

**ENVS 84.02: Independent Research in Community-Based Natural  
Resource Management  
Fall 2022, Doug Bolger**

**please READ and REREAD this syllabus throughout the term**

This course gives you the opportunity to engage in a term-long research process that involves both your own empirical observations and the academic literature. The two products of this research are a research journal and an annotated bibliography. You will choose a relevant research topic of personal interest before the term begins and will prepare beforehand by gathering articles and information about your topic. During the term you will make observations, talk to people and read and write about your topic. You will develop expertise in that area and be a resource to the group. It will give you one particular lens through which to view your experience on New England. You will choose a more narrow area within the topic to pursue through the academic literature. This will be represented in your research journal and annotated bibliography.

You will need to find in the literature some type of academic “theory” (see below for definition) that will serve as an intellectual tool for you to illuminate some part of your broader topic in greater depth and complexity. This type of intellectual tool will allow you to go beyond a mere description of your topic. It may enable you to subdivide your topic, to draw finer distinctions, to see hidden similarities and differences among cases. It might also illuminate cause and effect relationships that are not readily apparent or give the researcher the ability to notice things that previously were invisible to her (but be aware, it can also obscure other things).

Your engagement with your ENVS42 research topic should span the entire term and all the activities of the FSP. *In other words, this topic should be one of the lenses through which you view New England.* You should conduct primary research as part of this focus. At each location we visit and with each person you meet you should think about what you can learn about your topic. (Note that you will not be conducting a formal empirical study. You will be taking advantage of opportunities to observe and talk about your topic but you won't be collecting large amounts of data.) To help you keep this continuing focus you will keep a ***research journal*** to take notes on readings and conversations, and record your thoughts and evolving understanding of your research topic. Your other primary product will be an ***annotated bibliography***. The annotated bibliography will capture your synthesis of ideas from the academic literature with your personal research topic.

The journal and the bibliography are the two primary products of your research - *you will not prepare a paper at the end of this research project. The circumstances of the DSP do not lend themselves to paper writing. So think of the journal and the bibliography as alternative ways of capturing and expressing the fruits of your research.*

***THE ESSENCE OF ENVS 84: This course asks you to take a journey. To be intellectually, personally and creatively engaged with a topic consistently for 10 weeks. If you try to do the deliverables without the journey it won't work. If you try to do the journey without the journal and annotated bibliography it won't work. The more you give yourself over to the journey the more it will reward you.***

## A Brief Guide to “Theory”

The following simple definitions are my attempt to give you a guide to navigate the world of academic “theory.” Each of these terms describes common elements of what is collectively referred to as “theory.” These terms may be used somewhat differently by other authors, but I think the rationale for this typology would be understood by many. It’s not a simple task to find theory that will be useful to you: not all theories are equally useful, and their utility is context dependent. The types of theory employed often vary by academic discipline. The greater the applicability of a theory to many phenomena, the greater its “domain.” As I have defined and ordered these concepts below, they have increasing complexity, generality and power (size of domain) as you go down the list.

- Concept – a “simple” idea, e.g. CBNRM – Community-based Natural Resource Management
- Framework – a tool for analysis (subdividing a complicated system), provides consistent definitions and vocabulary. Especially useful for making comparisons and generalizations. (e.g. the SES framework used in ENVS40)
- Hypothesis – a specific prediction based on a theory
- Theory – a set of ideas to explain a set of cause and effect relationships, often involves synthesis (pulls together several different concepts or relationships; allows a common explanation for seemingly disparate phenomena)
- Paradigm – A theory with large domain (e.g. evolution by natural selection)

What is theory good for?: concision of thought and written expression, vocabulary, comparison, generalizing, analysis, synthesis. In short, gaining depth and complexity in your understanding of any topic.

