North-East Asian Subregional Programme for Environmental Cooperation

# Knowledge-Sharing Platform

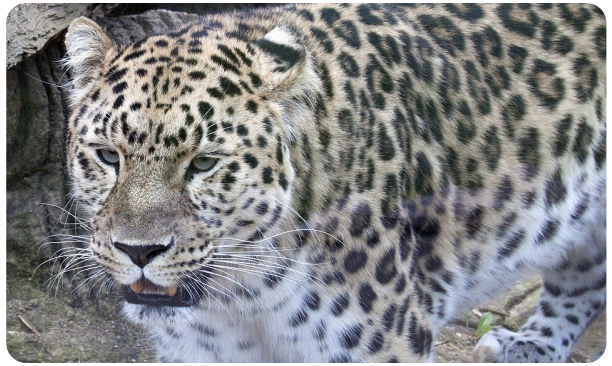
## for Transboundary Big Cat Conservation

A trust-first smart repository and future interactive hub for the NEASPEC big cat network

### Amur tiger

*Panthera tigris altaica*

### Amur leopard



*Panthera pardus orientalis*

### Snow leopard

*Panthera uncia*

# Today’s storyline

From conservation need to operational design and implementation choices

1

## Why a platform?

Fragmented knowledge, transboundary species, and evidence needs

2

## What is the KSP?

Objectives, modules, taxonomy, and user roles

3

## How will it work?

Trust-first governance, data flow, access control, and content workflow

4

## What comes next?

Roadmap, risks, M&E, workshop questions

# Why a KSP, and why now?

The policy window is open and the problem is operational, not conceptual

**3**
NEASPEC flagship big cats

**75%**
find access difficult

**100%**
expect usefulness

**100%**
flag data security

## Mandate

SOM-26 and SOM-27 recognized the need for structured information exchange and an online platform.

## Need

Experts require a shared baseline across policy, science, and field methods.

## Constraint

Raw data sensitivity requires phased trust-building before interactive sharing.

# 1. Conservation problem

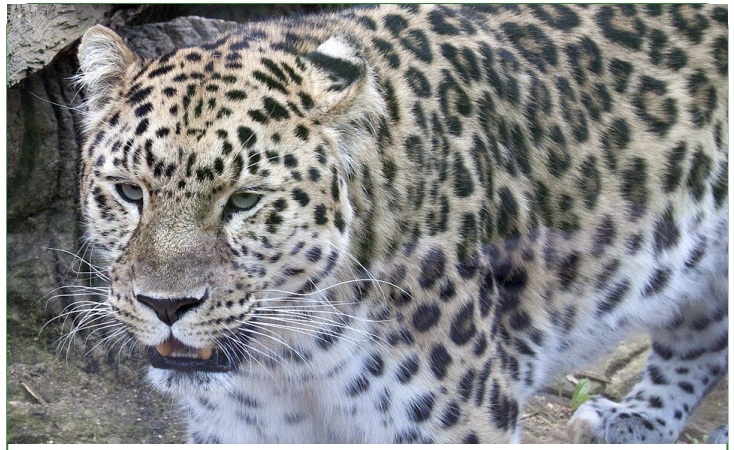
# The platform is anchored in three flagship species

Different ecologies, common transboundary knowledge needs

## Amur tiger

***Panthera tigris altaica***

Large forest territories; requires coordinated range and threat information



## Amur leopard

***Panthera pardus orientalis***

Critically small range; high need for corridor and population knowledge

## Snow leopard

***Panthera uncia***

Mountain landscapes across borders; monitoring methods vary widely



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# The core challenge: fragmented knowledge

Conservation decisions require information distributed across institutions, countries, and formats

### National reports

Useful, but hard to discover across borders.

### Scientific papers

Useful, but hard to discover across borders.

### Maps & methods

Useful, but hard to discover across borders.

### Expert contacts

Useful, but hard to discover across borders.

## KSP

shared baseline

**Searchable repository**

**Common taxonomy**

**Trusted access rules**

**Curated updates**

# What fragmentation costs

The KSP is designed to reduce specific operational frictions

## Duplication

Repeated studies and policy scans

## Inconsistent methods

Difficult subregional comparisons

## Slow onboarding

Institutional memory scattered

## Weak corridor planning

Spatial evidence not harmonized

**Design principle: the platform should make the next cross-border decision easier, faster, and better documented.**

# Policy and expert mandate

The KSP is a response to a sequence of NEASPEC decisions and expert consultations

