

Gradual or Sudden: System and Science in IA

Contents

**Gradual or Sudden
Sustainable Development**

- System**
- Science**

Lessons

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Gradual or Sudden

- 50 years IA in Korea has evolved gradual or sudden development in system and science
- In Buddhism gradual or sudden enlightenment shows in personal practice
- Public participation and private projects introduction in IA is revolution or sudden system at that time
- KSEIA journals and conference talks have contributed to gradual or sudden development in science







In Buddhism

돈오돈수(頓悟頓修) Sudden Enlightenment

돈오점수(頓悟漸修) Gradual Enlightenment

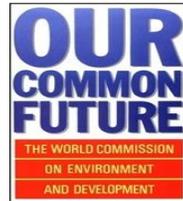
For Whom? Human and Living Beings

Sustainable Development



1980

- **Sustainable Economic Development**
-maintenance of essential ecological processes and services



1987

- **Development meets the present needs**
-without compromising the ability of future generations



1992

- **More balanced, sustainable future**
-addressing such issues as biodiversity climate change and forests



2002

- **Linkages between IA and SD agenda**
-recommendations for actions for the world summit



2012

- **Action to Create a Better Future for All**
-A Green Economy in SD and Poverty Eradication
-Institutional Framework for SD

IA, the earlier is the better

Impact Assessment is a process and assessment tool, which promotes sustainable development and is used to help ensure actions are economically viable, socially equitable, and Environmentally sustainable.

[IAIA, 2002](#)

System Development of IA

- Pollution Control Act (1963-77): GDP(\$138-1051)

- EIA concept in 1971: GDP \$290

*US NEPA (1969)



- Environment Preservation Act ('77-90): GDP(\$1051-6514)

- EIA project ('77), EIS preparation Regulation ('81)

- Private projects are included ('86)

* Sustainable Development (1987)



- Environmental Policy Act ('90-present)

- Public participation ('91): GDP \$7521

- Prior Environmental Review System ('00-'12)

*Rio Summit (1992)

- Environmental Impact Assessment Act (1993-1999)
 - EIA projects enlargement
 - EIA by state and city gov. rules (1997) GDP \$12134



- IA Act on Environment, Traffic, Disasters, etc. ('99-09):
 - Linkage of PERS and EIA ('05) GDP \$18654



- Environmental Impact Assessment Act (2009-present)
 - One Act of EIA and PERS ('11): GDP \$24159
 - PERS into Strategic EIA and Small-scale EIA ('12)

*Rio+20 Summit (2012) The Future We Want



KSEIA

1992	•Foundation •1 st EIA Journal
2003	•1 st Korea-Japan EIA Conference
2005	•IAIA Affiliate
2007	•1 st Korea-Vietnam EIA Conference
2011	•1 st Korea-China-Japan EIA Conference
2012	•Korea-IUCN Workshop
2014	•EIA Textbook
2017	•1 st V-K-J-C EIA Conference •Assessing Korea: Charlie Wolf's Memory