### The primary learning objectives for this class:

1. Engage in a longer-term research process (at least longer term than the typical process for a Dartmouth research paper).
2. Gain expertise in a particular area of community-based natural resource management.
3. Experience grappling with the juxtaposition of the more local and subjective empirical knowledge you acquire through direct observation and the more general, theoretical and broad empiricism of the literature.
4. Gain an understanding of research as an iterative process (think, observe, read, write, re-think, observe, read, write, re-think, etc.).
5. Experience applying an academic theory to your own observations
6. Experience recording thoughts and observations in a journal and being able to retrospectively observe how your ideas develop and evolve.
7. Struggle with how to choose the correct level of focus for research.

**Challenges you will face with this type of research.** *These are all essential dimensions of the research process. These challenges are intrinsic to research and are inescapable and thus need to be accepted rather than resisted; otherwise, they lead to a lot of frustration and wheel-spinning:*

1. Choosing the correct breadth for a research project is difficult
  - a. Your topic must be broad enough to engage your interest through much of the term.
  - b. The subject of your annotated bibliography must be narrow enough to use the academic literature to illuminate some of the depth and complexity of the topic. Thus, it will encompass only a subset of your broader research topic
2. Your topic usually will not be tangibly represented at each site we visit. (e.g. you might be interested in agriculture – sometimes we will be at, or near farms, other times we won't). This is OK, you can always talk about your topic with the people present, read articles about it, think about it, and write in your journal about it.
3. Your topic will evolve and change as you learn more about your topic. This is the creativity and discovery that is inherent to research. You can't know where your research will take you until you arrive there. Trying to think your way all the way to some optimal endpoint will lead to procrastination. **You must work the research process and accept there will be dead-ends and changes of direction.**
4. Good ideas often take time. A satisfactory thesis will only emerge after a long period of talking, thinking, writing and reading about your topic.
5. To succeed (and enjoy) this you'll need to embrace the research process from the beginning, rather than putting off until near the deadline the difficult choices of how to focus (as is often more typical of an on-campus research process).
6. This is a complex and open-ended process. We cannot fully prescribe it for you and tell you exactly what to do and how to do it. You must take responsibility for engaging in the research process and following it to a satisfactory conclusion. Be sure to ask questions and solicit feedback, but ultimately you must be willing to do the hard intellectual and creative work of research.
7. **Time Management:** The tasks of ENVS84 need to be worked on all through the term, so you will have to find a way to fit it in alongside the other activities of the DSP. We will schedule certain days to be devoted to work on this course alone.

	<b>Course Requirements</b>	<b>Points</b>
	Annotated Bibliography	50
	Research Journal	50
	<b>Total points</b>	<b>100</b>

**Assessment:** Verbal and written feedback will be provided on the individual components along the way but no letter grades are given until a final grade is assigned based on the entire body of work. *In general, work that is deeper, more complex and more successfully struggles with the synthesis of observation and theory will receive higher grades.*

## **SCHEDULE**

Summer. In consultation with Doug choose topic and do initial research.

Weeks 1-5 – Conduct primary research (observe and talk to people) at each site you visit, read and annotate papers, keep research journal. Confer with me.

Weeks 1-5 – begin to develop ideas for a thesis to synthesize some of your observations and ideas from the literature.

Approx week three – I will read your journals and give feedback. Submit one annotation electronically to me and I will give feedback.

Week 5 – Students submit up-to-date research journal and second draft annotations to me for comments.

Weeks 6-9 – Students continue primary research, research journals, and continue to add papers to their annotated bibliography. Finalize the choice of academic framework and thesis. Revise annotations to organize around the thesis.

Week 10 – Final Journal and Annotated Bibliography due November 11. Each student will make a 15 minute oral presentation of their findings.

## **GUIDELINES FOR EACH COMPONENT OF THE TERM PROJECT**

### **1. Choosing a research topic**

Before the term you will choose a more narrow topic within the broad umbrella of “Community-based Natural Resource Management” as your research focus. CBNRM is one of the main themes of the DSP and many of our activities and readings address this topic. In the other two courses in the program we will focus on management of coastal marine resources and forest resources. So, a topic that focuses on one of these could be a good choice, but you are certainly not limited to these two natural resource categories.