### SOM-12

Nature Conservation Strategy endorsed

### SOM-26

Information-sharing platform need recognized

### 2024

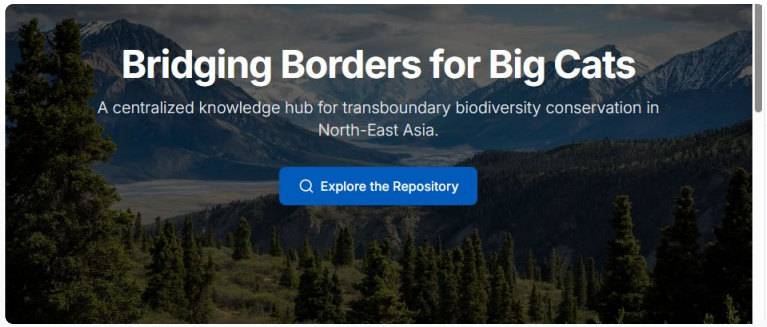
Workshop identified repository and security needs

### SOM-27

Activity plan for framework and platform

### 2026+

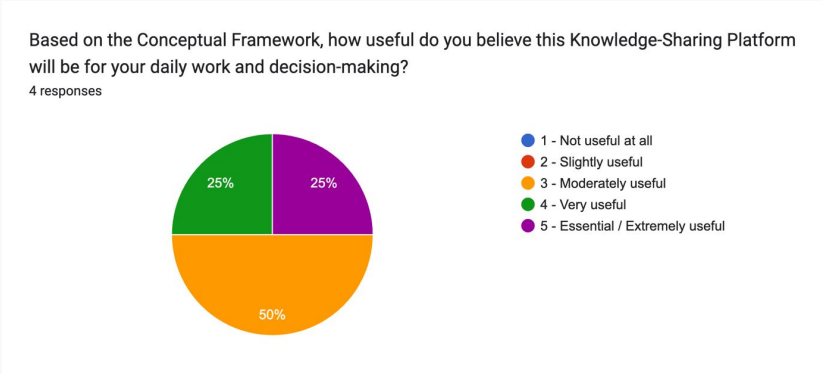
Phase 1 development and stakeholder refinement




Platform Interface Preview

# Stakeholder validation: access is difficult

Survey results support the need for structured discovery




**Knowledge-Sharing Platform Usefulness**

Stakeholders overwhelmingly identified difficulty in accessing transboundary conservation data.

## Signal

**75%** reported that accessing transboundary conservation data and policies is somewhat or very difficult.

## Implication

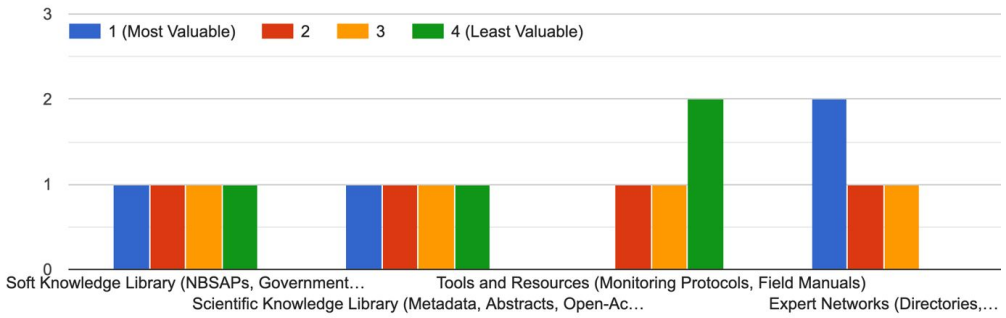
The minimum viable platform must **solve discovery first**, not start with raw data exchange.

**Access Difficulty Sentiment Distribution**

# Stakeholder validation: the platform has a strong mandate

100% of respondents saw the proposed framework as useful for daily work or decision-making

### Core Module Value Ratings




**100%**

moderately useful or higher

### Interpretation

The platform's value proposition is credible, but adoption depends on privacy and maintenance.

### Strategic Priorities

- Start with high-value public information
- Ensure enough curation to avoid stale content

# 2. Platform concept

A phased knowledge platform, not just a website.

# What the KSP is

A smart repository that can evolve into an interactive hub

## 01. NOW

### Centralized Knowledge Base

Policy documents, reports, scientific metadata, maps, methods, and expert contacts.

## 02. SOON

### Shared Operating Layer

Faceted search, common tags, validation workflow, role-based access, and curated updates.

## 03. LATER

### Secure Data Hub

Interactive GIS and raw-data modules only after agreed protocols and trust are in place.

