

Hudson Community Advisory Group Meeting-September 19, 2013

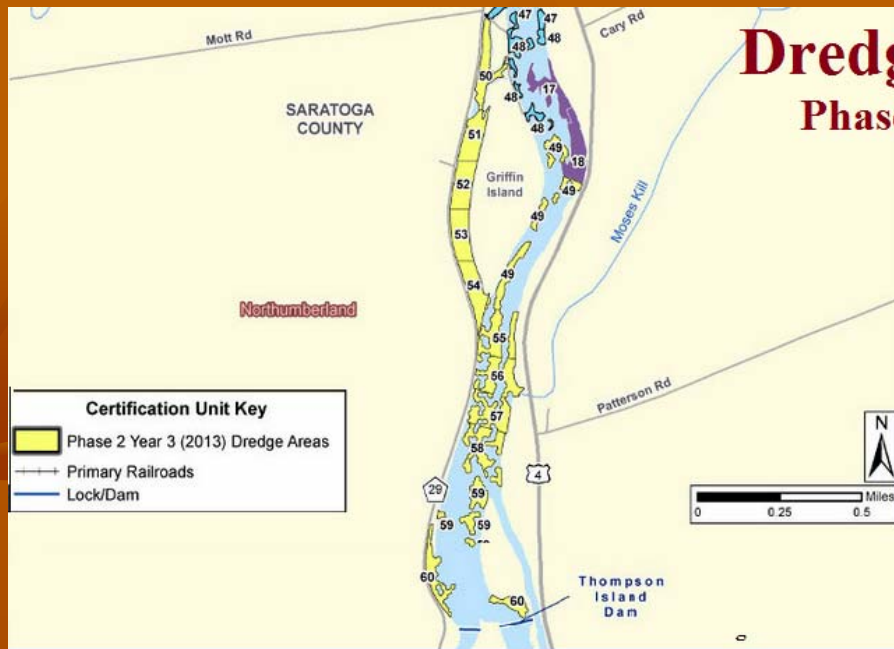


<http://www.dec.ny.gov/lands/25606.html>

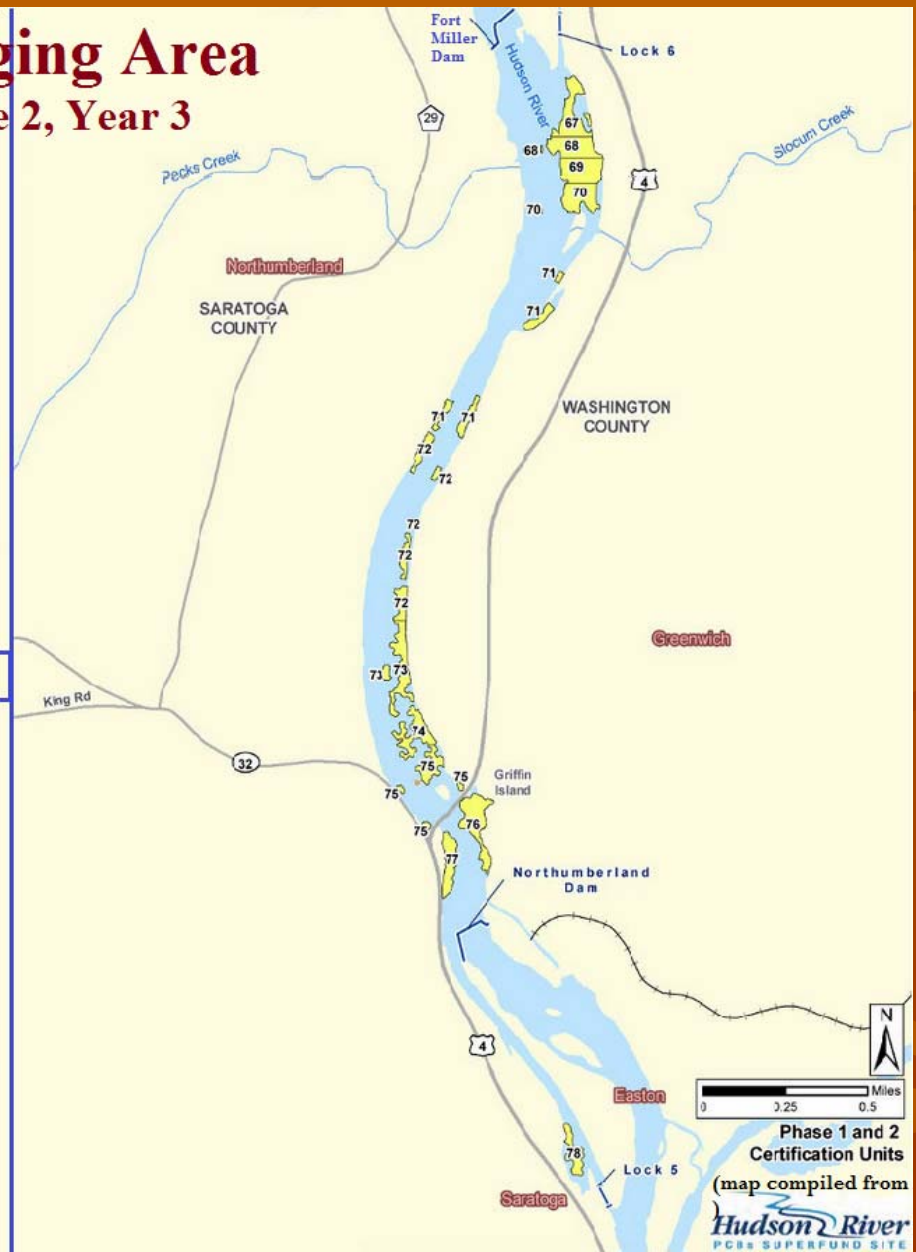
**Dr. Peter deFur,
Technical
Advisor**

**Dredging and PCB
Literature
Update 2013**

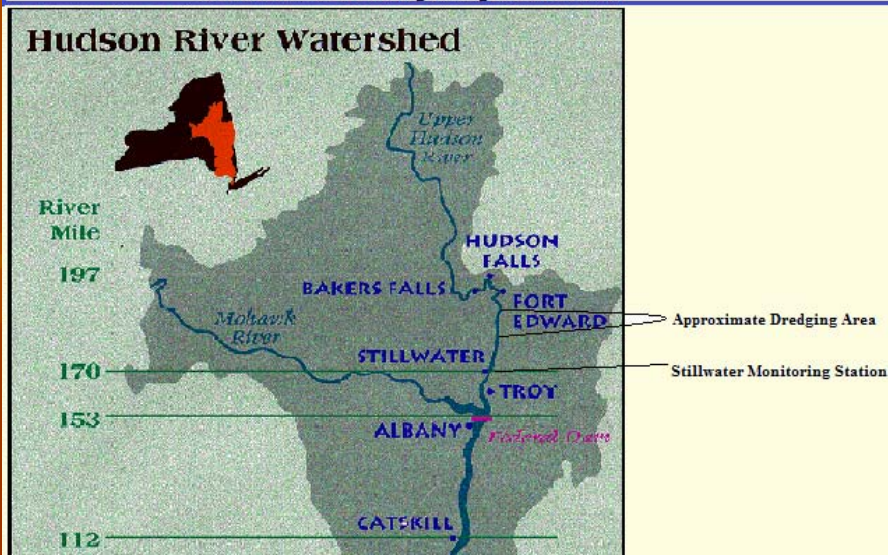
Dredging Area Phase 2, Year 3



The area between Thompson Island and Fort Miller Dams not shown here as this area is not being dredged this season.



Hudson River Watershed



Phase 1 and 2
Certification Units
(map compiled from
Hudson River
PCRA SUPERFUND SITE

Dredging Update (June-September)

