

COURSE ANNOUNCEMENT- Fall 2010



Society & the Environment

ENVS 4100-1



(M, 17:15 - 20:10 @ HLC AC204)

The Changing Ocean

This course focuses on the human impacts and societal awareness of the changing global ocean. The course will illustrate real-life examples ranging from climate science and resource management.

A critical analysis of contemporary environmental issues that face society. The course includes formal seminars, informal group discussions, and a comprehensive review paper.

Undergraduate, 3 Credits, Instructor: Hyrenbach

Goals for Today

- I. Announcements - Syllabus and Assignments
- II. Group Discussion - Literature Reviews
- III. Presentation - Mind Map - Review Outline
Annotated Bibliography

Syllabus - Tasks

- 1) Each student will select 1 paper to present to the class (15 mins) and will lead a group discussion (30 mins)
- 2) Each student will write a review paper on a topic of their choice - **after checking with me** (12-15 pages)
- 3) Each student will submit an evaluation and a critique of two scientific presentations - **HPU seminars**
- 4) Each student will submit an evaluation / critique of 18 scientific papers discussed in class
- 5) Each student will present a literature review seminar (30 mins with 15 mins for questions / answers)

Syllabus - Grading (Allen)

- | | |
|--|-----|
| 1) Paper Presentation and Group Discussion - | 20% |
| 2) Review paper (12-15 pages) - | 25% |
| 3) Review Presentation - | 15% |
| 4) Assignments (Evaluations / Critiques) - | 30% |
| 5) Participation - | 10% |

Grading - Assignments

Assignments (Evaluations / Critiques) -

30%

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ENVS 4100

Last Updated September 15, 2010

Having problems?

Email me:

[khyrenbach \(at\) hpu \(dot\) edu](mailto:khyrenbach@hpu.edu)

Syllabus

This Week's Seminar

Seabird bycatch in
Taiwanese longline fishing
fleets in the Pacific Ocean

Hand-Outs

Paper Critique Form

Presentation Critique Form

Schedule

http://www.pelagicos.net/classes_envs_seminar_fa10.htm

Assignment: Review Ideas

Due: By email, on Sept. 17

The goal of this exercise is to get you to start thinking about your review paper and reading the literature.

Assignment directions: Each student will submit two descriptions of marine environmental issues they are interested in working on - **explicitly describing:**

- 1) What is the issue and why is it important? **(1 P)**
- 2) Which specific case studies (examples) will the review address? **(1 P)**
- 3) The citations of at least three relevant scientific papers

**NOTE: submit by email -
using "ENVS4100 - litreview" as email title**

Assignment Status

Finalize Topics - Email me or come talk to me

Samantha C Hopper

Rachel Katherine Klopf

Aki Ishi

Kevin M Marasch

Jennifer Ann Miller

Shawn Anthony Wolff

Erin Jingwei Chen

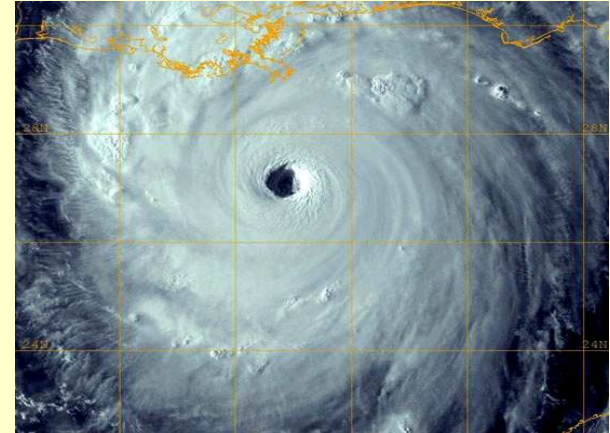
Nic D Rossi

From now on, please use the following:

khyrenba@gmail.com

Selected Topics

The Changing Ocean



carbon sequestration
ocean acidification
melting ice & ocean circulation

wind / thermal energy
wave / tidal energy
solar power

kelp bed management
oil spill impacts (Gulf vs Valdez)

shore / beach erosion
agriculture impact on watersheds
impacts of overfishing
plastic pollution

Schedule

Sept 20: Literature Reviews + Mind Maps

Sept 27: Guest Appearance - Chris Winn: Climate Discussion

Assignments

Sept 20: Read two background papers (do not evaluate / score)

Baumeister & Leary 1997

Boote & Beily 2005

Sept 27: Read Paper(s) on Ocean Climate (evaluate / score)



Group Discussion

How to write a literature review

Review of General Psychology
1997, Vol. 1, No. 3, 311–320

Copyright 1997 by the Educational Publishing Foundation
1089-2680/97/\$3.00

Writing Narrative Literature Reviews

Roy F. Baumeister
Case Western Reserve University

Mark R. Leary
Wake Forest University

Narrative literature reviews serve a vital scientific function, but few resources help people learn to write them. As compared with empirical reports, literature reviews can tackle broader and more abstract questions, can engage in more post hoc theorizing without the danger of capitalizing on chance, can make a stronger case for a null-hypothesis conclusion, and can appreciate and use methodological diversity better. Also, literature reviews can draw any of 4 conclusions: The hypothesis is correct, it has not been conclusively established but is the currently best guess, it is false, or the evidence permits no conclusion. Common mistakes of authors of literature review manuscripts are described.

Group Discussion

Why write a literature review

Scholars Before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation

by David N. Boote and Penny Beile

A thorough, sophisticated literature review is the foundation and inspiration for substantial, useful research. The complex nature of education research demands such thorough, sophisticated reviews. Although doctoral education is a key means for improving education research, the literature has given short shrift to the dissertation literature review. This article suggests criteria to evaluate the quality of dissertation literature reviews and reports a study that examined dissertations at three universities. Acquiring the skills and knowledge required to be education scholars, able to analyze and synthesize the research in a field of specialization, should be the focal, integrative activity of predissertation doctoral education. Such scholarship is a prerequisite for increased methodological sophistication and for improving the usefulness of education research.

disciplines. We then argue that current initiatives and faculty focuses have ignored the centrality of the literature review in research preparation, in turn weakening the quality of education research. This oversight has its roots, we believe, in a too-narrow conception of the literature review—as merely an exhaustive summary of prior research—and a misunderstanding of its role in research. By building on the extant literature that supports the centrality of the literature review, we offer a practical framework from which to analyze the quality of doctoral dissertation reviews of the literature. We end by further developing our understanding of the literature review and indicating some means of improving the situation.