To generate potential topics to consider you should browse the DSP PDF library for ideas. (The PDF library is a searchable database (Mendeley) of articles that we will make available to you).

This is an interdisciplinary program and students have a range of different backgrounds. You can choose a topic that fits your disciplinary interests. Topics that are primarily natural science or primarily social science are all acceptable.

Example research topics:

- Natural resource governance in small communities
- Multi-stakeholder governance
- Natural resource management on Native American lands
- Ecological effects of forestry operations
- Ecological effects of aquaculture in marine environments
- Carbon capture as a forest ecosystem service
- Effects of climate change on Gulf of Maine fisheries
- Non-native forest pest effects on forest ecosystem dynamics
- Economics of forestry or fisheries
- Gender and natural resource management

## 2. Guidelines for Research Journal

The researcher diary can be seen as an integral part of the development of the researcher and the construction of research knowledge. In the same way that diary writing and reflection act as mediators in the development of teaching, researcher diaries mediate the construction of research knowledge. I strongly believe that my experience of keeping a research diary scaffolded my development in several ways. One was as a repository for thoughts and reflections; another was as a written account of my research journey. Not only was the act of writing scaffolding my knowledge through inner dialogue with more expert other, but the opportunity to re-read and interact with my thoughts was also a strong mediator in understanding my role of researcher and the research process.

Engin  
2011

At the start of the term I will give you a bound blank journal to use as your research journal. **You should make regular dated entries into this journal, at least three times per week.** (Don't hesitate to fill this one up and start on a second.) Your journal entries should capture all components of your research process. You can record here your thoughts, notes on conversations, notes on your reading, etc. (**put reading notes in here, but not your annotations – they go in an electronic document – see below**). In your journal entries you should try to capture the evolution of your conception of your research topic. **Entries in this journal should only address your research topic, do not put other DSP notes here.**

In addition to those entries, once per week (choose one day of the week to do this and stick to it) briefly and thoughtfully answer these three questions. What did I do in the last week to move my research forward? What changes have occurred in my thinking about the topic? What plans do I have to keep my research progressing in the immediate future? (no need to repeat the questions. Just label the entry as “weekly questions” and simply label your answers (1) (2) (3).

Entries will be of two general types: descriptive and reflective.

Descriptive: Notes on reading, conversations or observations. Data. Sketches. Factual accounts of places you went, things you saw, people you spoke to, articles you read. TO DO lists. Notes on literature searches, keywords.

Reflective: “Thought” pieces about your evolving understanding of the topic. Critical analysis of an article. “Brainstorming” notes or diagrams. Strategic plans for moving the research forward. Questions you want to answer. Discourse on how you feel about your research.

Obviously, these are not mutually exclusive categories and both are important to the research process. **However, the reflective components add the most to the depth of the research. A lot of descriptive material without sufficient reflective processing won't take you far. So be sure to devote plenty of space and attention to the reflective components.** Keep in mind this quote from Rapely (2007):

Writing is thinking. It is natural to believe that you need to be clear in your mind what you are trying to express first before you can write it down. However, most of the time the opposite is true. You may think you have a clear idea, but it is only when you write it down that you can be certain that you do. (p.25)

Use the journal as a thinking tool. In some of your entries take the time to try to express the kernel of your research topic clearly and concisely. This will help clarify your thinking and this clarity will help move the research forward. In the past we have seen a strong correlation in the seriousness of the use of the journal and the quality of the resulting bibliography.

