REACH 7c
Ponds at Shadow Cliffs

LIMITING FACTORS

HABITAT:
- Lethal temperatures for steelhead.
- Robust population of largemouth bass (known predators of juvenile salmonids).
- Substantial channel alteration.

STAKEHOLDER ISSUES:
- Owned by East Bay Regional Parks District (EBRPD).
- Present use by locals for recreation.

In-channel mining has lowered the bed elevation substantially (below). The ponds act as a heat sink, dampening the effect of any cool water releases from the dam, as well as propagating the heat signature to downstream reaches (right). The ponds at Shadow Cliffs harbor large numbers of entirely non-native fish species (top). Furthermore, the most abundant species, largemouth bass, is a known predator of juvenile salmonids.
REACH 7c
Ponds at Shadow Cliffs
**LIMITING FACTORS**

**HABITAT:**
- Stressful temperatures for steelhead.

**STAKEHOLDER ISSUES:**
- Owned by Livermore Area Recreation and Parks District (LARPD).

---

### Steelhead Habitat Characteristics of Study Reaches

<table>
<thead>
<tr>
<th>Study Reach</th>
<th>Pool/Riffle/Run Ratio (% channel length)</th>
<th>POOL TAILS</th>
<th>POOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4a</td>
<td>12/9/4 (52/25/23)</td>
<td>9</td>
<td>Gravel 37</td>
</tr>
<tr>
<td>4b</td>
<td>6/4/3 (51/16/33)</td>
<td>6</td>
<td>Gravel 18</td>
</tr>
<tr>
<td>4c</td>
<td>4/6/2 (50/43/7)</td>
<td>4</td>
<td>Gravel 14</td>
</tr>
<tr>
<td>7a</td>
<td>2/4/11 (8/10/82)</td>
<td>2</td>
<td>Sand 50</td>
</tr>
<tr>
<td>7b</td>
<td>2.4/7 (7/14/80)</td>
<td>1</td>
<td>Silt 100</td>
</tr>
<tr>
<td>7c</td>
<td>1/0/1 (99/0/1)</td>
<td>0</td>
<td>NA NA</td>
</tr>
</tbody>
</table>

---

**Photographs of Characteristic Conditions**

- Temperatures exceeding 20°C are potentially harmful to steelhead.
REACH 4c
Sycamore Grove Park