70</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>71</sup> Ringtail Document CAN002561 at 18, however the report also notes that this is 150,000 (CAN002561 at 7).

|                           |         |         |         |  |  |  |
|---------------------------|---------|---------|---------|--|--|--|
| <b>1998</b> <sup>72</sup> | 30,952  | 97,000  |         |  |  |  |
| <b>1997</b> <sup>73</sup> | 265,697 |         |         |  |  |  |
| <b>1996</b> <sup>74</sup> | 87,569  | 90,000  | 66,000  |  |  |  |
| <b>1995</b> <sup>75</sup> | 122,710 | 200,000 | 150,000 |  |  |  |
| <b>1994</b> <sup>76</sup> | 29,831  | 200,000 | 90,000  |  |  |  |
| <b>1993</b> <sup>77</sup> | 687,967 | 300,000 |         |  |  |  |
| <b>1992</b> <sup>78</sup> | 65,617  | 200,000 |         |  |  |  |
| <b>1991</b> <sup>79</sup> | 141,119 | 200,000 |         |  |  |  |
| <b>1990</b> <sup>80</sup> | 97,035  | 120,000 |         |  |  |  |
| <b>1989</b> <sup>81</sup> | 384,799 | 333,000 | 333,000 |  |  |  |
| <b>1988</b> <sup>82</sup> | 179,807 | 110,000 | 150,000 |  |  |  |
| <b>1987</b> <sup>83</sup> | 148,194 |         |         |  |  |  |
| <b>1986</b> <sup>84</sup> | 28,584  |         |         |  |  |  |

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<sup>72</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>73</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>74</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>75</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>76</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>77</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>78</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>79</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>80</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>81</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>82</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614.

<sup>83</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613.

<sup>84</sup>Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

**Table 3: Fraser River Sockeye Early-Summer Run Estimates of Net (Spawning) Escapement.**

| <b>Year</b>               | <b>Post-Season Estimate (adult)<sup>85</sup></b> | <b>Pre-Season Target</b> | <b>(Final<sup>86</sup>) In-Season Target</b> | <b>PSE Target / Adjusted Target</b> | <b>PSE</b>            | <b>Post-season Target</b> |
|---------------------------|--|--------------------------|--|-------------------------------------|-----------------------|---------------------------|
| <b>2009</b>               | 86,059   | 296,000 <sup>87</sup>    | 175,000 <sup>88</sup>                        | 175,000 <sup>89</sup>               | 156,450 <sup>90</sup> |                           |
| <b>2008</b>               | 188,737  | 193,900 <sup>91</sup>    |  |                                     |                       |                           |
| <b>2007</b>               | 123,043  | 276,000 <sup>92</sup>    | 155,000 <sup>93</sup>                        |                                     |                       |                           |
| <b>2006<sup>94</sup></b>  | 392,106  | 521,000                  | 580,000                                      | 874,000                             | 920,000               | 728,000                   |
| <b>2005<sup>95</sup></b>  | 224,747  | 362,000                  | 395,000 <sup>†96</sup>                       | 722,000                             | 701,000               | 322,000                   |
| <b>2004<sup>97</sup></b>  | 150,039  | 310,000                  | 770,000                                      |                                     |                       | 434,200                   |
| <b>2003<sup>98</sup></b>  | 193,492  | 144,000                  | 207,000                                      | 354,000                             | 306,000               |                           |
| <b>2002<sup>99</sup></b>  | 457,532  | 227,000                  | 270,000                                      |                                     |                       |                           |
| <b>2001<sup>100</sup></b> | 301,788  |                          |  |                                     |                       |                           |
| <b>2000<sup>101</sup></b> | 575,247  |                          |  |                                     |                       |                           |
| <b>1999<sup>102</sup></b> | 105,137 <sup>†</sup>                             | 260,000                  |  |                                     |                       |                           |
| <b>1998<sup>103</sup></b> | 226,589  | 400,000                  |  |                                     |                       |                           |

<sup>85</sup> All values from this column are from Ringtail Document PSC000011.

<sup>86</sup> Where available.

<sup>87</sup> Ringtail Document CAN002556 at 57.

<sup>88</sup> Ringtail Document CAN285372 at 380.

<sup>89</sup> Ringtail Document CAN285372 at 380.

<sup>90</sup> Ringtail Document CAN285372 at 380.

<sup>91</sup> Ringtail Document CAN068006 at 21.

<sup>92</sup> Ringtail Document CAN068006 at 17.

<sup>93</sup> Ringtail Document CAN002571 at 436.

<sup>94</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>95</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>96</sup> Ringtail Document CAN002567 at 41, 43 and 45, however Table 2 notes this as 385,000 (CAN002567 at 22).

<sup>97</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>98</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>99</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>100</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>101</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>102</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

|                            |                      |         |         |  |  |  |
|----------------------------|----------------------|---------|---------|--|--|--|
| <b>1997</b> <sup>104</sup> | 88,949               |         |         |  |  |  |
| <b>1996</b> <sup>105</sup> | 363,252 <sup>†</sup> | 172,000 | 280,000 |  |  |  |
| <b>1995</b> <sup>106</sup> | 162,723 <sup>†</sup> | 300,000 | 280,000 |  |  |  |
| <b>1994</b> <sup>107</sup> | 248,132              | 400,000 | 300,000 |  |  |  |
| <b>1993</b> <sup>108</sup> | 86,492               | 140,000 |         |  |  |  |
| <b>1992</b> <sup>109</sup> | 102,693              | 351,000 |         |  |  |  |
| <b>1991</b> <sup>110</sup> | 270,512              | 313,500 |         |  |  |  |
| <b>1990</b> <sup>111</sup> | 440,969              | 398,000 |         |  |  |  |
| <b>1989</b> <sup>112</sup> | 63,058               | 83,000  | 83,000  |  |  |  |
| <b>1988</b> <sup>113</sup> | 218,026              | 267,000 | 267,000 |  |  |  |
| <b>1987</b> <sup>114</sup> | 200,037              |         |         |  |  |  |
| <b>1986</b> <sup>115</sup> | 226,703              |         |         |  |  |  |

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<sup>103</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>104</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>105</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>106</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>107</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>108</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>109</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>110</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>111</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>112</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>113</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614.

