




Environmental Assessment & Monitoring Training

Kimberly Jorgenson, M.Sc.
Projects & EA Officer


Larissa Mikkelsen, M.Sc.
EA Officer


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Matawa First Nations

- Nine Ojibway and Cree First Nation communities in Northern Ontario
- Four road-access communities
- Five remote communities (air/winter road)
- Population: ~8,000 people
- Traditional Homelands >176,000 km²
 - ~16% of Ontario's land base
- Matawa First Nations Management
 - Tribal Council, Not-for-Profit
 - Mission: Support membership to regain and refocus strong, healthy, self-sufficient communities.
 - Provide technical & professional advisory services & programs
 - Health, education, membership, ec. dev., technical services, etc.





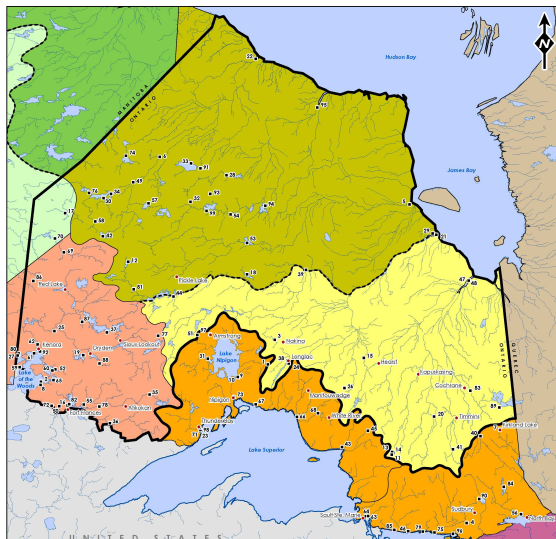


Four Rivers Group

- Matawa's **Environmental Services** department
 - Est. January 2011, team of 11 environmental and technical staff
 - Assist communities to actively manage land and water resources within their traditional territories
 - Focus on providing training, capacity building, information & program support (GIS, research, etc.)
- **Goal:**
 - Community Lands & Resource Departments
 - Informed decision-making
- Four Rivers Inc. (business)



Why are we here?






Why are we talking about Environmental Assessments?

- ✧ Every major project will go through some form of Environmental Assessment (EA) BEFORE the project begins
- ✧ Fundamental planning & decision-making tool
 - ✧ Examine potential environmental & social impacts
 - ✧ Identify ways to reduce negative impacts
 - ✧ Predict resulting impacts -> Decision
 - ✧ Mitigation measures & monitoring requirements

GOAL: Protect the environment



Why are we talking about Environmental Monitoring?

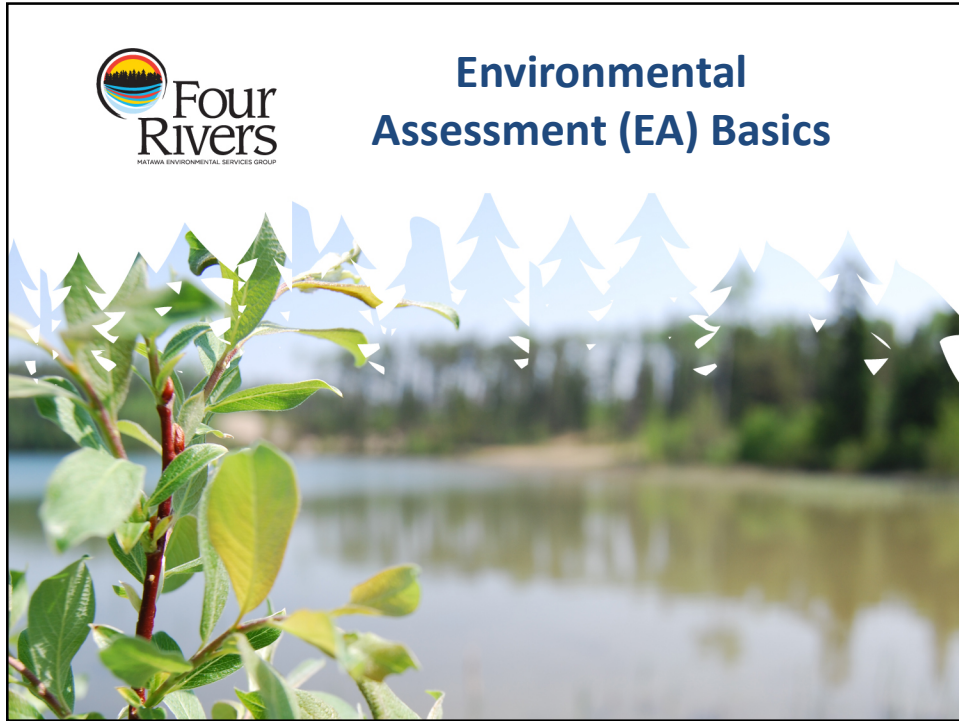
- ✧ The decision (outcome) of every EA includes monitoring requirements to:
 - ✧ Verify the predicted impacts
 - ✧ Detect unanticipated impacts
 - ✧ Evaluate overall impacts and the effectiveness of mitigation measures
- ✧ Results of monitoring used to further adjust project during/after operations

GOAL: Protect the environment



Training Goals


- ✧ Build capacity around Environmental Assessments (EAs)
 - ✧ Familiarity with EA processes, procedures and terms used by government & industry
- ✧ Build capacity around Environmental Monitoring
 - ✧ Develop skills around soil and water sampling techniques, taking detailed field notes, and an understanding of analytical results & monitoring criteria
- ✧ Take the mystery out of these processes
- ✧ Apply your knowledge to projects within your homelands




Four Rivers
MALAWA ENVIRONMENTAL SERVICES GROUP

EA Basics – What?



- **What is an EA?**
 - **Process** to assess & predict the environmental impacts of a **proposed project**
- **What is included in the Environment?**
 - Everything, including us
- **Holistic**, includes every part of the environment & examines how it may interact with the project (directly & indirectly)






EA Basics – Why?

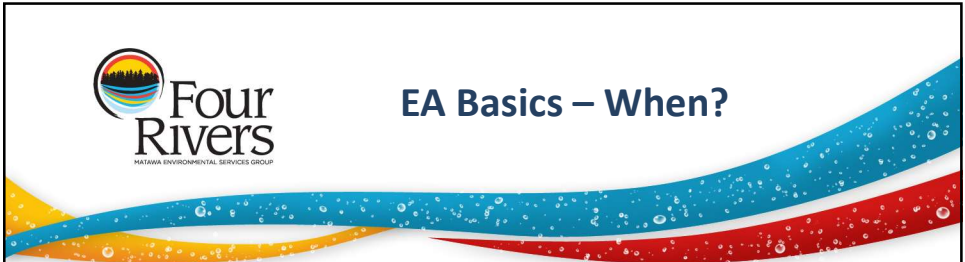
- **Why do an EA?**
 - Avoid/reduce negative environmental effects of a project
 - Increase **protection** of: environment, socioeconomic conditions, human health, traditional use of lands & resources
 - Include social & environmental factors in **decision-making**
 - Part of regulatory processes; tool used by government to assess proposed projects (predict impacts)

