



PAWS: AI for Conservation

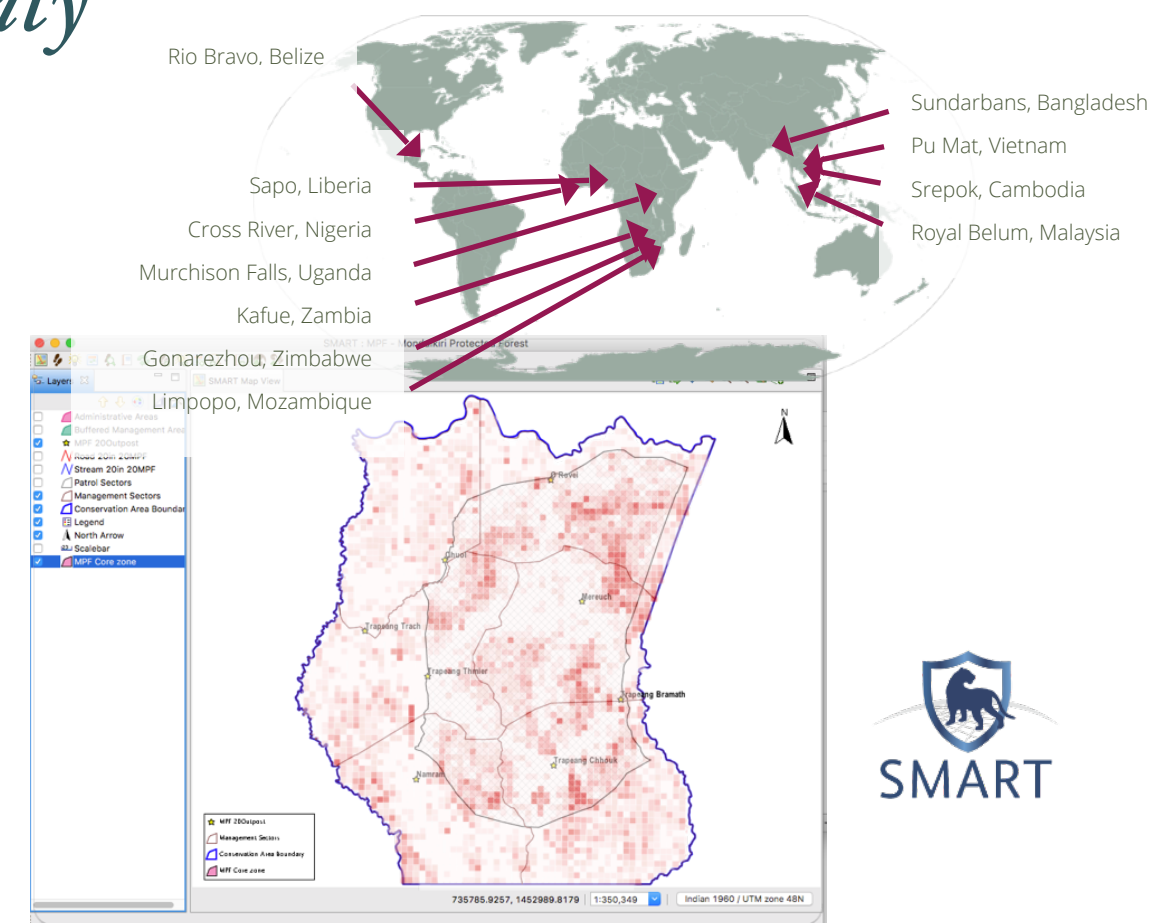
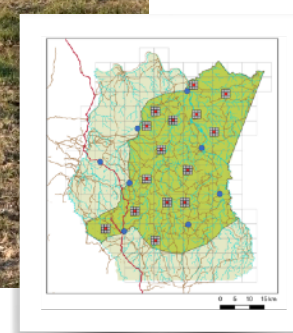
Protection Assistant for Wildlife Security



