

Fishing Cat: Adaptation and Conservation

Student Handout (Grades 9–12)

Name: _____ Date: _____

Vocabulary

- Structure and function – the idea that an organism's physical form is suited to the job it performs
- Niche – the specific role and habitat conditions a species occupies within an ecosystem
- Natural selection – the process by which traits that improve survival/reproduction become more common
- Vulnerable (IUCN status) – a conservation classification indicating a species is at risk of extinction in the wild
- Ex-situ conservation – conservation efforts (like zoo breeding programs) that take place outside a species' natural habitat
- Genetic diversity / founder population – the range of genetic variation within a population, important for long-term species health
- Carrying capacity – the maximum population size an environment can sustain given its available resources

Before You Watch

List two or three physical traits of a "typical" house cat:

Predict: what might be different about a cat species that hunts in and around water?

While You Watch

Identify at least three structural adaptations mentioned or shown (paws, head shape, body) and the function each serves.

What evidence does the video give that hunting behavior is partly learned rather than purely instinctive?

What is the fishing cat's current conservation status, and what threats does it face?

What role does Kayuma's move to Prague play in the species' conservation?

After Watching – Discuss

How do the fishing cat's structural adaptations reflect natural selection pressures of a wetland/mangrove environment?

What is the difference between innate and learned behavior? Which category does hunting fall into for fishing cats?

Why might maintaining genetic diversity in a breeding program matter more than simply increasing total numbers?

How does the zoo habitat design reflect an understanding of the species' natural niche?

Research Guide

Choose ONE prompt below. Use at least two credible sources (e.g., IUCN Red List, zoo/AZA conservation program pages, peer-reviewed articles). Write a response (250–400 words).

1. Investigate the IUCN Red List status of the fishing cat. What specific threats have driven this classification, and where are they concentrated geographically?
2. Research how AZA-accredited or EAZA-accredited breeding programs (like the one in Prague) manage genetic diversity across zoo populations. What is a "studbook," and why is it used?
3. Compare the fishing cat's adaptations to another semi-aquatic predator (otter, platypus, or American mink). What does this suggest about convergent evolution?
4. Investigate one other wetland or mangrove species that shares the fishing cat's habitat. How might conservation of the fishing cat's habitat also benefit this species?

My chosen prompt: ____

My sources:

My response:

Assessment: Claim – Evidence – Reasoning

Prompt: "The fishing cat's paws are an adaptation for its hunting niche."

Claim:

Evidence (from the video):

Reasoning (why the evidence supports the claim):

Extension

360 Habitat Tour: Which design features address basic survival needs, and which primarily support natural behaviors (enrichment)?

Convergent Evolution Case Study: Select a second semi-aquatic predator. Which of its traits arose through convergent evolution versus shared ancestry?

Studbook Data Analysis: Research a real AZA or EAZA studbook summary. What does the data suggest about the population's genetic health?