

**IN THE INTERNATIONAL COURT OF JUSTICE  
AT THE PEACE PALACE  
THE HAGUE, THE NETHERLANDS**



**QUESTIONS RELATING TO PRIOR INFORMED CONSENT AND BENEFIT  
SHARING IN THE CONTEXT OF DE-EXTINCTION**

General List No. 303

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**ANECOYON**  
*APPLICANT*

v.

**RIDUS**  
*RESPONDENT*

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**MEMORIAL FOR THE APPLICANT**

30th Annual Stetson International Environmental Moot Court Competition

2025-2026

**TABLE OF CONTENTS**

**INDEX OF AUTHORITIES.....4**

**TABLE OF ABBREVIATIONS.....10**

**QUESTIONS PRESENTED .....12**

**STATEMENT OF JURISDICTION.....13**

**STATEMENT OF FACTS.....14**

**SUMMARY OF ARGUMENTS.....16**

**ARGUMENTS.....17**

    I. Ridus violated the PIC provisions of the CBD and Nagoya.....17

        A. The Royal panther DNA is a genetic resource.....18

            1. The DNA is a material of biological origin containing functional units of heredity, with actual and potential value. ....18

            2. The Royal panther fossil is not a genetic resource. ....19

        B. Anecoyon is the party providing genetic resources. ....20

            1. Anecoyon is the country of origin of the DNA.....20

            2. Ridus does not have a claim to the genetic resources. ....21

        C. DNA extraction for DSI and de-extinction qualifies as access for utilization of the DNA.....21

            1. The loan agreement is not a PIC instrument. ....22

            2. Ridus’ obligation to obtain the PIC is triggered upon its intent to extract DNA from the Royal panther fossil. ....23

            3. Ridus did not obtain Anecoyon’s PIC. ....24

        D. Anecoyon’s lack of a PIC regime does not waive the PIC requirement.....24

    II. Anecoyon’s objection to de-extinction furthers the CBD’s objectives.....25

        A. De-extinction does not support the conservation objective. ....26

            1. Introduction of the modified cougars may endanger ecology. ....26

                a. The panther is alien to the modern ecosystem. ....27

                b. The intended reintroduction of the modified cougars may endanger biodiversity in Anecoyon and Ridus. ....28

            2. The introduction of the modified cougars to the Ridus ecosystem fails the in-situ standard of conservation .....29

                a. There is evidence that the Royal panther existed under warmer and more humid conditions 6,000 years ago than at present. ....29

                b. The ecological conditions of Anecoyon and Ridus are drastically different now than 6,000 years ago .....30

        B. Introducing the modified cougars violates sustainable use .....30

            1. The current conditions of Ridus cannot sustain the long-term viability of the modified cougars.....31

            2. The modified cougars are not compatible with the long-term viability of supporting

and dependent ecosystems .....	32
3. Creation and introduction of the modified cougars may impair conservation measures of extant species.....	32
III. DSI used for de-extinction activities is “biotechnology” for purposes of the CBD and Nagoya.....	33
A. DNA of extinct species is a derivative.....	34
B. DSI is a technological application of DNA.....	34
C. De-extinction is a technological application of genetic information in DSI.....	35
D. De-extinct species are biotechnological products.....	36
IV. SAP, as a user of DSI engaged in a commercial activity covered under a CBD16/2-listed sector, must contribute to the Fund.....	38
A. Ridus’ unilateral declaration obliges it to require contribution to the Fund. ....	38
B. SAP is a user of DSI.....	39
1. SAP is an indirect user of DSI. ....	39
2. SAP is a commercial user of DSI. ....	40
C. SAP engages in commercial activity.....	41
1. SAP’s activities are primarily commercial uses of DSI.....	41
2. The CITES Resolution is inapplicable.....	42
3. The de-extinction project’s non-commercial purposes do not exempt SAP.....	42
D. SAP belongs to indicative sectors.....	43
1. SAP belongs to the biotechnology sector. ....	44
2. SAP belongs to the animal breeding sector. ....	44
3. SAP’s classification as a Botanical Zoo under ISIC is not exclusive.....	45
<b>CONCLUSION AND PRAYER .....</b>	<b>46</b>

## INDEX OF AUTHORITIES

### TREATIES AND CONVENTIONS

Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79.	16, 17, 19, 23, 24, 26, 28, 30, 32, 33, 35, 36, 37, 38, 40, 422
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity, Oct. 29, 2010, 310 U.N.T.S. 275.	16, 20,23, 24, 32
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**TABLE OF ABBREVIATIONS**

1	<b>ABS</b>	Access and Benefits Sharing
2	<b>C¶</b>	Clarifications to the Record Answer number
3	<b>Cartagena</b>	Cartagena Protocol on Biosafety to the Convention on Biological Diversity
4	<b>CBD</b>	Convention on Biodiversity
5	<b>CBD16/2</b>	Decision adopted by the Conference of the Parties to the Convention on Biological Diversity on 1 November 2004
6	<b>CBDVI/23</b>	Conference of the Parties to the Convention on Biological Diversity, Decision VI/23, Alien Species That Threaten Ecosystems, Habitats or Species
7	<b>CITES</b>	Convention on International Trade in Endangered Species of Wild Fauna and Flora
8	<b>DNA</b>	Deoxyribonucleic acid
9	<b>DSI</b>	Digital sequencing information
10	<b>Fund</b>	Cali Fund for the Fair and Equitable Sharing of Benefits from the Use of Digital Sequence Information on Genetic Resources
11	<b>Glowka</b>	Lyle Glowka et al., A Guide to the Convention on Biological Diversity
12	<b>Greiber</b>	Thomas Greiber et al., An Explanatory Guide to the Nagoya Protocol on Access and Benefit-sharing
13	<b>IUCN</b>	International Union for Conservation of Nature
14	<b>Nagoya</b>	Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity
15	<b>PIC</b>	Prior informed consent
16	<b>R</b>	Stetson Record
17	<b>R¶</b>	Record paragraph number

18	<b>Res.5.10</b>	CITES Resolution 5.10
19	<b>Rio</b>	United Nations Conference on Environment and Development at Rio De Janeiro, 1992
20	<b>SAP</b>	Sidney Animal Park
21	<b>U.N.T.S.</b>	United Nations Treaty Series
22	<b>VCLT</b>	Vienna Convention on the Law of Treaties
23	<b>Villiger</b>	Mark E. Villiger, Commentary on the 1969 Vienna Convention on the Law of Treaties



## **QUESTIONS PRESENTED**

- I. Whether Ridus' conduct complied with or violated the prior informed consent provisions of the CBD and Nagoya to the extent they are applicable.
  - II. Whether Anecoyon's refusal to consent based on its objections to de-extinction is counter to the CBD's objectives.
  - III. Whether DSI used for de-extinction activities is "biotechnology" for purposes of the CBD and Nagoya.
  - IV. Whether the SAP is a user of DSI on genetic resources for purposes of CBD16/2, and whether the Sidney Animal Park is engaged in commercial activity covered by a sector currently listed in CBD16/2.
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## **STATEMENT OF JURISDICTION**

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In accordance with Article 40 of the Statute of the International Court of Justice (“ICJ”), the Sovereign States of Anecoyon and Ridus submitted their Special Agreement pertaining to questions concerning their differences relating to Prior Informed Consent and Benefit Sharing to the ICJ. The Parties transmitted a copy of the Special Agreement to the Registrar of the ICJ on 14 July 2025, which the Registrar acknowledged receipt on 31 July 2025.

