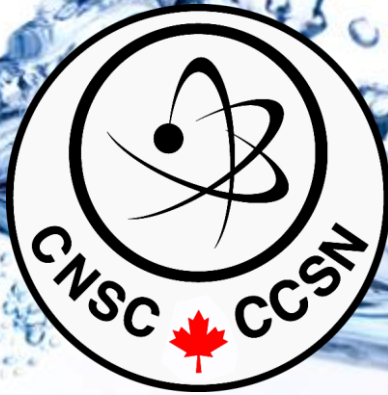




Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Uranium Mining and Milling: The Facts on a Well- Regulated Industry



Nunavut Mining Symposium
April 2014

Presentation Outline



- Environmental Performance
- Effluent Quality
- Tailings Management
- Radiation Doses to Workers and the Public
- Traditional Lands
- Summary

RADIATION- What is it?



- Energy in the forms of waves or particles
- Can't see it, touch it, taste it, smell it, hear it!
- Doses kept low through the principals of time, distance and shielding

Effluent Quality- Fact or Fiction?



- “The environment surrounding operating mines and mills contain several contaminants such as molybdenum and selenium that harm fish and other animals”
- That is FICTION:
- Contaminant levels outside operating mining and milling sites are barely detectable and do not pose a risk for the wildlife.



Effluent Quality Comparison

Uranium Mining vs. other Metal Mines in Canada

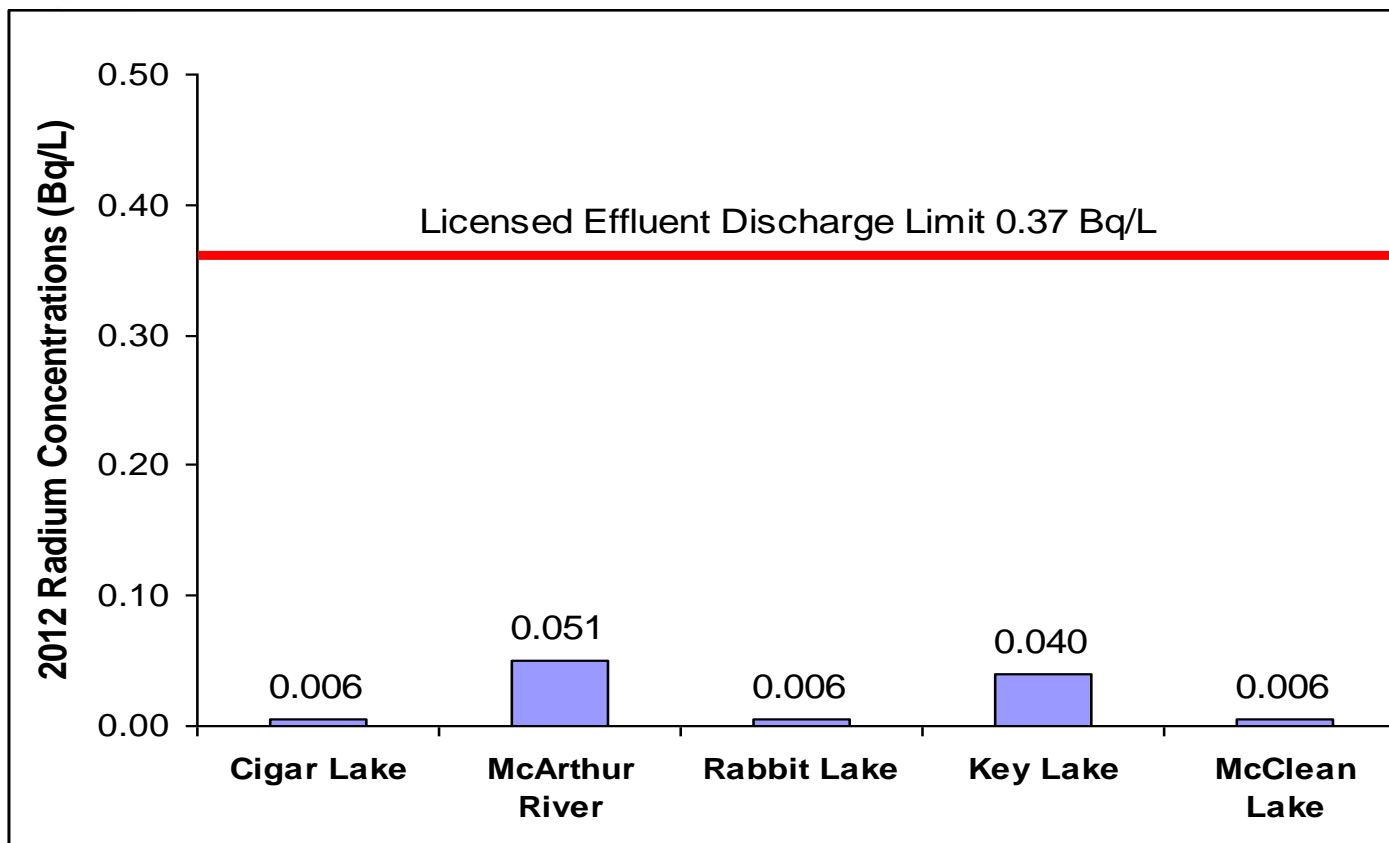
Percentage of Mines “in compliance” with <i>Metal Mining Effluent Regulations</i> by Mining Sector					
Mining Sector	2007	2008	2009	2010	2011
Uranium	100%	100%	100%	100%	100%
Base Metal	67%	60%	58%	65%	65%
Precious Metal	74%	80%	79%	87%	70%
Iron	50%	67%	50%	20%	33%
All metal mines	71%	71%	69%	75%	67%

