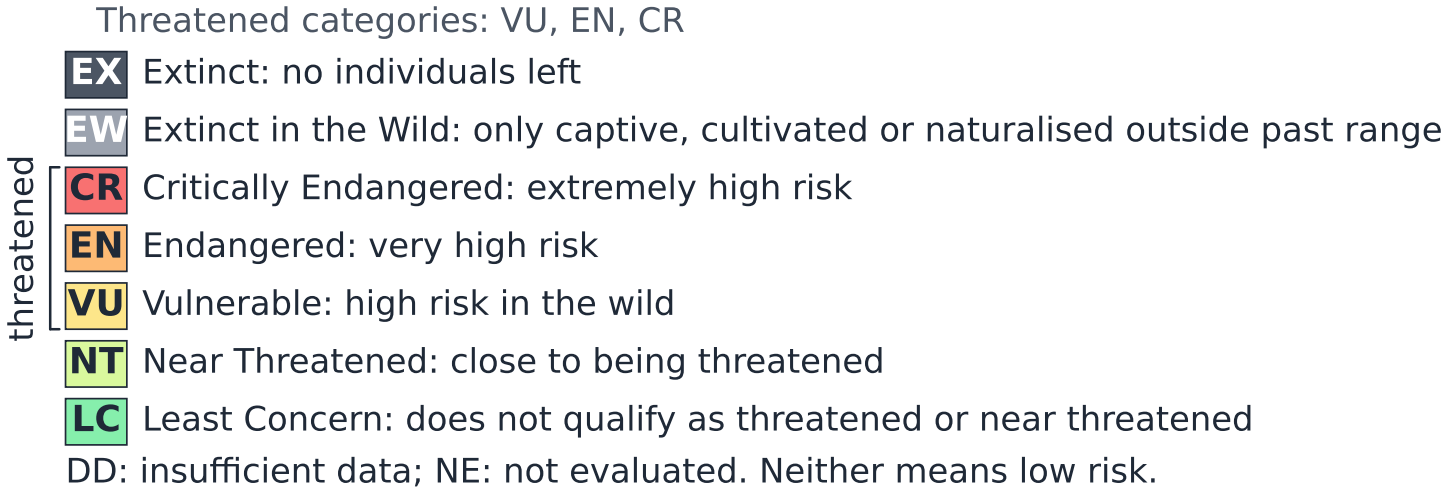
Exercise walk-through

# 3.3
# Conservation and regeneration

International Baccalaureate · IB Diploma · Environmental Systems and Societies · SL

# The IUCN Red List




> DD and Not Evaluated do not establish low risk; listing alone does not protect habitat.

# Designing protected areas




Size/shape pairs have equal total area; corridor adds area.
Dark green: interior under an assigned edge-depth model; trade-offs vary.

> Compare equal areas and stated threats: no geometry is universally best.

# Agreements and the area target

## CITES and CBD

Trade regulation differs from habitat management.

CBD: conservation, sustainable use and genetic-resource benefit sharing.

## Target 3 by 2030

At least 30% terrestrial/inland water and 30% marine/coastal areas.

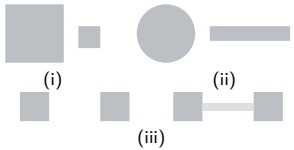
Effective, connected, representative and equitable conservation; respect rights.

# Exercises 2.1·2.2

**2.1** State **two** reasons for conserving biodiversity, one economic and one ethical. [2]



**2.2** Use the principles of reserve design to choose the better reserve in each pair, with a reason: (i) one 100 km$^2$ reserve or one 10 km$^2$ reserve; (ii) a round reserve or a long thin one of the same area; (iii) two reserves with or without a corridor. [3]



# Exercises 2.1·2.2

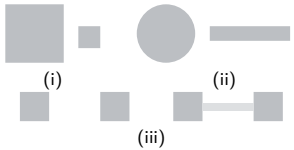
**2.1** State **two** reasons for conserving biodiversity, one economic and one ethical. [2]



**2.1**

economic: e.g. pollination of crops, tourism income, new medicines; ethical: e.g. every species has a right to exist / duty to future generations

**2.2** Use the principles of reserve design to choose the better reserve in each pair, with a reason: (i) one 100 km$^2$ reserve or one 10 km$^2$ reserve; (ii) a round reserve or a long thin one of the same area; (iii) two reserves with or without a corridor. [3]




**2.2**

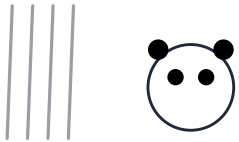
(i) 100 km$^2$: larger populations and more habitats; (ii) round: less edge for the same area; (iii) with a corridor: animals can move, find mates and recolonize

exercises.lol exercises.com.cn

# Exercise 3.1 (a)

**3.1** The giant panda was moved from Endangered to Vulnerable on the IUCN Red List in 2016.

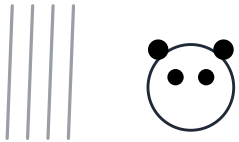
(a) Identify **one** species-based and **one** habitat-based measure that may have helped. [2]



# Exercise 3.1 (a)

**3.1** The giant panda was moved from Endangered to Vulnerable on the IUCN Red List in 2016.

(a) Identify **one** species-based and **one** habitat-based measure that may have helped. [2]



(a) species-based: captive breeding and release / bans on hunting and trade; habitat-based: a network of nature reserves and replanting of bamboo forest

# Exercise 3.1 (b)

**3.1** The giant panda was moved from Endangered to Vulnerable on the IUCN Red List in 2016.

(b) Explain why the panda is used as a flagship species. [2]

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**3.1** The giant panda was moved from Endangered to Vulnerable on the IUCN Red List in 2016.

(b) Explain why the panda is used as a flagship species. [2]

(b) it is popular and appealing, so it attracts public attention and money; protecting its forest habitat also protects many other species there

# Exercise 3.2

**3.2** A government plans a new marine protected area (MPA) where fishing is banned.

Evaluate the use of an MPA to conserve a coral reef. [5]



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**3.2** A government plans a new marine protected area (MPA) where fishing is banned.

Evaluate the use of an MPA to conserve a coral reef. [5]




**3.2**

award up to [5]: strengths: fish and reef species recover inside the zone; larger fish spill over into fished areas, so catches nearby can rise; protects the whole community, not one species; limitations: cannot stop warming or acidification; fishing communities lose access, so the MPA needs their support and enforcement; conclusion for the case, e.g. effective if well enforced and linked to local incomes such as tourism