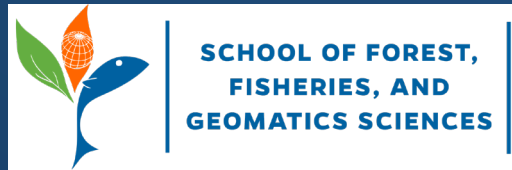




Standardizing Terminology for Invasive Species Outreach



Basil Iannone (biannone@ufl.edu)
Assistant Professor





Shannon Carnevale
UF/IFAS Polk County
Extension



Julie McConnell
UF/IFAS Bay County
Extension



James Cuda
UF/IFAS Entomology
and Nematology
Department



Emily Bell
UF/IFAS Extension



Martin Main
UF/IFAS Department of
Wildlife Ecology and
Conservation



Michael Andreu
UF/IFAS School of Forest,
Fisheries & Geomatic
Sciences



Shirley M. Baker
UF/IFAS School of Forest,
Fisheries & Geomatic
Sciences



Stephen Enloe
UF/IFAS Center of Aquatic
and Invasive Plants



Jeff Hill
UF/IFAS Tropical
Aquaculture
Laboratory



Steven Johnson
UF/IFAS Department of
Wildlife Ecology and
Conservation



Invasive Species Terminology: Standardizing for Stakeholder Education



EDIS

**Standardized invasive species terminology
for effective outreach education**



The Problem: Too Much Jargon!



Everglades Cooperative Invasive Species Management Area

The Problem: Too Much Jargon!

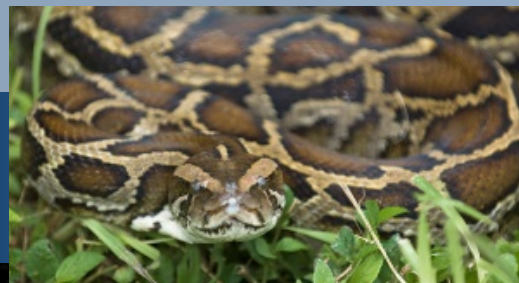
- Nonnative, Exotic, Foreign, Alien, Nonindigenous
- Native, Indigenous, Endemic
- Introduced, Adventive, Casual
- Established, Naturalized
- Archetype, Neophyte
- Weed, Pests, Nuisance
- Noxious
- Alien Invader, Alien Invasive Species, Nonnative Invasive, Invasive Exotic
- Invasive Weed, Invasive Pest
- Native Invader



Barrier to Education



So What?



Eve

erative

M

rea

So What?



We need the public to help prevent and control invasion

**Public help requires
Public understanding**



Eve



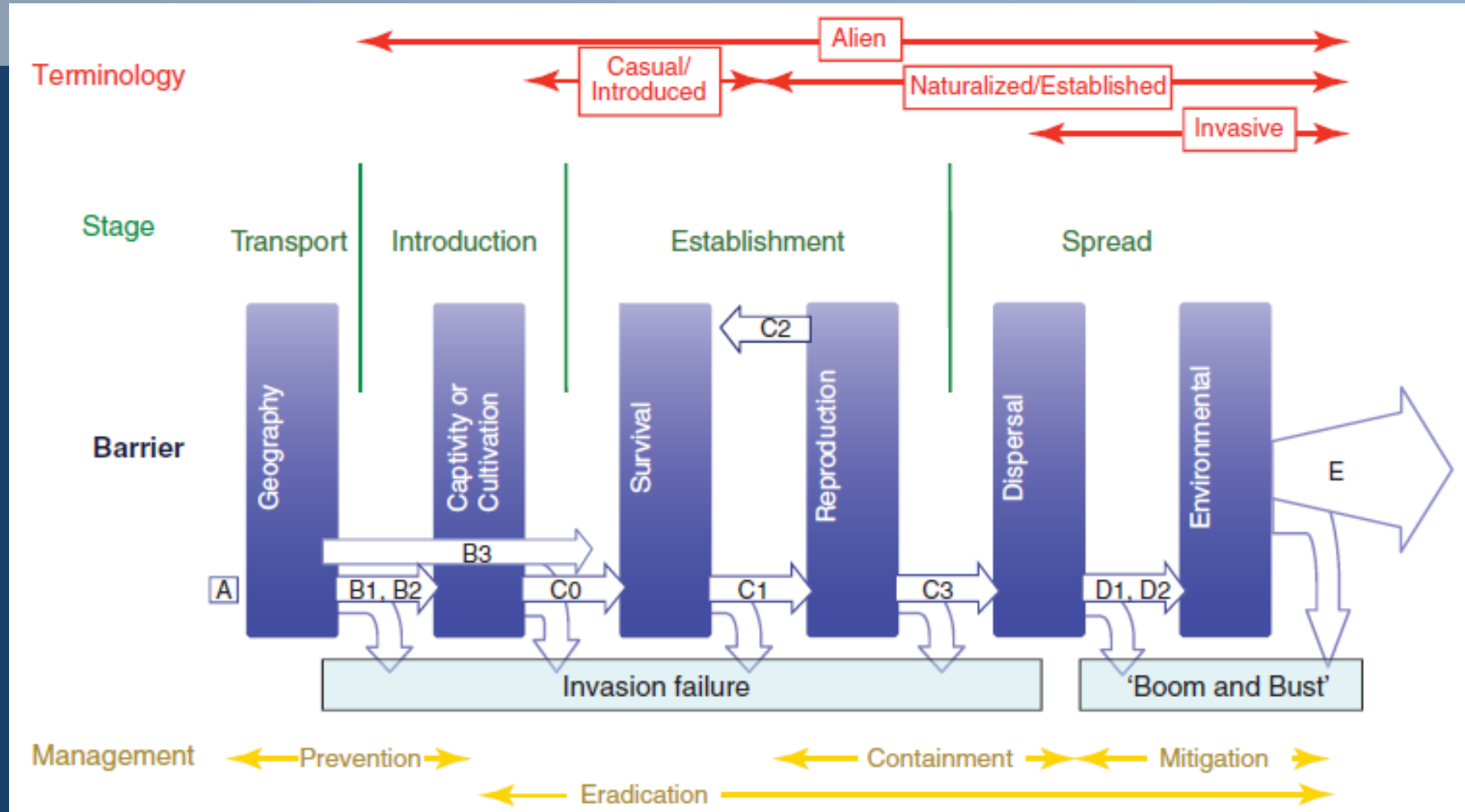
erative



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rea

Academic Frameworks: Too Complex



Blackburn et al 2011

Everglades Cooperative Invasive Species Management Area



Objective

- Standardized terminology
- Concise / Consistent
- Easily understood by nonscientists
- Utility for stakeholder education
- Applicable across all taxa



Objective

- Not trying to resolve academic / scientific debates



Method

- Yearlong discussion
- Aimed at reaching consensus
- 36 Scientists / Extension Specialists / County Agents
- Expertise span all invasive taxa
 - Ensured broad applicability



7 Terms

Term	Definition
Native	A species that occurs naturally in a specified geographic area.
Nonnative	A species that does not occur naturally in a specified geographic area.
Introduced	A species brought to a new geographic area intentionally or unintentionally by humans.
Established	A species having a self-sustaining and reproducing population in a specified geographic area without the need for human intervention. Applies both to native and nonnative species.
Invasive	A species that (1) is nonnative to a specified geographic area, (2) was introduced by humans (intentionally or unintentionally), and (3) does or can cause environmental or economic harm or harm to humans.
Nuisance	An individual or group of individuals of a species that causes management issues or property damage, presents a threat to public safety, or is an annoyance. Can apply to both native and nonnative species.
Range change	The circumstance of a species' current/existing range growing, shrinking, or shifting over time. This change can happen to native and nonnative species with or without human assistance.



1. Native:

A species that occurs naturally in a *specified geographic area*

2. Nonnative:

A species that does not occur naturally in a *specified geographic area*



1. Native:

A species that occurs naturally in a *specified geographic area*

2. Nonnative:



geographic



- 1. Native:** A species that occurs naturally in a *specified geographic area*
- 2. Nonnative:** A species that does not occur naturally in a *specified geographic area*

Use *Nonnative* instead of *Exotic*



3. Introduced:

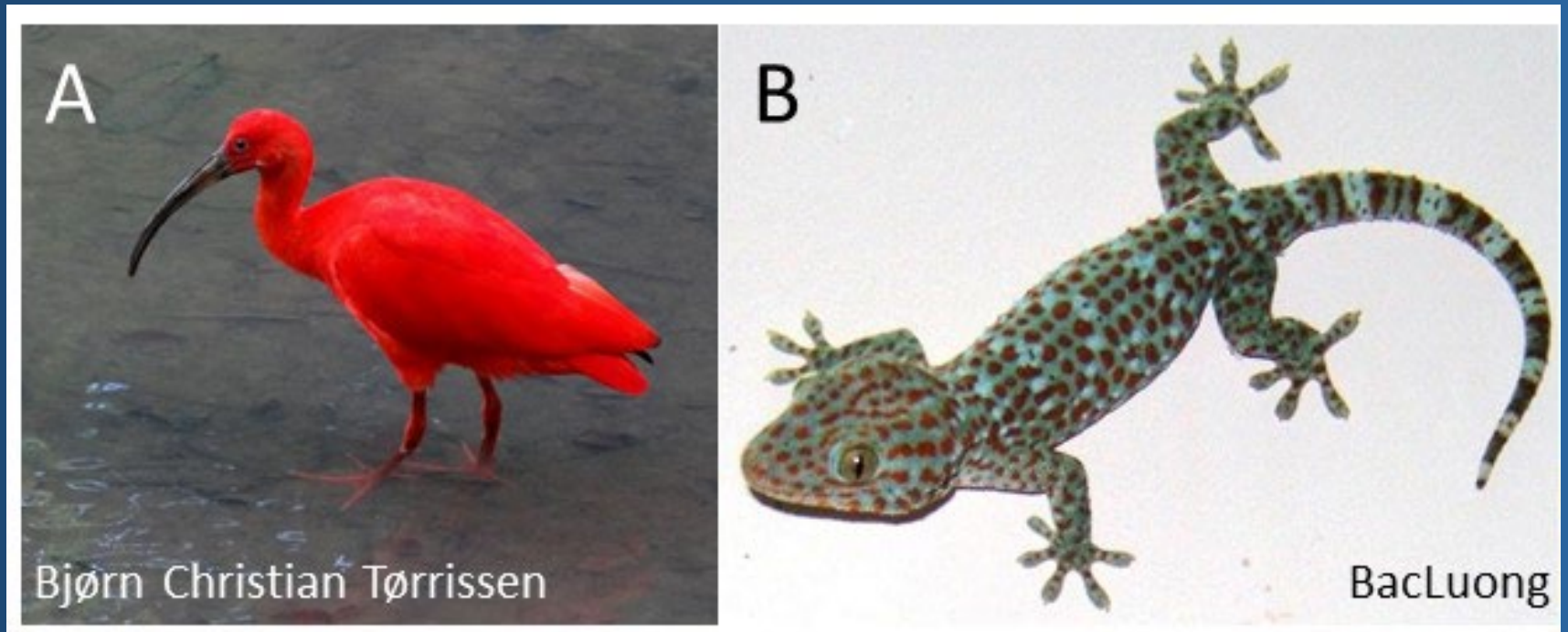
a species brought to a new geographic area intentionally or unintentionally by humans

- Not always negative



4. Established: A species having a self-sustaining and reproducing population in a specified geographic area without the need for human intervention.

Not always negative



Bjørn Christian Tørrissen

BacLuong



5. Invasive:

- 1) Nonnative to an area of consideration
 - 2) Introduced intentionally or unintentionally
 - 3) Causes, or is likely to cause, environmental, economic, or human harm
- USA Executive Order 13112 of 1999
 - Helps prioritize which established, nonnative species to manage



Florida is an invasive species “hotspot”



6. Nuisance:

An individual or group of individuals of a species that causes management issues or property damage, presents a threat to public safety, or is an annoyance.

- Cannot apply to an entire species
- Applicable to *native* and *nonnative*



6. Nuisance:

An individual or group of individuals of a species that causes management issues or property damage, presents a threat to public safety, or is an annoyance.



7. Range change: When a species' current/existing range grows, shrinks, or shifts over time

- Happens to *native* and *nonnative* species
- With and without help from humans



7. Range change: When a species' current/existing range grows, shrinks, or shifts over time



- Not: nonnative, introduced, or invasive

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**Don't
use**

Term	Incorrect usage	Reason to avoid
Native invasive	Used to describe an individual or group of individuals of a native species that act as nuisances	<ul style="list-style-type: none"> • Creates confusion, as invasive species are not native • Confounds: <i>biological invasions</i> caused by humans moving species over vast distances vs. a native species that create <i>management challenges</i>
Invasive exotic	Used to describe an invasive species.	<ul style="list-style-type: none"> • Redundant and confusing • Invasive species are exotic. • Confusion: Not all exotic species are invasive • “Exotic” can also be interpreted in different contexts
Invasive weed	Used to describe an invasive plant	<ul style="list-style-type: none"> • “Weed” is a cultural term describing a plant (native or nonnative) not wanted in a given situation • May lead people to believe that a weed is invasive
Alien/Foreign/Nonindigenous	All three terms are synonymous with “nonnative”.	<ul style="list-style-type: none"> • Evokes political ideals • Based on political beliefs, may have negative connotations, despite most nonnative species not causing harm.



**Don't
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Alien/Foreign/Nonindigenous Nonnative	All three terms are synonymous with “nonnative”.	<ul style="list-style-type: none"> Evokes political ideals Based on political beliefs, may have negative connotations, despite most nonnative species not causing harm.



Summary

- *Native, Nonnative, Introduced, Established, Invasive, Nuisance, Range change*
- Concise
- Easily understood
- Applicable across all taxa
- Explain most situations
- Utility for stakeholder education



Evidence of Utility

- Adoption at state and national levels:
 - UF Courses, Master Naturalist Program, FL DEP Trainings
 - Escambia & Polk County Extension Products
 - University of Minnesota Extension's Invasive Species Community of Practice
 - North American Invasive Species Management Association
- Others:
 - Incorporated into invasion course at Auburn
 - Positive reception from Extension at other Land Grant Universities



Questions



Think locally, Act neighborly
invasive species know no boundaries!

