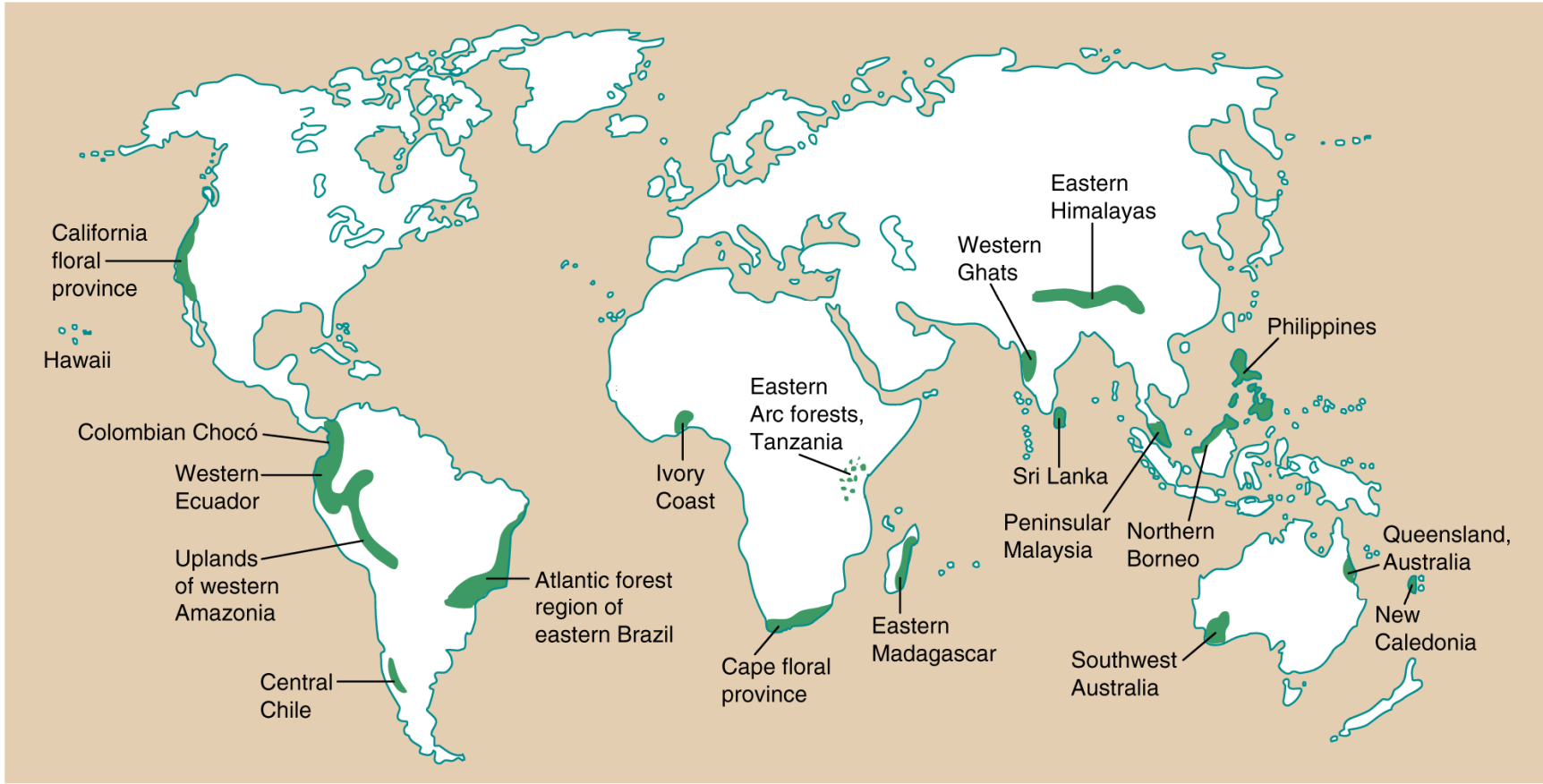
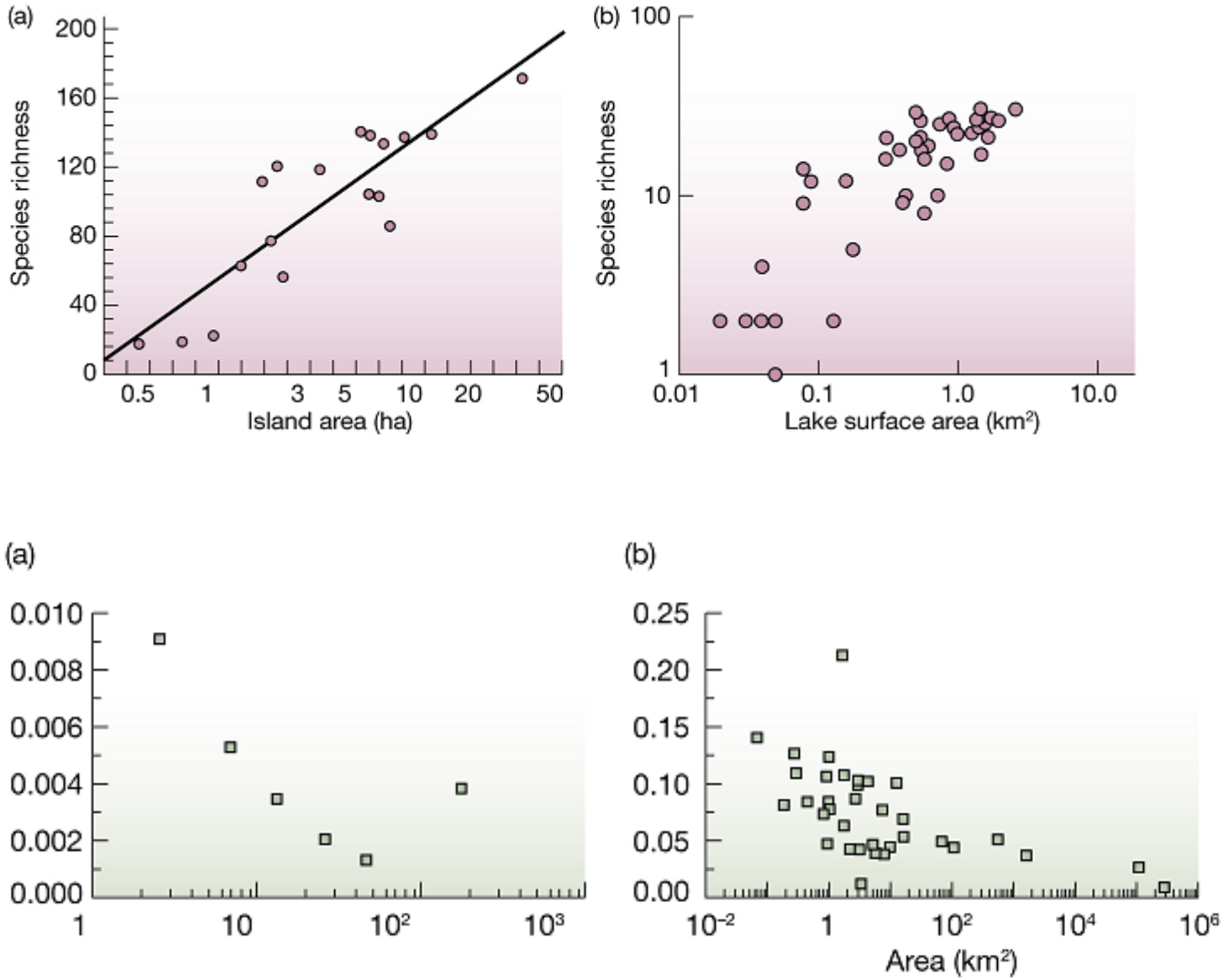
	Percentage due to each cause*					
Group	Habitat loss	Overexploitation†	Species Introduction	Predators	Other	Unknown
Extinctions						
Mammals	19	23	20	1	1	36
Birds	20	11	22	0	2	37
Reptiles	5	32	42	0	0	21
Fishes	35	4	30	0	4	48
Threatened extinctions						
Mammals	68	54	6	8	12	–
Birds	58	30	28	1	1	–
Reptiles	53	63	17	3	6	–
Amphibians	77	29	14	–	3	–
Fishes	78	12	28	–	2	–