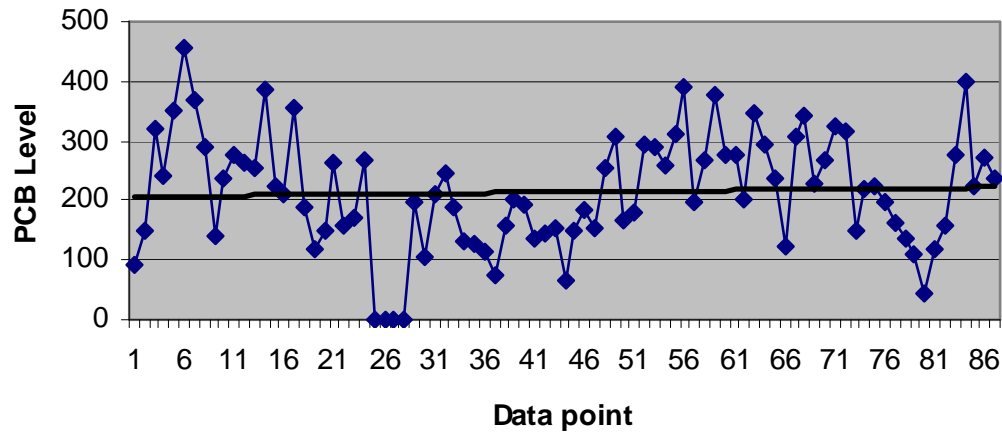
Monitoring

Exceedances

Air Quality	10 at Processing Facility 24 on the river (K & I)
Odor, Noise, Light and Navigation	None
PCB Concentration in Water	62 at both Stillwater and Waterford
Water discharge	Flow and PCB increases typically coincide

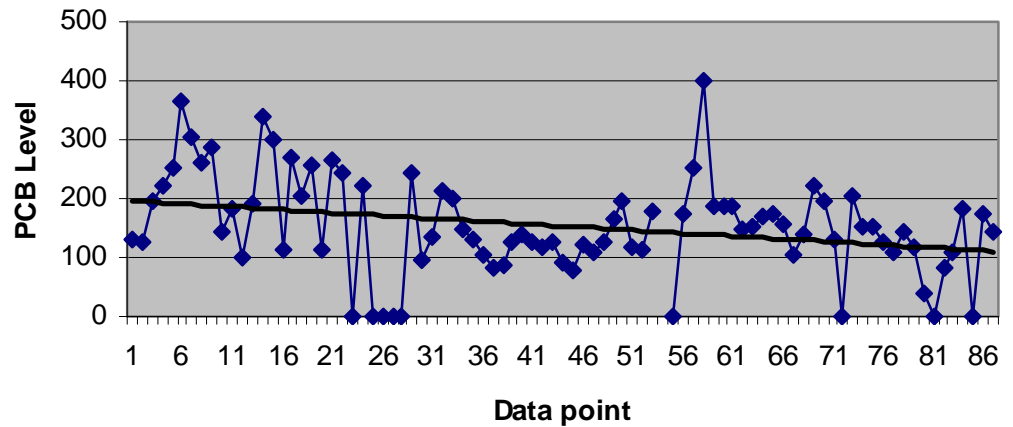
Trends in PCB Concentration

Stillwater (6/16 to 9/10)



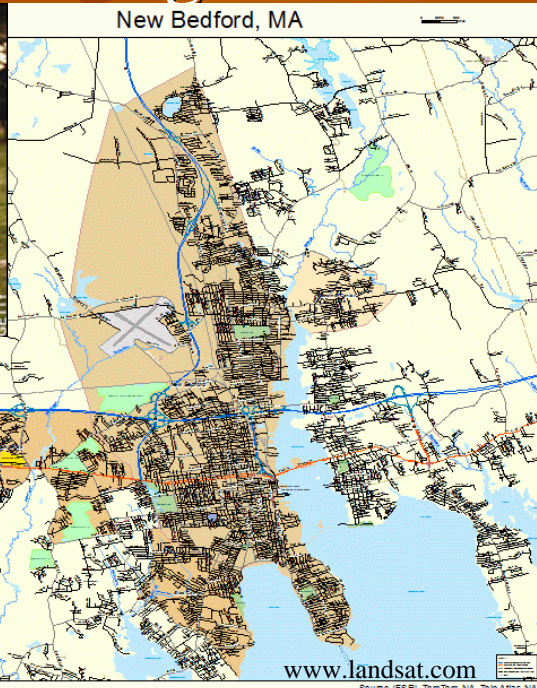
PCBs in ppt
Drinking water standard
is 500 ppt
EPA WQS is 64 ppt
NY WQS 1 ppq

Waterford (6/16 to 9/10)



PCBs: Still a Threat to our Health

- Over 390 scientific articles since 2002*
 - Research continues to support carcinogenic, reproductive and neurological health risks



*Literature search conducted using BIOSIS, queried PCB or polychlorinated biphenyl, 2002-2013, refined by toxicology and articles

Recent Developments:

- Weakened immune system
- Oxidative stress leading to Parkinson's Disease
- PCBs in breast milk and human adipose tissue in general population and residents near Superfund sites
- Altered thyroid and growth hormones
- Proximity increases exposure
- Can make the music die

Questions?



