

**Cluster, Clump
or Clutter?
Life Sciences
in Halifax**

An Update

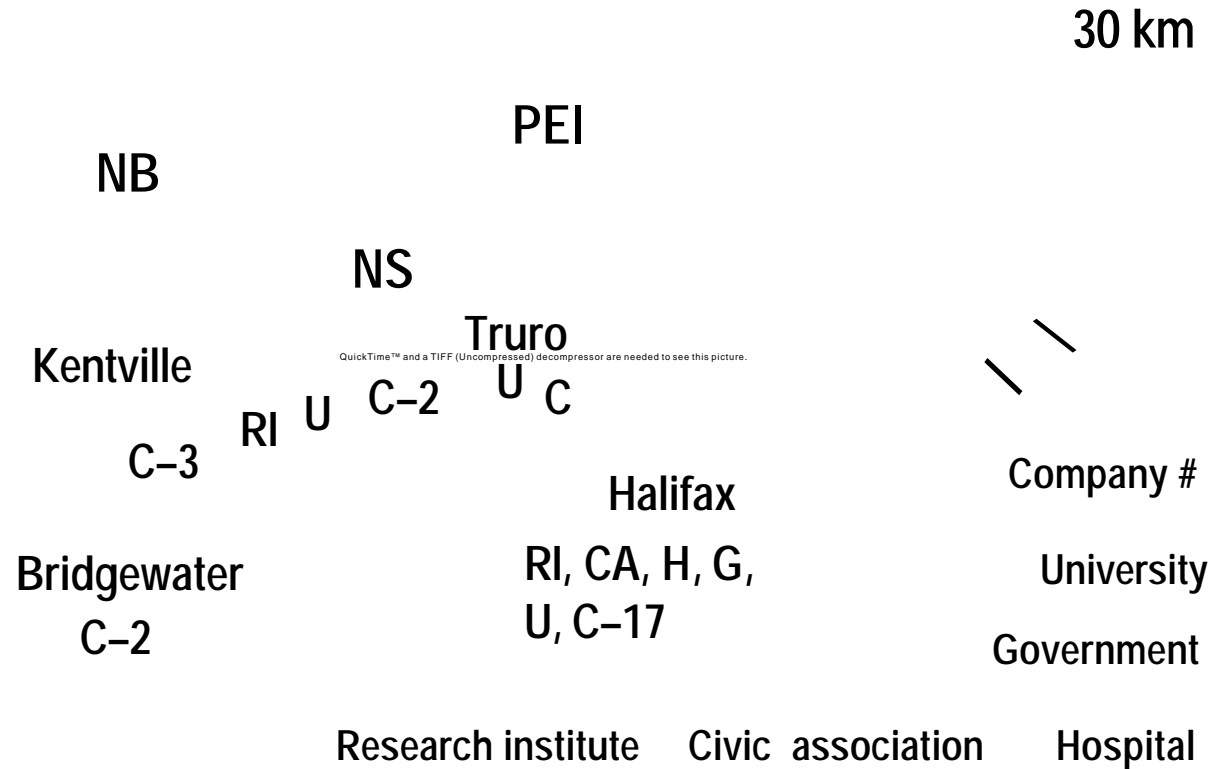
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Carolyn McLarney
Dalhousie University**