Begon, Harper & Townsend, 2006



Townsend, Harper, Begon
Essentials of Ecology
Blackwell Science

Townsend, Harper & Begon, 2008



Townsend, Harper & Begon, 2008

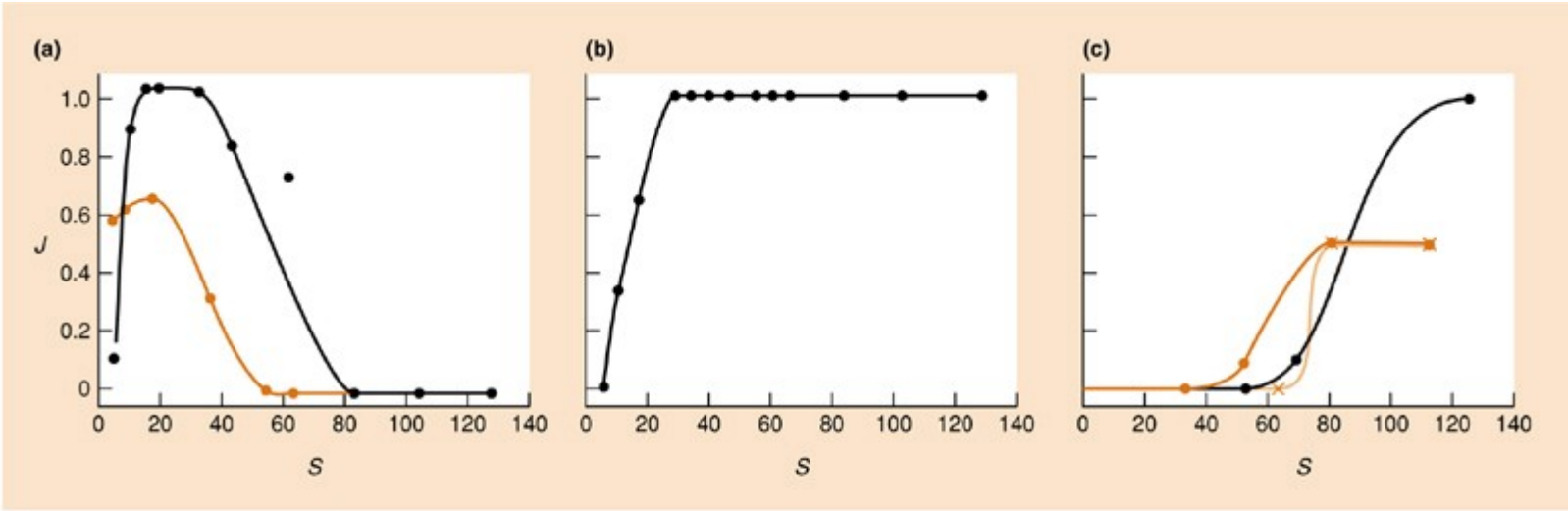
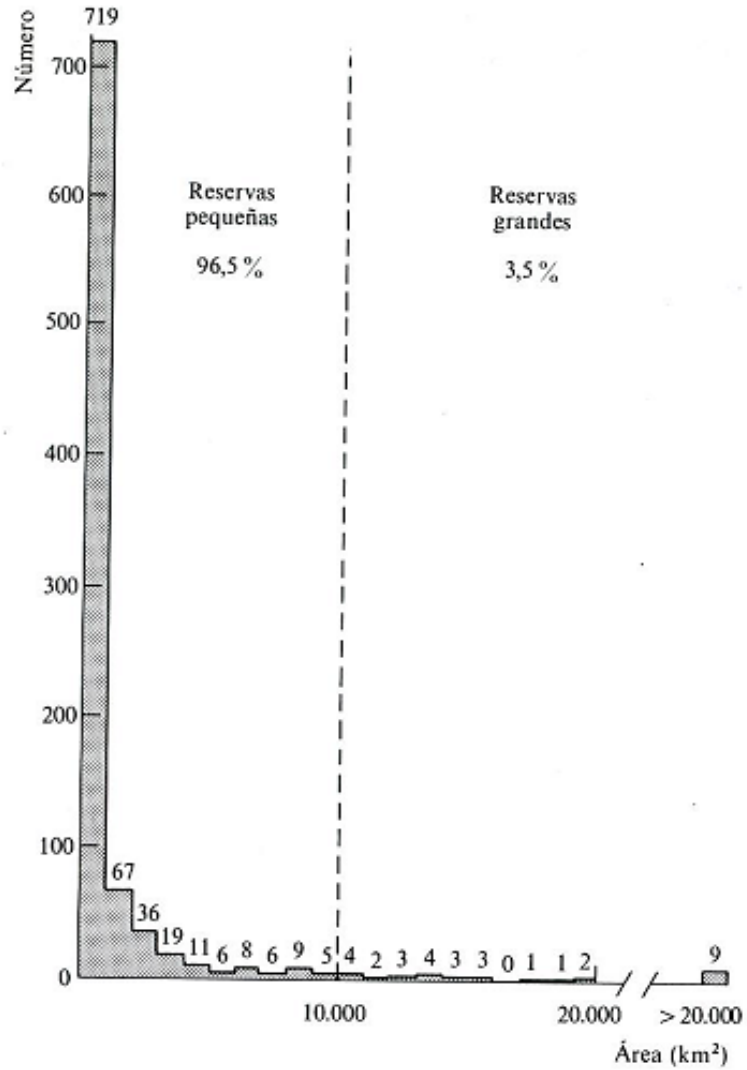
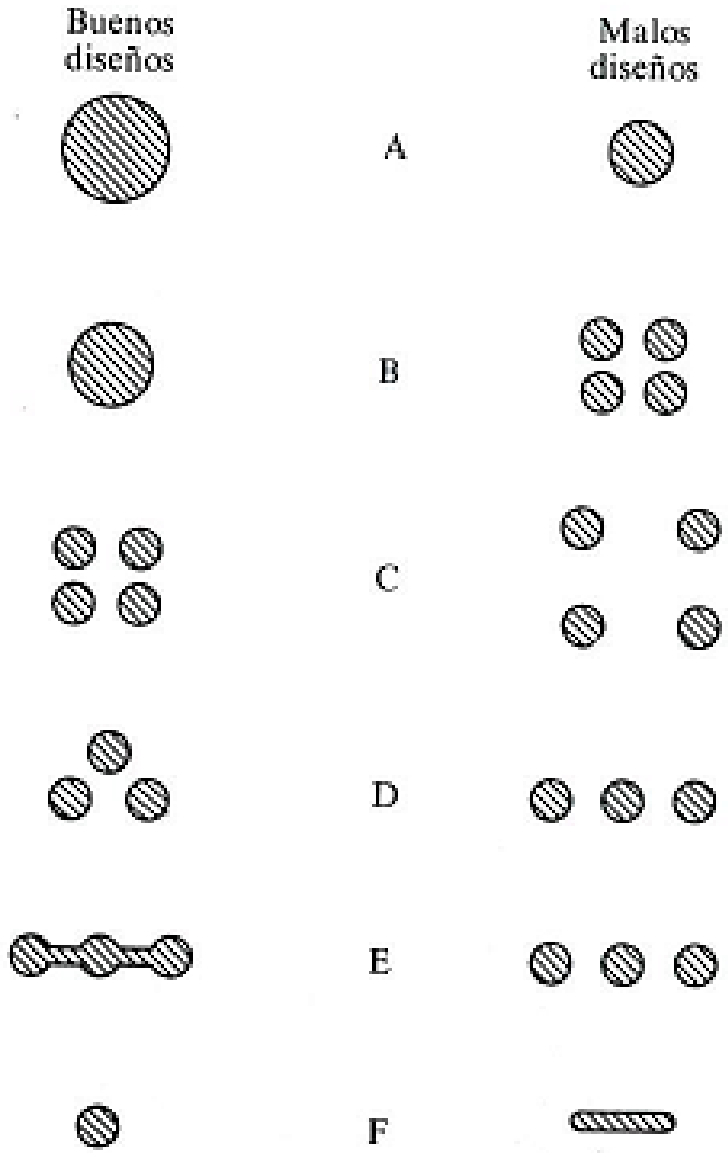