The Role and Purpose of the Literature Review in Education Research

Literature Reviews - Goals

- What is a Literature Review ?

Overview and synthesis of the "body of knowledge" making up a specific subject area

Evaluates research materials (articles, books, "grey literature") published on a particular subject
(Identifies strengths and weaknesses of published studies)

Contributes to greater understanding of the total scholarship written in a particular subject area
(Identifies key themes, problems, controversies and trends)

Places specific concepts / ideas in a broader context
(Identifies multiple perspectives and future research directions)

Literature Review - Audience

A review paper demonstrates that the writer has a thorough understanding of the literature and can formulate "meaningful" hypotheses (novel research)

While no new research is presented by the writer, the readers benefit from the summary & synthesis

Literature Reviews - Approach

- The 5 "classical" approaches for writing a review:

State of the art

Historical

Comparison of perspectives

Synthesis of disciplines

Theoretical model development

Literature Reviews - Outline

The 6 main sections of a review paper are:

Title Page

Provide an informative and "catchy" title.

Abstract

Brief summary of main points of your review.
Gives the readers a chance to preview your paper.

Introduction

Introduce your topic, state the topic's relevance, reveal your thesis (your objective). Engage the readers.

Discussion

Don't just summarize; Analyze, Synthesize, Interpret.
Relate the discussion to your thesis.

Conclusions

Illustrate key connections between major points and thesis, as well as between thesis and broader research field.

What is the significance of your paper in a larger context?

Do not to present new information in the conclusion section.

References

Standardized format and completeness are critical.

Literature Reviews - Examples

Understanding biogeographic patterns in marine systems requires integrating data from many disparate disciplines (e.g. systematics, ecology, oceanography) gathered over multiple temporal scales (e.g. seasons, years, decades) (McGowan 1990, NRC 1996, Pierott-Bults 1997). In 1997, the Alfred P. Sloan Foundation, in conjunction with the National Oceanographic Partnership Program (NOPP), initiated the ambitious 10 yr 'Census of Marine Life' (CoML) to enhance the biogeographic and ecological understanding and appreciation of marine biodiversity (Ausubel 1999). This initiative seeks to answer 3 basic questions: What used to live in the sea? What currently lives in the sea? And what will live in the sea?

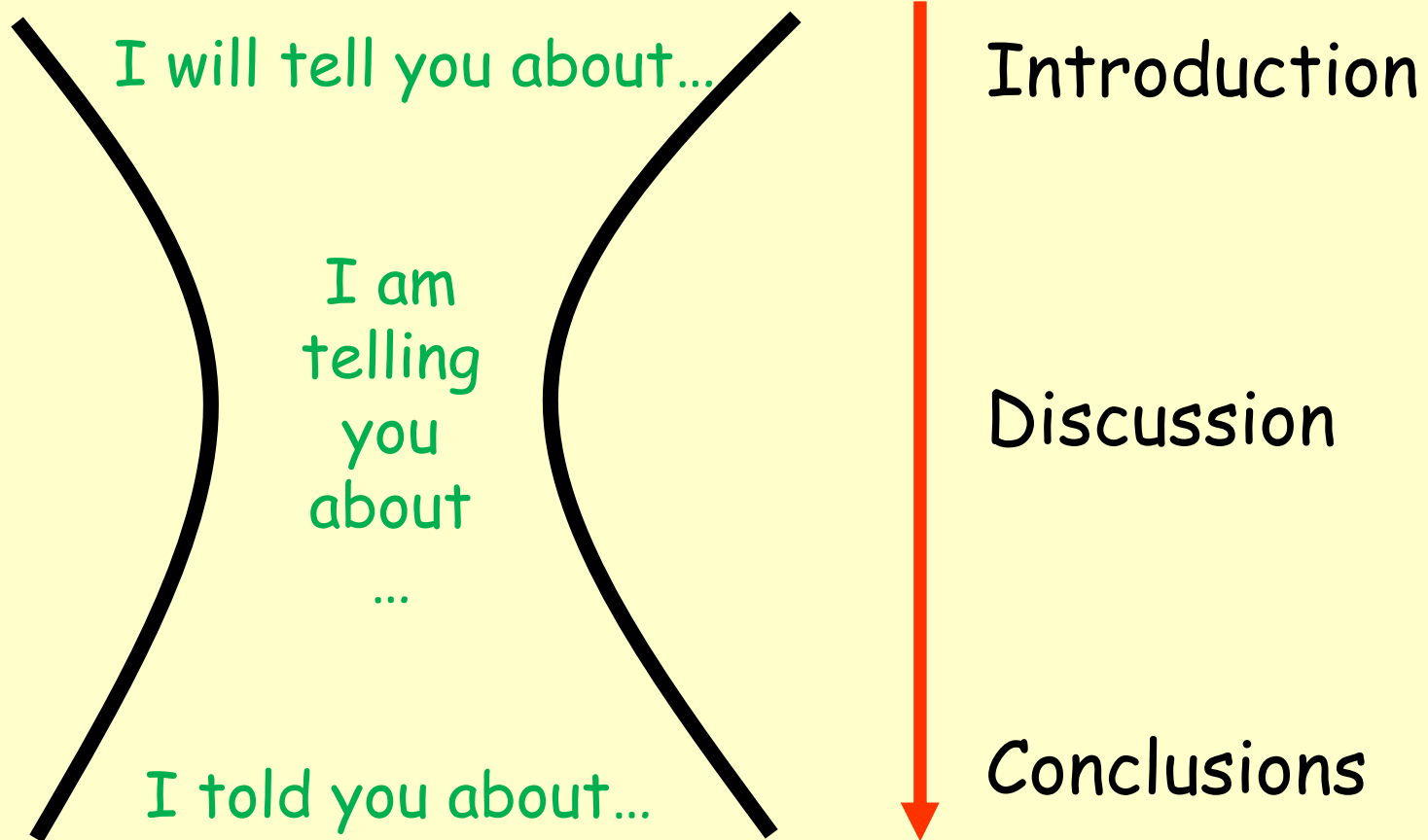
We hope the world community will respond to this growing crisis with the innovative integrated management of entire ocean basins. Such management might be modelled after other successful international agreements, such as the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) or the International Whaling Commission (IWC). These agreements are far beyond the scope of this paper. Our intention is to argue that in principle large-scale reserves can be applied to the highly dynamic marine habitat, and can offer important tools for such ocean basin management.

