



# SMART

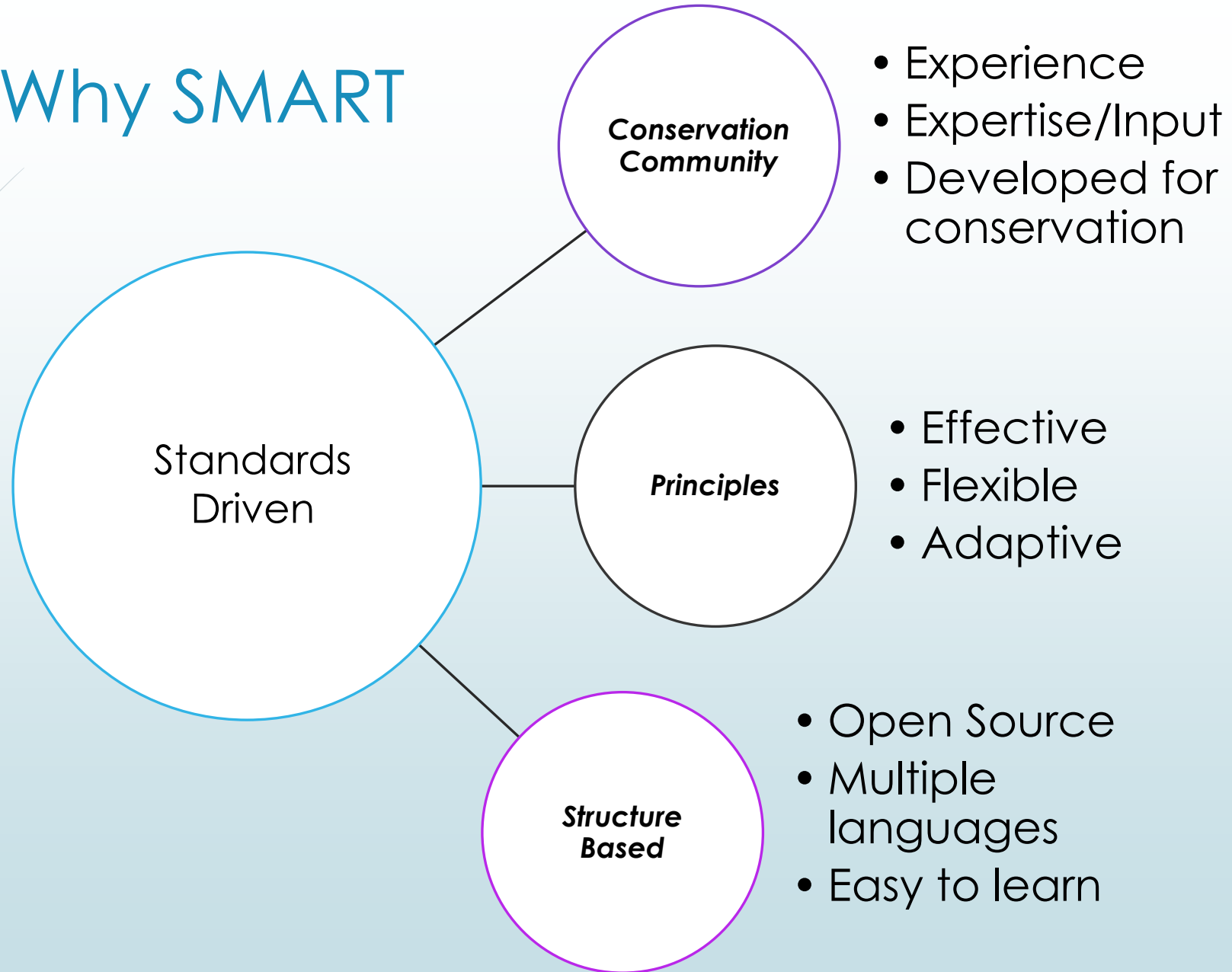
Spatial **M**onitoring **A**nd **R**eporting **T**ool

# Why SMART

- ▶ Driven by global group of Partners & Users
  - ▶ Biodiversity loss is threatening our world
  - ▶ Ever increasing need to curb /stop illegal trade & capture of wildlife
  - ▶ SMART developed from user needs to be more effective, - inexpensive & adaptive way of monitoring & reporting information.
  - ▶ SMART was developed from a need for a monitoring and reporting tool