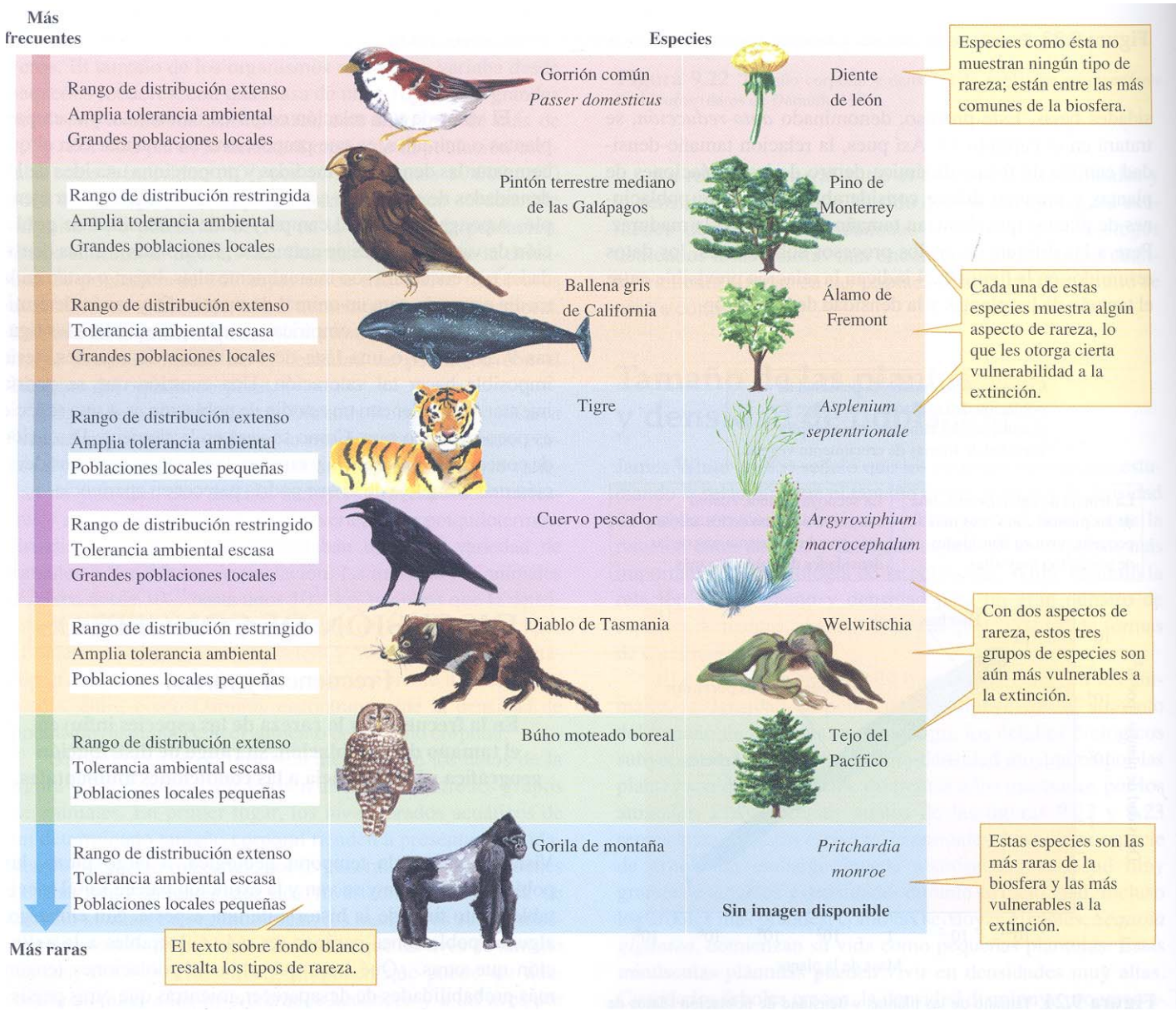
Figure 21.19 Incidence functions for various species in the Bismarcks in which *J*, the proportion of islands occupied by a given species, is plotted against *S*, a measure of island 'size' (actually the total number of bird species present). (a) Incidence functions for two 'supertramps': ●, flycatcher *Monarcha cinerascens*; ●, honeyeater *Myzomela pammelaena*. (b) Incidence function for the pigeon *Chalcophaps stephani*, a competent colonizer and, apparently, an effective competitor. (c) Incidence functions for three species that are restricted to larger islands: ●, hawk *Henicopernis longicauda*; ●, rail *Rallina tricolor*; ×, heron *Butorides striatus*. (After Diamond, 1975.)

