

# IENE 2011 Scientific Workshop and General Assembly, 21–24 September 2011, Nymfeo & Kastoria, Greece

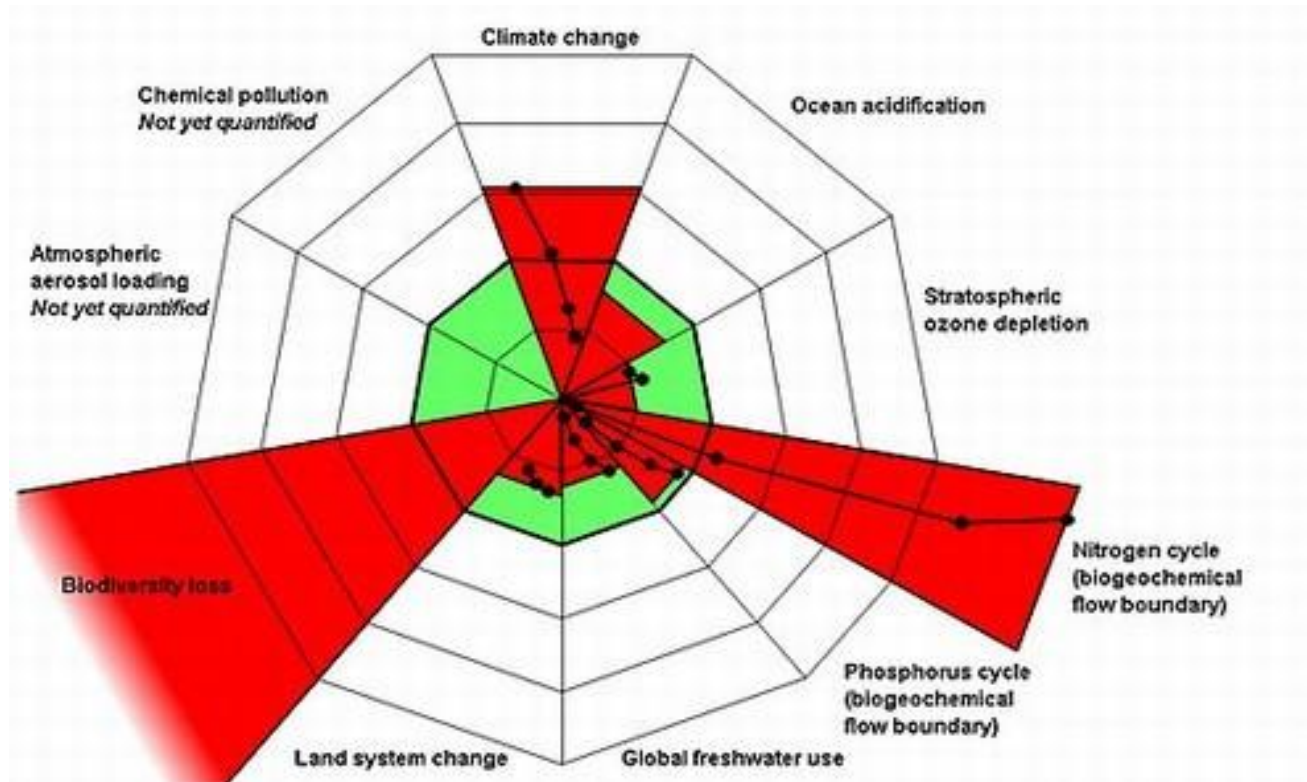
“Highways and wildlife: How do  
they co-exist?”

