Overall Project Timeline

- **2018-2020**: Project Definition
- **2021-2030**: Design and Construction
- **December 31, 2030**: New Plant Operational

Federal and Provincial Regulatory Deadline
Project Definition Goals

- Wastewater Treatment
- Community and Park Integration
- Resource Recovery
Wastewater Treatment Plant Concept

Key Features
- Enhanced primary followed by secondary clarification
- Tertiary effluent
- Opportunities for effluent reuse
- Biogas upgraded to biomethane
- Higher energy recovery
- Smaller secondary tanks

Resource Recovery Opportunities
- Reclaimed water
- Effluent heat recovery
- Biogas → biomethane → grid
- Class A biosolids
Resource Recovery Opportunities

Inputs:
- Wastewater
- Trucked Liquid Waste

Potential Products:
- Reclaimed Water
- Electricity
- Heat
- Biofuel
- Nutrients / Biosolids
Iona Beach Regional Park
Iona Beach Regional Park – Habitat Enhancement

Iona South Outfall Jetty

Coastal Sand Ecosystem

Interpretive Programs
The Fraser River Basin drains more than a quarter of British Columbia, and supports more salmon runs than any other river in the world.

Source: Rivershed Society
Salmon Migration Routes
Pacific Flyway
Ecosystems of Iona Island

- Riparian forest/swamp
- Coastal sand ecosystem
- Freshwater wetlands
- Musqueam marsh
- Musqueam cultural pavilion
- Fraser River North Arm
- McDonald Slough
- Tidal marsh
- Sludge lagoons
- Shrub grassland

*= Eagle nests

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Disconnected Salmon Migration

Juvenile Salmon Are Forced Out To Deeper Water

Jetties Create ‘Dead Ends’ For Fish Movement

Causeway Creates ‘Dead Ends’ For Fish Movement

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CHUM FRY

PINK FRY

HARRISON RIVER SOCKEYE FRY
Connected Salmon Migration

Increase in Aquatic Connectivity

Increase in Connectivity Through Tidal Channels

Sediment Augmentation and Tidal Marsh Creation For Sea Level Rise Adaptation

Increase in Aquatic Connectivity

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Ecological Priorities
Park Connection opportunities

1. Enhance park ecology
2. Improve circulation, connections and visitor experience
3. Opportunities for education, recreation programming
4. Park expansion (access to more area)
5. Sea level rise and climate change mitigation
6. New partnerships and community connections
Habitat Enhancement and Park Integration

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Next Steps

- Community engagement
- Complete Indicative Design
- Planning for habitat enhancement projects
- Determine design and construction procurement options
- Pilot plant options for advanced wastewater treatment for micropollutant removal
Questions/Comments
Burns Bog Ecological Conservancy Area

HISTORY AND UPDATE

Markus Merkens
NATURAL RESOURCE MANAGEMENT SPECIALIST, REGIONAL PARKS

Regional Parks Committee Meeting – March 11, 2020
2004 Acquisition

Government of Canada
Province of BC
Metro Vancouver
City of Delta

1154 ha
Local Government Lands

888 ha
Provincial Lands
Expansion

City of Vancouver Landfill

- 218 ha Provincial Lands
- 888 ha Provincial Lands
- 1154 ha Local Government Lands

Regional Parks Committee
Governance & Management

Board Standing Committees and Task Forces

METRO VANCOUVER BOARD

23 Member Jurisdictions

Information and Analysis
Recommendations for Action

City of Delta Staff

Interagency Working Group

Scientific Advisory Panel

Regional Parks Committee

Metro Vancouver Staff

Information and Analysis
Recommendations for Action
Size and complexity of conservancy area challenging
2007 Management Plan

“…return Burns Bog to an ecological condition shaped by raised bog processes, buffered from disruptive or disturbing processes on the adjacent landscape, over a timeframe of 100 years.”
Metro Vancouver
- Overall Management Responsibility
- Access and Monitoring
- Natural Resources

City of Delta
- Drainage
- Wildfire
Monitoring

• Detect change
• Regulatory requirement
• Assess effectiveness of management

Research

• How bogs function
• How to restore function
• Operational best management practices
Vegetation Monitoring
- Long-term changes
- Post fire recovery
- Peat production

Vegetation Research
- What drives vegetation type
- Spectral reflectance and sphagnum health
- Invasive species management methods
What about the water?
Hydrological Studies

- Ground water monitoring
- Flow monitoring
- Soil moisture monitoring
- Water chemistry monitoring
- Hydraulic conductivity studies
Micrometeorology – Measuring Ecological Function

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Carbon Offset Validation and Verification

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Ultimate Goal
Questions?
2019 Regional Parks Visitor Satisfaction Survey

SYSTEM SUMMARY

Jamie Vala
DIVISION MANAGER, PLANNING & RESOURCE MANAGEMENT, REGIONAL PARKS

Regional Parks Committee Meeting – March 11, 2020

37011524

Regional Parks Committee
Background

- Committee Work Plan
- 2013 Survey
- Outdoor Recreation Opportunities study
- Longitudinal Data
Survey Process
2019 Visitor Satisfaction Survey
Top Three Reasons for Visit

- Appreciate Nature: 72%
- Exercise: 71%
- Activity with family/friends: 63%
Most Common Activities

- Walking/hiking: 85%
- Dog Walking: 39%
- Nature/Wildlife viewing: 33%

Average # of dogs 1.3
Facilities at Park

Importance:
- Trails: 91%
- Recycling/garbage: 87%
- Washrooms: 83%

Satisfaction:
- Trails: 87%
- Recycling/garbage: 72%
- Washrooms: 66%

99% of visitors to regional parks feel that protection of the natural environment is important to their enjoyment of the park, with most saying it is ‘very’ important.

Of the three most important facilities, visitors are least satisfied with washrooms.

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Frequency of Visiting Regional Parks

- 41% > once a week
- 15% ± once a week
- 12% 2-3 times a month
- 10% ± once a month
- 7% ± once every 2 months
- 15% less often

Four-in-ten visitors to all parks completing a survey are frequent visitors – once a week or more.
## Demographics - Respondent Origin by Sub-region

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Respondent proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burrard Peninsula (Vancouver, Richmond, Burnaby &amp; New Westminster)</td>
<td>32%</td>
</tr>
<tr>
<td>South Shore (Surrey &amp; Delta)</td>
<td>21%</td>
</tr>
<tr>
<td>North Shore (West Vancouver, District of North Vancouver, City of North Vancouver, Lions Bay, Bowen Island)</td>
<td>18%</td>
</tr>
<tr>
<td>Fraser Valley (Township of Langley &amp; City of Langley)</td>
<td>10%</td>
</tr>
<tr>
<td>North East (Port Moody, Port Coquitlam, &amp; Coquitlam, Belcarra, Anmore)</td>
<td>10%</td>
</tr>
<tr>
<td>Ridge Meadows (Pitt Meadows &amp; Maple Ridge)</td>
<td>7%</td>
</tr>
</tbody>
</table>
### Demographics - Country of Birth

<table>
<thead>
<tr>
<th>Country</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>67%</td>
</tr>
<tr>
<td>UK/Europe</td>
<td>12%</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>13%</td>
</tr>
<tr>
<td>Not Answered</td>
<td>8%</td>
</tr>
</tbody>
</table>