Begon, Harper & Townsend, 2006

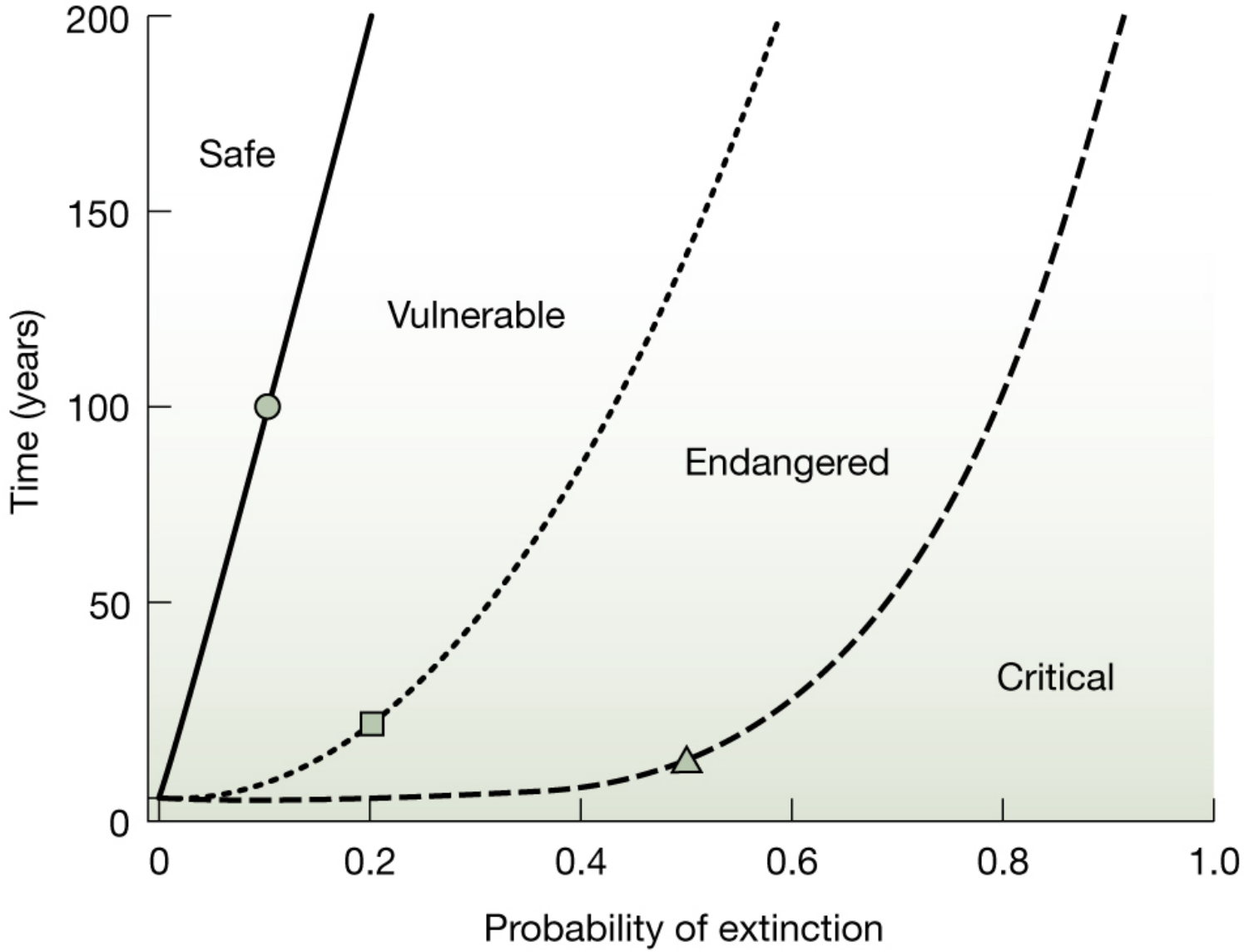

Número
719
700
600
500
400
300
200
100
0
Reservas pequeñas
96,5 %
Reservas grandes
3,5 %
67
36
19
11
6
8
6
9
5
4
2
3
4
3
3
0
1
1
2
9
10.000
20.000
> 20.000
Área (km²)


Buenos diseños
Malos diseños
A
B
C
D
E
F

Krebs, 1986


Más frecuentes
Especies
Rango de distribución extenso
Amplia tolerancia ambiental
Grandes poblaciones locales
Gorrión común
Passer domesticus
Diente de león
Especies como ésta no muestran ningún tipo de rareza; están entre las más comunes de la biosfera.
Rango de distribución restringida
Amplia tolerancia ambiental
Grandes poblaciones locales
Pintón terrestre mediano de las Galápagos
Pino de Monterrey
Rango de distribución extenso
Tolerancia ambiental escasa
Grandes poblaciones locales
Ballena gris de California
Álamo de Fremont
Cada una de estas especies muestra algún aspecto de rareza, lo que les otorga cierta vulnerabilidad a la extinción.
Rango de distribución extenso
Amplia tolerancia ambiental
Poblaciones locales pequeñas
Tigre
Asplenium septentrionale
Rango de distribución restringido
Tolerancia ambiental escasa
Grandes poblaciones locales
Cuervo pescador
Argyroxiphium macrocephalum
Rango de distribución restringido
Amplia tolerancia ambiental
Poblaciones locales pequeñas
Diablo de Tasmania
Welwitschia
Con dos aspectos de rareza, estos tres grupos de especies son aún más vulnerables a la extinción.
Rango de distribución extenso
Tolerancia ambiental escasa
Poblaciones locales pequeñas
Búho moteado boreal
Tejo del Pacífico
Rango de distribución extenso
Tolerancia ambiental escasa
Poblaciones locales pequeñas
Gorila de montaña
Pritchardia monroe
Sin imagen disponible
Estas especies son las más raras de la biosfera y las más vulnerables a la extinción.
Más raras
El texto sobre fondo blanco resalta los tipos de rareza.