<sup>114</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613.

<sup>115</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

**Table 4: Fraser River Sockeye Summer Run Estimates of Net (Spawning) Escapement.**

| <b>Year</b>               | <b>Post-Season Estimate (adult)<sup>116</sup></b> | <b>Pre-Season Target</b> | <b>(Final<sup>117</sup>) In-Season Target</b> | <b>PSE Target / Adjusted Target</b> | <b>PSE</b>             | <b>Post-season Target</b> |
|---------------------------|---|--------------------------|---|-------------------------------------|------------------------|---------------------------|
| <b>2009</b>               | 477,536   | 3,471,000 <sup>118</sup> | 520,000 <sup>119</sup>                        | 650,000 <sup>120</sup>              | 591,550 <sup>121</sup> |                           |
| <b>2008</b>               | 564,446   | 800,000 <sup>122</sup>   |   |                                     |                        |                           |
| <b>2007</b>               | 431,047   | 1,347,000 <sup>123</sup> | 600,000 <sup>124</sup>                        |                                     |                        |                           |
| <b>2006<sup>125</sup></b> | 815,361   | 2,863,000                | 1,792,000                                     | 1,828,000                           | 1,031,000              | 1,948,000                 |
| <b>2005<sup>126</sup></b> | 2,454,988   | 5,262,000                | 4,006,000                                     | 4,086,000                           | 6,105,000              | 3,375,000                 |
| <b>2004<sup>127</sup></b> | 273,218   | 1,424,000                | 1,932,000                                     |                                     |                        | 1,424,000                 |
| <b>2003<sup>128</sup></b> | 1,002,404   | 1,176,000                | 1,130,000                                     | 1,130,000                           | 1,747,000              |                           |
| <b>2002<sup>129</sup></b> | 3,803,591   | 3,242,000                | 2,377,000                                     |                                     |                        |                           |
| <b>2001<sup>130</sup></b> | 4,683,377   |                          |   |                                     |                        |                           |
| <b>2000<sup>131</sup></b> | 1,649,497   |                          |   |                                     |                        |                           |
| <b>1999<sup>132</sup></b> | 1,281,584   | 1,489,000                |   |                                     |                        |                           |
| <b>1998<sup>133</sup></b> | 2,380,011   | 2,326,000                |   |                                     |                        |                           |

<sup>116</sup> All values from this column are from Ringtail Document PSC000011.

<sup>117</sup> Where available.

<sup>118</sup> Ringtail Document CAN002556 at 57.

<sup>119</sup> Ringtail Document CAN285372 at 380.

<sup>120</sup> Ringtail Document CAN285372 at 380.

<sup>121</sup> Ringtail Document CAN285372 at 380.

<sup>122</sup> Ringtail Document CAN068006 at 21.

<sup>123</sup> Ringtail Document CAN068006 at 17.

<sup>124</sup> Ringtail Document CAN002571 at 436.

<sup>125</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>126</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>127</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>128</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>129</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>130</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>131</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>132</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.



|                            |           |           |           |  |  |  |
|----------------------------|-----------|-----------|-----------|--|--|--|
| <b>1997</b> <sup>134</sup> | 3,807,474 |           |           |  |  |  |
| <b>1996</b> <sup>135</sup> | 1,411,690 | 666,000   | 795,000   |  |  |  |
| <b>1995</b> <sup>136</sup> | 924,637   | 1,100,000 | 1,050,000 |  |  |  |
| <b>1994</b> <sup>137</sup> | 1,351,644 | 2,010,000 | 2,000,000 |  |  |  |
| <b>1993</b> <sup>138</sup> | 4,623,488 | 3,115,000 |           |  |  |  |
| <b>1992</b> <sup>139</sup> | 634,728   | 650,000   |           |  |  |  |
| <b>1991</b> <sup>140</sup> | 1,256,770 | 903,000   |           |  |  |  |
| <b>1990</b> <sup>141</sup> | 1,597,295 | 1,130,000 |           |  |  |  |
| <b>1989</b> <sup>142</sup> | 2,553,167 | 2,464,000 | 2,753,000 |  |  |  |
| <b>1988</b> <sup>143</sup> | 745,074   | 535,000   | 535,000   |  |  |  |
| <b>1987</b> <sup>144</sup> | 659,118   |           |           |  |  |  |
| <b>1986</b> <sup>145</sup> | 581,163   |           |           |  |  |  |

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<sup>133</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>134</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>135</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>136</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>137</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>138</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>139</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>140</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>141</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>142</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>143</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614.

<sup>144</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613.

<sup>145</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

**Table 5: Fraser River Sockeye Late Stock Run Estimates of Net (Spawning) Escapement.**

| <b>Year</b>               | <b>Post-Season Estimate (adult)<sup>146</sup></b> | <b>Pre-Season Target</b> | <b>(Final<sup>147</sup>) In-Season Target</b> | <b>PSE Target / Adjusted Target</b> | <b>PSE</b>             | <b>Post-season Target</b> |
|---------------------------|---|--------------------------|---|-------------------------------------|------------------------|---------------------------|
| <b>2009</b>               | 441,234   | 592,000 <sup>148</sup>   | 368,000 <sup>149</sup>                        | 368,000 <sup>150</sup>              | 440,060 <sup>151</sup> |                           |
| <b>2008</b>               | 32,422  | 520,300 <sup>152</sup>   |   |                                     |                        |                           |
| <b>2007</b>               | 329,849   | 857,000 <sup>153</sup>   | 507,000 <sup>154</sup>                        |                                     |                        |                           |
| <b>2006<sup>155</sup></b> | 3,418,176   | 3,525,000                | 2,078,000                                     | 3,305,000                           | 2,530,000              | 3,428,000                 |
| <b>2005<sup>156</sup></b> | 529,678   | 342,000                  | 591,000 <sup>157</sup>                        | 591,000                             | 853,000                | 674,000                   |
| <b>2004<sup>158</sup></b> | 91,908  | 174,000                  | 204,000                                       |                                     |                        | 321,600                   |
| <b>2003<sup>159</sup></b> | 770,323   | 638,000                  | 657,000                                       | 1,138,000                           | 1,088,000              |                           |
| <b>2002<sup>160</sup></b> | 5,915,297   | 2,892,000 <sup>161</sup> | 6,265,000                                     |                                     |                        |                           |
| <b>2001<sup>162</sup></b> | 100,631   |                          |   |                                     |                        |                           |
| <b>2000<sup>163</sup></b> | 38,439  |                          |   |                                     |                        |                           |
| <b>1999<sup>164</sup></b> | 421,506   | 788,000                  |   |                                     |                        |                           |

<sup>146</sup> All values from this column are from Ringtail Document PSC000011.

