Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

Canadian Food Inspection Agency




Our vision:
To excel as a science-based regulator, trusted and respected by Canadians and the international community.

Our mission:
Dedicated to safeguarding food, animals and plants, which enhances the health and well-being of Canada's people, environment and economy.

Canadian Shellfish Sanitation Program and the CFIA Marine Biotoxin Program in BC

DSP Symposium Nov 27, 2012

Canada

Overview

- Canadian Shellfish Sanitation Program (CSSP) overview
- Marine Biotoxin Program
- Response to detection of toxin levels
- Species and geographic relationship to biotoxin events
- DSP in BC

Canadian Shellfish Sanitation Program (CSSP)

Administered by three federal partners:

- Canadian Food Inspection Agency (CFIA)
- Environment Canada (EC)
- Fisheries and Oceans Canada (DFO)

Objective: To provide reasonable assurance that molluscan shellfish are safe for consumption as food by controlling the harvesting of bivalve shellfish within the tidal waters of Canada

CSSP

- Policies and procedures are outlined in the CSSP Manual, available on the CFIA website: www.inspection.gc.ca
- CSSP Chapter 11 “Control of Marine Biotoxins”
- Regional marine biotoxin control plans

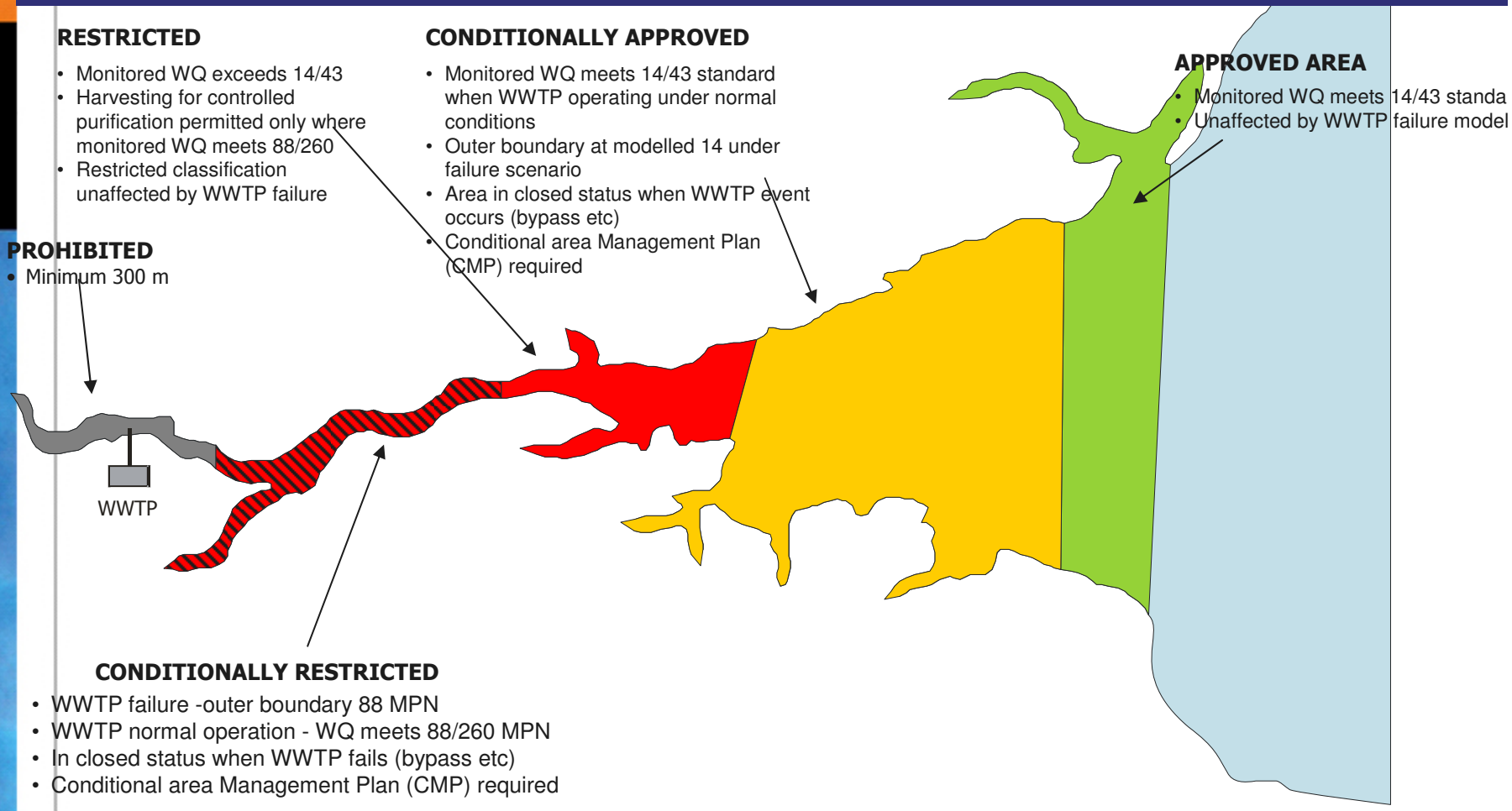
CSSP – CFIA Responsibilities

- Biotoxin Monitoring Program
- Recommend harvest area openings and closures to DFO based on biotoxin concentrations in the shellfish meat
- Registration and auditing of Federal processing establishments
- Certify product for export
- International relations - audits

CSSP – EC Responsibilities

- Conduct sanitary surveys in shellfish growing areas
  - Evaluate pollution sources and monitor water quality for the presence of sewage (fecal coliform bacteria)
- Recommend appropriate classification of shellfish growing areas and recommend to DFO to close contaminated areas
- Recommend Emergency closures (Appendix VIII of the CSSP)

