



ARCTIC AND WESTERN ALASKA AREA COMMITTEE

02 May 2023

Microsoft Teams Meeting ID: 223 719 225 878 **Passcode:** eNzfhB **Teleconference:** +1 (907)-202-7104 **ID:** 174 887 444#

AWA-AC@uscg.mil

PURPOSE

- Area Committee
 - Prepare the Area Contingency Plan (ACP)
 - Advise Federal and State OSCs
 - Conduct outreach activities
- Area Committee Meeting
 - ACP task development
 - Clearing house for planning and response related news
 - Maintain currency of stakeholder points of contact
 - Foster collaborative relationships
 - Keep those interested informed
 - Provide opportunity for input and comment
 - Invite new members
 - Enhance equal awareness of the ACP and preparedness for an incident

AREA COMMITTEE MEETING AGENDA

0900 -0920: Introductions/OSC
Opening Comments

Business Meeting

0930 - 0950: Subcommittee Status
Report

0950 - 1000: Steering Committee Report

1000 - 1010: *Break*

Pollution Response Topics

1010 - 1120: Risk Assessment
Methodology

1120 - 1200: Bering Strait Oil Spill

1200 - 1300: *Lunch*

Pollution Response Topics (cont.)

1300 - 1420: Geographic Response
Strategies Update