**"This sequencing is the central design choice: build value immediately while protecting sensitive information."**

# Five platform objectives

Each objective maps to a practical feature in the deck

## Centralize

One repository for policy, science, maps, and methods

1

## Connect

Common baseline for transboundary dialogue

2

## Inform

Accessible evidence for policy and management

3

## Build trust

Soft knowledge first; sensitive data later

4

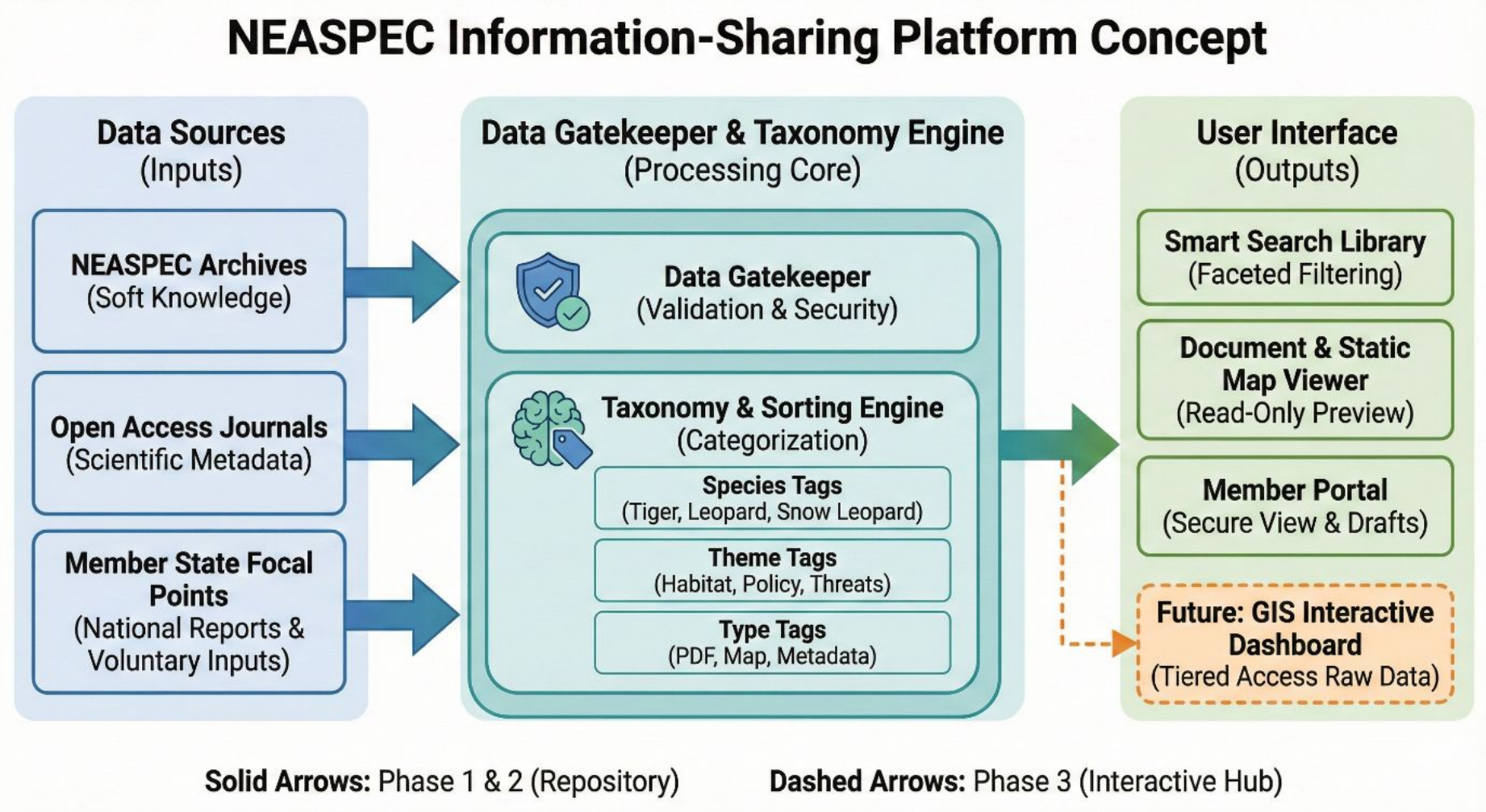
## Align globally

Interoperability with CHM, GBIF/TDWG, IBCA

5

# Conceptual architecture

Inputs are validated and tagged before reaching the public or restricted user interfaces



# Core modules: four entry points plus a smart core

The structure balances policy, science, practical tools, and relationships

### Soft knowledge library

Government reports, NBSAPs, NEASPEC reports, workshop materials, case studies.

### Scientific knowledge library

Open-access metadata, abstracts, DOIs, and published maps without requiring raw sensitive data.

### Tools & resources

Monitoring manuals, survey protocols, conservation guidelines, and templates.

### Expert network

Directory and communication layer for focal points, scientists, and practitioners.

