



Water Conservation Action Plan 2017-2020

Park Board Committee Meeting
September 18, 2017



To provide an update on water use policies, projections, and data analysis for parks, and to seek Board endorsement of priority water conservation projects for 2017-2020.

Key trends: more population regionally, lower snow pack

Without increased storage (raising dams):

- Storage gaps by mid 2030s
 - Stage 3 drought response (like 2015) required about every 5 years
- Increasing frequency of Stage 3 drought response measures
 - Required almost every year by 2040s
- Significant gaps by mid-century under all demand scenarios that cannot be addressed with Stage 3 drought response measures.

■ Provincial

• BC Living Water Smart

- Increase efficiency of water use in BC by 33% by 2020 & meet 50% of new municipal demand through conservation

■ Metro Vancouver

- Drinking Water Management Plan
- Water Shortage Response Plan

■ Park Board

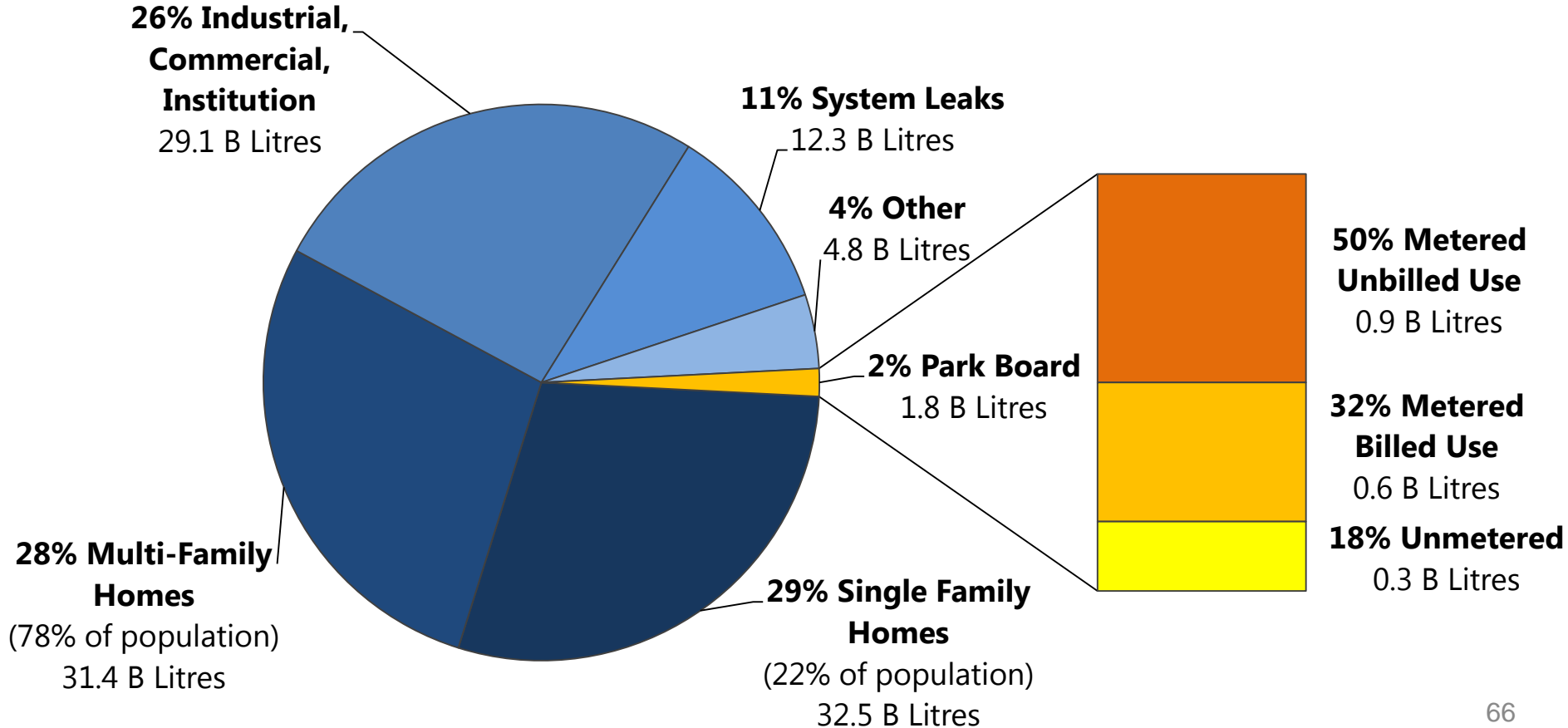
- Motion: Water Conservation (Nov. 2, 2015)

