rpc

# ESG REPORT

ENVIRONMENT, SOCIAL AND GOVERNANCE



Fostering a culture of good governance, environmental stewardship, generosity, and sound operational practices.

# **TABLE OF CONTENTS**

OVERVIEW	4
Guide to Symbols Used in this Report	5
GOVERNANCE	6
Mandate	6
Environment	6
Compliance	8
SOCIAL AND COMMUNITY ETHICS	9
Focus on People	9
Fostering a Culture of Belonging	9
Growing Organizational Awareness of Challenges Faced by Indigenous Peoples	10
Code of Conduct/Ethical Behavior	11
Minimizing Risk of Conflicts of Interest	13
Engaged Employees	12
Monitoring and Responding to Employee Engagement Surveys	12
Complete 2-Year Initiative to Further Improve Employee Engagement Scores	12
Employee Events via the Employee Engagement Committee (EEC)	12
Employee Engagement Committee Wellness Programs	13
Employment Equity and Wellbeing	14
Employment Equity	14
Employee Wellbeing	14
Other Benefits	14
Support Systems	14
Ensuring Employment Posting Reach Diverse Communities	14
Training and Development	15
Strengthening Our Communities	15
Community and Government Partnerships	15
Immigration Strategy Forum	16
Academic Institutions	16
Workplace Connections	16
NSERC Create	16
Atlantic Canada Opportunities Agency (ACOA)	16
National Research Council - Industrial Research Assistance Program (NRC-IRAP)	16
New Brunswick Innovation Foundation (NBIF)	16
Regional Development Corporation (RDC)	16
The Cannabis Education and Awareness Fund	17
Mitacs	17
Environmental Trust Fund	17
Case Study: Microbial Source Tracking (MST)	17
Philanthropy	18
Supporting Volunteerism Where We Live	18
United Way Charity Drive	18
Charity Drive for Greener Village	18
Jobs Unlimited Contributions Through Refundables Program	18
Recycling Bonus!	18

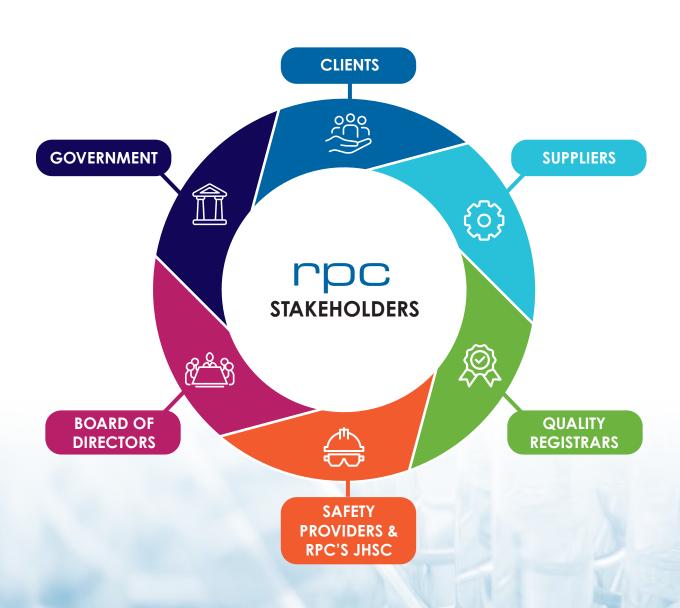
	19
Education: Promoting Science Through Experiential Learning	
School-Age Children and Teens	19
University Students	20
Education Bonus!	20
Outreach: Connecting to the Communities We Serve	21
Partnership With NB Lung	21
RPC Continues To Compare Illicit to Legal Cannabis Contents	21
Volunteering at Science-Based Events	21
Workplace Connections	21
Radon Awareness Campaign in Havelock, NB	21
Communication: Building Knowledge of Our Services Across the Province and Country	22
Social Media Presence	22
Guinness Book of World Records Bonus!	22
Working Groups and Speaking Engagements	23
<b>OPERATIONS</b>	24
Environmental Service Provision	24
Environmental Analyses	24
Fish Health	24
Productivity and Future Factory Assessments	25
Supporting Greener Technologies	25
Emergency Response Capability	25
Case Studies	25
Sustainable Operations	26
Recycling & Safe Waste Disposal	26
Recycling Snapshot	26
Safe Waste Disposal	27
Green Initiatives	28
Greener Chemistry Projects	28
Operational Efficiency & Paper Reduction Improvements	28
Employee Community Garden	29
CHAAAAARV	20
SUMMARY	30
ESG Objectives	30
REFERENCES	32
Report Contributors	32

# **OVERVIEW**

The New Brunswick Research and Productivity Council (RPC) was in its 61<sup>st</sup> year of operation in 2023. Created in April of 1962 as a Crown Corporation of the Government of New Brunswick (GNB), we are proud to "promote innovation through the use of science and technology for the purposes of improving quality of life and building economic viability and competitiveness in the Province", per the New Brunswick Research and Productivity Council Act. We are honoured to serve as the science and technology arm for New Brunswick and Atlantic Canadians.

RPC remains driven to support the communities we serve, and has an ever-increasing focus on sustainability and smart practices. This extends to the organization itself as well as to our services.

RPC's stakeholders include every level of government, our clients, board of directors, quality registrars and the communities we serve.



### RPC bases its operations on the following

# **ENVIRONMENT, SOCIAL, AND GOVERNANCE (ESG) PILLARS**



#### **GUIDE TO SYMBOLS USED IN THIS REPORT**

This report uses symbols to indicate how sections relate to an international framework. These symbols are the same as those used by the Canadian government and reflect the goals of the United Nations 2030 Agenda for Sustainable Development. In September 2015, Canada and all 192 United Nations Member States adopted this agenda at the UN General Assembly. This initiative is a global call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.<sup>2</sup> We have adopted these symbols to indicate where our ESG initiatives fall within the framework of these national and international goals.





POVERTY



RESPONSIBLE

CONSUMPTION

& PRODUCTION













# GOVERNANCE OF SERVICE

RPC's corporate values are safety, quality, service, integrity, corporate social responsibility, to be customer focused, and results driven. Our vision is for science and technology to drive smart decisions that promote a prosperous and sustainable New Brunswick. To stay focused on our vision and aligned with our values, RPC chooses to operate in, and build on, a good governance framework which flows through all aspects of our operations.

Elements of our governance framework include:

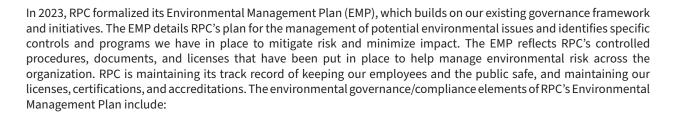
- Compliance with the New Brunswick Research and Productivity Council Act
- Compliance with the Accountability and Continuous Improvement Act
- Compliance with RPC's mandate letters issued by our Minister
- Adhering to our Annual Plan and 5-Year Strategic Plan

For this year's ESG Report, we are focusing on two elements of our governance framework, namely our Mandate Letter and our Environmental Management Plan.