“In Compliance” means all effluent met MMER release limits for that year



2012 Environmental Protection Uranium Mines and Mills – Radium-226

Annual average concentration of radium-226 in effluent released to the environment in 2012

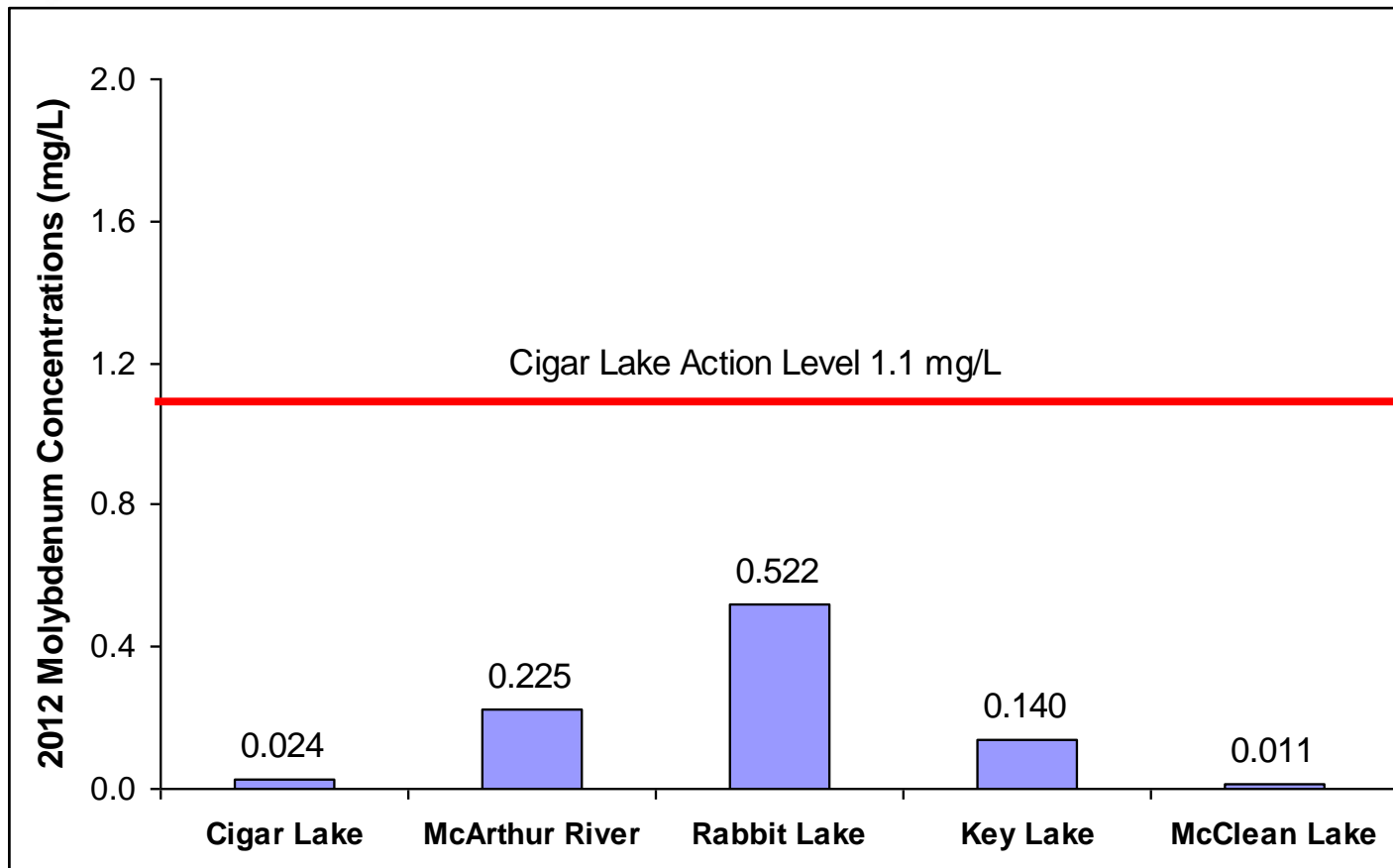


2012 Environmental Protection

Uranium Mines and Mills - Molybdenum



Annual average concentration of molybdenum in effluent released to the environment in 2012

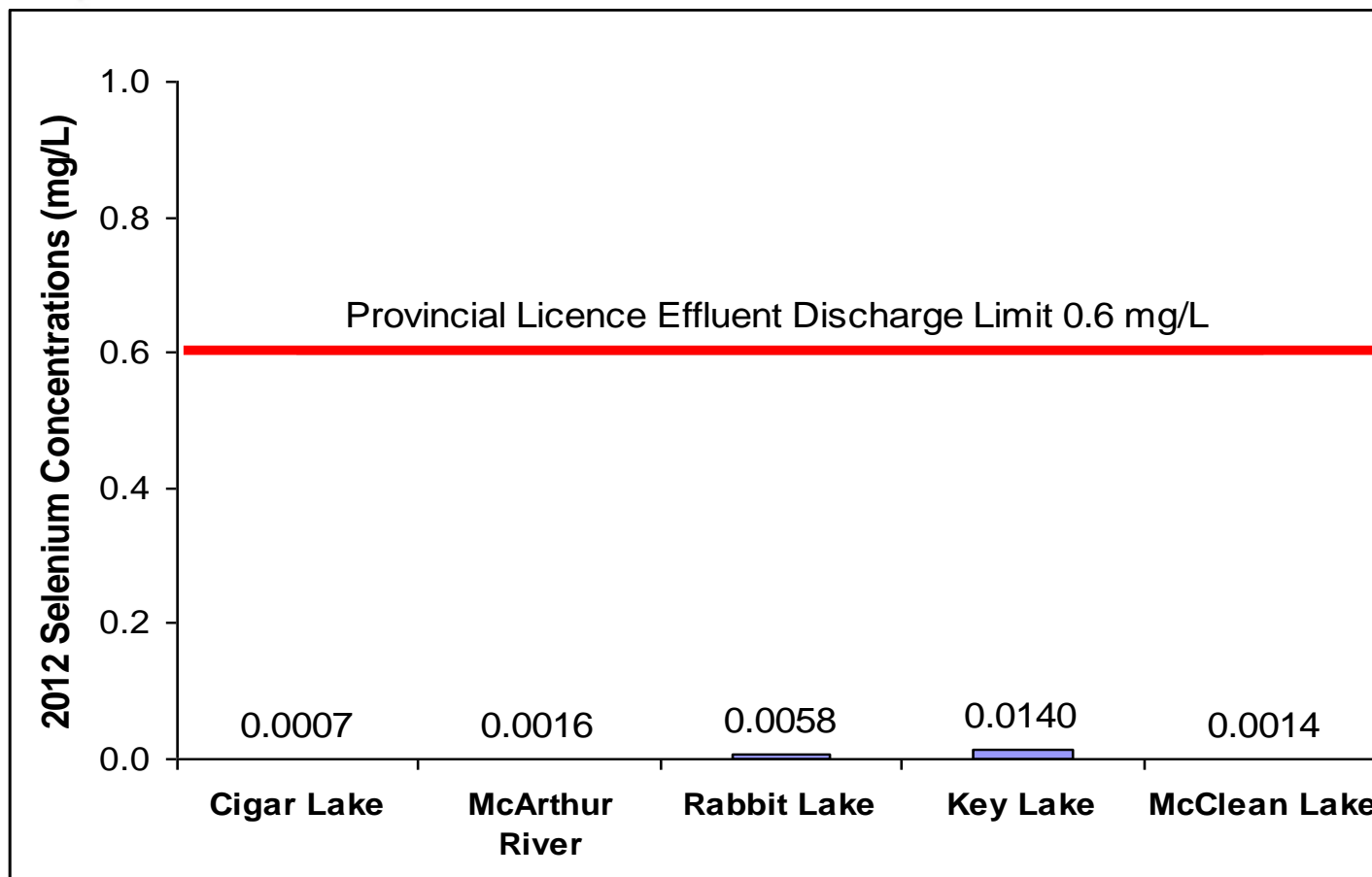


2012 Environmental Protection

Uranium Mines and Mills - Selenium



Annual average concentration of selenium in effluent released to the environment in 2012

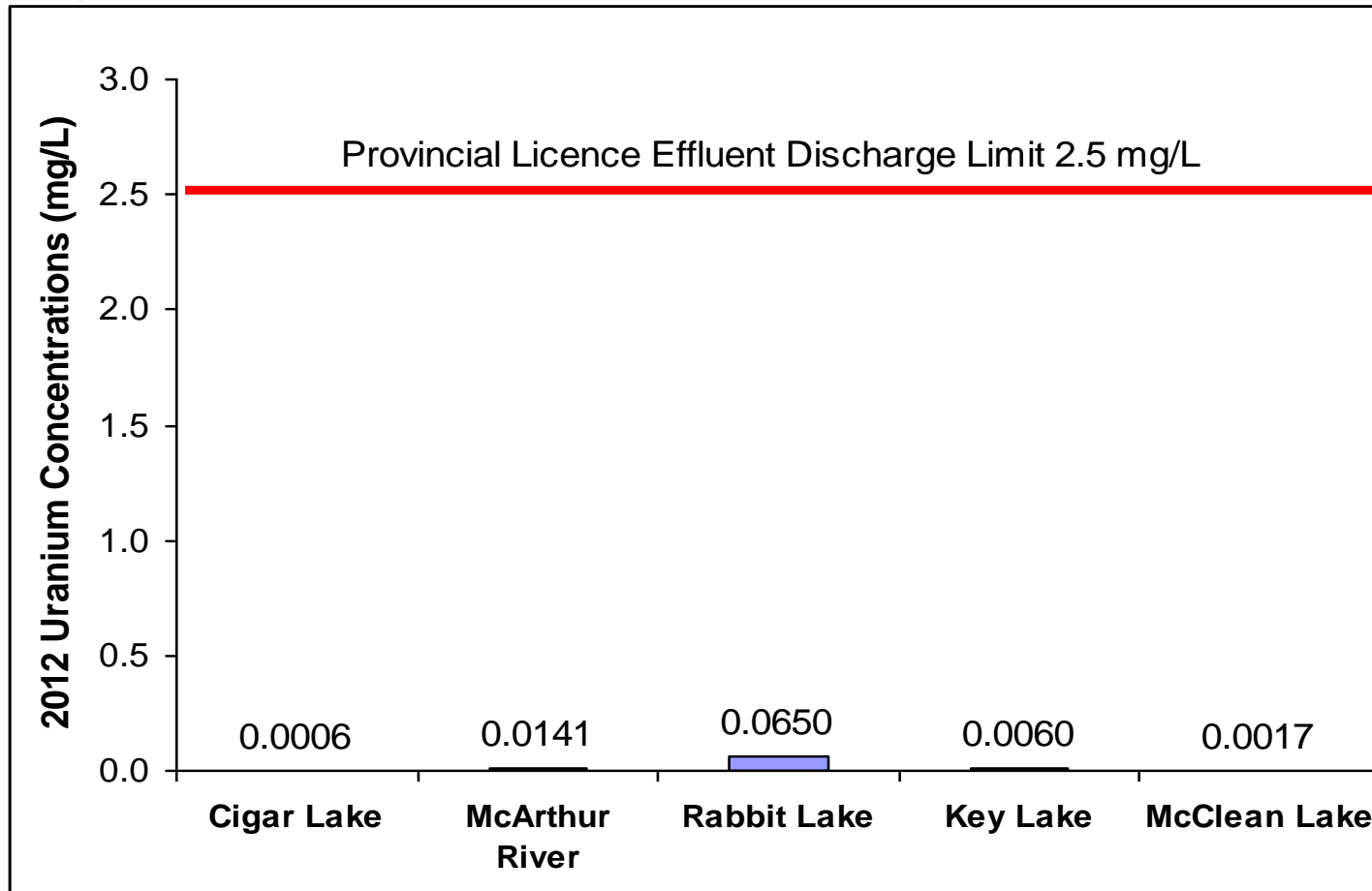


2012 Environmental Protection

Uranium Mines and Mills - Uranium



Annual average concentration of uranium in effluent released to the environment in 2012



Fact or Fiction?



- **“Workers and the public living near uranium mines are as healthy and the general Canadian population”**
- **This is a FACT:**
- Studies show that workers and the public living near uranium mines are as healthy as the general Canadian population.