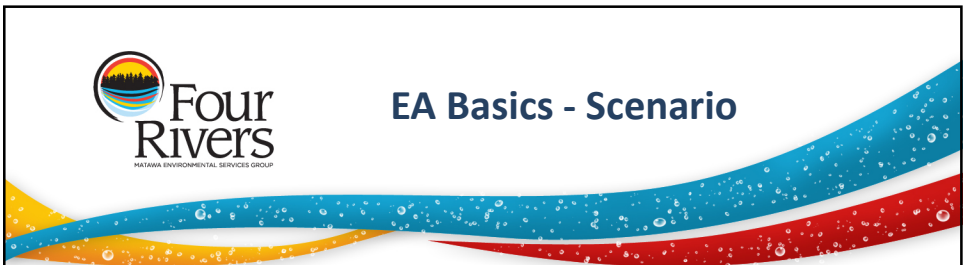
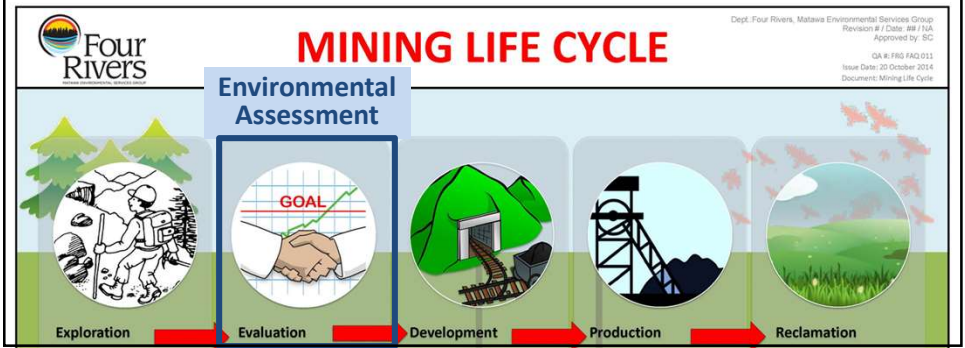
EA Basics – Who?

- **Who is involved in an EA?**
 - Proponent (person/company proposing the project)
 - Government (federal and provincial regulators)
 - Permit/approval required
 - First Nations (potential to be affected by project)
 - Public (potential to be affected by project)
 - Consultants (hired to work on an EA)






- When to do an EA?
 - Before a major project begins



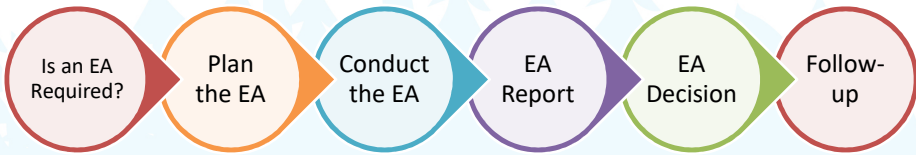
- What is included in an EA?
 - Bridge scenario






EA Basics – How?

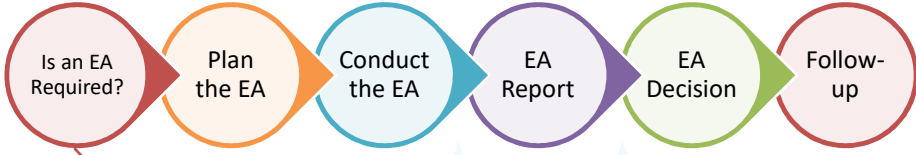
- **How do you do an EA?**
 - EAs are part of regulatory processes (federal and provincial)
 - **Similar steps in all EAs**
(fact sheet)



