

# Cooperative Inland Waterways Safety Programme



Promoting water safety &  
environment management   
[www.inlandwaterways.gov.za](http://www.inlandwaterways.gov.za)

Test project for the **M-Strat** model

**Presented by: Johan-Matthy Greyling**

Product 1.1.1  
Tool 1.1.1-CIWSP Presentation long  
Web Version 1

# CIWSP = Major cooperative governance project

Impacting on a wide geographical area

## Small Vessels Advisory Committee to the Minister of Transport

- Department of Transport
- Department of Water and Sanitation
- Department of Environmental Affairs
- CoGTA – National Disaster Management
- South African Maritime Safety Authority
- South African Police Services
- Department of Sport & Recreation
- CSIR
- South African Navy
- Centre for Public Service Innovation
- Relevant communities



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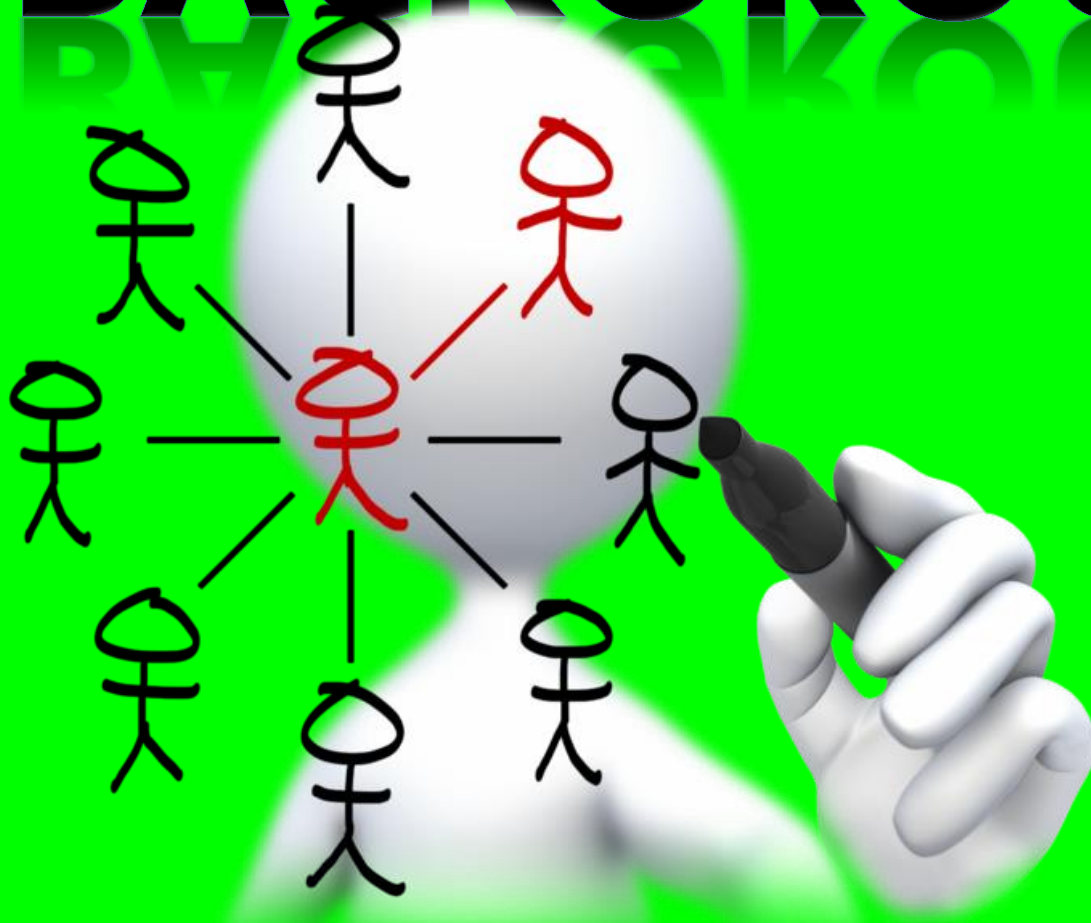


## Integration & coordination of mandates

**Power of SYNERGY  
through**

**COLLABORATION** between different government & public  
role-players

# BACKGROUND





## WHERE IT ALL STARTED



“SAMSA advises all stakeholders of small vessels of the coming into force of the **Merchant Shipping (National Small Vessel Safety) Regulations, 2007, as amended**. These regulations have consequential amendments, **Declaration under section 3(9) of the Merchant Shipping Act (57/1951)** and **Ship Registration Act**. SAMSA will inform in due course regarding amendments (if any) to **SAMSA Marine No. 13 of 2007 (now 2011)** (SAMSA’s policy regarding small vessels).”

[samsa.org.za](http://samsa.org.za)

# PROJECT GOALS



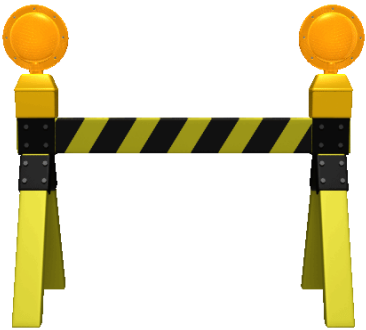
- To enforce vessel **safety regulations**
- To change South Africa's **attitude** towards inland water safety – YOU CAN DIE !!!!
- To support containment and eradication of **Invasive aquatic species**
- To monitor **pollution** in waterways
- To promote **safe and lawful access & use** of water by communities
- To promote **boating safety**
- To create a trustworthy & community based **incident management** system for inland waterways
- To create a foundation for inland maritime transport to be recognised as a **formal mode of transport**
- To promote **Eco-tourism** development through the Cooperative Inland Waterways Safety Programme (CIWSP at dam = safe tourism)
- To create a **toolbox** of solutions and procedures for different spheres of dam and river users that can be used for guidance and implementation
- Pilot sites to be **points of excellence** that promotes innovative best practises for the South African inland waterways environment and the duplication thereof nationally

# THE CHALLENGE



# WHERE DO WE START?

## SUBMERGED WATERWEEDS



- Becoming a real threat in many of the water systems
- Forming dense canopies
- Providing poor habitats for fish populations
- Decreasing water quality
- Interfering with recreational activities
- Impacting power generation, irrigation and water delivery
- Can cause drownings





## SUBMERGED WATERWEEDS

*Myriophyllum spicatum*



- Currently flowering on Vaal River – 31,000 ha

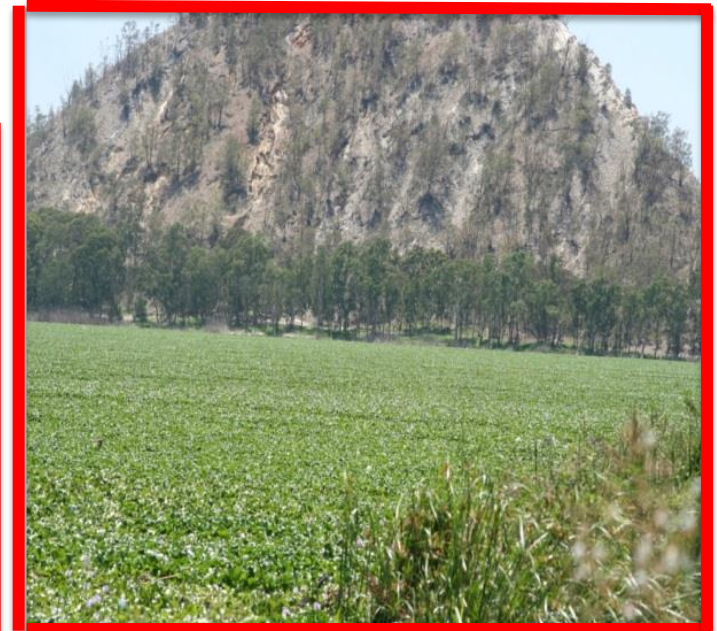
- To eradicate will  
costs billions of  
rands



## WORST CASE SCENARIO!!

1 ha of water hyacinth and if you do nothing, the following will happen:

- 1 ha costs R1 000 to clear, in 2 weeks it's 2 ha which now costs R2 000 to clear
- After 1 month – 4 ha = R4 000
- Within 6 months – 4 096 ha = approx. R 4.1m