Overview

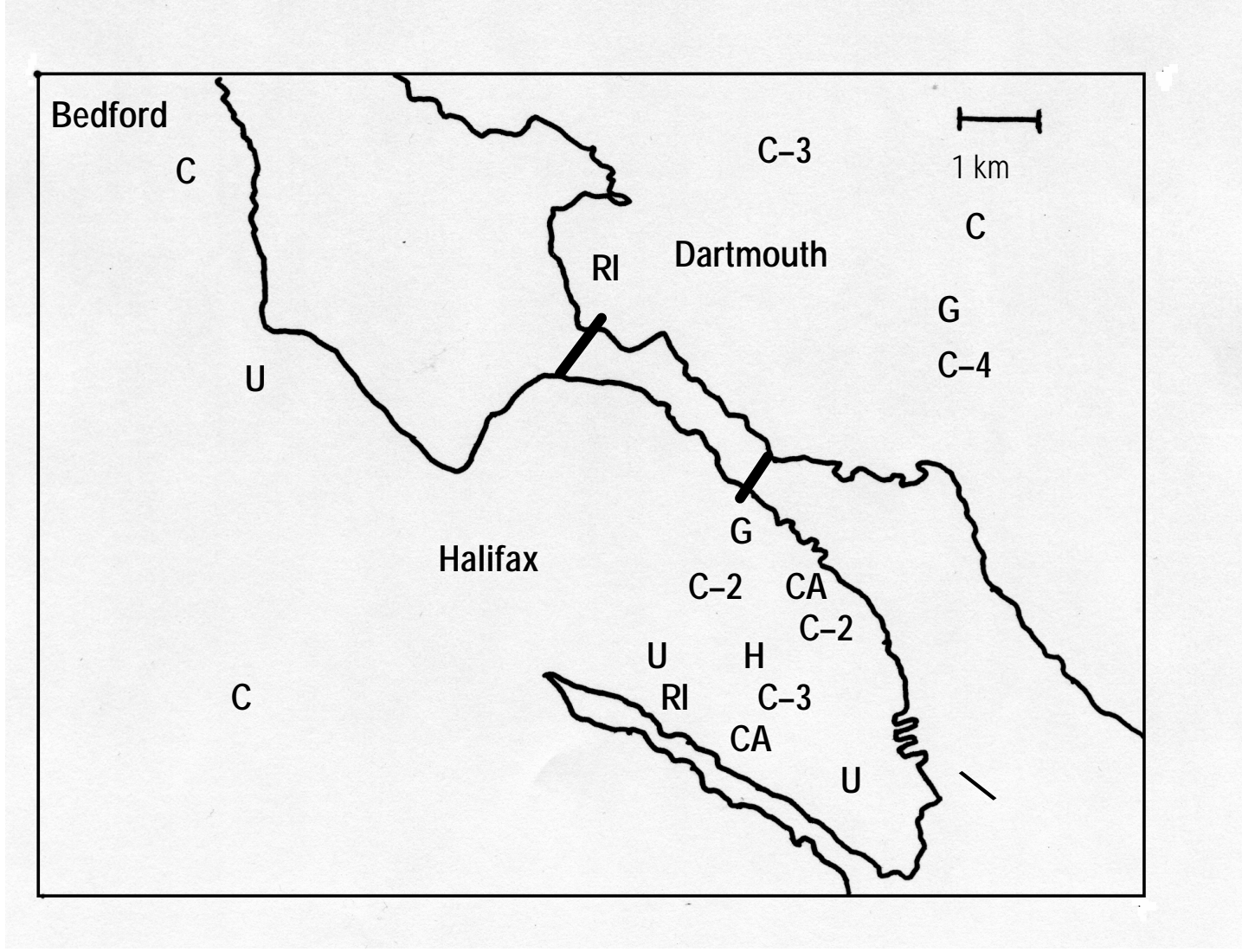
1. Geography of Life Sciences
2. The Life Sciences Sector
3. Key Players
4. Place as a Resource

1. Geography of Life Sciences

Life Sciences within 100 kms of Halifax



Life Sciences in Halifax



2. The Life Sciences Sector

Company Interviews/Focus

| Done | To do | Refused | No reply | Closed | Total |
|----------------------|-------|---------|----------|--------|-------|
| 9 | 10 | 4 | 3 | 2 | 28 |
| Focus: | | | | # | |
| Human health | | | | 19 | |
| Devices/IT | | | | 3 | |
| Agriculture/forestry | | | | 2 | |
| Environment | | | | 1 | |
| Other | | | | 3 | 28 |

Non-company Interviews

| | | |
|-----------------------|---|---|
| Civic Associations | BioNova, Greater Halifax Partnership, Life Sciences Development Association | 3 |
| Government | ACOA, Industry Canada, IRAP | 3 |
| Research institutions | NRC, Nu-Tech | 2 |
| Venture capitalists | ACF Equity, MedInnova Partners | 2 |
| Other | Genome Atlantic, IP lawyer, BioMed Management | 3 |

3. Key Players

Two Companies on the Move



- Rapid testing kit for HIV and Hepatitis
- Just received FDA and SDA (China) approval
- Research originated at Acadia University in 1994
- Significant private financing from Ontario
- \$2 m R&D spending & <\$0.5 m revenues in 2002
- Dietary supplements and functional food ingredients
- Part of Clearwater Fine Foods Group. Significant private financing
- Fish by-products used for alternative medical treatments
- Strong ties to NRC & Dalhousie
- \$4 m R&D spending & \$10 m revenues in 2000

Dalhousie University

NU-Tech

Medical School

BioMed

Fusogenix

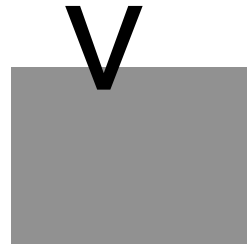
Nova Neuron

Oncodynamics

Mgmt

Biology

Immuno
Vaccines



Oceanography

Pro-Oceanus

Brain Repair Centre

Founding partners:

Dal, NRC, QEII Health

Sciences Centre &

IWK Health Centre

Institute for Marine Biosciences, NRC

Conducts research in
key areas of marine
biosciences & genomics

New partnership facility
will house 10–12 SMEs



Industry Partnership Facility (2003)

InNOVAcorp Incubators



Halifax. Includes:

BioNova
Britech Information Systems
Genome Atlantic
Immuno Vaccines
Ocean Nutrition Canada
Pro-Oceanus

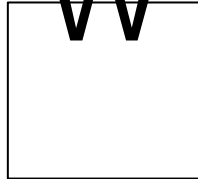


Dartmouth. Includes:

Bridco Values
Chitogenics

Government & Civic Associations

W



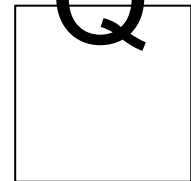
ACOA

Industry Canada

NRC

NS Business Inc

Q



BioNova


LSDA

Genome Atlantic

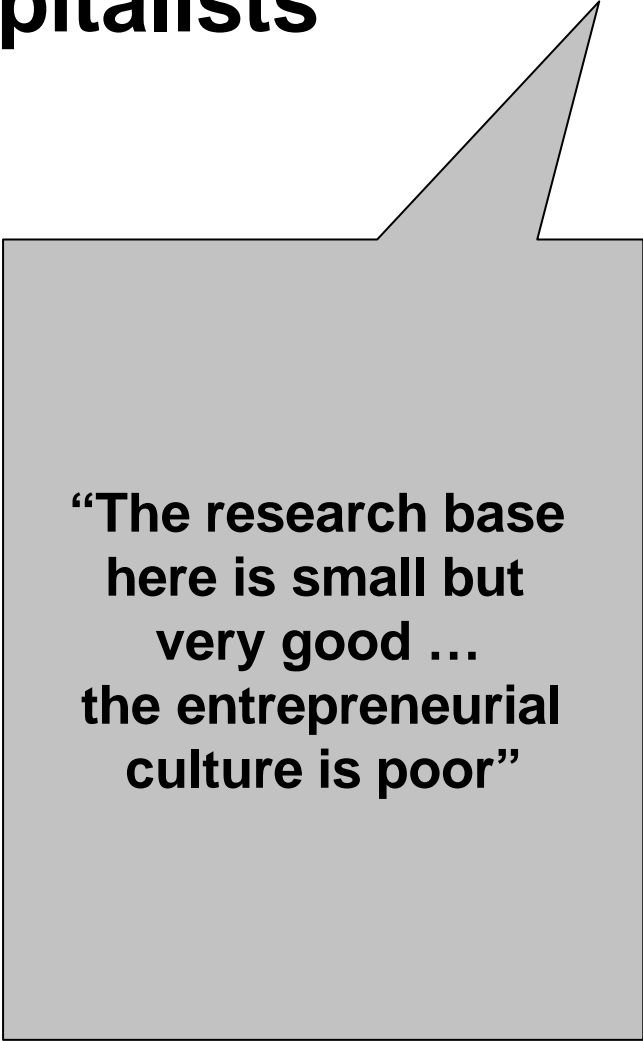
GHP

InNOVAcorp

Venture Capitalists



“There are only about 10 investment opportunities here, of which two or three will move forward. The focus should be on the marine sciences”