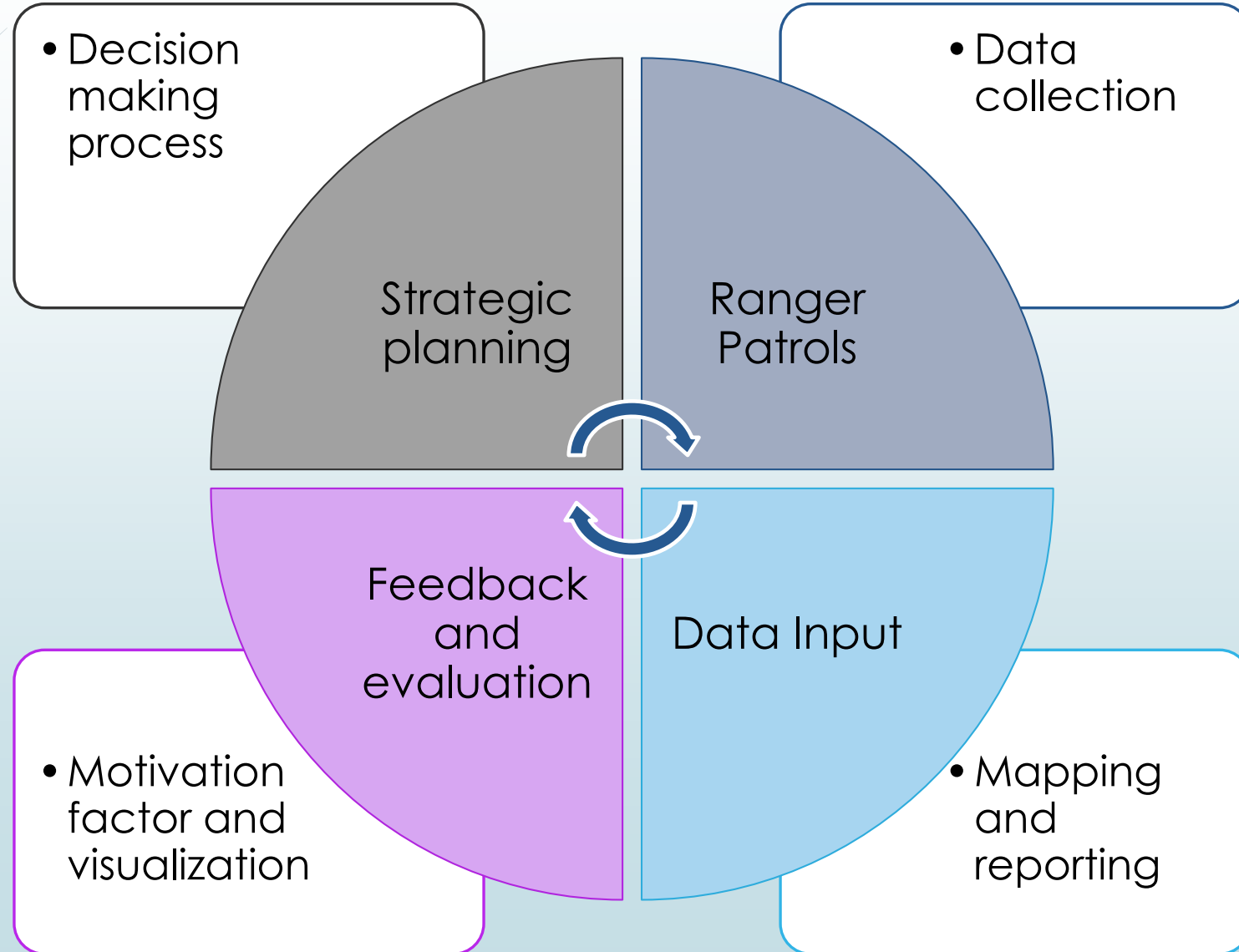
# Why SMART



# Partnering NGO's



# What is SMART?



# What is SMART?

- ▶ Spatial Monitoring and Reporting Tool – based around law enforcement and site-based conservation activities
- ▶ More than a data collection tool. Suite of tools developed by ‘Users’ to help protected area managers make informed decisions for conservation management
- ▶ It is freeware
- ▶ It is highly flexible/customizable



