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MARITIME NEW ZEALAND

Practical applications of science and technology in Maritime Incident preparedness and response – 2015/17

Scott Read

September 2017

New Zealand Government

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Overview

- Maritime Incident Response in NZ
- Use of AIS & Tracplus / Spidertracks
- Dispersant testing
- WebEoc - the MNZ IMS/COP

Who is Maritime New Zealand?

- Maritime New Zealand is a Crown Entity responsible for maritime regulation and incident response.
  - Organisation has a mainly regulatory role
  - Fulfils preparedness and response function for Maritime Incidents including oil spills, SAR and Maritime Security.
  - Marine Pollution Response Service (MPRS) responsible for oil spill preparedness
    - Conducts the functions typical of an OSRO
    - Funded through a levy on oil production, transportation and transfer

MNZ Mission

"A professional, evidence-based, intelligence-led, risk-focused regulatory, compliance and response agency"

Focus on intelligence-led is promoting change in the way we operate

Increased focus on research, science and technology in readiness and response activities

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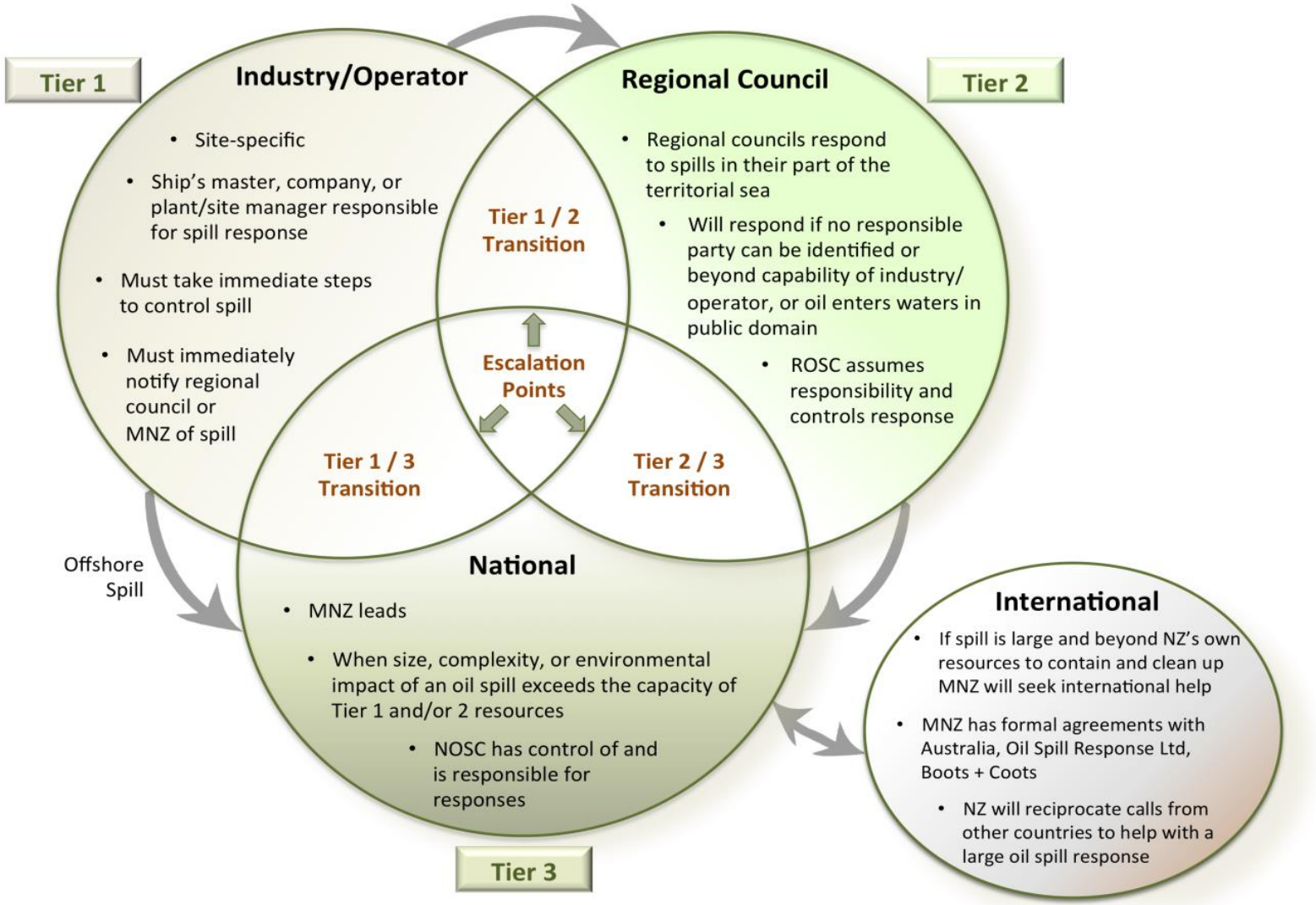
Tiered Response in New Zealand