## The Smart Core: Supporting mechanism

The central intelligence layer that powers all modules through integrated technical services:

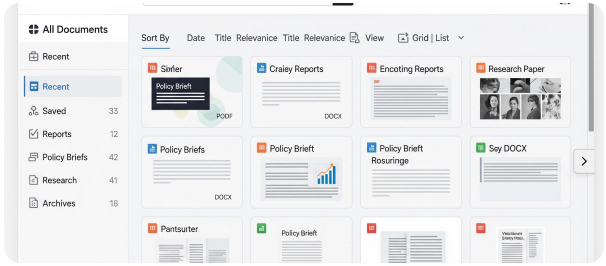
- Faceted search and advanced taxonomy engine for intelligent data discovery
- Role-Based Access Control (RBAC) and robust security administration
- Automated validation workflows and data integrity management

# Module 1: Soft knowledge library

The first value proposition for decision-makers and focal points

## What it stores

NEASPEC meeting reports, national biodiversity strategies, workshop proceedings, MOUs, policy briefs, case studies, and news updates.

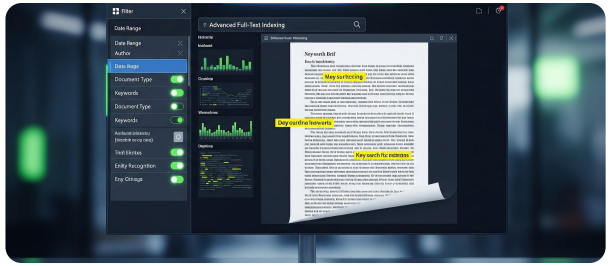



## Why it matters

Soft knowledge is lower sensitivity, easier to share, and directly useful for policy alignment and institutional memory.

## Key capability

Full-text indexing and faceted tags allow users to search within PDFs and across document types.



# Module 2: Scientific knowledge library

Aggregate open science without requesting proprietary raw data

## Data Assets

- Metadata
- Abstracts
- DOIs
- Range maps
- Published methods

## Curation Layer

Open-access literature is reviewed, tagged, and linked to species, themes, geographies, and document types.

## User Value

Fast discovery of evidence across borders while avoiding sensitive raw datasets in Phase 1.

# Module 3: Tools, resources, and methods

A practical library for harmonizing conservation work

## Monitoring protocols

Camera traps, snow-tracking, transects, occupancy surveys

## Transboundary survey methods

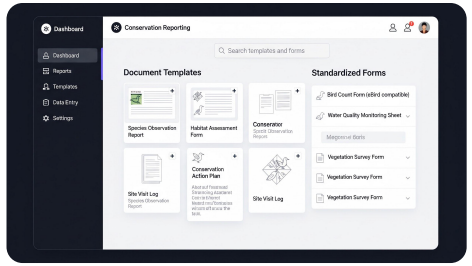
Joint design, field forms, data dictionaries, QA rules

