Terrestrial Trophic Cascades—Spring Term 2007

FOR 599, Section 8, CRN 38214, Register for 1 or 2 credits, paper required for 2 credits
Mondays 1600-1650 (4:00-4:50 pm) Room 272 Peavy Hall
Instructor: William J. Ripple bill.ripple@oregonstate.edu

Class Objective: The objective of this seminar is to examine carnivore effects on plants as mediated through herbivores. Through literature review and discussion, we will investigate the frequency and strength of trophic cascades in terrestrial ecosystems in temperate and/or boreal systems in the northern hemisphere. Topics will range from theory to the potential affects of carnivores in structuring ecosystems and implications for ecosystem function, management, and restoration.

One credit: readings, participate in class discussions. Each student will lead at least one class discussion during the term. Fifty percent of the grade will be based on class attendance (50 points) and fifty percent on participation (50 points). A perfect grade will be 100 points.

Two credits: readings, participate in class discussions. Each student will lead at least one class discussion during the term. Students registered for two credits will be required to write a paper. One half of the grade will be based on class attendance (25 points) and participation (25 points) and the other half of the grade will be based on a proposal for the paper (5 points) as well as the required paper (45 points). A perfect grade will be 100 points.

Schedule                  Topic (lecture)                               Readings                               Presenter
April 2                   Class overview, Introductions,               Laliberte and Ripple 2004          Ripple
                         (Carnivore Range contractions)        
April 9                   Wolves-elk-plants-streams                 Ripple and Larsen 2000            Beschta
                         (Yellowstone Case Studies)           Beschta 2005
April 16                  History of Trophic Cascades/Kaibab       Leopold et al. 1947                (.5)_Claudia
                         (Aldo Leopold examples)              Burk 1973                             (.5)_Will
                         \                                  Binkley et al. 2005                  (.5)_Claudia
April 23                  Viewpoints on Trophic Cascades                 Polis et al. 2000                  (.5)_Trent
                         (sampling woody browse species)      Terborgh et al. 1999                (1)_Katie
April 30                  Density-mediated cascades                   Crête 1999                             (.5)_Will
                         (Great Plains cascades)              Peterson et al. 2003                 (1)_Gab
May 7                     Trait-mediated cascades                        Lima 1998                              (.5)_James
                         (elk vigilance + willow growth)       Creel et al 2007                      (.5)_James
May 14                    Ecosystem dynamics                             Côté et al. 2005                     (1)_Tim
                         (cougar cascades-part 1)             Schmitz 2006                          (.5)_Trent
May 21                    Ecosystem dynamics                             Berger et al 2001                     (1)_Justin
                         (cougar cascades-biodiversity, part 2) Hebblewhite et al. 2005   (1)_Emily
May 28-No Class Memorial Day
June 4                    Aboriginal Overkill                                Kay 1998                             (1)_Art
**Required Readings**


**Discussion Leaders**

When it is your turn to lead a discussion on a journal article, please send an email to the class with a question or suggestion for the participants to think about at least 48 hours before class.

**Paper requirements**

Potential topics for a paper include a synthesis paper that, for example, looks at developing theory; the history of thought, ideas, and work; or the frequency and/or strength of terrestrial trophic cascades. Another option is to write a paper that looks deeper into some specific aspect of the terrestrial trophic cascades. Limit your geographic scope to temperate and/or boreal systems in the northern hemisphere. A proposal (400-600 words) will be due on April 23. The approved paper should be a 10-15 page double spaced document. The paper is due May 21st. Ten percent of the paper grade (5 points) will come from the proposal and 90% from the actual paper (45 points).

**Grading for the course**

<table>
<thead>
<tr>
<th>Final Grade</th>
<th>(Undergraduate) total points</th>
<th>(Graduate) total points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>92-100</td>
<td>95-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-91</td>
<td>93-94</td>
</tr>
<tr>
<td>B+</td>
<td>88-89</td>
<td>91-92</td>
</tr>
<tr>
<td>B</td>
<td>86-88</td>
<td>89-90</td>
</tr>
<tr>
<td>B-</td>
<td>84-85</td>
<td>87-88</td>
</tr>
<tr>
<td>C+</td>
<td>82-83</td>
<td>85-86</td>
</tr>
<tr>
<td>C</td>
<td>80-81</td>
<td>83-84</td>
</tr>
<tr>
<td>C-</td>
<td>78-79</td>
<td>81-82</td>
</tr>
<tr>
<td>D+</td>
<td>76-77</td>
<td>79-80</td>
</tr>
<tr>
<td>D</td>
<td>74-75</td>
<td>77-78</td>
</tr>
<tr>
<td>D-</td>
<td>72-73</td>
<td>75-76</td>
</tr>
</tbody>
</table>