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graph LR; A((Is an EA Required?)) --> B((Plan the EA)); B --> C((Conduct the EA)); C --> D((EA Report)); D --> E((EA Decision)); E --> F((Follow-up))
```

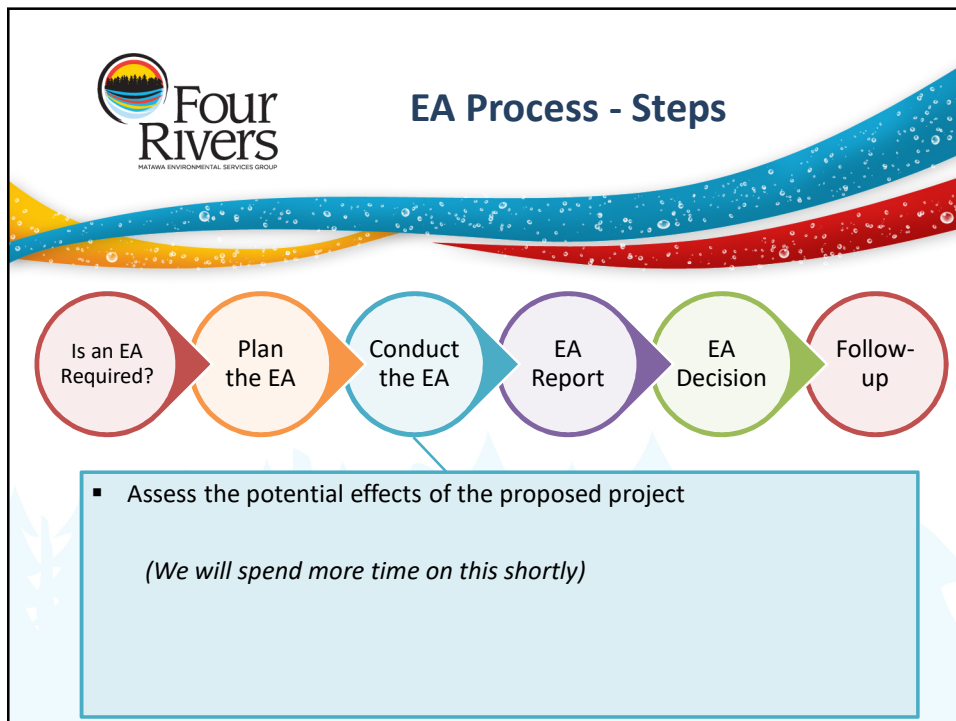
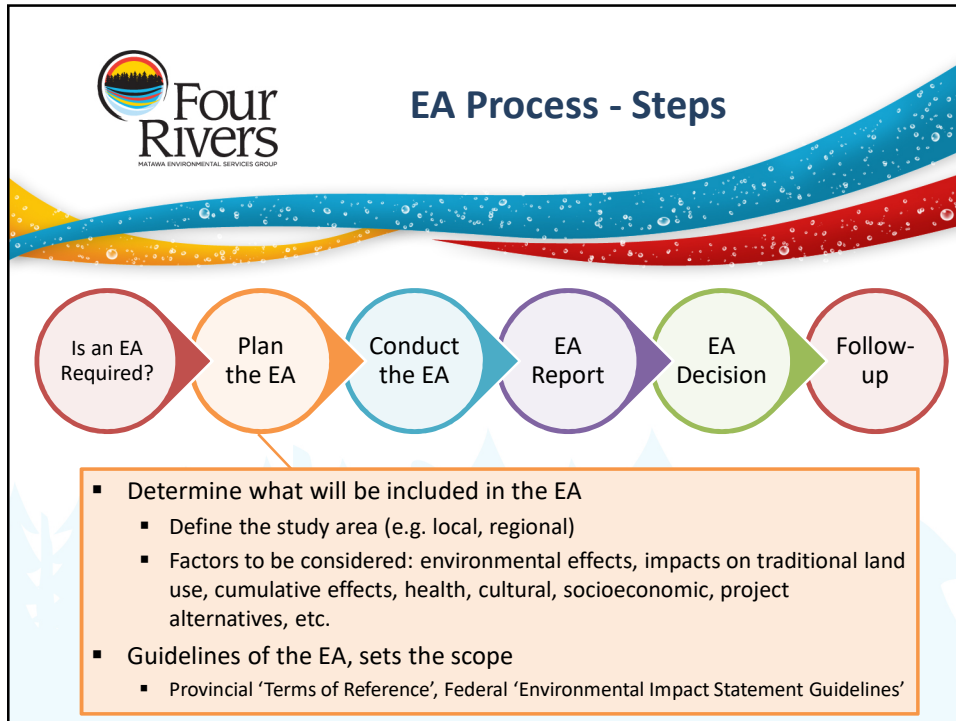


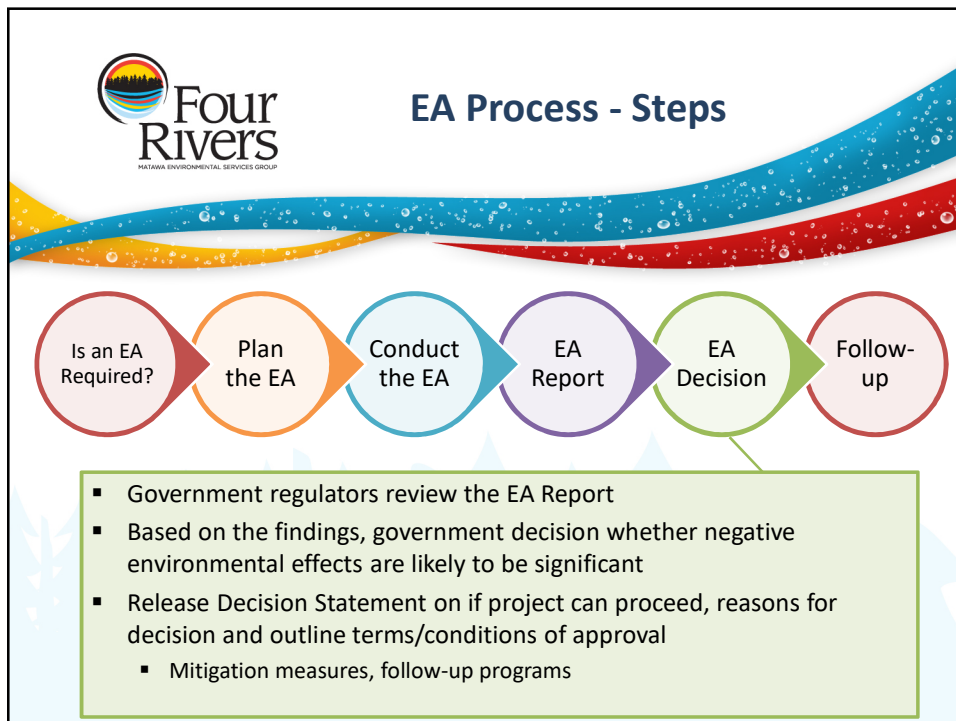
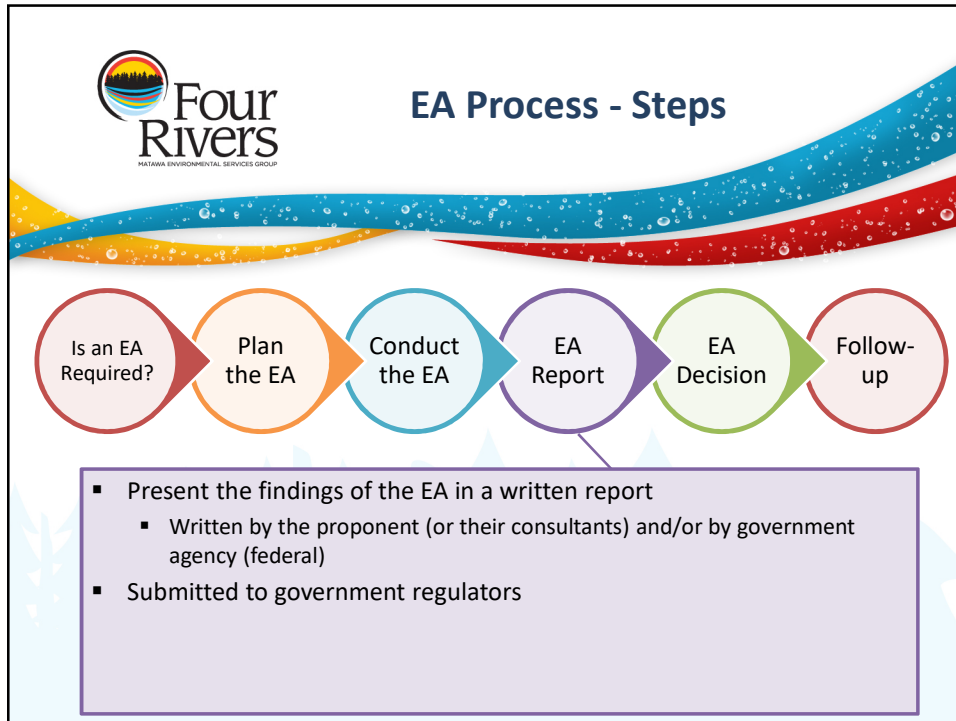
EA Process - Steps

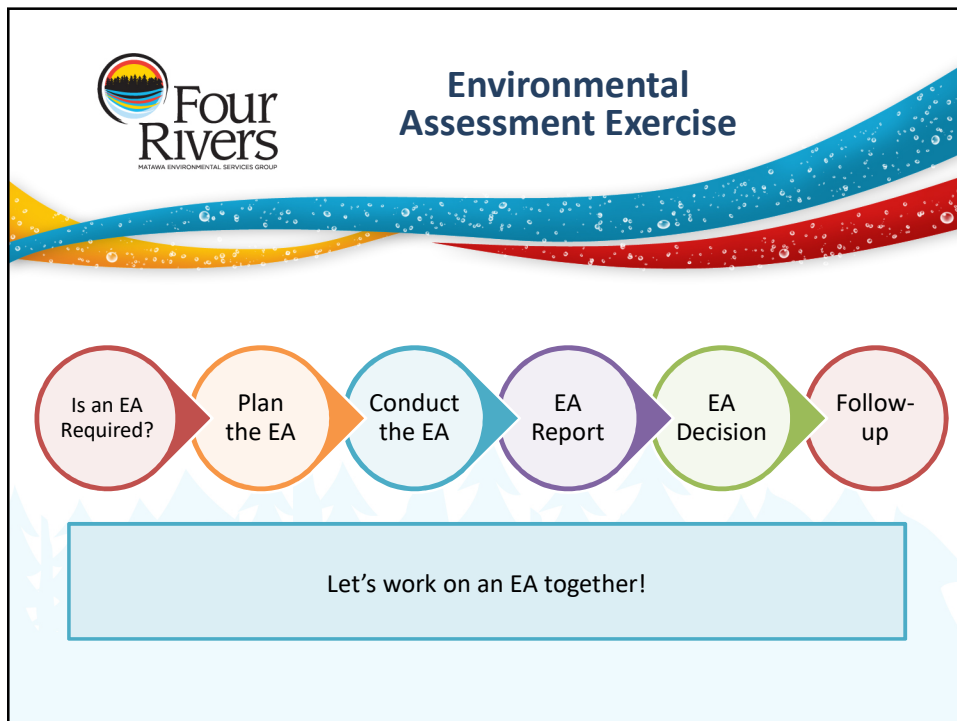


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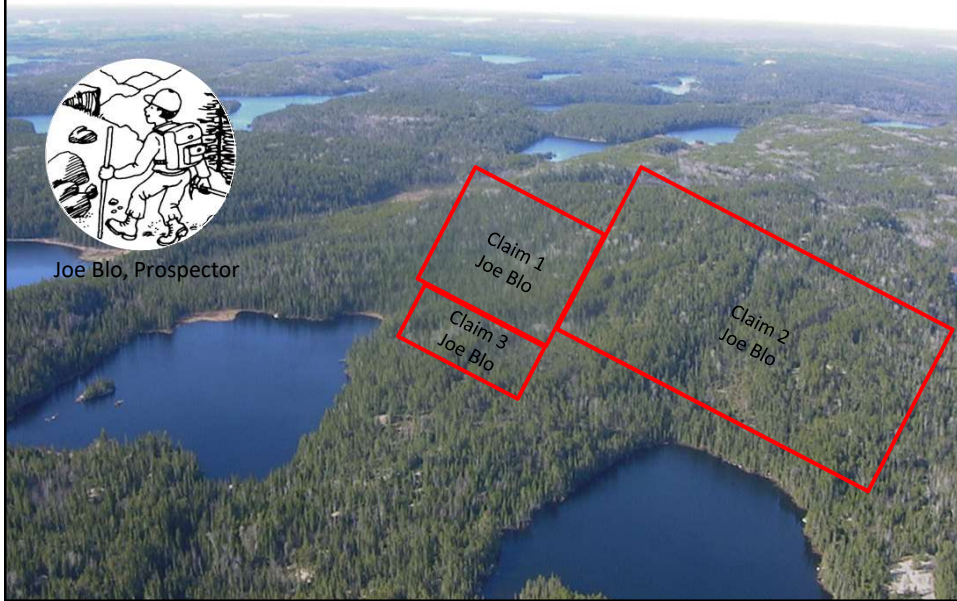
- Starts with Project Description being shared by the proponent (person/company wanting to do the project)
- Regulators determine if an EA is required based on:
 - Federal and provincial legislation triggers (consider type of development, size, predictable impacts, public comment, etc.)
- Determine type of EA



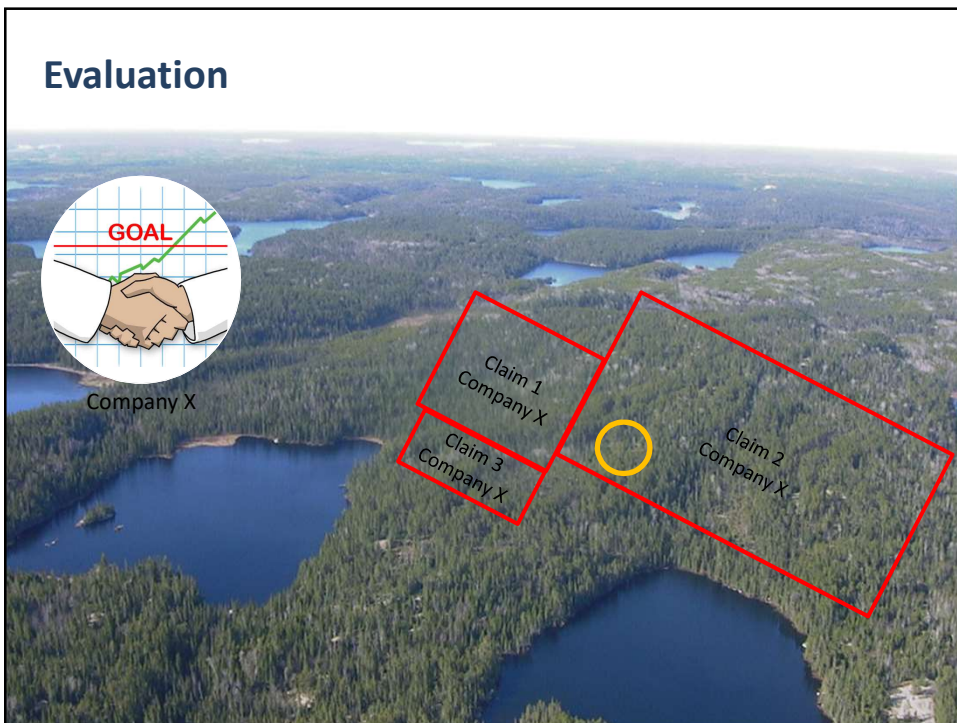




Exploration

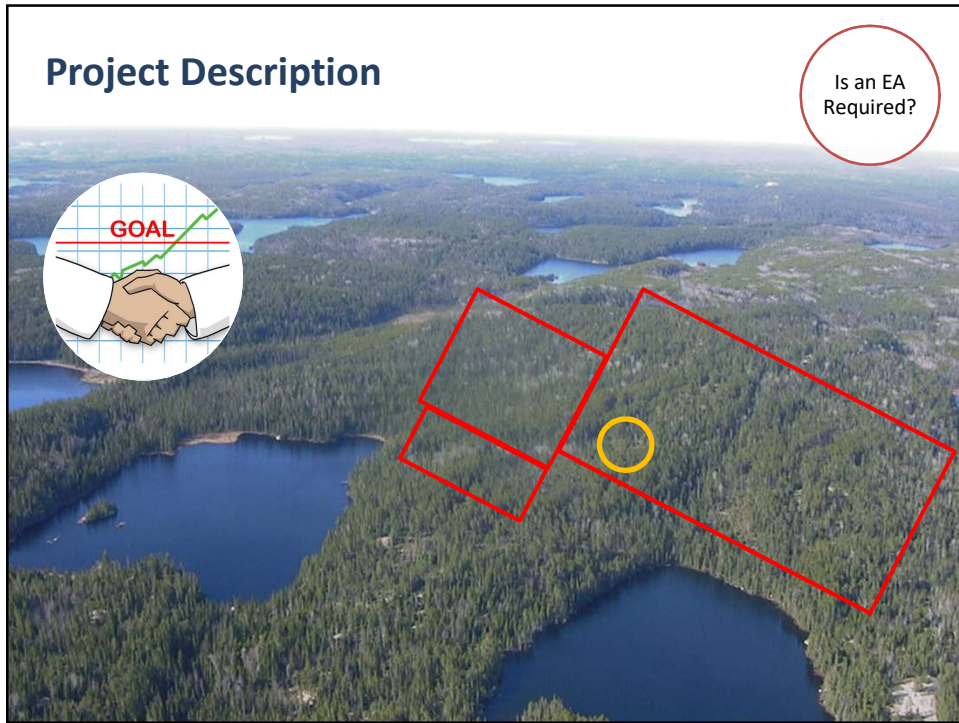


Evaluation



Project Description

Is an EA Required?



Project Description: Company X Gold Mine

Is an EA Required?

- Write their Project Description report
- **Project Name:** Company X Gold Mine
- **Purpose:** Produce gold for sale to world market
- **Location:** Northern Ontario
- **Main Project Parts:**
 - Mine
 - Processing Facility
 - Tailings Storage (mine waste)
 - Access Corridor
- Assess alternatives






Project Description: Company X Gold Mine

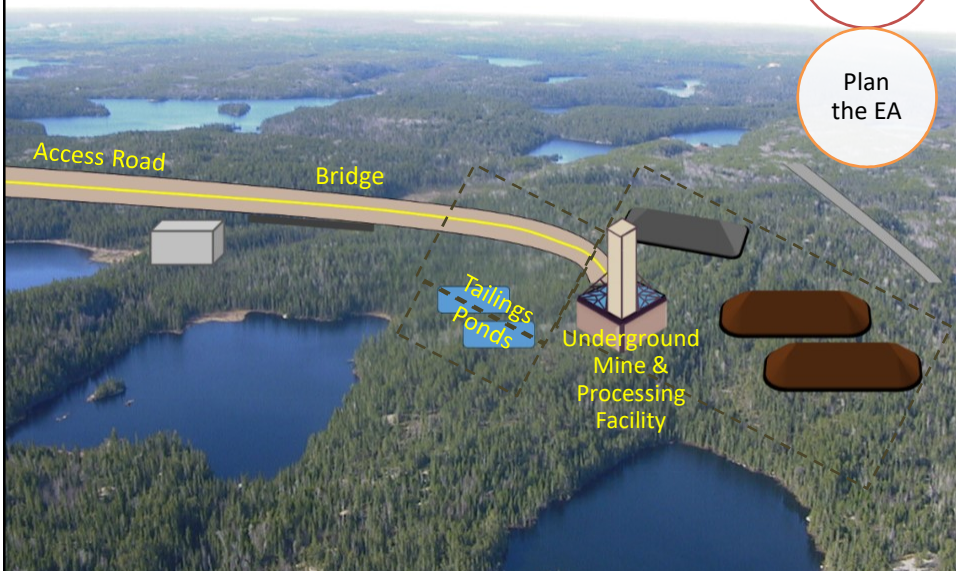
Is an EA
Required?

Main Project Parts	Project Planning Alternatives
Mine	Underground Mine
	Open Pit Mine
	Mine Location
Processing Facility	[Redacted]
Tailings Storage (mine waste)	[Redacted]
Site Access	[Redacted]



Project Description: Company X Gold Mine

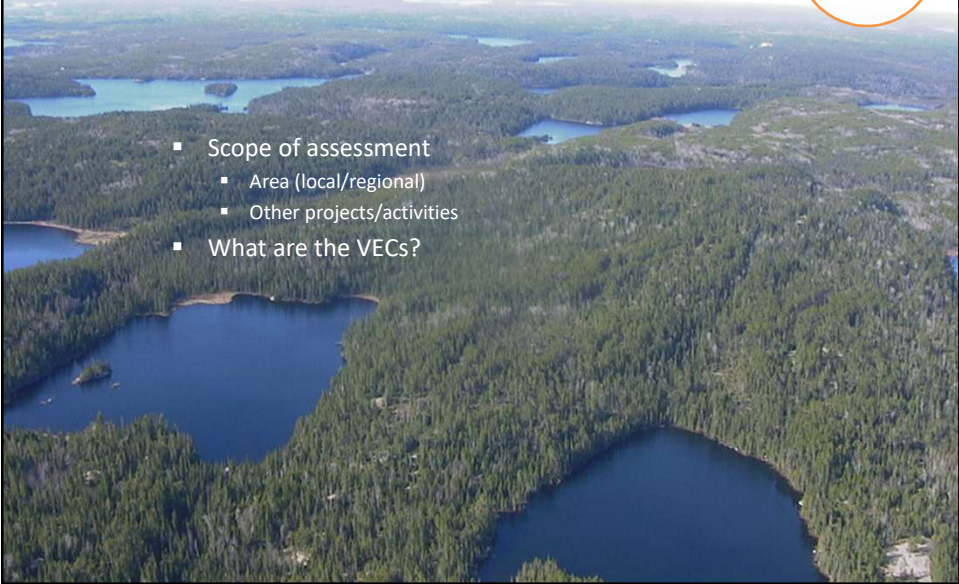
Is an EA
Required?



Plan
the EA

Environment Description: Important Parts of the Environment (Valued Ecosystem Components (VECs))

Plan
the EA



- Scope of assessment
 - Area (local/regional)
 - Other projects/activities