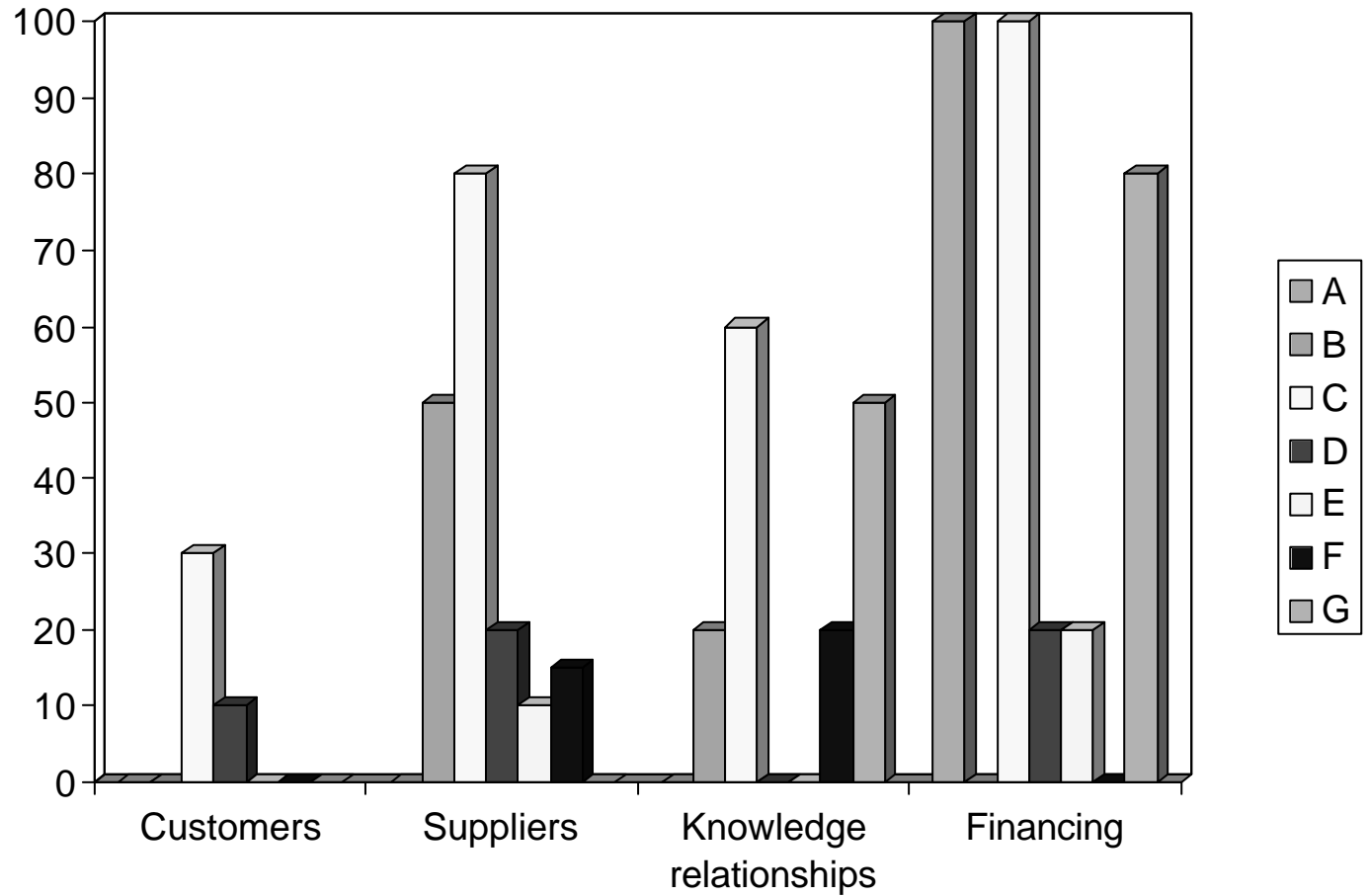


“The research base here is small but very good ... the entrepreneurial culture is poor”

4. Place as a Resource

Local Connections

Extent to which company connections are "local" (%)



Local Interaction

“Do you consider your company to be part of a network of related firms in your region/locality, i.e., a cluster?”

“Yes”—3 companies

“No”—4

“Feel connected with institutions, e.g. National Research Council but not other firms”—1

“Relative youth & niche orientation of local companies rules out any possibility of a lead or anchor firm that might facilitate tighter linkages”—1

Factors Aiding Growth

| | |
|--|---|
| Co-location with other firms in the same industry | 2 |
| Supply of workers with particular skills | 2 |
| Physical, transportation or communications infrastructures | 3 |
| Availability of financing | 0 |
| Specialized research institutes & universities | 6 |
| Specialized training or educational institutions | 1 |
| Presence of key suppliers&/or customers | 0 |
| Government policies or programs | 4 |

Factors Inhibiting Growth

| | |
|--|---|
| Co-location with other firms in the same industry | 1 |
| Supply of workers with particular skills | 1 |
| Physical, transportation or communications infrastructures | 2 |
| Availability of financing | 9 |
| Specialized research institutes & universities | 0 |
| Specialized training or educational institutions | 0 |
| Presence of key suppliers&/or customers | 0 |
| Government policies or programs | 0 |

Use Local Service Providers

| | | |
|---------------------------------|---|----------------------|
| “Yes” | 2 | |
| “No” | 1 | |
| Accountants | 4 | |
| Public relations | 1 | |
| Patent agents/ investigators | 2 | |
| Patent lawyers | 0 | (Ottawa & San Diego) |
| Law firms | 1 | |

Local Challenges

| | |
|----------------------------------|---|
| Financing | 4 |
| Cash flow | 2 |
| Others: | |
| Keeping strategic focus | 1 |
| Global distribution | 1 |
| Experienced scientists & leaders | 1 |
| Small company size | 1 |

Cluster?

Clump?

Clutter?

No conclusions yet

Questions & comments are
welcomed