#### **MANDATE**

RPC receives a mandate letter from our minister per the *Accountability and Continuous Improvement Act*.<sup>3</sup> This letter drives our strategic and operational direction and sets performance expectations. This report will describe how RPC is working to achieve our mandate as it pertains to Environment, Social, and Governance objectives.

### **ENVIRONMENT**



PROCÉDURE, DOCUMENT OU PERMIS	ÉCHELON INTERNE, PROVINCIAL, NATIONAL OU INTERNATIONAL	OBJECTIF
Analyse annuelle des forces, faiblesses, possibilités et menaces (FFPM)	Interne	La direction de RPC prend en compte les risques, y compris ceux environnementaux.
Programmes de gestion de la sécurité et de la biosécurité	Interne	RPC a mis en place les programmes et la formation nécessaires pour garantir une manipulation sûre des matériaux susceptibles d'affecter les intervenants ou l'environnement.
Rapport annuel Environnement, société et gouvernance (ESG)	Interne	RPC aborde les enjeux environnementaux, inclut des descriptions de projets environnementaux et des paramètres connexes, et détaille des projets particuliers liés à l'environnement pour l'année à venir.

PROCÉDURE, DOCUMENT OU PERMIS	ÉCHELON INTERNE, PROVINCIAL, NATIONAL OU INTERNATIONAL	OBJECTIF
Programme écrit de formation	Interne	RPC forme ses employés aux protocoles de santé et de sécurité.
Procédures d'élimination des déchets	Interne	RPC tient compte des exigences réglementaires et de sécurité lors de l'élimination des déchets.
Plan d'intervention d'urgence	Interne	Le plan documente la manière dont les employés doivent réagir en cas d'urgence.
Liste des personnes à contacter en cas d'urgence	Interne	La liste énumère les personnes à contacter en cas d'urgence.
Comité mixte sur la santé et la sécurité et Comité consultatif sur la biosécurité	Provincial	RPC démontre son engagement à l'égard de la sécurité et de la biosécurité de l'ensemble de l'organisation et de la conformité aux règlements provinciaux de Travail sécuritaire NB.
Compte d'employeur de Travail sécuritaire NB	Provincial	RPC respecte les exigences de Travail sécuritaire NB.
Demande/rapport concernant le champ de captage et exemption signée relative au champ de captage	Provincial	RPC se conforme aux exigences du programme pour exploiter un champ de captage en vertu du Décret de désignation du secteur protégé du champ de captage du Nouveau-Brunswick.
Évaluations des risques en matière de biosécurité et plan de biosécurité	National	RPC a évalué les risques en matière de biosécurité susceptibles d'affecter les intervenants ou l'environnement, conformément aux Normes canadiennes sur la biosécurité.
Licence relative aux agents pathogènes et aux toxines	National	RPC se conforme à la <i>Loi sur les agents pathogènes et les toxines</i> .
Conformité des laboratoires aquatiques pour le niveau 2 in vitro	National	RPC se conforme à la Loi sur la santé des animaux et au Règlement sur la santé des animaux.
Permis de déplacement d'animaux ou d'objets en vertu de la Loi sur la santé des animaux (zones déclarées d'éradication ou zones de contrôle).	National	RPC se conforme à la Loi sur la santé des animaux et au Règlement sur la santé des animaux.
Permis d'importation et de transfert de poissons propres au client, le cas échéant	National	RPC se conforme à la Loi sur la santé des animaux et au Règlement sur la santé des animaux.
Licence d'essais analytiques pour le cannabis octroyée par Santé Canada	National	RPC se conforme à la <i>Loi sur le cannabis et au</i> Règlement sur le cannabis de Santé Canada.
Licence pour les substances contrôlées octroyée par Santé Canada	National	RPC se conforme à la <i>Loi réglementant certaines</i> drogues et autres substances et au règlement connexe.
Programme de correction des lacunes et autres problèmes au moyen de mesures correctives/ préventives (MCMP)	International	RPC a mis en place un processus documenté d'amélioration continue. Les possibilités d'amélioration sont évaluées par la direction. RPC se conforme aussi aux normes ISO 9001, ISO 17025 et ISO 17020.

In addition to the procedures, programs, and licenses listed above, RPC also maintains compliance to the following:

STATUTE/ REGULATION/ STANDARD	PROVINCIAL/ NATIONAL/ INTERNATIONAL	LICENSE/ CERTIFICATION/ ACCREDITATION	MEANING/APPLICABILITY
Newfoundland and Labrador Construction Safety Association	Atlantic Region	Letter of Good Standing for participation in the Certificate of Recognition® (COR®) Program	RPC meets the requirements for performing medical gas
Compliance with ISO 9001	International	Certificate of Registration (NSF ISR) C0772060-IS2	RPC has a strong Quality Management System (QMS)
Compliance with ISO 17025	International	Accredited Testing Laboratory accreditation certificate (SCC), File numbers 15213 & 15896	For our scope of accreditation (listed at www.scc.ca)
Compliance with ISO 17020	International	Accredited Inspection Body accreditation certificate (SCC), File number 06015	For our scope of accreditation (listed at www.scc.ca – medical gas inspections)



# SOCIAL AND COMMUNITY ETHICS

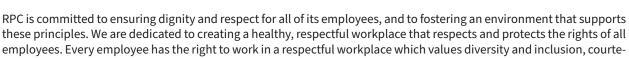
# **FOCUS ON PEOPLE**

spectful workplace.

# FOSTERING A CULTURE OF BELONGING 🔮 🌃 💠







ous conduct, equality, positive communication and professional working relationships. This approach is reflected in our working policies and in our social activities. It is the responsibility of all employees to promote and model behaviours, actions, and values that contribute to a re-

RPC administers mandatory Respectful Workplace Training to all of its employees, and is also compliant with Labour Standards, exceeding the minimum requirements in many areas.

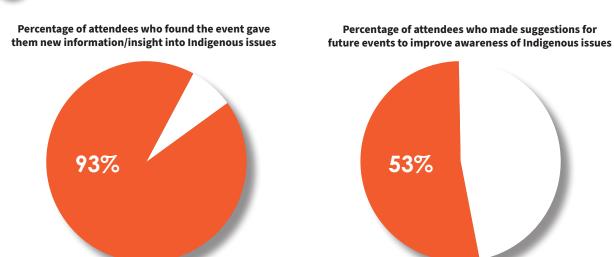
RPC's Employee Engagement Committee (EEC) also has a stated purpose to "Plan and execute social events to help RPC build and promote a culture of belonging, wellness, engagement and fun".



# GROWING ORGANIZATIONAL AWARENESS OF CHALLENGES FACED BY INDIGENOUS PEOPLES (\$\circ\display)



Following from the success of 2022's documentary-based Lunch and Learn about Indigenous peoples, RPC has continued with this annual event. This year's documentary was a viewing of "My Name is Wolastoq".