Anecoyon and Ridus have agreed to accept this Honorable Court’s Judgment as final and binding and shall execute it in its entirety and in good faith.

## **STATEMENT OF FACTS**

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The Royal panther, once inhabiting Anecoyon and Ridus (R¶6), became extinct around 6,000 years ago, likely due to overhunting by the ancestors of the Panthera people of Ridus (R¶7). In 2009, Anecoyon loaned the best-preserved Royal panther fossil, unearthed in Anecoyon, to the National Museum of Ridus (“Museum”), for education and scientific research (R¶15).

In 2022, the Museum announced that it extracted DNA from the fossil for the purpose of its de-extinction and rewilding (R¶16). Anecoyon objected to the de-extinction due to unknown ecological consequences, moral hazard which undermines support for conservation of extant species, and the absence of prior and informed consent (“PIC”) under the Convention on Biodiversity (“CBD”) and the Nagoya Protocol (“Nagoya”) (R¶18). Ridus rejected Anecoyon’s claims and insisted that PIC is not required (R¶21).

In 2023, Anecoyon enacted legislation prohibiting the use of its genetic resources for de-extinction (R¶24). Ridus claimed that denying access based on de-extinction is counter to the CBD’s objectives (R¶25). Anecoyon objected to the claim as access under the CBD pertains only to environmentally sound uses (R¶26).

In 2024, Ridus’ continued genome sequencing led to the creation of digital sequencing information (“DSI”) on the Royal panther (R¶28), which was used to make North American cougar cells resemble traits of Royal panthers (R¶29). Two panthers were born from the process and Ridus contracted Sidney Animal Park (“SAP”), for their care and habitat provision (R¶33). SAP charged panther viewing fees, earning USD2,000,000 in six months(R¶34).

In 2025, Anecoyon called on Ridus to require SAP's contribution to the Cali Fund, as SAP is a commercial user of DSI which meets the financial thresholds for contribution under the CBD Decision 16/2 ("CBD16/2") (R¶38). Ridus previously issued a statement that it would require commercial entities in its jurisdiction meeting the requisites of 16/2 to contribute to the Cali Fund (R¶13), and does not contest that the financial thresholds are met (R¶45).

Negotiations failed to resolve the dispute and both States agreed to submit the questions regarding PIC (R¶46) and benefit sharing (R¶47) before the ICJ.

## SUMMARY OF ARGUMENTS

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**First,** Ridus violated the CBD and Nagoya when it extracted the DNA from the Royal panther fossil without Anecoyon's PIC. The 2009 loan agreement does not contemplate DNA extraction for the purpose of de-extinction, for the loan's intended purpose was education and scientific research. Because CBD imposes a separate and independent obligation for Ridus to obtain PIC, Ridus cannot justify its actions under the loan agreement.

**Second,** Anecoyon's refusal to consent to the use of the fossil for de-extinction purposes furthers the CBD's objectives. Anecoyon may restrict access to its genetic resources for environmentally sound uses, and take protective action to prevent possible ecological harm pursuant to the precautionary principle.

**Third,** Ridus' use of DSI for de-extinction activities is biotechnology under the CBD and Nagoya. Given that DSI is a derivative of the DNA extracted from the fossil, its use for de-extinction is a technological application.

**Fourth,** SAP's use of DSI for commercial purposes requires Ridus to compel their contribution to the Cali Fund under CBD16/2. Because the panthers were created using DSI, the display thereof for a fee, along with the animal breeding activity, renders SAP a commercial user of DSI. Ridus cannot excuse SAP's compliance, for it has made a unilateral declaration to require entities in its jurisdiction to comply with the contribution requirement.

## ARGUMENTS

### **I. Ridus violated the PIC provisions of the CBD and Nagoya.**

As an acknowledgment of the customary rule of sovereignty of natural resources,<sup>1</sup> the CBD obliges a State to obtain the PIC of the State providing genetic resources before its access.<sup>2</sup>

Nagoya operationalizes the PIC obligation by requiring that the subject matter is a “genetic resource”; the PIC pertains to that of the party providing the genetic resources; the access is for utilization of such genetic resources; and the party providing such resources does not waive the PIC obligation.<sup>3</sup>

In extracting DNA from the Royal panther fossil, Ridus did not comply with its obligation to obtain PIC, since **(A)** the Royal panther DNA is a genetic resource; **(B)** Anecoyon is the party providing genetic resources; **(C)** DNA extraction for DSI creation and de-extinction is access for utilization of the DNA; and **(D)** Anecoyon did not waive the PIC requirement.

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<sup>1</sup> Convention on Biological Diversity, art. 15(1), June 5, 1992, 1760 U.N.T.S. 79. [hereinafter CBD]; Nagoya Protocol on the Access to Genetic Resources and Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, pmb1.¶4., Oct. 29, 2010, 1760 U.N.T.S. 79 [hereinafter Nagoya]; G.A. Res. 1803 (XVII), U.N. Doc. A/5217 (Dec. 14, 1962).

<sup>2</sup> CBD art. 15(5).

<sup>3</sup> Nagoya art. 6(1).

Since the access to the genetic resources, the DNA extraction, occurred in 2022, long after the entry into force of the CBD<sup>4</sup> and Nagoya,<sup>5</sup> the PIC provisions apply<sup>6</sup> to Ridus.

**A. The Royal panther DNA is a genetic resource.**

Genetic resources are genetic material of actual or potential value.<sup>7</sup> Genetic material is material of biological origin containing functional units of heredity.<sup>8</sup>

The Royal panther DNA is a genetic resource because **(1)** it is a material of biological origin containing functional units of heredity with actual and potential value. Moreover, contrary to Ridus' assumption, **(2)** the Royal panther fossil is not a genetic resource.

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<sup>4</sup> R¶10.

<sup>5</sup> R¶11.

<sup>6</sup> VCLT art. 28.

<sup>7</sup> CBD art. 2.

<sup>8</sup> *Id.*

**1. The DNA is a material of biological origin containing functional units of heredity, with actual and potential value.**

The gene is the basic unit of heredity.<sup>9</sup> The term ‘functional’ is dynamic and may contemplate evolving knowledge and technology.<sup>10</sup> Actual and potential value is interpreted broadly<sup>11</sup> to include genetic, economic, and scientific value.<sup>12</sup>

The DNA originated from an animal, the Royal panther.<sup>13</sup> Ridus sequenced the genome containing DNA to create the DSI,<sup>14</sup> later used for de-extinction,<sup>15</sup> and hence are functional. Therefore, the Royal panther DNA is a genetic material.

