Right Under our Noses: How Detection Dogs Can Drive Conservation

From Ecological Monitoring, to Combating Wildlife Trafficking

Working Dogs *for* Conservation

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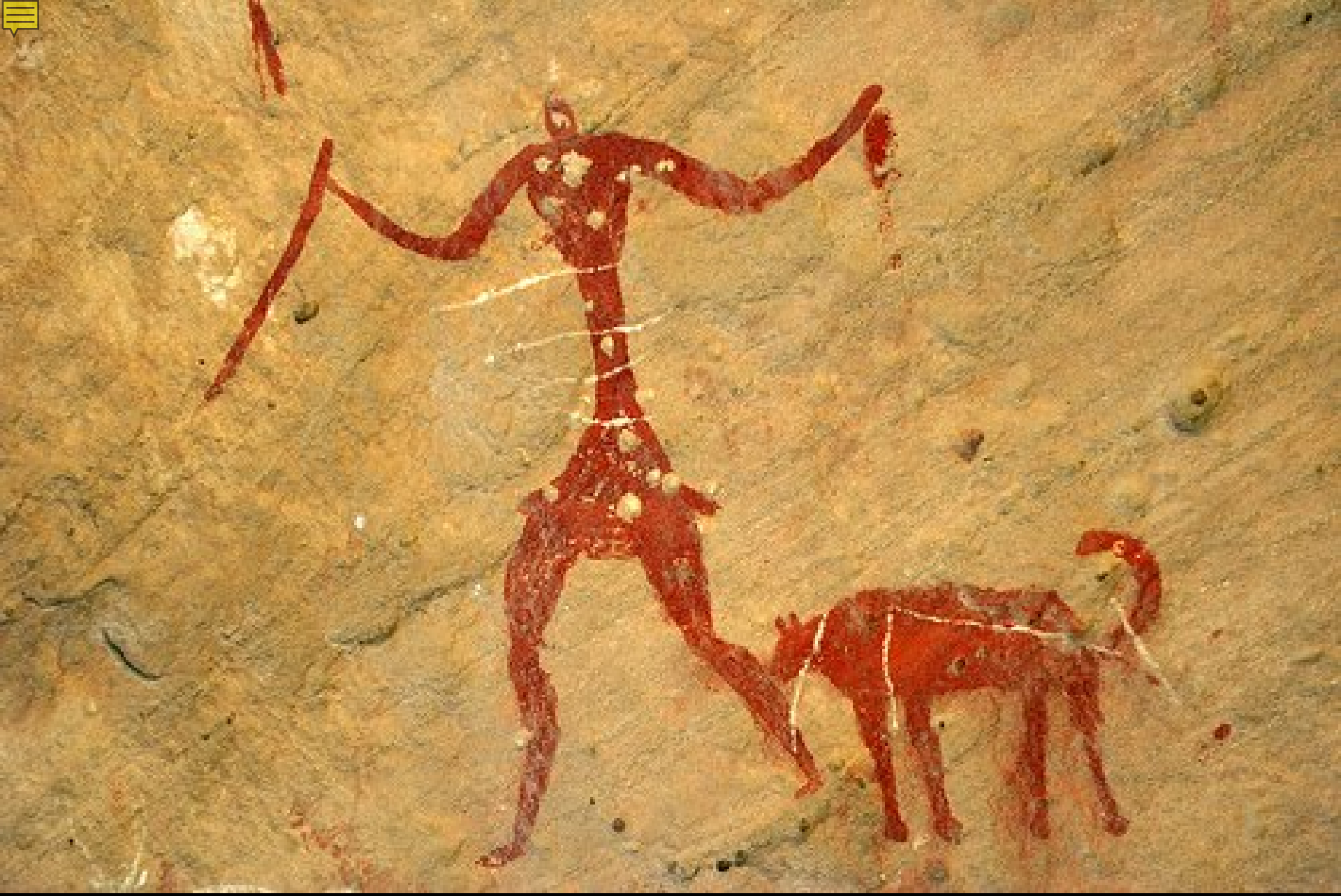
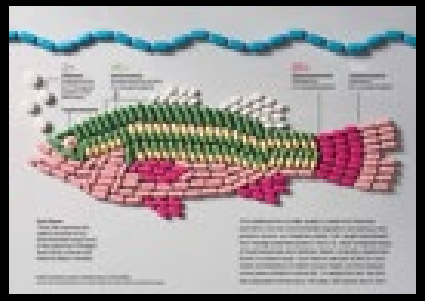
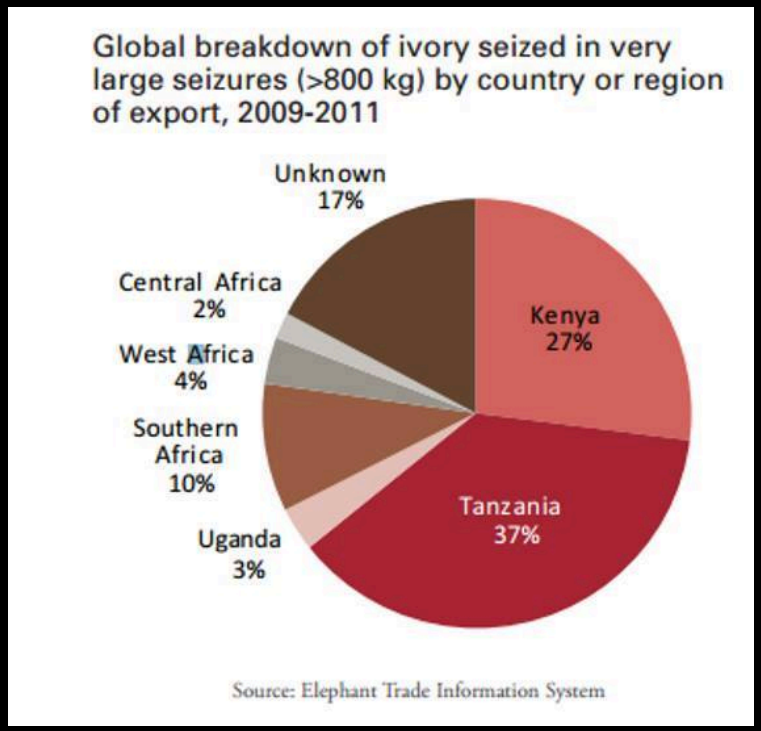


