

**The Dwindling Influence of
Federal Departments in
Environmental Sciences:
A 39 Year Retrospective**

D. W. Schindler

Organization of the Fisheries Research Board of Canada

The Board

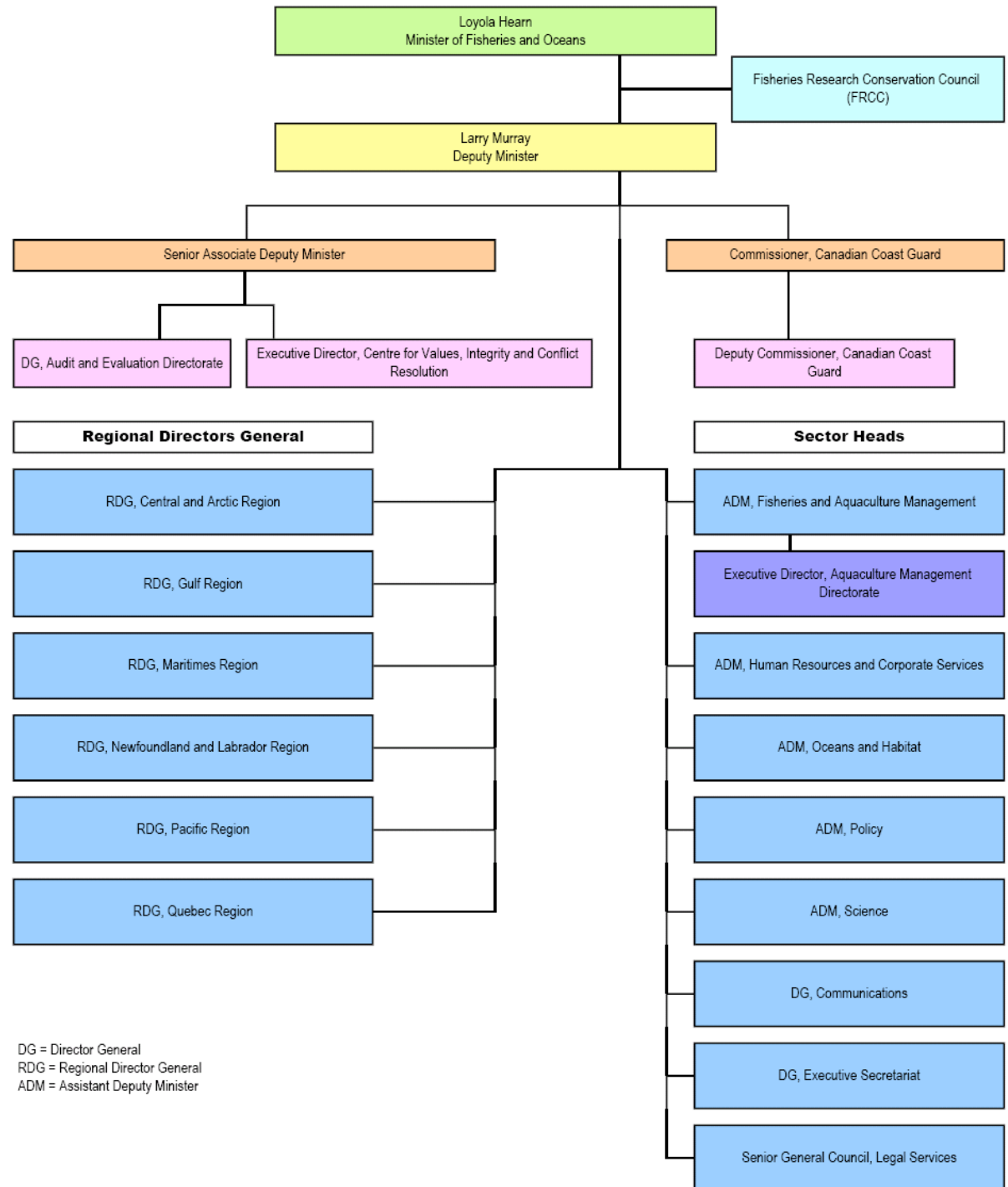
Institute Director

Section Leader

Project Leader

Scientist

DFO's Org. Chart



DG = Director General
 RDG = Regional Director General
 ADM = Assistant Deputy Minister