This is a journal/diary so the point is to use it frequently (i.e. you should be thinking about your research frequently so you should need to make journal entries frequently). *If you find you are always behind and have to catch up more than a couple of days with your journal you are missing the point and the value of the journal and will need to adjust your work flow so that you can make more regular entries.* Try to keep the journal handy and jot things down as they come up. The entries don't have to be long – although some of them should reflect longer reflections too. *Don't just fill up the journal with writing to satisfy the assignment. Instead, experiment with research journaling as a research and thinking tool. What kind of entries best help you advance the depth of your understanding of your topic?*

***If you feel the need for more guidance or inspiration for the research journal read the article by Engin in the Mendeley library.*** And keep in mind the value of a research journal as expressed by Borg (2001):

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1. *It served as a reminder of past ideas and events which guided subsequent action.* The journal provided a database from which precise information could be retrieved at a later date. I often went back and re-read earlier entries as a means of reminding myself what I had done at an earlier stage of the study and using this information as the basis for subsequent action.
2. *It provided a record of plans and achievements which facilitated evaluation.* The journal documented both plans and actual achievements throughout the research process. This written record facilitated my task of evaluating progress and, in the case of lack of progress, of reviewing possible reasons for it.
3. *It supplied an account of events and procedures which allowed a more detailed write up of the study.* A record of specific information about events and procedures during the fieldwork and in analysing the data was particularly useful when I wrote up the study because it enabled me to fill in what would have otherwise been gaps in my description of what I had done.
4. *The journal allowed me to recall and to reproduce the thinking behind key decisions in my work.* The detailed record of experiences captured in the research journal was a powerful form of data which I drew on in my thesis to convey to readers how specific decisions were made, particular problems overcome, or specific events perceived.
5. *The research journal comprised an instructive narrative of my professional growth.* The journal provided a detailed account of my changing perspectives on the research process throughout the project. Reading through it, as I did at various stages along the way, and as I still occasionally do, is a source of instructive insight into the development of my understandings of the research process.
6. *The journal provided physical evidence of progress which gave me a sense of achievement and motivated me.* Blaxter, Hughes and Tight (1996: 49) write that as the research journal (or diary, as they call it) grows, 'it will serve as a physical (but hopefully not too embarrassing) reminder of just how far you have progressed'. My experience supports this assertion. In regularly reviewing my journal, I found that the mere activity of reading through it and acknowledging the work I was doing was motivating.

**To help organize your journals, please date each entry.** Also, in some way demarcate each entry (e.g. leave sufficient space in between them or draw a line to separate them). Also, please label each entry using a descriptive label in a box:

For example:

Reflection

Weekly Questions

Reading notes on Jones et al. 1999

Thesis ideas

Random thoughts

Reflections on Jones et al. 1999

Observations at xxxx

Conversation with xxxx

Discussion with xxxx

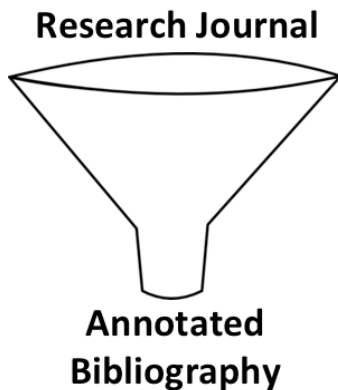
### 3. Guidelines for Annotated Bibliography

Researchers use annotated bibliographies to identify and abstract an academic discourse, school of thought, or specific topical area. An annotated bibliography can assist a researcher in identifying gaps, weaknesses, contradictions, or unresolved controversies in the literature under review. These can then be used as the basis for theses for further research. This part of the course asks you to undertake an annotated bibliography of important literature for your research focus.