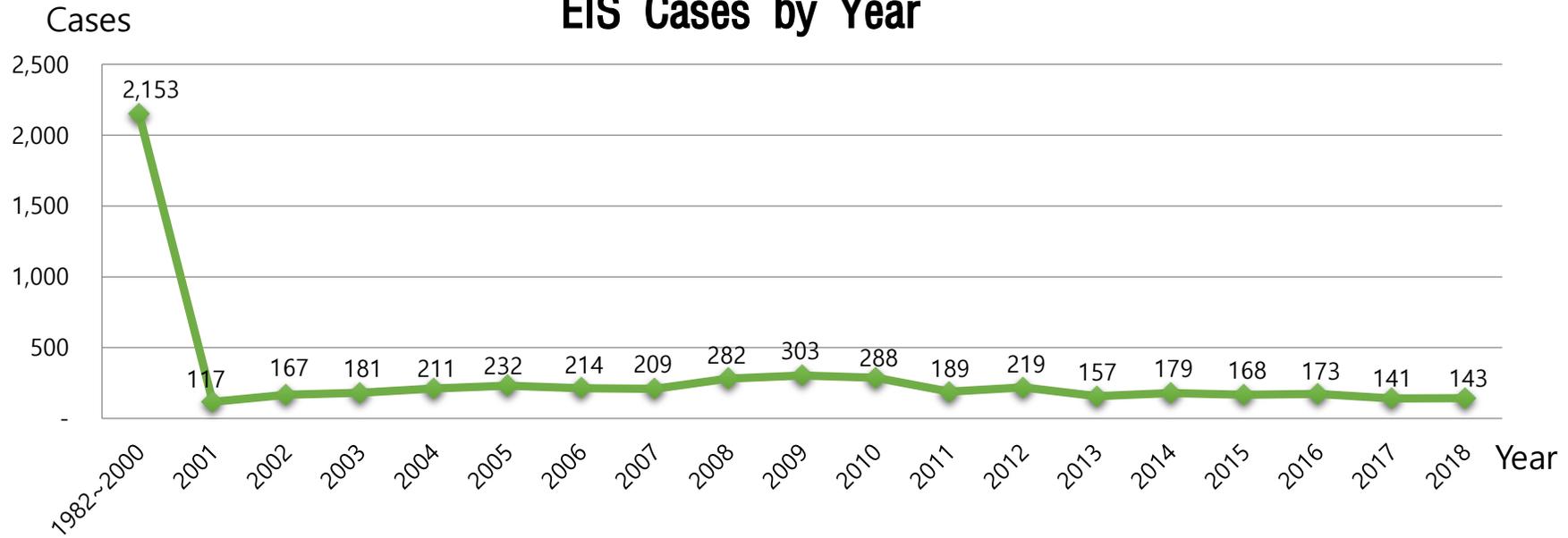
Sustainable Development



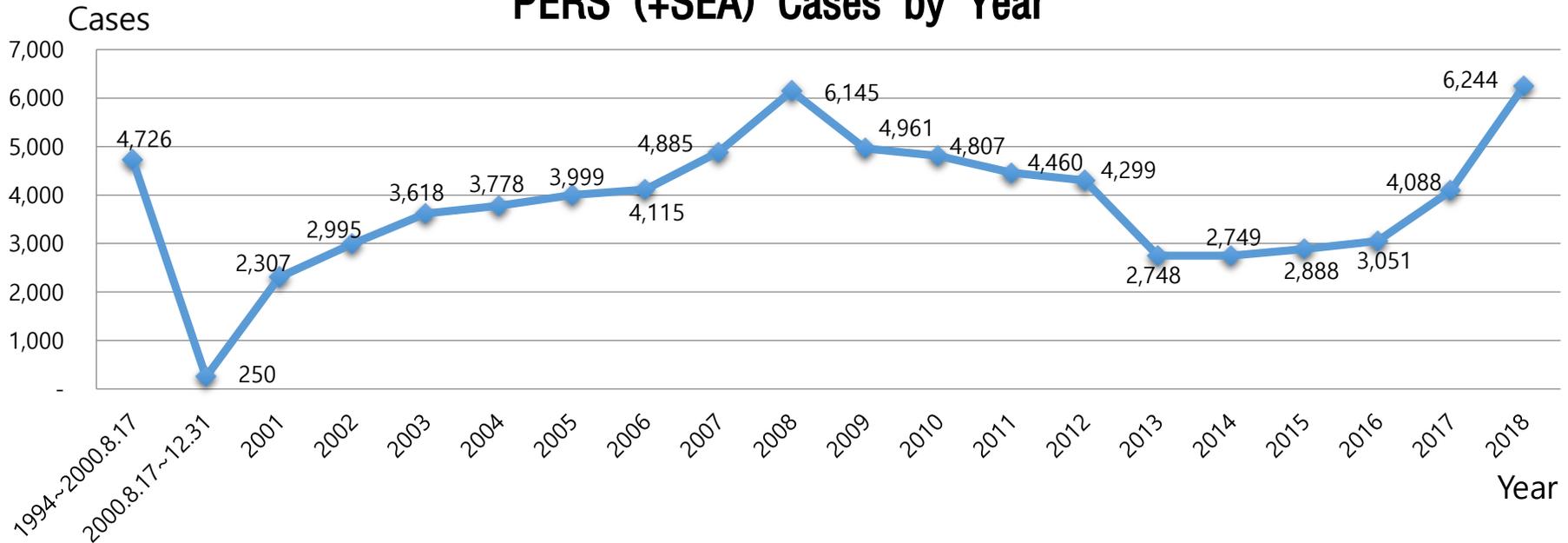
Korean IA

1971	•Pollution Protection Act
1977	•Environment Preservation Act
1990	•Environmental Policy Act: PP
1993	•EIA Act
2000	•Act on Assessment of Environment, Traffic, Disaster, etc. : PERS
2009	•EIA Act
2012	•Revised EIA Act: Strategic EA
2016	•Revised EIA Act: Screening and Tiering in SEA

