Wastewater & Effluents In Israel

Monitoring and Prevention of Water Pollution
Number of closed drinking wells in Israel disqualification

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Number of closed well 1998-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate</td>
<td>107</td>
</tr>
<tr>
<td>Chloride</td>
<td>24</td>
</tr>
<tr>
<td>Microbial</td>
<td>5</td>
</tr>
<tr>
<td>Detergents</td>
<td>3</td>
</tr>
<tr>
<td>Heavy metal</td>
<td>4</td>
</tr>
<tr>
<td>Organic pollutants (VOC)</td>
<td>21</td>
</tr>
<tr>
<td>EDB</td>
<td>18</td>
</tr>
<tr>
<td>MTBE (fuel)</td>
<td>3</td>
</tr>
<tr>
<td>Perchlorate</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>199</strong></td>
</tr>
</tbody>
</table>

30% of the wells closed by industrial pollution, almost all of them are located on the Coastal aquifer.
Stands on 3 pillars:

- **Prevention** (enforcement, laws and rules, Treating sewage system)
- **Monitoring**
- **Remediation**
Prevention: Industrial Wastewater

Rules define industrial wastewater quality allowed discharging to the sewage system:

- Protect the sewage system from damage and clogging
- Protect the biological process in the WWTPs
- Reduce contaminants from sewage and effluent
Monitoring:
Drives for monitoring

- Providing objective, reliable and comparable information at a national level
- Define baseline groundwater conditions (status)
- Determining trends in groundwater quality (trends)
- Providing a three dimensional picture of groundwater quality within aquifers (understanding)
- Providing early warning of groundwater pollution.
Monitoring network developed to protecting drinking water wells

960 monitoring wells were drilled close to gas stations and industrial zones for early warning
Instructions for treatment and remediation when pollution is found.
OECD Report: Population Connected to WWTPs

Population connected to a sewage treatment plant*

* - including primary treatment

Source: OECD, environmental indicators, 2012
Population ~ 8,000,000

507 MCM/year Sewage

92.3%

468 MCM/year Treated in WWTP

85.4%

400 MCM/year Reused for Irrigation

reclaimed effluent usage plants
Sodium and Chloride Load and Concentrations in Effluent

Chloride concentration in WWTPs - 2012

- 0-150: 292,843 (69%)
- 151-250: 12,645 (3%)
- 250-400: 22,038 (5%)
- >400: 99,766 (23%)

Chloride concentration in WWTPs - 2010

- 0-150: 227,094 (56%)
- 151-250: 9,346 (2%)
- 250-400: 128,723 (31%)
- >400: 43,136 (11%)

- Desalination
- Reducing salts in the industrial wastewater
ISRAEL

Always a drop ahead