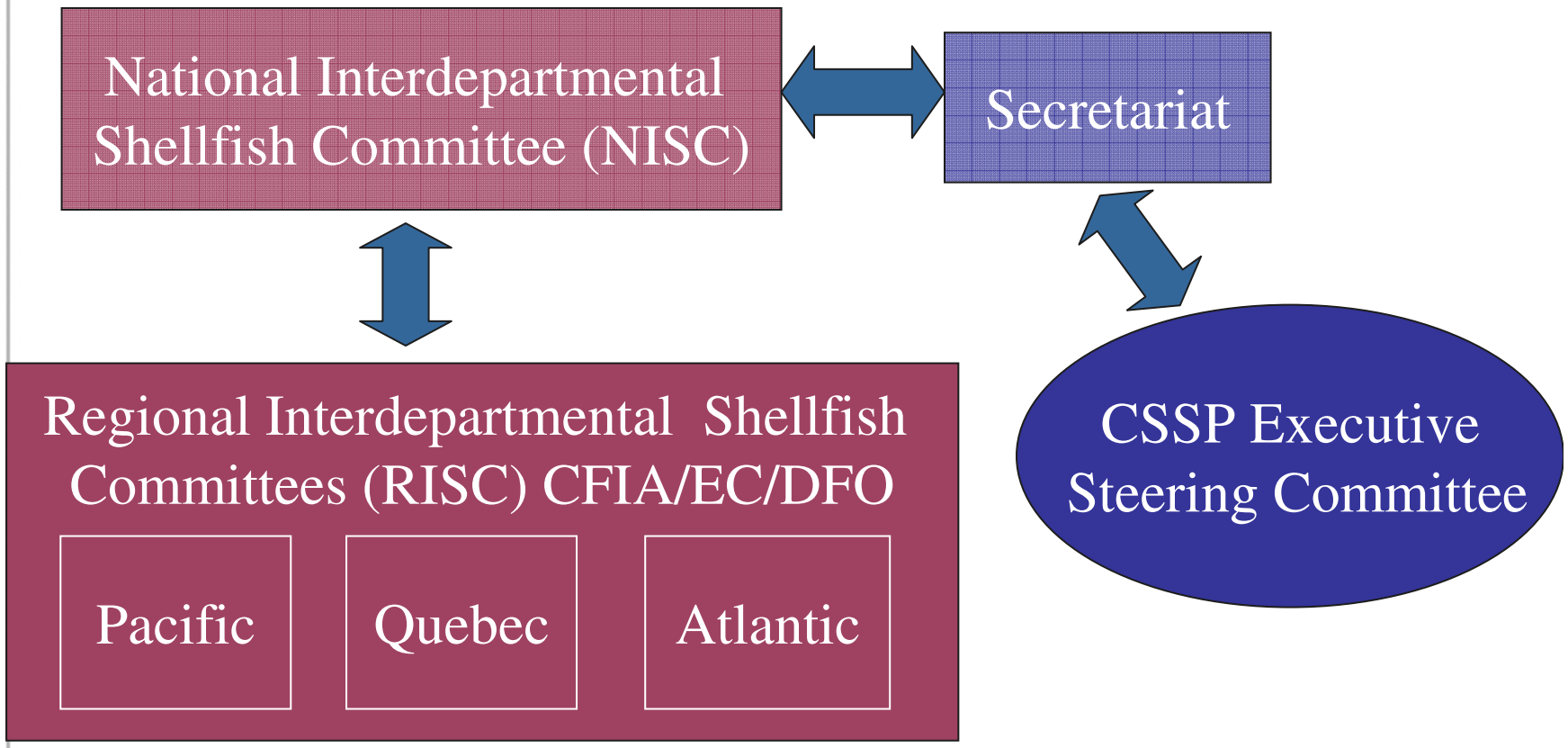
Generic Classification Map



CSSP – DFO Responsibilities

- Issue licenses to harvest shellfish in approved areas
- Issue special licenses for harvesting from prohibited/restricted/conditionally restricted areas
- Issue harvest prohibition orders (closures)
- Apply shellfish closures on recommendations from EC or CFIA
- Post notification, Patrol, and Enforce Closures

CSSP Governance



PRISC

- Meets at least twice a year (Spring & Fall)
- Decisions made by consensus:
  - Open and transparent discussions;
  - Incorporate sound science and evidence-based analysis involving a thorough review of all relevant information and appropriate consultation.
  - Where no consensus is reached, the issue is referred to the National Interdepartmental Shellfish Committee (NISC) for decision.
- Staff from the three federal departments are the members of the Committee;
- Provincial representatives are associate members → provide information on provincial perspectives and jurisdiction;