## Conservation guidance

Anti-poaching, conflict response, disease/health, prey base

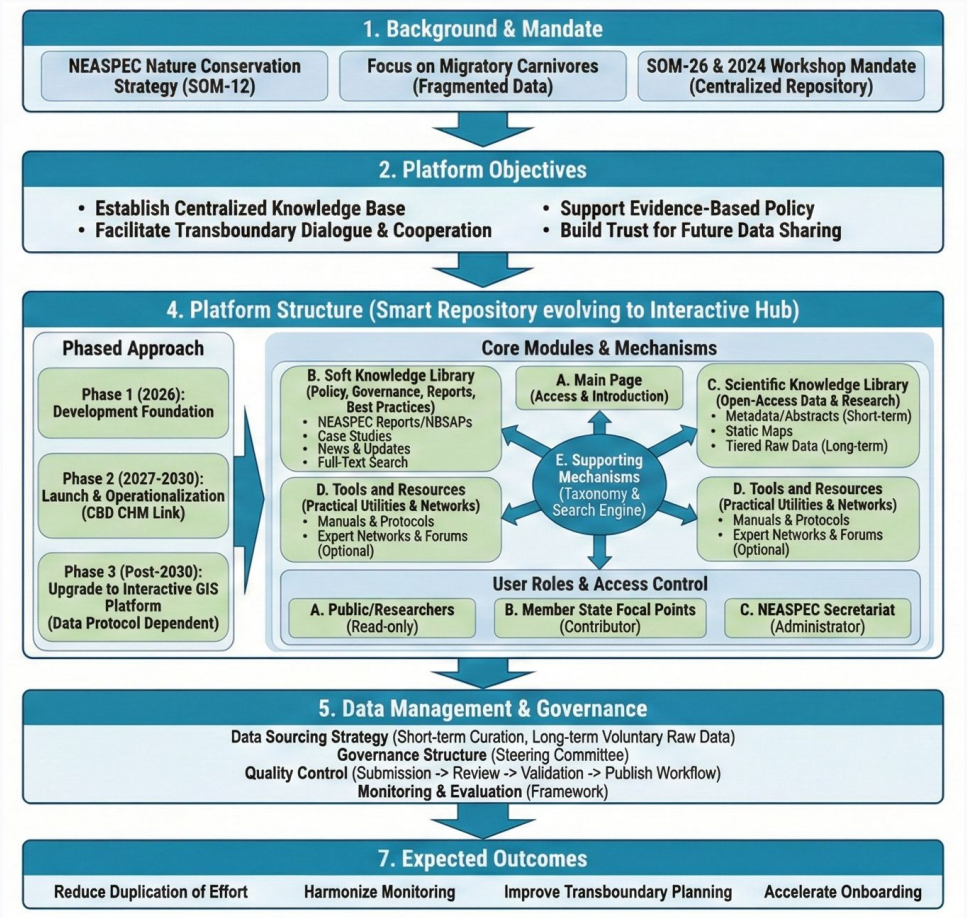
## Templates

Reporting forms, metadata templates, consent and sharing protocols



# Module 4: Expert network

Survey respondents ranked relationships and direct contact as a high-value feature




8. Conclusion: A pragmatic, trust-first approach building a technical foundation for a long-term interactive transboundary data hub.

## Directory

Verified profiles for national focal points, researchers, NGOs, and technical experts.

## Contact rules

Different contact visibility by role and permission level.

## Working groups

Support thematic or species-specific groups after launch.

## Collaboration

Make it easier to ask who knows what, where, and how.

# The taxonomy engine is the platform’s operating system

Tags turn a document library into a searchable knowledge system

## Faceted search

### Species

Amur tiger, Amur leopard, Snow leopard

### Theme

Habitat, anti-poaching, conflict, disease, governance, prey base

### Geography

National level and defined transboundary zones

### Type

Report, paper, map, protocol, case study, metadata

### Language

English and member-State languages

# Example user journey: finding corridor evidence

Faceted search should support policy questions, not only keyword queries

### Question

"Which published evidence supports a corridor action?"

### Filter

Species + country + habitat/connectivity + map

### Review

Compare reports, papers, and static maps

### Act

Use evidence in joint planning or workshop dialogue

**The platform’s success depends on how quickly an expert can move from a question to a credible, citable knowledge bundle.**

# User roles and access control

Three roles keep the platform open enough to be useful and restricted enough to be trusted

## Public users

Read-only access to public reports, general species profiles, open scientific metadata, and public maps.

## Researchers & Focal points

Secure login to submit national reports, contribute data, view internal drafts, and access restricted directories.

## NEASPEC Secretariat

Administrator role to validate submissions, manage taxonomy, and oversee user accounts.


*Visual representation of cumulative access levels*

# Access matrix: a simple starting point

RBAC can expand later, but Phase 1 should be easy to explain and enforce

| | Public | Researchers/ Focal point | Secretariat |
|---|---|---|---|
| Public reports | ✓ | ✓ | ✓ |
| Open science metadata | ✓ | ✓ | ✓ |
| Internal draft reports | | ✓ | ✓ |
| Expert contact details | | ✓ | ✓ |
| Raw sensitive data | | | ✓ |

⚠️ **Sensitive raw data should remain out of scope until agreed protocols exist.**

# Lessons from existing platforms

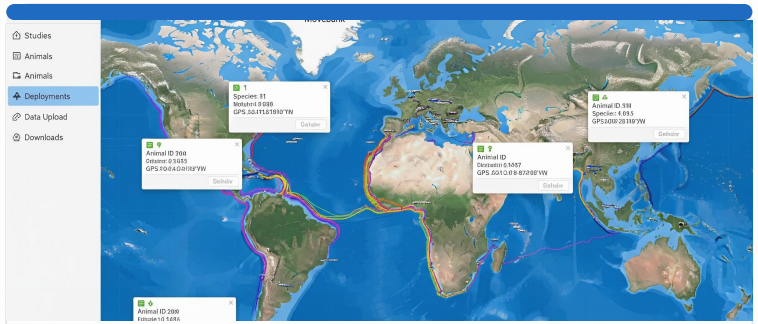
The NEASPEC KSP should borrow strengths without copying risks