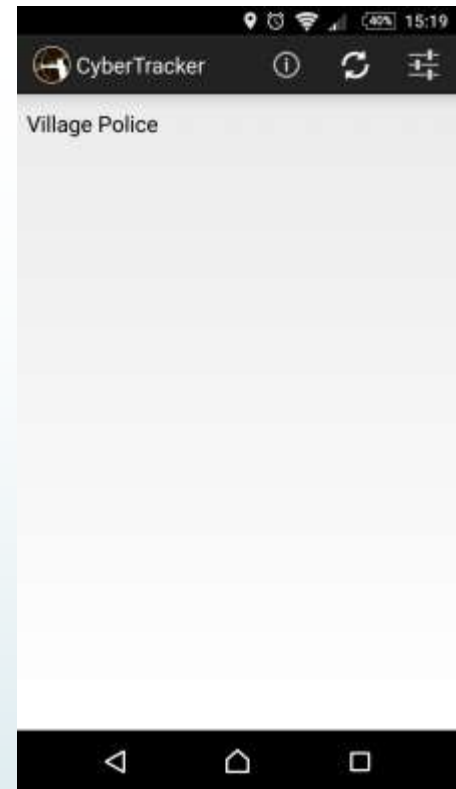
# What is SMART?

- ▶ Plugins
  - ▶ Ecological Records (an example)
    - ▶ Allows SMART users to manage Ecological surveys
    - ▶ Covers specific features & functionality relating to Ecological Survey's.
    - ▶ Allows for planning, configuring & populating Surveys



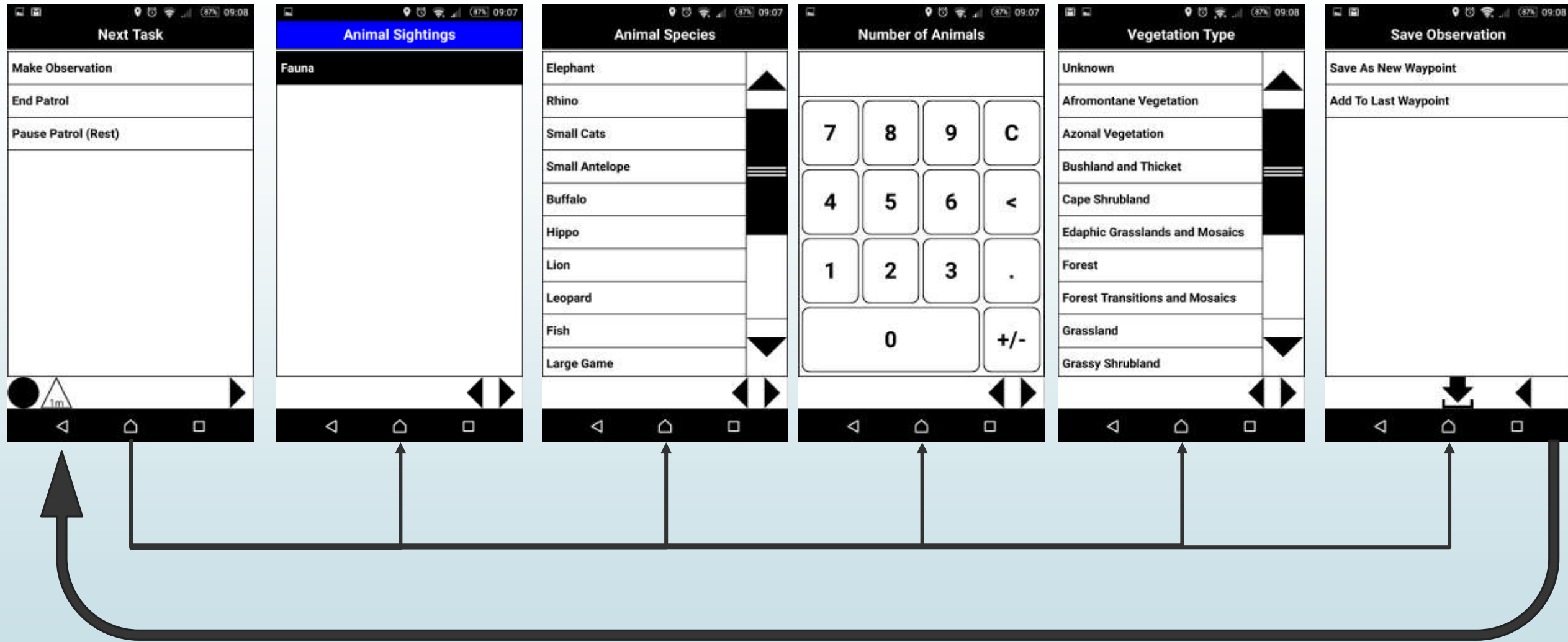
# What is SMART?