- Industry stakeholders, First Nations and other government representatives may attend as observers (attendance is by invitation only).

Harmful Algal Blooms (HAB's)

- Naturally occurring
- algae can rapidly reproduce under favorable environmental conditions

Pictures removed

HABs

- World wide occurrence of HABs
- Multiple Impacts – fishery resources, economic, human health
- Increasing?

HABs of Significance in BC

- Paralytic Shellfish Poisoning (PSP) is the most frequent type of HAB
- Amnesic Shellfish Poisoning (ASP) blooms are less frequent
- Diarrhetic Shellfish Poisoning (DSP) limited data to date

HABs of Significance in BC

PSP

- HPLC since April 2011
- Action level: 80 ug saxitoxin equivalents /100 g

ASP

- HPLC assay
- Action level: 20 ppm Domoic Acid

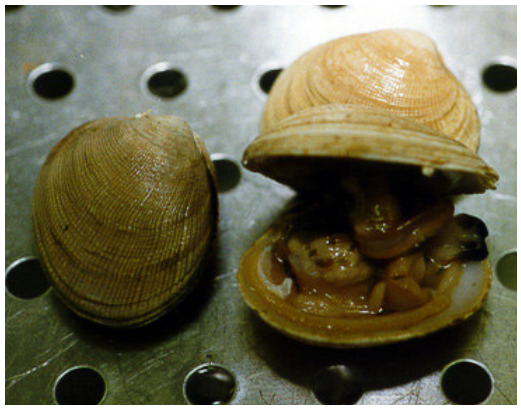
DSP

- LCMS-MS
- Action levels:
  - sum of okadaic acid and dinophysis toxins (DTX-1, DTX-2 and DTX-3) 0.2ug/g – interim standard
  - Pectenotoxins (PTX) (sum of PTX-1, PTX-2, PTX-3, PTX-4, PTX-6 and PTX-11) 0.2ug/g