■ City of Vancouver

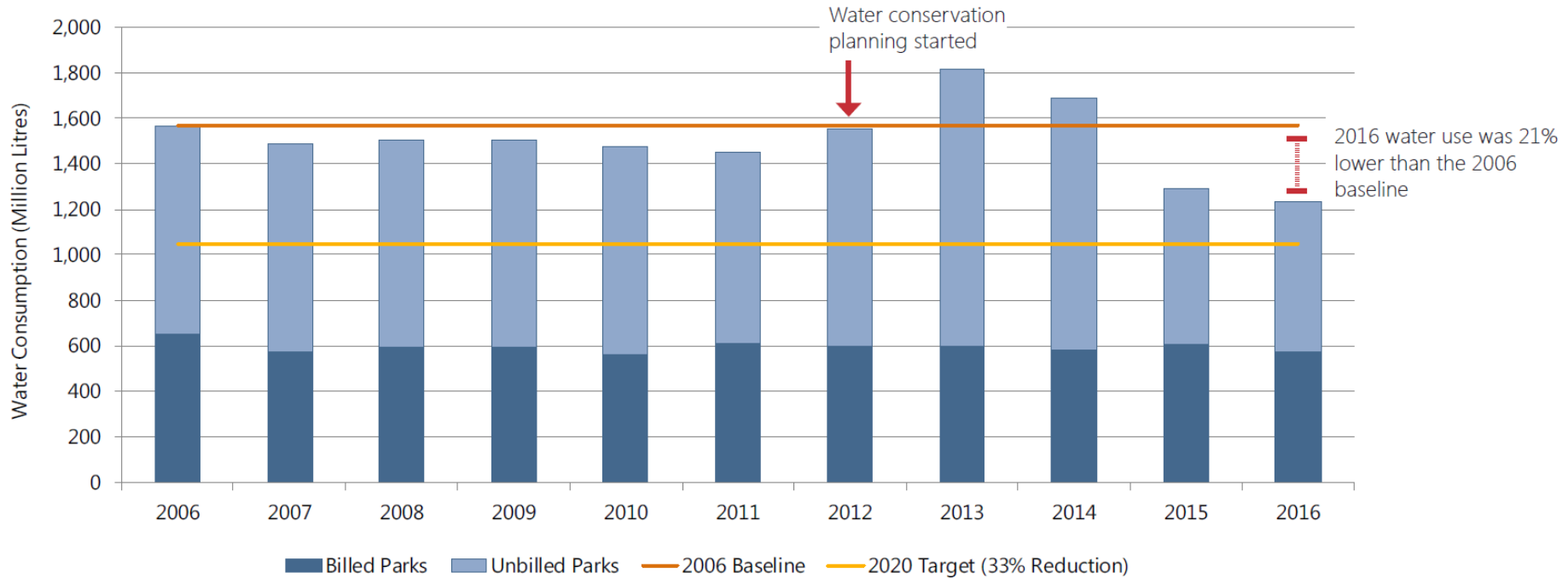
- Greenest City 2020 Action Plan
 - 33% Reduction from 2006 levels
- Corporate Water Reduction Plan
- Green Operations
- Water Works By-Law 4848



