State of California
Department of Fish and Game

FISH PATHOLOGIST REPORT

Location
Feather River Hatchery

Species and Size
Fall chinook pre-smolts

Date
5 April 2001

Holding Area
G-5

Pre-liberation Fish Health Assessment
Twenty fish were randomly netted from mid-pond and analyzed using the Health Condition
Profile system (see attachment). Some external signs of IHN remain, with approximately 1/3 of
the fish exhibiting slight to moderate anemia of the gills, and one of those fish exhibited
exophthalmia. A little over 1/3 of the fish also had slightly pale kidneys, although the kidneys
were not thin, and 5 fish had slightly enlarged spleens, indicating possible inflammation due to
an infectious agent. Other organs appeared normal. Red blood cell levels were all within normal
range (above 35%), indicating these fish are in a recovery phase from the IHN.

Fish are on the lean side, with a mean mesentary fat content value of 1.25 (most fish had less
than 50% coverage of pyloric ceca). Kt values are all above one, suggesting the fish have not
yet reached smolt stage. Partial silvering with still-visible parr marks indicates fish are nearing
smolt stage. An additional 20 fish from the pond were given a 24 hr salt challenge (30 ppt) and
only 17 survived, which supports Kt value analysis. Fish were also sampled for virus assay;
results pending.

Mean fish weight was 7.5 grams (60/lb) and length was 85 mm (3.4 in).

Comments
These fish had been split from pond C-2 at Thermalito Annex and brought to the main hatchery
pond G-5 on March 5 to assess the effect of returning them to colder water, after their five week
stay in the 59-60°F water of Thermalito. The fish had been brought to Thermalito the end of
January while experiencing an outbreak of IHN contracted at the main hatchery, to see if the
warmer water of Thermalito would suppress the disease. Mortality numbers had dropped from a
high of 2150 the first week of February, to between 50 and 75 during the week before the fish
were transferred. The losses for March for pond G-5 totaled 435, and the fish are growing well.
Water temp. 49°F

Submitted by
Tresa Veek, Lab Tech II, CDFG

Attachment: FHA data capture sheet
<table>
<thead>
<tr>
<th>Score</th>
<th>Water Temp. 9.1°C</th>
<th>Investigator T. Week</th>
<th>Species Fall Chinook</th>
<th>Pond C.S.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Weight</th>
<th>Egg</th>
<th>Fin</th>
<th>Skin</th>
<th>Eye</th>
<th>Gill</th>
<th>Peth</th>
<th>Thym</th>
<th>Liver</th>
<th>Spleen</th>
<th>Kidney</th>
<th>Gut</th>
<th>Hem</th>
<th>Bone</th>
<th>Lecr</th>
<th>Fat</th>
<th>Smel</th>
<th>Cum</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>88</td>
<td>7.5</td>
<td>1.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>50</td>
<td>40</td>
<td>60</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>88</td>
<td>8.5</td>
<td>1.25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>50</td>
<td>57</td>
<td>57</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>78</td>
<td>6.0</td>
<td>1.26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>91</td>
<td>8.4</td>
<td>1.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>74</td>
<td>4.1</td>
<td>1.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>39</td>
<td>39</td>
<td>39</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>96</td>
<td>9.9</td>
<td>1.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>92</td>
<td>8.8</td>
<td>1.75</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>88</td>
<td>7.5</td>
<td>1.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>39</td>
<td>39</td>
<td>39</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>84</td>
<td>7.3</td>
<td>1.23</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>88</td>
<td>8.1</td>
<td>1.19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>44</td>
<td>44</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>92</td>
<td>8.5</td>
<td>1.09</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>96</td>
<td>9.9</td>
<td>1.12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>87</td>
<td>7.9</td>
<td>1.12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>73</td>
<td>5.4</td>
<td>1.39</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>74</td>
<td>5.8</td>
<td>1.28</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>80</td>
<td>6.5</td>
<td>1.27</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>80</td>
<td>6.4</td>
<td>1.05</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>38</td>
<td>38</td>
<td>38</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>95</td>
<td>9.5</td>
<td>1.18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>85</td>
<td>7.9</td>
<td>1.29</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>80</td>
<td>6.5</td>
<td>1.27</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>42</td>
<td>42</td>
<td>42</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Remarks**