Molles, 2006



Townsend, Harper & Begon, 2008

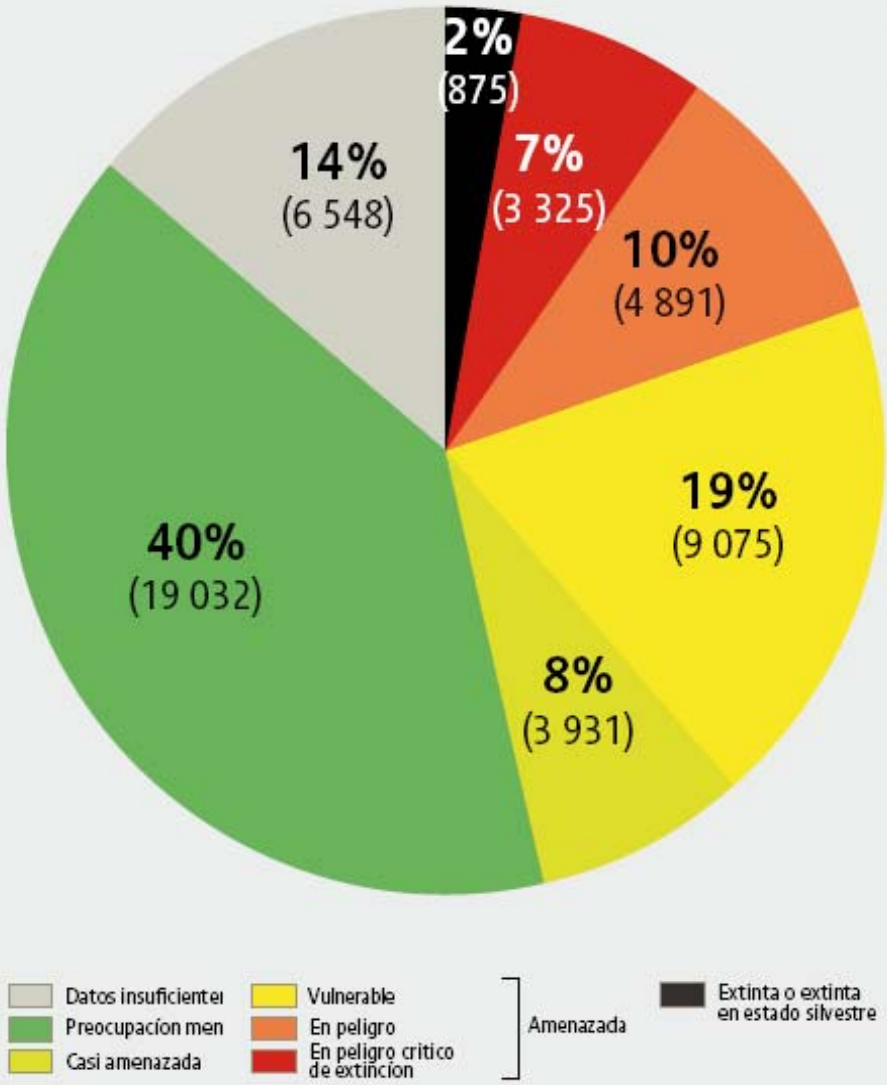
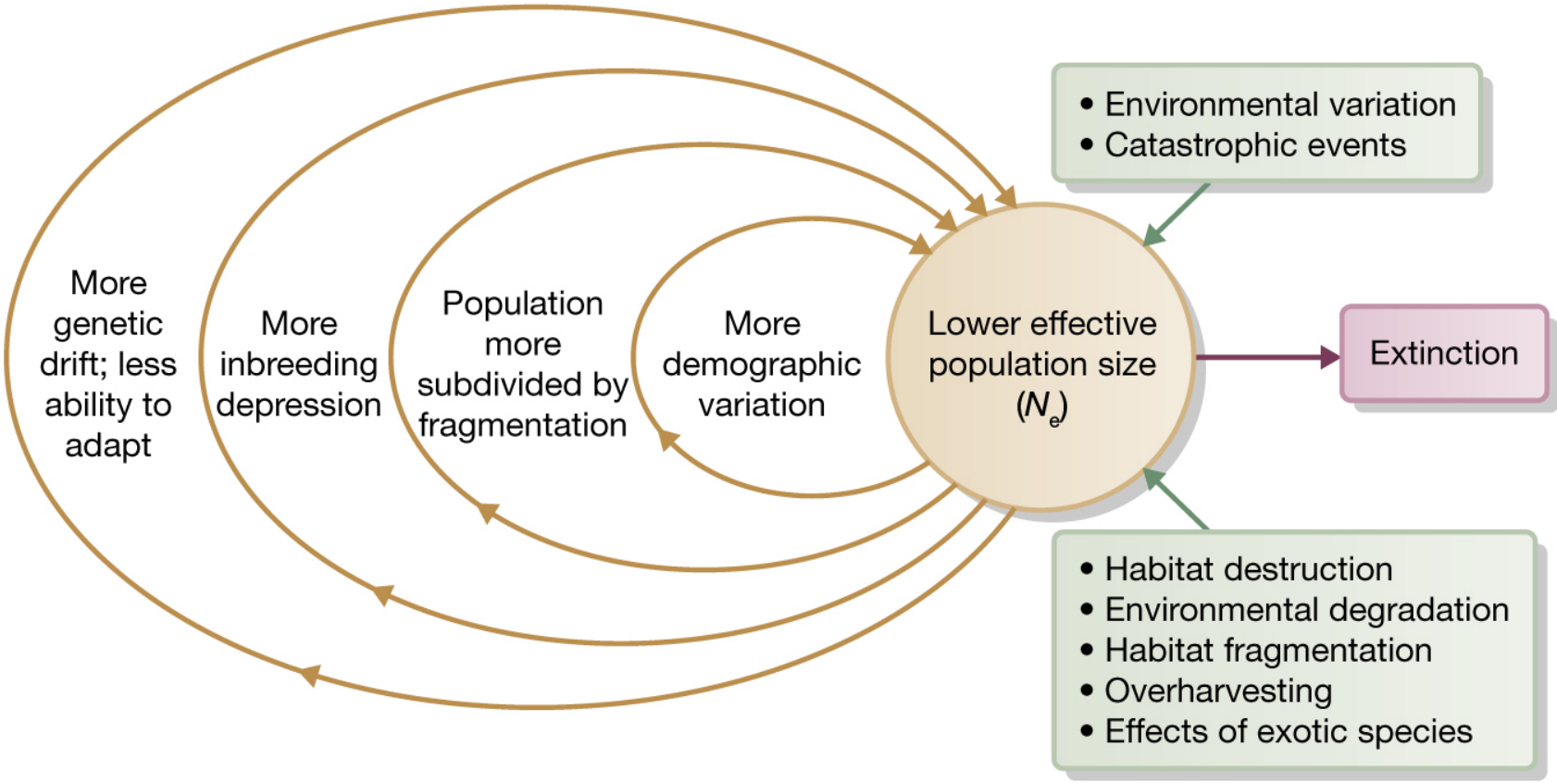