<sup>147</sup> Where available.

<sup>148</sup> Ringtail Document CAN002556 at 57.

<sup>149</sup> Ringtail Document CAN285372 at 380.

<sup>150</sup> Ringtail Document CAN285372 at 380.

<sup>151</sup> Ringtail Document CAN285372 at 380.

<sup>152</sup> Ringtail Document CAN068006 at 21.

<sup>153</sup> Ringtail Document CAN068006 at 17.

<sup>154</sup> Ringtail Document CAN002571 at 436.

<sup>155</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>156</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>157</sup> Ringtail Document CAN002567 at 41 and 45, however it is listed as 635,000 (159,000 Birkenhead and 476,000 Late-Run) in Table 2 (CAN002567 at 22).

<sup>158</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>159</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>160</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>161</sup> Ringtail Document CAN002564 at 17, however Ringtail Document CAN002564 at 15 notes this is 1,781,000.

<sup>162</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>163</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

|                            |           |           |           |  |  |  |
|----------------------------|-----------|-----------|-----------|--|--|--|
| <b>1998</b> <sup>165</sup> | 1,781,446 | 2,947,000 |           |  |  |  |
| <b>1997</b> <sup>166</sup> | 89,801    |           |           |  |  |  |
| <b>1996</b> <sup>167</sup> | 165,023   | 164,000   | 300,000   |  |  |  |
| <b>1995</b> <sup>168</sup> | 521,163   | 1,300,000 | 1,290,000 |  |  |  |
| <b>1994</b> <sup>169</sup> | 1,498,936 | 2,780,000 | 3,260,000 |  |  |  |
| <b>1993</b> <sup>170</sup> | 356,148   | 190,000   |           |  |  |  |
| <b>1992</b> <sup>171</sup> | 265,767   | 357,000   |           |  |  |  |
| <b>1991</b> <sup>172</sup> | 1,637,871 | 2,358,500 |           |  |  |  |
| <b>1990</b> <sup>173</sup> | 3,928,986 | 3,532,000 |           |  |  |  |
| <b>1989</b> <sup>174</sup> | 59,159    | 131,000   | 131,000   |  |  |  |
| <b>1988</b> <sup>175</sup> | 227,432   | 88,000    | 130,000   |  |  |  |
| <b>1987</b> <sup>176</sup> | 898,122   |           |           |  |  |  |
| <b>1986</b> <sup>177</sup> | 2,821,288 | 3,405,000 | 3,405,000 |  |  |  |

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<sup>164</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>165</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>166</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>167</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>168</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>169</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>170</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>171</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>172</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>173</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>174</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>175</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614.

<sup>176</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613.

<sup>177</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

**Table 6: Aggregate Fraser River Sockeye Estimates of Gross Escapement.**

| <b>Year</b>                | <b>In-Season Target</b> | <b>Upriver post-season Estimate</b> | <b>Adjusted Target</b>   | <b>In-Season Hydro-acoustic based Estimate</b> | <b>Post-Season Hydro-acoustic based Estimate</b> |
|----------------------------|-------------------------|-------------------------------------|--------------------------|--|--|
| <b>2009</b>                |                         |                                     | 1,340,530 <sup>178</sup> |  |  |
| <b>2008</b>                |                         |                                     | 1,441,800 <sup>179</sup> |  |  |
| <b>2007</b>                |                         |                                     | 1,119,800 <sup>180</sup> |  |  |
| <b>2006</b> <sup>181</sup> |                         | 5,650,000                           |                          |  |  |
| <b>2005</b> <sup>182</sup> |                         | 4,099,731                           |                          |  |  |
| <b>2004</b> <sup>183</sup> | 3,069,000               | 1,221,700                           | 4,009,000                | 2,855,000                                      | 2,533,200  |
| <b>2003</b> <sup>184</sup> | 2,774,000               | 2,649,900                           | 3,402,000                | 3,807,500                                      | 3,173,200  |
| <b>2002</b> <sup>185</sup> | 9,746,000               | 11,322,000                          | 9,789,000                | 12,252,000                                     | 12,288,000                                       |
| <b>2001</b> <sup>186</sup> | 4,674,000               | 5,956,000                           | 4,765,000                | 5,340,000                                      | 5,433,000  |
| <b>2000</b> <sup>187</sup> | 2,477,000               | 3,167,000                           | 2,810,000                | 2,892,000                                      | 2,893,000  |
| <b>1999</b> <sup>188</sup> | 2,568,000               | 2,101,000                           | 2,656,000                | 3,352,000                                      | 3,350,000  |
| <b>1998</b> <sup>189</sup> | 6,877,000               | 5,275,000 <sup>190</sup>            | 7,593,000                | 8,518,000                                      | 8,570,000  |

<sup>178</sup> Ringtail Document CAN285372 at 377.

<sup>179</sup> Ringtail Document CAN007984 at 314.

<sup>180</sup> Ringtail Document CAN002571 at 436.