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AIS and Real time Aircraft tracking

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AIS and Aircraft tracking

All response vessels have AIS tranceivers

- In field situational awareness
- Live tracking (and historical data) for safety, communications, tasking, cost recovery etc.

Most contracted commercial vessels also have AIS

Most contracted aircraft have Tracplus / Spidertracks

- Situational awareness during mobilisation and response
- Dispersant proof of placement
- Flight following
- Mobile units for aircraft of opportunity

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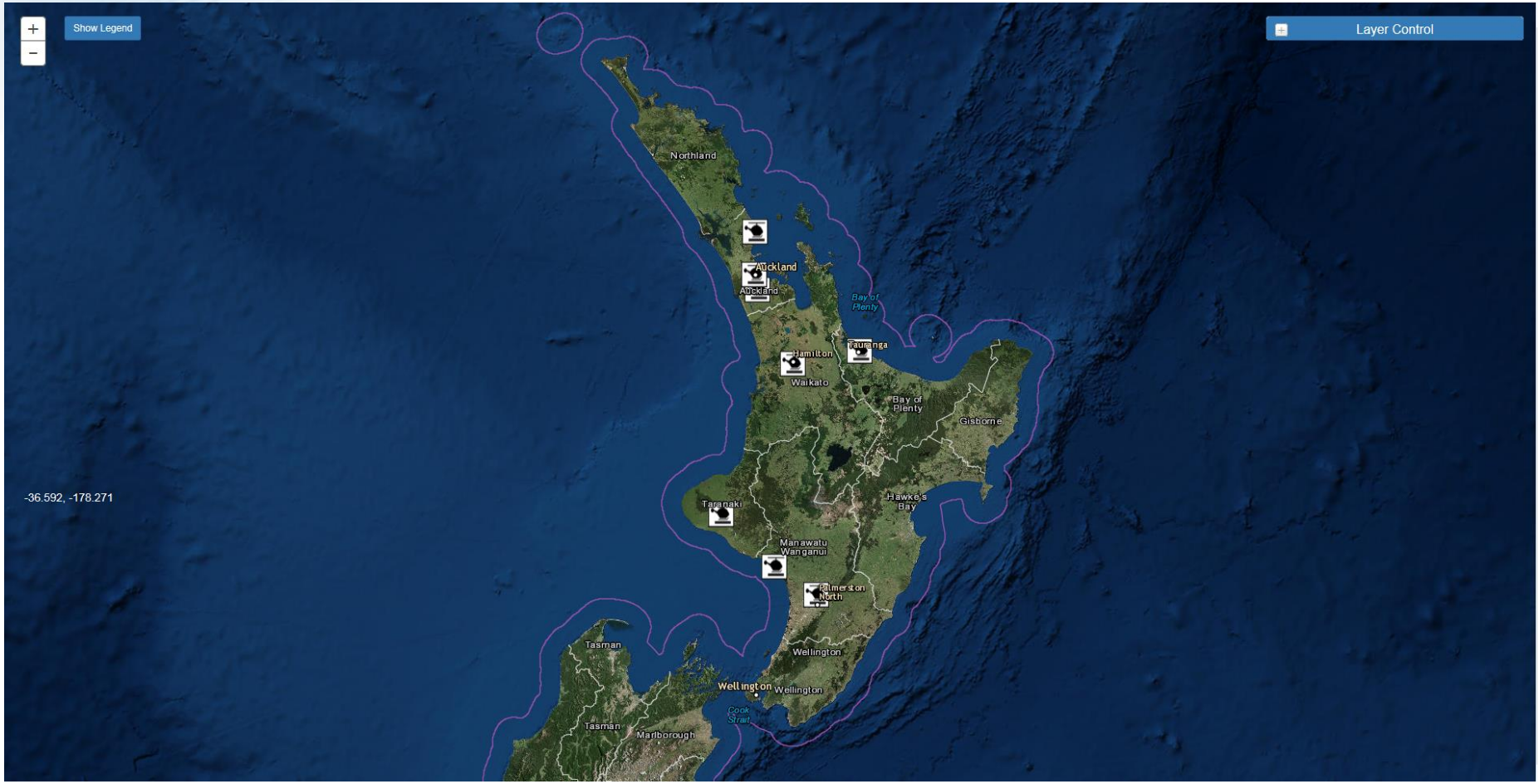