Main Pacific Shellfish Species

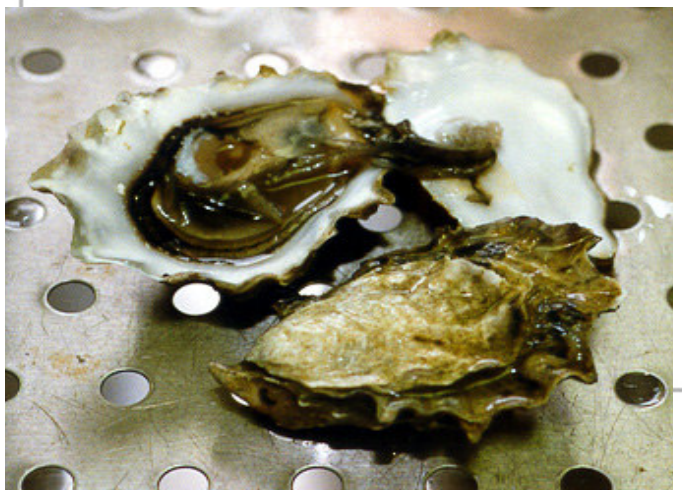
Weathervane scallop

Blue/ Bay mussel



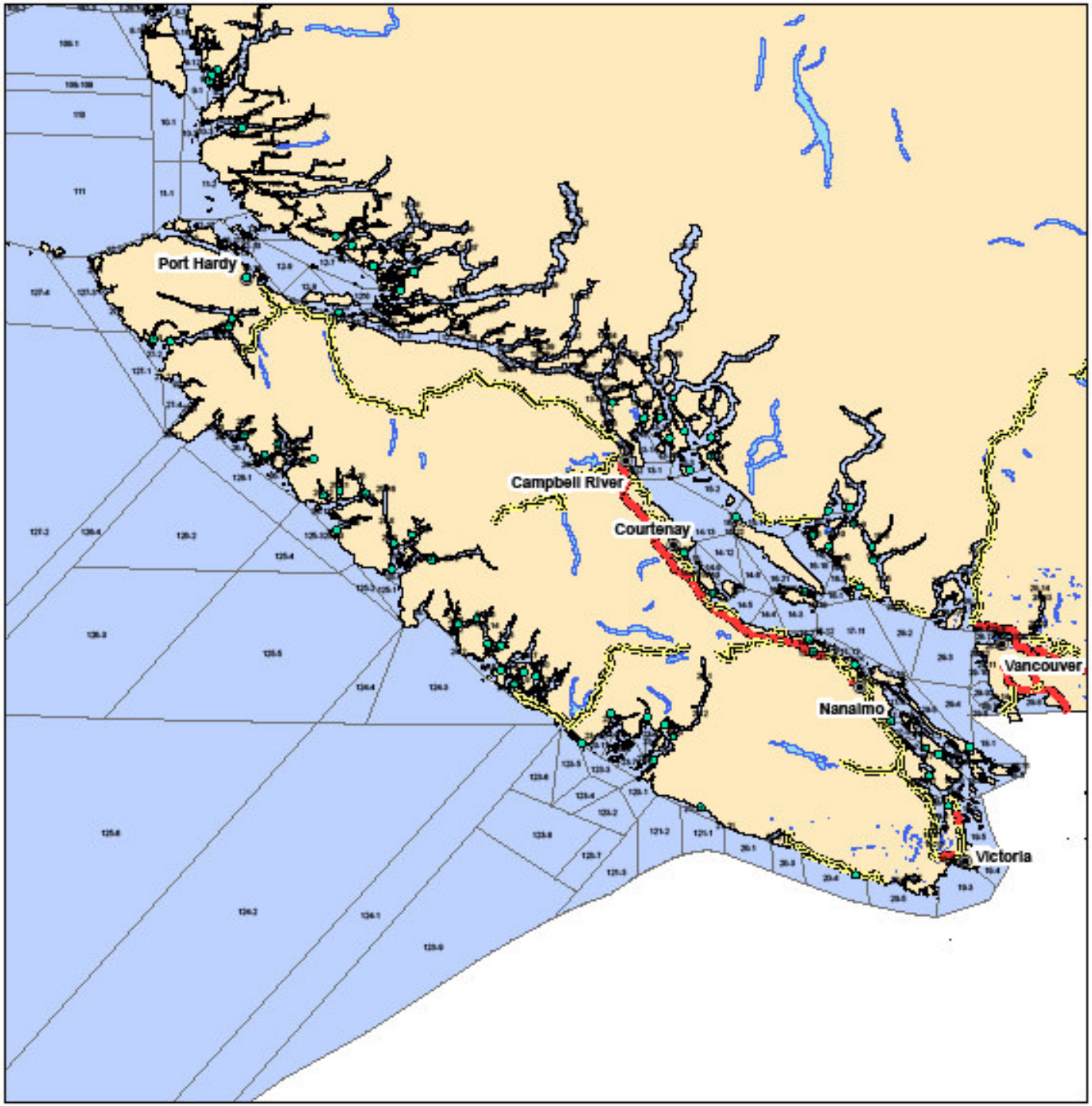
Littleneck clam

Pacific oyster



BC Marine Biotoxin Program

- Extensive coastline (~27,000 km), many remote areas
- Mussels used as the sentinel species:
  - Absorb and clear toxin faster than other bivalves
- Other species also tested (commercial / target)



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Statistical Area Map South Coast Areas 12-29 Marine Toxin Monitoring Sites

Legend

PSP Station

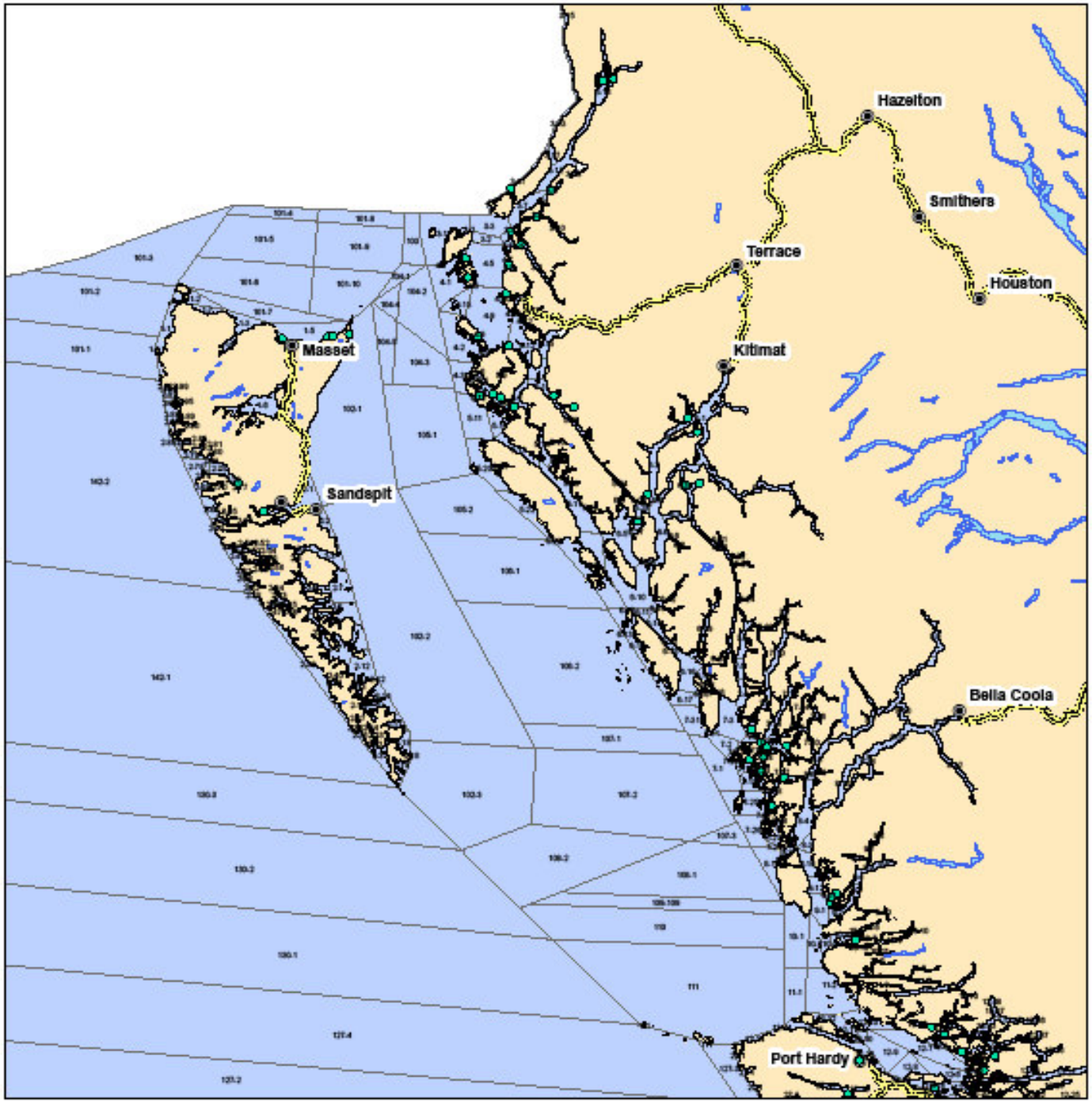
N
W E
S

0 10 20 40

Kilometers

1:2,284,858

Projection: BC Albers Standard
Basemap - Canadian Hydrographic Service Chart



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Statistical Area Map
North and Central Coasts
Areas 1-11
Marine Toxin
Monitoring Sites

Legend

PSP Station

N
W E
S

0 12.5 25 50

Kilometers

1:2,832,546

Projection: BC Albers Standard
Basemap - Canadian
Hydrographic Service Chart

BC Marine Biotoxin Program

Samples analysed annually in BC:

- ~3500 PSP Analyses
- ~3000 ASP Analyses
- ~1100 DSP Analyses

- Partnerships with DFO, Canadian Coast Guard, Industry and First Nations to collect samples.

Procedures

When the result for a shellfish sample at a given monitoring site exceeds an action level:

- CFIA recommends DFO place the area in closed status
  - Extent of toxin contamination (size of closure)
- Safety of shellfish harvested after the last acceptable sample is evaluated on a case by case basis.
- If affected shellfish is in distribution contact is made with:
  - Regional recall co-ordinator
  - Office of Food Safety and Recall
  - Health Canada

Communication

- DFO Fishery Notice
- CFIA emails all processing facilities, BCSGA and many other stakeholders
- Telephone/internet information provide specifics
- Permanent signs in areas known to often have HAB's
  - Other closed area signs may be posted by DFO

AREA 17

Bivalve Shellfish Notice

(Bivalves are shellfish with two shells- such as all clams, oysters, mussels, scallops, and cockles)

This area is often affected by Paralytic Shellfish Poisoning (PSP, also known as RED TIDE) which can occur at anytime.

To ensure your safety

DO NOT HARVEST BEFORE CHECKING WHETHER THE AREA IS CLOSED FOR PSP / RED TIDE

- Phone toll free **1-866-431-3474** for updates on PSP / red tide closures by area
- Check the Fisheries and Oceans Pacific Region website:
  www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/Biotoxins/closures/default_e.htm
- Phone the local Fisheries and Oceans office (Nanaimo 250-754-0230; Victoria 250-363-3252 ; Parksville-250-954-2675) or check the blue pages of the phone book.

To Report a Violation call:
1-800-465-4336

Please check the current British Columbia Tidal Waters Sport Fishing Guide, the Fisheries and Oceans recreational website, or contact a local Fisheries and Oceans office for general information on contaminated closures, species information, and quotas. A licence is required to harvest shellfish.


DANGER

Distribution of Results

- Marine biotoxin results are distributed to industry and other partners
- DFO website is the official source of closure information:

  http://www.pac.dfo-mpo.gc.ca/fm-gp/contamination/biotox/index-eng.htm

Re-opening criteria

- Minimum 14 days from date of unacceptable result
- 3 mussel samples and a target species must be within acceptable limits over the 14 days
- Upon request for openings will analyze samples and recommend opening if sample is acceptable

Sampling from Processing Plants

- In BC, prior to distribution, bivalve shellfish must be processed in a facility that is registered for bivalve processing and audited by the CFIA
- All registered processing facilities must develop and implement a HACCP plan, which, in Canada, is contained within a Quality Management Program (QMP)
- As part of the federal inspection program, samples are taken from processing plants to verify the implementation of control measures

History of Biotoxin Monitoring in BC

- PSP monitoring began in the 1940's
- ASP monitoring began in 1988

History of DSP monitoring in Canada

Prior to 2003 the CSSP required DSP toxin monitoring in suspect harvest areas or as a result of DSP illnesses.

2004-2010 CSSP updated to include additional monitoring to cover all areas harvested for EU export.

History of DSP monitoring in Canada

2010/2011 CSSP updated to integrate DSP as part of routine marine toxin monitoring program with broader application, reflective of risk.

2011 DSP Illness Outbreak

62 cases of DSP in British Columbia.

Shellfish toxin that poisoned 60 has experts concerned

BY MATTHEW ROBINSON, POSTMEDIA NEWS AUGUST 28, 2011

Tweet 8

STORY PHOTOS (1)

60 people has been poisoned earlier this month from mussels that had been contaminated with a biotoxin.

Photograph by: Handout , Vancouver Sun

Mussels recalled over biotoxin threat

The Canadian Press Posted: Aug 7, 2011 1:55 PM ET | Last Updated: Aug 7, 2011 6:13 PM ET

The Canadian Food Inspection Agency is warning the public not to consume certain mussels that may contain diarrhetic shellfish poisoning biotoxin.

The affected mussels were harvested in British Columbia by Island Sea Farms Inc. between July 19 and Aug. 2.

They have been distributed in B.C., Alberta, Saskatchewan, Manitoba, Ontario and possibly other provinces and territories under the brand names Saltspring Island, Albion Fisheries Ltd, Pacific Rim Shellfish Corp., Albion, and B & C Food.

Consumers who purchased raw mussels between July 19 and Aug. 6 should check with their retailer to determine if they have product covered

Facebook
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Email

External Links

- The CFIA's warning on mussels produced by Island Sea Farms Inc.