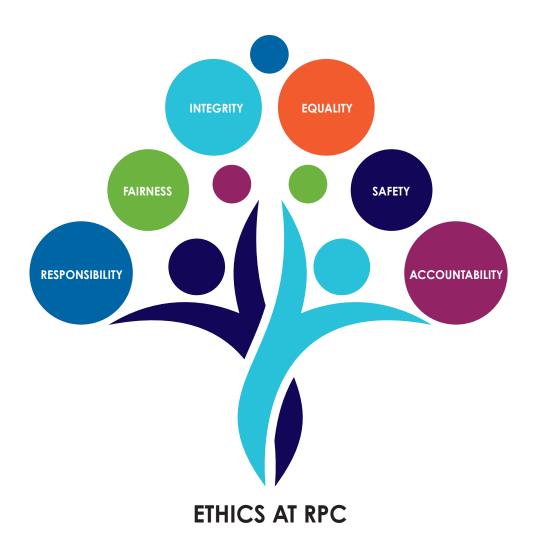


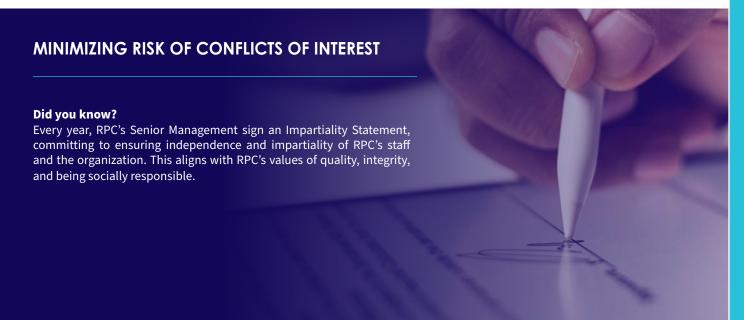


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RPC's code of conduct contributes to fostering an inclusive and safe workplace. This code is contained in a group of policies in RPC's Administrative Policy Manual, including policies on harassment, workplace violence, conflict of interest and integrity, confidentiality, appropriate use of computers, gifts from clients, responsible use of social media, and being fit for work. Together, these address the need for respect and ethical behaviour in the workplace.





# ENGAGED EMPLOYEES **III** ♥ - **II** • **II**

#### MONITORING AND RESPONDING TO EMPLOYEE ENGAGEMENT SURVEYS

RPC works consistently on maintaining an engaged workforce. Organizations with highly engaged employees share a number of benefits, including:

- Reduction in absenteeism;
- Increased productivity;
- ✓ Lower staff turnover;
- Fewer safety incidents;
- → Better customer satisfaction;
- Improved communication;
- Increased innovation/creativity;
- Better morale, loyalty, and retention rates.<sup>4</sup>

RPC's Human Resources department issues an Employee Engagement Survey every 6 months, with the aims of providing an anonymous method of feedback for employees and to monitor engagement amongst the organization.



#### COMPLETE 2-YEAR INITIATIVE TO FURTHER IMPROVE EMPLOYEE ENGAGEMENT SCORES

The organization has been leading a 2-year initiative to continue improving RPC's employee engagement scores. In 2023, the following projects were part of this program:

**Fair Compensation & Pay Equity:** Initiating cost of living adjustments when warranted and continuing to assess employee salaries to ensure they are fair and comparable to market.

RPC believes in a fair and equitable workplace. As part of this mindset, RPC has completed a Pay Equity Review in collaboration with the Pay Equity Department within GNB. Initial feedback has been positive, and periodic reviews will be conducted to ensure RPC's practices remain current and valuable.

**Opportunities for growth:** RPC believes in nurturing talent from within, and continues to support internal candidates finding opportunities in new and diverse roles as they become available.

- Efficiency Improvements: Streamlining processes for better productivity, reducing workload on employees.
- New Services Development: Innovating to meet evolving needs which keeps the work environment exciting and educational.
- Enhanced Employee Focus: Ensuring our workforce's well-being.

#### Continuation of hybrid work arrangement.

**Service Awards:** A special day with awards for employee milestone anniversaries.

**Employee Engagement Committee:** Continued its good work engaging employees in social and philanthropic events. For example, Cupcake Day for the SPCA, Basket Draw for Mental Health, Lunch and Learns on various topics, the RPC Summer Party, building camaraderie and prioritizing well-being for our staff and the community.



# EMPLOYEE EVENTS VIA THE EMPLOYEE ENGAGEMENT COMMITTEE (EEC) 🦸 – 🎶 🔏



RPC's EEC facilitates numerous activities to help RPC build and promote a culture of belonging, wellness, engagement and fun. Examples from 2023 include:

- Multicultural Potluck
- Community Garden Assembly
- Mother's Day & Father's Day Draws
- ✓ Corn Boil/BBQ
- ✓ Hotdog Bar
- Summer Party
- ✓ Truth and Reconciliation Lunch & Learn
- ✓ Bottle Drive
- Take Your Kids to Work Day
- ✓ Tree Trimming/Hot Chocolate Bar/& Charity Drive
- ✓ Eggie Breakfast
- Pumpkin Carving Contest

# EMPLOYEE ENGAGEMENT COMMITTEE WELLNESS PROGRAMS 💡 🏰 👬 🗥 🕍



Each year, RPC's Employee Engagement Committee (EEC) also runs in-house wellness programs. In 2023, programs included the annual Walk for Wellness program and the Community Garden Assembly.



# EMPLOYMENT EQUITY AND WELLBEING 💠 🗐 🎎 📆 – 🛷 🐒

#### **EMPLOYMENT EQUITY**

RPC is committed to the principle of employment equity as described in the federal Employment Equity Act.

The concept of employment equity involves ensuring that all members of society have equal access to opportunities for employment and career advancement. National and global statistics indicate that this has not always been the case, particularly for women, aboriginal people, people with disabilities and people belonging to visible minority groups. RPC seeks to ensure that no barriers exist to the employment or advancement of its workforce and intends to have a diversified workforce which is representative of the general population.

#### **EMPLOYEE WELLBEING**

RPC continues to focus on helping our employees to achieve a healthy work-life balance. Vacation options, statutory holidays, compassionate care leave, a hybrid work policy, and care of dependent leave options are available to help employees attain a balance which is appropriate for them. Additional vacation options are also available through prorated salary leave.

RPC offers a wellness rebate for employees to use towards a health and/or wellness activity every year. This rebate can be used for gym memberships, sports leagues, cooking classes, etc.

#### **OTHER BENEFITS**

RPC offers generous benefits for full-time employees that include health, dental, drug and vision care, life, accidental death and dismemberment, and long-term disability insurances. RPC also offers maternity leave top up to support families financially.

#### SUPPORT SYSTEMS

RPC's Homewood Health Employee and Family Assistance Program (EFAP) helps to take practical and effective steps to improve employee well-being. Support includes counselling for life challenges. Life Smart Coaching is also made available, examples of which include nutrition, childcare and parenting, elder and family care, career planning, and preretirement planning. As an extension of this EFAP service, RPC also offers depression and trauma care via Homewood Health.



# ENSURING EMPLOYMENT POSTINGS REACH DIVERSE COMMUNITIES 💠 🎢 ダ



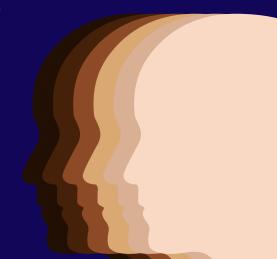


As part of RPC's ongoing commitment to inclusive hiring practices, we have made efforts to reach diverse communities by posting career opportunities through multiple channels:

- Multicultural Associations: RPC collaborates with local associations to ensure visibility among diverse communities.
- **Indeed:** Indeed is a widely-used platform for job seekers.
- **RPC Website:** Our official site provides comprehensive information on available positions.
- Colleges and Universities: Targeting students and graduates from a variety of backgrounds.
- **Indigenous Focus:** RPC is also continuing its efforts to better identify and use inclusive channels for Indigenous candidates.

