

Main Points

- 1) **Ecosystem approaches to conservation**
 - difficulty with species-based approaches to conservation
 - defining ecosystem approaches to conservation
 - defining stakeholders

- 2) **Umbrella species as a middle ground?**
 - example: sage grouse conservation in the western U.S.

- 3) **HW #1 help session**

**Pre-reading: Thursday 24 Sep = Marris
Tuesday 29 Sep = Young et al**

Thursday 24 Sep = HW #1 emailed to Jake as a .doc by 5pm. There will be no confirmation of receipt, so please save a copy of your email that you send.

Terms: ecosystem management, stakeholder

Group Debates (105 pts for debate, 15 pts for each eval)

Single- vs Multi-Species Conservation

Lauren, Kody, Cheyenne, Marissa V.
Tracey, Marissa D.

Pros and Cons of Consumptive Use of Wildlife

Martha, Ashtyn, Rebecca
Brent, Ina, Aubrey

Pros and Cons of Climate Change Mitigation

Bonnie, Bryce, Joey, Quentin, Chelsea!!!
Kayla

Conservation in Protected Areas vs Human- Occupied Landscapes

Rachel, Emily, Grace, Karissa
Deo, Courtney

General (40pts):

1) did all group members participate more or less equally in the presentation, and in answering questions?

2) was the delivery clear and professional? In other words, was jargon minimized, were terms well defined, was the delivery polished, and was the material well-understood by the presenters?

3) did all group members seem equally familiar with all of the material presented? In other words, were transitions between partners seamless, or did transitions seem awkward?

4) did speakers look at the audiences (as opposed to notes)?

5) did speakers end statements with question marks?

Rationale (40pts):

1) was the presentation focused with a logical introduction, statement of controversy, references to the scientific literature (as opposed to the internet or magazine articles)?

2) were figures and tables explained clearly and succinctly?

3) were slides free of spelling errors and other mistakes? Was use of text on slides minimal?

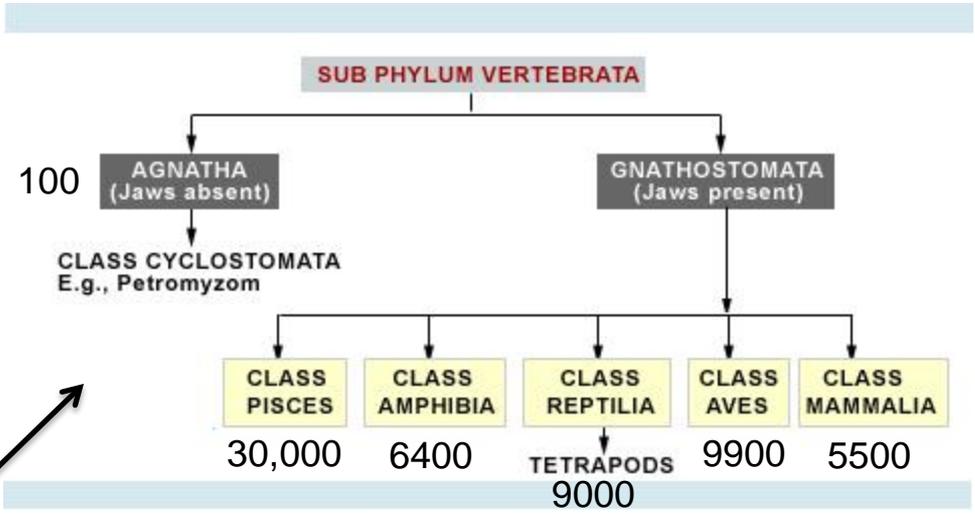
Questions and Answers (25pts):

1) were group members able to think on their feet?