DNA may possess actual genetic value in the form of genetic sequence data,<sup>16</sup> and potential scientific value, since such data is the precursor of DSI, which has abundant scientific

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<sup>9</sup> Petter Portin & Adam Wilkins. *The Evolving Definition of the Term “Gene.”* 205(4) Genetics 1353, 1364 (2017).

<sup>10</sup> P. J Schei, & M. W. Tvedt, Genetic Resources in the CBD: The Wording, the Past, the Present and the Future, FNI Report, (2010).

<sup>11</sup> *Id.*

<sup>12</sup> CBD pmb1.¶1.

<sup>13</sup> R¶16.

<sup>14</sup> R¶27.

<sup>15</sup> R¶31.

<sup>16</sup> CBD, Digital Sequence Information on Genetic Resources: Outcome of the Ad Hoc Technical Expert Group Meeting, ¶79, U.N. Doc. CBD/DSI/AHTEG/2018/1/3 (Jan. 25, 2018). [hereinafter AHTEG/2018/3].

applications.<sup>17</sup> The extracted DNA was used to create a Royal panther reference genome,<sup>18</sup> which led to Ridus' de-extinction project.<sup>19</sup> Therefore, the Royal panther DNA is a genetic resource.

## 2. The Royal panther fossil is not a genetic resource.

In the context of the CBD, genetic resources are biological resources needed or used for their genetic material and not for their other attributes.<sup>20</sup>

Ridus' claim that the loan agreement complies with the PIC requirement<sup>21</sup> assumes that the Royal panther fossil is a genetic resource. However, fossils could be used as substrates for fuel,<sup>22</sup> as geological clocks by studying its rock layers,<sup>23</sup> or as displays in a Museum to educate the public of its history.<sup>24</sup> Hence, even if the Royal panther fossil contains DNA, it is not a genetic resource because it can be used for its other attributes.

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<sup>17</sup> *Id. at* ¶78.

<sup>18</sup> R¶16.

<sup>19</sup> R¶31.

<sup>20</sup> Glowka, at 76.

<sup>21</sup> R¶21.

<sup>22</sup> G. Shanmugam, *200 Years of Fossil Fuels and Climate Change*. 99(8) *Journal of the Geological Society of India*, 1043, 1062 (2023).

<sup>23</sup> P. Wolniewicz, *Beyond geodiversity sites: exploring the educational potential of widespread geological features*. 13(2) *Geoheritage*, 34 (2021).

<sup>24</sup> *Answers to Clarifications*, 11. [hereinafter C¶]

**B. Anecoyon is the party providing genetic resources.**

The CBD and Nagoya require the PIC of the country of origin of genetic resources.<sup>25</sup> Ridus is required to obtain the PIC of Anecoyon for the purpose of DNA extraction and de-extinction because (1) Anecoyon is the country of origin of the DNA and (2) Ridus does not have a claim to the genetic resources.

**1. Anecoyon is the country of origin of the DNA.**

The CBD defines the country of origin as that which possesses the genetic resource under *in-situ* conditions.<sup>26</sup> *In-situ* conditions refer to conditions found in the ecosystems and natural habitats of genetic resources.<sup>27</sup>

Although Royal panther fossils were found in both Anecoyon and Ridus, the former's geologic and climatic conditions exclusively enabled the preservation of the genetic resource of the Royal panther DNA.<sup>28</sup> Hence, when they were found, Anecoyon possessed the Royal panther DNA in *in-situ* conditions, making it the DNA's country of origin.

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<sup>25</sup> CBD art. 15(3); Nagoya art. 6(1).

<sup>26</sup> CBD art. 2(4).

<sup>27</sup> CBD art. 2(12).

<sup>28</sup> R¶6.

## 2. Ridus does not have a claim to the genetic resources.

Recognizing that biodiversity is indifferent to political borders,<sup>29</sup> Nagoya obliges parties to cooperate through mutual access and benefit sharing (“ABS”) in instances where genetic resources are found *in-situ* within the territory of several parties.<sup>30</sup>

Although the Royal panther was a transboundary species,<sup>31</sup> the fossils containing intact and viable DNA were discovered only within Anecoyon’s territory.<sup>32</sup> Thus, Ridus did not possess the genetic resource, the DNA, in *in-situ* conditions and does not have a claim thereto.<sup>33</sup>

### C. DNA extraction for DSI and de-extinction qualifies as access for utilization of the DNA

A party’s obligation to obtain PIC is triggered when there is access to genetic resources for their utilization.<sup>34</sup> Nagoya defines utilization of genetic resources as conducting research and development on the genetic or biochemical composition of the genetic resources.<sup>35</sup>

DNA extraction for DSI creation and de-extinction triggered its obligation to obtain Anecoyon’s PIC, which Ridus failed to do.

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<sup>29</sup> Greiber, at 133.

<sup>30</sup> Nagoya art. 12(1).

<sup>31</sup> *Id.*

<sup>32</sup> R¶15.

<sup>33</sup> R¶21.

<sup>34</sup> Nagoya art. 6(1).

<sup>35</sup> Nagoya art. 2(c).

## 1. The loan agreement is not a PIC instrument.

Fossils are products of mineralization—a process that replaces DNA and organic matter by minerals over millennia.<sup>36</sup> When viable DNA is extracted from the fossil, it is a physical substance distinct from the mineralized fossil.<sup>37</sup>

Here, the genetic resource contemplated by the PIC requirement is not the fossil, but the DNA it contains.<sup>38</sup> Hence, Ridus' physical access to the fossil through the loan agreement<sup>39</sup> does not imply access to the DNA it contains without obtaining PIC for the utilization of the latter.

Even if the loan provided for scientific research on the fossil,<sup>40</sup> the agreement was prompted by the opening of the Museum's wing devoted to the history of the Panthera people.<sup>41</sup> This confines Ridus' intent to loan the fossil in its archaeological capacity, rather than its genetic or biochemical one, which would allow it to commence DNA extraction and use it for DSI and de-extinction.<sup>42</sup>

Assuming but not conceding that the loan contemplated Ridus' intention to extract DNA, Ridus had the burden to inform Anecoyon in advance and in detail about the planned research or

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<sup>36</sup> Michal Salamon et al., *Relatively Well Preserved DNA Is Present in the Crystal Aggregates of Fossil Bones*, 102 Proc. Nat'l Acad. Sci. U.S. (2005).

<sup>37</sup> K.G. Devine & S. Jheeta, *De Novo Nucleic Acids: A Review of Synthetic Alternatives to DNA and RNA That Could Act as Bio-Information Storage Molecules*, 10 *Life* 346, 347 (2020).

<sup>38</sup> See I.A.2.

<sup>39</sup> R¶21.

<sup>40</sup> R¶19.

<sup>41</sup> C¶11.

<sup>42</sup> R¶21.

bioprospecting activity on the genetic resource for it to comply with the PIC requirement,<sup>43</sup> which it did not do.<sup>44</sup>

## **2. Ridus' obligation to obtain the PIC is triggered upon its intent to extract DNA from the Royal panther fossil.**

Utilization of genetic resources includes the creation of new varieties of non-human species with particular characteristics,<sup>45</sup> thus contemplating de-extinction. Moreover, DSI, or the digital coding of an organism's DNA sequence,<sup>46</sup> counts as development on the composition of a DNA specimen.