## GBIF

### Scale + standards

**Key Lesson:**

Use Darwin Core-style metadata, but protect sensitive locations

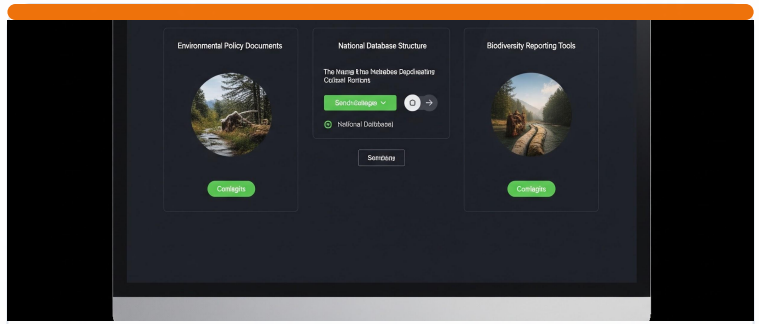



## Movebank

### Telemetry tools + owner control

**Key Lesson:**

Learn from study-level permissions, but include soft knowledge




## Regional CHMs

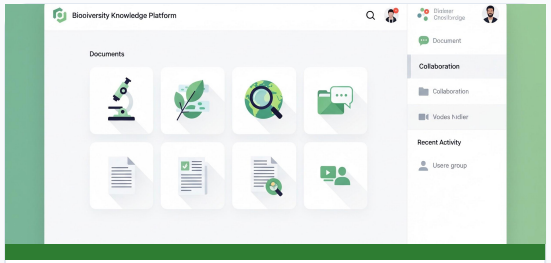
### Policy mandate + capacity building

**Key Lesson:**

Prioritize curated policy repository, not passive submissions

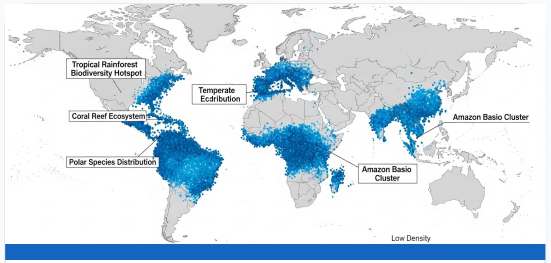
# Global synergy: make NEASPEC discoverable, not isolated

Interoperability protects regional ownership while reducing duplicated effort




## CBD CHM

Biodiversity knowledge exchange and NBSAP implementation support

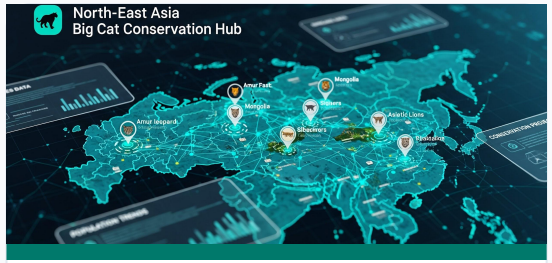



## GBIF

Metadata and occurrence-data standards

## IBCA

Emerging global coordination for seven big cats




## NEASPEC KSP

Regional policy-science hub for North-East Asia big cats

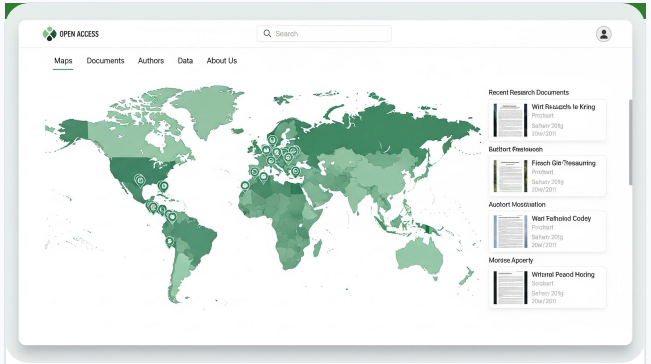
**Use common metadata; retain regional governance.**

# 3. Governance and data management

Trust is the core technical requirement.

# Trust-first architecture

The KSP should build confidence before requesting sensitive datasets




## Phase 1

**Public and low-sensitivity knowledge**

Open reports, open science, published maps


## Phase 2

**Operational member-State contribution**

National soft knowledge and regular curation

## Phase 3

**Restricted raw data, if agreed**

GIS dashboards and secure analytical views

security gate

# Data sourcing strategy

Start with active curation; gradually invite voluntary contribution

## Secretariat / consultant curation

NEASPEC archives, open-access literature, public maps, and existing workshop outputs.

## Voluntary member-State inputs

Public national reports, NBSAPs, policy documents, protocols, and non-sensitive case studies.

## Future secure datasets

Only after protocols define ownership, permissions, anonymization, and release rules.

**A repository that is not actively curated will become outdated; curation is a core operating cost, not a one-time task.**

# Quality-control workflow

Every item should move through a transparent publication process

## Submit

Focal point or expert group uploads or recommends content

## Pending review

System flags metadata completeness and access tier

## Validate

Gatekeeper checks scope, sensitivity, and taxonomy

## Publish

Item becomes visible to assigned user tier

## Maintain

Periodic review, update, archive, or replace

# Governance structure

The platform needs both political oversight and operational gatekeeping

## Steering Committee

**National Focal Points**

Political leadership and strategic oversight for the big cat network.