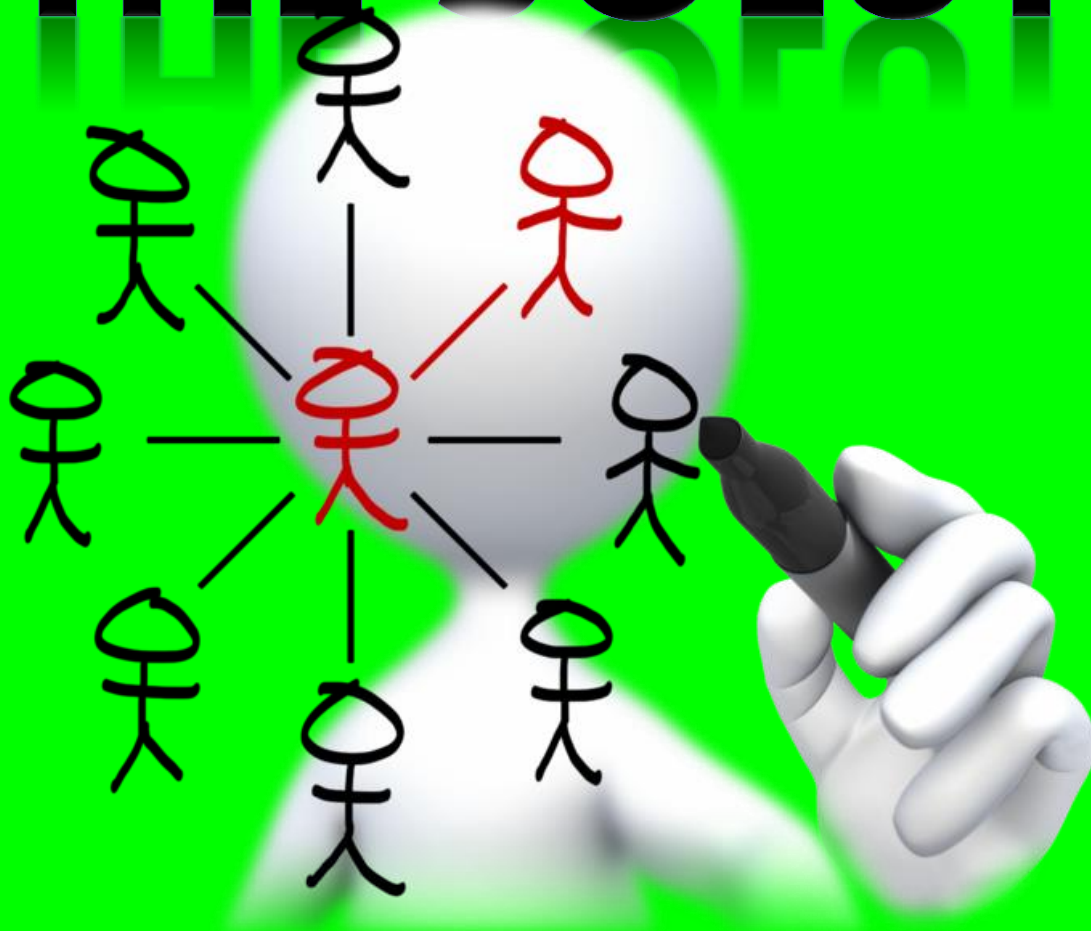




# THE ROLE VESSELS PLAY IN THE SPREADING OF THE WEEDS

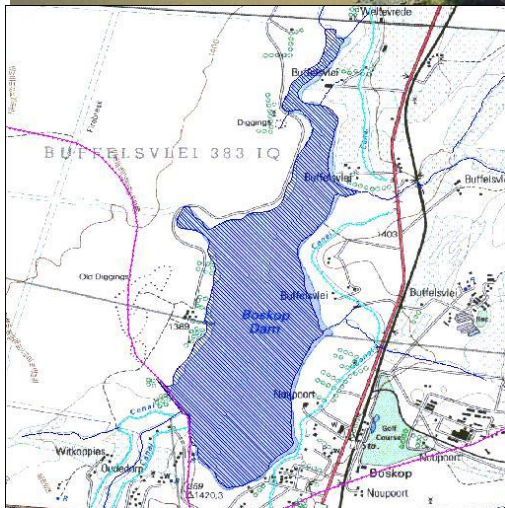
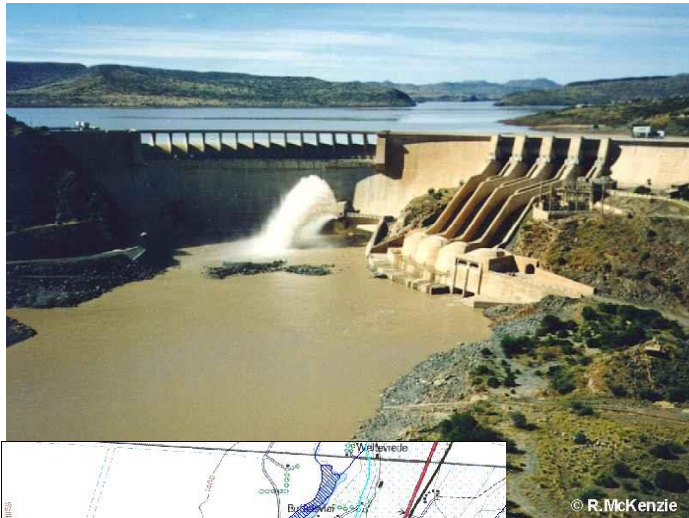


# THE SOLUTION





## THE TARGET ENVIRONMENT: DWA Inland Waterways (Pilot Dams)



- 1 **Vanderkloof Dam**  
DWS – Central Region (D3R003)
- 2 **Boskop Dam**  
DWS – Central Region (C2R001)
- 3 **Theewaterskloof Dam**  
DWS – Southern Region (H6R001)
- 4 **Nandoni Dam**  
DWS – (A9R004)
- 5 **Inanda Dam**  
DWS – Northern Region (U2R004)
- 6 **(De Hoop Dam)**  
DWS – (B4R007)

**Intention:** roll out of successful outcomes to all waterways (315 reservoirs of government waterworks & 4 783 of approximately 60 000 dams in the country, registered having a safety risk)

**Note to the public:** Access to reservoirs of government waterworks is a privilege not a right.

# LOCALISED SOLUTION COORDINATION





## **DAM DMC / CIWSP COMMITTEES**

Implement, coordinate and monitor at pilot site

### **Municipality (Disaster Management)**

**Other approved organisations**

**DEA Wash Bay Agent**

**DWS or CIWSP OPS Point Agent**

**SAMSA Representative**

**Legal Gatekeepers**

**DWS / CIWSP (chairperson)**

### **SAPS**

- Water Wing
- Sector Policing
- Local Reservists

### **FIRE SERVICES**

- Working on Fire
- Municipal Fire Service
- FPA

**Medical & Ambulance Services**



# ZONING AREAS FOR ACTIVITIES



# AIDS to NAVIGATION Inland Buoyage System

## ● Surface Zoning

Indicates where certain activities like boating, fishing, sailing, etc. can take place on a dam without being a danger to each other

**No-go areas in terms of dam safety (structure)**  
**Isolation of alien invasive submerged and surface weeds to avoid spread**

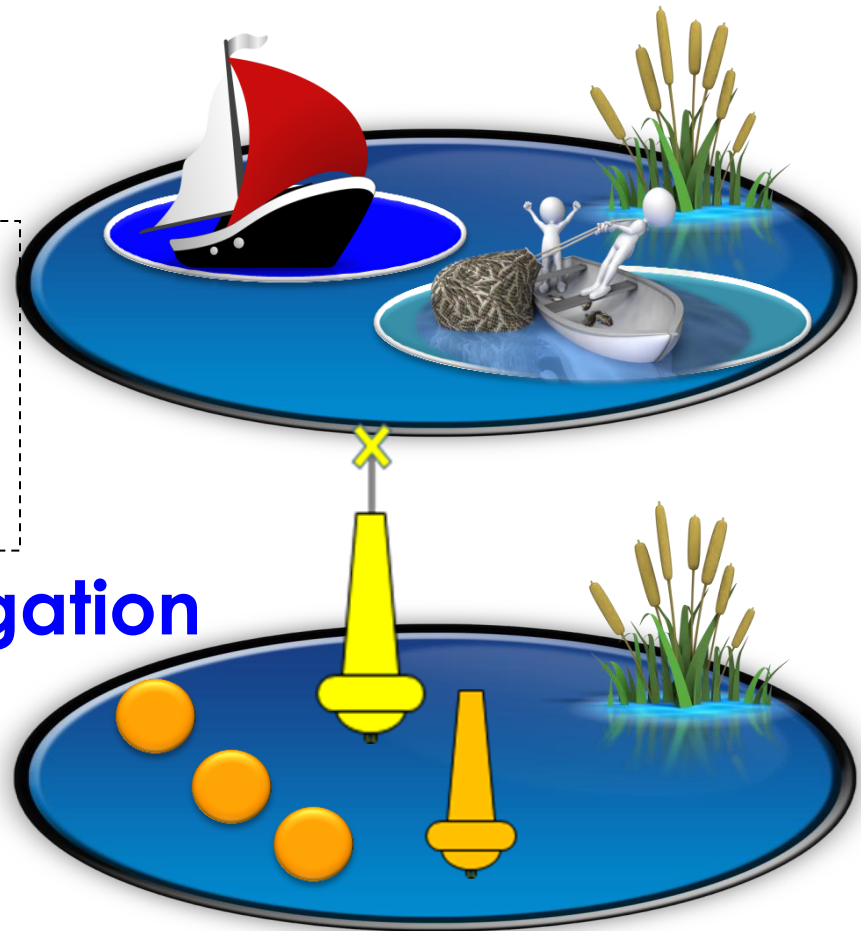
## ● Surface & submerged navigation

### Navigational profile

Buoys and fixed markers to be placed at dams according to international recommendations in order to promote safe navigation on inland waters

## ● Surface access

## ● Surface liability

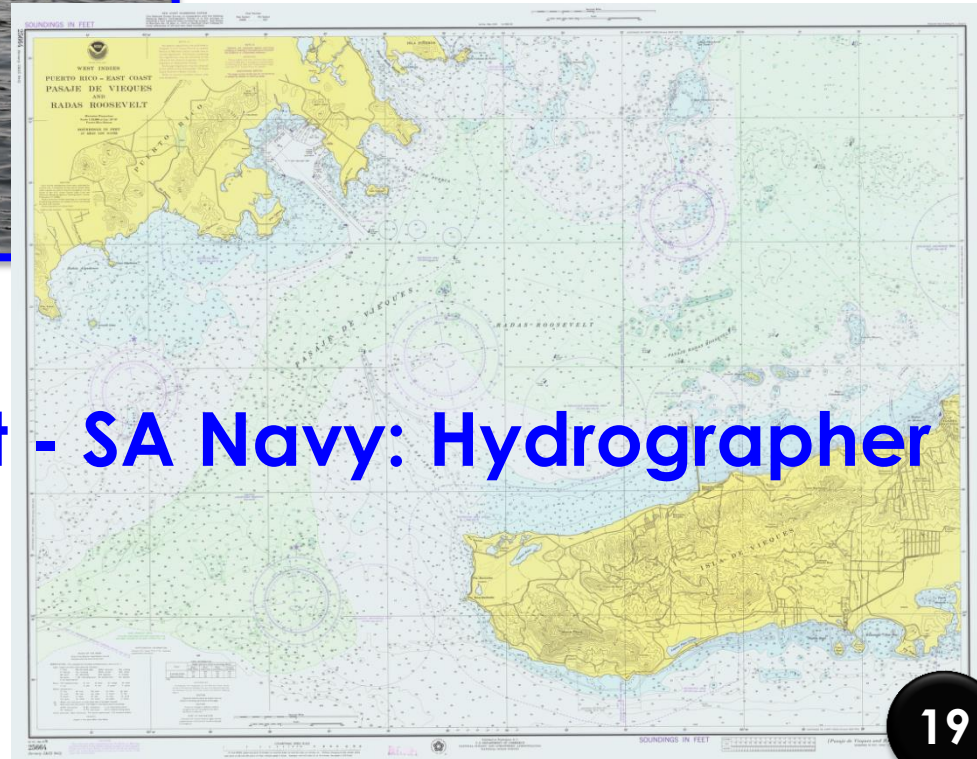




## Demarcation buoys used in conjunction with navigation buoy



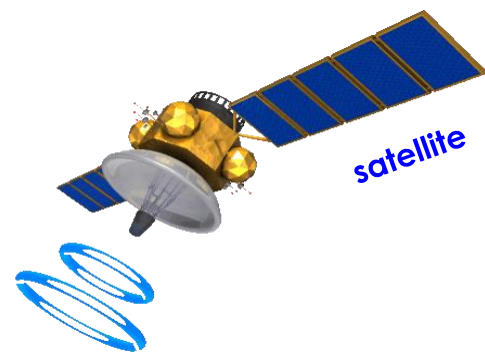
## ● Maritime Chart - SA Navy: Hydrographer



# WATER QUALITY MONITORING REPORTING POLLUTION







## WATER QUALITY REPORTING AND MONITORING

- Specific monitoring points & involve other role-players in obtaining water for testing
- Water quality benchmark
- Reports discussed at Dam Management Committees
- Platform to report pollution incidents incl fish kills/algal blooms/odours



# WASH BAYS



- To contain invasive aquatic species but also becomes cooperative governance management & enforcement points as well as business intelligence generators.
- Monitoring point of commercial clients



# WASH BAY

## For Traveling vessels



**Complete Wash Bay Forms** ([SAMSA Database link](#))



## Environmental Monitor

# SAFETY CHECK

- Licences
- Life-jackets
- Safety equipment spot check
- Navigation Lights (night time activities)

**Skipper  
Option:  
Incident  
Response  
Activation:  
quick dial  
set-up on cell**



- Enforcement tool to be used when anything threatens the fish farm area or people (Project Phakisa)



## Environmental Monitor **WASH**

- Invasive species (weeds + fish) (Project Phakisa)
- Fish disease control (Project Phakisa)
- NEMBA Regulations





## Skipper **GIVEN A TAG** (prove of being at the Wash Bay)



1. Boskop

**Day visitor**  
1 Day

1. Boskop

**Weekend visitor**  
2-3 Days

1. Boskop

**Week visitor**  
4-7 Days

1. Boskop

**Permanent Vessel**  
3 Months

**Environmental Monitor**

**Skipper**

# BLACK TAG ILLEGAL TRAVELING

The Gatekeeper of permanent vessels at a waterway is responsible for the actions of the owners of the permanent vessels. If a permanent vessel are found traveling while having a Black Tag the access to the waterway of the relevant gatekeeper is taken away.

## SAMSA DATABASE

### HOME WASH BAY



Using his Black Tag vessel goes on the water without being washed but due to the wash at the other Wash Bay it is clean

Illegal travel

Travels back

Vessel is washed



Database will pick-up that the vessel has two Tags and is thus abusing the Black Tag privileges

As traveling vessel it goes through wash bay process and gets a Tag

### VISITING WASH BAY





## PREVENTION BETTER THAN CURE

- Boat compliant, safe & clean
- Competent skipper

Enjoy the day !

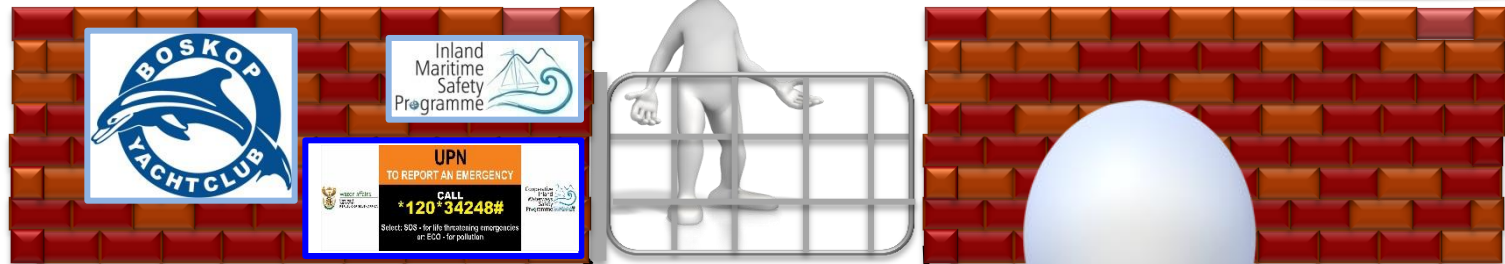


Environmental Monitor



**GATEKEEPER** (where boat is launched)

- **No tag, no boat launch**



**SKIPPER**

**Show Tag**

1. Boskop

# ENJOY YOUR DAY SAFELY ON OUR WATERWAY!!

Please wear life-jackets !!

## SKIPPER

- **At all time:**
  - **Tag on vessel**
  - **Licences on vessel**
  - **Safety equipment on vessel**
  - **Children 12 and under wear life-jackets**
- **Rules and Zones are adhered to**



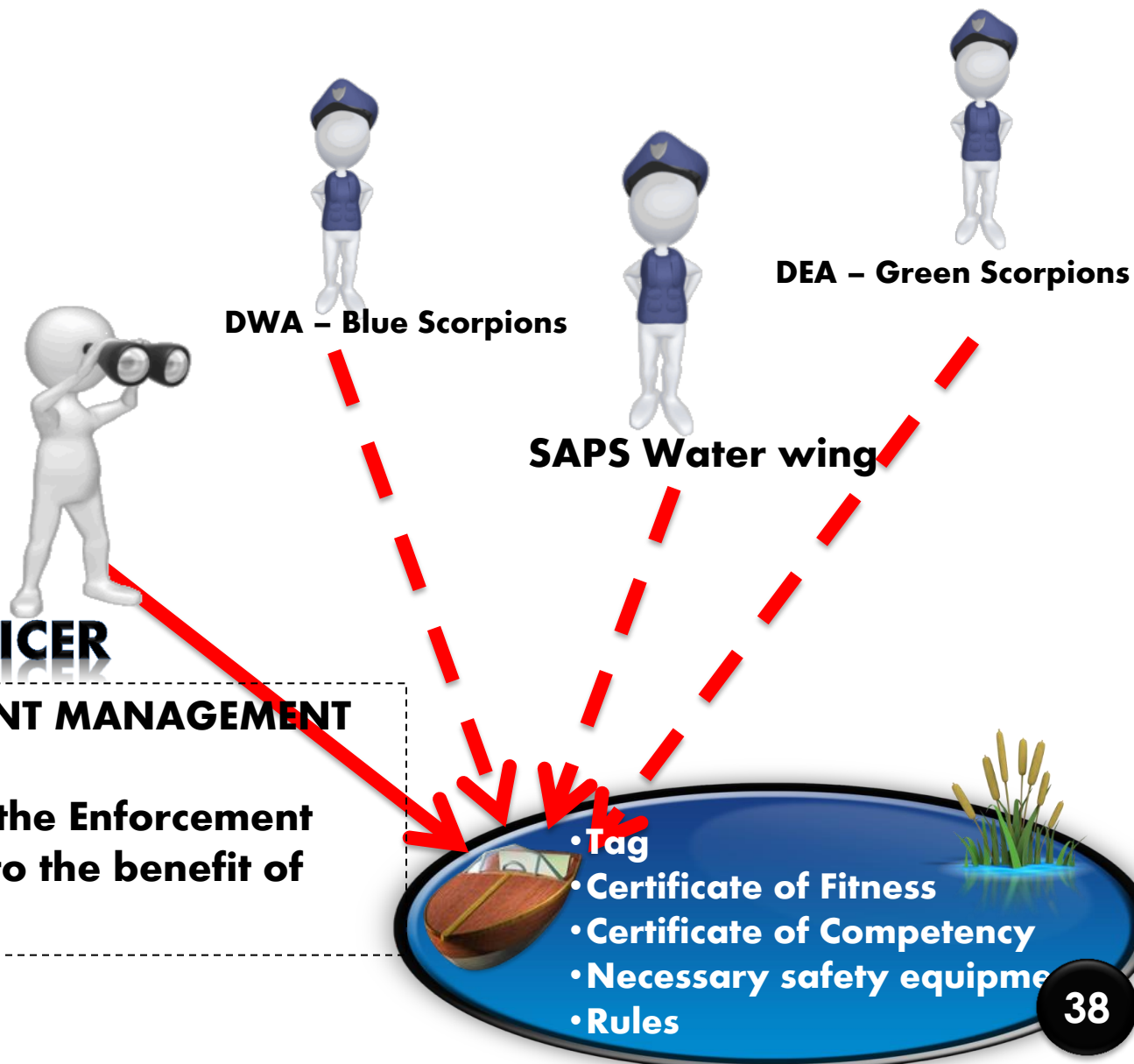


# PREVENTION IS BETTER THAN CURE





# ENFORCEMENT



# END OF VISIT – BACK TO THE **WASH BAY**

Environmental Monitor  
**WELCOME**





Environmental Monitor  
**WASH**





## Skipper **GIVE BACK TAG**



**Environmental Monitor**

# IMPORTANT

IF YOUR TAG IS NOT BACK ON TIME AN INCIDENT RESPONSE WILL BE ACTIVATED, IF IT TURNS OUT THAT IT IS A FALSE RESPONSE DUE TO THE SKIPPER'S NEGLIGENCE, THE COSTS FOR THE RESCUE RESPONSE WILL BE FOR THE SKIPPER!!!!

# INCIDENT



**THANKS FOR HELPING US MAKE  
OUR WATERWAY A SAFER PLACE,  
Goodbye and please visit again**



● **Video: Wash Bay Office**

● **Video: Vessel enters Wash Bay**

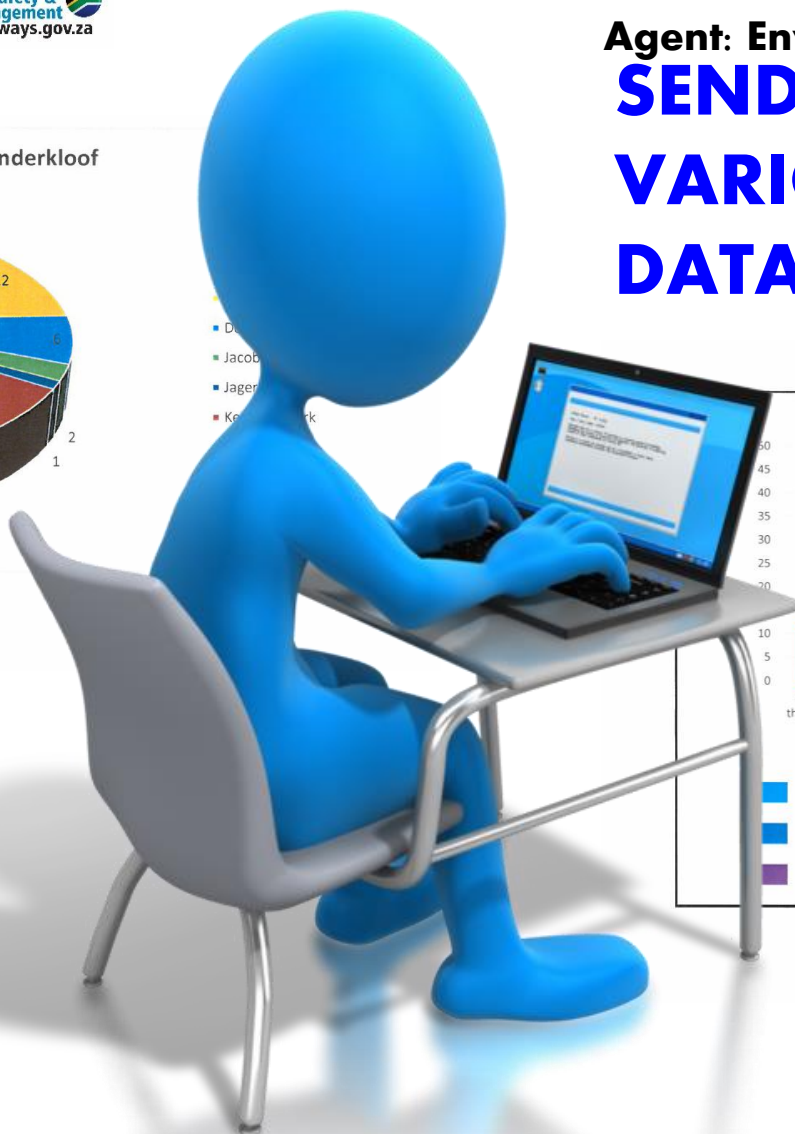
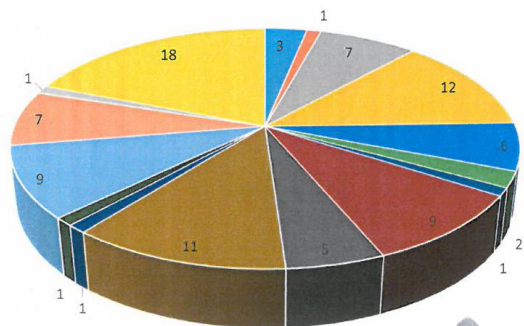
● **Video: Vessel exits Wash Bay**



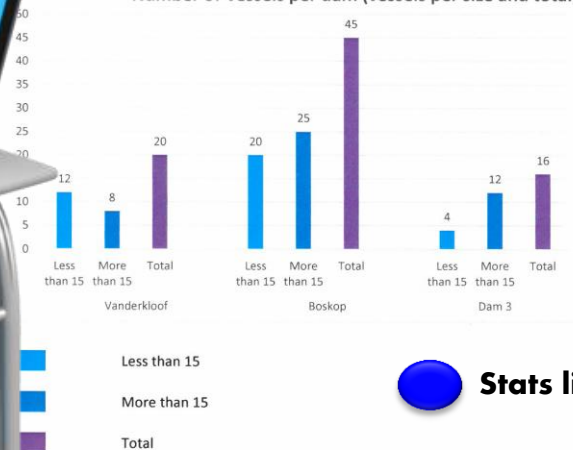


## Agent: Environmental Monitors **SENDS INFO TO VARIOUS DATABASES**

Home Town Distribution for Vanderkloof



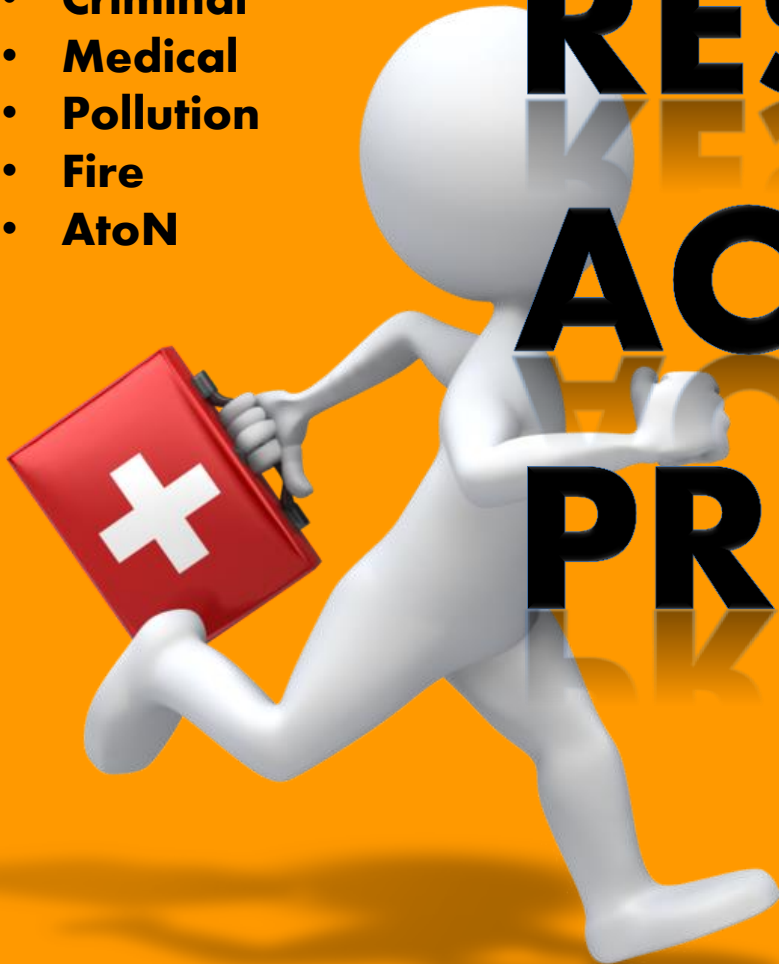
Number of Vessels per dam (vessels per size and total)



[Stats link](#)

# INCIDENT RESPONSE ACTIVATION PROGRAMME

- Accidents
- Criminal
- Medical
- Pollution
- Fire
- AtoN



# TWO APPROACHES TO INCIDENT COMMUNICATION

Incident Management & Enforcement for Operation Phakisa



CIWSP  
USSD  
Technology

1

**USSD Technology:** to accommodate poor people with phones without GPS tracking



2

**APP Technology:** smartphones with GPS tracking capability

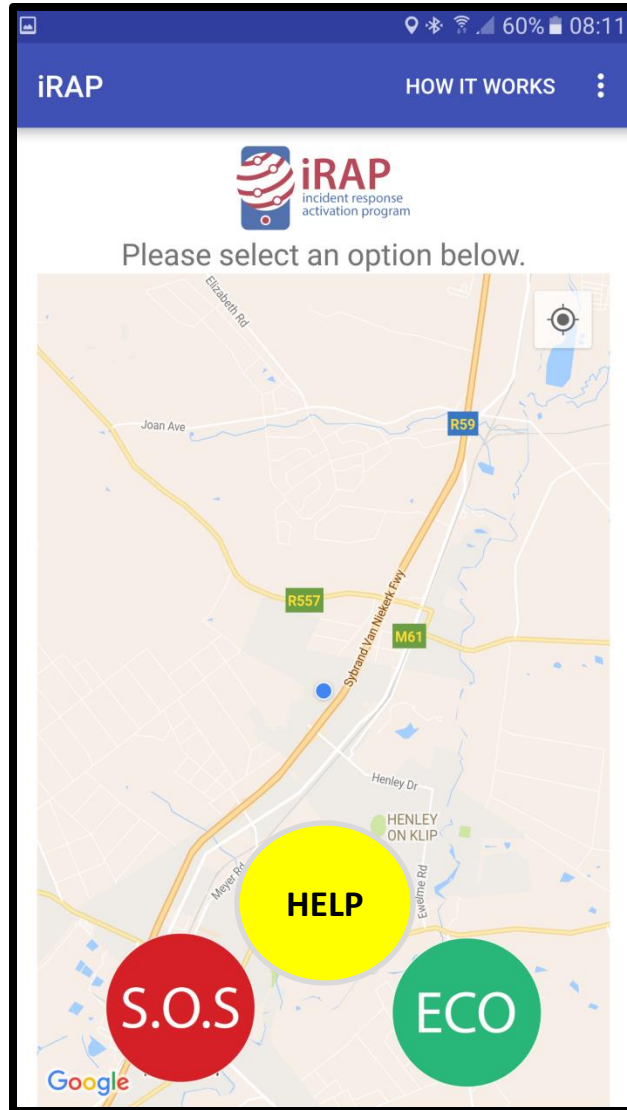


**Download relevant APP**

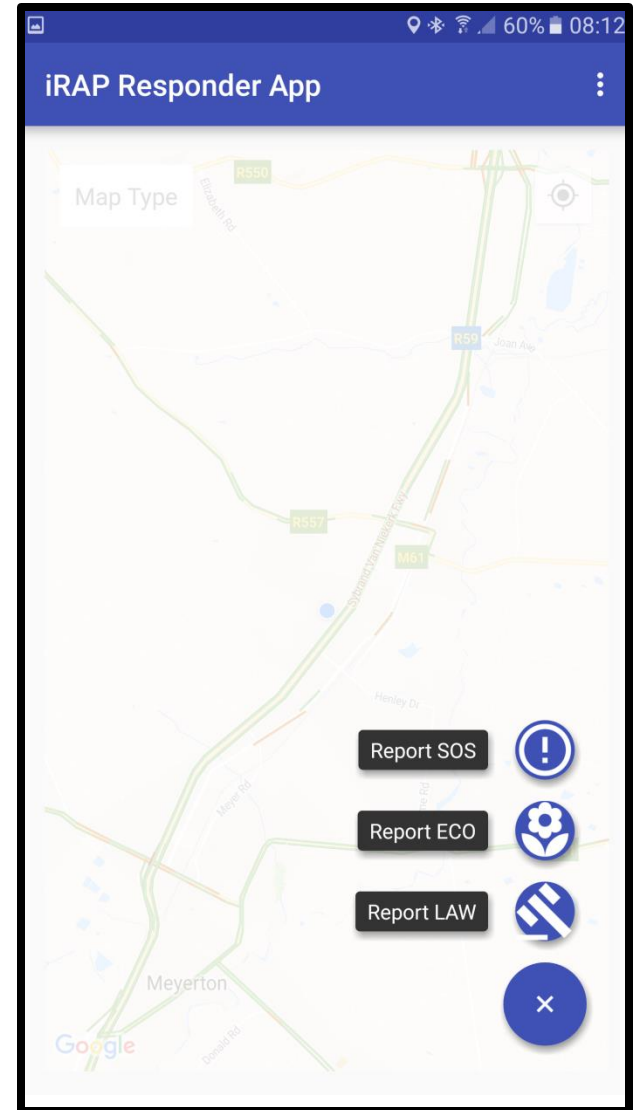


# REPORT INCIDENT

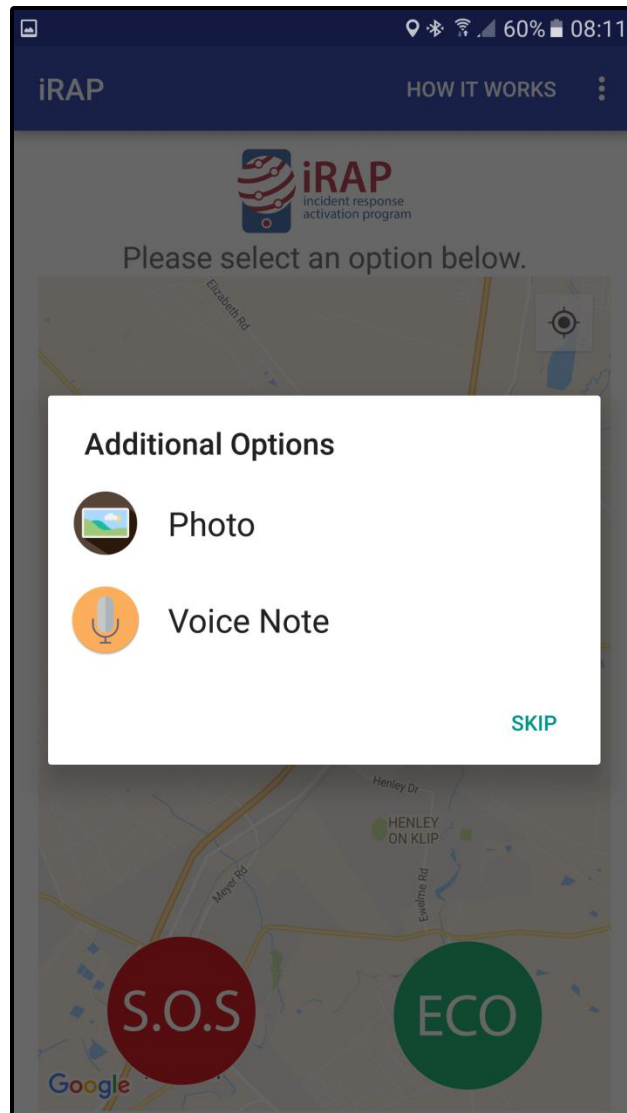
PUBLIC APP



RESPONDER APP



# REPORT INCIDENT







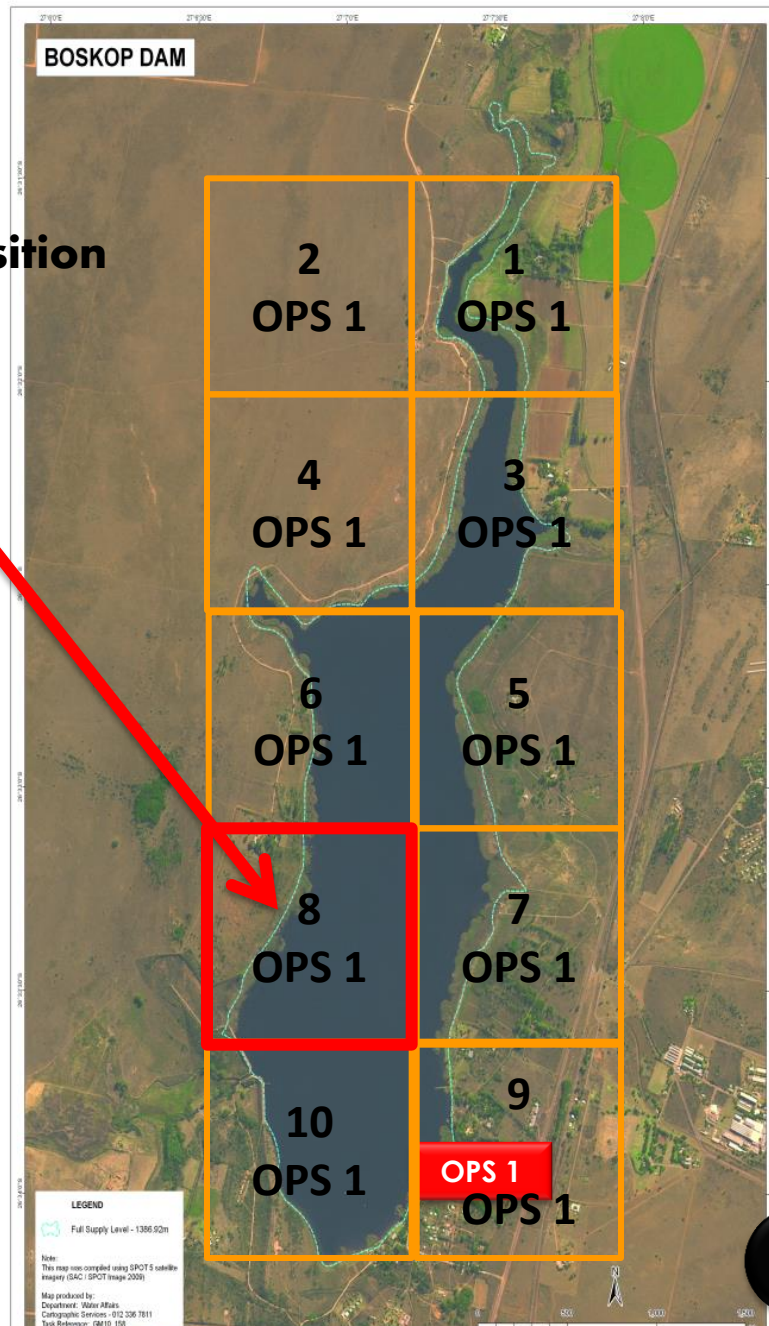
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**Call back &  
Reference no**

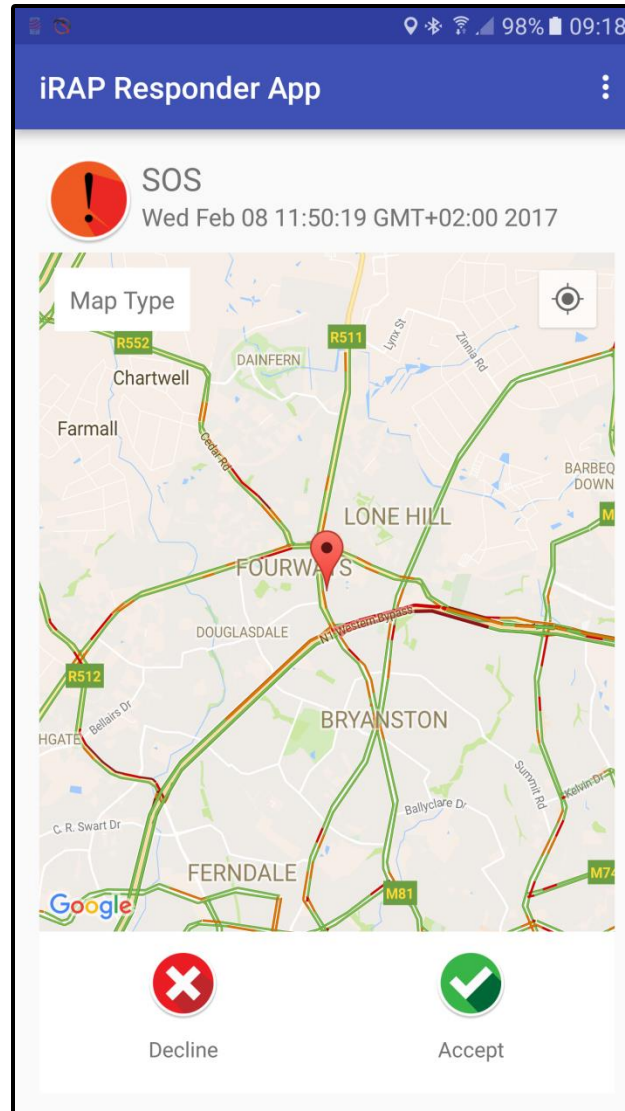


**GPS position**



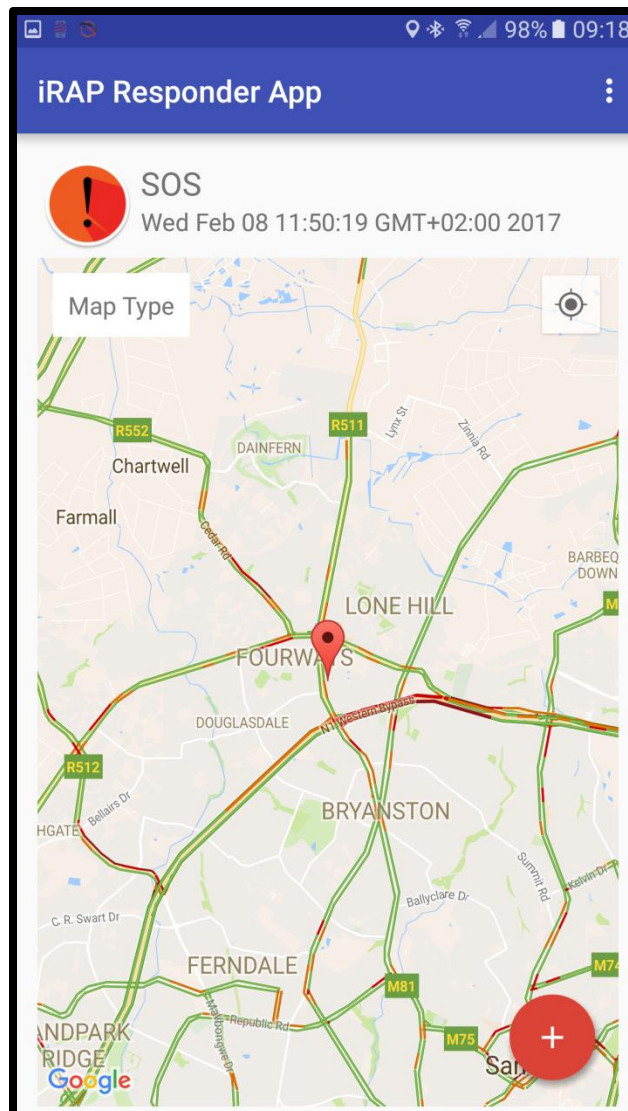
# RESPOND TO INCIDENT

## RESPONDER APP



# RESPOND TO INCIDENT

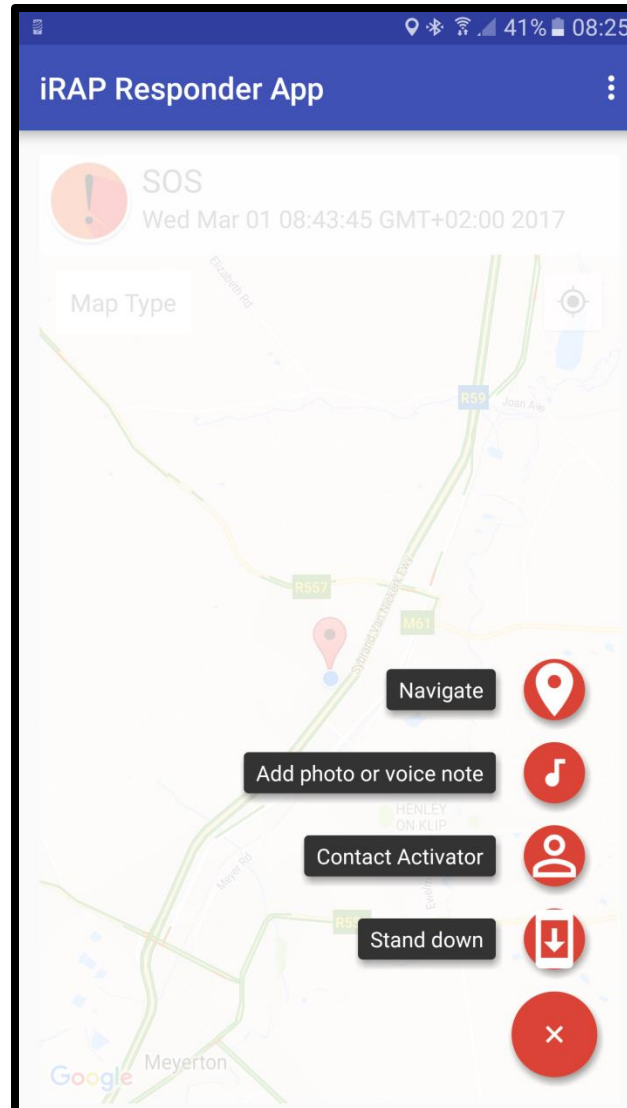
## RESPONDER APP





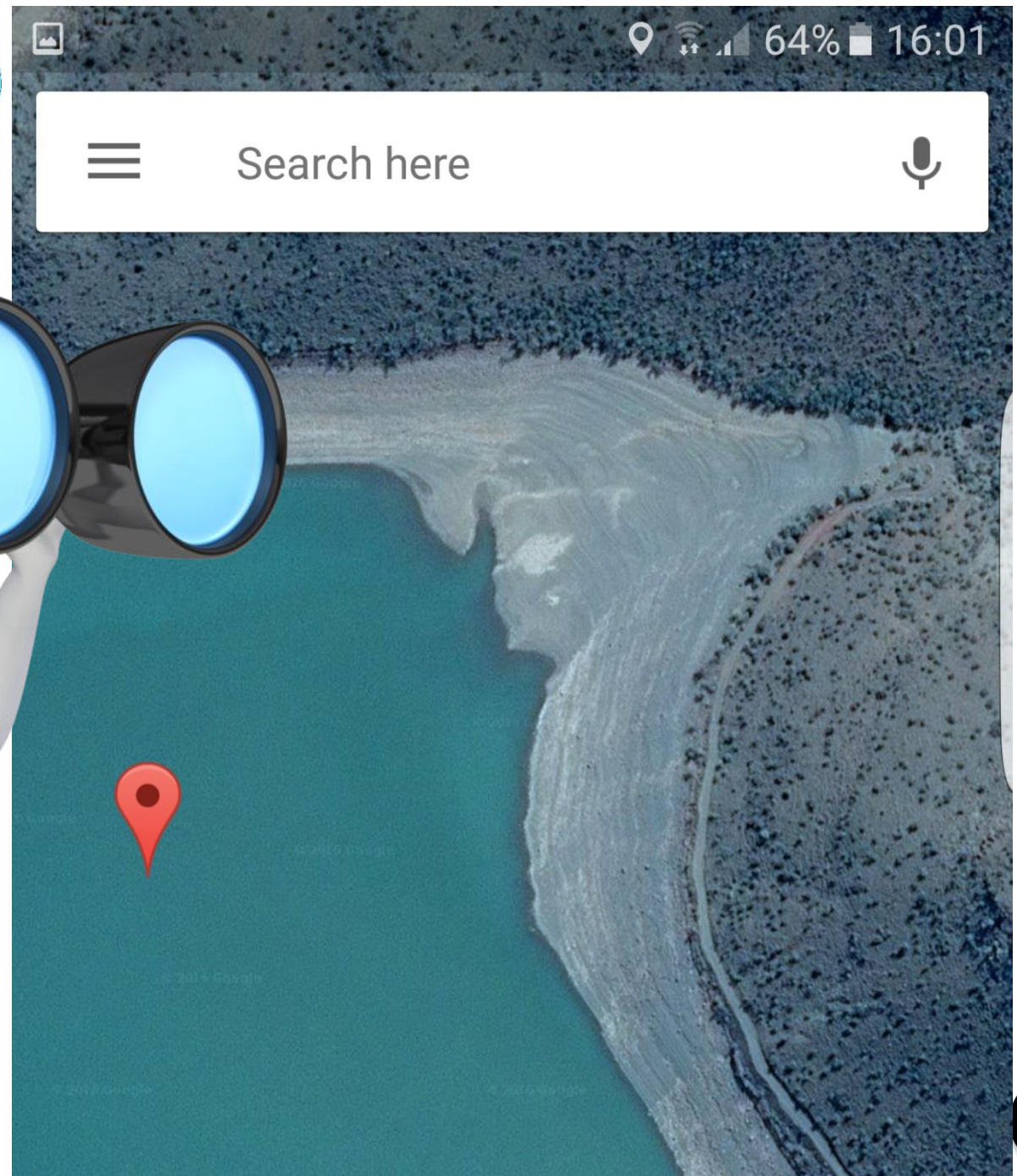
# RESPOND TO INCIDENT

## RESPONDER APP











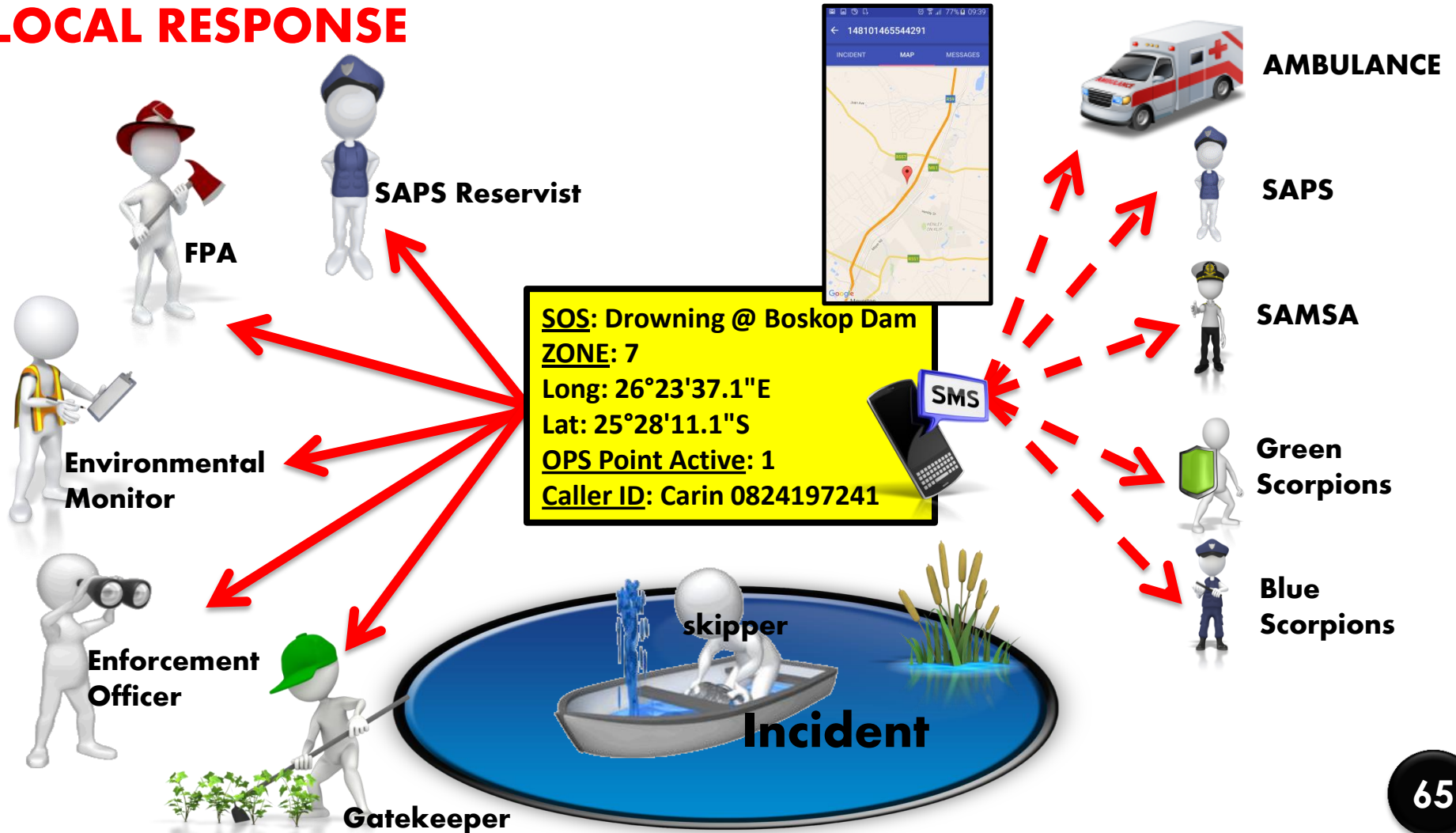


# RESPONSE

In seconds all relevant **LOCAL** emergency & response services receives the **ACTIVATION SMS** with the Incident's **location** and **RESPONSE COORDINATION POINT**

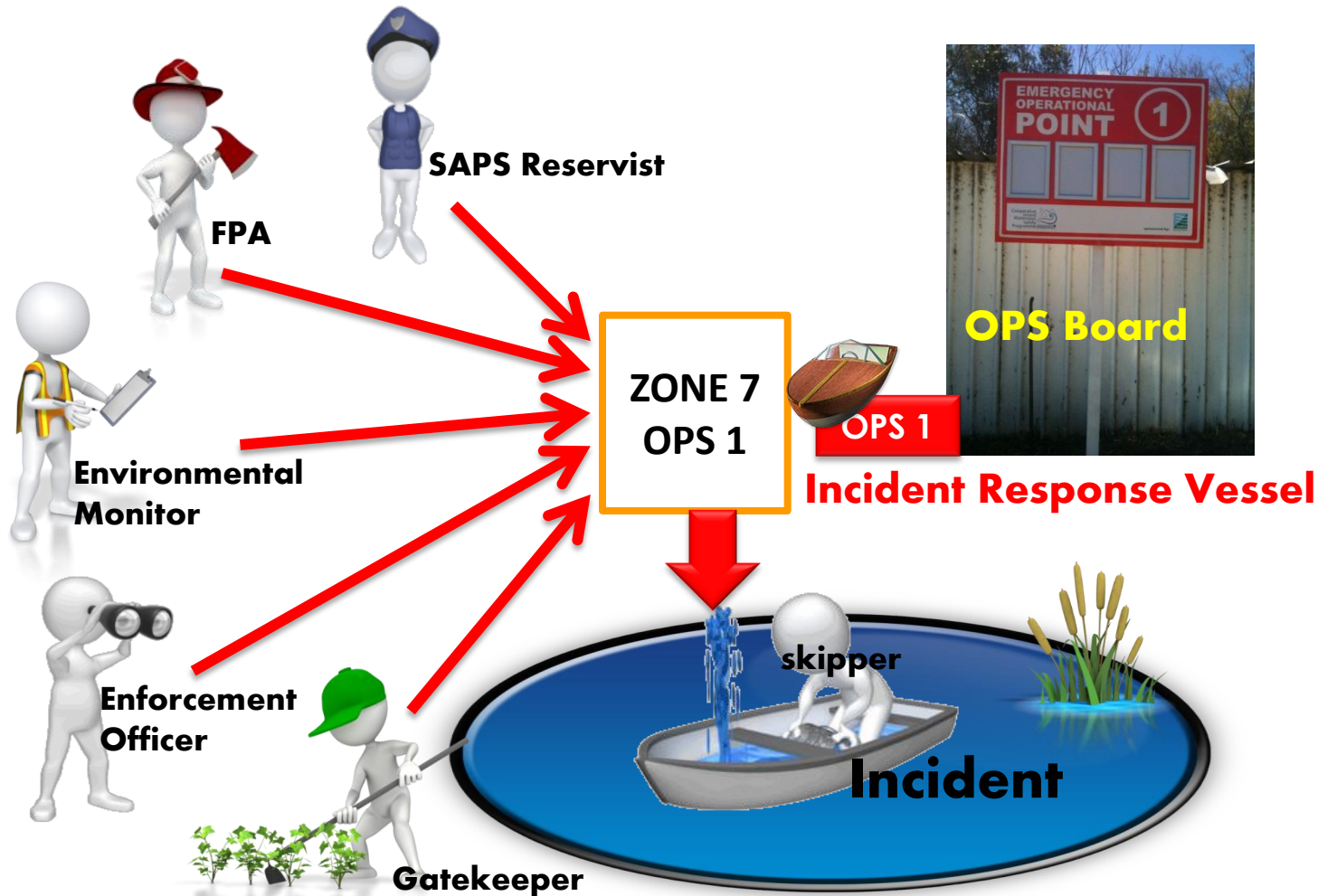
## GOVERNANCE RESPONSE

## LOCAL RESPONSE



- Immediate reaction by local incident management services situated close to or at the dam
- Response coordination is done from specific OPS point