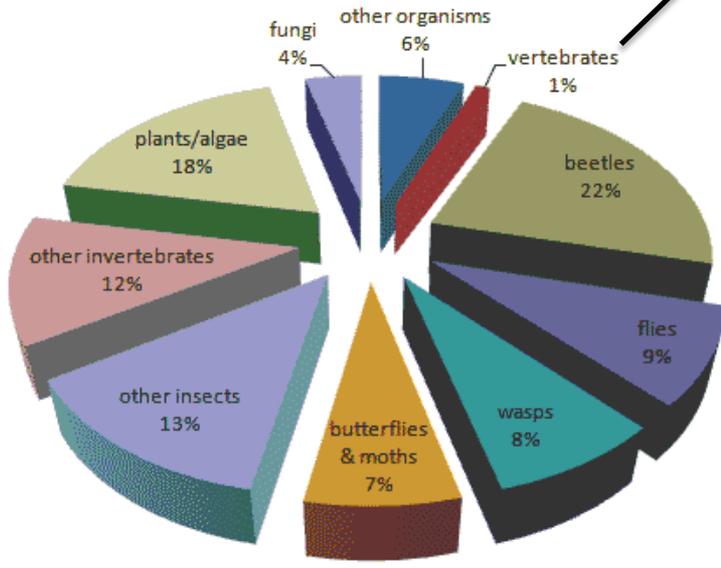
2) were questions from the audience addressed, or did group members avoid answering questions?

3) did group members ask thoughtful questions of the other presenters?

Ecosystems as units of conservation



RELATIVE NUMBERS OF NAMED SPECIES



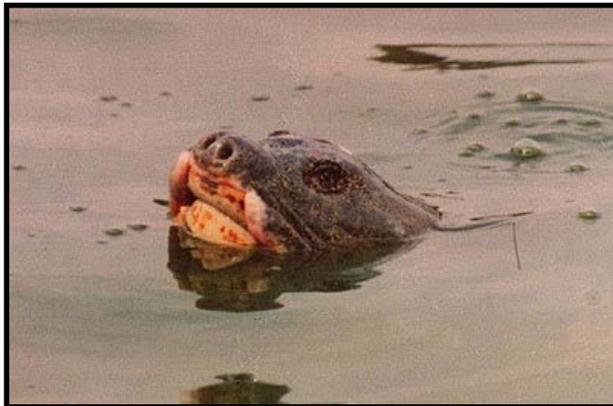
Ecosystems as units of conservation

- of the 1.7 million species described on Earth, an estimated 40% are threatened with extinction (IUCN 2006).

Liberian tree-hole crab



Yangtze giant softshell turtle



Canary Island dragon tree



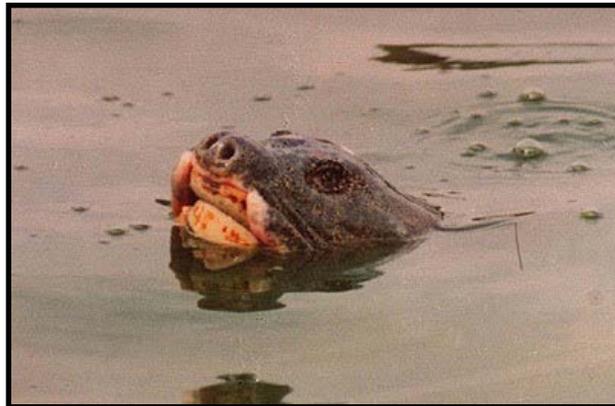
Ecosystems as units of conservation

- of the 1.7 million species described on Earth, an estimated 40% are threatened with extinction (IUCN 2006).
- most of these are little known, uncharismatic, economically unimportant species that are not foundation, keystone, or umbrella species.

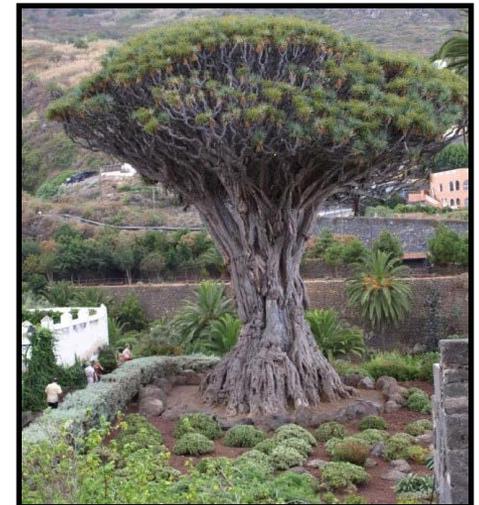
Liberian tree-hole crab



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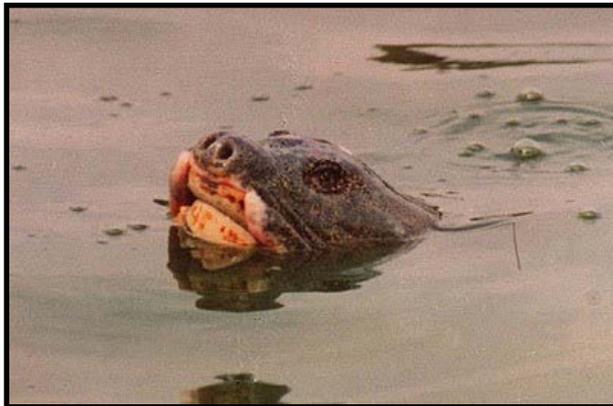
Ecosystems as units of conservation

- if we have an obligation to protect these species, an ecosystem approach may be our most realistic strategy.

Liberian tree-hole crab



Yangtze giant softshell turtle



Canary Island dragon tree



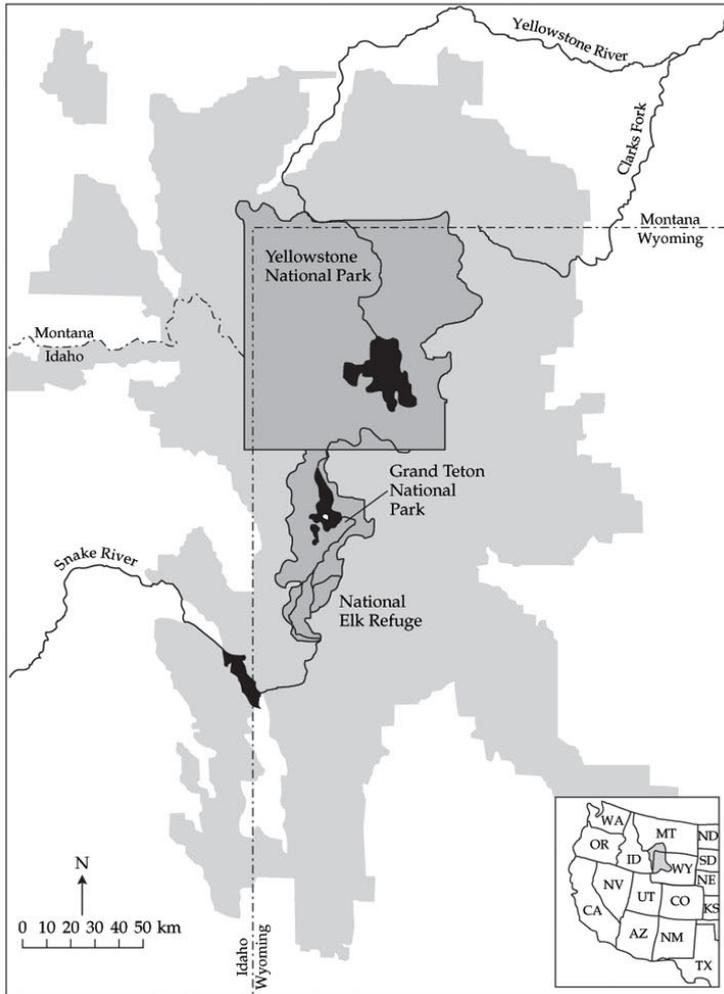
Ecosystems as units of conservation

- **ecosystem management = an approach to maintaining or restoring the composition, structure, and function of ecosystems for long-term sustainability.**

Ecosystems as units of conservation

- **ecosystem management = an approach to maintaining or restoring the composition, structure, and function of ecosystems for long-term sustainability.**
- **Differs from a species-specific approach in combining ecological, socioeconomic, and institutional perspectives.**
- **Typically characterized by proactivity (as opposed to reactivity).**

Ecosystems as units of conservation



PRINCIPLES OF CONSERVATION BIOLOGY, Third Edition, Figure 13.5 © 2005 Sinauer Associates, Inc.

(from the Pinedale Roundup by Meg Rawlins)

The drama surrounding wolves and the protection thereof continues. Less than two months after Judge Donald Malloy of the Federal District Court in Montana issued a decision which effectively relisted the predator in Idaho and Montana, the two Idaho senators, Mike Crapo and Jim Risch, introduced a bill that would remove wolves from the list of threatened or endangered species.

Malloy's decision was based on the opinion that the wolves in the inner-mountain region cannot be separated into distinct, state-specific populations. Since the wolves in Wyoming were still protected under the Endangered Species Act, the entire population would be considered protected. This, in effect, nullified the wolf-management plans of Idaho and Montana and canceled the hunting season.

The legislation, introduced Sept. 22 by Crapo and Risch, would separate the wolf populations, exempting those in Idaho, Montana, Washington, Oregon and Utah from the protection of the Endangered Species Act. This would restore state-control of those populations while keeping the Wyoming population under the management of the U.S. Fish and Wildlife Service (USFWS).

“The goal is to get the federal government out of the wolf-management business as quickly as possible,” Kyle Hines, press officer for Risch, said.

Less than a week later, on Tuesday, Risch and Crapo’s Senate colleagues from Montana, Senators Max Baucus and Jon Tester introduced their own version of wolf-management legislation. The bill, like that from the Idaho senators, would exempt Montana and Idaho wolves from the Endangered Species Act.

The Greater Yellowstone Coalition’s Executive Director Mike Clark doesn’t think any state should be exempted from the Endangered Species Act.

“The Endangered Species Act is an effective law that has worked for four decades and should remain intact,” he said in a statement.

Wyoming has failed to develop a wolf-management plan that meets the USFWS’s standards, and, after Malloy’s ruling, officials in Montana and Idaho expressed frustration at being penalized for Wyoming’s actions after their management plans had been approved in 2009.

“The Endangered Species Act shouldn’t allow one state to hold another hostage,” Tester said in a joint statement from the Montana senators.

At the time of the ruling, Governor Dave Freudenthal made a statement noting that Wyoming is unlikely to approve the changes to its management plan requested by the USFWS. This could prevent state-controlled wolf management in Idaho and Montana for the foreseeable future. Wyoming’s proposed plan defines wolves as a predator species, allowing them to be shot on sight. The other states’ plans acknowledge a desirable population size and allow location-specific hunting quotas to maintain that population.

“Idaho manages all other game species successfully, and, as this last season showed, they can effectively manage wolves,” Hines said.

“No one – especially the federal government – knows how to manage wolves in Montana better than Montanans,” Risch said.

Clark said he thought the flurry of bills on this is only “further polarizing the wolf issue.”

“Now is the time for all stakeholders in the region to work together within the parameters of the Endangered Species Act to come up with solutions that eventually return wolf management to the states,” he said.

Ecosystems as Units of Conservation

- **ecosystem-level conservation typically involves more stakeholders than does species-level conservation.**

TABLE 13.1 *What Is a Stakeholder?*

Stakeholders are people who want to or should be involved in a decision or action because they have some interest or stake in it. Their level of interest can vary from mild to intense. People can be stakeholders for a variety of reasons; they:

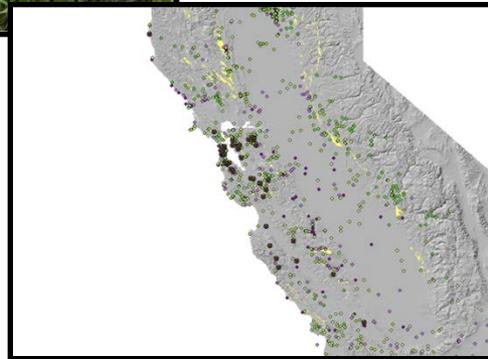
1. have a real or perceived interest in the resource, its use, its protection, or its users;
2. are dependent on a resource (e.g., subsistence users, sole means of livelihood);
3. have a belief that management decisions will directly or indirectly affect them;
4. are located in or near areas about which decisions are being made;
5. pay for the decision;
6. are in a position of authority to review the decisions.

Inclusion of stakeholders in decision-making helps to ensure that their concerns are met early on and that they “buy into” the decision through partial ownership, thus being more likely to support it later.

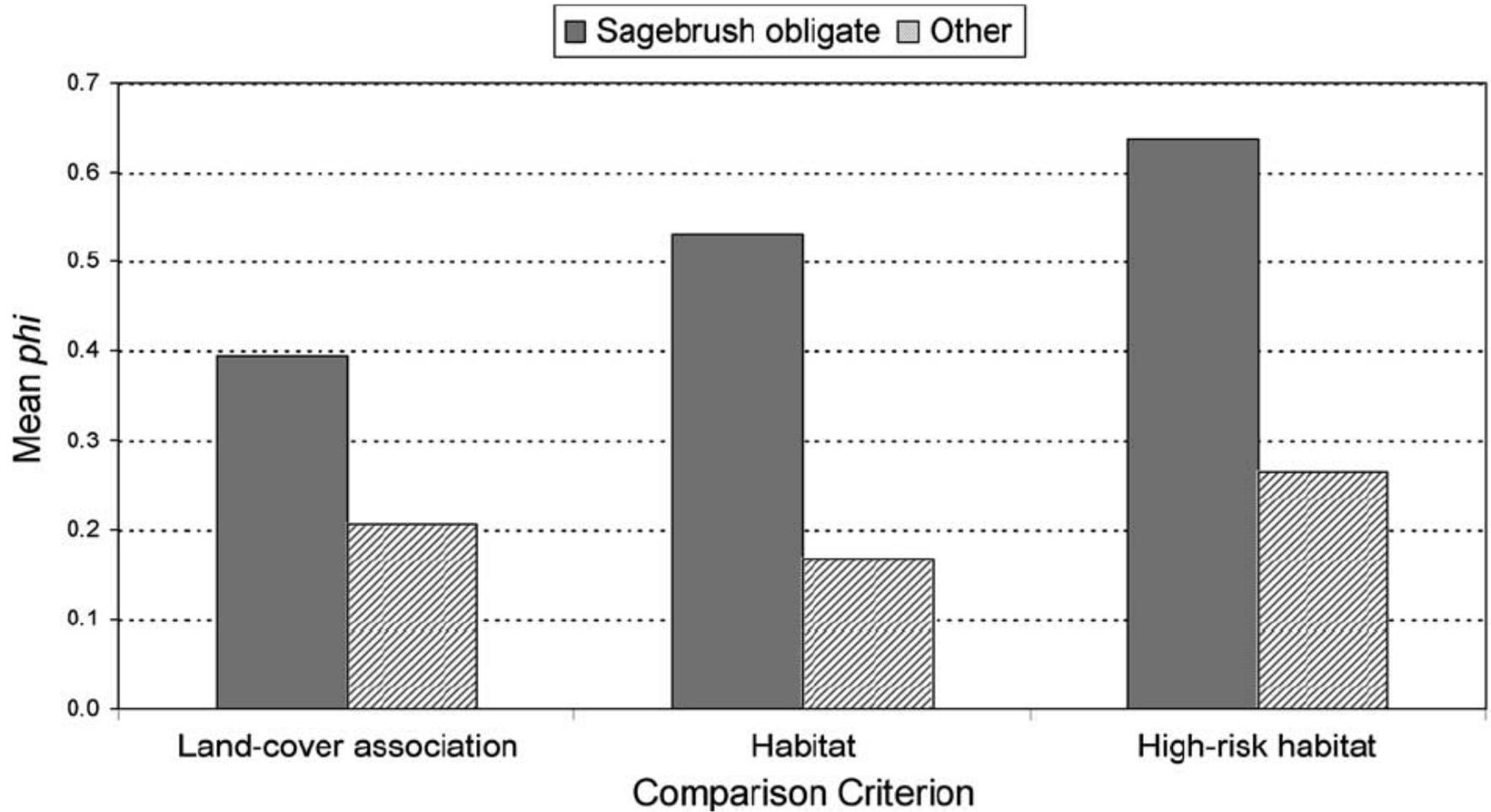
Source: Modified from materials provided by Dennis A. Schenborn.

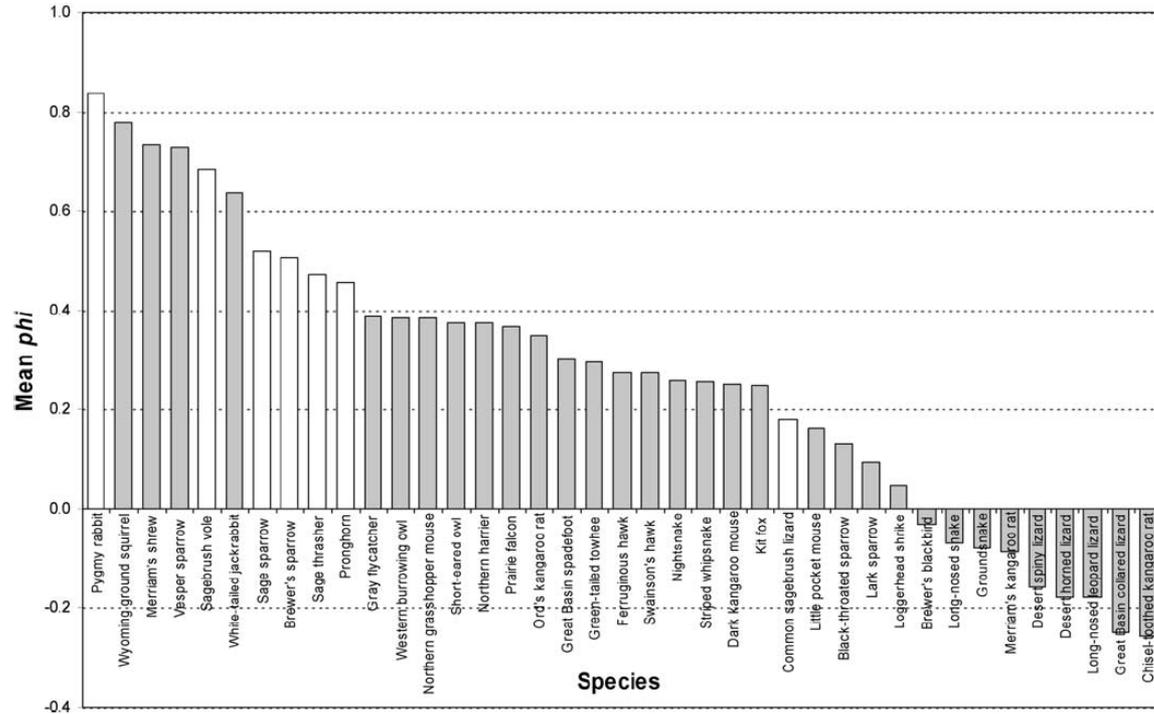
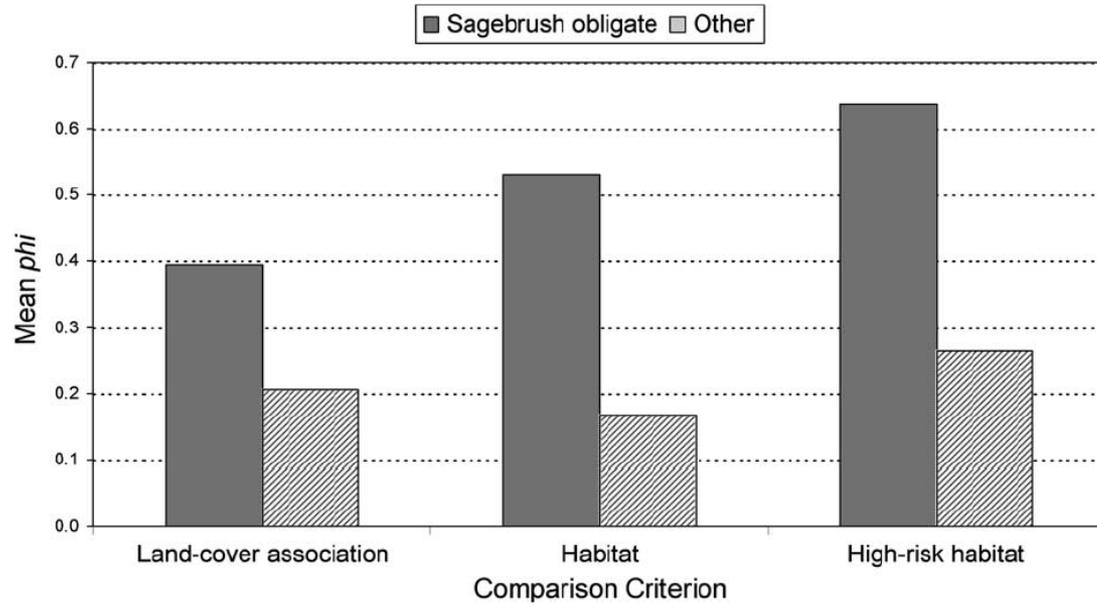
Umbrella species as a happy medium

- umbrella species = one whose minimum area requirements are at least as large as others in the community, ecosystem, or habitat for which protection is sought.



Umbrella species as a happy medium





Umbrella species as a happy medium

- umbrella species = one whose minimum area requirements are at least as large as others in the community, ecosystem, or habitat for which protection is sought.
- Discussion Question: Rowland et al mentioned several criteria that would make for good umbrella species. What were these?

Umbrella species as a happy medium

- **Umbrella species should:**
 - **be relatively widespread**
 - **have resource requirements that overlap with other species of conservation concern**
 - **be neither rare nor ubiquitous**