1420 - 1450: GRS Application Demo

1450 - 1500: *Break*

1500 - 1600: Public Comment/Closing
Remarks/Discuss Next Meeting

INTRODUCTIONS

- Please state your name, community or organization, and position, as applicable
 - Around the room
 - Online (names displayed)
 - On the phone, but not online
- On-Scene Coordinator Introductions and Opening Comments
 - Anna Carey (Central) – ADEC
 - Kimberley Maher (Northern) - ADEC
 - Bernie Nowicki (Western) - ADEC
 - CAPT Leanne Lusk – Coast Guard Sector Anchorage

AWA AC BUSINESS MEETING

Subcommittees Status Reports (5 min):

- Area Contingency Plan (ACP) Administration: CWO Bryan Klostermeyer/Victoria Colles
- Geographic Response Strategies (GRS): LTJG Madeline Romito/Mike Donnellan
- Exercise and Training: LT Josh Gross/ Elva House
- Regulator Advisory and Coordination: CDR Chris Svencer/Sarah Moore
- External Communications: LT Case Kuikhoven/Allison Natcher

Steering Committee Report (5 min)

- Charter Updates
- Administrative Items
- Look ahead



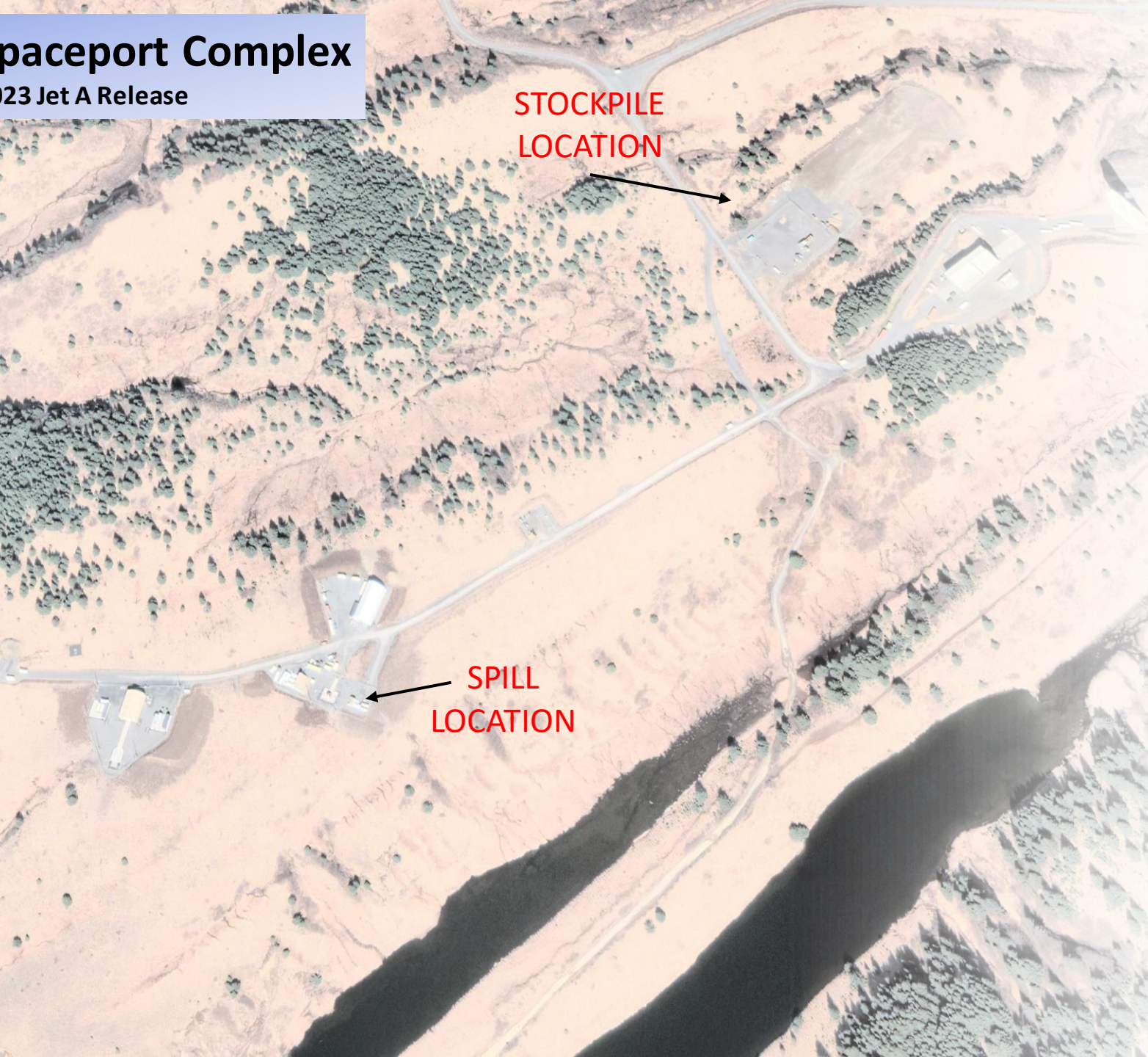
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Pollution Response Topics:

Response Highlights

Spaceport Complex

23 Jet A Release



- Incident took place in the afternoon of Jan 10, 2023.
- Spill occurred as a result of rocket launch failure.
- RP states 5200 gallons of Jet A aboard spacecraft at time of crash.
- A fire burned through the night, consuming some surrounding equipment near the launch pad.
- No direct impact to water.
- Contractors conducting cleanup collected samples from 22 test pits to characterize and quantify waste.
- No PFAS were used in fighting the fire.
- With excavation nearing completion, a stockpile of 2,200 cy has been lined and is prepared to be shipped from the island for disposal.



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IMO'S Oil Spill Risk Evaluation and
Assessment Of Response Preparedness
Model

MANUAL ON
Oil Spill Risk Evaluation
and Assessment of
Response Preparedness
2010 EDITION

IMO MANUAL

For purchase at:

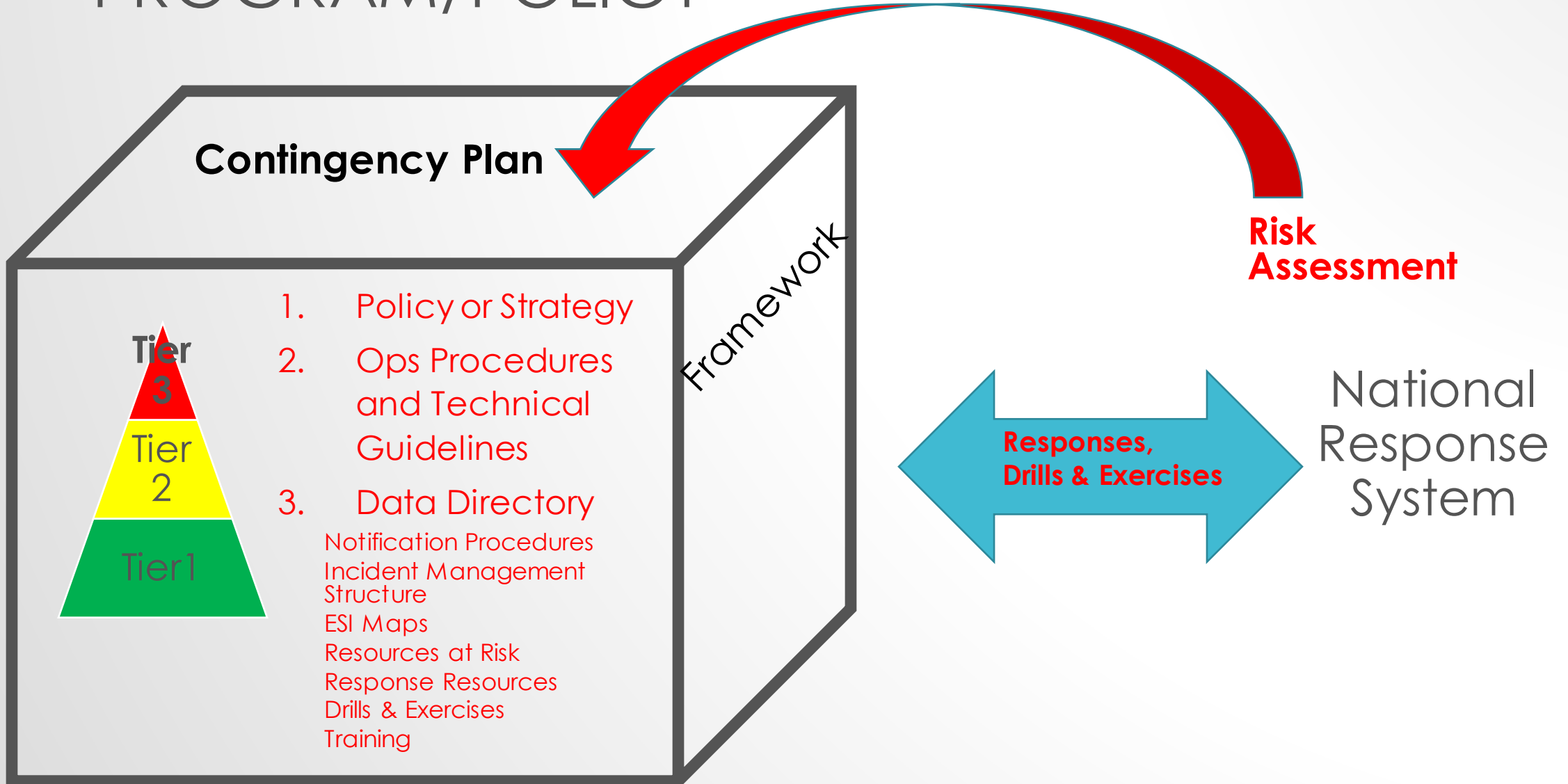
<https://www.imo.org/en/publications/Pages/CatalogueAndBookCodeLists.aspx>



OBJECTIVES

- Overview of IMO model for risk assessments
 - Methodology for determining likelihood and consequence.
 - Identification of known hazards.
 - Identification of resources at risk (environmental and human use)
 - Evaluation of scenarios using likelihood and consequence to determine total risk for each scenario.