- What are the VECs?




EA Exercise Company X Gold Mine

Plan
the EA

Conduct
the EA

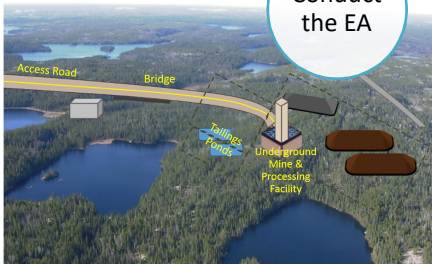
- Handouts:
 - Project Description
 - EA Worksheet
 - Complete first row together
- Groups assigned to one VEC from list
 - Work through worksheet
 - Present/discuss findings





EA Exercise

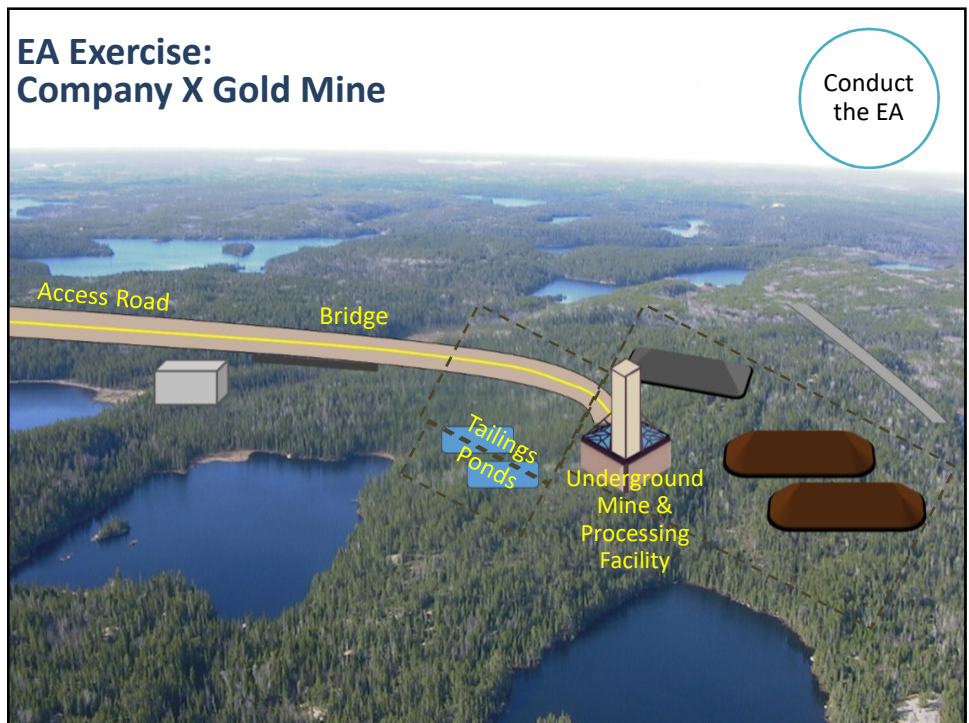
Project Description:
Company X Gold Mine



Conduct the EA

EA Worksheet					
Environment Description	Project Interactions			Determine Impact	
Important Part of the Environment (Valued Ecosystem Component (VEC))	What information would you collect to understand this Part of the Environment? (Baseline Data)	How will this Part of the Environment interact with each Part of the Project?			How impacted is this Part of the Environment? (high/medium/low) (positive/negative)
Moose		Underground Mine	Processing Facility	Tailings Storage (waste)	Site Access

Determining Impact *really* depends on **who** is doing the assessment (perspective)



 **EA Exercise**
Company X Gold Mine

Conduct the EA

- **Cumulative Effects Assessment**
- Projects never occur in isolation
 - All things are connected...
- Process to evaluate the impacts of a project **in combination** with the effects of **other activities/projects** in the area
- May include effects from the past, present and future
 - Legacy concerns
- Similar steps to assess impacts
- Can greatly influence 'Significance'



 **EA Exercise**
Company X Gold Mine

EA Decision

Follow-up

- **EA Report:** Discuss significance of impacts
- **Decision time!**
 - Decision Statement: Can the project proceed?
 - Do the positives outweigh the negatives?
 - Reasons for decision
 - Are there any terms/conditions of approval?
 - Mitigation measures
 - Follow-up programs
 - Monitoring
 - Enforce compliance





End of Day 1




Day 2

- Government EA Processes
 - Federal EA Process
 - Provincial EA Process
- Environmental Monitoring
 - Scenarios