#### Annotations:

1. Five annotations are required
2. To achieve a satisfactory degree of depth and complexity through only 5 annotations will require a relatively tight focus. Choose your source material carefully. Make sure that it is directly relevant and helps move your research forward.
3. Each annotation should clearly, concisely and critically convey the main points of the source material. However, it is not merely a “book report”, you need to evaluate and not just summarize the material. Your annotation should demonstrate your “intellectual ownership” of the material; convey its’ significance in your own words – don’t merely paraphrase the abstract. Strive to convey specific information from the source in your annotation. (see examples). Be sure to take the time to understand the article thoroughly and integrate them thoughtfully with your research thesis and your personal observations.
4. While the article should be the main focus of the annotation you should include your own ideas and observations where appropriate. (see examples)
5. Each annotation should be around 400-500 words, although slightly longer entries are acceptable as long as they are written concisely.
6. While conducting your research for the annotated bibliography, you should also be developing your own “point of view” or thesis about your research focus. This will enable you to assemble and synthesize your source material in an original way. It will also help guide your further research by allowing you to home in on the most relevant source material. Your annotations should reflect this developing perspective. You will surely need to go back and revise your annotations as your ideas evolve – that is part of the process.
7. All five annotations should be submitted in a single document in **electronic form** in MS Word. Be sure you make a backup copy of your document (preferably on your own flashdrive) each time you modify it. Put your name in the title of the document
8. **Thesis statement.** The document that contains your five annotations should begin with a one-paragraph thesis statement. This statement should evolve through time as your understanding and conception of your topic changes. This statement should contain a **maximum of 350 words**, and should concisely and specifically describe the ideas that unite these five articles and your associated thoughts and observations. The paragraph should refer to each annotation with a number, (1)-(5), and explain how each fits and supports the thesis.
9. Where possible briefly relate your own observations to the material in your annotations
10. Revise the annotations as needed to better serve the thesis

**What goes in the Annotated Bibliography versus the Research Journal.** A funnel is a commonly used metaphor for the research process. The broad mouth of the funnel



represents the full breadth of a researcher's interests in a topic. However, there is a necessary tradeoff between breadth and depth. So to achieve the depth and complexity necessary in original research requires the researcher to focus her research activities more narrowly. In this course, use the research journal to record the full range of your interest and the varied ways in which your topic plays out in the different sites we visit. But in the annotated bibliography you should take on a narrow subset of the broader topic. This will allow you to address that subtopic in more depth, complexity and originality. This focus should develop through the term to the point where you can express it succinctly as a thesis statement.

How to locate source material.

There are over 2000 articles in the Mendeley database we've made available to you. Thoroughly investigate these local resources before turning to web-based resources. For additional literature you will need to access the Dartmouth library resources via the internet. **Since we will not always have fast internet, you will have to be strategic about ensuring that you do your library research when internet access is available.**

Use a proper search engine, I recommend Web of Science (**note:** Google Scholar is useful for quickly accessing some things, but it is not a good academic search engine that will allow you to thoroughly search the literature.)

Format to use for the references in your bibliography. For simplicity, I would like you to use the APA format. You can find detailed instructions for this on this website (<https://www.mendeley.com/guides/apa-citation-guide>). I've provided an example of the journal article format below. See the website for other kinds of sources:

Ungar, M., Brown, M., Liebenberg, L., Othman, R., Kwong, W. M., Armstrong, M., & Gilgun, J. (2007). Unique pathways to resilience across cultures. *Adolescence*, 42, 287-310.

**Students sometimes ask, "why an annotated bibliography rather than a paper?"** This is a good question. There are a number of characteristics of the bibliography that are conducive to both the constraints and the intellectual aims of the program.

1. The modular nature (i.e. five annotations) of the AB fits better with the workflow of the DSP. Time for work comes in smaller chunks on DSP so fitting in the time necessary to write a paper is difficult.
2. The modularity is also conducive to our desire to have students working on this research process throughout the term, not just at the end when the paper is coming due.
3. The AB structure allows for a stronger focus on the students' intellectual ownership of the material in each article and their thesis development. We feel allowing room and time for these ideas to develop and evolve is the most important intellectual



pursuit in the research process, more so than the paper that would result from that process.

### **Example Annotations:**

Read these illustrative annotation examples from previous students. Pay particular attention to how these students demonstrate “*intellectual ownership*” by expressing the article’s ideas in their own words. You have the impression that it is the student speaking to you, rather than the author of the article. *Also, notice how they place the specifics of the article into the larger context of their own emerging research thesis and connect the articles to their own observations in southern Africa.*

Vetter, S. (2005) Rangelands at equilibrium and non-equilibrium: recent developments in the debate. *Journal of Arid Environments*, 62, 321-341.