## Secretariat

**Administration + Validation**

Core day-to-day management, platform administration, and content validation.

## Expert Groups

**Technical Review + Content**

Scientific and technical guidance to ensure data quality and scientific relevance.

**Key Responsibilities:**

- Set data-sharing policies and access tiers
- Manage taxonomy and content standards
- Review submissions and update priorities
- Evaluate use, gaps, and sustainability

# Hosting options: integrate first, keep upgrade path open

Stakeholder feedback favored cost-effective integration for Phase 1

## Option A: Integrate into NEASPEC website

**Pros:**

- Cost-effective solution
- Leverages existing domain authority
- Simpler maintenance and overhead

**Cons:**

- Advanced search limitations
- Phase 3 GIS may face CMS constraints

## Option B: Standalone website

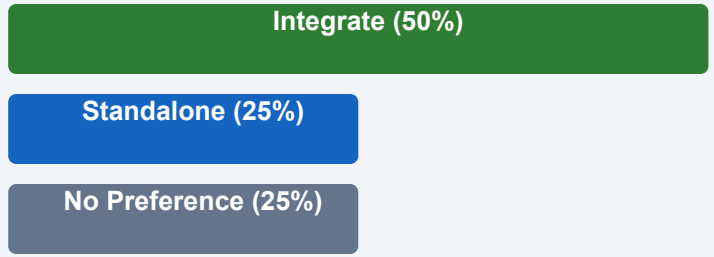
**Pros:**

- Full technical and design flexibility
- Custom taxonomy and GIS backend
- Distinct branding for the network

**Cons:**

- Significantly higher cost
- Separate security, hosting, and maintenance needs

### Stakeholder Preferences (%)

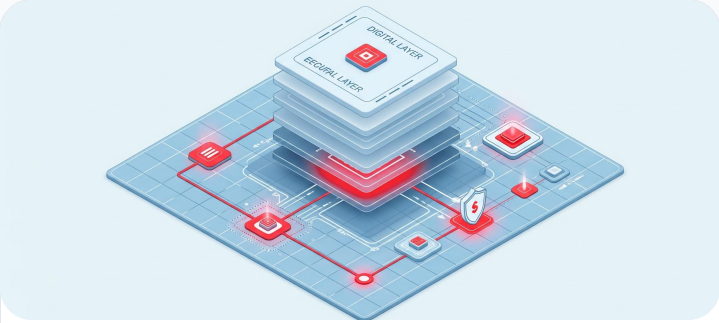



*"Integrating into the existing ecosystem reduces technical debt and ensures Phase 1 sustainability."*

# Security is the adoption gate

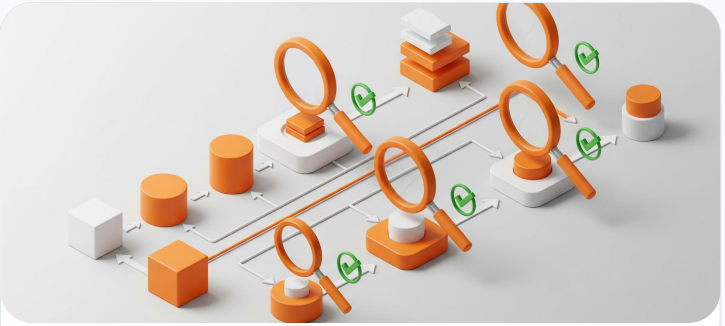
The survey’s strongest signal was unanimous concern about confidentiality

**100%** of stakeholders identified data security or confidentiality as the biggest barrier to network participation




## Design response

No raw sensitive data in Phase 1; strict RBAC (Role-Based Access Control) enforced from day one.



## Operational response

Clear review workflow with visible owner controls to ensure data integrity and transparency.

## Diplomatic response

Formal data sharing protocols established before the launch of Phase 3 dashboards.

# Monitoring and evaluation framework

Evaluate the platform as a working knowledge service, not just a web launch

## Use

Monthly active users, search sessions, downloads

## Content

Documents uploaded, metadata completeness, update frequency

## Quality

Validation time, broken links, duplicate items, language coverage

## Collaboration

Expert directory use, referrals, joint outputs

## Policy impact

References in meeting papers, plans, protocols, and decisions

# 4. Implementation roadmap

Build incrementally: value first, sensitivity later.