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Dispersant testing

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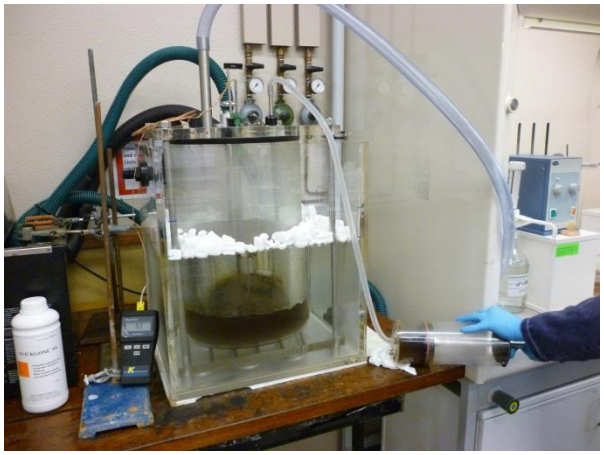
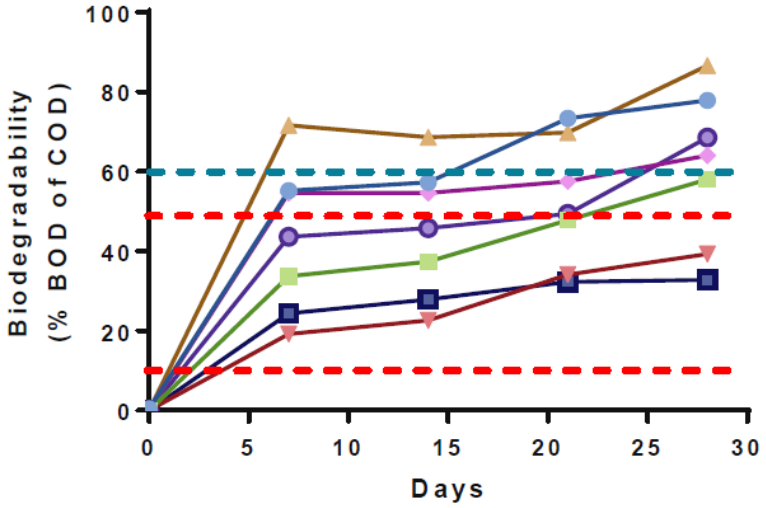
Marine Protection Rule Part 132

- Revision of MPR rule governing dispersant and demulsifier approvals.
- Scope increased to all Oil Spill Control Agents (OSCAs)
- Includes requirements for efficacy, ecotoxicity and biodegradability



Increasing use of science and technology for approval, condition assessment and incident response.