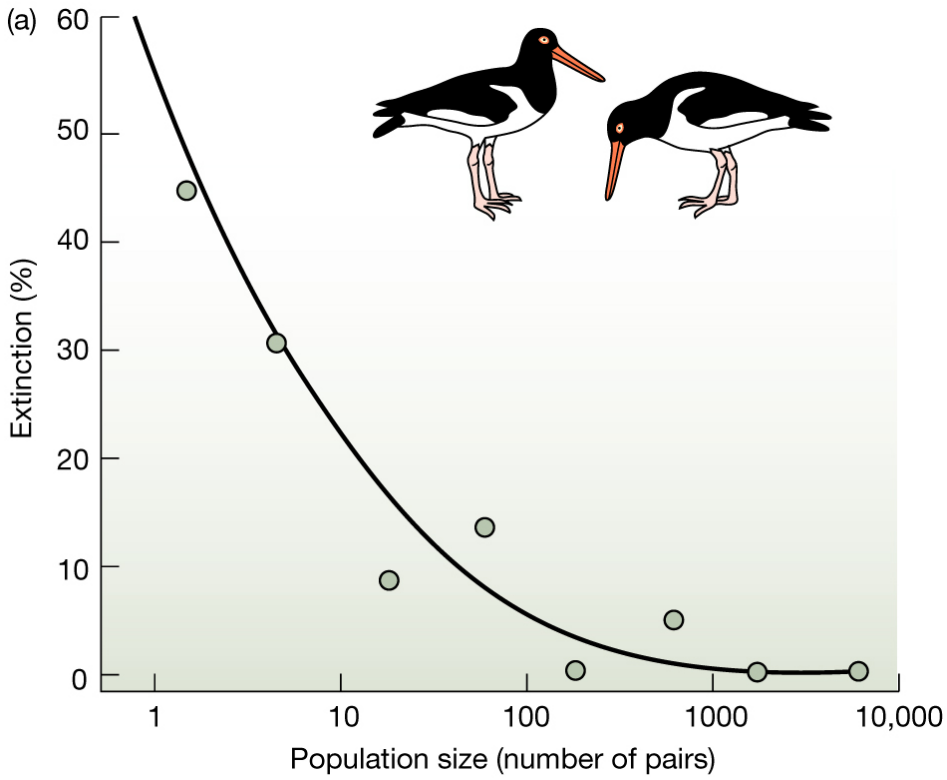
FIGURA 3 Porcentaje de especies en distintas categoría de amenaza

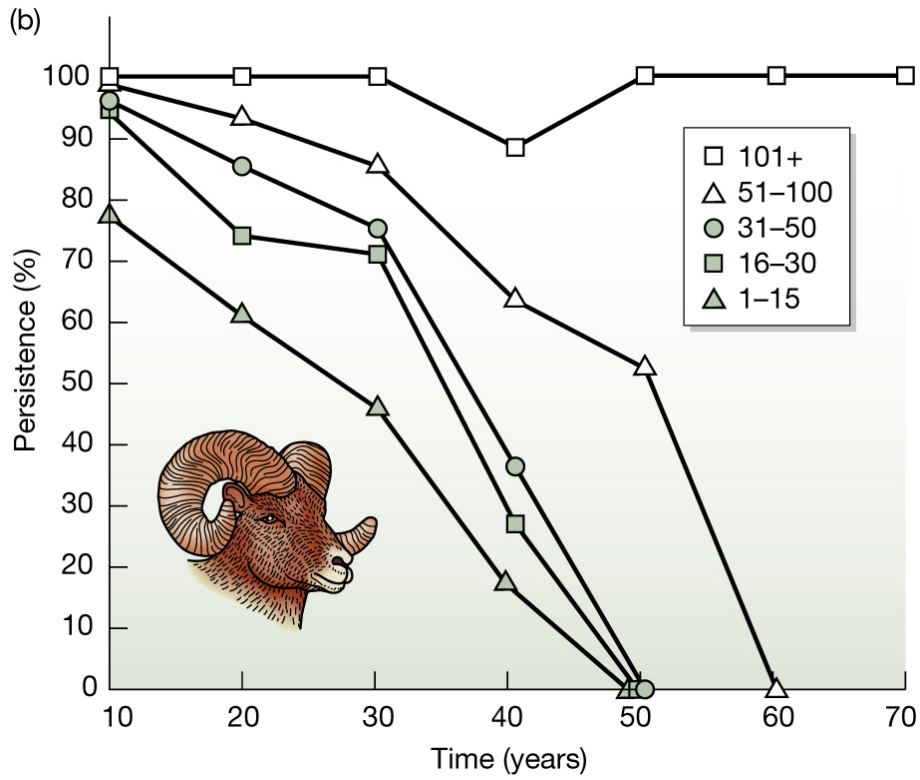
Porcentajes de todas las especies evaluadas en distintas categorías de peligro de extinción incluidas en la Lista Roja de la UICN, basados en datos de 47 677 especies. Se considera que más de un tercio (36%) de las especies evaluadas está amenazado, es decir, que son especies vulnerables, están en peligro de extinción o en peligro crítico de extinción.