<sup>181</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>182</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>183</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>184</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>185</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>186</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>187</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>188</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>189</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>190</sup> Ringtail Document CAN002560 at 42. Note: This includes an ESSR harvest of 99,000 Weaver sockeye. Also note that this is 5,176,000 according to Table 10 (a difference of 99,000) which is also said to include the ESSR harvest (CAN002560 at 36).

|                            |                |                          |                          |                          |                          |
|----------------------------|----------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>1997</b> <sup>191</sup> | <sup>192</sup> | 5,386,000 <sup>193</sup> |                          | 5,804,000                | 5,804,000                |
| <b>1996</b> <sup>194</sup> | 2,199,000      | 2,739,000 <sup>195</sup> | 2,613,000 <sup>196</sup> | 2,872,000                |                          |
| <b>1995</b> <sup>197</sup> | 3,932,000      | 2,623,000 <sup>198</sup> |                          | 3,054,000 <sup>199</sup> | 2,667,000 <sup>200</sup> |
| <b>1994</b> <sup>201</sup> | 6,372,000      | 4,057,000 <sup>202</sup> |                          |                          | 4,359,000                |
| <b>1993</b> <sup>203</sup> | 5,554,000      | 7,249,000 <sup>204</sup> |                          |                          | 5,717,000                |
| <b>1992</b> <sup>205</sup> | 2,566,000      | 1,437,000 <sup>206</sup> |                          | 2,036,000                | 2,036,000                |
| <b>1991</b> <sup>207</sup> | 3,894,000      | 3,911,000 <sup>208</sup> |                          |                          |                          |
| <b>1990</b> <sup>209</sup> | 6,051,000      | 6,869,000 <sup>210</sup> |                          | 6,631,000                |                          |

<sup>191</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>192</sup> Note: Canada did not provide the Fraser River Panel with targets for gross escapement in 1997 (Ringtail Document CAN002559 at 14).

<sup>193</sup> Note that in 1997 this was defined as the sum of Fraser First Nations catch, recreational catch above Mission and spawning escapement (Ringtail Document CAN002559 at 36).

<sup>194</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>195</sup> Note that in 1996 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002622 at 32).

<sup>196</sup> Note: This was a negotiated risk-averse adjustment between Canada and the United States for the stated intention of ensuring the achievement of spawning escapement targets (Ringtail Document CAN002622 at 12). These were accepted by the United States to enable the Fraser River Panel to proceed although the United States did not agree with the methodology used to derive these adjustments (CAN002622 at 5 and 14).

<sup>197</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>198</sup> Note that in 1995 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002621 at 40).

<sup>199</sup> This in-season estimate of gross escapement was revised to 2,667,000 after the season to correct for an error in Mission hydroacoustic procedures in 1995 (Ringtail Document CAN002621 at 6).

<sup>200</sup> This is a revised in-season estimate of gross escapement (see footnote 199, Ringtail Document CAN002621 at 6).

<sup>201</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>202</sup> Note that in 1994 this was defined as the sum of Fraser River First Nations fishery catch and spawning escapement (CAN002620 at 22 and 29).

<sup>203</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>204</sup> Note that in 1993 this was defined as the sum of Fraser River First Nations catch and net escapement (Ringtail Document CAN002619 at 37).

<sup>205</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>206</sup> Note that in 1992 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002618 at 23)

<sup>207</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>208</sup> Note that in 1991 this was defined as the sum of Fraser River First Nations food fisheries below Mission, BC and spawning escapement (Ringtail Document CAN002617 at 33 and 45).

|                            |                          |                          |  |           |           |
|----------------------------|--------------------------|--------------------------|--|-----------|-----------|
| <b>1989</b> <sup>211</sup> | 3,800,000                | 3,632,000 <sup>212</sup> |  | 3,718,000 |           |
| <b>1988</b> <sup>213</sup> | 1,595,000 <sup>214</sup> | 1,786,000 <sup>215</sup> |  | 1,727,000 |           |
| <b>1987</b> <sup>216</sup> | 2,260,000 <sup>217</sup> | 2,360,000 <sup>218</sup> |  | 2,153,000 |           |
| <b>1986</b> <sup>219</sup> | 4,850,000                | 4,192,000 <sup>220</sup> |  | 5,121,000 | 5,121,000 |

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<sup>209</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>210</sup> Note that in 1990 this was defined as the sum of Fraser River First Nations food fishery catch and net escapement (Ringtail Document CAN002616 at 25 and 28).

<sup>211</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>212</sup> Note that in 1989 this was defined as the sum of Fraser River First Nations food fishery catch below Mission, B.C. and net escapement (Ringtail Document CAN002615 at 29).

<sup>213</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614.

<sup>214</sup> Note that this is a pre-season target (Ringtail Document CAN002614 at 21).

<sup>215</sup> Note that in 1988 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002614 at 21).

<sup>216</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613.

<sup>217</sup> Note that this is a pre-season target (Ringtail Document CAN002613 at 32).

<sup>218</sup> Note that in 1987 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002613 at 32).

<sup>219</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

<sup>220</sup> Note that the 1986 report refers to “actual gross escapement obtained from spawning ground data and analysis of First Nations fishery catches” (Ringtail Document CAN002612 at 21).

**Table 7: Fraser River Sockeye Early-Stuart Run Estimates of Gross Escapement.**

| <b>Year</b>                | <b>In-Season Target</b> | <b>Upriver post-season Estimate</b> | <b>Adjusted Target</b> | <b>In-Season Hydro-acoustic based Estimate</b> | <b>Post-Season Hydro-acoustic based Estimate</b> |
|----------------------------|-------------------------|-------------------------------------|------------------------|--|--|
| <b>2009</b>                |                         |                                     | 85,000 <sup>221</sup>  |  |  |
| <b>2008</b>                |                         |                                     | 40,000 <sup>222</sup>  |  |  |
| <b>2007</b>                |                         |                                     | 26,800 <sup>223</sup>  |  |  |
| <b>2006</b> <sup>224</sup> |                         | 43,800                              |                        |  |  |
| <b>2005</b> <sup>225</sup> |                         | 116,300                             |                        |  |  |
| <b>2004</b> <sup>226</sup> | 163,000                 | 45,100                              | 192,000                | 191,300  | 132,200  |
| <b>2003</b> <sup>227</sup> | 29,000                  | 13,700                              | 29,000                 | 29,400   | 29,600   |
| <b>2002</b> <sup>228</sup> | 61,000                  | 29,000                              | 61,000                 | 61,000   | 61,000   |
| <b>2001</b> <sup>229</sup> | 164,000                 | 209,000                             | 225,000                | 221,000  | 243,000  |
| <b>2000</b> <sup>230</sup> | 306,000                 | 296,000                             | 356,000                | 354,000  | 367,000  |
| <b>1999</b> <sup>231</sup> | 133,000                 | 28,000                              | 146,000                | 146,000  | 167,000  |
| <b>1998</b> <sup>232</sup> | 120,000                 | 46,000                              | 171,000                | 168,000  | 184,000  |

<sup>221</sup> Ringtail Document CAN285372 at 377.