Ridus expressed its intent to use the DNA for DSI and de-extinction purposes.<sup>47</sup> Hence, it had the obligation to obtain the PIC of Anecoyon, which is the DNA's country of origin.<sup>48</sup>

## **3. Ridus did not obtain Anecoyon's PIC.**

The PIC required by the CBD and Nagoya contemplates an affirmative act of consent by the providing party based on prior information given by a potential user on its utilization.<sup>49</sup>

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<sup>43</sup> Greiber, at 95.

<sup>44</sup> *See* I.C.3.

<sup>45</sup> Report of the Group of Legal & Technical Experts on Concepts, Terms, Working Definitions & Sectoral Approaches, U.N. Doc. UNEP/CBD/WG-ABS/7/2, ¶¶ 7–8 (Dec. 12, 2008).

<sup>46</sup> Guide to the Cali Fund: Sharing the Benefits of Genetic Data from Nature, at 2, Secretariat of the Convention on Biological Diversity (2025). [hereinafter Fund Guide].

<sup>47</sup> R¶16.

<sup>48</sup> *See* I.B.1

<sup>49</sup> Glowka, at 80-81.

There is no evidence of Anecoyon's affirmative act of consent to the DNA extraction. Anecoyon objected to such extraction by means of a diplomatic note it issued in 2022,<sup>50</sup> and through enacting national legislation prohibiting the use of any genetic resources from its territory or any derivative therefrom for purposes of de-extinction.<sup>51</sup> Moreover, prior to the announcement it made in 2020, Ridus deprived Anecoyon of any information regarding its plans of DSI extraction and de-extinction using the fossil's DNA.<sup>52</sup>

Therefore, Ridus violated the PIC provisions of the CBD and Nagoya by proceeding with the DNA extraction without Anecoyon's PIC.

**D. Anecoyon's lack of a PIC regime does not waive the PIC requirement.**

The CBD and Nagoya require parties to set up their own PIC regulatory regimes to concretize the procedure in obtaining PIC.<sup>53</sup> However, the lack of an existing domestic PIC regime does not excuse a borrowing country from obtaining the providing country's PIC.<sup>54</sup>

Interpreting the PIC provisions in light of their object and purpose<sup>55</sup> to protect state sovereignty over their genetic resources,<sup>56</sup> any doubt as to the limitations of a PIC requirement,

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<sup>50</sup> R¶20.

<sup>51</sup> R¶24.

<sup>52</sup> R¶16.

<sup>53</sup> CBD art. 15(5); Nagoya art. 6(3).

<sup>54</sup> Veit Koester, *The Nagoya Protocol on ABS: Ratification by the EU and its Member States and Implementation Challenges*, 310 Rev. Eur. Community & Int'l Envtl. L., 21, n.102 (2012).

<sup>55</sup> VCLT art. 31(1).

<sup>56</sup> Elisa Morgera et al., *Unraveling the Nagoya Protocol: A Commentary on the Nagoya Protocol on Access and Benefit-Sharing to the Convention on Biological Diversity*, (Nijhoff Publishers 2014).

such as the requirement of a domestic regime, must be construed against the limitation.<sup>57</sup> Interpreting Nagoya in light of its context,<sup>58</sup> the proviso ‘unless otherwise determined by that Party’ attached to Article 6(1) of Nagoya signifies that the PIC requirement may only be waived upon express determination by the country providing the genetic resource.<sup>59</sup>

Although Anecoyon lacked any domestic PIC regime,<sup>60</sup> it did not exempt Ridus from the PIC requirement. In fact, Anecoyon firmly objected to the DSI extraction and de-extinction on account of lack of a PIC.<sup>61</sup>

## **II. Anecoyon’s objection to de-extinction furthers the CBD’s objectives**

The objectives of the CBD are conservation of biological diversity, sustainable use of biodiversity’s components, and fair and equitable sharing of benefits.<sup>62</sup>

De-extinction violates these objectives because **(A)** it does not support the conservation of biological diversity; **(B)** its cost compromises its long-term viability and impedes existing conservation efforts, contrary to the sustainable use of biological diversity; and **(C)** it is contrary to the fair and equitable sharing of benefits.

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<sup>57</sup> Morgera, at 142.

<sup>58</sup> VCLT art. 31(1).

<sup>59</sup> Nagoya art. 6(1).

<sup>60</sup> R¶24.

<sup>61</sup> R¶18.

<sup>62</sup> CBD art.1.

**A. De-extinction does not support the conservation objective.**

De-extinction does not support the conservation objective of the CBD because (1) it endangers ecology, and (2) it fails the *in-situ* standard of conservation.

**1. Introduction of the modified cougars may endanger ecology.**

The precautionary principle under the CBD provides that proponents of a project must prove that it will not harm biodiversity.<sup>63</sup> Ridus failed to discharge this obligation.

In creating Ixchel and Itzamna, Ridus genetically engineered North American cougar cells to resemble traits of the Royal panther.<sup>64</sup> However, this process carries the risk of negative interactions between genes that have mutated separately from each other,<sup>65</sup> which could cause abnormalities in living modified organisms, thereby leading to unpredictable behaviors harmful to other species.<sup>66</sup>

The introduction of the modified cougars<sup>67</sup> may endanger ecology as (a) the modified cougars are alien to the modern ecosystem, and (b) their creation and eventual introduction may endanger biodiversity in Anecoyon and Ridus.

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<sup>63</sup> Glowka, at 11.

<sup>64</sup> R¶3.

<sup>65</sup> Daven C. Presgraves, *The Molecular Evolutionary Basis of Species Formation*, 11 Nat. Rev. Genetics 175, 176 (2010).

<sup>66</sup> *Id.*

<sup>67</sup> R¶31.

*a. The panther is alien to the modern ecosystem.*

Invasive alien species refers to an alien species whose coexistence with an ecosystem may be detrimental thereto.<sup>68</sup> Absent full scientific certainty surrounding the risks of releasing the modified cougars into the wild, the precautionary principle still enables Anecoyon to object,<sup>69</sup> especially on account of the general incompatibility between native and non-native wildlife.<sup>70</sup> This is consistent with the CBD obligation to “prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.”<sup>71</sup> Otherwise, the modified cougars could cause significant harm, similar to the introduction of cane toads in Australia, whose toxic skin secretions poisoned native populations<sup>72</sup> and the collapse of biodiversity in island ecosystems when wild cats were introduced therein.<sup>73</sup>

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<sup>68</sup> Conference of the Parties to the CBD, Decision VI/23, Alien Species That Threaten Ecosystems, Habitats or Species, ¶ 57(ii), U.N. Doc. UNEP/CBD/COP/6/20, (Dec. 6, 2003). [hereinafter CBDVI/23].

<sup>69</sup> CBDVI/23 Annex A, Guiding Principle 1.

<sup>70</sup> Charles S. Elton, *The Ecology of Invasions by Animals and Plants*, at 153 (Methuen 1958).

<sup>71</sup> CBD art. 8(h).