Collaboration with Working NB: RPC continues to work with Working NB to match their clients with our open positions.

RPC remains committed to fostering an inclusive workforce that reflects the richness of our community.



# TRAINING AND DEVELOPMENT



RPC employs approximately 150 scientists, engineers, technologists, and support specialists who are consistently learning and training to stay up to date with the newest developments across science and technology sectors.

### STRENGTHENING OUR COMMUNITIES

# COMMUNITY AND GOVERNMENT PARTNERSHIPS 🔰 🗪 🗞 🐒







RPC continues to participate in government and academic programs to build relationships with the community, and to strengthen and diversify our employee base and project work. This helps to ensure that we are giving back to the community, and are aligned with testing needs of our stakeholders.



#### **IMMIGRATION STRATEGY FORUM**

RPC is participating in GNB's Mosaïk initiative. Mosaïk is an intentionally co-created newcomer hiring program for anyone who was not born in New Brunswick and is seeking meaningful employment opportunities within government. GNB Mosaïk has created the frameworks to offer meaningful employment, on-the-job language support, and connections that foster a sense of belonging in and outside of the workplace. By putting newcomers and refugees at the center of this work, GNB Mosaïk strives to embrace diversity and inclusion to better serve everyone who calls New Brunswick home.

#### **ACADEMIC INSTITUTIONS**

Throughout the year, RPC often posts positions through University and College job boards, such as UNB, Dalhousie, Université de Moncton, and NBCC, looking for new graduates. We also use these job boards for hiring summer students. This avenue is a great opportunity for RPC to recruit talent after they've graduated and also gives the students some real-life experience outside the classroom. RPC has hosted multiple students and graduates (at all levels) working with our research team as well as co-op students both from Community College and high school.

#### **WORKING NB**

RPC partners with Working NB to match their clients with openings at RPC. The Working NB program repurposes existing wage subsidy programs, and their budgets, to invest in services that are focused on outcomes.<sup>5</sup>

#### **NSERC CREATE**

Our organization participates in The Collaborative Research and Training Experience (CREATE) program with Dalhousie University.

#### ATLANTIC CANADA OPPORTUNITIES AGENCY (ACOA)

ACOA is a long-time collaborator with RPC and has provided funding support for a number of important initiatives over the last several years, including: development of an RPC master plan for renovation/expansion to support projected growth, renewal of RPC's critical IT infrastructure components including our laboratory information management system (LIMS), funding of a technology assessment and productivity improvement program for Atlantic-Canadian small and medium-sized enterprises (SMEs) and procurement of critical instrumentation and equipment that support the delivery of our specialized services (most of which would not exist in Atlantic Canada otherwise).

# NATIONAL RESEARCH COUNCIL - INDUSTRIAL RESEARCH ASSISTANCE PROGRAM (NRC-IRAP)

Since the 1960s, funding from NRC has allowed RPC to support Atlantic Canadian companies through the provision of short-term scientific, technical and advisory assistance in support of applied research and development related innovation projects.

#### **NEW BRUNSWICK INNOVATION FOUNDATION (NBIF)**

NBIF provides many investment and funding support opportunities to New Brunswick SME's. The stream where RPC has been most involved is in providing services funded via NBIF's Innovation Voucher Fund (IVF). The IVF was designed to provide small and medium-sized businesses in New Brunswick with the scientific expertise and facilities they need to accelerate their growth through research and development (R&D). This includes new products or operational efficiencies. Each year RPC completes several of the voucher projects for clients with exceptional results.

#### REGIONAL DEVELOPMENT CORPORATION (RDC)

The Regional Development Corporation is the provincial Crown Corporation that plans, coordinates and implements regional and economic development initiatives for the Province of New Brunswick. RPC works with RDC via several initiatives to expand lab capabilities and help improve our laboratory spaces.

#### THE CANNABIS EDUCATION AND AWARENESS FUND

The Cannabis Education and Awareness Fund is a special purpose trust dedicated to the provision of education and awareness programs related to cannabis, including programs concerning the prevention of cannabis abuse in vulnerable populations.

#### **MITACS**

RPC accesses the MITACS program to obtain personnel and funding for various scientific projects.

#### **ENVIRONMENTAL TRUST FUND**

The Environmental Trust Fund (ETF) program provides support for action-oriented projects with tangible, measurable results, aimed at protecting, preserving, and enhancing the province's natural environment.

Through the ETF Program, Dr. Nishanth Kuchi joined the RPC Moncton Team in 2023 as a Research Scientist. Dr. Kuchi worked to establish analytical services for anatoxin-A using enzyme-linked immunosorbent assay (ELISA) and microbial source tracking (MST) methodology using DNA-based technology. The presence of potentially infectious bacteria or their toxins in the beach environment can pose a health risk for beach goers through either direct skin contact, inhalation, or ingestion.

"The ETF program supports RPC's vision and mission, ultimately increasing laboratory capacity in Atlantic Canada to detect and respond to existing and emerging threats for beach goers."

- Dr. Attig Rehman, Director of Applied and Experimental Biosciences, RPC

# CASE STUDY: MICROBIAL SOURCE TRACKING (MST)



Microbial source tracking (MST) - a DNA-based technology - has been identified as a powerful tool to supplement water quality management, and can assist in identifying specific sources of fecal indicator bacteria (FIB) e.g., cow, dog, deer, human, racoon etc. MST enables the water management community to determine whether humans or other animal species are responsible for microbial fecal contamination in an environmental sample. Having a better understanding of the contamination sources can help Environmental Health Managers and Water Quality Specialists mitigate the effects of fecal contamination and in some cases, stop contamination from entering the recreational water altogether.



#### SUPPORTING VOLUNTEERISM WHERE WE LIVE



RPC encourages our employees to support the charity of their choice by being awarded one day each year of paid leave for the purpose of volunteering. If every employee uses this time each year, it amounts to a charitable donation of approximately \$35,700.00 per year, to registered charities in our communities. This year, RPC did not see the hoped-for uptake of this program, and will be revisiting how to encourage this in 2024.

#### UNITED WAY CHARITY DRIVE



For several years, RPC has embraced the opportunity to fundraise for GNB's chosen charitable organization, the United Way. This year, RPC met 74% of its fundraising goal, and has continued this objective into 2024.

The funds raised by RPC's laboratory locations go to United Ways in New Brunswick, which work through a variety of community initiatives to "break down barriers and creating inclusive communities where everyone can thrive."

#### **CHARITY DRIVE FOR GREENER VILLAGE**

During the 2023 holiday season, RPC collected items for Greener Village to go into their hygiene packs. Greener Village is a community-driven organization dedicated to addressing hunger and promoting food security in the greater Fredericton area, handing out over 2,100 grocery boxes every month to its client families. The items collected included razors, deodorant, body wash, and shampoo. Thanks to the generous donations from RPC employees, RPC was able to donate two large boxes of hygiene products to this important program.