EIS Cases by Year



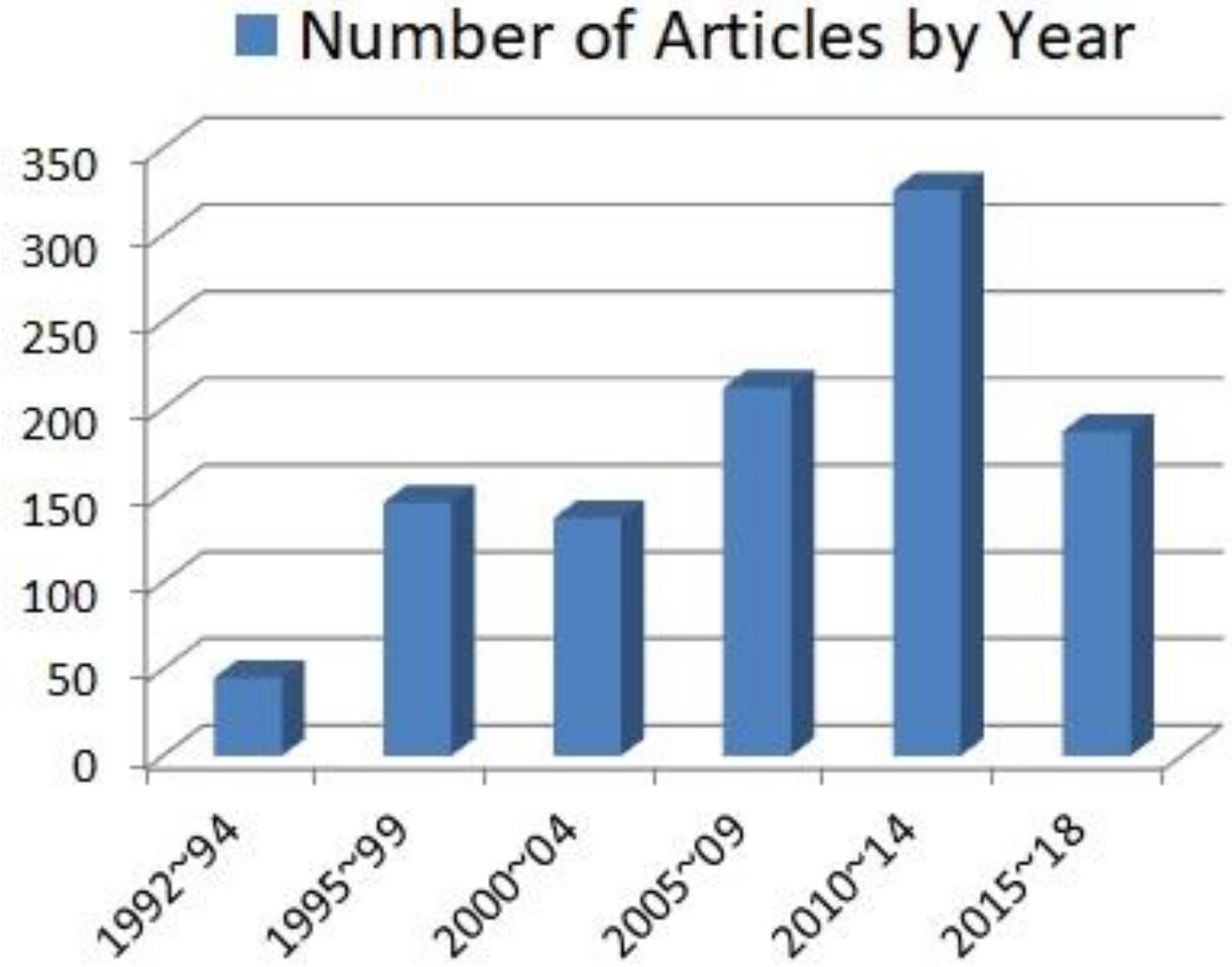
PERS (+SEA) Cases by Year

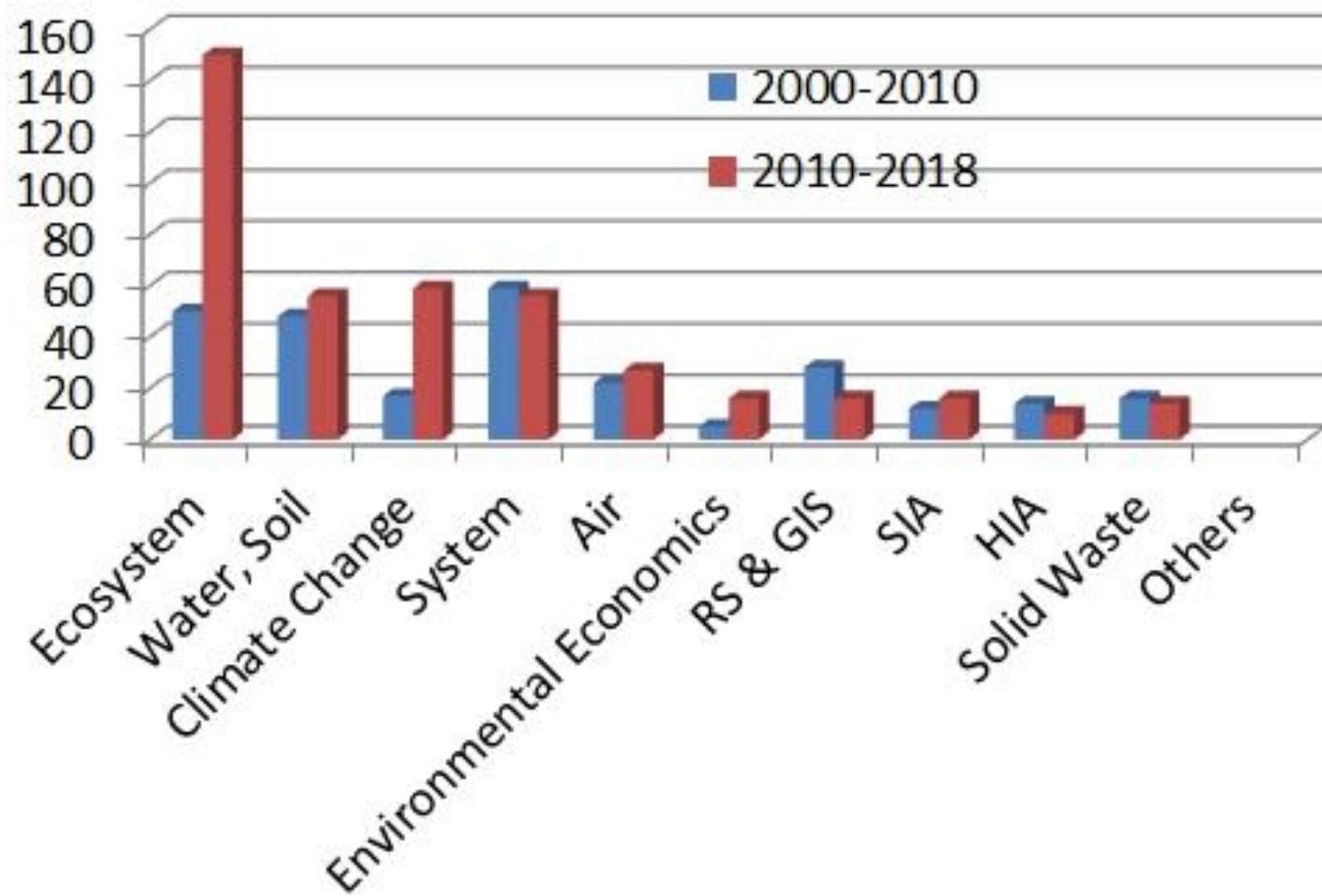


Science Development

Analysis of Journal of EIA (125 volumes since 1992, 