Part 132 requires OSCA to be be ‘Readily Biodegradable’ according to GESAMP Hazard profile



- Sampling and testing of products considered for purchase

Oil Type	Australian standard Oil			
Test Rig / Method	MNS			
Dispersant Ratio	20:1			
Sample	10°C 10min	10°C 15min	20°C 10min	20°C 15 min
Units	% Efficiency	% Efficiency	% Efficiency	% Efficiency
	83	46	86	61
	54	36	95	57
	61	25	80	32
	29	20	78	51

- Periodic sampling and testing for efficacy of stockpiled products

Dispersant Sample ID	Dispersant type	Container / Batch Code	Sampled By	Sample Date	Method	Units	Result	Pass/Fail
		8112007	SR	19-02-15	WSL LR448	% Efficiency	84	Pass
		8101037	SR	19-02-15	WSL LR448	% Efficiency	83	Pass
		20 ltr – 001	SR	19-02-15	WSL LR448	% Efficiency	79	Pass
		200 ltr – 001	SR	19-02-15	WSL LR448	% Efficiency	73	Pass
		20 ltr – 001	SR	19-02-15	WSL LR448	% Efficiency	82	Pass
		200 ltr – 002	SR	19-02-15	WSL LR448	% Efficiency	70	Pass
		200 ltr – 001	SR	19-02-15	WSL LR448	% Efficiency	36	Pass
		20 ltr – 001	SR	19-02-15	WSL LR448	% Efficiency	38	Pass
		IBC – 002	SR	19-02-15	WSL LR448	% Efficiency	40	Pass
		00/11	SR	19-02-15	WSL LR448	% Efficiency	69	Pass
		00/10	SR	19-02-15	WSL LR448	% Efficiency	73	Pass
		200 ltr – 001	SR	19-02-15	WSL LR448	% Efficiency	66	Pass
		20 ltr – 002	SR	19-02-15	WSL LR448	% Efficiency	22	Pass
		54J07 – 200 ltr	SR	19-02-15	WSL LR448	% Efficiency	83	Pass
		54J07 – 20 ltr	SR	19-02-15	WSL LR448	% Efficiency	80	Pass
		500681	SR	19-02-15	WSL LR448	% Efficiency	89	Pass

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Use of UAV

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UAV vs conventional aircraft

MPRS has undertaken a number of trials with UAVs

What is the capability within New Zealand?

What role could UAV play in preparedness and response?

What regulations govern use? – CAA Part 101 and 102


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WebEOC

Maritime NZ's Information Management System

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WebEOC

- Web-based information management system
- Sharing of information between users in real time
- Number of users is unlimited
- Customised permissions control what access users have to the system
- Can also be accessed from Smartphones and Ipads

Everyday use:

- Contingency plans and supporting documents
- Spill notifications
- Trained responder details
- Asset management
- Equipment maintenance, procedures etc
- Contractor database
- Document library

<u>Ensures user familiarity</u>

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Maintenance records

Maintenance Conducted	Maintenance Completed as per checklist	System Name	Type	Notes	Current Status	Maintenance Type
Yes / No		Blower 13	Air Blower			Regional Maintenance (Quarterly)
		Reason Maintenance not conducted:	Item could not be found			
Yes / No	Yes / No	Delta Head Skimmer System 4	Delta Head Skimmer			Regional Maintenance (Quarterly)
Yes / No	Yes / No	Dispersant Spray Set 15	Dispersant Spray Set			Regional Maintenance (Quarterly)
		Notes:	Battery flat			
Yes / No	Yes / No	Komara System 3	Komara 12k Skimmer			Regional Maintenance