PREPAREDNESS AND RESPONSE PROGRAM/POLICY



DEFINING TERMS



Source



Hazard



Event



Frequency



Probability



Likelihood

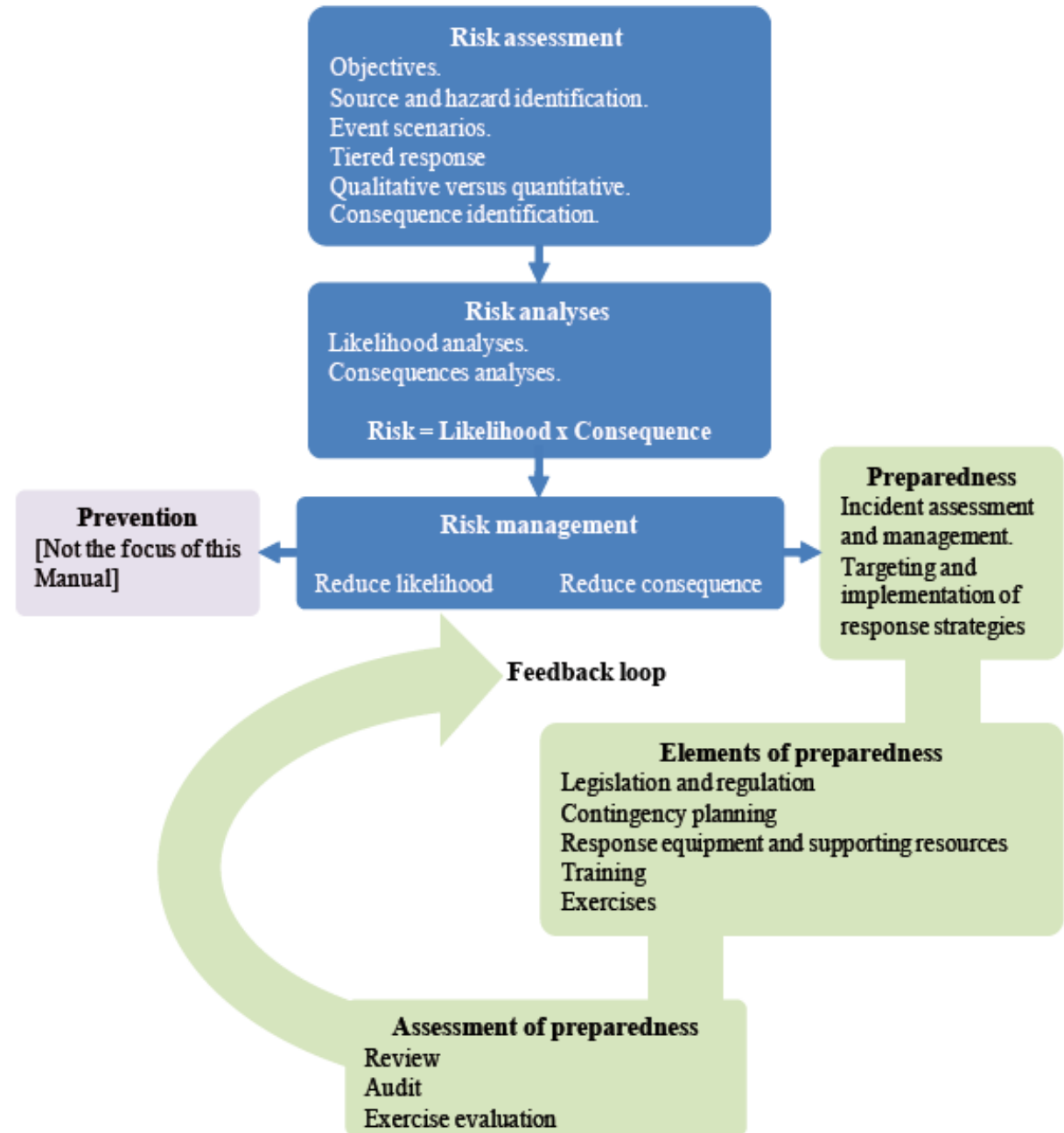


Consequence

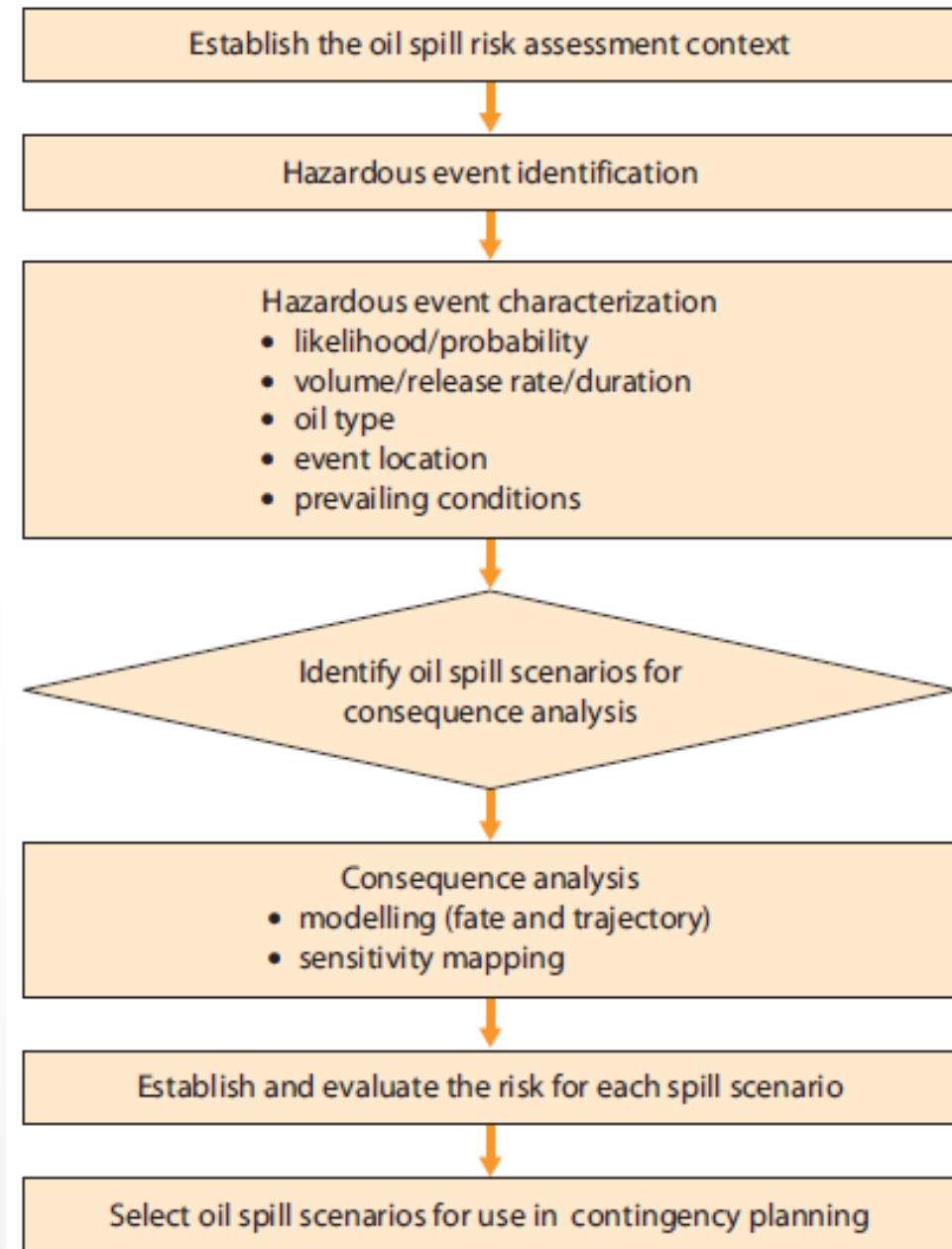


Risk

RISK ASSESSMENT PROCESS



RISK ASSESSMENT PROCESS



Scenario information to be determined

- Event
- Likelihood (frequency/probability)
- Oil type
- Volume
- Duration of release
- Behaviour of spilled oil
- Location of event
- Prevailing hydrodynamic and environmental conditions
- Trajectory and fate
- Geographic zone of potential spill impact
- Environmental and socio-economic sensitive resources at risk and potential consequences if impacted.

Analysis

- What can go wrong?
- What is the chance that it could happen?
- What type of oil and how much of it could be released?
- Where could it happen and what are the local conditions?
- Where could the spilled oil go and how might it behave in the environment?
- What impacts could it have and how severe could the consequences be?

DATA TO COLLECT

LIKELIHOOD

Descriptive term	Likelihood ranges	
	Chance of occurring in a given year	Frequency of occurrence
Certain	>99%	Annually (at least)
Likely	50 to 99%	1–2 years
Possible	5 to 50%	2–20 years
Unlikely	2 to 5%	20–50 years
Rare	1 to 2%	50–100 years
Extremely rare	<1%	>100 years

Table 1 – *Example of qualitative likelihoods*

CONSEQUENCE

Resource category		Consequence level description				
		Very low (0)	Low (1)	Moderate (5)	Unknown or high (20)	Extreme (50)
Environment	Shoreline character	Negligible sensitivity	Low sensitivity (e.g. exposed rocky headlands, eroding wavecut platforms)	Moderate sensitivity (e.g. fine grained sand beaches, exposed compacted tidal flats, mudstone, coarse grained beaches)	High sensitivity (e.g. mixed sand and gravel beaches, gravel beaches, shelter rocky coasts, scoria)	Extremely high sensitivity (e.g. sheltered tidal flats, salt marshes, mangroves)
	Plants and animals	None or very few vulnerable species	Minor short-term impacts	Vulnerable species are generally of local value only	Limited but medium term effects	Vulnerable species are of local and regional importance
	Protected sites	No protected sites present	Scenic or wildlife management reserve	Scenic/nature reserve, wildlife refuge	Marine park, marine reserve, wildlife/marine mammal sanctuary	International protected sites (e.g. RAMSAR)
Human	Economic	No resources or activities of economic significance	Low economic significance for the region and nation	Some economic significance of the region, none nationally	High regional economic significance, some national significance	High national economic significance
	Cultural	No cultural importance	Some importance for local community, low regional significance	Important to local and regional community but low national significance	Important to local and regional community, some national significance	High national cultural significance
	Social, amenity and recreation	No community significance	Low community significance for the region and nation	Some community significance for the region, none nationally	High regional community significance, some national significance	High national community significance

Table 4 – Example of categories to determine qualitative consequence level

*Source: New Zealand Marine Oil Spill Risk Assessment 2004**

Table 2. Environmental resource categories and the consequence level intervals used for the Alaska oil spill risk assessment.