Fuente: IUCN

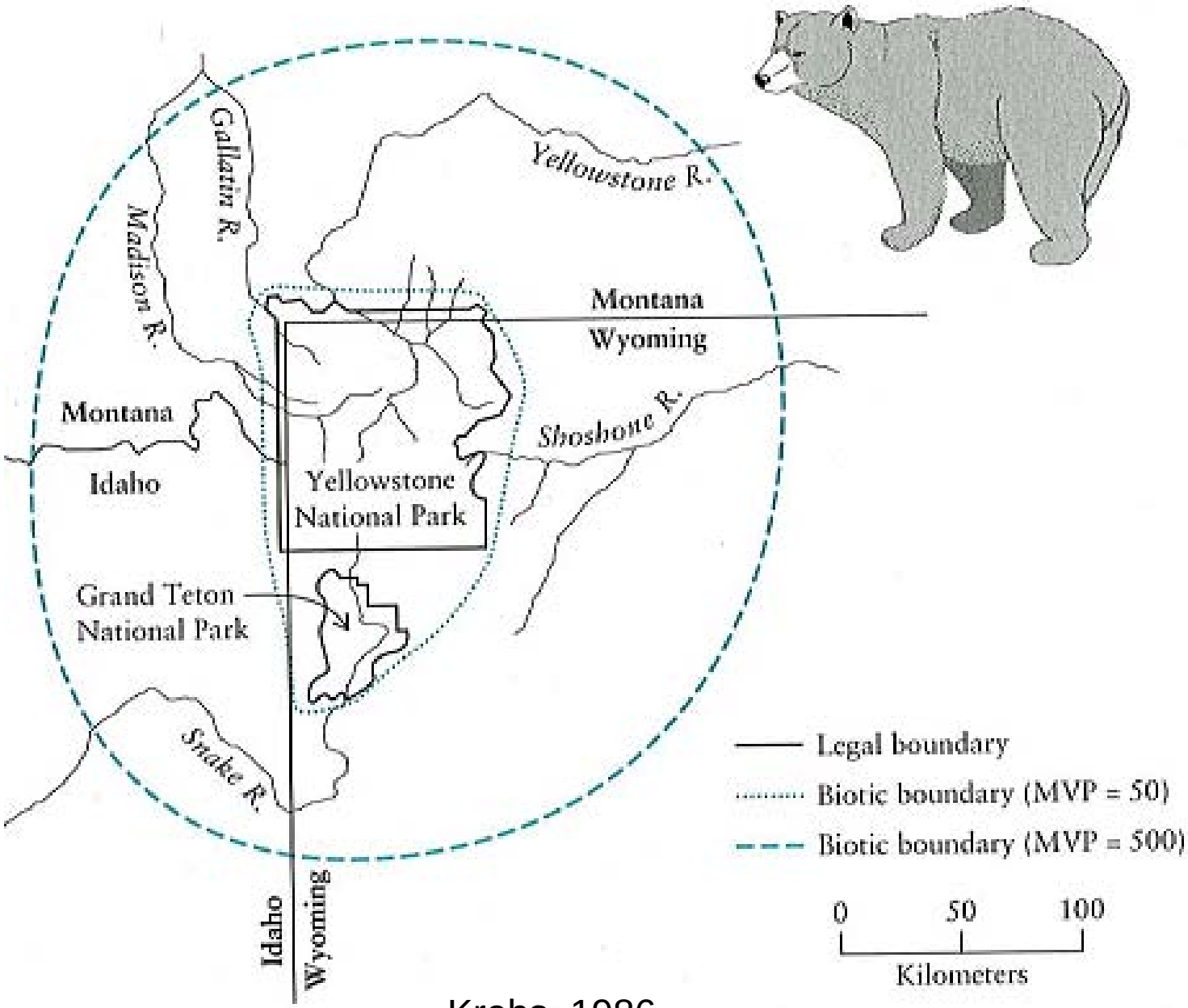


Townsend, Harper & Begon, 2008





Townsend, Harper & Begon, 2008


Gallatin R.
Madison R.
Yellowstone R.
Montana
Wyoming
Montana
Idaho
Shoshone R.
Yellowstone
National Park
Grand Teton
National Park
Snake R.
Idaho
Wyoming
Legal boundary
Biotic boundary (MVP = 50)
Biotic boundary (MVP = 500)
0
50
100
Kilometers

Krebs, 1986

VALORACION GLOBAL DE LOS SERVICIOS PRESTADOS POR LOS ECOSISTEMAS
(Costanza et al. 1997- Nature 387: 253-260)