Literature Reviews - Examples

In this review, we summarize the development and progress of satellite tracking studies for large marine vertebrates over the last two decades, assess the current status of this rapidly evolving field, and discuss future challenges associated with the use of satellite tracking technology, especially for threatened and endangered species.

We present a review of the development of cetacean–habitat models, with an emphasis on the challenges inherent in and unique to studies of marine ecosystems. *This paper is organized according to the primary steps involved in the modeling process.* Specifically, we begin with a discussion of the purposes for which cetacean–habitat models are developed and a general overview of scale issues in marine ecosystems, ... Methods of estimating cetacean abundance and collecting habitat data are discussed as the primary foundation for modeling efforts... Finally, we discuss different approaches for model selection and evaluation.

Literature Reviews - Scope



Literature Reviews - Closure



Make sure you tie the knot !!!

Literature Reviews - Hints

Key considerations for writing a review paper

Choose an informative and "catchy" title:

Engage the audience:

Keep your focus clear and narrow:

Analyze, synthesize, and interpret:

Tie the knot:

Document your sources:

Literature Reviews - Checklist

Does your literature review...

- clearly state the objective in the beginning?
- emphasize key findings of previous research?
- highlight important gaps in research / knowledge / data?
- discuss trends and themes of the research related to the topic?
- describe relationships between key concepts of the cited works?
- identify inconsistencies or contradictions among the cited works?
- discuss why some studies / methods were insufficient / inadequate?
- express your opinion regarding quality / importance of cited works?
- provide a summary of the main findings?
- conclude as to why / how the topic should be further studied?
- revisit the stated objective at the end?

Grading & Rubric

| SECTIONS | POSSIBLE POINTS | EXPLANATION | |
|-----------------------|---|---|--------------|
| Cover page | 5 | Descriptive title (+3: species, process, location); Catchy title: +2 | |
| Introduction | 10 | Why is this important and interesting? How does this relate to ENVS? | |
| Objective & approach | 10 | Objectives of the review? (Clear +5, Revisited in Discussion +5) | |
| Review of results | 20 | Organization (+10), Description of individual papers (+10) | |
| Analysis | 20 | Synthesis & Implications (summary +10, ENVS implications: +5, future work +5) | |
| Literature Cited | 10 | Literature Cited (+1), Incorrect citation (-1). Possible extra-credit: +5 | |
| Appendix 1. Mind map | 10 | Mind Map (+10) | |
| Appendix 2. Annotated | 15 | Annotated Bibliography (+15) | |
| | 100 | | |
| | Length: 12 -15 pages double spaced - without literature cited / tables and figures | | |
| | Literature cited: 10 citations minimum. | | |
| | Typos: -1 (Data IS: poor writing modifier) | | |
| | | | Points |
| | | | Writing |
| | | | Citations |
| | | | TOTAL |
| | | | 0 |

writing modifier: 1.05 = excellent; 1 = good; 0.975 = fair; 0.925 = poor



Literature Reviews - The Process

Choosing a research topic → Work with instructor

Defining the scope → Mind Map & Outline

Finding relevant information → Lydia Lee (Library)

Evaluating content → Class Paper Discussions

Synthesizing knowledge

Summarizing insights

→ Annotated Bibliography



Literature Review

Synthesizing Scientific Articles

1) Identify “take-home messages” of individual articles:

For each paper we read, mark a specific passage that you want to discuss in class, especially those that puzzled you / seemed important

2) Identify consistent / inconsistent patterns across articles:

Write down any consistent themes / results from your readings

Write down any inconsistencies from your readings (e.g., papers presented opposing results, advocated different approaches or policies)

3) Annotating list of relevant issues for your “ENVS” reviews:

How does each paper contribute information to your “key” issues?

NOTE:

Revised critique forms posted online

Documenting Your Reading

<http://www.library.cornell.edu/olinuris/ref/research/skill28.htm>

➤ ANNOTATED BIBLIOGRAPHY

An annotated bibliography is a formatted citation list.

Each citation is followed by a brief (about 150 words) **descriptive and evaluative** paragraph, the annotation.

The purpose of the annotation is to inform the reader of the relevance, accuracy, and quality of the sources cited.

Annotated Bibliographies

Annotated Bibliographies entail critical evaluation:

- (a) evaluate the authority or background of the author
- (b) compare this work with others you have cited
- (c) explain how this work illuminates your bibliography work

➤ ANNOTATIONS VS. ABSTRACTS

Abstracts are *purely descriptive summaries*, often found at the beginning of scholarly articles or in periodical indexes.

Annotations are *descriptive and critical*; they expose the author's point of view, clarity and appropriateness of expression, and authority.

Annotated Bibliography Examples

Gilman E, Brothers N, Kobayashi DR (2005) Principles and approaches to abate seabird by-catch in longline fisheries. Fish & Fisheries 6: 35-49

Summary:

This paper gave an extensive overview of seabird bycatch, including its causes and possible mitigation measures. **Why is this important?** Of the 61 species of seabirds affected by longlining, 26 are threatened to extinction and 17 of these are albatrosses. Currently, 19 of the 21 species of albatross are under threat of extinction, with some species under 100 individuals.

Annotated Bibliography Examples

Evaluation of Information:

The statistics seem staggering but there is a real lack of information and accurate numbers, because seabird bycatch is very rarely recorded.

Through use of models it has been predicted that actual seabird mortality rates are actually much higher than the observed rates.

Evaluation of Implications:

This paper goes into depth about the different techniques that can be used to minimize the deaths of these birds. Yet, while there are more and more regulations on the setting techniques to avoid hooking birds, only some countries are complying. China, Korea, Mexico, Russia, and Taiwan have no such regulations.

Annotated Bibliography Examples

Benetti D (2006) Letter re: Environmental Safeguards for Open-Ocean Aquaculture. Issues in Science and Technology Summer: 12-14

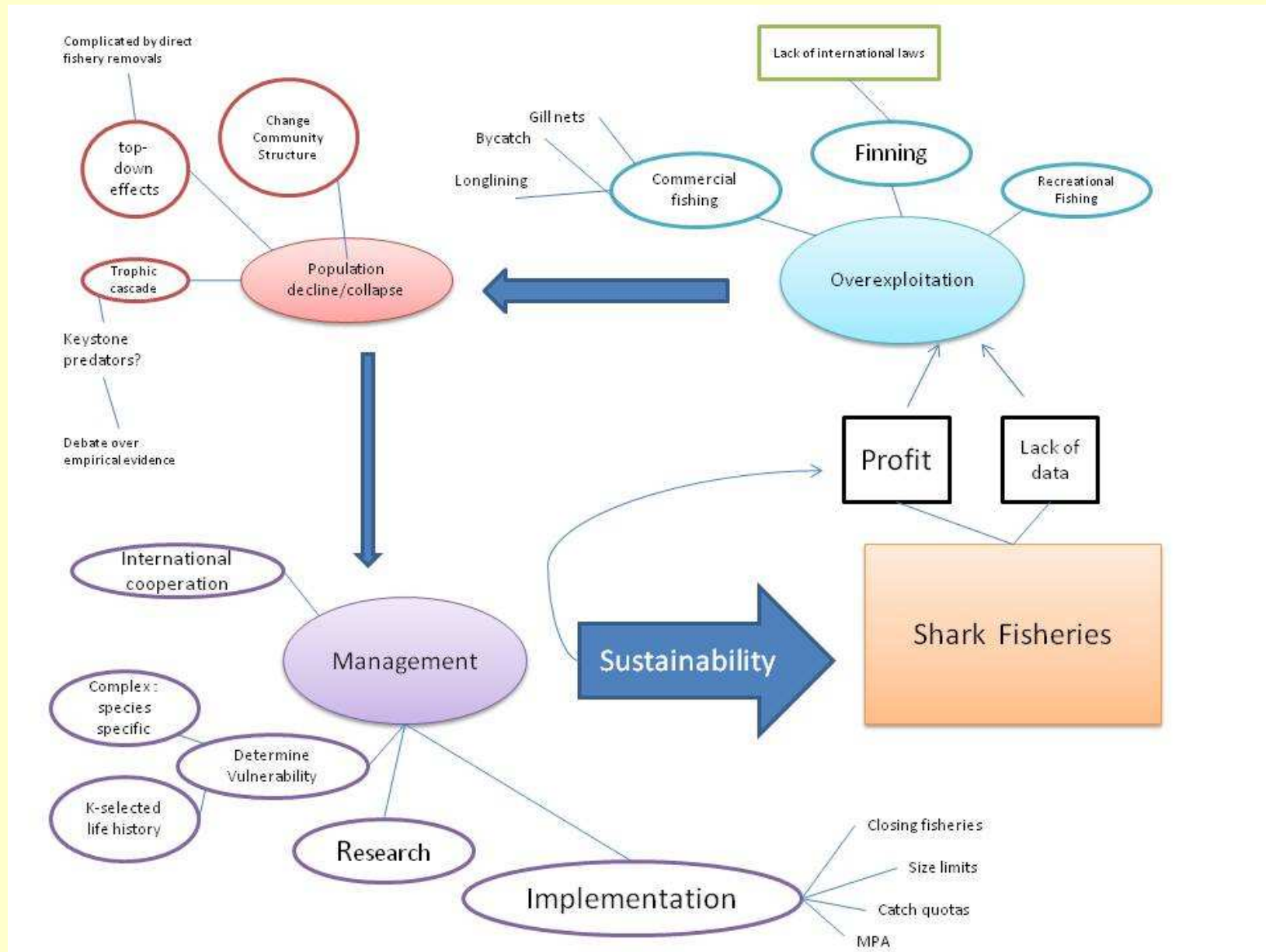
Benetti's response to Naylor's article describes his experiences getting approvals for demonstration offshore aquaculture projects. Take home message: U.S. has the lead in open ocean aquaculture technology but needs to make it possible for the technology to be widely applied or we may lose our edge. **Supports the 2005 act.** **Benetti has good credentials and worked on the 2007 PEW Ocean Commission.**

Dalton R (2004) Fishing for Trouble. Nature 431: 502-504

Author works for environmental NGO. Reports on tuna farming in Mexico and proposals for Open Ocean Aquaculture in U.S. Problems include: using wild fish for food, impacts on local marine life (e.g. farmers shooting sea lions), and the spread of disease. Proposal for experimental use of oil platforms off CA opposed by environmentalists due to inadequate regulation. **Ignores that OOA should have breeding / hatchery components, not just fatten fish.**



Mind Map Example - Shark Fisheries



Mind Map Rationale

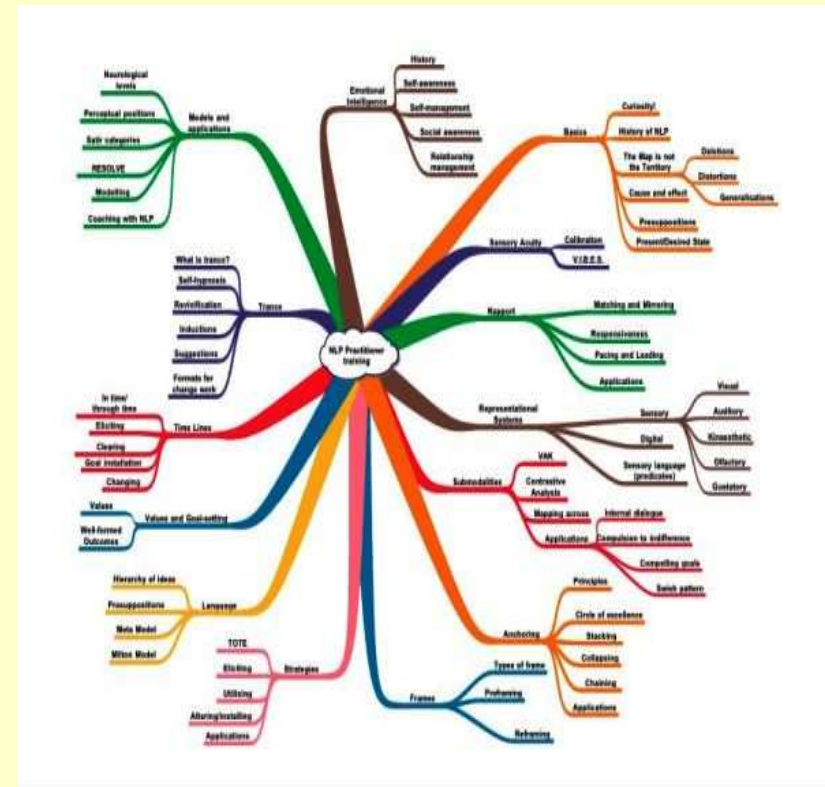
Mind maps represent items (words, ideas, tasks) linked to and arranged around a central key word or concept

Why ?

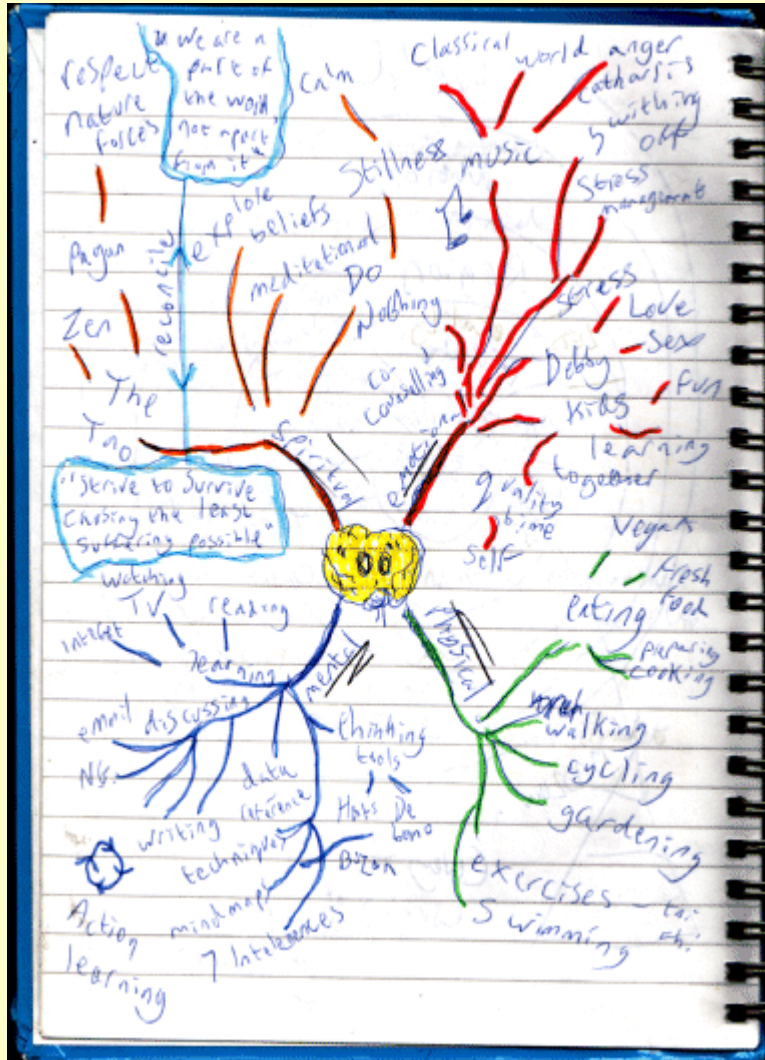
- generate, visualize, structure, organize and classify ideas
- aid in problem solving, decision making and synthesis / writing

How ?

Elements arranged intuitively according to their importance and classified to represent links (cause & effect, time sequence, co-occurrence, covariation) and relationships (+, -, ?)



Mind Map Outcomes



What is the central issue, observation, or problem?
(Identify the scope / scale and the population of study)

What are the possible factors?
Internal dynamics, external influences, feed-back loops
(Identify variables of interest)

How are these different aspects connected with each other?
Dichotomies / branches?
Positive / Negative Influences?
(Investigate relationships)

Mind Maps Hints

- Use images, symbols, codes and dimensions throughout
- Select key words (nouns and verbs)
- Each word / image must be separated
- The lines must be connected, starting from the central image
- The central lines are thicker, becoming thinner as they radiate
- Use colors - your own code - throughout the Mind Map
- Use emphasis and show associations in your Mind Map
- Keep the Mind Map clear by using hierarchy:

numerical order, sequence (time), outlines

How to Create Your Mind Map

Suggestion: Use Powerpoint or Paint Software

➤ **Hints:**

www.mapyourmind.com/howto.htm

www.mind-mapping.co.uk/mind-maps-ideas.htm

www.mind-mapping.org

➤ **Examples:**

<http://mappio.com/>

<http://mindmappedia.com/>

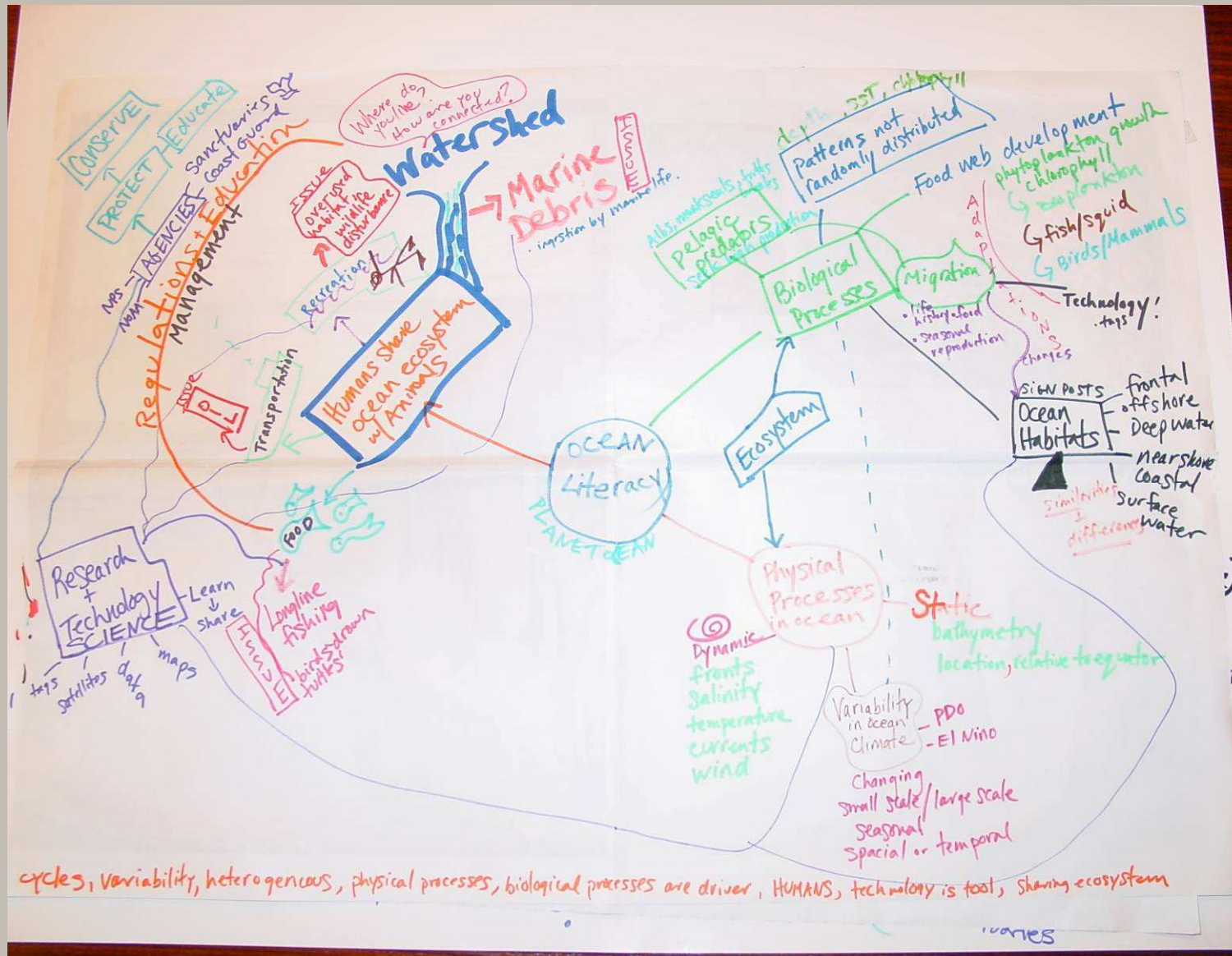
➤ **Free software:**

Freemind: freemind.sourceforge.net/wiki/index.php/Main_Page

E-Draw: www.edrawsoft.com/freemind.php

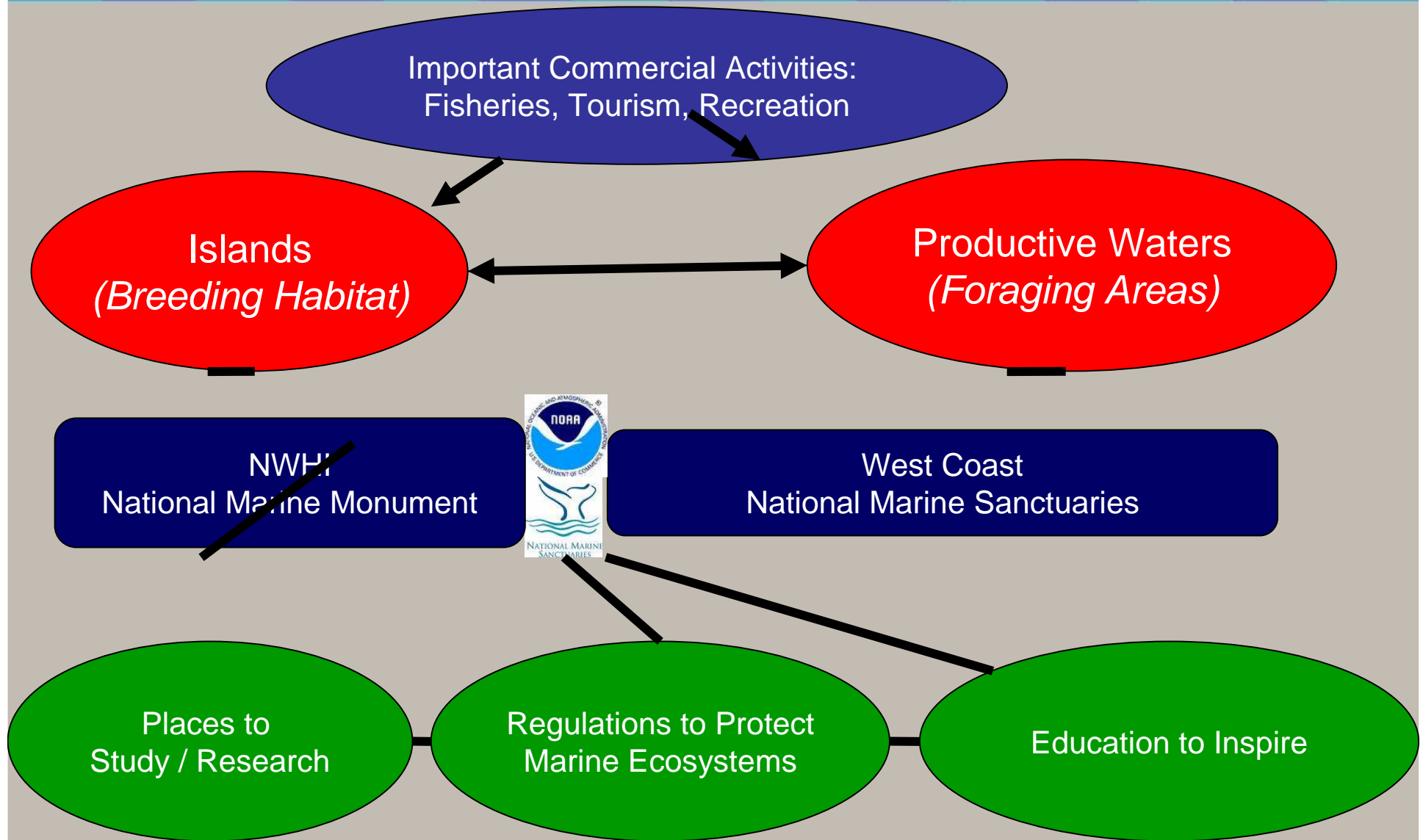


Mind Map of Albatross & National Marine Sanctuaries



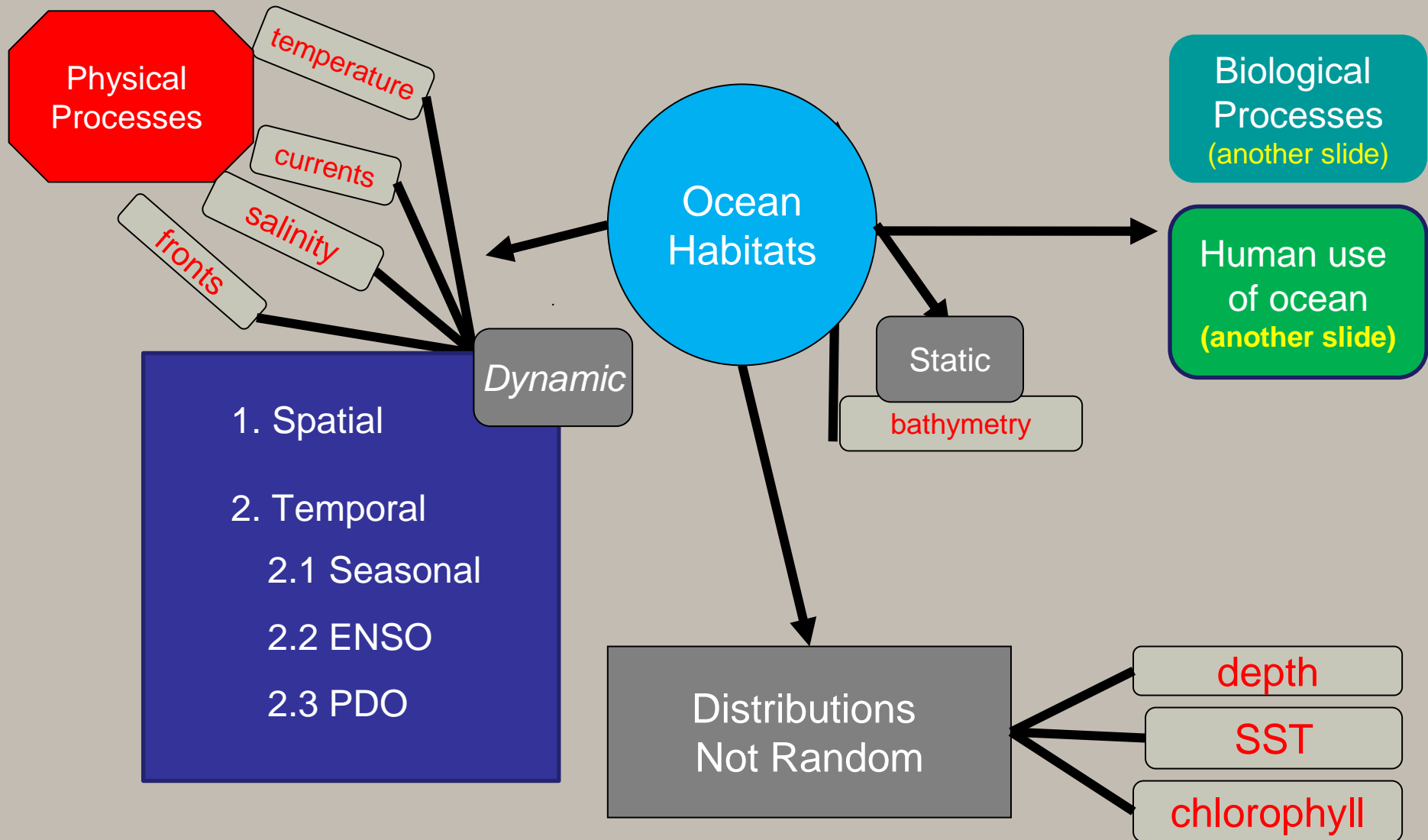


Mind Map of Albatross & National Marine Sanctuaries - Scope



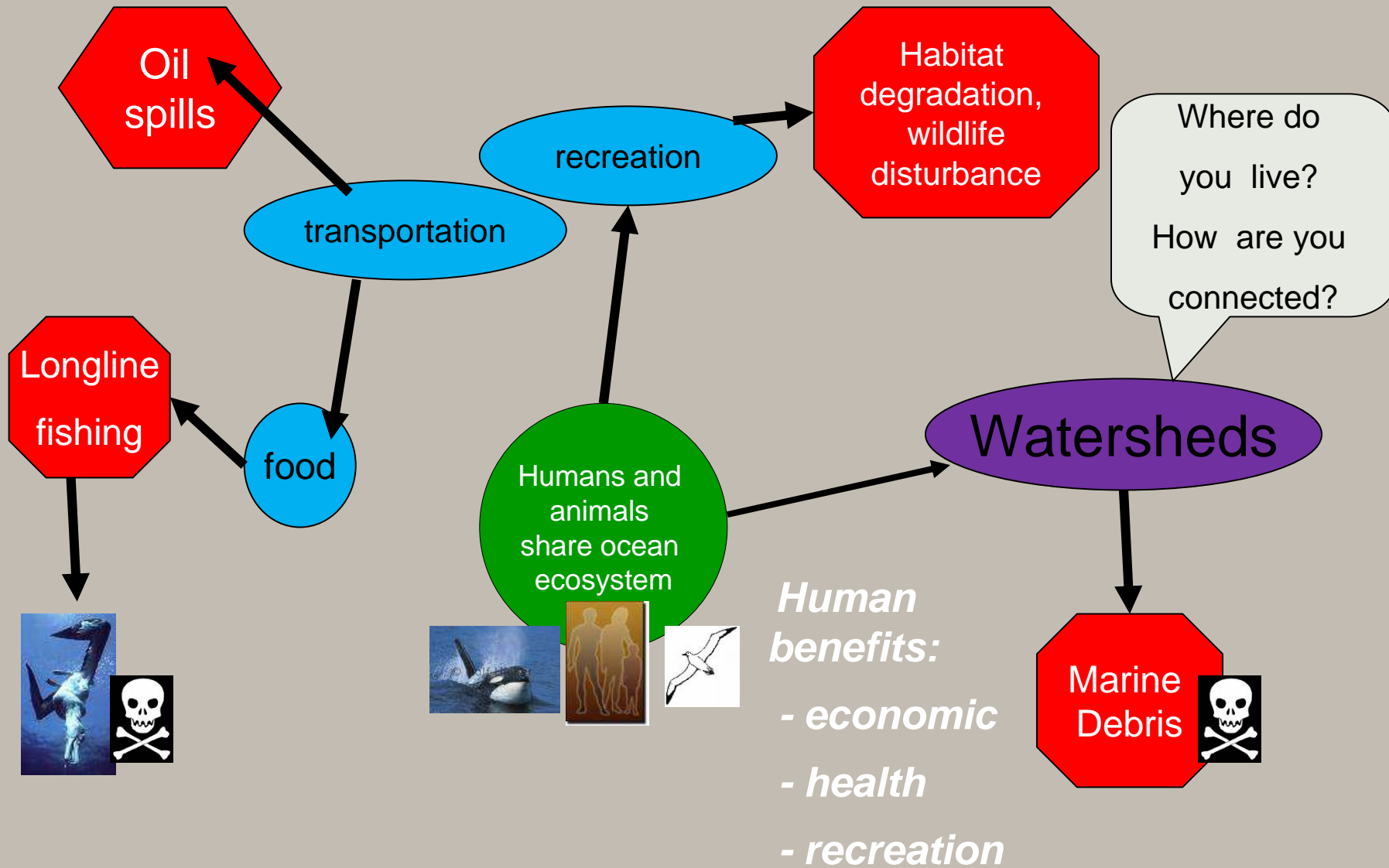


Mind Map of Albatross & National Marine Sanctuaries - Ocean Habitats



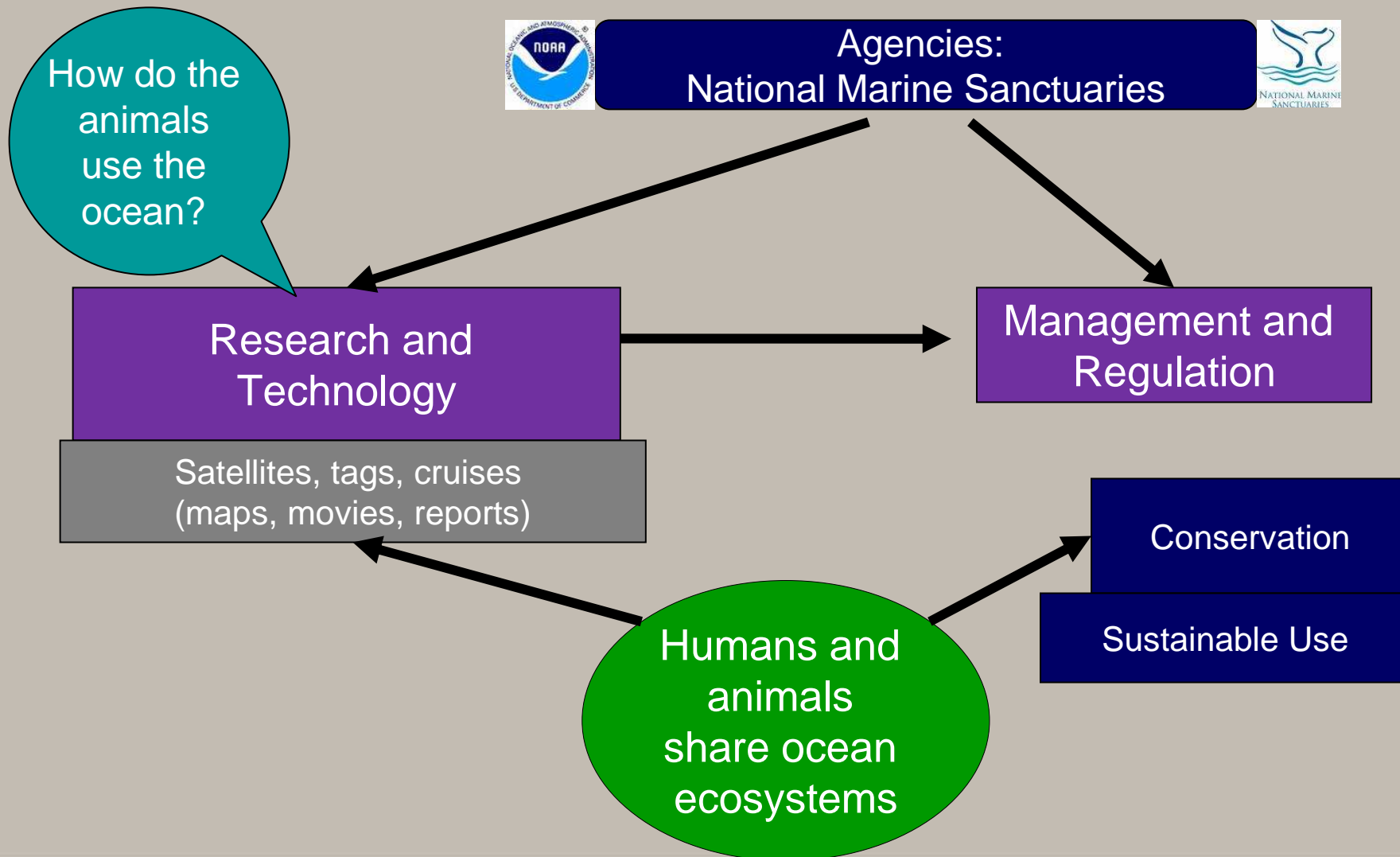


Mind Map of Albatross & National Marine Sanctuaries - Human Actions





Mind Map of Albatross & National Marine Sanctuaries - Management





Schedule

Sept 20: Literature Reviews + Mind Maps