 - Field Trip




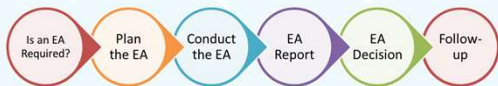
Government EA Processes






EAs & Government Regulations

- EAs are part of regulatory processes
 - **Canadian Environmental Assessment Act** (federal)
 - Canadian Environmental Assessment Agency (CEAA)
 - Environment & Climate Change Canada (ECCC)
 - **Ontario Environmental Assessment Act** (provincial)
 - Environmental Assessment and Approvals Branch
 - Ministry of the Environment & Climate Change (MOECC)
- Requirements are not exactly the same, but processes are similar



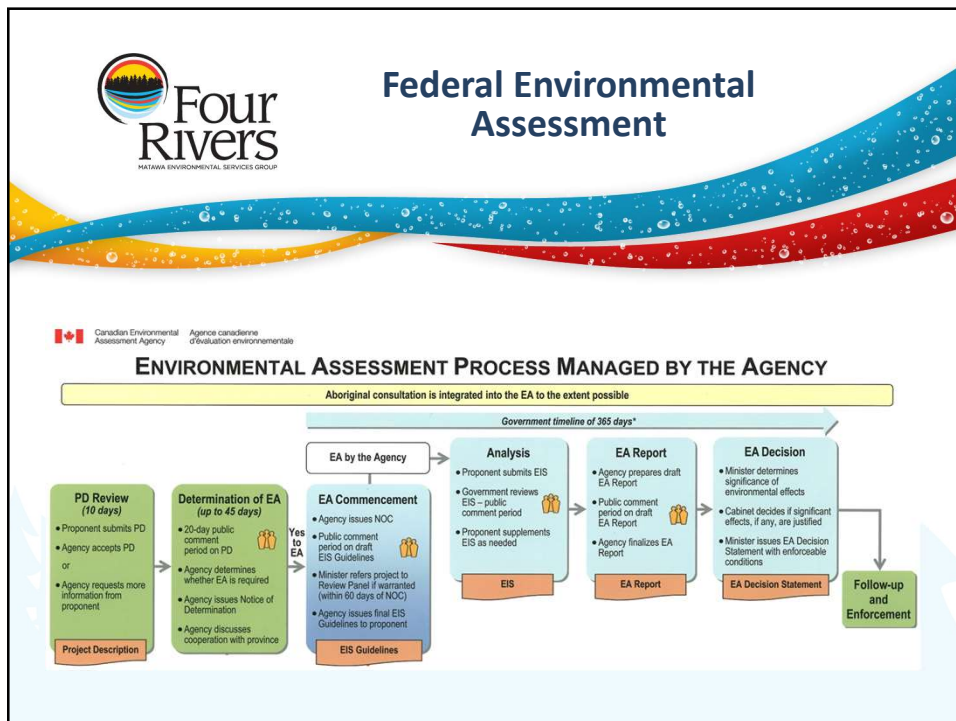
Federal Environmental Assessment

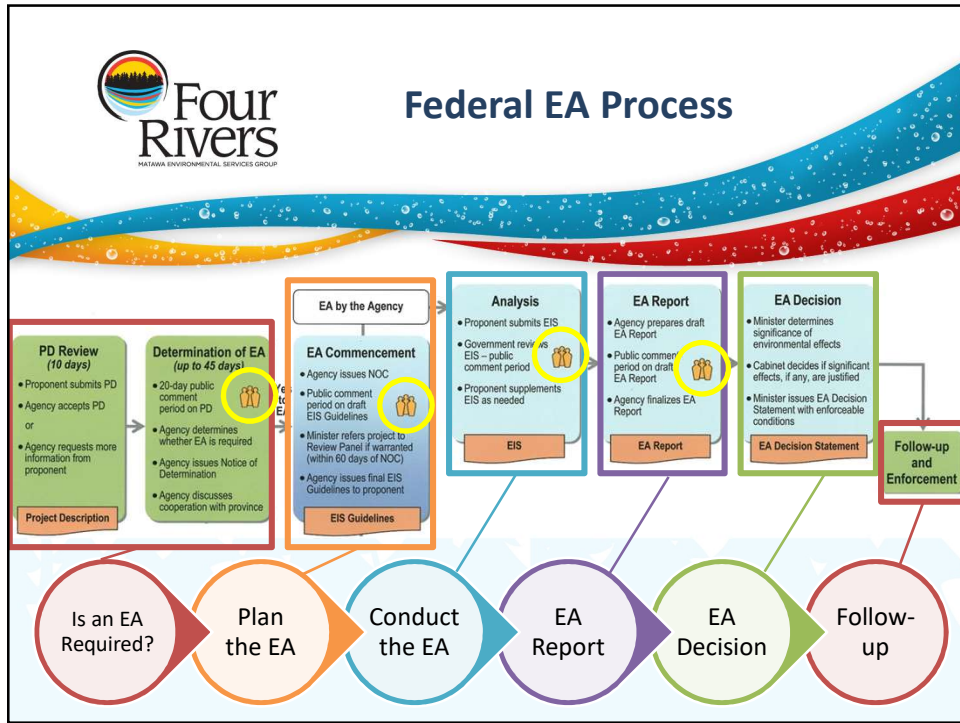




Federal Environmental Assessment

- Canadian Environmental Assessment Act (CEAA, 2012)
- Two types of EA:
 - **EA by a Responsible Authority** (former Comprehensive Study EA)
 - Minimum level required for Mine Developments
 - 1 year of government process time
 - **EA by a Review Panel**
 - Mainly for interprovincial & international projects
 - EA conducted by a panel of experts with public hearings, 2 years of government process time
 - Joint Review Panel: Coordinated Federal and Provincial EA process





Federal EA – Participant Funding Program (PFP)


- PFP funding criteria (one of the following):
 - Direct, local interest in the project, such as living or owning property in the project area;
 - Community knowledge or Aboriginal traditional knowledge (ATK) relevant to the EA;
 - Plan to provide expert information relevant to the anticipated environmental effects of the project; and/or
 - An interest in the potential impacts of the project on Treaty lands, settlement lands or traditional territories



Federal Assessment Reviews/Modernization


- Federal government is currently undergoing a review of their assessment legislation in Canada
 - Canadian Environmental Assessment Act (CEAA, 2012)
 - National Energy Board (NEB)
 - Fisheries Act (DFO)
 - Navigation Protection Act (TC)