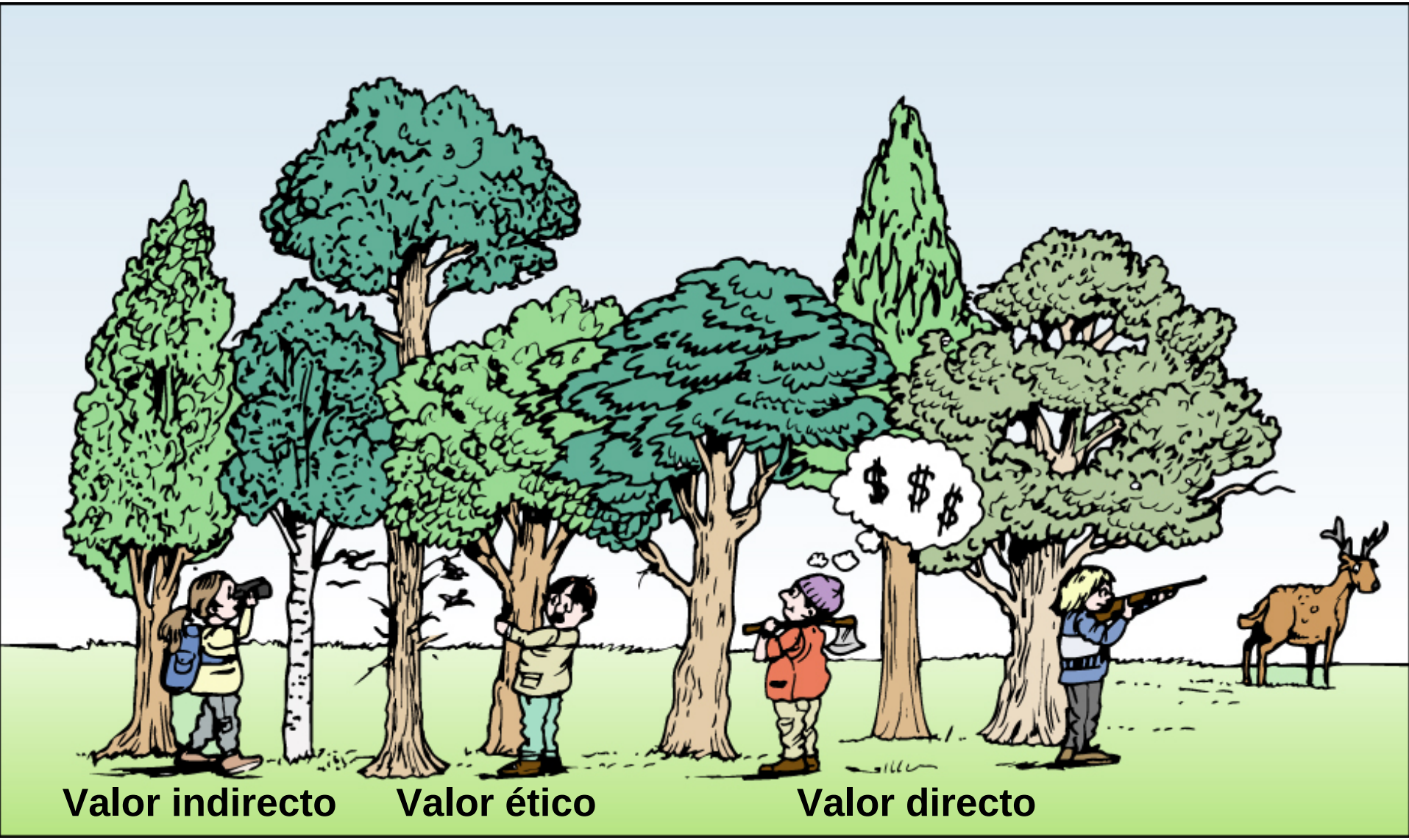
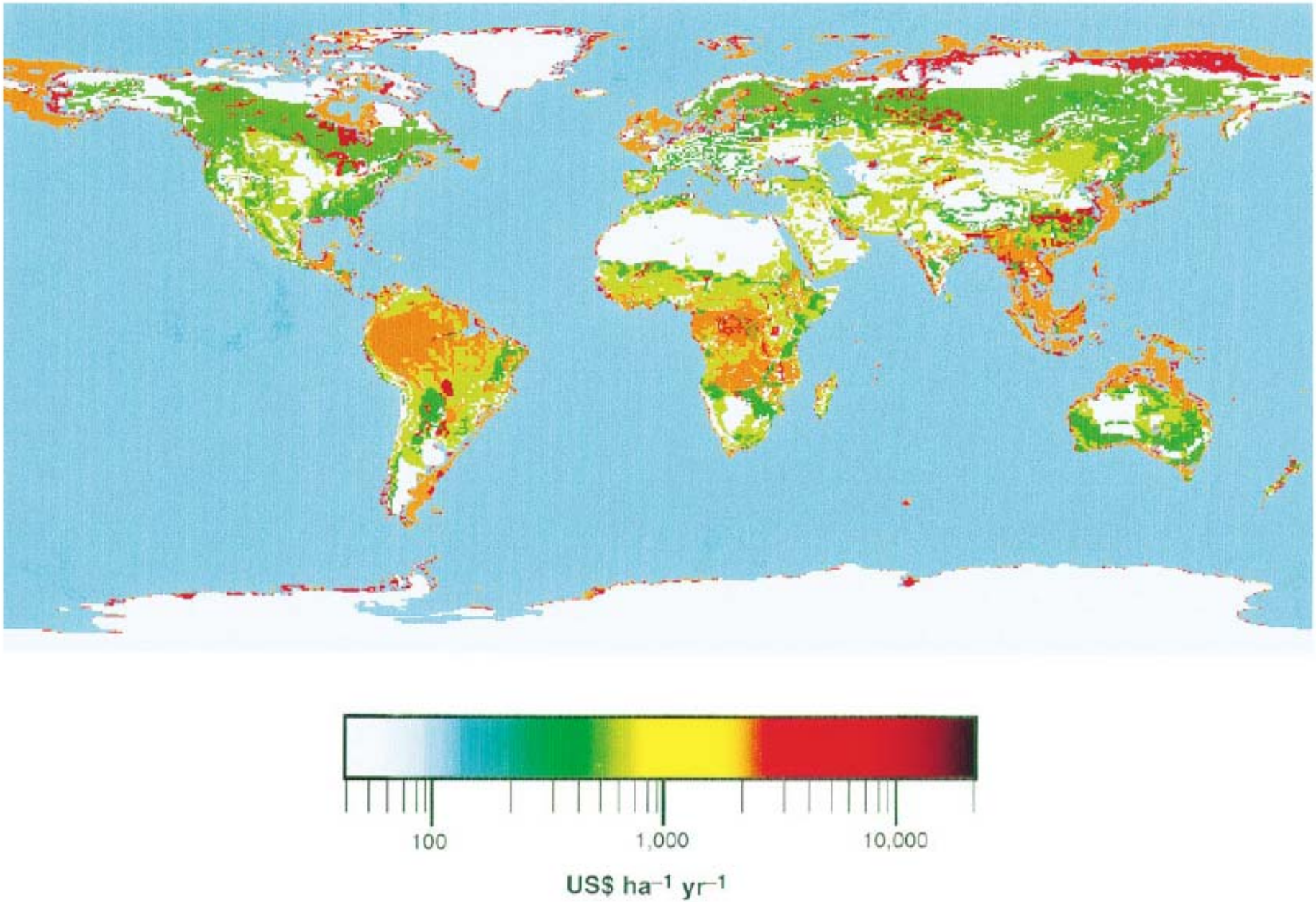


Table 1 Ecosystem services and functions used in this study

Number	Ecosystem service*	Ecosystem functions	Examples
1	Gas regulation	Regulation of atmospheric chemical composition.	CO_2/O_2 balance, O_3 for UVB protection, and SO_X levels.
2	Climate regulation	Regulation of global temperature, precipitation, and other biologically mediated climatic processes at global or local levels.	Greenhouse gas regulation, DMS production affecting cloud formation.
3	Disturbance regulation	Capacitance, damping and integrity of ecosystem response to environmental fluctuations.	Storm protection, flood control, drought recovery and other aspects of habitat response to environmental variability mainly controlled by vegetation structure.
4	Water regulation	Regulation of hydrological flows.	Provisioning of water for agricultural (such as irrigation) or industrial (such as milling) processes or transportation.
5	Water supply	Storage and retention of water.	Provisioning of water by watersheds, reservoirs and aquifers.
6	Erosion control and sediment retention	Retention of soil within an ecosystem.	Prevention of loss of soil by wind, runoff, or other removal processes, storage of silt in lakes and wetlands.
7	Soil formation	Soil formation processes.	Weathering of rock and the accumulation of organic material.
8	Nutrient cycling	Storage, internal cycling, processing and acquisition of nutrients.	Nitrogen fixation, N, P and other elemental or nutrient cycles.
9	Waste treatment	Recovery of mobile nutrients and removal or breakdown of excess or xenic nutrients and compounds.	Waste treatment, pollution control, detoxification.
10	Pollination	Movement of floral gametes.	Provisioning of pollinators for the reproduction of plant populations.
11	Biological control	Trophic-dynamic regulations of populations.	Keystone predator control of prey species, reduction of herbivory by top predators.
12	Refugia	Habitat for resident and transient populations.	Nurseries, habitat for migratory species, regional habitats for locally harvested species, or overwintering grounds.
13	Food production	That portion of gross primary production extractable as food.	Production of fish, game, crops, nuts, fruits by hunting, gathering, subsistence farming or fishing.
14	Raw materials	That portion of gross primary production extractable as raw materials.	The production of lumber, fuel or fodder.
15	Genetic resources	Sources of unique biological materials and products.	Medicine, products for materials science, genes for resistance to plant pathogens and crop pests, ornamental species (pets and horticultural varieties of plants).
16	Recreation	Providing opportunities for recreational activities.	Eco-tourism, sport fishing, and other outdoor recreational activities.
17	Cultural	Providing opportunities for non-commercial uses.	Aesthetic, artistic, educational, spiritual, and/or scientific values of ecosystems.

* We include ecosystem 'goods' along with ecosystem services



Costanza et al. 1997