<sup>222</sup> Ringtail Document CAN007984 at 314.

<sup>223</sup> Ringtail Document CAN002571 at 436.

<sup>224</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>225</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>226</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>227</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>228</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>229</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>230</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>231</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>232</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

|                            |         |                          |                        |           |           |
|----------------------------|---------|--------------------------|------------------------|-----------|-----------|
| <b>1997</b> <sup>233</sup> |         | 629,000 <sup>234</sup>   |                        | 1,098,000 | 1,259,000 |
| <b>1996</b> <sup>235</sup> | 67,000  | 90,000 <sup>236</sup>    | 114,000 <sup>237</sup> | 114,000   | 131,000   |
| <b>1995</b> <sup>238</sup> | 229,000 | 130,000 <sup>239</sup>   |                        | 219,000   | 183,000   |
| <b>1994</b> <sup>240</sup> | 180,000 | 70,000 <sup>241</sup>    |                        |           | 198,000   |
| <b>1993</b> <sup>242</sup> | 660,000 | 1,117,000 <sup>243</sup> |                        |           | 662,000   |
| <b>1992</b> <sup>244</sup> | 322,000 | 169,000 <sup>245</sup>   |                        | 309,000   | 324,000   |
| <b>1991</b> <sup>246</sup> | 400,000 | 324,000 <sup>247</sup>   |                        |           |           |
| <b>1990</b> <sup>248</sup> | 196,000 | 149,000 <sup>249</sup>   |                        | 169,000   |           |
| <b>1989</b> <sup>250</sup> | 475,000 | 559,000 <sup>251</sup>   |                        | 465,000   |           |

<sup>233</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>234</sup> Note that in 1997 this was defined as the sum of Fraser First Nations catch, recreational catch above Mission and spawning escapement (Ringtail Document CAN002559 at 36).

<sup>235</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>236</sup> Note that in 1996 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002622 at 32).

<sup>237</sup> Note: Because panel management commenced after the Early Stuart run was complete, this target was set at the achieved gross escapement (Ringtail Document CAN002622 at 37).

<sup>238</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>239</sup> Note that in 1995 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002621 at 40).

<sup>240</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>241</sup> Note that in 1994 this was defined as the sum of Fraser River First Nations fishery catch and spawning escapement (CAN002620 at 22 and 29).

<sup>242</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>243</sup> Note that in 1993 this was defined as the sum of Fraser River First Nations catch and net escapement (Ringtail Document CAN002619 at 37).

<sup>244</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>245</sup> Ringtail Document CAN002618 at 23. Note: According to Table 1 in Appendix A this is 149,000 (CAN002618 at 32).

<sup>246</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>247</sup> Note that in 1991 this was defined as the sum of Fraser River First Nations food fisheries below Mission, BC and spawning escapement (Ringtail Document CAN002617 at 33 and 45).

<sup>248</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>249</sup> Note that in 1990 this was defined as the sum of Fraser River First Nations food fishery catch and net escapement (Ringtail Document CAN002616 at 25 and 28).

<sup>250</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>251</sup> Note that in 1989 this was defined as the sum of Fraser River First Nations food fishery catch below Mission, B.C. and net escapement (Ringtail Document CAN002615 at 29).



|                            |                        |                        |  |         |        |
|----------------------------|------------------------|------------------------|--|---------|--------|
| <b>1988</b> <sup>252</sup> | 185,000 <sup>253</sup> | 208,000 <sup>254</sup> |  | 192,000 |        |
| <b>1987</b> <sup>255</sup> | 200,000 <sup>256</sup> | 164,000 <sup>257</sup> |  | 175,000 |        |
| <b>1986</b> <sup>258</sup> |                        | 42,000 <sup>259</sup>  |  | 39,000  | 36,000 |

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<sup>252</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614.

<sup>253</sup> Note: This is a pre-season target (Ringtail Document CAN002614 at 21).

<sup>254</sup> Note that in 1988 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002614 at 21).

<sup>255</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613.

<sup>256</sup> Note: This is a pre-season target (Ringtail Document CAN002613 at 32).

<sup>257</sup> Note that in 1987 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002613 at 32).

<sup>258</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

<sup>259</sup> Note that the 1986 report refers to “actual gross escapement obtained from spawning ground data and analysis of First Nations fishery catches” (Ringtail Document CAN002612 at 21).

**Table 8: Fraser River Sockeye Early-Summer Run Estimates of Gross Escapement.**

| <b>Year</b>                | <b>In-Season Target</b> | <b>Upriver post-season Estimate</b> | <b>Adjusted Target</b> | <b>In-Season Hydro-acoustic based Estimate</b> | <b>Post-Season Hydro-acoustic based Estimate</b> |
|----------------------------|-------------------------|-------------------------------------|------------------------|--|--|
| <b>2009</b>                |                         |                                     | 175,000 <sup>260</sup> |  |  |
| <b>2008</b>                |                         |                                     | 356,400 <sup>261</sup> |  |  |
| <b>2007</b>                |                         |                                     | 198,700 <sup>262</sup> |  |  |
| <b>2006</b> <sup>263</sup> |                         | 613,000                             |                        |  |  |
| <b>2005</b> <sup>264</sup> |                         | 293,900                             |                        |  |  |
| <b>2004</b> <sup>265</sup> | 770,000                 | 357,400                             | 1,111,000              | 1,045,400                                      | 768,800  |
| <b>2003</b> <sup>266</sup> | 307,000                 | 261,300                             | 454,000                | 384,000  | 339,200  |
| <b>2002</b> <sup>267</sup> | 352,000                 | 553,000                             | 395,000                | 647,000  | 633,000  |
| <b>2001</b> <sup>268</sup> | 122,000                 | 373,000                             | 152,000                | 293,000  | 419,000  |
| <b>2000</b> <sup>269</sup> | 491,000                 | 776,000                             | 574,000                | 650,000  | 712,000  |
| <b>1999</b> <sup>270</sup> | 373,000                 | 167,000                             | 448,000                | 445,000  | 367,000  |
| <b>1998</b> <sup>271</sup> | 445,000                 | 285,000                             | 445,000                | 599,000  | 566,000  |
| <b>1997</b> <sup>272</sup> |                         | 133,000 <sup>273</sup>              |                        | 275,000  | 138,000  |

<sup>260</sup> Ringtail Document CAN285372 at 377.