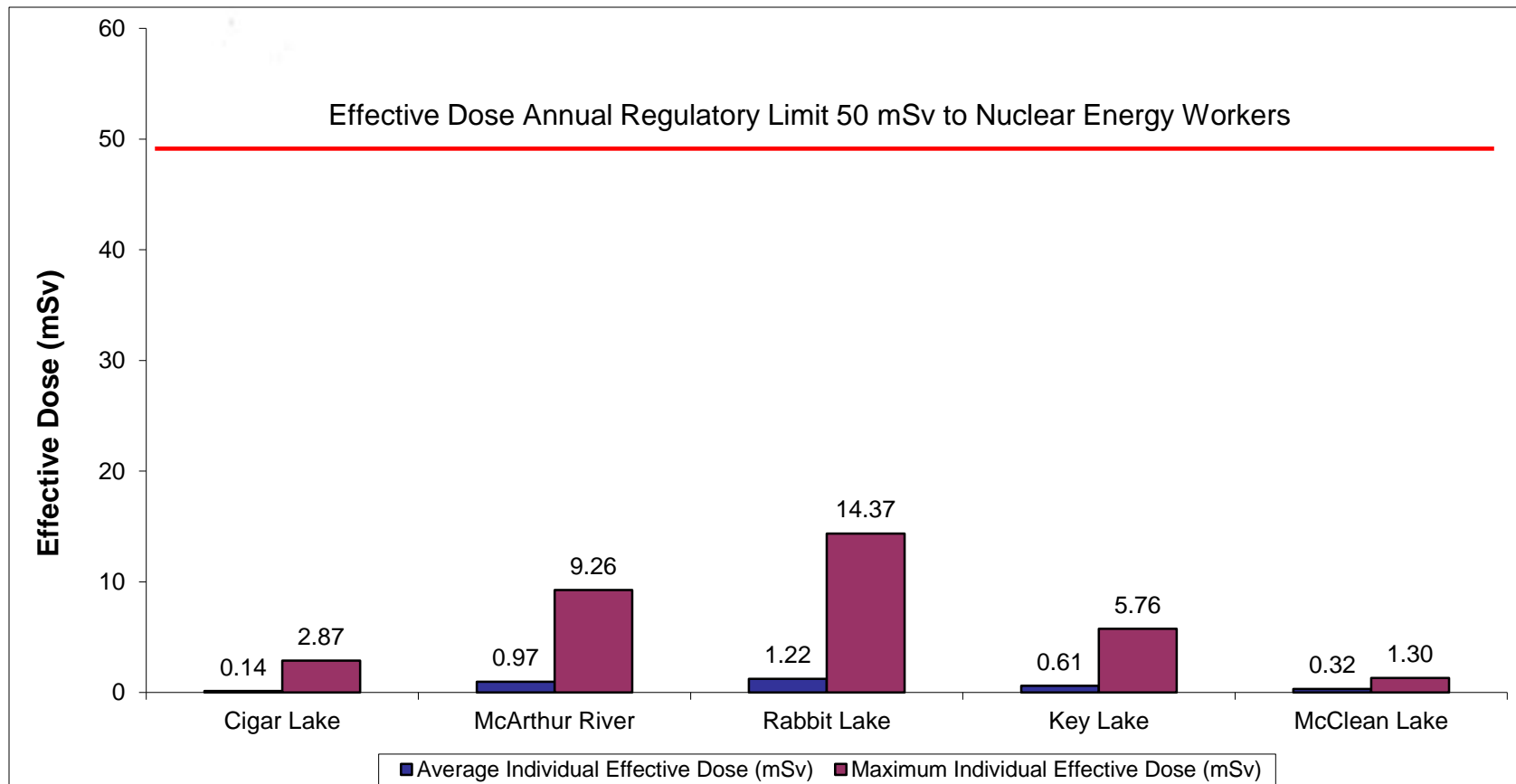
Fact or Fiction



- “Uranium mine workers are exposed to dangerously high levels of radiation”
- This is FICTION:
- Studies show that workers and the public living near uranium mines are as healthy as the general Canadian population



2012 Radiation Monitoring Data





Fact or Fiction?



“Tailings from uranium mines will remain highly toxic for millions of years and contaminate groundwater”

- This is FICTION:
- Techniques have been developed for the safe long-term management of tailings. This is an important aspect of the licensing process for uranium mines and mills. Techniques have been developed to safely contain this waste to prevent contact between the tailings and groundwater

Fact or Fiction?



- “Fish, game and fruits harvested near operating uranium mines and mills are unsafe to eat”
- This is FICTION:
- It is safe to consume fish, game and fruit from regions near operating uranium mines and mills.
- Ongoing monitoring has confirmed that contaminant releases near uranium mine and mill sites are barely detectable.

FACT OR FICTION?



- “Traditional life is compromised by uranium mining”
- This is FICTION:
- The CNSC ensures adequate measures are in place to minimize impacts on traditional activities in areas where uranium mining takes place.



Fact or Fiction?

- “Aboriginal rights are ignored when a new uranium mine or mill is designed”
- This is FICTION:
- Aboriginal groups are consulted during all phases of nuclear projects, which include new uranium mines and mills, and they are encouraged to participate in the planning.

Summary



- Effluent quality released from uranium mines and mills is well controlled and meets all regulatory standards
- People who live near nuclear facilities are as healthy as anyone else
- Radiation doses to workers are kept low and to levels well- below regulatory limits
- Tailings management is an important aspect of the licensing process of uranium mines and mills
- Aboriginal knowledge and traditional activities are considered throughout the licensing process