- ▶ Cybertracker integration
  - ▶ Cybertracker - collection tool on Smartphones
  - ▶ SMART allows for custom sequence [configurable data model] based off of attributes in your Data Model
  - ▶ Import & Export data directly to/ from smartphone





# Cybertracker integrated





# SMART use within Countries &/or TFCA's

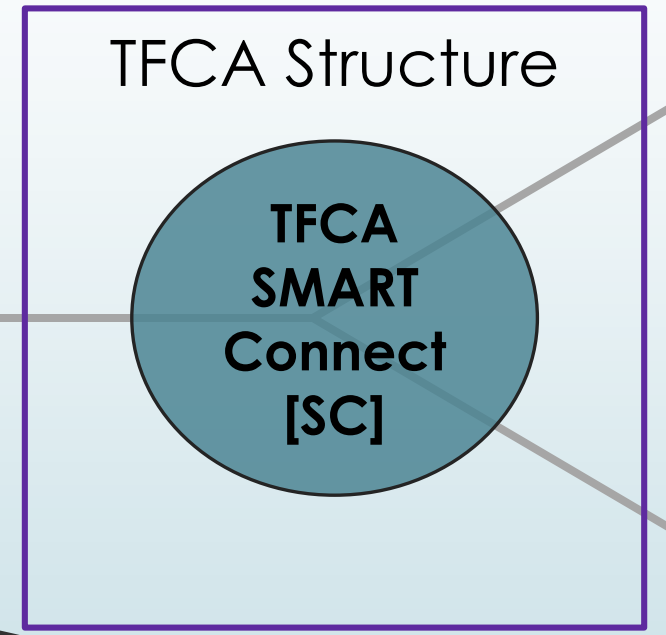
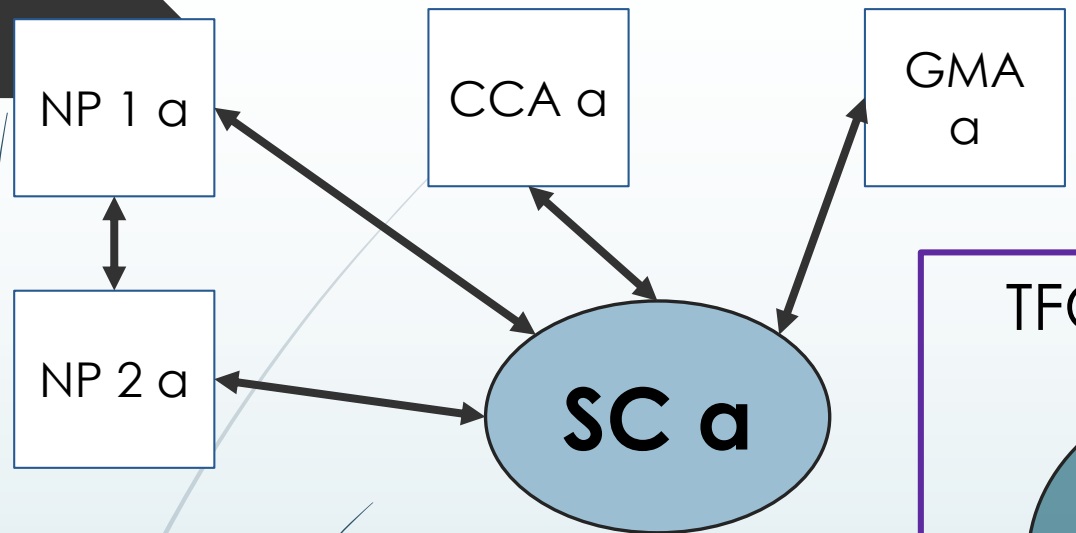
- ▶ SMART - improve collation of data & Information collected within conservation areas/TFCA's.
- ▶ SMART - increase effectiveness of conservation management in TFCA's.
- ▶ SMART – provide structural reporting tool to quickly produce informative reports.
- ▶ SMART will assist in visualizing & reporting of spatial data.



