Invasive Mussel Defence Program

Matthias Herborg BC Ministry of Environment
Matthias.herborg@gov.bc.ca
Prevention: Invasive Mussel Program

**Roadside Inspections** - highway inspection stations at key entry points into the Province from the US and Alberta (CVSE, CBSA, MOTI, COS, Fisheries guardians)

**Education/Outreach** to the boating community on Clean Drain and Dry messaging to prevent AIS spread (ISCBC, regional ISC, MOTI, Parks Canada)

**Early Detection Monitoring** - ZQM veliger monitoring in BC lakes (ENV & FLRNO staff, regional ISC)

**Collaboration** – with other agencies and jurisdictions
Schedule 4 Prohibited Species (Alive or Dead):

- Prohibited to possess, breed, transport or release

Family *Dreissenidae*

- Zebra Mussel
- Quagga Mussel
- Conrad’s false mussel
Auxiliary Conservation Officer Designations

- Regulation and additional authorities gives our auxiliary Conservation Officers the powers to:
  - Conduct mandatory roadside inspections,
  - Conduct mandatory boat decontaminations,
  - Issue 30 day quarantine periods, and
  - Issue Warning tickets
Outreach & Education

- Partnering with Invasive Species Council of BC and regional invasive species groups on:
  - Promoting Clean, Drain, Dry message
- Reaching out to commercial haulers, boat brokers, auctions houses
- Providing training to other enforcement agencies such as RCMP, Fisheries Officers, Fisheries Guardians, and Natural Resource Officers
- Working with international boating events (e.g. Melges 24 International Sailing Event in Kelowna)
2016 Invasive Mussel Program Expansion
## 2015 Pilot Season vs. 2016 Expanded Season

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Inspection</strong></td>
<td>Roving (~ 30 locations)</td>
<td>Permanent (8 primary locations)</td>
</tr>
<tr>
<td><strong>Stations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of Auxiliary</strong></td>
<td>12</td>
<td>33*</td>
</tr>
<tr>
<td><strong>Conservation Officers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inspection Crews with</strong></td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>Mobile Decontamination</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Units</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level of Coverage</strong></td>
<td>5 days/week &amp; 7hrs/day, June-October</td>
<td>7 days/week &amp; 10hrs/day, April to September/October</td>
</tr>
</tbody>
</table>

* 32 Auxiliary CO’s and 1 full time program coordinator
Inspection Station Coverage for 2016

[Map showing locations in British Columbia, with inspection stations marked in red.]
New in 2016 – Improved Signage

STOP AQUATIC INVASIVE SPECIES

CLEAN DRAIN DRY YOUR WATERCRAFT

INSPECTION STATION
ALL WATERCRAFT MUST REPORT
New in 2016 - Marketing

- Internal marketing campaign including:
  - New mobile friendly website: www.gov.bc.ca/invasivemussels
  - Facebook ad campaign
- Partnering closely with Invasive Species Council of BC on outreach/education of Clean, Drain, Dry message
## Watercraft Inspection Data 2016

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016 *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Watercraft inspected</td>
<td>4,350</td>
<td>~24,500</td>
</tr>
<tr>
<td>Number of people interacted with</td>
<td>~10,000</td>
<td>~49,200</td>
</tr>
<tr>
<td>Watercraft from high risk jurisdiction</td>
<td>70</td>
<td>686</td>
</tr>
<tr>
<td>Mussel fouled boats (adults and/or larvae)</td>
<td>15</td>
<td>17</td>
</tr>
</tbody>
</table>

*These are not final numbers for the 2016 season as data analysis is still underway.*
Source Location of All Watercraft Inspected

- 2015: Boats from 33 different jurisdictions
- 2016: Boats from 55 different jurisdictions
Destination of High Risk Watercraft

**2015 Data**

- Okanagan: 36%
- Lower Mainland: 12%
- Thompson-Nicola: 8%
- Kootenay: 11%
- Vancouver Island: 12%
- Cariboo: 3%
- Peace: 1%
- Omineca: 3%
- Skeena: 2%
- Other Jurisdiction: 21%

**2016 Data**

- Okanagan: 14%
- Lower Mainland: 12%
- Vancouver Island: 6%
- Thompson-Nicola: 8%
- Peace: 1%
- Cariboo: 1%
- Kootenay: 23%
- Omineca: 3%
- Skeena: 2%
- Other Jurisdiction: 29%
2016 Mussel Fouled Watercraft

**Origin of Mussel Fouled Boats**
- Ontario: 82%
- Michigan: 6%
- Nevada: 6%
- Manitoba: 6%

**Destination of Mussel Fouled Boats**
- Lower Mainland: 59%
- Thompson-Nicola: 12%
- Okanagan: 12%
- Kootenay: 6%
- Vancouver Island: 12%
2016 Compliance and Program Effectiveness

- Average compliance across all inspection stations was 81% and up by 9% from the 2015 average of 72%.
- A total of 46 tickets and 36 warnings were issued to motorists for failing to stop at an inspection station.
- A total of 408 people voluntarily stopped at inspection stations without a boat to get more information about AIS.
- 62% of people that stopped at the inspection station had previous knowledge of Clean, Drain, Dry or Aquatic Invasive Species.
2016 Lake Monitoring

- 170 samples from 61 lakes have been collected to date.
- 90 samples analyzed – all negative for invasive mussel veligers.
- Samples collected by partnering agencies including OASISS and other regional groups and Ministry staff.
2016 Lessons Learned

- 107 high risk boats were intercepted in April and May showing the importance of opening stations on April 1st.
- 2016 data shows the continued threat from the east with 82% of mussel fouled boats coming from Ontario.
- Provide more information on website for boaters bringing boats into BC.
- Continued coordination with international boating events taking place in BC.
- Continuing to work with the western provinces to streamline watercraft inspection and decontamination protocols.
Highlights in 2016

- Average compliance at inspection stations was up by 9% from 2015 at 81% for 2016.
- BC’s program and legislation is being taken seriously by the international boating industry.
- Night inspection trial on Aug 24th at the Golden station. Open from 10pm-5am and 3 boats came through, none were from a high risk jurisdiction.
- New mobile friendly website and bi-weekly media updates through COS Ministry of Transportation & Infrastructure social media blog
Weird and Wonderful Watercraft
QUESTIONS?