Environmental Resource Category	Consequence Score Description				
	Very Low (0)	Low (1-<6)	Moderate (6-<20)	High (20-50)	Very High (>50)
Shorelines					
Protected sites					
Plants and animals					
Cetaceans					
Pinnipeds and fur-bearing marine mammals					
Marine and coastal reptiles and amphibians					
Marine and coastal birds					
Fish and invertebrates					
Marine plants and sensitive benthic habitats					

DETAILED ENVIRONMENTAL CONSEQUENCE

DETAILED SHORELINE TYPE

$$\text{Shoreline Consequence Score} = \sum_{\text{ESI type}} \left(\frac{\text{Oiled Length ESI Type} * \text{Shoreline Sensitivity Score}}{\text{Total Length of Oiled Shoreline}} \right) \times 10$$

Table 3. Shoreline risk assessment factors and sensitivity score.

ESI Shoreline Rank	Oil Behavior and Persistence	Acute Toxicity Risk	Years to Recovery	Sensitivity Score
1. Exposed Rocky Shores	Oil is mostly kept offshore by wave reflection; Impermeable so oil remains on the rock surface; Persistent oil is usually as a band at the high-tide or splash zones.	Low due to short-term exposure.	<1 to 2 years	Low (1)
2. Exposed Wave-cut Platforms	Similar to above, except that there can be some sediments on the platform and at the high-tide zone where oil can persist for weeks or months.	Low due to short-term exposure, but higher than rocky shores.	Generally <1 to 2 years except where heavy oiling persists in crevices and sediments	Low (1)
3A. Fine- to Medium-grained Sand Beaches	Oil penetration and burial risks are lowest of all beaches.	Moderate, due to moderate biological productivity.	<5 years	Moderate (3)

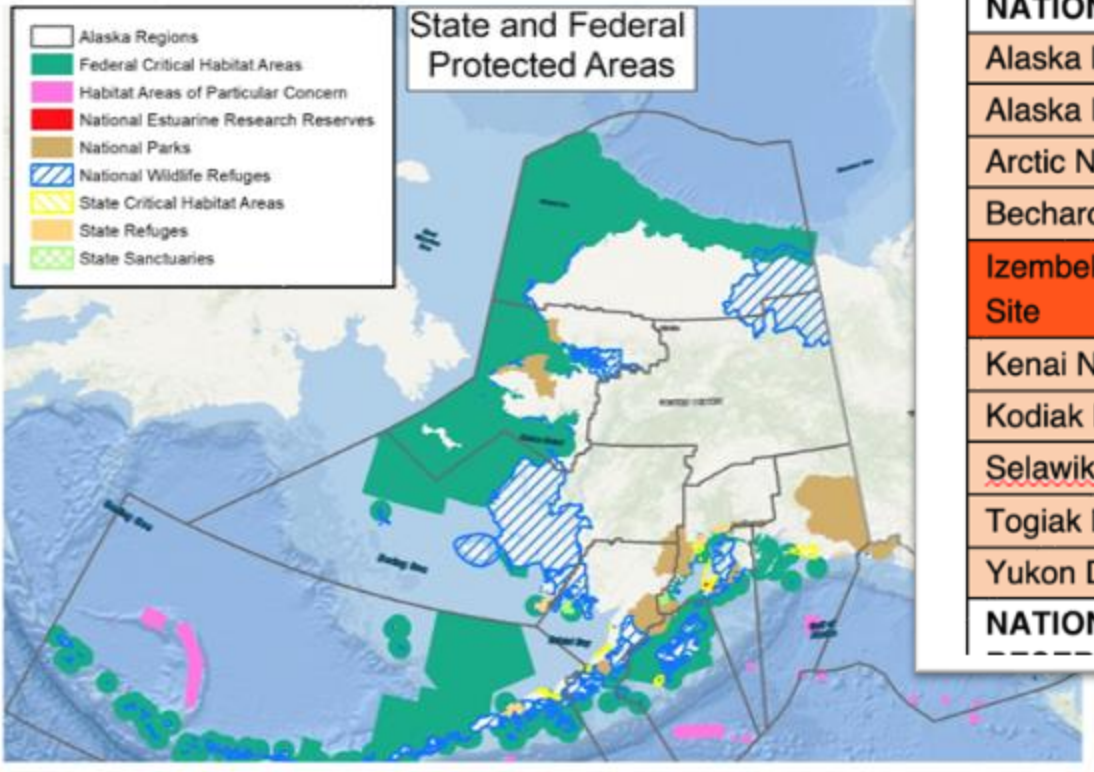
DETAILED PROTECTED SITES

$$\text{Protected Site Consequence Score} = \frac{\sum (\text{Length of Protected Site} * \text{Protected Site Sensitivity Score})}{\text{Total Length of Oiled Shoreline}} \times 5$$

Table 5. State and federal protected areas included in the risk assessment. Colors denote sensitivity score. Red = very high, score of 5; pink = high, score of 4.