<sup>261</sup> Ringtail Document CAN007984 at 314.

<sup>262</sup> Ringtail Document CAN002571 at 436.

<sup>263</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>264</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>265</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>266</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>267</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>268</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>269</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>270</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>271</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>272</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

|                            |                        |                        |         |         |         |
|----------------------------|------------------------|------------------------|---------|---------|---------|
| <b>1996</b> <sup>274</sup> | 347,000                | 446,000 <sup>275</sup> | 503,000 | 644,000 |         |
| <b>1995</b> <sup>276</sup> | 498,000                | 240,000 <sup>277</sup> |         | 286,000 | 240,000 |
| <b>1994</b> <sup>278</sup> | 380,000                | 370,000 <sup>279</sup> |         |         | 514,000 |
| <b>1993</b> <sup>280</sup> | 204,000                | 144,000 <sup>281</sup> |         |         | 166,000 |
| <b>1992</b> <sup>282</sup> | 573,000                | 215,000 <sup>283</sup> |         | 406,000 | 410,000 |
| <b>1991</b> <sup>284</sup> | 447,500                | 361,000 <sup>285</sup> |         |         |         |
| <b>1990</b> <sup>286</sup> | 507,000                | 570,000 <sup>287</sup> |         | 726,000 |         |
| <b>1989</b> <sup>288</sup> | 98,000                 | 116,000 <sup>289</sup> |         | 189,000 |         |
| <b>1988</b> <sup>290</sup> | 262,000 <sup>291</sup> | 270,000 <sup>292</sup> |         | 406,000 |         |

<sup>273</sup> Note that in 1997 this was defined as the sum of Fraser First Nations catch, recreational catch above Mission and spawning escapement (Ringtail Document CAN002559 at 36).

<sup>274</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>275</sup> Note that in 1996 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002622 at 32).

<sup>276</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>277</sup> Note that in 1995 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002621 at 40).

<sup>278</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>279</sup> Note that in 1994 this was defined as the sum of Fraser River First Nations fishery catch and spawning escapement (CAN002620 at 22 and 29).

<sup>280</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>281</sup> Note that in 1993 this was defined as the sum of Fraser River First Nations catch and net escapement (Ringtail Document CAN002619 at 37).

<sup>282</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>283</sup> Ringtail Document CAN002618 at 23. Note: According to Table 1 in Appendix A this is 182,000 (CAN002618 at 32).

<sup>284</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>285</sup> Note that in 1991 this was defined as the sum of Fraser River First Nations food fisheries below Mission, BC and spawning escapement (Ringtail Document CAN002617 at 33 and 45).

<sup>286</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>287</sup> Note that in 1990 this was defined as the sum of Fraser River First Nations food fishery catch and net escapement (Ringtail Document CAN002616 at 25 and 28).

<sup>288</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>289</sup> Note that in 1989 this was defined as the sum of Fraser River First Nations food fishery catch below Mission, B.C. and net escapement (Ringtail Document CAN002615 at 29).

<sup>290</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614. Assumes the Early-Summer run is comprised of Seymour/Brown Group and Gates/Nadina Group.

<sup>291</sup> Note: This is a pre-season target (Ringtail Document CAN002614 at 21).

|                            |                        |                        |  |         |         |
|----------------------------|------------------------|------------------------|--|---------|---------|
| <b>1987</b> <sup>293</sup> | 285,000 <sup>294</sup> | 319,000 <sup>295</sup> |  | 425,000 |         |
| <b>1986</b> <sup>296</sup> |                        | 273,000 <sup>297</sup> |  | 232,000 | 330,000 |

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<sup>292</sup> Note that in 1988 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002614 at 21).

<sup>293</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613. Assumes the Early-Summer run is comprised of Bowron/Fennell, Nadina/Raft/Gates/Pitt, and Seymour/Scotch.

<sup>294</sup> Note: This is a pre-season target (Ringtail Document CAN002613 at 32).

<sup>295</sup> Note that in 1987 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002613 at 32).

<sup>296</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612. Assumes the Early-Summer run is comprised of Gates/Fennell/Bowron, Pitt/Nadina/Raft, and Seymour/Scotch, etc.

<sup>297</sup> Note that the 1986 report refers to “actual gross escapement obtained from spawning ground data and analysis of First Nations fishery catches” (Ringtail Document CAN002612 at 21).

**Table 9: Fraser River Sockeye Summer Run Estimates of Gross Escapement.**

| <b>Year</b>                | <b>In-Season Target</b> | <b>Upriver post-season Estimate</b> | <b>Adjusted Target</b> | <b>In-Season Hydro-acoustic based Estimate</b> | <b>Post-Season Hydro-acoustic based Estimate</b> |
|----------------------------|-------------------------|-------------------------------------|------------------------|--|--|
| <b>2009</b>                |                         |                                     | 650,000 <sup>298</sup> |  |  |
| <b>2008</b>                |                         |                                     | 825,100 <sup>299</sup> |  |  |
| <b>2007</b>                |                         |                                     | 894,300 <sup>300</sup> |  |  |
| <b>2006</b> <sup>301</sup> |                         | 1,171,000                           |                        |  |  |
| <b>2005</b> <sup>302</sup> |                         | 3,069,400                           |                        |  |  |
| <b>2004</b> <sup>303</sup> | 1,932,000               | 702,200                             | 2,502,000              | 1,403,100                                      | 1,326,800  |
| <b>2003</b> <sup>304</sup> | 1,645,000               | 1,495,300                           | 1,645,000              | 2,225,600                                      | 1,769,900  |
| <b>2002</b> <sup>305</sup> | 2,930,000               | 4,484,000                           | 2,930,000              | 4,917,000                                      | 4,815,000  |
| <b>2001</b> <sup>306</sup> | 3,929,000               | 5,251,000                           | 3,929,000              | 4,341,000                                      | 4,317,000  |
| <b>2000</b> <sup>307</sup> | 1,353,000               | 2,014,000                           | 1,353,000              | 1,390,000                                      | 1,405,000  |
| <b>1999</b> <sup>308</sup> | 1,170,000               | 1,459,000                           | 1,170,000              | 1,266,000                                      | 1,653,000  |
| <b>1998</b> <sup>309</sup> | 2,690,000               | 2,924,000                           | 3,355,000              | 4,167,000                                      | 4,510,000  |
| <b>1997</b> <sup>310</sup> |                         | 4,517,000 <sup>311</sup>            |                        | 4,212,000                                      | 4,245,000  |