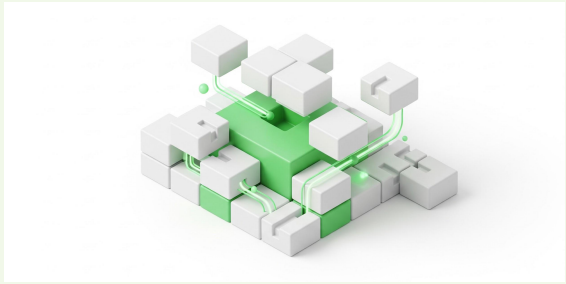
# Three-phase implementation plan

A phased path reduces technical risk and builds political trust

## 2026

### Phase 1: Foundation

Build smart repository, ingest open knowledge, pilot test, draft sharing protocols



## 2027-2030

### Phase 2: Operationalize

Official launch, focal-point upload training, interoperability, regular curation

## Post-2030

### Phase 3: Interactive

Condition-based GIS backend, secure dashboards, tiered raw-data access

# Phase 1 work package: development foundation

The 2026 priority is to create a credible, searchable, secure repository

## Architecture & Search

Repository architecture with faceted search for intelligent discovery.

## Knowledge Ingestion

Initial population of NEASPEC documents and open science metadata.

## Digitization

Digitization and tagging of historical conservation materials.

## Pilot Testing

Engagement with focal points and expert groups to refine the platform.

## Data Protocols

Drafting the foundational data-sharing protocol framework for future phases.

# Phase 2: Launch & Operationalization

The platform becomes useful only when users return and contribute

## Launch

Release public and restricted interfaces with clear user guidance and communication materials.


## Capacity building

Train national focal points to upload documents, tag metadata, and request review.

## Interoperability

Make regional knowledge discoverable through global mechanisms without duplicating effort.

**Operational objective: move from “platform built” to “platform used monthly.”**

# Phase 3 upgrade: condition-based interactive hub

Dynamic GIS should be treated as a future option, not the Phase 1 promise

## Trigger

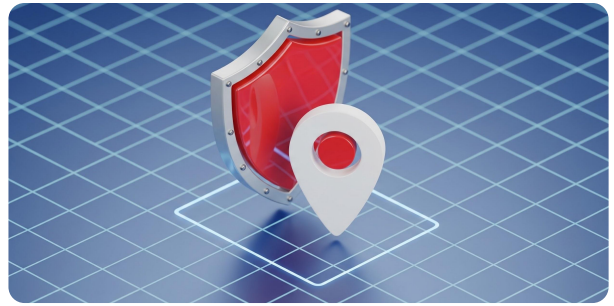
Formal data-sharing protocols and user confidence are in place.

## Capability

Secure GIS database and tiered dashboards for authorized users.

## Guardrail

Sensitive point locations, camera traps, or poaching coordinates remain permission-controlled.



# What experts should help decide in this workshop

The deck ends with design choices that need expert validation

## Taxonomy

Which species, threat, geography, and prey-base tags are essential?

## Content priority

What 20-50 documents or datasets should seed the repository?

## Access rules

Which information must be public, restricted, or excluded?

## Expert network

What contact details can be shared, and with whom?

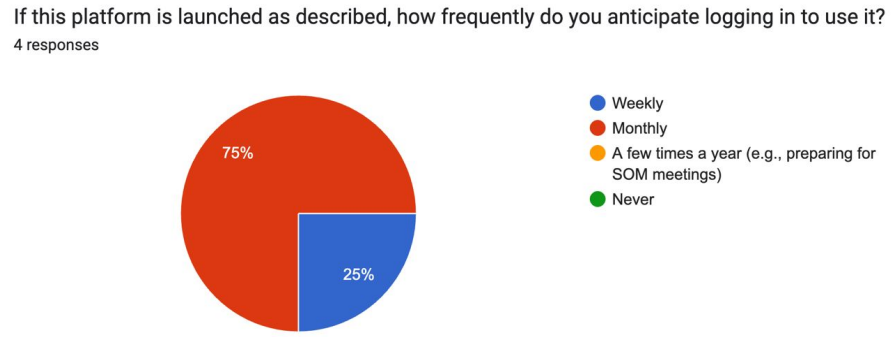
## Roadmap

What must be working by the first public launch?

# Takeaway: start simple, stay trusted, build toward integration

The NEASPEC KSP can become the shared knowledge layer for transboundary big cat conservation

## User Expectation: Anticipated Frequency of Use




- High initial engagement expected for information seeking.
- Core strategy must focus on converting "sporadic" use into a regular professional habit through high-value updates.

### Phase 1: Foundation of Trust

Prioritize discoverability, curation, and trust over raw data complexity.

### Data Sensitivity

Sensitive raw data is reserved for later, protocol-governed modules.

### Immediate Value

Near-term focus: a searchable repository and an expert network.

### Workshop Refinement

Finalize taxonomy, access tiers, and launch priorities based on feedback.

Selected sources: NEASPEC conceptual framework and stakeholder survey (uploaded report); GBIF standards; Movebank permissions; CBD Clearing-House Mechanism; IBCA government/press materials.

# Thank You

Building the future of transboundary big cat conservation together.

For further information and collaboration: