

## **Box 1. Summary of recommendations for guiding species conservation efforts**

### **1. Assessing Extinction Risk beyond the Red List**

- Conduct spatially-explicit assessments at the population level <sup>1, 2, 3</sup>
- Develop integrative approaches of multiple relevant factors <sup>4</sup>
- Use modern statistical modeling frameworks <sup>5</sup>
- Include multiple dimensions of biodiversity <sup>6</sup> such as functional traits <sup>7</sup>, evolutionary distinctiveness <sup>8, 9</sup> and current genetic diversity <sup>10</sup>
- Incorporate climate change impacts <sup>11, 12, 13.</sup>

### **2. Assessment Process**

- Support regional initiatives for extinction risk assessments <sup>14</sup>
- Communicate with researchers and partner networks <sup>15, 16</sup>
- Increase equal collaboration with local and regional experts <sup>17</sup>
- Enhance integration and coordination among conservation stakeholders <sup>18</sup>

### **3. Setting Conservation Priorities**

- Consider species' ecological functions <sup>19</sup> and relative ecological importance <sup>20</sup>
- Include social considerations such as culturally important species <sup>21</sup>
- Define frameworks for resource allocation and logistical and financial trade-offs <sup>22, 23</sup>
- Evaluate the potential for success of the prioritizations <sup>24</sup>
- Recognize and make explicit ethical values to inform priority setting through community dialogue and co-produced indicators <sup>25</sup>

### **4. Decision-making**

- Root decision-making in local contexts <sup>26</sup>
- Incorporate and center the expertise, voices, and perspectives of diverse conservationists, indigenous peoples, and local communities in decision-making <sup>27</sup>
- Recognize local knowledge, both traditional and scientific <sup>28</sup>
- Balance priorities between conservation measures, scientific research, and monitoring <sup>29</sup>
- Increase collaboration, synergies <sup>30</sup>, and bottom-up approaches <sup>31</sup>

<sup>1</sup> Fremout et al. 2020 <sup>2</sup> Ceccarelli et al. 2022 <sup>3</sup> Gaisberger et al. 2022 <sup>4</sup> Button & Borzée 2021 <sup>5</sup> Pollock et al. 2020, <sup>6</sup> Brum et al. 2017, <sup>7</sup> Griffith et al. 2023 <sup>8</sup> Isaac et al. 2007 <sup>9</sup> Gumbs et al. 2023 <sup>10</sup> Schmidt et al. 2023 <sup>11</sup> Akçakaya et al. 2006; <sup>12</sup> Trull et al. 2017 <sup>13</sup> Peng et al. 2023 <sup>14</sup> Bachman et al. 2019 <sup>15</sup> Böhm et al. 2022 <sup>16</sup> Cazalis et al. 2022 <sup>17</sup> Armenteras 2021 <sup>18</sup> Echeverri et al. 2023 <sup>19</sup> Brodie et al. 2018 <sup>20</sup> Natsukawa & Sergio 2022 <sup>21</sup> Reyes-García et al. 2023 <sup>22</sup> Salzer & Salafsky 2006 <sup>23</sup> Wiedenfeld et al. 2021 <sup>24</sup> Joseph et al. 2009 <sup>25</sup> Muhl et al., 2022 <sup>26</sup> Chaplin-Kramer et al. 2022 <sup>27</sup> Ocampo-Ariza et al. 2023 <sup>28</sup> Braga-Pereira et al. 2022 <sup>29</sup> Buxton et al. 2020 <sup>30</sup> Oberhauser et al. 2017 <sup>31</sup> Wyborn & Evans 2021