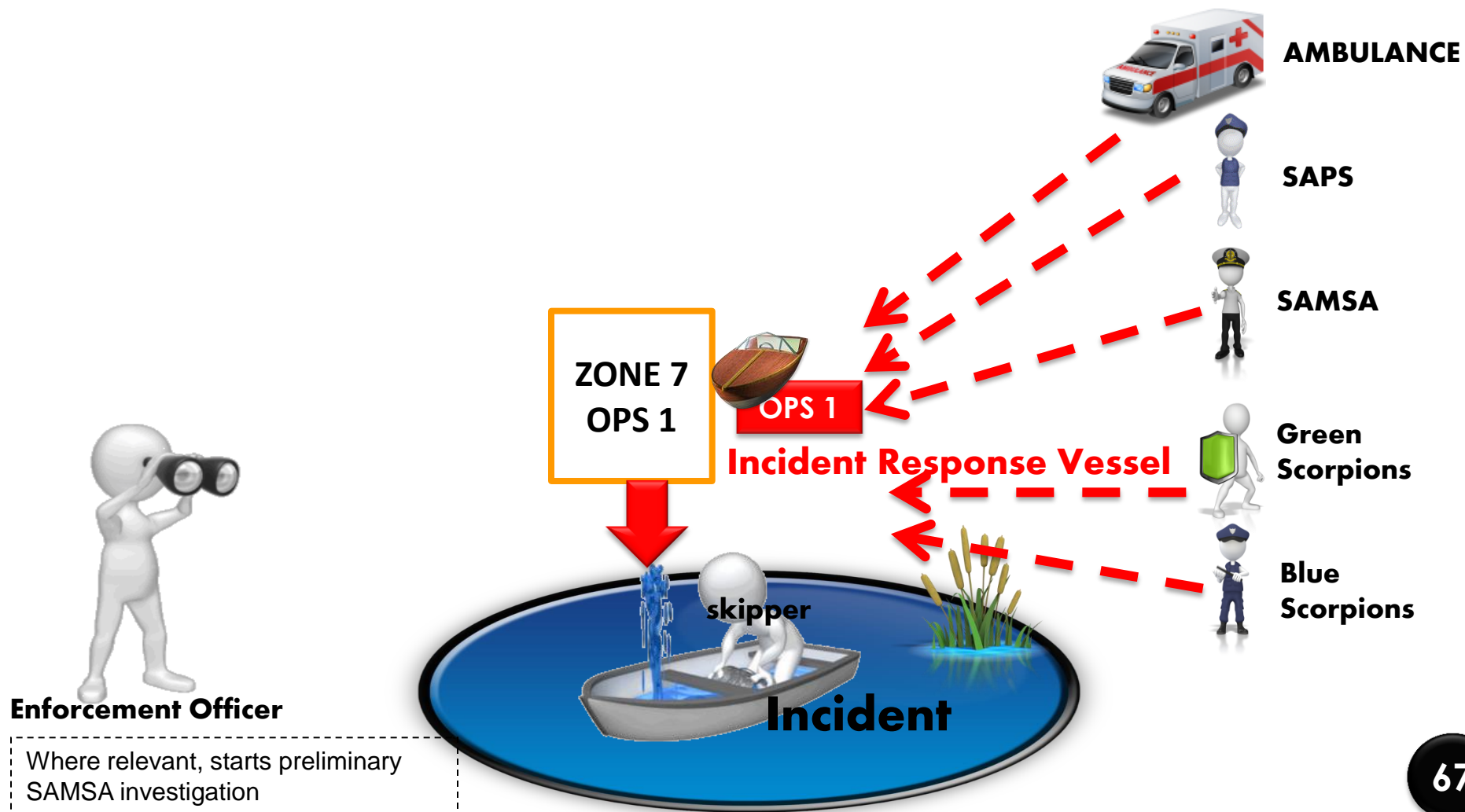
## LOCAL RESPONSE





Incident reaction from government & private incident management services (usually located a long distance from a dam)

## GOVERNANCE RESPONSE



# RESCUE SKILL DEVELOPMENT

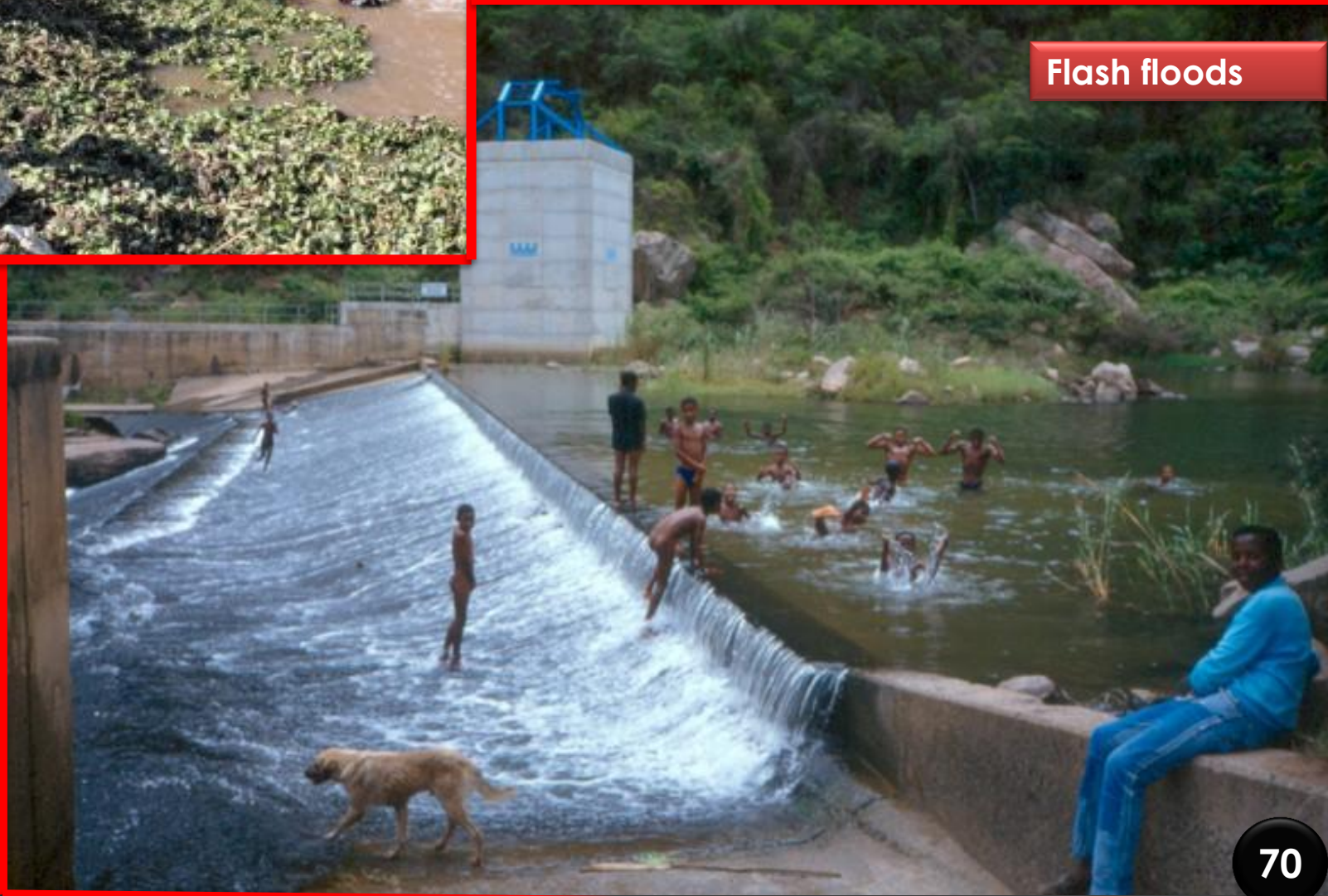


Drowning due to vegetation



# RURAL INCIDENTS

Flash floods





## NATIONAL SEA RESCUE INSTITUTE



### WaterWise

-Functional Rescue  
-CPR

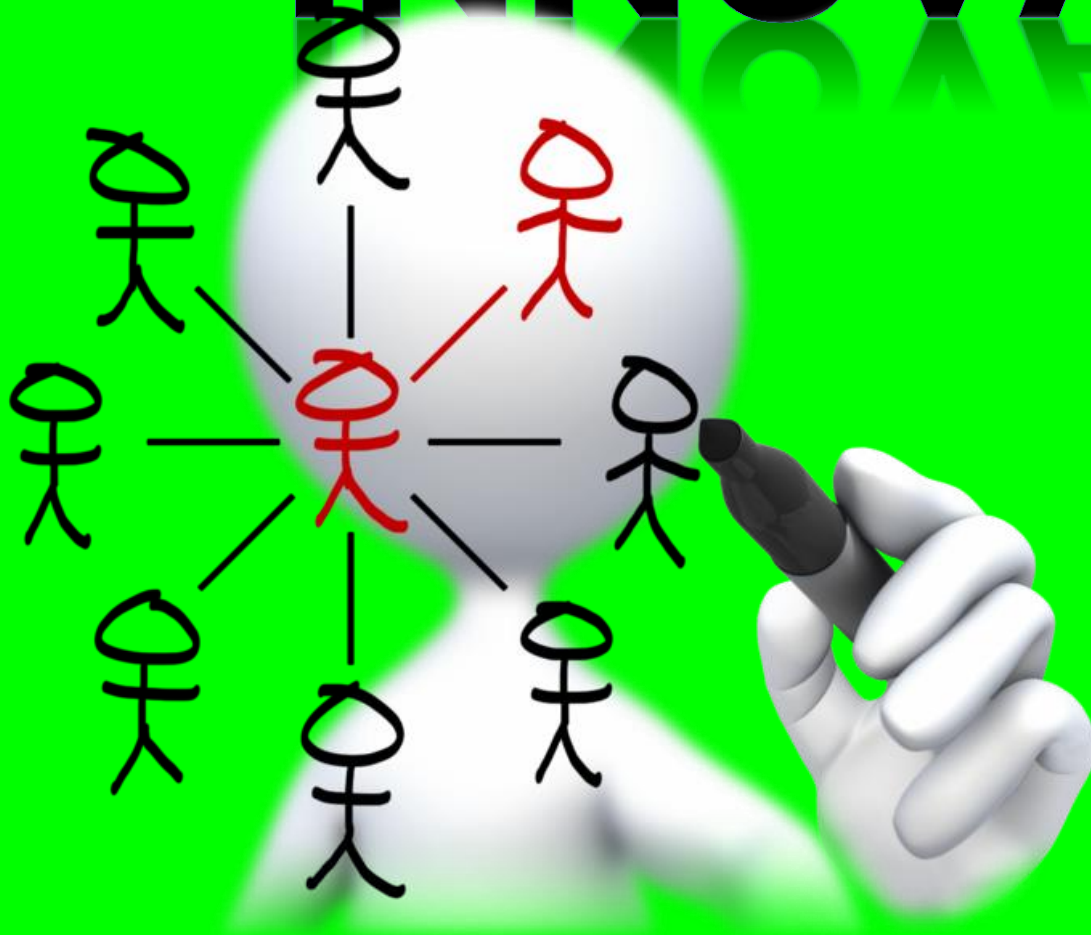
- Largest number of drowning's are in rural dams involving children
- Majority of South Africans are afraid of water, thus resulting in the lack of expansion of inland maritime transport

Environmental Monitor



# NEXT

# INNOVATIONS



**Cell Tower area warning**



**International vessel border crossing**



**Good Samaritan water rescue inflatable**



**Drone incident support**



**QR Code technology for vessels**



**Youth development: SA Scouts**



**All of this is being achieved  
through good will and integration  
of various mandates - with no  
project budget or resources, think  
what can be achieved if we had  
access to funds and professional  
support services**



# THANK YOU