<sup>298</sup> Ringtail Document CAN285372 at 377.

<sup>299</sup> Ringtail Document CAN007984 at 314.

<sup>300</sup> Ringtail Document CAN002571 at 436.

<sup>301</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>302</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>303</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>304</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>305</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>306</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>307</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>308</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>309</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>310</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

|                            |                        |                          |           |           |           |
|----------------------------|------------------------|--------------------------|-----------|-----------|-----------|
| <b>1996</b> <sup>312</sup> | 1,453,000              | 1,975,000 <sup>313</sup> | 1,564,000 | 1,580,000 |           |
| <b>1995</b> <sup>314</sup> | 1,744,000              | 1,565,000 <sup>315</sup> |           | 1,911,000 | 1,618,000 |
| <b>1994</b> <sup>316</sup> | 2,411,000              | 1,995,000 <sup>317</sup> |           |           | 2,509,000 |
| <b>1993</b> <sup>318</sup> | 4,090,000              | 5,626,000 <sup>319</sup> |           |           | 4,502,000 |
| <b>1992</b> <sup>320</sup> | 1,269,000              | 778,000 <sup>321</sup>   |           | 1,111,000 | 1,081,000 |
| <b>1991</b> <sup>322</sup> | 1,416,000              | 1,533,000 <sup>323</sup> |           |           |           |
| <b>1990</b> <sup>324</sup> | 1,640,000              | 2,044,000 <sup>325</sup> |           | 2,179,000 |           |
| <b>1989</b> <sup>326</sup> | 3,076,000              | 2,893,000 <sup>327</sup> |           | 2,842,000 |           |
| <b>1988</b> <sup>328</sup> | 903,000 <sup>329</sup> | 1,056,000 <sup>330</sup> |           | 736,000   |           |

<sup>311</sup> Note that in 1997 this was defined as the sum of Fraser First Nations catch, recreational catch above Mission and spawning escapement (Ringtail Document CAN002559 at 36).

<sup>312</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>313</sup> Note that in 1996 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002622 at 32).

<sup>314</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>315</sup> Note that in 1995 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002621 at 40).

<sup>316</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>317</sup> Note that in 1994 this was defined as the sum of Fraser River First Nations fishery catch and spawning escapement (CAN002620 at 22 and 29).

<sup>318</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>319</sup> Note that in 1993 this was defined as the sum of Fraser River First Nations catch and net escapement (Ringtail Document CAN002619 at 37).

<sup>320</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>321</sup> Ringtail Document CAN002618 at 23. Note: According to Table 1 in Appendix A this is 750,000 (CAN002618 at 32).

<sup>322</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>323</sup> Note that in 1991 this was defined as the sum of Fraser River First Nations food fisheries below Mission, BC and spawning escapement (Ringtail Document CAN002617 at 33 and 45).

<sup>324</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>325</sup> Note that in 1990 this was defined as the sum of Fraser River First Nations food fishery catch and net escapement (Ringtail Document CAN002616 at 25 and 28).

<sup>326</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>327</sup> Note that in 1989 this was defined as the sum of Fraser River First Nations food fishery catch below Mission, B.C. and net escapement (Ringtail Document CAN002615 at 29).

<sup>328</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614. Assume the Summer run is comprised of Early Chilko Lake Group, Chilko Group and Stellako Group.

<sup>329</sup> Note: This is a pre-season target (Ringtail Document CAN002614 at 21).

|                            |                        |                        |  |           |         |
|----------------------------|------------------------|------------------------|--|-----------|---------|
| <b>1987</b> <sup>331</sup> | 765,000 <sup>332</sup> | 896,000 <sup>333</sup> |  | 641,000   |         |
| <b>1986</b> <sup>334</sup> |                        | 873,000 <sup>335</sup> |  | 1,022,000 | 931,000 |

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<sup>330</sup> Note that in 1988 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002614 at 21).

<sup>331</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613. Assumes the Summer run is comprised of Chilko River/Lake and Stellako.

<sup>332</sup> Note: This is a pre-season target (Ringtail Document CAN002613 at 32).

<sup>333</sup> Note that in 1987 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002613 at 32).

<sup>334</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612. Assumes the Summer run is comprised of Quesnel/Late Stuart, Chilko River and Lake etc., and Stellako.

<sup>335</sup> Note that the 1986 report refers to “actual gross escapement obtained from spawning ground data and analysis of First Nations fishery catches” (Ringtail Document CAN002612 at 21).

