DFO
TOXIC CHEMICAL REVIEW FOLLOW-UP

MARCH, 2005

OTTAWA

1. With or without the recent Federal Budget decision on toxic chemical science, Where were we heading with our toxic chemical investments?

2. What are our highest priorities under the toxic chemical research investments?

Purpose of the Toxic Chemical Science Review

- Establish what is the current status of toxic chemical research within DFO.
- Clarify the roles and responsibilities of toxic research within Science.
- Initiate a state of knowledge process.
- Identify future directions for toxic research within the Department.
- Establish future partnership and collaborations

Important Field Covered

- Over the years, we have expanded our number of toxic substances.
- Risk assessment methods have improved tremendously
- Some significant work has taken place in some industrial fields (pulp & paper, hydro-electricity, mining, Oil & Gas, Fisheries, etc…)
- Analytical methods are becoming more and more sophisticated.

CONTEXT

- The Federal Government, under the leadership of Dr. Art Carty (PMO), is pushing for S&T Integration within the Federal Public Service.

- The Federal Government has been calling for a streamlining and rationalization of operations for many years.

DFO – EC RELATIVE MANDATES

Section 36 of the Fisherie's Act has been delegated to EC by our Minister.

Canadian Environmental Protection Act (1999)

44. (1) The Minister shall

(*a*) establish, operate and maintain a system for monitoring environmental quality;

(*b*) conduct research and studies relating to pollution prevention, the nature, transportation, dispersion, effects, control and abatement of pollution and the effects of pollution on environmental quality, and provide advisory and technical services and information related to that research and those studies;

(*c*) conduct research and studies relating to

(i) environmental contamination arising from disturbances of ecosystems by human activity,

(ii) changes in the normal geochemical cycling of toxic substances that are naturally present in the environment, and

(iii) detection and damage to ecosystems;

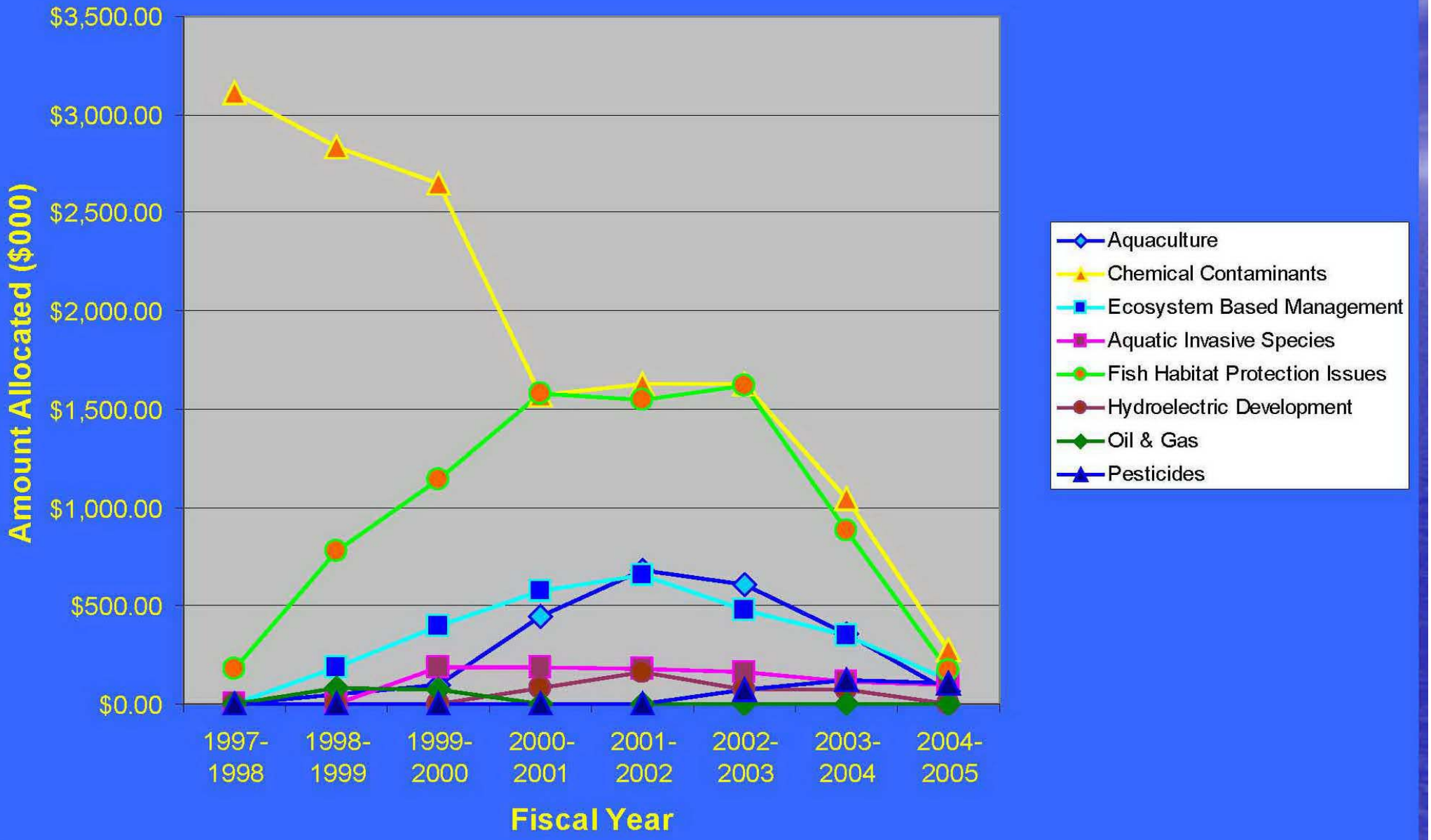
DFO – CONTEXT

- Within DFO, toxic chemicals has been under scrutiny for the past 3-years.
- Following the Toxic Chemical Review, ES Managers Agreed that DFO does not have a Toxic Chemical Research Program.
- Without a clearer set of research directions, it is unlikely that NSDC will reinvest in Toxic Chemical Research.
- The current scattered set of toxic Chemical Research Activities does not seem to lead to any particular global objectives.
- Even more, this section of the ES Program is the only one which does not readily lead to policy and regulatory applications, i.e. No demanding client.

RISE & FALL OF TOXIC RESEARCH IN CANADA

- 90s — Canadian Green Plan, the golden age of toxic research in Canada
- 90s — Northern Contaminants Program
- Mid 90s — TSRI – Second breath of toxic research
- 2000 > — Declining interest into toxic research
- Over all those years, DFO has been able to buy a lot of time, doing research on b-base. Unfortunately, there are no signals that this could be the case in the near future. Even so, it would be better if the Department had a clear idea of where we are going.

ESSRF Allocations by Year and Research Area



DFO Toxic Chemical Review Directions

- DFO does not have a toxic chemical research program.
- Toxic Chemical should not be done as stand-alone, need to be linked to other issues (habitat, O&G, aquaculture, fisheries, etc…)
- Priority is on biological impacts

Science Management Board

- Responsible to identify high level priorities for Science
- Decide on allocations of resources
- Establish the need of some key projects:
  - Sidney Tar Pond
  - National Dioxin Program
  - St-Laurent & Great Lakes Contaminants Monitoring
  - Etc…

Regional Distribution

Region	Biological Effects	Analytical
Newfoundland and Labrador	4	--
Maritimes	7	2
Gulf	2	--
Québec	9	10
Central and Arctic	8	--
Pacific	6	8
TOTAL	36	20

DISCUSSION

DFO

TOXIC SUBSTANCES REVIEW

MOVING FORWARD

MARCH, 2005

OTTAWA

OBJECTIVES:

- Produce a state of knowledge
- Create a Toxic Chemical Research Program for DFO
- Establish a set of priorities
- Develop a forward research agenda.

WHY A FORWARD AGENDA?

- We need to synthesize our great collective knowledge to provide a sense of direction to Senior Management
- In the absence of a comprehensive research program, it is unlikely that Senior Management will see the benefit of further investment
- The Toxic Chemical Review provides a great opportunity redirect/build the research program.

CURRENT CONTEXT

- Laboratory Rationalization
- Refocusing toxic research activities on biological impacts
- Supporting productivity, biodiversity and ecosystem health

Components of a Toxic Chemical Research Program

HR Capacity	Lab Facilities	State of Knowledge	Research Priorities
Science Review, HR	Sub-component Of the Toxic Review: Ben Davis (NL) Wayne Fairchild (Gulf) Les Burridge (Mar) Catherine Couillard (Que) Michel Lebeuf (Que) Mike Whittle (C&A) Gary Stern (C&A) Vince Palace (C&A) Peter Ross (Pacific) Michael Ikonomou (Pacific) Gary Rawn (NCR) Sylvain Paradis (NCR)	Primary Authors & Drafting Team TBD	ES Managers to provide Recommendations to NSDC

State of Knowledge

- Test endpoints [what endpoints address regulatory needs and why]
- Impact of classes of toxics on fisheries resources [what do we know about biological impact on fisheries resources]: trace elements, pesticides, effluents, POPs
- Impact of mixtures on fisheries resources [what is the state of knowledge on the biological impact of mixtures on fisheries resources]
- Sentinel species for impact studies [identify best sentinel species for assessing biological impact on fisheries resources]
- Best practices in monitoring activities [what are the best practices for fate and transport studies]
- Interactions with other factors (fasting, etc…)
- Impacts of toxics on marine mammals
- Others…

Timelines

- March 2005
  - Establish peer review program
- July 2005
  - Develop lab rationalization plan and Capital requirements
- Fall 2005
  - National Peer Review Meeting
- Winter 2005
  - Establish work program and priorities
- Spring 2006
  - Submission to NSDC