In my research I have questioned the use of fixed stocking rates for cattle management. I felt that such static population numbers are not based in natural system cycling, but I had nothing to support my claims until I read this paper by Vetter. Hers was the first to provide a useful theoretical framework that weighs the pros, cons, and general applicability of stocking rate-based cattle management.

Vetter contends that there are two different ecological paradigms in grazing management: equilibrium models and non-equilibrium models. Equilibrium models stress biotic feedback loops, such as how cattle density affects vegetation productivity, which subsequently affects cattle density. This paradigm encourages the use of rangelands assessments to establish a fixed stocking-rate. Non-equilibrium models, on the other hand, claim that variable abiotic factors such as rainfall variation better explain rangeland productivity. This paradigm thus encourages the use of opportunistic stocking rates to increase cattle density to take advantage of wet years and lower cattle density during dry years.

Vetter contends that most rangelands fall in a spectrum between the aforementioned models. Rangelands that have consistent rainfall and steady-resource bases follow equilibrium model more closely, while rangelands with inconsistent rainfall and highly variable productivity follow non-equilibrium models more closely, yet all rangelands have elements of both models.

Commercial cattle-owners generally manage their land more according to equilibrium theory and communal owners generally follow practices based on non-equilibrium theory. But there is extensive overlap in their practices, especially in their responses to droughts. I have found academics and commercial owners are quick to criticize communal cattle management, claiming communities degrade their rangelands. But I have yet to find convincing data that supports this stereotype. Such a stereotype assumes most communal rangelands operate under equilibrium conditions, which may not be the case. On the contrary, I would argue that because of the Apartheid, black communities were relegated to poor rangeland, with more variable rainfall and productivity. The most consistent grazing lands were reserved for commercial white farmers. As such communal grazing occurs more in rangelands that more closely follow non-equilibrium theory, while commercial rangeland follows equilibrium theory more. Thus, fixed stocking rates may be better on South Africa’s commercial land, whereas opportunistic stocking strategies may better fit communal lands.

Namibia has the opposite phenomenon as South Africa as the most consistent rangeland is communally owned land in the north, and the least productive land is managed commercially in the south. Thus, I would argue that land ownership in South Africa is, compared to Namibia, is better allocated to facilitate cattle production, and perhaps this allocation may help explain the precipitous decline in Namibian cattle production since the 1970s (Dave Joubert, pers. comm., 10/22/2014).

Larson, A., Ribot, J. (2004) Democratic Decentralisation through a Natural Resource Lens: An Introduction, 16, 1-25.

This article defines the basic principles of democratic decentralization, highlights the potential benefits of democratic decentralization, and addresses the lack of examples of democratic decentralization in natural resource management. As of 2004, decentralization of natural resource management is reported to be occurring in at least 60 countries. However, decentralization can take on various forms, ranging from administrative decentralization to democratic decentralization. Administrative decentralization "aims to help line ministries, such as health, education, public works and environment, to read the preferences of local populations" (3) by devolving power to "local" administrative bodies such as provincial or municipal agencies or NGOs in the area. On the other hand, *democratic* decentralization devolves powers from the central government to local, elected accountable institutions. The tenets of democratic decentralization are as follows:

"Democratic decentralisation is premised on new local institutions 1) being representative of and accountable to local populations and 2) having a secure and autonomous domain of powers to make and implement meaningful decisions" [Ribot, 2002b]

Throughout the decentralization literature, multiple authors (Ribot, 1995; Smoke, 2000; Agrawal and Ribot, 1999) contend that downward accountability of management bodies is essential to ensuring the equity, efficiency, incorporation of local knowledge, and involvement of previous marginalized group in the decision-making process. Thus, democratic decentralization may be the best way to reach these goals.