<sup>72</sup> Richard Shine, *The Ecological Impact of Cane Toads in Australia*, *Biological Conservation*, 60, 61 (2010).

<sup>73</sup> Félix M. Medina et al., *A Global Review of the Impacts of Invasive Cats on Island Endangered Vertebrates*, 17 *Global Change Biology* 3503, 3504 (2011).

***b. The intended reintroduction of the modified cougars may endanger biodiversity in Anecoyon and Ridus.***

Even assuming that reintroduction complies with the CBD, sovereign acts conducted within a state's territory must still be regulated to prevent transboundary harm.<sup>74</sup>

The introduction of the modified cougars to the wild may imperil wildlife outside of Ridus' territory, on account of their transboundary presence across the regions of Ridus and Anecoyon 6,000 years ago.<sup>75</sup> North American cougars<sup>76</sup> can travel long distances,<sup>77</sup> cross rivers,<sup>78</sup> and maintain territories over vast areas.<sup>79</sup>

Given that Anecoyon and Ridus are only a river apart,<sup>80</sup> the modified cougars, possessing the traits of a North American cougar, once released, may enter the territory of Anecoyon and potentially disrupt its ecological balance by displacing wildlife populations.<sup>81</sup>

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<sup>74</sup> Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with Commentaries, art. 3, 2 Y.B. Int'l L. Comm'n 153 (2001).

<sup>75</sup> R¶6.

<sup>76</sup> R¶31.

<sup>77</sup> Linda L. Sweanor et al., *Cougar Dispersal Patterns*, Metapopulation Dynamics, and Conservation, 14(3) Conservation Biology 990, 995 (2000).

<sup>78</sup> Melvin Sunquist & Fiona Sunquist, *Wild Cats of the World* 305 (Univ. of Chi. Press 2002).

<sup>79</sup> Kenneth A. Logan & Linda L. Sweanor, *Desert Puma: Evolutionary Ecology and Conservation of an Enduring Carnivore* 120 (Island Press 2001).

<sup>80</sup> R¶2.

<sup>81</sup> Nat'l Wildlife Fed'n, *Mountain Lion*, Mammals (Nov. 14, 2025), (<https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Mountain-Lion/>).

## **2. The introduction of the modified cougars to the Ridus ecosystem fails the *in-situ* standard of conservation**

*In-situ* conservation refers to the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings.<sup>82</sup> The CBD prioritizes *in-situ* conservation, which facilitates the subsistence of species under conditions that are more suitable for and compatible with their needs.<sup>83</sup>

The Royal panther existed 6,000 years ago,<sup>84</sup> during the Holocene Climatic Optimum period, when climatic conditions were predominantly warm and humid.<sup>85</sup> These conditions make up the *in-situ* environment of the Royal panther.

### ***a. There is evidence that the Royal panther existed under warmer and more humid conditions 6,000 years ago than at present.***

Consistent with the evolutionary principle of phylogenetic niche conservatism (“PNC”), inferences on the ecological niche of extinct species can be drawn based on the living conditions of their extant relatives.<sup>86</sup> North American cougars can tolerate a vast range of climates,<sup>87</sup> which

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<sup>82</sup> CBD art. 2(13).

<sup>83</sup> CBD pmb1.¶10.

<sup>84</sup> R¶7.

<sup>85</sup> H. Renssen et al., *The Global Holocene Thermal Maximum*, 48 *Quaternary Sci. Rev.* 7, 7 (2012).

<sup>86</sup> John J. Wiens & Catherine H. Graham, *Niche Conservatism: Integrating Evolution, Ecology, and Conservation Biology*, 36 *Ann. Rev. Ecol. Evol. & Syst.* 519, 520 (2005).

<sup>87</sup> Brianna M. Winkel et al., *Potential Cougar Habitats and Dispersal Corridors in Eastern North America*, 38 *Landscape Ecology* 59, 60 (2023).

suggests that their relative, the Royal panther, thrived under warmer temperatures 6,000 years ago.<sup>88</sup>

***b. The ecological conditions of Anecoyon and Ridus are drastically different now than 6,000 years ago***

The warmer, more humid climate during the Holocene Climatic Optimum period has now shifted to cooler, drier conditions,<sup>89</sup> which, coupled with destructive human activities,<sup>90</sup> has enabled deforestation and loss of vegetation.<sup>91</sup>

Essentially, the conditions in Ridus now are no longer the same ones that prevailed when the Royal panthers originally existed, against the very dictates of the *in-situ* mode of conservation under CBD.<sup>92</sup>

**B. Introducing the modified cougars violates sustainable use**

Sustainable use is the utilization of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby meeting the needs of future generations.<sup>93</sup>

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<sup>88</sup> Renssen et al., *supra* note 85.

<sup>89</sup> Martha A. Sherwood, *Holocene Climate Optimum*, EBSCO Research Starters (Nov. 8, 2025, 5:09 PM), <https://www.ebsco.com/research-starters/science/holocene-climate-optimum-hco/>.

<sup>90</sup> Erle C. Ellis et al., *Used Planet: A Global History*, 110 Proc. Nat'l Acad. Sci. U.S., 2, 3 (2013).

<sup>91</sup> Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis, Summary for Policymakers* B.1 (2021). [hereinafter IPCC].

<sup>92</sup> CBD art. 15(2).

<sup>93</sup> CBD art. 2.

De-extinction is not a sustainable use of biological diversity<sup>94</sup> as (1) the current conditions of *Ridus* cannot sustain the long-term viability of the modified cougars, (2) the modified cougars are not compatible with the viability of supporting and dependent ecosystems, and (3) creation and introduction of the modified cougars may impair conservation measures of extant species.

**1. The current conditions of *Ridus* cannot sustain the long-term viability of the modified cougars.**

Environmental conditions 6,000 years ago—tropical, humid, and vegetation-rich ecosystems with abundant herbivorous prey populations—differ from the present,<sup>95</sup> which cannot support the survival of the modified cougars.

Current ecosystems are characterized by rising mean temperatures,<sup>96</sup> reduced precipitation,<sup>97</sup> and aggressive land conversion to support agriculture. This results in the reduction in vegetation and herbivore population<sup>98</sup> and an overall hostile environment for the modified cougar, lacking traits necessary to adapt due to the intrinsically low evolutionary resilience of resurrected species.<sup>99</sup>

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<sup>94</sup> IUCN Draft Guidelines for the Ecological Sustainability of Nonconsumptive and Consumptive Uses of Wild Species, ¶19 (1994).

<sup>95</sup> Renssen et al., *supra* note 83.

<sup>96</sup> IPCC, *supra* note 91.

<sup>97</sup> *Id.*

<sup>98</sup> Food & Agric. Org. of the U.N., Global Forest Resources Assessment 2020, at 10.

<sup>99</sup> Alexandre Robert et al., *De-Extinction and Evolution*, 31 *Funct. Ecology* 996, 997 (2017).