Collaboration with conservation NGOs

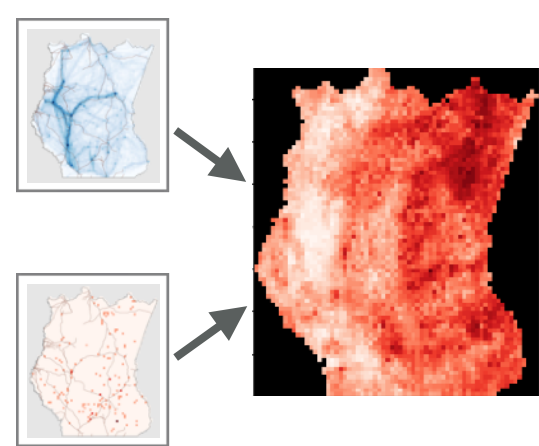


Field tests in Cambodia and Belize



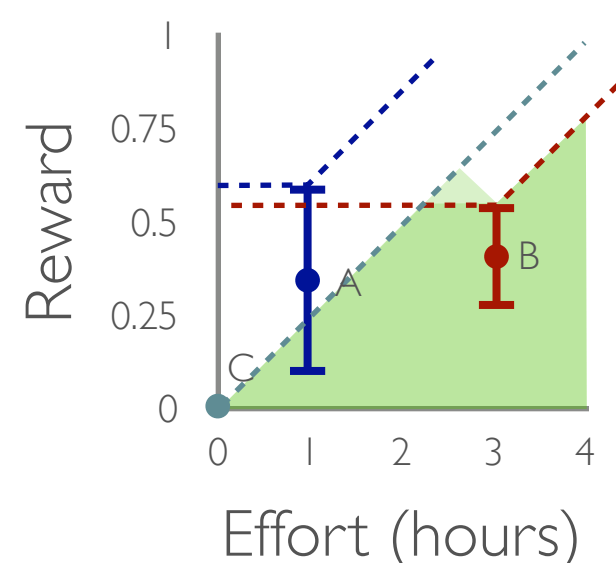
Global deployment

Online learning and sequential planning



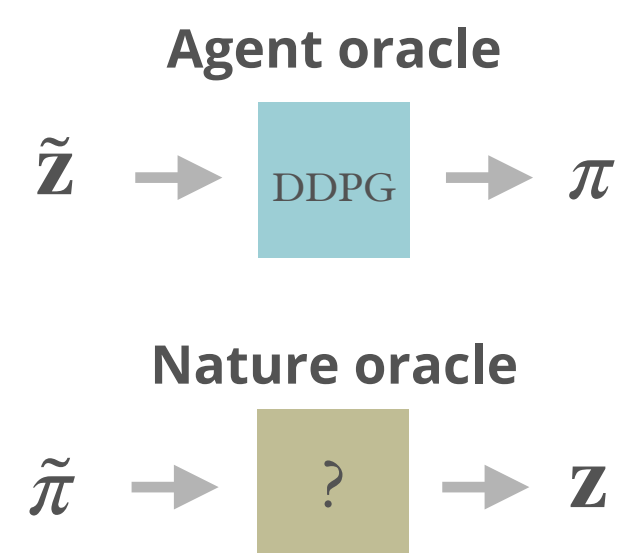
ML and risk-averse planning

[ICDE 2020]



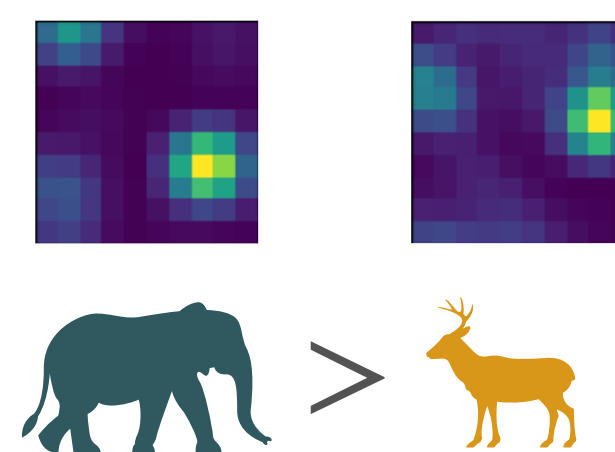
Multi-armed bandits for online learning

[AAAI 2021]



Robust sequential decision-making

[UAI 2021]



Ranked prioritization with online allocation

[IJCAI 2022]

Lessons learned

Project design + scoping

- Begin with simple computational approaches
- Incremental deployment before ambitious project design
- Participatory co-design to identify stakeholder needs

[AIES 2021]

Deployment

- Real-world deployment is necessary for effective technology transfer
- Large-scale deployment requires quality engineering
- Evaluate with self-contained experiments

Marrying research + practice

- Integrate domain expertise into algorithm design
- Consider real-world constraints as research challenges, not limitations
- Limited data inspire research directions to close the gap