**Table 10: Fraser River Sockeye Late Run Estimates of Gross Escapement.**

| <b>Year</b>                | <b>In-Season Target</b> | <b>Upriver post-season Estimate</b> | <b>Adjusted Target</b> | <b>In-Season Hydro-acoustic based Estimate</b> | <b>Post-Season Hydro-acoustic based Estimate</b> |
|----------------------------|-------------------------|-------------------------------------|------------------------|--|--|
| <b>2009</b>                |                         |                                     | 430,530 <sup>336</sup> |  |  |
| <b>2008</b>                |                         |                                     | 220,300 <sup>337</sup> |  |  |
| <b>2007</b>                |                         |                                     | 930,600 <sup>338</sup> |  |  |
| <b>2006</b> <sup>339</sup> |                         | 3,824,700                           |                        |  |  |
| <b>2005</b> <sup>340</sup> |                         | 567,300                             |                        |  |  |
| <b>2004</b> <sup>341</sup> | 204,000                 | 117,000                             | 204,000                | 215,900  | 305,400  |
| <b>2003</b> <sup>342</sup> | 793,000                 | 879,700                             | 1,274,000              | 1,168,500                                      | 1,034,500  |
| <b>2002</b> <sup>343</sup> | 6,403,000               | 6,256,000                           | 6,403,000              | 6,627,000                                      | 6,779,000  |
| <b>2001</b> <sup>344</sup> | 459,000                 | 123,000                             | 459,000                | 485,000  | 454,000  |
| <b>2000</b> <sup>345</sup> | 327,000                 | 81,000                              | 527,000                | 498,000  | 409,000  |
| <b>1999</b> <sup>346</sup> | 892,000                 | 447,000                             | 892,000                | 1,495,000                                      | 1,163,000  |
| <b>1998</b> <sup>347</sup> | 3,622,000               | 2,020,000 <sup>348</sup>            | 3,622,000              | 3,584,000                                      | 3,310,000  |
| <b>1997</b> <sup>349</sup> |                         | 107,000 <sup>350</sup>              |                        | 219,000  | 162,000  |

<sup>336</sup> Ringtail Document CAN285372 at 377.

<sup>337</sup> Ringtail Document CAN007984 at 314.

<sup>338</sup> Ringtail Document CAN002571 at 436.

<sup>339</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document PSC001554.

<sup>340</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002567.

<sup>341</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002566.

<sup>342</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002565.

<sup>343</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002564.

<sup>344</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002563.

<sup>345</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002562.

<sup>346</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002561.

<sup>347</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002560.

<sup>348</sup> Ringtail Document CAN002560 at 42. Note: This includes an ESSR harvest of 99,000 Weaver sockeye. Also note that this is 1,921,000 according to table 10 (a difference of 99,000) which is also said to include the ESSR harvest (CAN002560 at 36).



|                            |                        |                          |         |           |           |
|----------------------------|------------------------|--------------------------|---------|-----------|-----------|
| <b>1996</b> <sup>351</sup> | 332,000                | 228,000 <sup>352</sup>   | 432,000 | 534,000   |           |
| <b>1995</b> <sup>353</sup> | 1,461,000              | 688,000 <sup>354</sup>   |         | 638,000   | 626,000   |
| <b>1994</b> <sup>355</sup> | 3,401,000              | 1,622,000 <sup>356</sup> |         |           | 1,138,000 |
| <b>1993</b> <sup>357</sup> | 600,000                | 362,000 <sup>358</sup>   |         |           | 387,000   |
| <b>1992</b> <sup>359</sup> | 402,000                | 275,000 <sup>360</sup>   |         | 210,000   | 221,000   |
| <b>1991</b> <sup>361</sup> | 1,630,500              | 1,693,000 <sup>362</sup> |         |           |           |
| <b>1990</b> <sup>363</sup> | 3,708,000              | 4,106,000 <sup>364</sup> |         | 3,557,000 |           |
| <b>1989</b> <sup>365</sup> | 151,000                | 64,000 <sup>366</sup>    |         | 222,000   |           |
| <b>1988</b> <sup>367</sup> | 245,000 <sup>368</sup> | 252,000 <sup>369</sup>   |         | 393,000   |           |

<sup>349</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002559.

<sup>350</sup> Note that in 1997 this was defined as the sum of Fraser First Nations catch, recreational catch above Mission and spawning escapement (Ringtail Document CAN002559 at 36).

<sup>351</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002622.

<sup>352</sup> Note that in 1996 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002622 at 32).

<sup>353</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002621.

<sup>354</sup> Note that in 1995 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002621 at 40).

<sup>355</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002620.

<sup>356</sup> Note that in 1994 this was defined as the sum of Fraser River First Nations fishery catch and spawning escapement (CAN002620 at 22 and 29).

<sup>357</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002619.

<sup>358</sup> Note that in 1993 this was defined as the sum of Fraser River First Nations catch and net escapement (Ringtail Document CAN002619 at 37).

<sup>359</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002618.

<sup>360</sup> Note that in 1992 this was defined as the sum of Fraser First Nations catch and spawning escapement (Ringtail Document CAN002618 at 23)

<sup>361</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002617.

<sup>362</sup> Note that in 1991 this was defined as the sum of Fraser River First Nations food fisheries below Mission, BC and spawning escapement (Ringtail Document CAN002617 at 33 and 45).

<sup>363</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002616.

<sup>364</sup> Note that in 1990 this was defined as the sum of Fraser River First Nations food fishery catch and net escapement (Ringtail Document CAN002616 at 25 and 28).

<sup>365</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002615.

<sup>366</sup> Note that in 1989 this was defined as the sum of Fraser River First Nations food fishery catch below Mission, B.C. and net escapement (Ringtail Document CAN002615 at 29).

<sup>367</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002614.

|                            |                          |                          |  |           |           |
|----------------------------|--------------------------|--------------------------|--|-----------|-----------|
| <b>1987</b> <sup>370</sup> | 1,010,000 <sup>371</sup> | 979,000 <sup>372</sup>   |  | 912,000   |           |
| <b>1986</b> <sup>373</sup> |                          | 3,004,000 <sup>374</sup> |  | 3,828,000 | 3,824,000 |

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<sup>368</sup> Note: This is a pre-season target (Ringtail Document CAN002614 at 21).

<sup>369</sup> Note that in 1988 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002614 at 21).

<sup>370</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002613.

<sup>371</sup> Note: This is a pre-season target (Ringtail Document CAN002613 at 32).

<sup>372</sup> Note that in 1987 this was defined as the sum of First Nations food fisheries below Mission, BC and net escapement (Ringtail Document CAN002613 at 32).

<sup>373</sup> Unless otherwise noted, values in this row, other than the final column, are from Ringtail Document CAN002612.

<sup>374</sup> Note that the 1986 report refers to “actual gross escapement obtained from spawning ground data and analysis of First Nations fishery catches” (Ringtail Document CAN002612 at 21).