City of Vancouver – Water Use By Sector



Parks – Extrapolated Annual Consumption

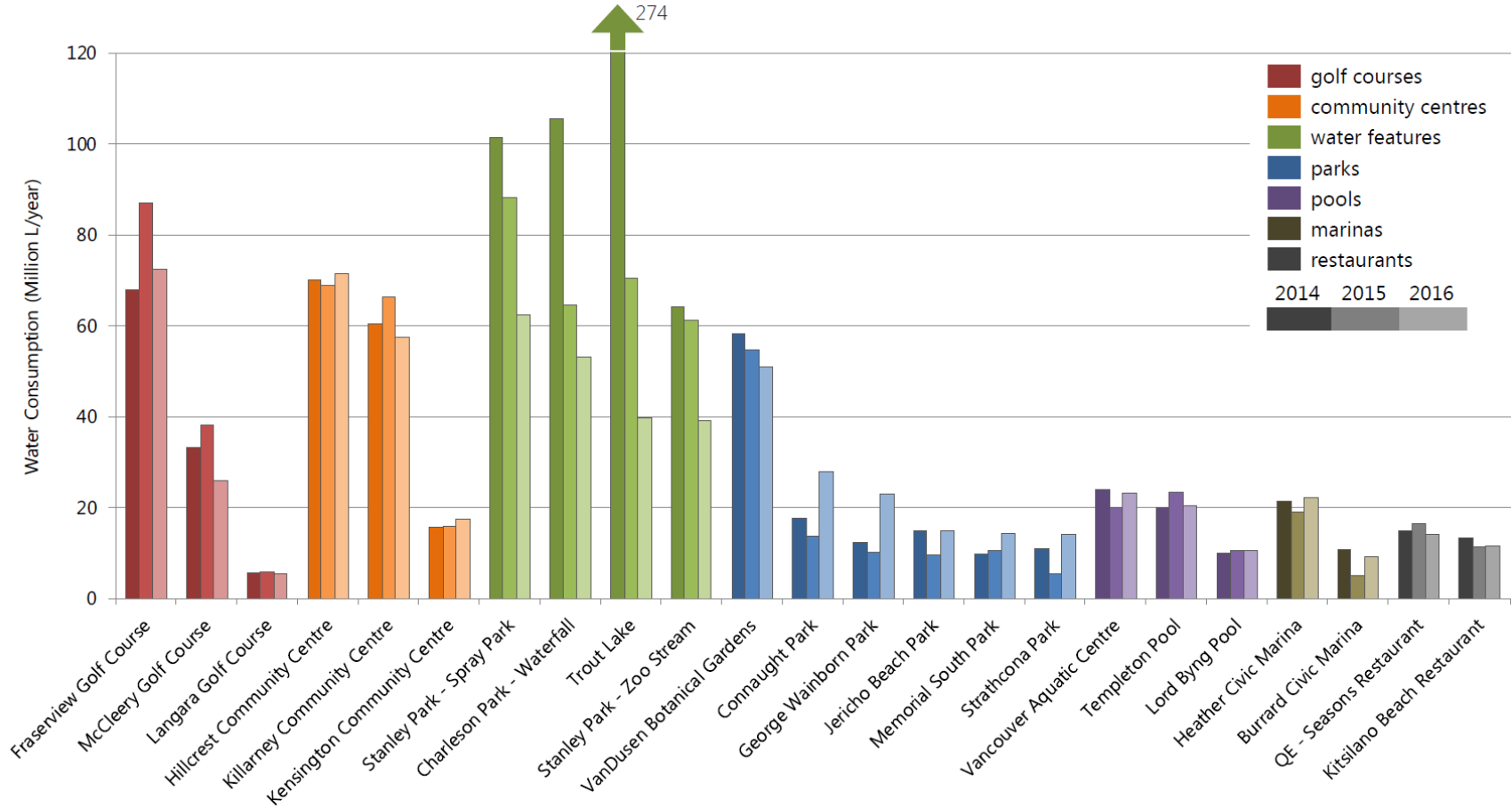


Billed Use includes revenue generating PB facilities which are charged for water (community centres, golf courses, etc.).

Unbilled Use includes PB water use whose costs are not currently allocated to PB (under review by City Finance Dept).

Note: in 2012 the majority of the parks water meters were installed and water conservation planning began in earnest; in 2015 the significant reduction in use was due primarily to the float valve installation at Trout Lake.

Selected Water Users (2014-2016)



Goal:

The goal of the Park Board is to reduce potable water use in parks by 33% from 2006 levels without compromising the importance of water in parks for irrigation, recreation, and aesthetics.

Principles:

1. Initial prioritization of largest water users and actions that will facilitate the largest water savings.
2. Exploring and utilizing alternative water sources where possible, while assuring the sustainability of those alternative resources.
3. Compliance with existing by-laws and best practices.

Principles:

4. Cost effective solutions for both implementation and construction, but also ongoing operation and maintenance.
5. Phased approach to retrofitting and upgrading existing water features.
6. Adaptive management that uses data monitoring and analysis, and responds to cultural and environmental values of water features in parks.
7. Ensure project development and implementation includes input from Park Board and City staff from relevant departments.

Stanley Park – Lumberman's to Beaver Lake

Convey outflow water from spray park to train ponds, which flow to Beaver Lake.



Stanley Park – Lumberman's to Beaver Lake



Beaver Lake

Existing Stream
Connection

Proposed Piped
Connection

Miniature Train Ponds

Lumberman's
Arch Spray Park

Stanley Park – Miniature Train Features

Recirculate waterfall and waterwheel – discontinue potable water input (contingent on previous project).



Recirculate waterfall/ponds



Recirculate pond system, identify and address losses, explore groundwater supply potential; consider use of the reservoir during a future phase.



Explore various efficiency opportunities



Once-Through Water Features

Address once-through water features while balancing by-law compliance, cost, water savings, aesthetics, and park values



- **Green Infrastructure**

Collaboration to explore increasing resilience through harvest and reuse of rainwater

- **Data Collection and Monitoring**

Ongoing monitoring of potable and natural water systems; new meter installation

- **Park Design and Renovation**

Collaboration with park development staff to review and provide input on proposed water features in new and renovated parks

THAT the Vancouver Park Board endorse the Water Conservation Action Plan (2017 - 2020), as outlined in this report and attached as Appendix A, to guide the ongoing implementation of water conservation in Vancouver parks.