DSP monitoring in BC
Post Illness Outbreak

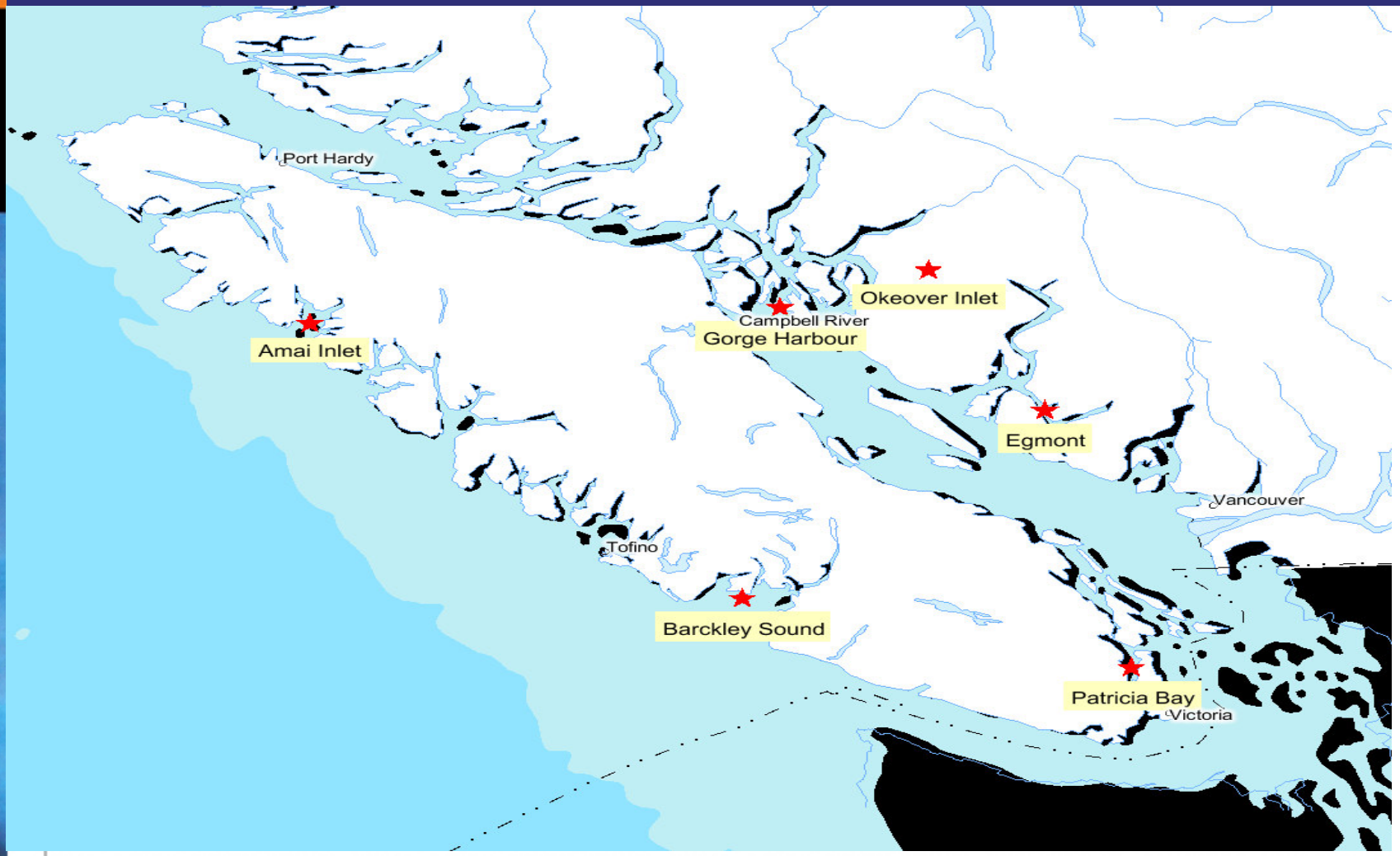
CFIA will Analyse ~1100 samples for DSP this year

- main commercial growing areas
- known mussel producing areas
- areas where levels have previously been detected
- ability to expand monitoring

Post Illness Outbreak

- CFIA monitoring and responsiveness has increased
- Data provided to Industry
- Prioritization of samples with levels of DSP
- Ability to increase and expand sampling
- DTX 3 included in the standard
- Increased awareness and understanding within CFIA and industry

Areas with Notable Levels of DSP Toxin 2011-2012



DSP Knowledge Gained

- The Pacific Northwest has potential to have significant DSP toxin production levels
- Summer through fall appears to be the higher risk time
- Prevalent toxins DTX 1 and DTX 3
- Mussels appear to take up DSP toxins quicker than other clams and oysters – limited data
- Levels of Yessotoxin

Conclusion

- HAB's create significant risks for shellfish harvesting/consumption but the controls in place are robust.
- Biotoxin illness are uncommon and when they occurs CFIA, BCCDC and industry are very efficient and effective at minimizing the impact
- Ongoing review/assessment of the program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