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The Swedish Transport Administration  
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# Planetary Boundaries



**A safe operating space for humanity:** *Nature* **461**, 472-475 (24 September 2009) | doi:10.1038/461472a; Published online 23 September 2009. Johan Rockström<sup>1,2</sup>, Will Steffen<sup>1,3</sup>, Kevin Noone<sup>1,4</sup>, Åsa Persson<sup>1,2</sup>, F. Stuart Chapin, III<sup>5</sup>, Eric F. Lambin<sup>6</sup>, Timothy M. Lenton<sup>7</sup>, Marten Scheffer<sup>8</sup>, Carl Folke<sup>1,9</sup>, Hans Joachim Schellnhuber<sup>10,11</sup>, Björn Nykvist<sup>1,2</sup>, Cynthia A. de Wit<sup>4</sup>, Terry Hughes<sup>12</sup>, Sander van der Leeuw<sup>13</sup>, Henning Rodhe<sup>14</sup>, Sverker Sörlin<sup>1,15</sup>, Peter K. Snyder<sup>16</sup>, Robert Costanza<sup>1,17</sup>, Uno Svedin<sup>1</sup>, Malin Falkenmark<sup>1,18</sup>, Louise Karlberg<sup>1,2</sup>, Robert W. Corell<sup>19</sup>, Victoria J. Fabry<sup>20</sup>, James Hansen<sup>21</sup>, Brian Walker<sup>1,22</sup>, Diana Liverman<sup>23,24</sup>, Katherine Richardson<sup>25</sup>, Paul Crutzen<sup>26</sup> & Jonathan A. Foley<sup>27</sup>

<http://www.nature.com/nature/journal/v461/n7263/full/461472a.htm>,

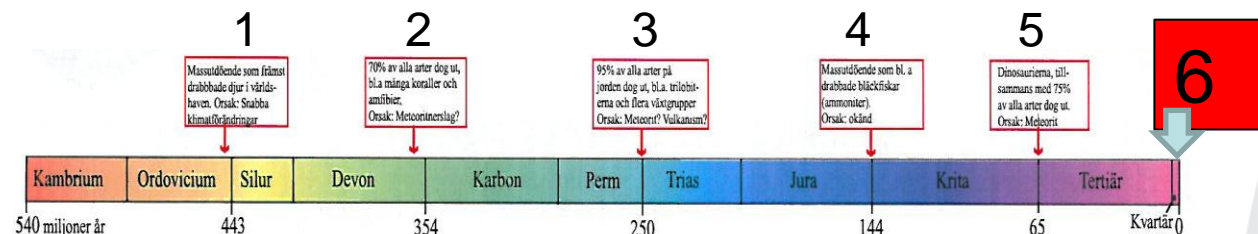


# Has the Earth's sixth mass extinction already arrived?

[Anthony D. Barnosky](#)<sup>1, 2, 3</sup>, [Nicholas Matzke](#)<sup>1</sup>, [Susumu Tomiya](#)<sup>1, 2, 3</sup>, [Guinevere O. U. Wogan](#)<sup>1, 3</sup>, [Brian Swartz](#)<sup>1, 2</sup>, [Tiago B. Quental](#)<sup>1, 2, 5</sup>, [Charles Marshall](#)<sup>1, 2</sup>, [Jenny L. McGuire](#)<sup>1, 2, 3, 6</sup>, [Emily L. Lindsey](#)<sup>1, 2</sup>, [Kaitlin C. Maguire](#)<sup>1, 2</sup>, [Ben Mersey](#)<sup>1, 4</sup>, & [Elizabeth A. Ferrer](#)<sup>1, 2</sup>

In:Nature Volume: 471, Pages: 51–57 Date published: (03 March 2011)

Biologists now suggest that a sixth mass extinction may be under way, given the known species losses over the past few centuries and millennia.



32 populär ASTRONOMI · DECEMBER 2004



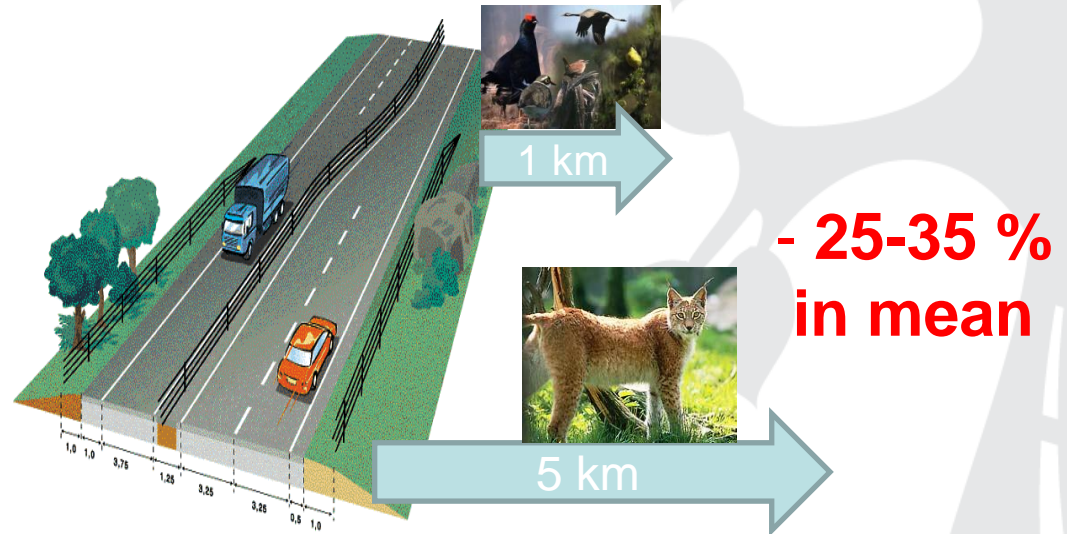
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# Mammals and bird populations are severely affected by infrastructure

Mammal and bird populations are displaced from infrastructure, and displacement distance depends on the habitat type and on the species.

A decline in species abundance of

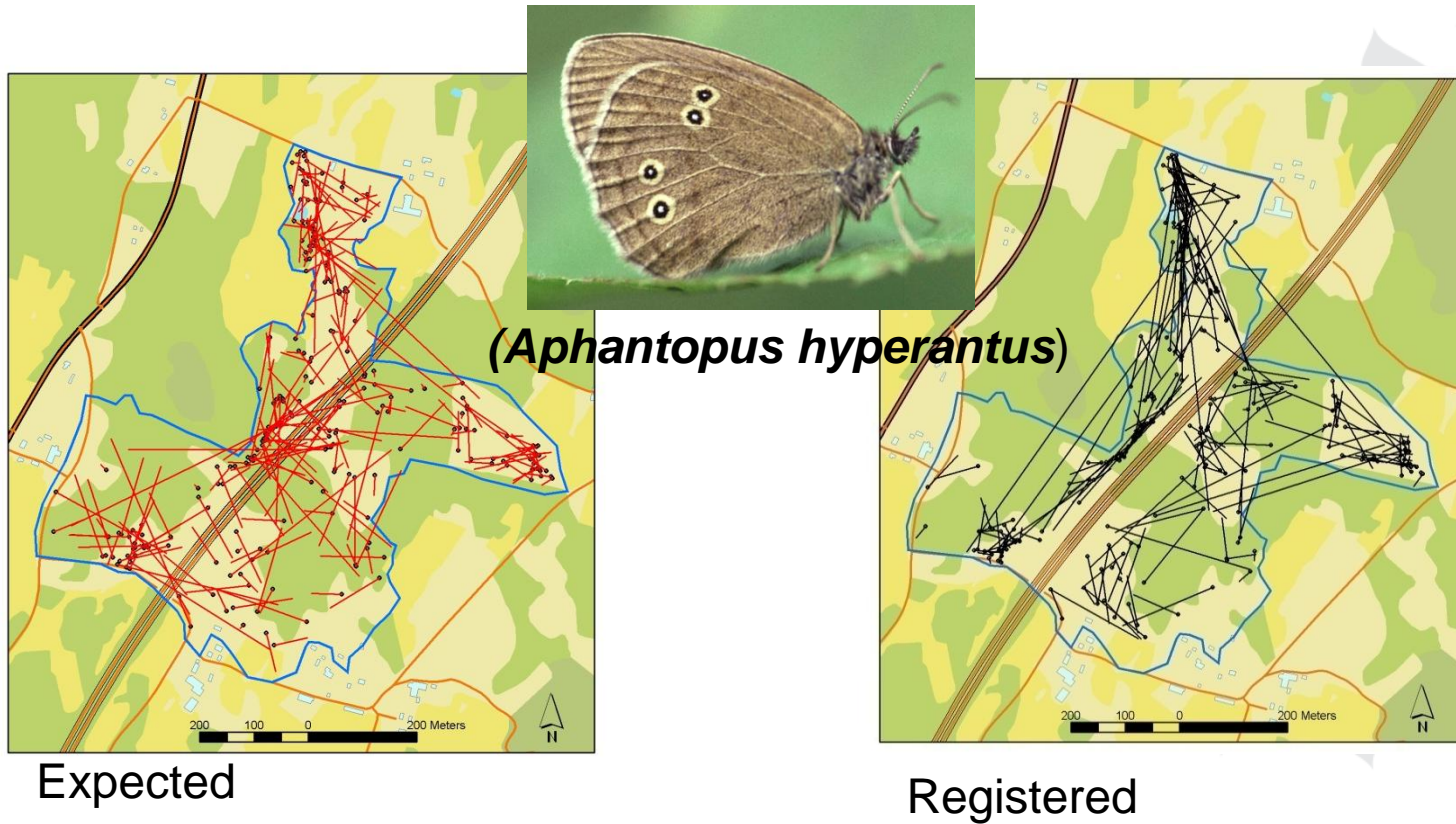
- up to 50-70% for birds within 1 km
- up to 50-70% for mammals within 5 km from infrastructure



Source: Benítez-López, A., Alkemade, R. & Verweij, P.A. 2009. Are mammal and bird populations declining in the proximity of roads and other infrastructure? *Systematic Review* N. 68. Collaboration for Environmental Evidence.



# Road E4 Sweden, impact on some butterflies.



Expected

Registered

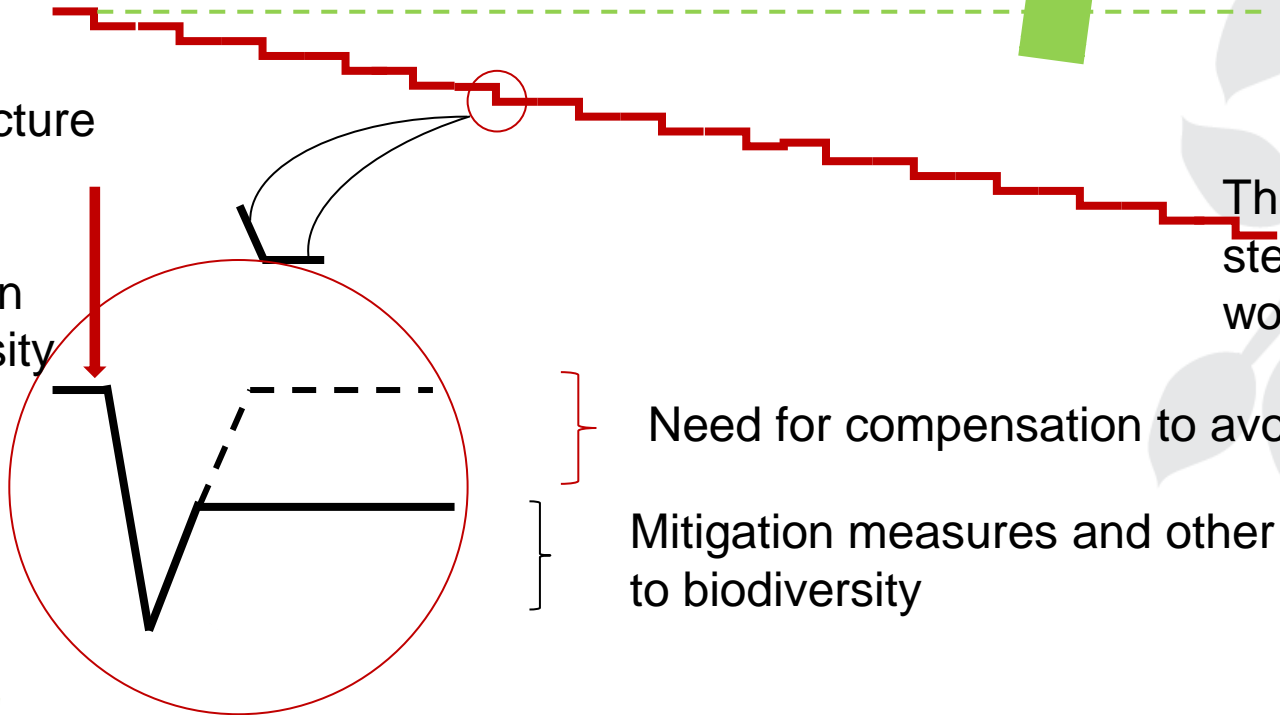
Source: Askling, J., Bergman, K-O., Ignell, H. och Wahlman, H. 2005. Rygggradslösa djur och planering av infrastruktur –dagfjärilar som landskapsekologiska verktyg och modellorganismer. Calluna AB och Linköpings universitet.



# New roads, railways, urban sprawl... make the situation worse, step by step

In fact: The situation for biodiversity need to be improved

New infrastructure Have negative impact on biodiversity



Actual overall impact on biodiversity

Need for compensation to avoid "net loss"

Mitigation measures and other adaptations to biodiversity





EU Biodiversity Strategy to 2020

- Council conclusions -

3103rd ENVIRONMENT Council meeting

Luxembourg, 21 June 2011

The Council adopted the following conclusions:

1. ....

9. EMPHASISES the need to develop and implement a methodology taking into account existing impact assessment processes to assess the impact of all relevant EU-funded projects, plans and programmes on biodiversity and ecosystems and STRESSES the importance of further work to operationalise **the 'no net loss'** 1 objective of the Strategy for areas and species not covered by existing EU nature legislation and of ensuring no further loss or degradation of ecosystems and their services;

18. ....



# The council of EU emphasizing

the importance of ensuring an appropriate balance between the objectives of all EU sectoral policies and the EU Biodiversity Strategy to 2020 in particular with respect to major global challenges e.g. in the fields of biodiversity loss, food security and climate change

.

*An effective and crucial step forward is to enhance, extend and sustain collaboration among European countries and between experts from different subject fields as ecologists, engineers, designers, planners etc*



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# What is IENE?

Infra Eco Network Europe (IENE) :

- providing an **international and interdisciplinary arena** to encourage and enable cross-boundary cooperation in research, mitigation and planning
- Constitutes an **European network** (although membership is **not** restricted to European citizens only).
- of **authorities, institutes and experts** involved in habitat fragmentation caused by the construction and use of linear transport infrastructure.
- addresses decision makers, planners and researchers as well as the public



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# IENE is...

- **Non-profit**, non-governmental, non-political
- An **independent**, international and **interdisciplinary** arena for exchange and development of knowledge, experience, and data
- **Open** for governmental agencies, research institutes, consultancies, companies, NGOs, and individuals
- Organised according to statutes adopted by an annual assembly and lead by an elected steering committee
- Financed by an international consortium of organisations in the sectors of transport and environment. (at the moment only Swedish Road Administration though.)



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# IENE organisation

1. Members
2. General Assembly (GA)
3. Steering Committee (SC)
4. Election Committee (EC, proposing candidates for the SC)
5. Secretariat and hosting organisation
6. Working Groups (WG)
  1. website & information
  2. annual meeting
  3. fund raising
  4. international conference
  5. other projects
7. Financing consortium



# IENE General goal

IENE shall promote a safe and sustainable pan-European transport infrastructure through recommending measures and planning procedures to conserve biodiversity, counteract landscape fragmentation, and reduce vehicular accidents and wildlife casualties.



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# Specific objectives

- **developing methods** to prioritize where and when mitigation measures are needed
- **harmonising** mitigating and compensation measures at European level
- **supporting** national initiatives concerning environment & transport
- **promoting** international and multidisciplinary cooperation in research and monitoring activities
- **highlighting gaps** in knowledge and providing input to upcoming national and international research frameworks
- sensitizing a broader audience, support education around the problem of habitat fragmentation due to transport infrastructure.