Photo by Dr. Peter deFur, 2013

PCB Exposure Routes

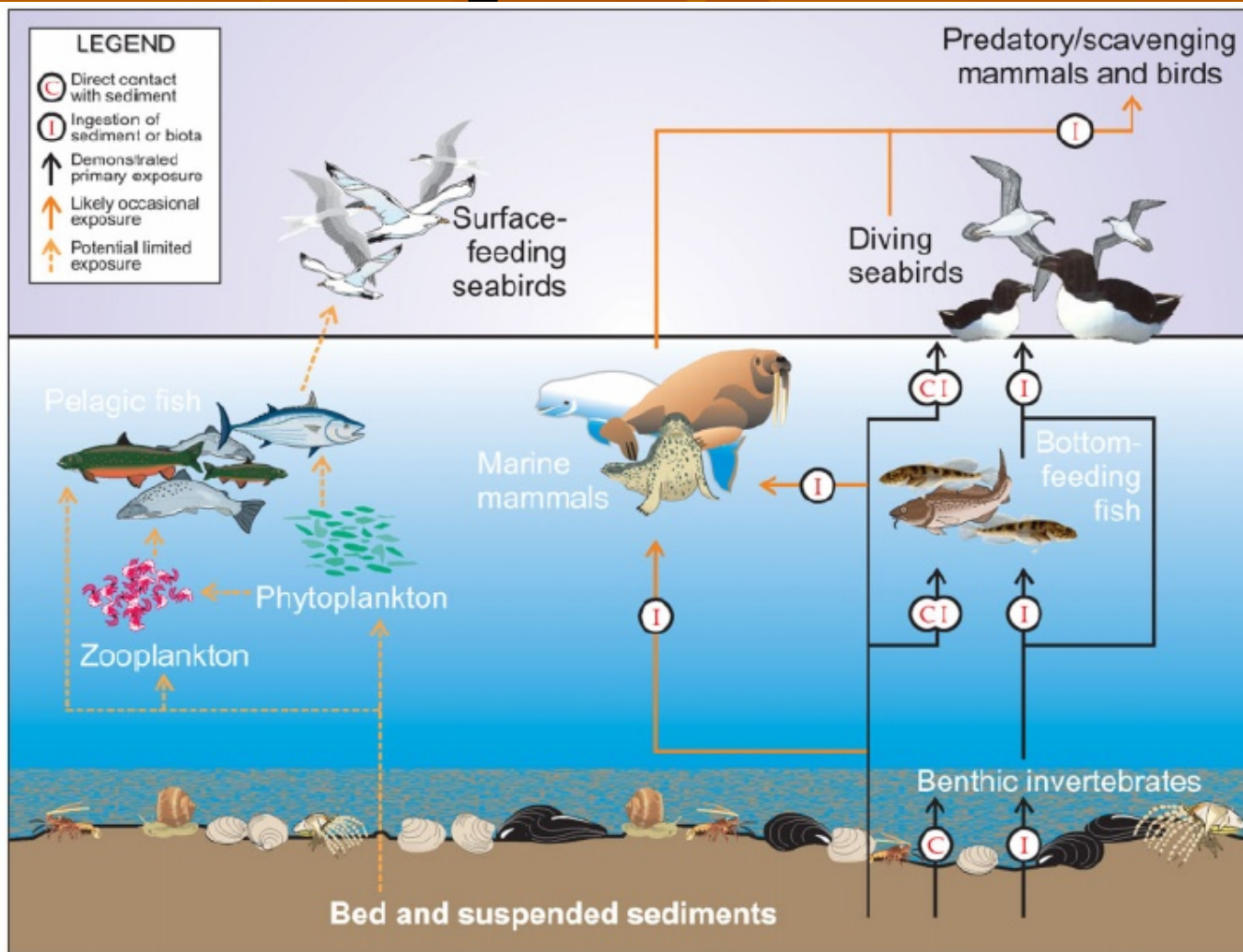


Fig. 2. Conceptual model depicting the primary polychlorinated biphenyl exposure routes from contaminated sediments in Saglék Bay, Labrador, Canada (adapted from Environmental Sciences Group [5]).

Brown et al. 2013. Effects-based marine ecological risk assessment at a polychlorinated biphenyl-contaminated site in Saglék, Labrador, Canada. *Environmental Toxicology and Chemistry* 32(2): 453-467.

Ecological Risk

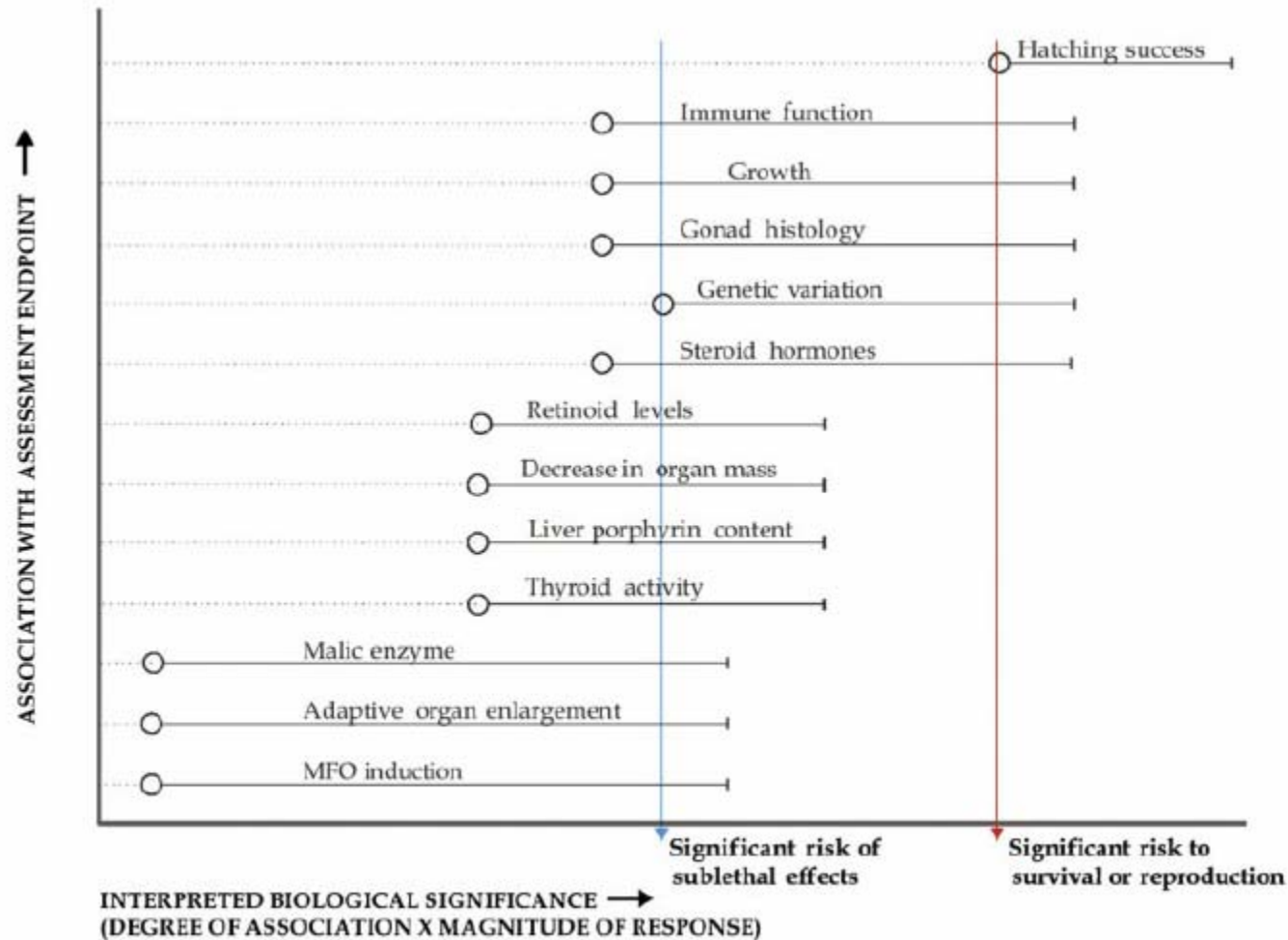


Fig. 5. Weight-of-evidence approach for interpreting the guillemot nesting endpoints and evaluating the risk of sublethal effects and risk to survival or reproduction (adapted from Environmental Sciences Group [5]).

Brown et al. 2013. Effects-based marine ecological risk assessment at a polychlorinated biphenyl-contaminated site in Saglek, Labrador, Canada. *Environmental Toxicology and Chemistry* 32(2): 453-467.

PCB Concentrations at a Contaminated Site

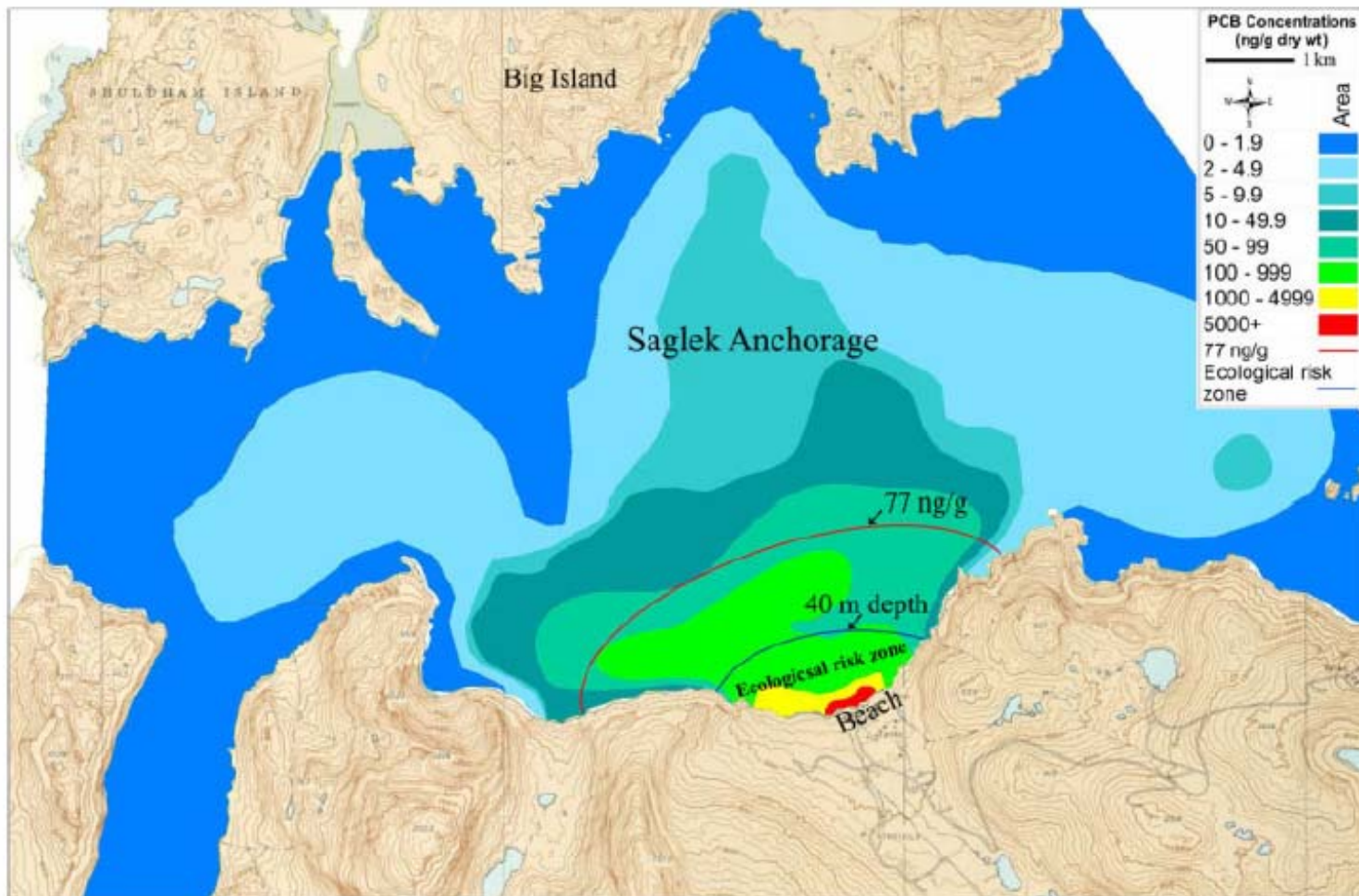


Fig. 6. Area defined by sediment polychlorinated biphenyl (PCB) concentrations greater than 77 ng/g dry weight and water depths less than 40 m, which defined the ecological risk zone related to the contaminated sediments in Saglek Bay, Labrador, Canada, during the assessment period (1997-1999).

Brown et al. 2013. Effects-based marine ecological risk assessment at a polychlorinated biphenyl-contaminated site in Saglek, Labrador, Canada. *Environmental Toxicology and Chemistry* 32(2): 453-467.