- Last round of public consultations wrapped-up Aug. 28/17
 - Over-arching feedback: Improving timelines, transparency & clarity; work in partnership with Indigenous peoples, improve consultation & communications
 - Goal is to have improved legislation in-place before next federal election






Provincial Environmental Assessment

- Ontario Environmental Assessment Act (R.S.O. 1990)
- Two types of EAs:
 - **Class EA**
 - Smaller projects with predictable impacts
 - Administered by multiple Ministries, mainly for permitting
 - Examples: Class EA for Minor Transmission Facilities, Remedial Flood & Erosion Control Projects, Waterpower Projects, etc.
 - **Individual EA**
 - Voluntary Agreement with proponent
 - Guided by Terms of Reference (ToR)
 - Coordinated between Ministries
 - 1 year of government process time



Environmental Assessment in Ontario


- EA = environmental planning and consultation process for a proposed project before shovels in ground
- EA is one type of approval that is needed for major developments in Ontario – depending on both who is doing the project and what the project is
- EA is needed for many projects, such as:

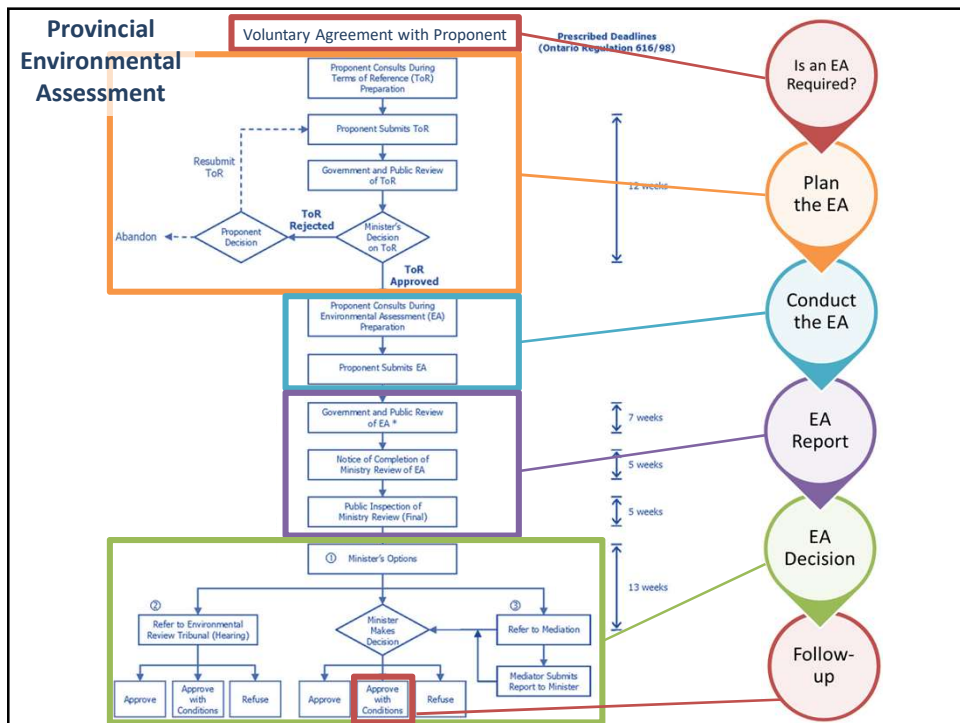
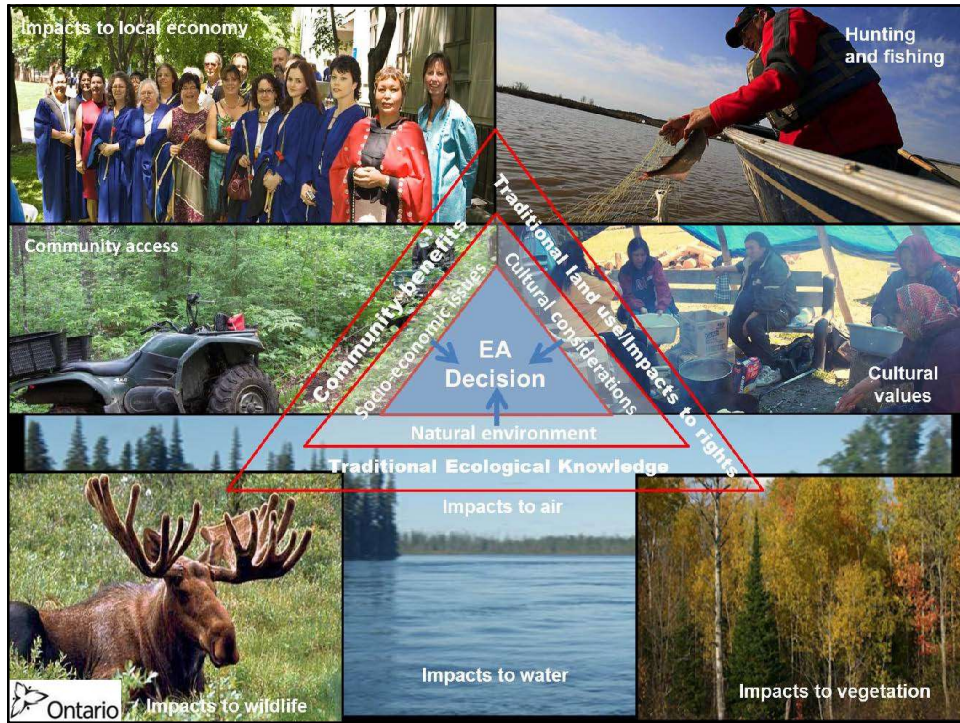





*Certain components of mines may require EA
- Other permits are also needed for a project to be developed. Some examples include permits for:
 - Community based land use planning
 - Endangered species
 - Air and water protection

2









Provincial/Federal EA Coordination


- Coordinated EA: federal & provincial EA processes are 'harmonized', resulting in one EA process
- Goal is to avoid unnecessary duplication, delays & uncertainty that could arise from separate EAs (one project – one review)
 - e.g. Joint Review Panel

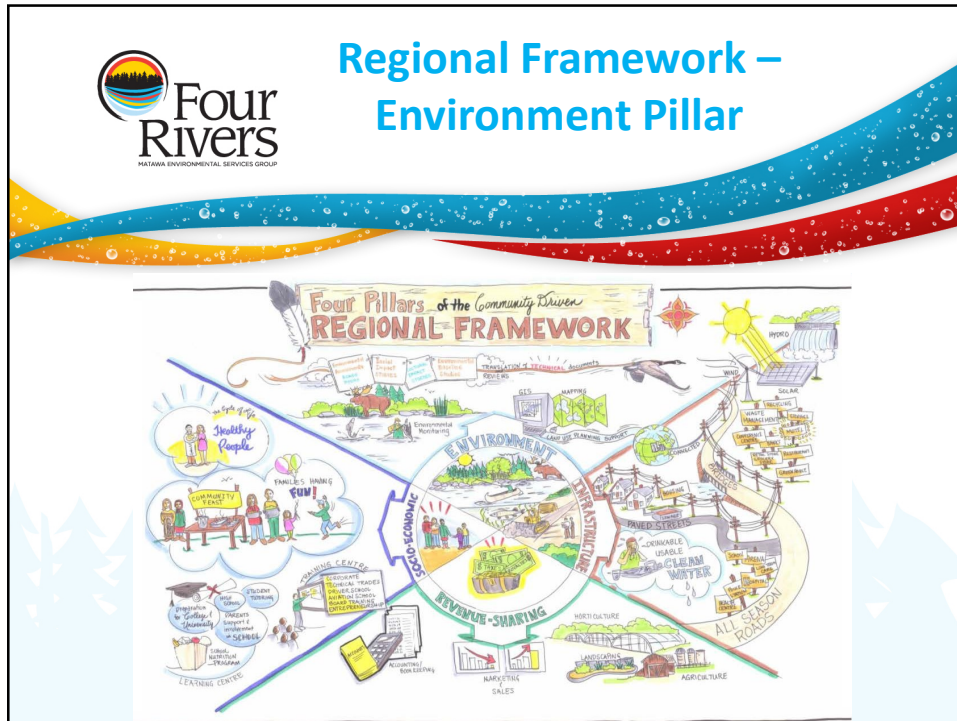



EA Experiences

Let's learn from each other

- What has been your experience with EAs for projects in your homelands?
- How has your community maneuvered government EA processes?