"Let's try it again. This time with a tad less mania."



On 3rd Party Interdiction

- Narcotic and security protocols are often rigid
- Techniques do not transfer well from other disciplines to conservation detection
- Political and Institutional relationships often make it impossible to combine wildlife with drugs and/or security
- Leverage existing relationships: SMART, threat detection, tracking




DIABETIC
ALERT DOG


Greenland
Iceland
Norwegian Sea
Sweden
Finland
Norway
United Kingdom
Ireland
Denmark
Poland
Belarus
Germany
Ukraine
France
Romania
Italy
Spain
Portugal
Greece
Turkey
Kazakhstan
Uzbekistan
Turkmenistan
Afghanistan
Pakistan
Mongolia
China
South Korea
Japan
Russia
North Atlantic Ocean
North Pacific Ocean
Morocco
Algeria
Libya
Egypt
Mauritania
Mali
Niger
Chad
Sudan
Nigeria
Yemen
Saudi Arabia
Iraq
Iran
India
Myanmar (Burma)
Thailand
Vietnam
Philippines
Malaysia
Indonesia
Papua New Guinea
Australia
South Sudan
Ethiopia
Somalia
Kenya
DR Congo
Tanzania
Angola
Zambia
Mozambique
Namibia
Botswana
Madagascar
South Africa
Indian Ocean
United States
Mexico
Cuba
Puerto Rico
Guatemala
Nicaragua
Caribbean Sea
Gulf of Mexico
Venezuela
Colombia
Ecuador
Peru
Brazil
Bolivia
Paraguay
Chile
Argentina
South Atlantic Ocean

100% accuracy: 1,298 / 1,298 kit fox scats correctly ID'd

5x faster finding brown tree snakes

9x more likely than camera traps to detect single bear or bobcat

10x faster finding the first black footed ferret

16x more area searched for black footed ferrets/unit time

36x more likely than hair snares to detect single bear or bobcat

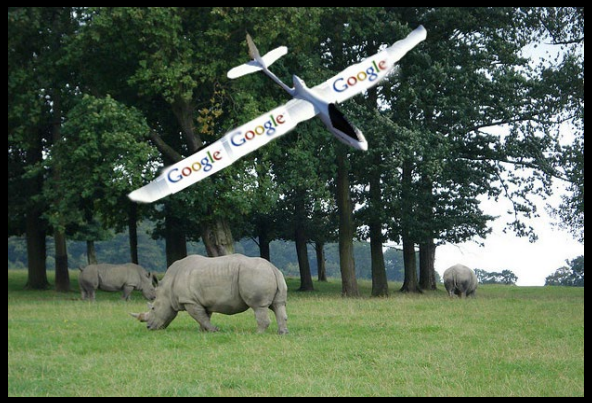
39x more turtles discovered / unit time

Abbreviated References:
1 Reindl-Thompson et al. 2006. Wildlife Soc. Bulletin.
2 Duggan et al. 2011. J. of Wildlife Mgmt.
3 Kapfer et al. 2012. J. of Herpetological Cons. and Biol.
4 Arnett 2006. Wildlife Soc. Bulletin.
5 Nussear et al. 2008. J. of Herpetological Cons and Biol.
6 Cablk and Heaton. 2006. Ecol. Applications.
7 Savidge et al. 2010. New Zealand J. of Ecology.
8 Goodwin 2010. Invasive Plant Science and Mgmt.
9 Rolland et al. 2006. J. of Cetacean Research and Mgmt.
10 Harrison 2006. Wildlife Soc. Bulletin.
11 Long et al. 2007. J. of Wildlife Mgmt.

When to Use Dogs:

- Efficiency
  - Low density
  - Structurally complex habitat
  - Cryptic species (nocturnal, camouflaged, tiny)
  - Hard to discriminate (sp., sex, reproductive status)
- High Accuracy Necessary
- Varied search environments and search strategies
- Long duty cycles
- Simultaneous searching for multiple targets
- Seeking many targets over career

Dogs complement Existing & Future Technology:



Concerns about using dogs:

Safety for the Target Species

Safety for Other Species

Detecting Non-target species

Cross-Site Contamination

Scalability

For a Successful Dog Project:

Known Seasonality and Natural History of the Target

Known Training Samples

Safety while working
(temperature, natural hazards, disease)

Confirmation in the Field

Best Practices for Conservation Detection Dogs:

Multiple Dogs for Each (novel) Target

Long-Term Trainer/Handler Relationship

Ethical Handling and Husbandry

Structured (rigorous!) Survey Design

ICDDA Membership

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