## **2. The modified cougars are not compatible with the long-term viability of supporting and dependent ecosystems**

Releasing the modified cougar will adversely affect the ecosystems due to its predispositions, made unpredictable by the fact that they are synthetic creations.<sup>100</sup> Genetically engineered organisms, when released into the wild, may behave unpredictably and upset existing ecological order such as food webs, nutrient cycles, and evolutionary dynamics.<sup>101</sup>

## **3. Creation and introduction of the modified cougars may impair conservation measures of extant species.**

De-extinction requires millions in funding; the upfront capital already reaches amounts upwards of USD150,000,000,<sup>102</sup> while the captive breeding program for a single species requires an average of USD200,000 annually.<sup>103</sup>

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<sup>100</sup> George M. Church & Ed Regis, *Regenesis: How Synthetic Biology Will Reinvent Nature and Ourselves*, ¶133, (Basic Books 2012).

<sup>101</sup> *Id.*

<sup>102</sup> Dan Primack, *De-extinction Startup Colossal Biosciences Raises \$200 Million*, Axios (Jan. 15, 2025).

<sup>103</sup> Simon Clulow & Lachlan Howell, *Conservation on Ice: How Frozen Zoos Can Help Save Animals*, The Lighthouse (Apr. 2021).

Ridus, despite being a high-income country,<sup>104</sup> works with limited resources divided between existing conservation efforts and the de-extinction project, thus leading to fewer species that can be conserved and a net biodiversity loss.<sup>105</sup>

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<sup>104</sup> R¶4.

<sup>105</sup> J.R. Bennett et al., *Spending Limited Resources on De-Extinction Could Lead to Net Biodiversity Loss*, 1 Nat. Ecol. & Evol., art. 53 (2017).

### III. DSI used for de-extinction activities is “biotechnology” for purposes of the CBD and Nagoya.

The CBD defines biotechnology as any technological application that uses biological systems, living organisms, or their derivatives to make or modify products, or processes for a specific use.<sup>106</sup> Nagoya operationalizes this definition by classifying biotechnology as a form of utilization of genetic resources,<sup>107</sup> subjecting the same to ABS obligations.<sup>108</sup>

The CBD Secretariat defines DSI as the digital representation of genetic material, such as DNA, and potentially other linked data, such as molecular structures.<sup>109</sup> Most jurisdictions adopt a similar definition—DSI is information on an organism’s genetic makeup—<sup>110</sup>a convergent subsequent practice that informs the term’s interpretation.<sup>111</sup>

DSI used for de-extinction is biotechnology because **(A)** DNA of extinct species is a derivative; **(B)** DSI is a technological application of DNA; **(C)** de-extinction is a technological application of genetic information in DSI; and **(D)** de-extinct species are biotechnological products.

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<sup>106</sup> CBD art 2(3).

<sup>107</sup> Nagoya art. 2(d), 2(c).

<sup>108</sup> Greiber, at 65.

<sup>109</sup> Fund Guide, at 2.

<sup>110</sup> CBD, Digital Sequence Information on Genetic Resources: Outcome of the Ad Hoc Technical Expert Group Meeting, ¶6, U.N. Doc. CBD/DSI/AHTEG/2020/1/5 (Jan. 29, 2020).

<sup>111</sup> VCLT art. 31(3)(b).

### **A. DNA of extinct species is a derivative**

Derivatives are naturally occurring biochemical compounds resulting from the genetic expression of biological or genetic resources, even if they do not contain functional units of heredity.<sup>112</sup>

Biological resources include parts of organisms with actual or potential value for humanity.<sup>113</sup> A biological resource is a subset of earth's resources which has predictable value for humans in the present and future.<sup>114</sup> Fossils, which are parts of extinct organisms, containing viable DNA, are biological resources for they contain genetic resources with actual value.<sup>115</sup>

DNA is a naturally occurring nucleic acid composed of chemical components, called nucleotides, which perform biological storage and hereditary functions.<sup>116</sup> Although a fossil's DNA may be considered a separate genetic resource,<sup>117</sup> it is also a derivative, being a naturally occurring biochemical compound of a biological resource.

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<sup>112</sup> Greiber, at 66.

<sup>113</sup> CBD art. 2(3).

<sup>114</sup> Glowka, at 17.

<sup>115</sup> See I.B.1.

<sup>116</sup> K.G. Devine & S. Jheeta, *De Novo Nucleic Acids: A Review of Synthetic Alternatives to DNA and RNA That Could Act as Bio-Information Storage Molecules*, 10 *Life* 346 (2020).

<sup>117</sup> See I.B.1.

## **B. DSI is a technological application of DNA**

Technological application is broadly defined under the CBD and Nagoya to include present and future technologies that use biological systems or their parts.<sup>118</sup> This includes bioinformatics, which is the collection, storage, and analysis of complex biological data, developed alongside genomic technologies to manage and interpret large-scale genetic information.<sup>119</sup>

DSI is done by DNA sequencing through amplification and electrophoresis<sup>120</sup> or more advanced technologies such as single molecule sequencers,<sup>121</sup> which generate information regarding the order of nucleotides and non-genetic compositions.<sup>122</sup> DSI is stored, managed, and accessed digitally through private and public databases,<sup>123</sup> thus adding another layer of technological application. Hence, DSI itself is a technological application of DNA.

## **C. De-extinction is a technological application of genetic information in DSI**

In de-extinction projects, the genomic sequence of an extinct organism is reconstructed using DSI.<sup>124</sup> Gene-editing tools are used to cut specific sequences of the extinct species' genome

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<sup>118</sup> Glowka, at 17.

<sup>119</sup> AHTEG/2018/1/3, *supra* note 16.

<sup>120</sup> *Id.*

<sup>121</sup> J.M. Heather & B. Chain, *The sequence of sequencers: The history of sequencing DNA*. 107 *Genomics* 1, 4 (2016).

<sup>122</sup> AHTEG/2018/1/3, *supra* note 16.

<sup>123</sup> *Id.* at ¶73.

<sup>124</sup> IUCN, IUCN SSC Guiding principles on Creating Proxies of Extinct Species for Conservation Benefit, at 5 (2016).

to edit a living species' genome.<sup>125</sup> De-extinction occurs when the edited gene is introduced into a host surrogate or through artificial wombs, and a genetically-engineered version of the extinct species is born.<sup>126</sup>

Although the DSI of extinct species may contain information beyond genetic sequence, such as other molecular information,<sup>127</sup> DSI used for de-extinction purposes exclusively requires information on the genetic character of the DNA specimen. Thus, it is a clear technological application of a biological resource's derivative, and is considered biotechnology.

#### **D. De-extinct species are biotechnological products**

Biotechnology must be used to create or modify products or processes,<sup>128</sup> such as creations of synthetic biology and living modified organisms.

Synthetic biology is a dimension of biotechnology<sup>129</sup> concerning the design, manufacture, or modification of living organisms.<sup>130</sup> Products of synthetic biology are considered utilization of genetic resources under the CBD and Nagoya.<sup>131</sup>

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<sup>125</sup> *Id.*

<sup>126</sup> AHTEG/2018/1/3, *supra* note 16.

<sup>127</sup> *Id.* at 75.

<sup>128</sup> CBD art 2(3).

<sup>129</sup> Secretariat of the CBD, Synthetic Biology, ¶21, CBD Technical Series No. 100 (Apr. 2022).

<sup>130</sup> CBD, Decision XIII/17, ¶4, U.N. Doc. CBD/COP/DEC/XIII/17 (Dec. 16, 2016).

<sup>131</sup> CBD, Information Document No. 12, ¶191, U.N. Doc. UNEP/CBD/COP/12/INF/12 (Oct. 2014).

De-extinct species, such as the panthers created through implanting a genetically modified placenta to another species,<sup>132</sup> are biotechnological products created through synthetic biology.

The CBD contemplates the existence of a living modified organism resulting from biotechnology,<sup>133</sup> which may impact conservation and biodiversity.<sup>134</sup> The Cartagena Protocol, a subsequent agreement entered into by parties to the CBD,<sup>135</sup> defines a living modified organism as any living organism that possesses a novel combination of genetic material obtained through the use of biotechnology.<sup>136</sup> De-extinct species, created from the genetic engineering of a living organism through extinct species' DSI,<sup>137</sup> are living modified organisms under the CBD.

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<sup>132</sup> R¶31.

<sup>133</sup> CBD art. 19(3).

<sup>134</sup> CBD art. 8(g).

<sup>135</sup> VCLT art. 31(3)(a).

<sup>136</sup> Cartagena art. 3(g).

<sup>137</sup> *See* III.C.

**IV. SAP, as a user of DSI engaged in a commercial activity covered under a CBD16/2-listed sector, must contribute to the Fund**

Use of DSI on genetic resources carries an obligation of fair and equitable benefit-sharing.<sup>138</sup> CBD16/2 calls on states to require entities that use DSI for their commercial activities in a sector which directly or indirectly benefits from the use of DSI and that meet a certain financial threshold to contribute to the Fund.<sup>139</sup>

Given that declarations may create legal obligations,<sup>140</sup> (A) Ridus bound itself to require qualified entities to contribute to the Fund. SAP is (B) a user of DSI (C) in its commercial activities and (D) belongs to the animal breeding and biotechnology sectors. Ridus also concedes that SAP meets the financial threshold.<sup>141</sup>

**A. Ridus' unilateral declaration obliges it to require contribution to the Fund.**

The *Nuclear Tests* case provides that a public declaration made with the intention to be bound creates a binding legal obligation for the state that issues it.<sup>142</sup>

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<sup>138</sup> CBD art. 1.

<sup>139</sup> CBD, Decision 16/2, Use of Digital Sequence Information on Genetic Resources, Annex ¶3, UN Doc. CBD/COP/DEC/16/2 (Nov. 1, 2024). [hereinafter CBD16/2].

<sup>140</sup> Int'l Law Comm'n, Guiding Principles Applicable to Unilateral Declarations of States Capable of Creating Legal Obligations, with Commentaries, Principle 1, U.N. Doc. A/61/10 (2006).

<sup>141</sup> R¶45.

<sup>142</sup> *Nuclear Tests (N.Z. v. Fr.)*, Judgment, 1974 I.C.J. 457, ¶46 (Dec. 20).

Although the obligation to contribute to the Fund is not binding upon the parties,<sup>143</sup> Ridus made a unilateral declaration that it will require commercial entities in its jurisdiction, which meet the requisites of CBD16/2, to contribute to the Fund.<sup>144</sup> Hence, Ridus is bound to compel SAP to contribute upon meeting CBD16/2's requirements.

## **B. SAP is a user of DSI.**

Under CBD16/2, a user of DSI contemplates a direct, indirect, or commercial user, referring to different points in the DSI value chain.<sup>145</sup> Indirect use involves utilizing DSI as a reference or guide in developing products.<sup>146</sup> Commercial use involves engagement in the sale of products or services which contain, utilize, or benefit from DSI.<sup>147</sup> Here, SAP is an indirect and commercial user of DSI.

### **1. SAP is an indirect user of DSI.**

Indirect use of DSI includes the identification and confirmation of the presence of favorable animal genes for raising and breeding programs.<sup>148</sup>

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<sup>143</sup> Secretariat of the CBD, Guide to the Global Taxonomy Initiative, at 9, CBD Technical Series No. 30, (2008).

<sup>144</sup> R¶13.

<sup>145</sup> CBD, Executive summary of the studies commissioned pursuant to Decision 15/9, ¶11 on digital sequence information on genetic resources, U.N. Doc. CBD/WGDSI/2/2/Add.2/Rev.1 (Jul. 26, 2024).

<sup>146</sup> *Id.* at ¶12.

<sup>147</sup> CBD, Studies commissioned further to Decision 15/9, ¶67, CBD/WGDSI/2/INF/1 (Jul. 29, 2024). [hereinafter CBD15/9].

<sup>148</sup> CBD15/9 ¶11.

Phenotypic gene-editing may change a species' behavior,<sup>149</sup> dietary needs,<sup>150</sup> and adaptive habitat choice.<sup>151</sup> Genome editing must therefore be paired with DNA sequencing verification to understand and predict these phenotypic changes.<sup>152</sup>

Knowledge of a species' genetic makeup is crucial for its proper care and management, for an animal's specific needs and behavior are directly attributable to the specific genes it contains. Given the insufficiency of other records on the Royal panther,<sup>153</sup> the DSI serves as the sole source of information on Royal panther genes, rendering DSI indispensable to SAP, which is responsible for the care of the modified cougars.

## **2. SAP is a commercial user of DSI.**

Commercial use of DSI includes providing a service involving the use of a DSI-based product.<sup>154</sup> SAP already qualifies as a commercial user of DSI since it sells the viewing of the DSI-based panthers as one of its services.<sup>155</sup>

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<sup>149</sup> A. Wilkins, et al., *The "Domestication Syndrome" in Mammals: A Unified Explanation Based on Neural Crest Cell Behavior and Genetics*, 197 *Genetics* 795 (2014).

<sup>150</sup> R.J. Sommer, *Phenotypic Plasticity: From Theory and Genetics to Current Challenges*. *Genetics* (2020).

<sup>151</sup> D. W. Pfennig, et al. *Mechanisms by which phenotypic plasticity affects adaptive divergence and ecological speciation*. *Evolution* (2011).

<sup>152</sup> Nadia Aubin-Horth & Susan C.P. Renn, *Genomic reaction norms: using integrative biology to understand molecular mechanisms of phenotypic plasticity*. 18(18) *Molecular Ecology* 3763, 3780 (2009).

<sup>153</sup> R¶7.

<sup>154</sup> Pedro. Batista, *Proposal for a Global Regulation of Digital Sequence Information*, Max Planck Inst. for Innovation & Competition Research Paper No. 24-10, at 28 (2024).

<sup>155</sup> R¶34.

### **C. SAP engages in commercial activity.**

An entity's use of DSI must be for commercial activities, based on the intention of the COP to limit monetary benefit-sharing to large commercial entities.<sup>156</sup> The *Dispute regarding Navigational and Related Rights* case provides that commercial activities include the provision of services in exchange for any price other than a tokenistic one,<sup>157</sup> such as generating revenue from DSI use.<sup>158</sup>

#### **1. SAP's activities are primarily commercial uses of DSI.**

Ridus concedes that SAP earns USD4,000,000 in panther observation fees and USD7,000,000 in food, drink, and gift sales annually,<sup>159</sup> all of which it derived using the DSI-made panthers. Likewise, SAP's use of DSI providing for care and habitat<sup>160</sup> ensures the sustainability of these revenues.

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<sup>156</sup> CBD15/9 ¶10.

<sup>157</sup> *Dispute Regarding Navigational and Related Rights (Costa Rica v. Nicar.)*, Judgment, 2009 I.C.J. 213, ¶246.

<sup>158</sup> CBD15/9 ¶8.

<sup>159</sup> R¶45.

<sup>160</sup> *See* IV.A.1.

## **2. The CITES Resolution is inapplicable.**

CITES Resolution 5.10 (“Res.5.10”) defines ‘primarily commercial purposes’ broadly, encompassing any use wherein non-commercial aspects do not clearly predominate.<sup>161</sup> However, this interpretation is limited to the application of importing Appendix I species.<sup>162</sup>

SAP is not an importer of the panthers since they were created in Ridus.<sup>163</sup> Neither the North American cougar, nor the Royal panther are listed in Appendix I.<sup>164</sup> Hence, SAP cannot use the broad construction in the Resolution to argue that its activities are non-commercial.<sup>165</sup>

Assuming but not conceding that Res5.10 is applicable, given that SAP obtained economic benefit from the use of DSI through the panthers’ viewing,<sup>166</sup> its activities are not predominantly non-commercial, and must be regarded as ‘commercial’ under the Resolution.

## **3. The de-extinction project’s non-commercial purposes do not exempt SAP.**

The *Certain Iranian Assets* case contextually defines commercial activities as those which are not merely ancillary to the exercise of an entity’s non-commercial functions, but are principal

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<sup>161</sup> CITES Res. Conf. 5.10 (Rev. CoP 19), ¶1(c), U.N. Doc. Rev. CoP 19 (2022).

<sup>162</sup> Res.5.10 ¶1.

<sup>163</sup> R¶33.

<sup>164</sup> CITES, Appendices I, II and III, CITES Doc. E-Appendices-2021-02-14 (Feb. 14, 2021).

<sup>165</sup> R¶41.

<sup>166</sup> See IV.B.1.

activities themselves.<sup>167</sup> Hence, an entity's non-commercial purpose does not preclude the existence of commercial activities.<sup>168</sup>

Even if Ridus' aim of restoration and rewilding is non-commercial,<sup>169</sup> the means to obtain these purposes involves SAP's commercial use of DSI.<sup>170</sup> Contrary to Ridus' assertion, SAP profited<sup>171</sup> from nature, and must therefore contribute to its protection and restoration<sup>172</sup> through the Fund contribution.

#### **D. SAP belongs to indicative sectors**

More than the commercial use of DSI, CBD16/2 requires that the entity should belong to a sector benefiting directly or indirectly from the use of DSI.<sup>173</sup> An entity's membership in such sectors is sufficient, even without demonstrating that DSI is directly used in its sectoral activities.<sup>174</sup>

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<sup>167</sup> Certain Iranian Assets (Iran v. U.S.), Judgment, ¶ 51, I.C.J. Rep. 2023.

<sup>168</sup> *Id.*

<sup>169</sup> R¶41.

<sup>170</sup> *See* IV.C.

<sup>171</sup> *See* I.C.1.

<sup>172</sup> R¶39.

<sup>173</sup> CBD16/2 Annex (3).

<sup>174</sup> CBD, Further development of the multilateral mechanism for benefit-sharing from the use of digital sequence information on genetic resources, including a global fund. ¶3, CBD/WGDSI/2/L.2 (2024).

Although ISIC does not identify animal breeding or biotechnology as codified sectors,<sup>175</sup> the CITES and the CBD define them respectively. SAP belongs to these sectors.

### **1. SAP belongs to the biotechnology sector.**

The CBD defines biotechnology as any technological application that uses biological resources or its derivatives to make or modify products.<sup>176</sup> The biotechnology sector's value chain encompasses upstream activities, including research and development, as well as downstream activities including distribution, *exhibition*, and commercialization.<sup>177</sup>

SAP's display of the panthers, which are biotechnological products,<sup>178</sup> on the park grounds for paid viewing<sup>179</sup> clearly falls under exhibition. Hence, it belongs to the biotechnology sector under CBD16/2.

### **2. SAP belongs to the animal breeding sector.**

SAP admitted that it engages in captive breeding of other transboundary species,<sup>180</sup> even successfully breeding and reintroducing an extirpated species back into its wildlife habitat.<sup>181</sup> SAP

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<sup>175</sup> U.N. Statistics Division, International Standard Industrial Classification of All Economic Activities, ¶22, U.N. Doc. ST/ESA/STAT/SER.M/4/Rev.4, (2020). [hereinafter ISIC].

<sup>176</sup> CBD art. 2.

<sup>177</sup> S. Wydra, *Value Chains for Industrial Biotechnology in the Bioeconomy-Innovation System Analysis*. 11(8) Sustainability, 2435, 2439 (2019).

<sup>178</sup> See III.D.1

<sup>179</sup> See IV.B.2.

<sup>180</sup> R¶35.

<sup>181</sup> C¶4.

is also an active participant in a regional captive breeding program.<sup>182</sup> Given Ridus' plan to eventually release modified cougars into the wild,<sup>183</sup> it appears that SAP also intends to breed the modified cougars.

Assuming CITES' definition of a commercial sector applies,<sup>184</sup> CITES regulates captive breeding as a commercial activity<sup>185</sup> and based on the CITES definition of animal-breeding,<sup>186</sup> SAP qualifies under such sector.

### **3. SAP's classification as a Botanical Zoo under ISIC is not exclusive.**

While Ridus claims that ISIC classifies SAP as a Botanical Zoo,<sup>187</sup> the classification does not preclude SAP's conduct of other activities, especially when ISIC acknowledges that entities can engage in multiple activities.<sup>188</sup>

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<sup>182</sup> *Id.*

<sup>183</sup> R¶16.

<sup>184</sup> *See* IV.C.2.

<sup>185</sup> CITES, Registration of operations that breed Appendix-I animal species in captivity for commercial purposes, ¶1 U.N. Doc. Resolution Conf. 12.10 (Rev. CoP15).

<sup>186</sup> *Id.* at 2.

<sup>187</sup> R¶40.

<sup>188</sup> ISIC, at 22.



## **CONCLUSION AND PRAYER**

**Applicant, Anecoyon, respectfully requests the Court to adjudge and declare that:**

1. Ridus violated the prior informed consent provisions of the CBD and Nagoya.
2. Anecoyon's refusal to consent to the de-extinction complies with the CBD.
3. DSI used for de-extinction activities is biotechnology under the CBD and Nagoya.
4. Ridus violated benefit sharing by its non-contribution to the Fund in accordance with CBD16/2.

Respectfully submitted,

**AGENTS FOR THE APPLICANT**