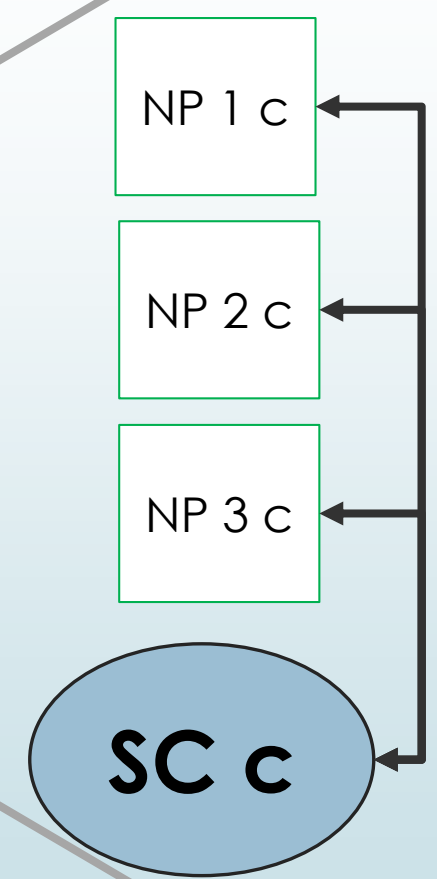
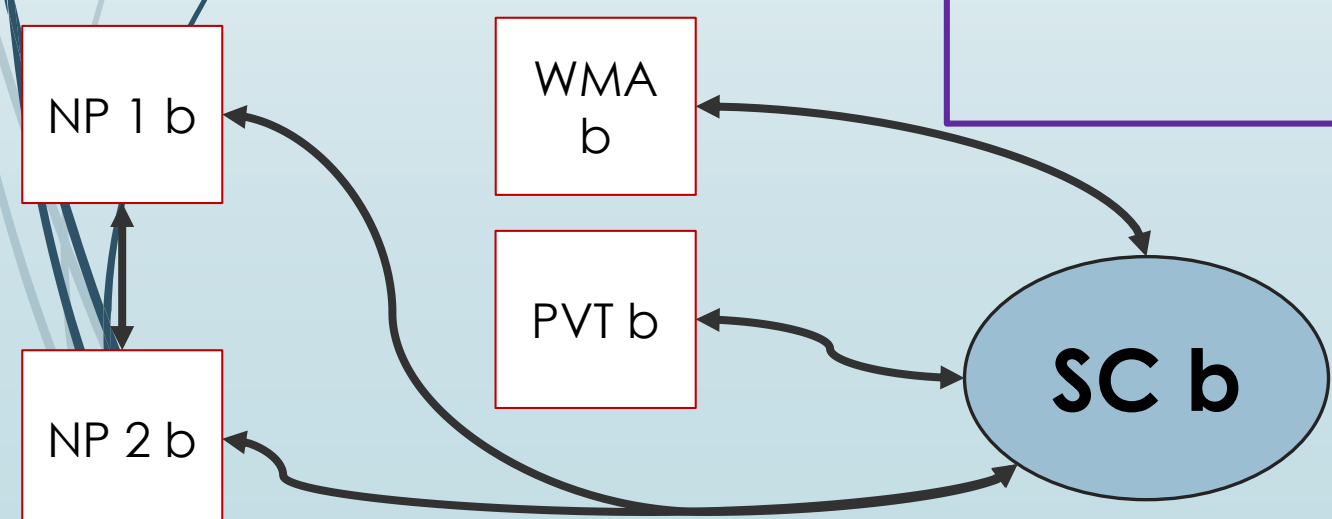
# SMART use within Countries and/or TFCA's

- ▶ Improved Law Enforcement Monitoring & Efficiency.
- ▶ SMART will determine patterns and solutions for problem areas
- ▶ Improve Inter- & Intra-Country communication

# Country A




# Country B



Country C



# Role of SAWC and using SMART

- ▶ SAWC [Southern African Wildlife College] geared to Train & Assist students in learning about SMART.
  - ▶ SMART as a Monitoring and Reporting tool to standardize reporting structures
  - ▶ SAWC will act as a “Regional Hub” for data collation
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# SMART Connect