# IENE activities

- IENE international conferences
  - 2010 in Valence, Hungary
  - 2012 in Germany
- Annual General Assembly and Open Day
  - 2009 in Evora Portugal
  - 2011 in Greece
- IENE Projects
  - Cost 341, Handbook Wildlife and Traffic
- IENE Awards
- Exchanging knowledge and news
  - website ([www.iene.info](http://www.iene.info))



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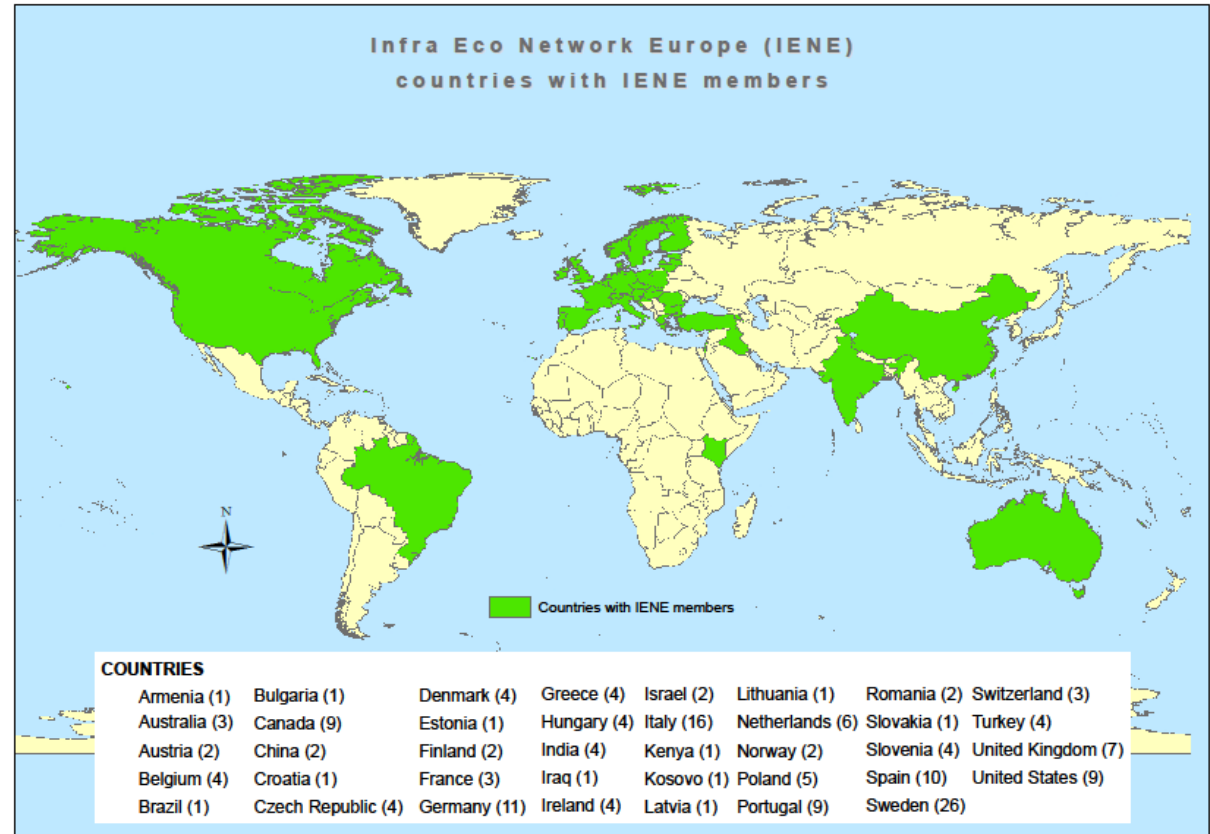


# IENE members

IENE today:

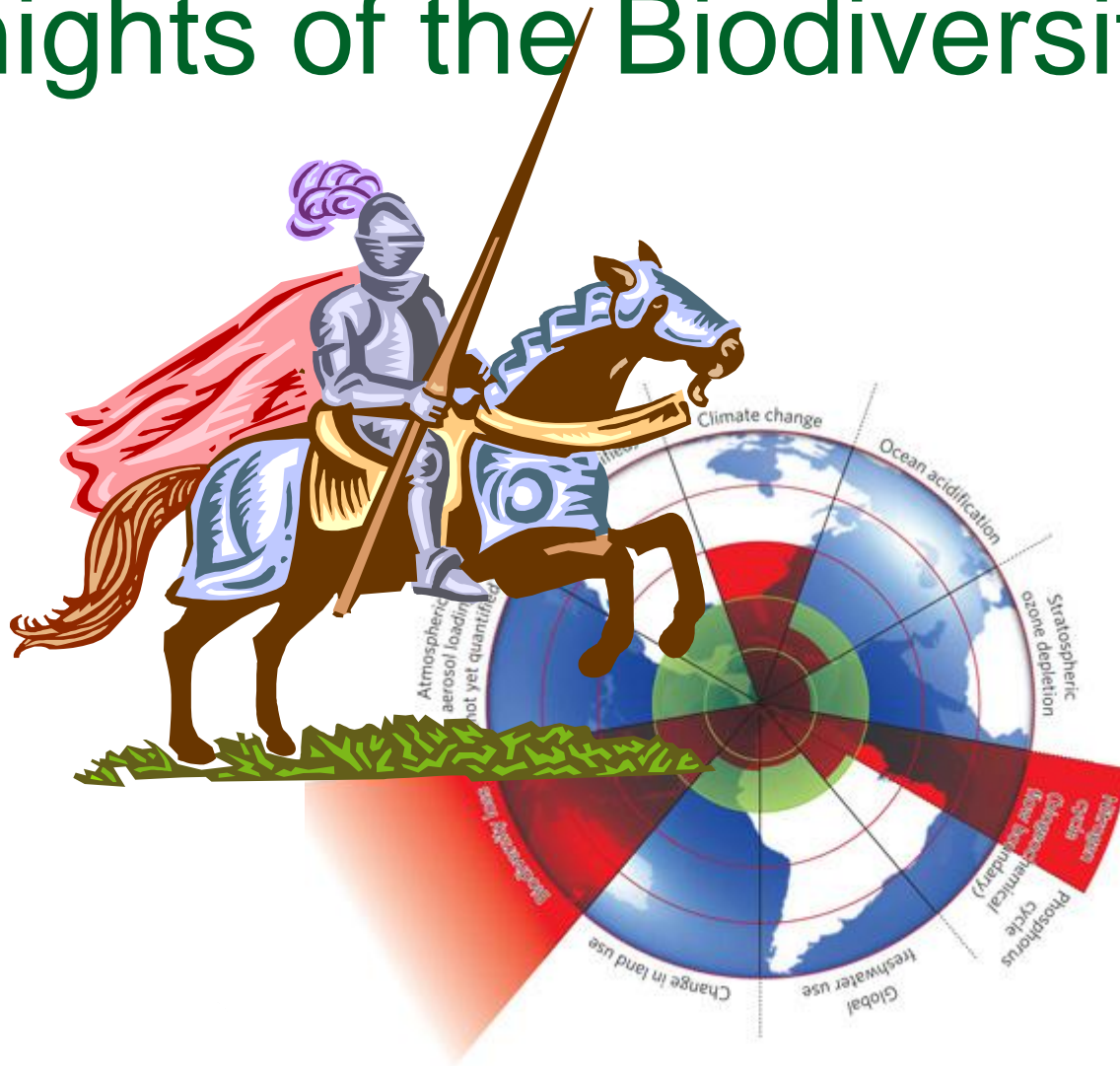
176 registered  
members

from 44  
countries  
and 41  
organizations



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# Knights of the Biodiversity Order



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Join the force, become an IENE member! Visit [www.iene.info](http://www.iene.info) and sign up!