Sept 27: Guest Appearance - Chris Winn: Climate Discussion

Assignments

Sept 20: Read two background papers (do not evaluate / score)

Baumeister & Leary 1997

Boote & Beily 2005

Sept 27: Read Paper (TBD) on Ocean Climate (evaluate / score)

Oct 4: Start Student Paper Presentations (posted online)

Assignment: Discussion Paper(s)

Due: By email, on Sept. 25

The goal of this exercise is to select the paper(s) each student will present and discuss in class.

Assignment directions: Each student will submit two papers (complete citation and pdf) to the instructor by email.

The students will identify the primary / secondary paper - or whether they want the class to read both papers.

The instructor will reply confirming student choice and will post papers online in class web-site by Sept 28.

NOTE: (email me at: khyrenba@gmail.com)
use "ENVS4100 - discussion paper" as email title

Annotated Bibliography

What is Wrong with these Citations ?

Booth DJ (1995) Juvenile groups in a coral-reef damselfish. Density-dependent effects on individual fitness and... Ecology 76: 91

Frid, A. et al. (2008). Do shark declines create fear-released systems? Oikos 117: 191-201.

Pyne, S et. Al (2003, October 9). Whales Get Bent? Science Now

Hardt, Mark, J. Lessons from the past: the collapse of Jamaican coral reefs. Fish & Fisheries 10 (2) (Sept. 2009) 143-158.

Moncur, JET and Mak, J (1998) Political economy of protecting unique recreational resources: Hanauma Bay, Hawaii. AMBIO - A Journal of the Human Environment 27 (3): 217-223. EBSCOhost (accessed September 23, 2009).

Seminar Series

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[khyrenbach \(at\) hpu \(dot\) edu](mailto:khyrenbach@hpu.edu)

Syllabus

This Week's Seminar

Tuna fisheries of the
Western and Central
Pacific Region: resource
and management issues

Hand-Outs

Paper Critique Form

Presentation Critique Form

Schedule

Sept 13 - Week 1: Introduction to the Course

Discussion: Course Goals and Syllabus

http://www.pelagicos.net/classes_envs_seminar_fa10.htm