The Freshwater Institute-DFO

Regional Director General

Director of Science

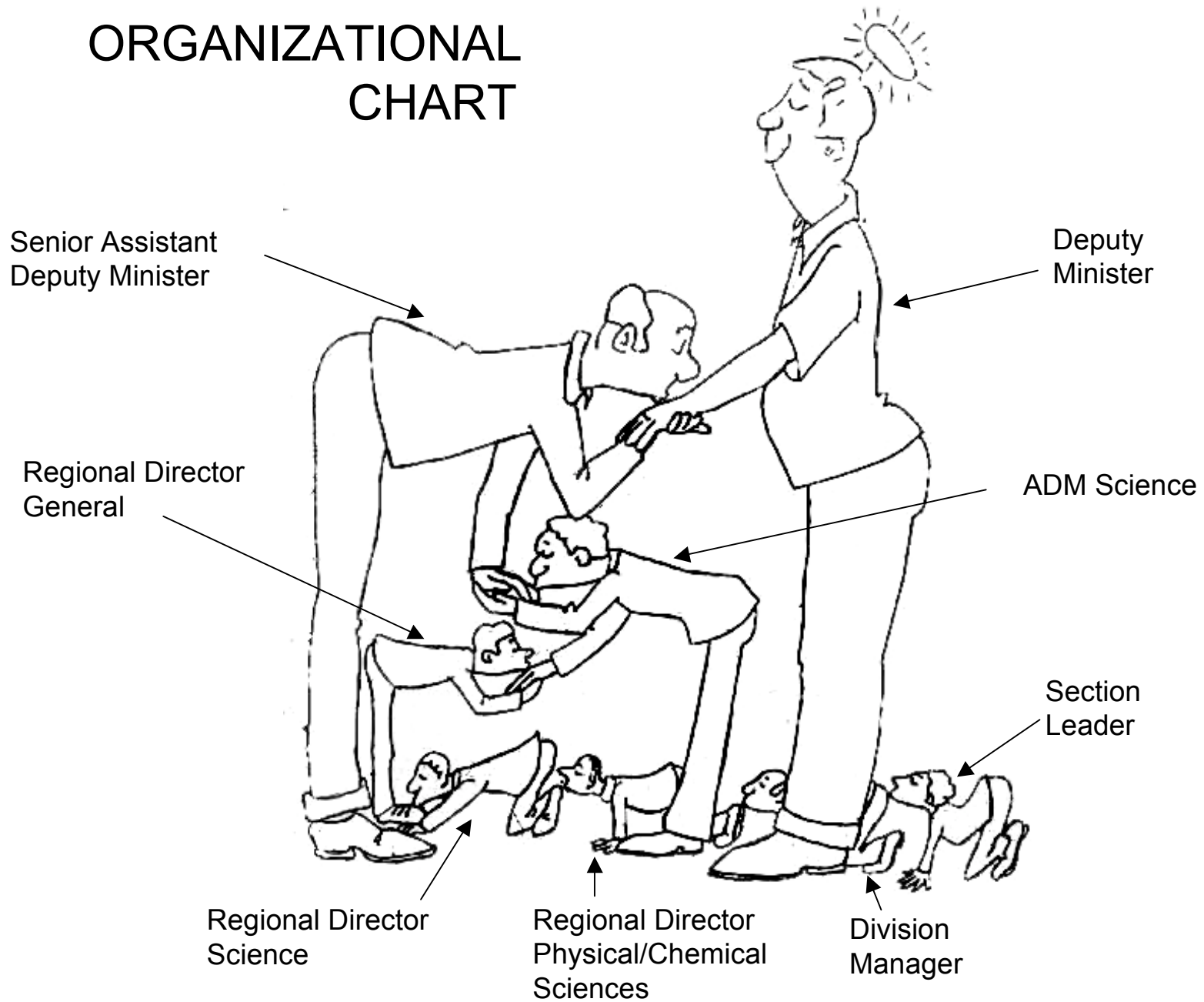
Division Chief

Section Leader

Project Leader

Scientist

ORGANIZATIONAL CHART



JOHANNES KEPLER'S UPHILL BATTLE

...SO, YOU SEE, THE ORBIT OF A PLANET IS ELLIPTICAL.