 - Success stories?
- Does your community have their own review/assessment process?
 - e.g. Mohawk Council of Akwesasne



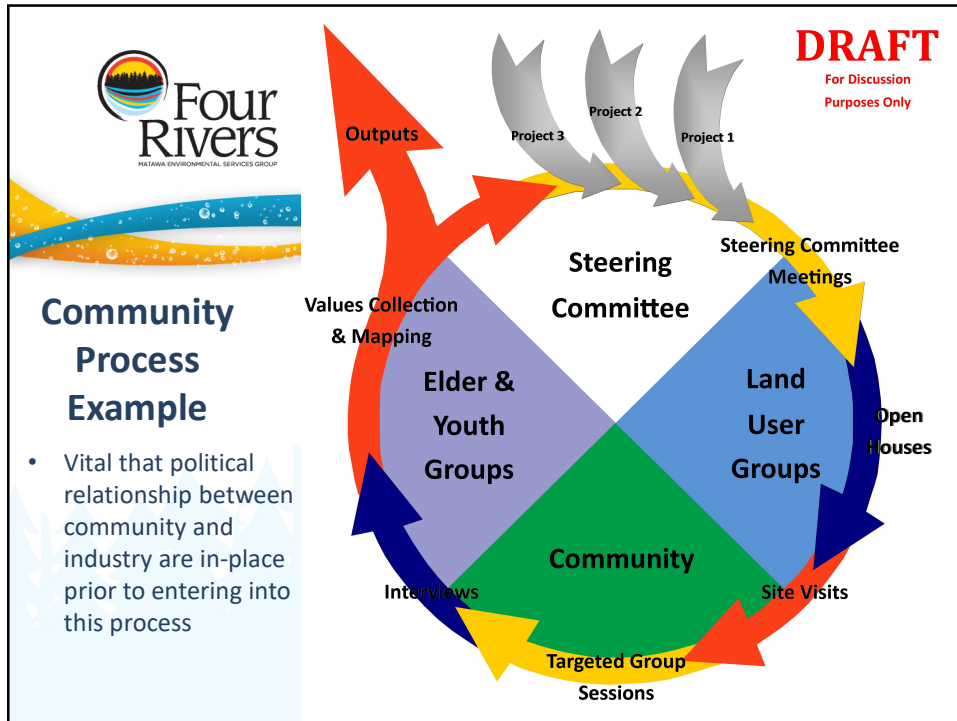



Enhanced Environmental Assessment Goals

- Improved community participation, involvement & understanding in the EA process
 - Better understanding of the proposed project and the potential environmental & community impacts
- First Nations part of decision-making about Ring of Fire projects (not just government)
 - Jurisdiction
 - Beyond Noront EA only

Better assessment = Better environmental protection








Why are we talking about Environmental Monitoring?


- ❖ The decision (outcome) of every EA includes monitoring requirements to:
 - ❖ Verify the predicted impacts
 - ❖ Detect unanticipated impacts
 - ❖ Evaluate overall impacts and the effectiveness of mitigation measures
- ❖ Results of monitoring used to further adjust project during/after operations

GOAL: Protect the environment




Environmental Monitoring Basics – What?

- **What is Environmental Monitoring?**
 - Environmental Monitoring is a **systematic approach** to observing and studying the environment
 - Monitoring typically involves collecting **samples and observations** of soil, water, air, plant and/or animal matter
 - Samples are often submitted to a laboratory for analysis (chemical composition of what you collected)
 - Observations can include recording sightings/sounds of animals, plant presence/absence, colour, taste, smell, etc.
- **What can be monitored?**





 **Environmental Monitoring Basics – Why?**


- **Why do Environmental Monitoring?**
 - Environmental monitoring allows someone to capture/quantify (attach some measurable amount) the current conditions in a location at a specific moment in time, for comparisons to conditions in the past, present and future
 - Number of reasons, including characterizing baseline conditions, compliance monitoring, checking for changes in the land/water