2000-09: 349 articles, 2010-18: 513 articles)

Contents increase in the discipline of ecosystem and climate change





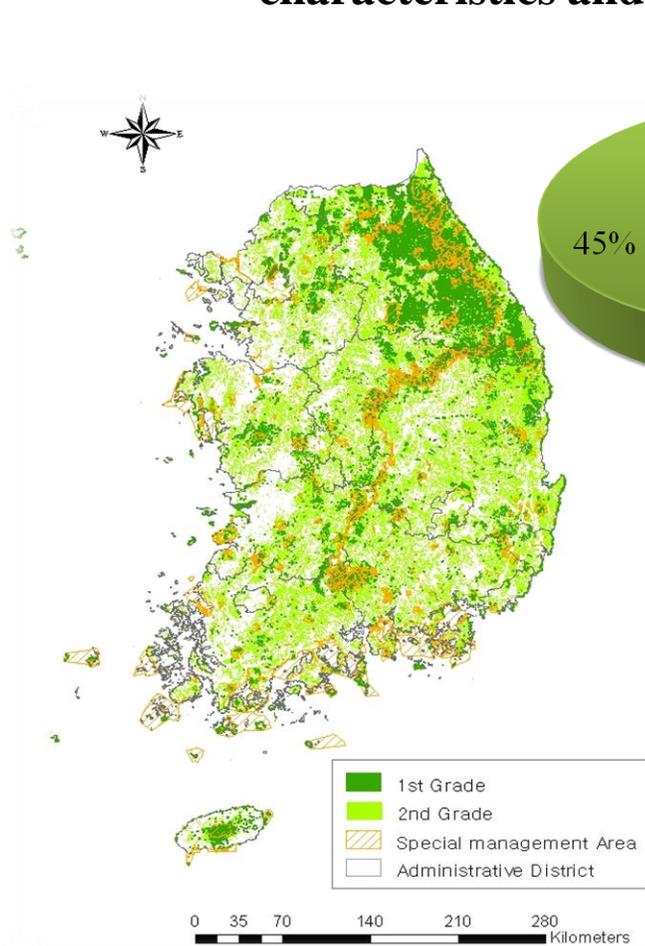
Clawed Salamander in Chunsungsan Tunnel Development



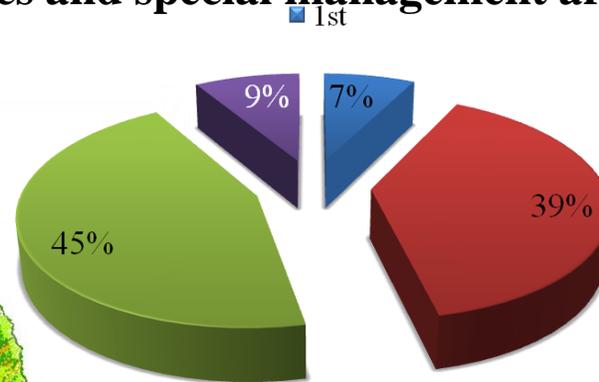
Ecosystem and Nature Map

<http://egis.me.go.kr>

Comprehensive Graded Map from 1st to 3rd by ecological characteristics and special management areas