Collect data from the field and share in real time



Manage and respond to real time alerts



Centrally manage SMART deployments at multiple sites

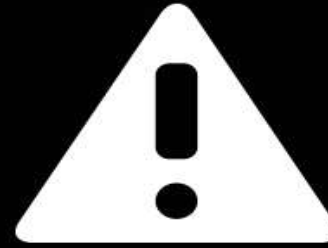
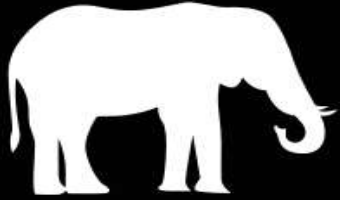


Integrate SMART with other systems

## Benefit 1: Real-Time Tracking & Alerts from the Field

- ▶ Ensure HQ can respond in real time to emergencies
- ▶ Move beyond analysis of where poaching HAS happened and include responding to where poaching IS happening
- ▶ Enable analysis & reporting of SMART data as soon as it is collected

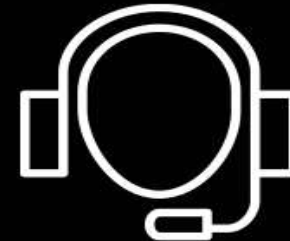




**Rangers capture data on threats or positions (of animals or themselves)**

**Rangers send data from the field**

**Transmitted as alerts in real time**



**Rich mapping of simultaneous alerts enhances prioritizing responses**

**Rangers deployed**

**Management receives alert and immediately responds**





## Benefit 2: Centrally Manage SMART from Multiple Sites

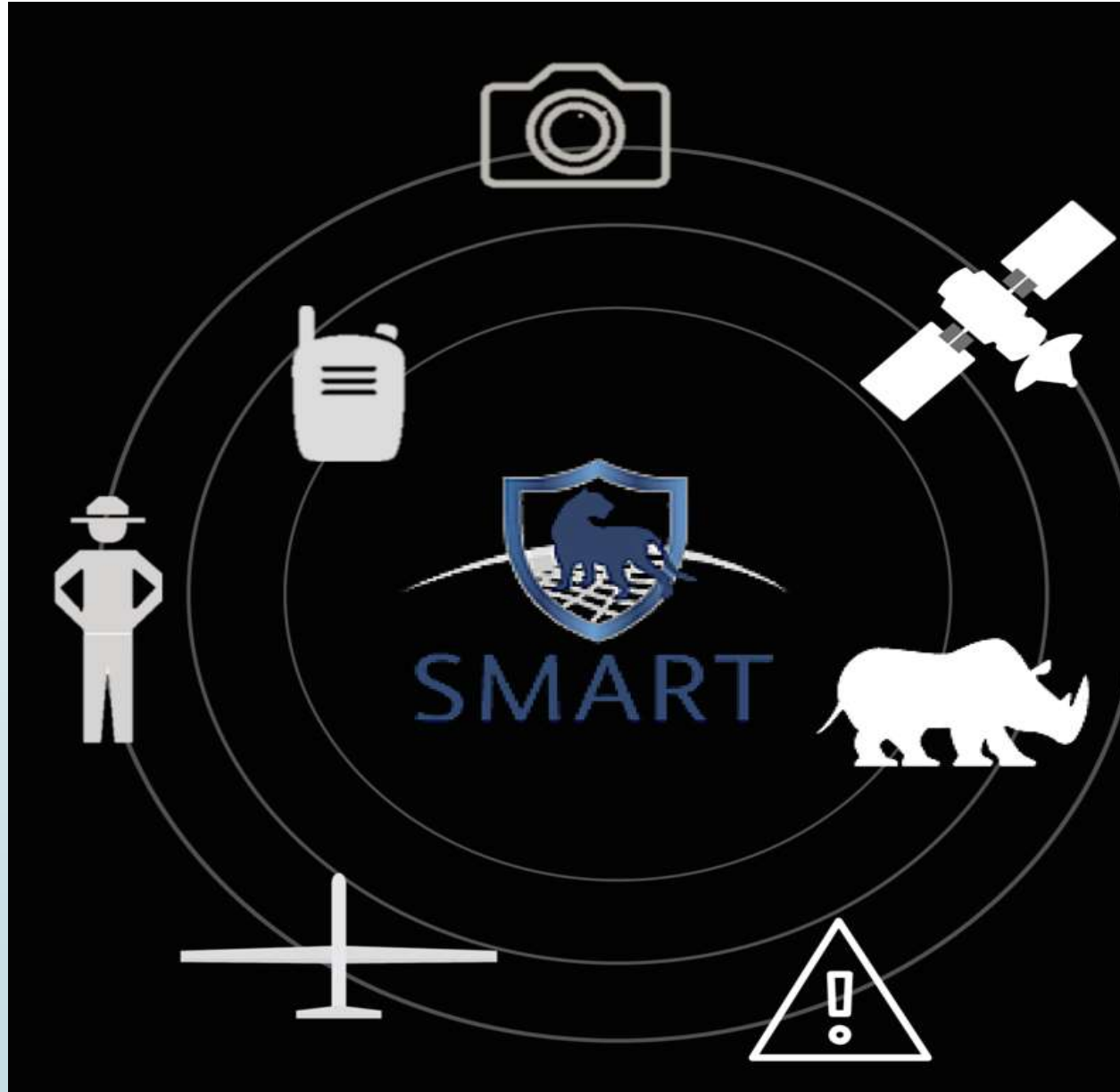
- ▶ Manage, develop and share data models, reports, queries across an entire PA network
- ▶ Manage SMART security centrally and delegate permissions based on local capacity
- ▶ Enable central agencies to visualize, evaluate and support the work of PAs
- ▶ Efficient and coordinated decision-making and resource allocation