 - Ultimate goal: Protect the environment






 **Environmental Monitoring Basics – Who?**


- **Who does Environmental Monitoring?**
 - Companies/industries with businesses that interact with the environment
 - Part of compliance programs
 - Government (federal & provincial regulators)
 - Check compliance
 - First Nations (projects within homelands)
 - Community-Based Monitoring Programs (e.g. Guardians)
 - Consultants (hired to work for an organization or a community)





Environmental Monitoring– When?

- **When to do Environmental Monitoring?**
 - Baseline data collection – before a project begins, information in EA
 - Monitoring programs – from ‘cradle to grave’




MINING LIFE CYCLE

Dept. Four Rivers, Matawa Environmental Services Group
Revision # / Date: #8 / JJA
Approved by: SC

QA #: FRS FAQ 011
Issue Date: 20 October 2014
Document: Mining Life Cycle

Environmental Assessment




Exploration


Environmental Monitoring




Evaluation




Development



Production





Reclamation



Environmental Monitoring Basics – How?

- **How do you do Environmental Monitoring?**
 - Environmental monitoring is not simply collecting samples; it is a carefully thought out process to ensure that scientifically defensible data is produced that accurately represents the conditions at the moment in time the sample is taken
 - Needs to be rigorous, accurate and defensible
 - Attention to detail is key; the more recorded information, the better
 - Extensive field notes, photographs, GPS coordinates, maps, diagrams, etc.
 - How environmental monitoring is done depends on what you are sampling and why you are sampling



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Meegwetch!



Photo by Xavier Sagutch from the traditional area of Eabametoong First Nation

233 S. Court Street, Thunder Bay, ON P7B2X9
Tel: (807) 344-4575 | Fax: (807) 344-2977
Toll Free: 1-800-463-2249

www.matawa.on.ca | www.fourriversmatawa.ca