#### JOBS UNLIMITED CONTRIBUTIONS THROUGH REFUNDABLES PROGRAM



Throughout the year, RPC contributes to Jobs Unlimited through our bottle refundables program. In 2023, RPC ran an additional bottle drive to increase bottle numbers, and collected approximately 7,470 500 ml plastic bottles, with a refundable value of \$746.78, which went towards supporting the Jobs Unlimited mandate of providing meaningful employment to individuals who face significant employment barriers due to their disabilities.8



phthalate (PET) plastic in 2023, saving the equivalent of approximately 779 kWh of energy9 – a roughly 17% increase over last year. This is roughly equivalent to saved carbon dioxide emissions from 35,949 smartphones being charged!10



### EDUCATION, OUTREACH, AND COMMUNICATION



#### **EDUCATION: PROMOTING SCIENCE THROUGH EXPERIENTIAL LEARNING**

RPC believes that it is uniquely positioned, as the science and technology arm of the provincial government, to assist with growing scientific knowledge at all education levels. Attracting and retaining talent is essential to RPC's success and we recognize it is important to encourage students by supporting their studies and making them aware of the careers that are available in New Brunswick.

#### **SCHOOL-AGE CHILDREN AND TEENS**



RPC supports school-aged science learning through organizing and funding Take Your Kid to Work Day, which offers a curriculum of on-site demonstrations. In 2023, and emphasizing safety in laboratories, RPC hosted a fun day of taste tests, microscope work, fish dissecting, breaking metal in the tensile tester, and much more. Here's some of what the kids had to say:

"The best part of the day for me was when we mixed chemicals in the test tubes to get darker and lighter colours. The girl that did it with us was really funny and it was pretty cool and interactive. - Evan"

"For me the food chemistry was my favourite part of the day. It was fun to do blind testing and finding out what drink has more sugar. - Sydney"

RPC also periodically attends the Career Fair at Barker's Street Elementary School, where RPC team members share insights about science and engineering careers.











#### **UNIVERSITY STUDENTS**

#### **CHEM 4000 Supervision**



RPC has successfully continued to supervise a University of New Brunswick (UNB) CHEM 4000 student in 2023, continuing with its initiative to support science honours work via UNB's Chemistry 4000 program for an additional 3 years (minimum), beginning in 2022. The CHEM 4000 program runs each year from September-April, and is a project-based course through which senior students in the Chemistry program may attain Honours status. The students complete a thesis and seminar presentation via a project requiring at least 9 hours of work per week.

#### **Applied Science Day**

RPC continues to host an Applied Science Day for University Students each year. This program allows university students to attend talks given by staff and to work on hands-on projects using real-world data.

#### **Equipment Donations**

RPC continues to donate equipment to universities as equipment becomes available. In 2023, RPC donated a gas chromatograph system to UNB's Chemistry Department to help Dr. Barry Blight and his team monitor an experiment to generate hydrogen as part of a research project. RPC's supervisor of the Compressed Air and Gas-



es lab assisted with the installation of the system and trained the UNB team on the equipment. The students used the instrument in parallel with their experiments and could adjust the reactions using the data generated by the instrument as required. While this instrument was certainly a pre-loved one, a new system is valued at about \$27,000.00.

#### NSERC Collaborative Research and Training Experience (CREATE) Program in BioActives

RPC hosted a large group of 30 students through the CREATE Program in BioActives on May 9th, 2023. Our visitors were from Dalhousie University, Saint Mary's University, and the University of New Brunswick, and were mainly MSc and Ph.D. students in Chemistry or Biochemistry & Molecular Biology. The CREATE program supports the training and mentoring of teams of highly qualified students and postdoctoral fellows from Canada and abroad through the development of innovative training programs that encourage collaborative and integrative approaches, address significant scientific challenges associated with Canada's research priorities, and foster the acquisition and development of important professional skills among students and postdoctoral fellows.11

# EDUCATION BONUS!



Certain RPC staff continue to serve as adjunct professors, honorary research associates, or lecturers at UNB, strengthening our ties to higher education in New Brunswick.

"Universities play a crucial role in research and education and are built on fostering collaboration. As an adjunct professor through UNB's Department of Chemistry, I engage with faculty to explore opportunities to leverage our respective strengths and work towards common goals. I'm also lucky to connect with passionate undergraduate students and have the opportunity to supervise them for their Senior Research Projects at RPC. Students get to experience what research is like outside an academic setting and get a glimpse of the career options ahead of them. I had similar opportunities during my studies and I found them invaluable in shaping my career path. I feel very fortunate to be able to give back and mentor the next generation of scientists."

 Dr. Andrien Rackov **Director, Research and Controlled Substances** 



### OUTREACH: CONNECTING TO THE COMMUNITY WE SERVE





RPC continues to communicate to the community in meaningful ways that support the education and awareness in a variety of fields.

#### PARTNERSHIP WITH NB LUNG

RPC has partnered with NB Lung to be their supplier of radon test kits. Homeowners can purchase a long-term radon test kit via the NB Lung online store; this purchase includes delivery and return shipping. The sale of radon test kits provides some of NB Lung's funding as a non-profit organization.

#### RPC CONTINUES TO COMPARE ILLICIT TO LEGAL CANNABIS CONTENTS



In 2022 RPC carried out a self-funded Illicit Cannabis study to contribute data to the public, the Department of Health, Health Canada, and Cannabis NB. See https://rpc.ca/english/press/ComparisonofIllicitandLegal-CannabisSamples.pdf

In 2023, RPC continued its work on the next phase of data gathering, having secured the necessary funding, and is working with GNB's Department of Justice and Public Safety to identify samples. This project will continue into 2024.

#### **VOLUNTEERING AT SCIENCE-BASED EVENTS**

In 2023, RPC's Research and Controlled Substances Director Andrien Rackov participated as a judge for UNB's graduate poster presentations.

#### **WORKPLACE CONNECTIONS**

In 2023, RPC supported work experience for an individual under the Workplace Connections program. The individual supported by RPC for this work experience was trained in Molecular diagnostic techniques in the fish health diagnostic laboratory.

#### RADON AWARENESS CAMPAIGN IN HAVELOCK, NB

In 2023, RPC became aware of an individual from Havelock, NB who had received a terminal lung cancer diagnosis. This person had found that their home had extremely high levels of radon. Radon was identified as the most likely cause of their cancer given their healthy lifestyle and a lifetime without smoking. RPC, in collaboration with NB Lung, Health Canada, and Radon Repair organized a radon awareness campaign on behalf of this individual to provide free long-term radon test kits to residents of Havelock. RPC donated 100 test kits for this campaign and additional test kits were donated by NB Lung and Health Canada. A distribution and education event was held November 15, 2023 in Havelock where 209 long-term radon test kits were distributed to residents of Havelock and the surrounding area. The event was also streamed by NB Lung via Facebook Live. Given the success of this event RPC plans to partner with NB Lung in the upcoming years to promote radon awareness and testing for communities across New Brunswick.