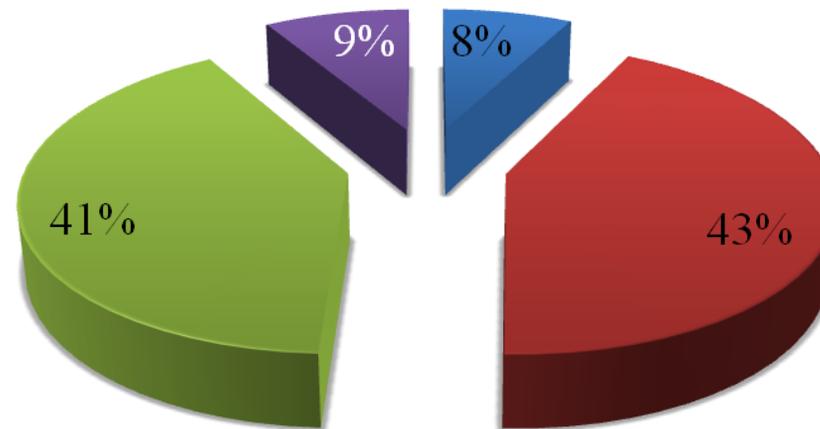
100,144.30 km²



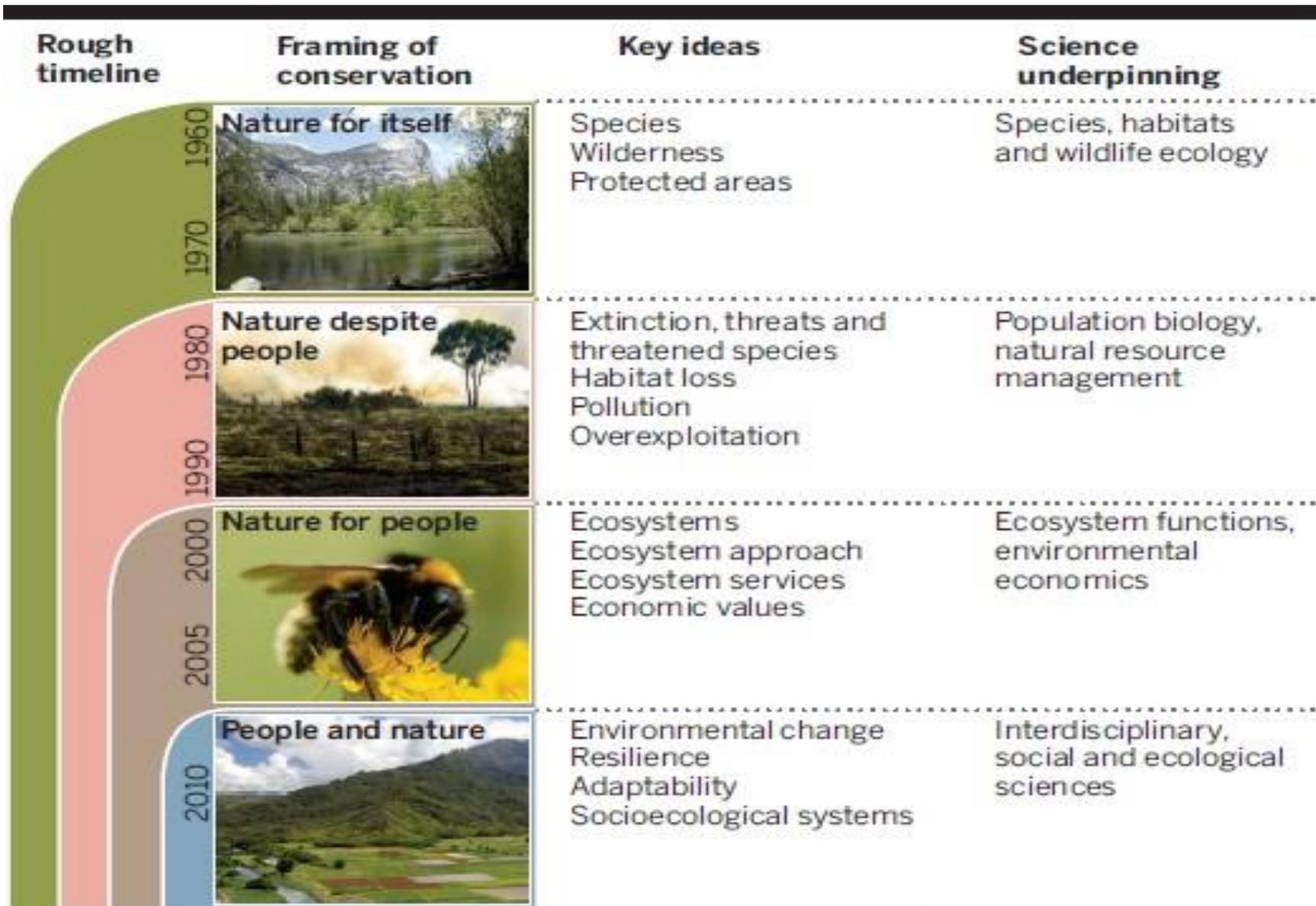
April 11, 2007

	2007	2013	+/-
1 st	7.44%	7.68%	+0.24%
2 nd	39.21%	43.07%	+3.86%
3 rd	44.71%	40.81%	-3.9%
SMA	8.63%	8.44%	-0.19%

■ 1st



January 8, 2013



Whose conservation?

Georgina M. Mace

(Sept. 25, 2014)

Science 345 (6204), 1558-60

Changing views of nature and conservation. Over the past 50 years, the prevailing view of conservation has changed several times, resulting, for example, in a shift in emphasis from species to ecosystems. None of the framings has been eclipsed as new ones have emerged, resulting in multiple framings in use today.

Four Problems of IA

		Knowledge	
		Certain	Uncertain
Consent	Complete	Problem: Technical	Problem: Information
	Contested	Solution: Calculation	Solution: Research
		Problem: (dis)Agreement	Problem: Knowledge and Consent
		Solution: Coercion or Discussion	Solution: ?

Source: Mary Douglas and Aaron Wildavsky, Risk and Culture, 1983

Lessons

- Is gradual or sudden development for whom?
- Learn the experience
- Not knowledge but wisdom



Thank you! See you in Haikou!

**Haikou, Hainan Island, China, from 22-24 August 2019
for the 13th Asia Impact Assessment Conference (AIC2019)
on Environmental Assessment Beyond 2020: Retrofitting
for a High-quality Development in Asia**

Asian S3EA: Strategic, spatial, and sustainable EA (II) Tuesday 30 April 1630-1800 B3

Gradual or Sudden: System and Science in IA, Myungjin Kim

Stakeholders' attitudes and consultation for CCS, Takehiko Murayama, Atsushi Nagaoka, Shigeo Nishikizawa

Comparison between climate impact and preferred adaptation measures, Chae Yeon Park, Dong Kun Lee, Jiyeon Kim

Community acceptance of small scale wind power, Shigeo Nishikizawa, Shunsuke Umezawa, Takehiko Murayama

Effects of watershed environmental changes on water quality, Soonju Yu, Eunjung Lee

A new approach to determining impacts to GDEs, Ben Roberts

Daily Water Quality Forecasting System Linking Weather, Sang Chul Hwang, Ji Won Kim Kim, Jung Kyu Choi

Algal bloom monitoring using unmanned aerial vehicles, Chang Young Byun, Ji Won Kim, Seung Jae Lee