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Operational information

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Regions | Stockpiles | Systems | Assets | Components | Decommissioned Items | File

System Details

Stockpile:	Nelson
System Type:	Komara 12k Skimmer
System:	Komara System 12
Notes:	
Photo:	
In Use Hire Rate:	$1000.00
Standby Hire Rate:	$
Overall System Maintenance Status:	Maintenance Due
System Status:	Operational

Assets (3) | Activities | Components (2) | Attachments (2) | Response Deployme

Date	Uploaded by	Type		
22/09/2017 12:29:00	mark.cavanagh	Maintenance Checklist	**Vikoma Komara 12K Skimmer - Maintenance Checklist**	Komara 12K-checklist.doc
22/09/2017 10:28:00	mark.cavanagh	SOP	**Vikoma Komara 12K Skimmer**	Vikoma Komara 12K SOP July 17.pdf

Vikoma Komara 12K SOP July 17 (2).pdf - Adobe Reader

File Edit View Window Help

Open | 1 / 10 | 65.7% | Tools | Fill & Sign | Comment

KOMARA 12K DISC SKIMMER
Standard Operational Procedures

The purpose of the following SOP is to provide a compulsory instruction on the safe operation of equipment. It is designed for use by trained Field Operators/ Managers, at Regional and National levels. It assumes that the user will already have current and validated training on the equipment, but may need reference notes to refresh their knowledge for safe deployment and operation of individual items of oil spill response equipment.

The Komara 12K disc skimmer is an oleophilic disc skimmer designed to recover floating oil from the water. The skimmer is robust, stable and yet highly portable due to its design and build materials. The use of oleophilic discs to collect the oil results in the Komara 12K skimmer having a high oil/low water recovery ratio.

Response functions:

- Share incident details
- Assign and track responders
- Assign and track response equipment
- Record and monitor costs
- Share contingency plans and upload response plans
- Mapping
  - Includes full NZ Marine Charts and Topographic maps
  - Import and overlay of KMZ files from other applications


Show Legend
Motunui
Brixton
Tikorangi
New Plymouth
Lepperton
Oakura
New Plymouth District
Inglewood
Tarata
Kaimiro
Punho
Warea
New Plymouth District
Tariki
Midhirst
Kahui
Mt Egmont
Rahotu
South Taranaki District
Stratford District
Cardiff
Oaonui
FPSO Umuroa
Te Kiri
Kaponga
Eltham
Opunake
Kapuni
Pihama
Oeo
Manaia
Hawera
Maui A
Maui B