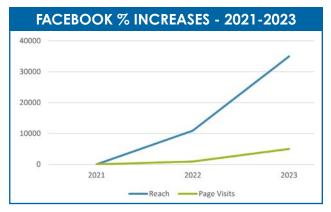
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Part of RPC's objectives are to "provide services, including analyses, tests, inspections, investigations and evaluations, [and] to design, develop and test equipment, products or processes." To ensure that we meet these objectives, RPC has been actioning a Marketing and Communications plan to build provincial and national awareness about the services we provide.

#### **SOCIAL MEDIA PRESENCE**

RPC is active on Facebook, LinkedIn, and X/Twitter. Social media publications may be directed or general, and explain RPC's services, expertise, and successes. Any additional press releases are made available on the RPC website, typically publicized by a social media post to reach the widest possible audience.

During the 2022-2023 period, RPC saw an increase in website traffic of about 13%.



#### **GUINNESS BOOK OF WORLD RECORDS BONUS!**

In September of 2023, RPC's Engineering Services (ES) Team performed the official measurements of Faith Howe's submission to Guinness World Records for the World's Largest Lego Playing Card. Guinness World Records requires the measurements to be performed by Independent Qualified Measurement Professionals. In this case, the RPC team of engineers and machinists donated their services and calibrated a Class II measuring tape in advance, and built a plan of the specific measurements, which were conducted using this measuring tape and a calibrated micrometer. RPC's engineers were required to submit a report containing the details of the exact measurements taken, the methods used, the tolerance/margin of error, proof of qualifications of the measurers, the primary metric unit used when measuring the attempt, and an official statement of compliance to the rules set out by Guinness. Faith was successful with her world record submission – congratulations Faith!



#### WORKING GROUPS AND SPEAKING ENGAGEMENTS

Part of RPC's relationship-building is to participate in scientific/engineering working groups, publications, and committees that are related to the work we do. RPC has representatives on the CSA Z180 Breathing Air Standard Committee, the C-45 Quality Association Lab Committee, and Review Editors on the Frontiers in Microbiology journal, as well as for the MDPI journals Pathogens and Microorganisms.

Additional conferences, working groups, and speaking engagements from 2023 included:

- **PDAC 2023** In March 2023, RPC's MIS Group engaged with industry peers at PDAC 2023, discussing mining and exploration topics.
- National Mining Week Open House at Hugh John Flemming Forestry Centre In May 2023, RPC participated in the National Mining Week Open House, promoting awareness of mining practices.
- **WorkSafeNB Conference** In May 2023, Dr. Diane Botelho, RPC's CEO, served as a panelist at the WorkSafeNB Conference, addressing workplace safety.
- **ACFFA Golf Tournament** In June 2023, RPC participated in the ACFFA Golf Tournament, fostering networking opportunities within the fish farming community.
- Legionella and Cooling Tower Regulations Webinar In August 2023, RPC addressed cooling tower regulations and Legionella prevention in an informative webinar.
- **Cyanobacteria/Toxin Webinar for Watershed Groups** In September 2023, RPC hosted a webinar for watershed groups, sharing insights on cyanobacteria and toxin management.
- **ACFFA Fall Forum** In October 2023, RPC actively participated in the ACFFA Fall Forum, fostering collaboration and knowledge exchange within the Atlantic Canada Fish Farmers Association.
- **Presentation on Cyanobacteria/Toxins at ACWWA in PEI** In October 2023, Dr. Attiq Rehman delivered a presentation on cyanobacteria and toxins at the ACWWA event in Prince Edward Island.
- **NB Research & Innovation Showcase in Ottawa** In October 2023, RPC participated in the NB Research & Innovation Showcase in Ottawa, highlighting groundbreaking scientific advancements.
- **Exploration, Mining and Petroleum New Brunswick Conference** In October 2023, Leo Cheung, RPC's Director of Mineral and Industrial Services, spoke at the Exploration, Mining and Petroleum New Brunswick Conference, sharing insights on minerals and industrial services.
- **Seafood Summit 2023** In October 2023, RPC hosted a tour of its facilities in Fredericton during the Seafood Summit 2023, fostering industry connections.
- **NBIF R3 Capturing Climate Opportunity** In November 2023, RPC engaged in the NBIF R3 event, exploring climate-related opportunities and contributing insights to advance sustainable practices.
- **NB Health Research Event by Research NB** Legionella Poster Presentation In November 2023, RPC show-cased its research on Legionella during the NB Health Research Event, emphasizing public health awareness.
- **Havelock Radon Event by NB Lung** In November 2023, RPC team members contributed to the Havelock Radon Event organized by NB Lung, addressing radon-related health concerns.
- **Mineral Resource Review 2023** In November 2023 Leo Cheung also participated in the Mineral Resource Review 2023 event in Newfoundland, contributing expertise in resource management.
- **ISO Accreditation for the Cannabis Industry** In November 2023, RPC experts teamed with the Standards Council of Canada and the Canadian Association for Laboratory Accreditation to discuss ISO accreditation specific to the cannabis industry in a dedicated webinar.
- **Dairy Farmers of New Brunswick Annual General Meeting** Our CEO and food scientist attended the Dairy Farmers of New Brunswick annual general meeting.





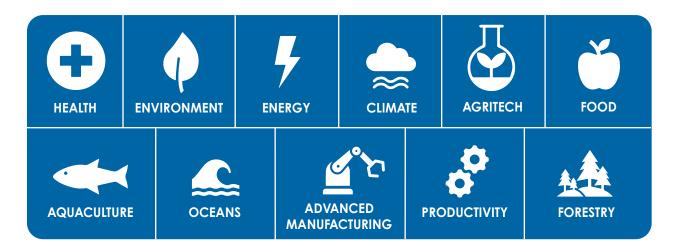




# **OPERATIONS**

RPC defines its mandated services as services offered that impact the health of New Brunswick's citizens and the environment, while supporting growth of the New Brunswick economy. RPC was formed with the mandate to "promote, stimulate and expedite continuing improvement in productive efficiency and expansion in the various sectors of the New Brunswick economy."13

We deliver mandated laboratory and testing services for the following sectors and GNB priority areas. These services support the health of our communities, waterways, lands, forests, and animals, as well as advancing technologies that support industrial growth and development. All of these services contribute to New Brunswick and the Atlantic Provinces' economies:



### ENVIRONMENTAL SERVICE PROVISION 🕎 🚟 🥕



With accredited laboratories and experienced employees, RPC conducts thousands of environmental analyses and completes dozens of projects annually for local, regional and international clients. RPC's technical and testing resources serve the environmental needs of our stakeholders, including municipal and provincial governments as well as various industry sectors and individuals.

#### **ENVIRONMENTAL ANALYSES**

RPC provides analytical capabilities vital to the monitoring and protection of New Brunswick's environment. In 2023, RPC performed over 190,000 analyses on more than 75,000 samples for government, industry, and consultants in support of environmental protection, clean-up, and/or monitoring initiatives. This includes the analyses of potable, surface, ground, and seawater, precipitation, soil, animal and plant tissue, industrial effluent and more!