However, both authors acknowledge that examples of true democratic decentralization of natural resources is not easy to find. In South Africa, administrative decentralization has been the dominant model for nature or game reserve management on communally-owned land. Take for example, nature reserves at Somkhanda and Tembe. These are best classified as cases of administrative decentralization as they devolve power to an NGO called Wildlands Conservation and a provincial conservation agency called Ezemvelo KwaZulu-Natal, respectively. While the surrounding communities may have some input into reserve management on their communal land through their land trust, the ultimate decision making power on reserve management lies with the relevant administrative body. Any democratic reserve decision making institutions that do exist are, by and large, initiated by the particular NGO or reserve management organization, at their discretion and prerogative. For example, Wildlands Conservation, is striving to establish democratic assemblies to get community input into reserve management because local chiefs and the land trust have thus far dominated input to the reserve.

Overall, it is difficult to understand the efficacy of democratic decentralization on communally-owned nature reserves in South Africa because democratic decentralization has not yet been institutionalized. As Larson and Ribot highlight, "Decentralization theory stems from a mix of new institutionalist 'if-then' propositions: if the institutions (that is, actors, powers and accountability) are right, then the outcomes will be positive. We cannot yet say whether these 'if-then' propositions are right, because, for many reasons, decentralizations are not getting to 'if'" (7). My research will highlight the historical and policy reasons why South Africa has not made it to the "if" of democratic decentralization and establish the potential for democratic decentralization to improve conservation and development outcomes on communal reserves and game farms.

### **Example Thesis Paragraphs:**

*Notice how this student uses several ecological concepts and theories to argue for conservation policy that emphasizes top predators. She uses the concepts of “apex predators,” and the theories of “trophic downgrading,” “cascading effects,” and “indirect effects” to structure her argument. (the numbers in parentheses correspond to the articles in the annotated bibliography).*

Because apex predators play such a crucial role in southern African ecosystems, targeted conservation strategies to sustain populations of lions, leopards, and cheetahs should be prioritized above more generalized conservation schemes. Although there is little data regarding the role of these species in southern Africa's ecosystems, the varied and widespread consequences of the global trend of trophic downgrading illustrate the theoretical effects of the loss of apex consumers in this ecosystem, and the potential for significant indirect effects on ecological processes (1). Failure to address the conservation needs of apex predators and to maintain species diversity within this functional-group would decrease ecosystem resilience and potentially lead to undesirable regime shifts, deterioration of ecosystem services, or even ecosystem collapse (2). Using this theoretical biological framework, studies in the Serengeti substantiate these theories by providing evidence of the cascading effects of predation by large carnivores through their top-down regulation of ungulates in comparable east African ecosystems (3). Largely due to their performance of essential ecosystem functions as keystone species in southern Africa, the great potential for these species to act as biodiversity surrogates could mean that prioritizing the conservation of lions, leopards, and cheetahs would result in aggregate conservation benefits, both for these individual species and for broader-scale conservation efforts in the region (4,5).

*This student contrasts the concepts of “administrative decentralization” and “democratic decentralization” to argue that both are required for effective and equitable community-based natural resource management.*

Democratic decentralization of land management on communally-owned reserves and game farms in South Africa has the greatest potential to improve conservation and development outcomes by redressing unequal power relations between traditional and conservation authorities and the local community. In post-apartheid South Africa, government conservation priorities have come into direct conflict with ensuring greater land rights for local communities through the land reform process (2). In an attempt to address both land rights and conservation, the post-apartheid government has supported administrative decentralization in the form of joint management schemes between provincial government conservation authorities or NGOs and local communities (2). However, administrative decentralization of reserve management instead of democratic decentralization has allowed for traditional authorities and conservation elite capture of management decisions (3).

While conservation authorities certainly have a role in ensuring conservation goals are met on reserves, democratic decentralization maintains that any local institutions for reserve management must be accountable to and representative of the local populations they serve in order to achieve their goals equitably and efficiently (1). Failing to ensure downward accountability of reserve or game farm management to the local community has led to poor conservation and development outcomes, especially in areas where there is conflict between local elite and the community at large (4). In contrast to the lack of democratic decentralization on communal reserves in South Africa, Namibia's communal conservancies provide a key example of how democratic decentralization of reserve management can lead to positive development and conservation outcomes (5).