Federal Protected Areas
NATIONAL WILDLIFE REFUGES
Alaska Maritime National Wildlife Refuge
Alaska Peninsula National Wildlife Refuge
Arctic National Wildlife Refuge
Becharof National Wildlife Refuge
Izembek National Wildlife Refuge + Ramsar Site
Kenai National Wildlife Refuge
Kodiak National Wildlife Refuge
Selawik National Wildlife Refuge
Togiak National Wildlife Refuge
Yukon Delta National Wildlife Refuge
NATIONAL ESTUARINE RESEARCH

State Protected Areas
STATE REFUGES
Anchorage Coastal Wildlife Refuge
Cape Newenham State Game Refuge
Goose Bay State Game Refuge
Izembek State Game Refuge
McNeil River State Game Refuge
Mendenhall Wetlands State Game Refuge
Palmer Hay Flats State Game Refuge
Susitna Flats State Game Refuge
Trading Bay State Game Refuge
Yakataga State Game Refuge
STATE CRITICAL HABITAT AREAS



DETAILED SPECIES

Cetacean Consequence Score =

$$\sum (\% \text{ of BIA swept by oil on the water surface above the threshold} * \text{Species sensitivity score})$$

Table 6. Cetacean species risk score definitions for the five sensitivity factors.

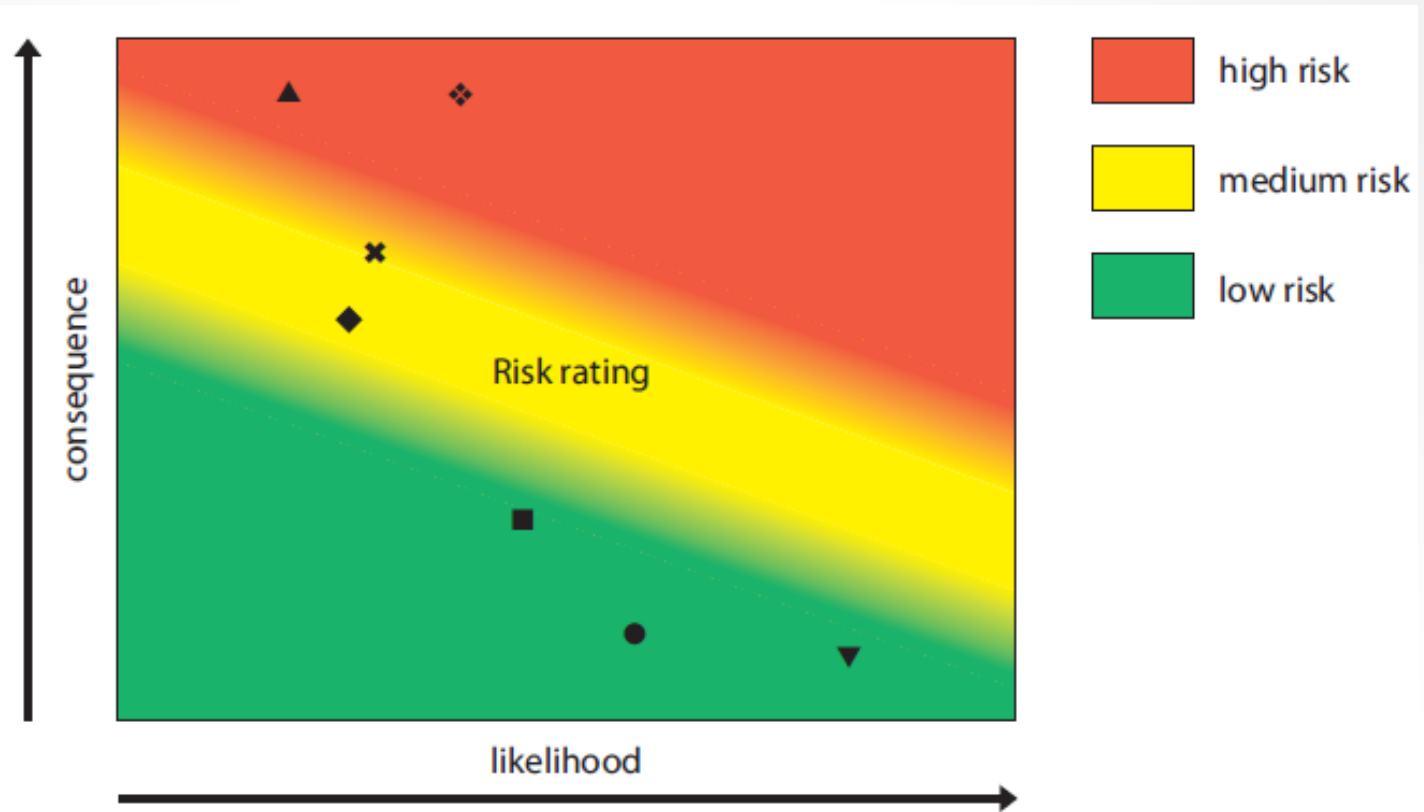
Score	Habitat Use	Feeding Method	Site Fidelity	Aggregation	ESA Status
5	Cetacean BIA mostly in coastal waters*		Small home range with high site fidelity	Regularly forms groups >10 animals	Endangered
4	Cetacean BIA in coastal and offshore waters**		Regular concentrated feeding area	Forms feeding groups >10 animals	Threatened
3	Distribution maps show presence in coastal waters	Baleen	Regular use of ice pack/edges that move	Occasionally forms small groups	
2	Cetacean BIA in offshore waters only		Large feeding areas	Mostly solitary or in temporary small groups	
1	General distribution is in offshore waters	Toothed	Wide ranging, with no site fidelity noted	Mostly solitary or in pairs	Not listed