#### FISH HEALTH

As part of its environmental initiatives, RPC has been contributing to the aquaculture industry and ocean health since 1984. RPC's fish health diagnostic services provide disease diagnostics to the aquaculture industry. The diagnostic service line began in response to the needs of the growing aquaculture industry in New Brunswick. Since that time, RPC has provided an ever-increasing number and type of services with the goal of preventing, detecting, or solving fish health problems in an array of species. RPC was the first to identify the Infectious Salmon Anemia Virus (ISAV) in the mid 1990's as the causative agent of a disease outbreak which affected substantial economic losses in the salmon farming industry. RPC's fish health research services have also made significant contributions to disease modeling, vaccine development, disease resistance, and the use of probiotics as an alternative to antibiotics. These efforts have helped enhance and support sustainable aquaculture practices. This, in turn, has contributed significantly to ocean health, promoting a balanced and thriving marine ecosystem.

### PRODUCTIVITY AND FUTURE FACTORY ASSESSMENTS



RPC's Engineering Services team is now utilizing LIDAR scanning technology to create more efficient and sustainable digital twins of factory floors and processing lines. These digital models provide early planning tools for new or planned capital expenditures leading to a more productive factory.

# SUPPORTING GREENER TECHNOLOGIES 💰 🗪 –🐠



RPC's Mineral and Industrial Services team offers expertise in environmental chemistry, energy recovery technology, greener mineral extraction technology development, alternate fuels, waste recovery, and waste treatment technologies including thermal, physical, chemical and biological innovations.

#### EMERGENCY RESPONSE CAPABILITY V-W-



As part of its service provision, RPC continues to maintain the ability to deliver rush and rapid response services in emergency situations that have the potential to impact the environment and/or health of our communities.

#### CASE STUDIES 😈 🛶 🦫



Case studies of RPC providing urgently-needed services in 2023 include:

#### **Scrap Metal Yard Fire**

In September of 2023, a fire at a scrap metal yard in the province burned for 40 hours, sending a plume of smoke into surrounding communities and leading to a shelter-in-place order.14 In the aftermath, RPC performed organic and inorganic analyses on multiple water and soil samples to assess environmental impact.

#### **Methanol Spill**

RPC was able to provide 24hr rush turnaround time for soil and water samples from a New Brunswick community for a local engineering firm performing remediation on a methanol spill. Sample analyses continued over the course of approximately four weeks.

#### Windstorm December 18-19, 2023

RPC analyzed approximately 40 rush samples for PCB in oil for a major power supplier due to damage caused by a wind-



#### SUSTAINABLE OPERATIONS

# RECYCLING & SAFE WASTE DISPOSAL 🜹 🔾 🎏





RPC actively looks for ways to recycle and protect the environment throughout our operations. RPC operates 10 recycling initiatives. In 2023, RPC launched a project to effectively measure the tenth recycling initiative, which is the recycling of steel from our engineering operations.

#### **RECYCLING SNAPSHOT**

Recycling Initiative	Approximate Amount Recycled in 2023	Impacts/Resources Saved
Laboratory plastics	352 lbs	• 1640 kWh of energy
General plastic	216 lbs	
Plastic Refundables Program	270 lbs	• 779 kWh of energy
AA or AAA batteries	60 lbs	limits human and environmental exposure to related chemicals
5 lb batteries	60 lbs	<ul> <li>and toxins</li> <li>non-renewable resources such as lead, cadmium, nickel, steel, zinc, mercury, co-balt, lithium, silver and manganese can be recovered during the recycling process, reducing the need for mining of these raw materials</li> </ul>
Cardboard	8756 lbs	<ul><li>1707 kWh of energy</li><li>4.8 barrels of oil</li></ul>
Paper	11,100 lbs	<ul> <li>11 tons of wood</li> <li>39,000 gallons of water</li> <li>greenhouse gas emissions reduced by 5.5 metric tons of carbon equivalent</li> </ul>
Printer cartridge	119 cartridges	<ul><li>11.4 kg of aluminum</li><li>95 pounds of plastic</li><li>7.5 barrels of oil</li></ul>
Electronics	560 lbs	reduces environmental contamination and related threats to public health
Steel	7000 lbs	<ul> <li>reduces the amount of steel waste in land-fills</li> <li>helps mitigate the environmental impact of steel disposal</li> <li>saves 60% of the energy required</li> </ul>

#### **Laboratory and General Plastic Recycling**

Recycling plastics is a sustainable option to reduce fossil fuel consumption. 15 RPC's annual plastic recycling from these two initiatives amounts to approximately 1640 kWh of energy saved, which is the enough energy to drive an average gasoline-powered vehicle 4,688 kilometres.<sup>16</sup>

#### **Plastic Refundables Program**

Throughout the year, RPC contributes to Jobs Unlimited through our bottle refundables program. In 2023, RPC ran an additional bottle drive to increase bottle numbers, and collected approximately 7,470 500ml plastic bottles, with a refundable value of \$746.78, which went towards supporting the Jobs Unlimited mandate of providing meaningful employment to individuals who face significant employment barriers due to their disabilities.<sup>17</sup>

#### **Battery Recycling**

Batteries contain a number of heavy metals and toxic chemicals. They are considered dangerous goods and have a history of ending up in oceans, waterways, and landfills. 18 Keeping them out of landfills limits human and environmental exposure to these chemicals and toxins.

Batteries also contain non-renewable resources such as lead, cadmium, nickel, steel, zinc, mercury, cobalt, lithium, silver and manganese, which can be recovered during the recycling process, reducing the need for mining of these raw materials.<sup>19</sup>

#### **Cardboard Recycling**

Recycling cardboard saves trees, as well as the energy that would go into making cardboard from raw materials. When cardboard is recycled instead of using wood, sulfur dioxide pollution caused by the pulping process is reduced by up to 50%. Recycling one ton of cardboard can save 390 kWh of energy, 1.1 barrels (46 gallons) of oil, and 6.6 million Btu's of energy. The pulping process is reduced by up to 50%. Recycling one ton of cardboard can save 390 kWh of energy, 1.1 barrels (46 gallons) of oil, and 6.6 million Btu's of energy.

#### **Paper Recycling**

In 2023, RPC recycled approximately 11,100 lbs of paper annually, which amounts to saving roughly 11 tons of wood. It would take approximately 94 trees to make this amount of paper. It also saves approximately 42,000 gallons of water, and reduces greenhouse gas emissions by 5.5 metric tons of carbon equivalent.<sup>22</sup>

#### **Printer Cartridge Recycling**

In 2023, RPC recycled 119 toner cartridges. For every 100,000 used cartridges recycled, 9599 kilograms of aluminum, 40 tons of plastic, and 1,000,000 liters of oil are saved. Which means that, by recycling its printer cartridges, RPC saved approximately 11.4 kg of aluminum, 95 pounds of plastic, and 1190 litres of oil in 2023. Recycling printer cartridges also reduces air and water pollution/emissions associated with landfilling, incineration or the manufacturing of new cartridges. <sup>23</sup>

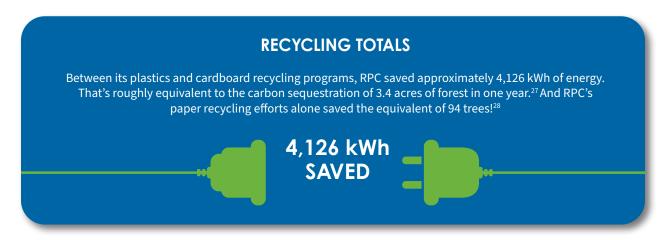
#### **Electronics Recycling**

Resources inside our electronics, including plastic, glass, gold, silver and copper can be reused continuously without losing their properties. "Recycling electronics helps reduce pollution that would be generated while manufacturing a new product and the need to extract valuable and limited virgin resources. Electronic recycling also reduces the energy used in new product manufacturing." By recycling electronics, resources are recovered, reducing our overall carbon footprint and lessening our dependence on mining for new resources.