*This student uses participatory development theory to examine different approaches to community based natural resource management. In particular she uses the concepts of "universal metatruth fallacy," and "third nature" to structure her argument*

Wildlife-based conservation areas are ubiquitous throughout Southern Africa, and have been increasingly striving towards the dual mandate of conservation and rural development. Community-based conservation practices are often undertaken by already-established protected areas, which have been designed to create spaces entirely devoid of people, called 'third nature' landscapes (1). When undertaken in this manner, community-based conservation projects are implicated in the "universal metatruth" fallacy as described by participatory development theory. Although community-based conservation has ideological roots in pragmatism and social justice, these projects typically skew towards the pragmatic, cursorily involving local peoples as a means of gaining their support. Community-based conservation initiatives undertaken by protected areas premised on "pure nature" tropes and exclusion situate communities as passive beneficiaries and disregard the social justice foundations of the movement, necessitating a shift towards community empowerment. By recognizing the "universal metatruth" fallacy and lack of social justice considerations in these initiatives, passive beneficent strategies can be rejected as insufficient to be classified as community-based conservation and potentially detrimental to global support of the cause. Instead, community-based conservation should aim to empower communities through active participation (2). Passive beneficent of communities may promote pro-conservation attitudes, but perhaps not pro-conservation behaviors. Active participation allows for stronger incentives to protect wildlife, more appropriate benefits, and behaviors aligned with conservation goals (3). Namibia's conservancies on communal lands, where the devolution of rights to wildlife has empowered local communities to actively participate in conservation, have promoted reductions in poaching, wildlife population rebounds, and higher levels of well-being (4). Comparatively, South Africa's pragmatic community integration projects have often failed to achieve the same degree of conservation and development success due insufficient benefits (5).

## **Dartmouth Policies**

### **Student Accessibility and Accommodations**

Students requesting disability-related accommodations and services for this course are required to register with Student Accessibility Services (SAS; [Getting Started with SAS webpage](#); [student.accessibility.services@dartmouth.edu](mailto:student.accessibility.services@dartmouth.edu); 1-603-646-9900) and to request that an accommodation email be sent to me in advance of the need for an accommodation. Then, students should schedule a follow-up meeting with me to determine relevant details such as what role SAS or its [Testing Center](#) may play in accommodation implementation. This process works best for everyone when completed as early in the quarter as possible. If students have questions about whether they are eligible for accommodations or have concerns about the implementation of their accommodations, they should contact the SAS office. All inquiries and discussions will remain confidential.

### **Religious Observances**

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.

### **Academic Honors Principle**

The faculty, administration, and students of Dartmouth College recognize the Academic Honor Principle as fundamental to the education process. Any instance of academic dishonesty is considered a violation of the Academic Honor Principle. Fundamental to the principle of independent learning are the requirements of honesty and integrity in the performance of academic assignments, both in and out of the classroom. Dartmouth operates on the principle of academic honor, without proctoring of examinations. Any student who submits work which is not his or her own, or commits other acts of academic dishonesty, violates the purposes of the college and is subject to disciplinary actions, up to and including suspension or separation.

The Academic Honor Principle depends on the willingness of students, individually and collectively, to maintain and perpetuate standards of academic honesty. Each Dartmouth student accepts the responsibility to be honorable in the student's own academic affairs, as well as to support the Principle as it applies to others.

Any student who becomes aware of a violation of the Academic Honor Principle is bound by honor to take some action. The student may report the violation, speak personally to the student observed in violation of the Principle, exercise some form of social sanction, or do whatever the student feels is appropriate under the circumstances. If Dartmouth students stand by and do nothing, both the spirit and operation of the Academic Honor Principle are severely threatened.

A number of actions are specifically prohibited by the Academic Honor Principle. These focus on plagiarism and on academic dishonesty in the taking of examinations, the writing of papers, the use of the same work in more than one course, and unauthorized collaboration.

More information can be found at <https://students.dartmouth.edu/judicial-affairs/policy/academic-honor-principle>.