WHAT'S AN ORBIT?

WHAT'S A PLANET?

WHAT'S 'ELLIPTICAL'?



J. Harris

The Role of Science in Policy Making Via a Long, Unwieldy Reporting Structure

Project Leader to Section Leader: “The proposed policy is a piece of shit.”

What the Director of Science hears: “What is proposed is excrement. It stinks.”

What reaches the Regional Director-General: “What is proposed smells like fertilizer.”

What the ADM hears: “What is proposed promotes growth and is very powerful.”

ADM to DM: “This powerful new plan will actively promote the growth and efficiency of the Department.”

DM to Minister: “The proposed policy is flawless.”

And so it becomes policy.



“For political consumption a new thought must always be reduced to a posture or a phrase. It has happened before that great ideas were heralded by growing pains in the body politic, semi-comic to those onlookers not yet infected by them.”

A. Leopold, 1933. The Conservation Ethic

“...they are committeemen..., always detached from the practical context, inevitably assertive, manipulative; in fact they are highly sophisticated grease jockeys, trained to make the engine of government and business run but unsuited by training or temperament to drive the car or have any idea where it could be steered....

**John Ralston Saul 1993
Voltaire's Bastards p 22.**

“Sometimes I wonder if the world is run by smart people who are putting us on, or by imbeciles who really mean it.”

MARK TWAIN

How to Destroy the Morale of Scientists

Don't reward productivity or excellence.

Reward obedience and working to rule.

Insist that science support departmental policy, even when science shows it is nonsense.

Make them work on politically hot, but scientifically intractable problems.

Rate their detailed efforts on par with the opinions of administrators or fishermen

Examples:

© 1984 NAB
1984-85
C/2/E

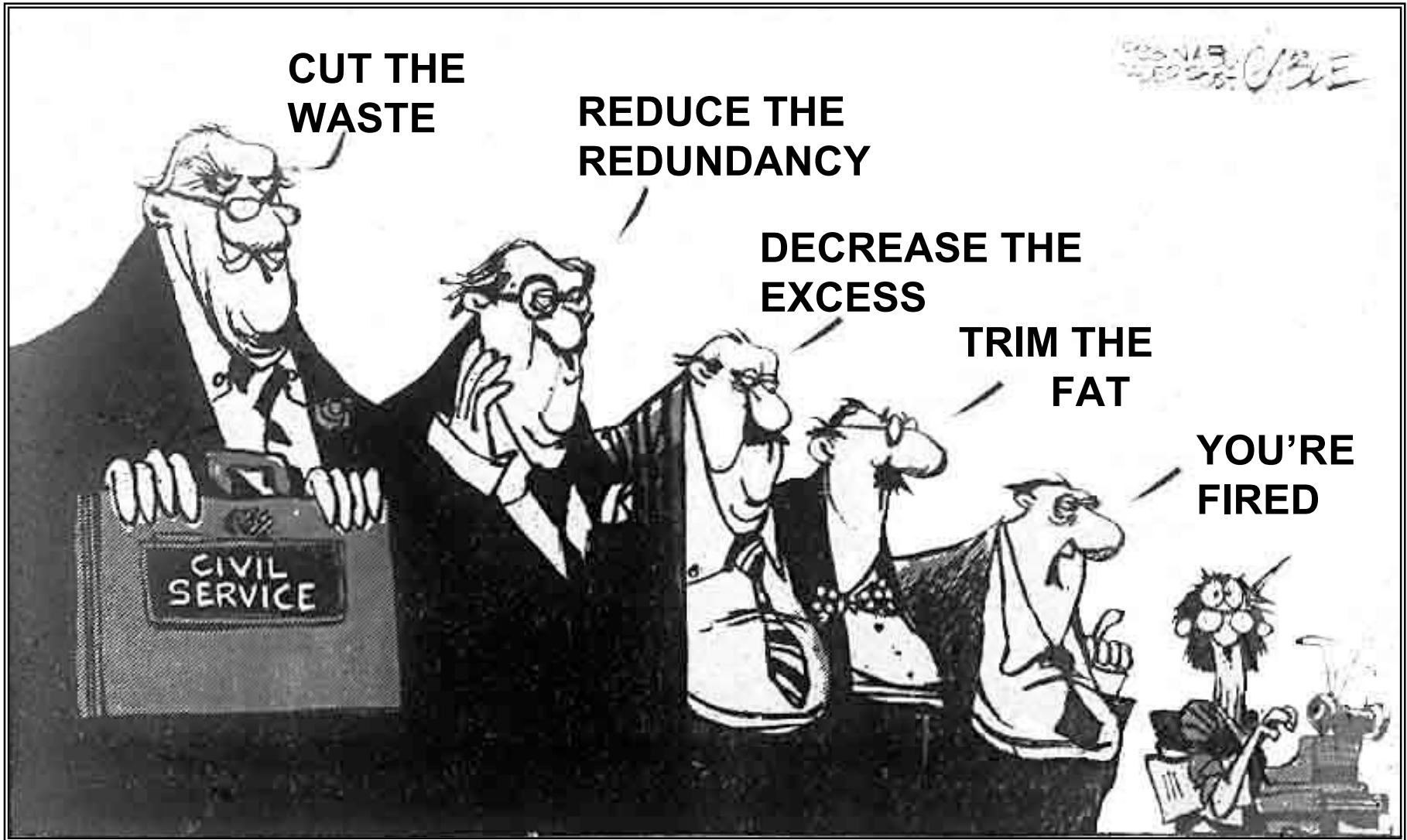
**CUT THE
WASTE**

**REDUCE THE
REDUNDANCY**

**DECREASE THE
EXCESS**

**TRIM THE
FAT**

**YOU'RE
FIRED**





TRUST ME. I DON'T NEED A GUIDE DOG. I KNOW WHAT I'M DOING.

**J. Hutchings and R. Myers 1994
Can. J. Fish. Aquat. Sci.
51: 21-26.**

**The collapse of cod was caused by a
single factor: Overfishing.**

**Cod were not fished at a sustainable
level after 1962.**

“The link between science and decision-making for groundfish fisheries off Canada’s east coast has weakened during the past two decades.”

P.A. Shelton 2007 International Council for Exploration of the Sea, p 723

Shelton's list of the erosion of government science

Diminished and selective use of science

De-professionalism

Bureaucratization

Commercialization of research

Examples of DFO's Bungling

- **Atlantic Cod**
- **The Kemano Scandal**
- **Salmon Farms**
 - Escaped Atlantic Salmon
 - Sea Lice
 - PCBs
 - Red Tides
- **The Disappearance of Freshwater Research**
- **Widespread collapse of freshwater and marine fish stocks.**

HAVE WE REACHED THE BOTTOM?

- Most talented senior scientists have left or retired.
- Morale among remaining staff is poor.
- Recruiting talented replacements is difficult
 - Salaries are well below universities.
 - Funding is too low to perform new research.
 - Technical support is low and dwindling.
- Obedience is rewarded, competence is not.
- Reorganization and planning are continuous, but scientific performance is not measured.
- *Time for a new model, the present one doesn't work*

Why Do We Need Government Environmental Science?

- Long-term research and monitoring.
- Interdisciplinary research beyond what universities can do.
- Lower cost than private sector.
- More professionally done than private consultants.

Solutions-Revisit the FRB Model

- **Abolish the business model and multi-layered bureaucracy.**
- **Put senior scientists in charge of the science agency, not bureaucrats.**
- **Put government –sponsored science at arms length from political process.**
- **Have organizations responsible to taxpayers, not politicians.**
- **Link Departments to university science departments.**
- **Develop strong national policies and enforce them.**
- **Recognize excellence, not obedience.**