#### **Steel Recycling**



By reusing existing steel, we reduce the need to mine additional iron ore and other raw materials, helping preserve natural resources. Steel recycling reduces the amount of steel waste in landfills and helps mitigate the environmental impact of steel disposal.<sup>25</sup> Recycling steel saves 60% of the energy required to produce steel from iron ore.<sup>26</sup>



#### SAFE WASTE DISPOSAL

RPC takes safety of its employees and the general public very seriously. Our staff are trained according to Canada's Transportation of Dangerous Goods (TDG) Program, and in the safe disposal of hazardous waste.

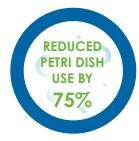
# GREEN INITIATIVES 💆 🕸 🚯



#### **GREENER CHEMISTRY PROJECTS**

In 2023, RPC's Microbiology Lab switched our heterotrophic plate count method to a SimPlate method. This reduced technician time by 50% and reduces the use of plastics. The new method improved efficiency by using provided agar instead of having to produce agar, and reduced the use of petri dishes by 75%.





#### **OPERATIONAL EFFICIENCY & PAPER REDUCTION IMPROVEMENTS**



To operate as efficiently as possible, RPC has also been working on several efficiency improvements since 2020. This year, our report focuses on the most major of these for 2023: the Cannabis Operation Efficiency Improvement Project.

In early 2023, the Cannabis Operation Group undertook a process improvement project centering on electronic data processing and solvent reduction, with a purpose of reducing waste, improving efficiency and improving data quality.

The first data stream that was tackled for efficiency improvement was related to data management and transfer. Several electronic processes were adopted to replace manual processes, which eliminated the paper and binders used for this purpose and also provided a central digital location for technicians to query for sample data.

Also, the use of Excel macros on instrument output files allowed the data to be extracted from files digitally, presented in a logical format to be evaluated by the analyst, and imported into the laboratory information management system (LIMS) in a fraction of the time compared to the manual process. Furthermore, this new process eliminated transcription errors, and with no further need for paper and printers, file storage and archiving volumes was also greatly reduced.

To date, the processes implemented have saved ~2300 hours of analyst time spent on data entry tasks, and reduced paper consumption by ~13 boxes, along with the related reductions in printer and toner use, time required to sort, file, and store data, as well as eliminating the cost of archiving and destruction of files.

These efficiency improvements have also led to greater employee well-being and a healthier work balance. End-of-day work is performed with less time pressure, and employees report feeling more organized and further ahead in their work.



### 



Since 2021, RPC has been operating an employees' community garden that is the shared responsibility of staff members who have signed up for the program. Community gardens have proven benefits of reducing food miles, providing new opportunities for exercise and healthier lifestyles, absorbing rainwater/preventing runoff, relieving stress and increasing wellness.

From June into October, RPC's 136-square foot garden produced lots of vegetables for the participants' households, and occasionally enough produce to distribute to the wider organization.

Each year, some part of the RPC community garden is given over to pollinators. Pollinator-attracting plants improve the chance of crop pollination and contributes to helping pollinators, especially bees, thrive.





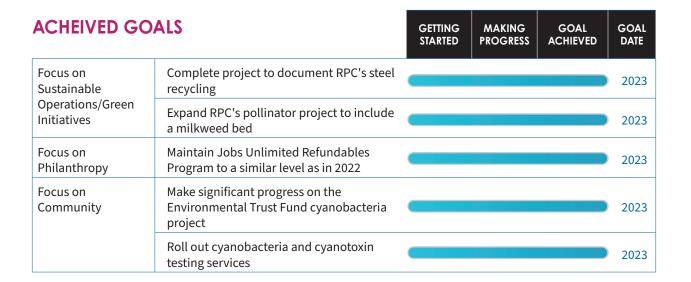
In 2023, RPC expanded its pollinator project to include a milkweed bed on its property, with the aim of providing a habitat for monarch butterfly caterpillars and to support the monarch butterfly's lifecycle. The Migratory Monarch is a species in decline, and has been placed on the Committee on the Status of Endangered Wildlife in Canada's endangered species list. Monarch butterfly migration is the only natural process recognized as "threatened" by the International Union for the Conservation of Nature (IUCN), and the Migratory Monarch is now on the IUCN's Red List of Threatened Species<sup>™</sup> as Endangered.<sup>29</sup> Some of the more successful milkweed on RPC's land is native milkweed, which now also has improved signage to ensure preservation and prevent inadvertent mowing.

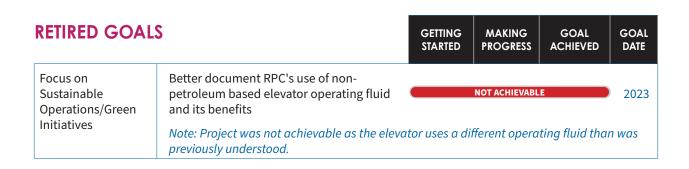


# **ESG OBJECTIVES**

RPC sets project-based goals to support ESG projects, benefitting our community, our customers, employees, and other stakeholders.

ACTIVE GOALS	GETTING MAKING GOAL GOAL STARTED PROGRESS ACHIEVED DATE
Focus on Sustainable	Complete 3 additional paper reduction projects over the next 2 years
Operations/Green Initiatives	Complete the implementation of greener chemistry for Cannabinoids and Terpenes
	Note: Project extended into 2024.
Focus on Equity, Diversity, Inclusion	Hold annual events to improve organizational awareness of Indigenous issues (at least one per year 2022-2024)
	Complete 2-year initiative to further improve Employee Engagement scores
	Build on options to ensure employment postings reach diverse communities
Focus on Education	Support school-aged science learning through organizing, funding, and developing materials for experiments to enhance the science program for middle-school students yearly for the next 3 years (minimum)
	Note: Project identification is ongoing and project completion is expected in 2025.
	Support science honours work via UNB's Chemistry 4000 program for an additional 3 years (minimum)
Focus on Philanthropy	Increase employee uptake of the volunteer program by 50% in the next year
	Note: RPC did not see the hoped-for uptake of this program, and will be revisiting how to encourage this in 2024. The project has been extended into 2024 to allow for this.
	Continue contributions to the United Way, with a drive to meet the contribution amount set for RPC by GNB.
	Note: RPC met 74% of its goal this year, or roughly \$4447.00 in funding raised. The language of this objective has been updated to focus on our continued commitment to engagement with the United Way. This update maintains our commitment but makes meeting the objective less dependent on external factors like the overall economy.
Focus on Community	Complete next phase of data gathering for ongoing Illicit vs. Legal Cannabis Study
	Note: This project has been extended into 2024





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