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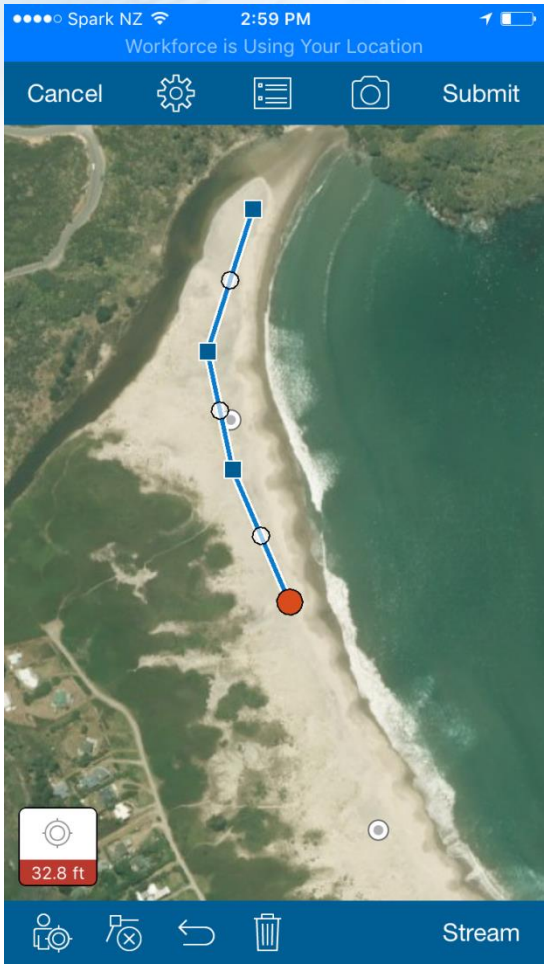
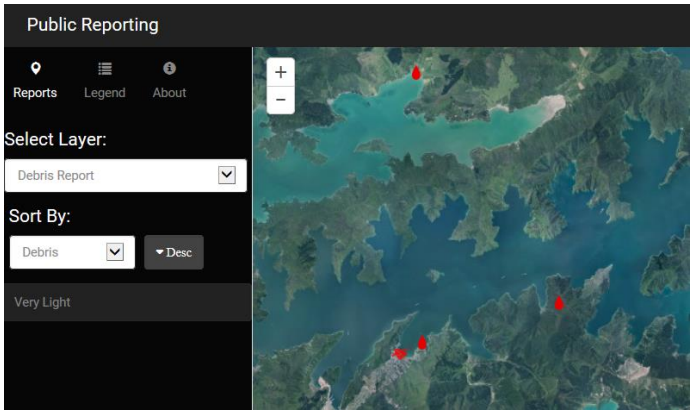
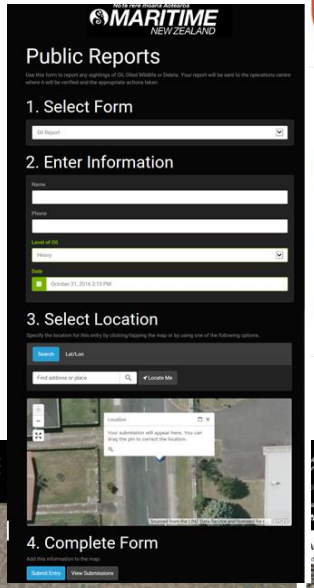
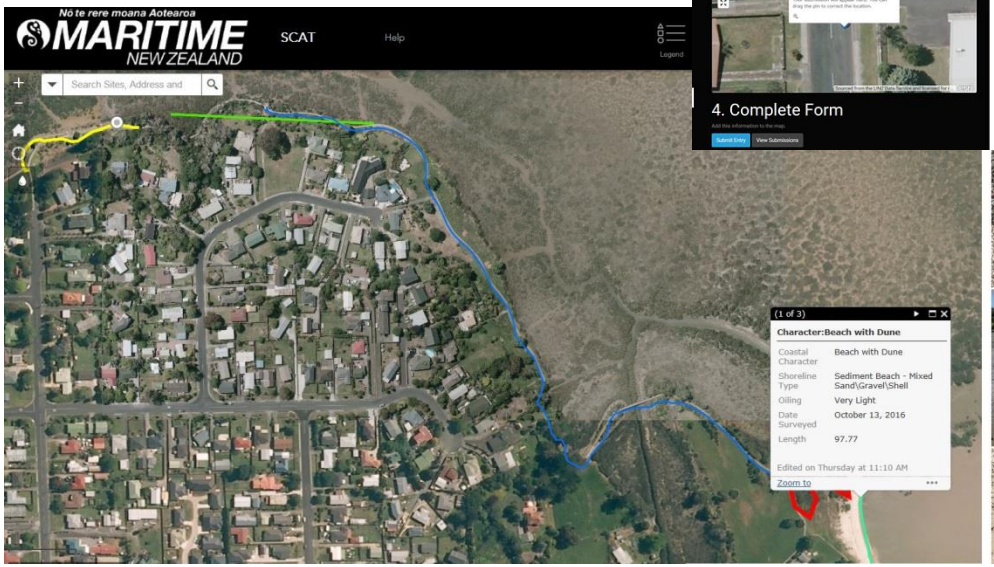
Integration with Esri products..









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Thank you