## Benefit 3: Integrate SMART with Other Systems



- Integrate range of sensors (e.g. remote cameras, UAVs, patrol and wildlife tracking devices) to bring data into SMART
- Bring in cloud data (e.g. deforestation, fire alerts) to assist patrol planning
- Support additional mobile data collection tools (UHF/VHF; digital radios; LoRA)
- Feed SMART data into other systems for rich analysis, such as I2 or ARCGIS

# Example: Field Sensors



# SMART Connect at a glance

The screenshot shows the SMART desktop application window titled "SMART : Sample - Conservation Testing". The menu bar includes File, Conservation Area, Patrol, Field Data, Query, Report, Planning, Connect, Intelligence, and Help. The "Connect" menu is open, showing options: Upload Changes To Connect, Download Changes From Connect, Upload Conservation Area to Connect, and Server Configuration... The left sidebar contains a "Queries & Summaries" tree with categories like "Conservation Area Queries" and "My Queries", listing various data queries such as "Elephant carcasses - observations" and "Anti-poaching patrols on foot". At the bottom, there is a "SMART Query Definition" section.

The screenshot shows the SMART Connect web application interface. The top navigation bar includes "Home Page", "My Account", "Conservation Areas", "Alerts" (highlighted), "User Accounts", "Queries", and "Settings". The main content area is titled "Alerts" and features an "Operational Map" with a "Create New Alert" button and a "View/Manage Alerts:(6)" button. The map displays a geographical area with several colored markers (yellow, blue, green, purple) representing alerts. A filter panel on the right allows for filtering alerts by date (set to "All Dates" from "Fri Nov 06 2015" to "Fri Nov 06 2015"), include types (checked: Elephants, Emergency, Intelligence, Observation, Patrol Position), include status (checked: ACTIVE, unchecked: DISABLED), include importance (checked: 1(Highest), 2, 3, 4, 5(Lowest)), and include data from CA (checked: Conservation Testing [Sample]). The "Contains Text" field is empty. The top right corner shows "smart | Logout" and "Last Updated 6/11/2015 14:53:55 update now".

# Success of SMART



## Highlights

  
**147 Sites**  
Adopting SMART

  
**31 Countries**  
With SMART Sites

  
**8 Governments**  
Implementing SMART across  
the Entire Protected Area System

  
**20+ Workshops**  
With SMART Sites

  
**43 Countries**  
With staff trained in SMART



**240 Sites**  
Trained in the SMART Approach



SMART has been successfully adopted as a standardized conservation law enforcement monitoring (LEM) tool by both marine and terrestrial protected areas as well as community reserves around the world.

SMART has facilitated the analysis of conservation data from a range of sources, such as ranger patrols, intelligence, and wildlife surveys, in order to understand the distribution and intensity of threats to wildlife and improve law enforcement effectiveness.

By putting sophisticated mapping, analysis and reporting capabilities in the hands of those working on the frontlines of conservation, we have provided a comprehensive tool for protecting wildlife.

## Regional Implementation



## Global Implementation

Government wildlife agencies are now requesting to scale up SMART from individual sites to entire protected area networks in eight countries around the world, with more countries under discussion.



# Get SMART



# Contact a SMART Partner or SAWC



[www.smartconservation.org](http://www.smartconservation.org)