* Coastal waters defined as within 16 km of the shoreline or within semi-enclosed bays

** Offshore waters defined as being >16 km from the shoreline

RISK REGISTER

SCENARIO										
#	Source	Event	Oil Type	Spill Volume	Impact	Likelihood	Consequence	Risk	Response Strategies	Tiered Resources
3	Tankers	Running aground north of Bonaire	Crude (ITOPF Groups 1-4)	12,000 m ³	Significant environmental damage, Washington Slagbaai National Park, Goto Lac and Bonaire Marine Park potentially effected	1	6	High potential risk	Containment and recovery of oil, shoreline clean-up operations, aerial dispersant may be considered. Aerial surveillance and monitoring	Tier 1: All available resources Tier 2: All available resources Tier 3: OSRL
4	Cross boundary spills	Oil spills drifting from Venezuela to Bonaire	Various	Unable to estimate	Significant environmental damage to the vulnerable east coast of Bonaire including the Lac Bay RAMSAR site Government and national media interest guaranteed	2	5	Considerable risk	Containment and recovery of oil, shoreline clean-up operations, aerial dispersant application if required. Aerial surveillance and monitoring	Tier 1: All available resources Tier 2: All available resources Tier 3: OSRL
5	Tankers	Substandard vessels (maintenance, crew, etc)	Various	Unable to estimate	Environmental damage to the sensitive habitats of Bonaire	2	5	Considerable risk	Containment and recovery of oil, shoreline clean-up operations and dispersant application may be considered. Continuous monitoring and evaluation	Tier 1: All available resources Tier 2: All available resources Tier 3: OSRL
6	Yachts	Yacht rental (lack of competence) and vessel collision	Marine diesel (ITOPF Group 1)	0.1 - 0.5 m ³	Environmental consequences are limited but there is a high risk of fatalities due to the perceived lack of competence	2	5	Considerable risk	Continuous monitoring and evaluation of the situation is required until all the oil has dispersed and to ensure no further pollution	Continuous monitoring and evaluation
7	Tankers	Large number of drifting tankers drifting west of Bonaire due to absence of BOPEC anchorages (water depth)	Crude (ITOPF Groups 1-4)	12,000 m ³	Significant environmental damage, Washington Slagbaai National Park, Goto Lac and Bonaire Marine Park potentially effected	1	6	High potential risk	Containment and recovery of oil, shoreline clean-up operations, aerial dispersant may be considered. Aerial surveillance and monitoring	Tier 1: All available resources Tier 2: All available resources Tier 3: OSRL



Assess the risks: likelihood x consequence = risk rating

- = Loss of containment during fuel transfer quayside; 10 tonnes; diesel fuel
- ▼ = Small maintenance leak; 10 litres; hydraulic fluid
- ✕ = Pipeline rupture near shore; 1,000 tonnes; light crude
- = Offloading at sea; 400 tonnes; diesel fuel
- ◆ = Subsea leak; 1,500 tonnes; crude
- ▲ = Subsea well blowout; 1,500 tonnes/day for 30 days; crude oil
- ⋄ = Vessel grounding—loaded ultra-large crude carrier



QUESTIONS?

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