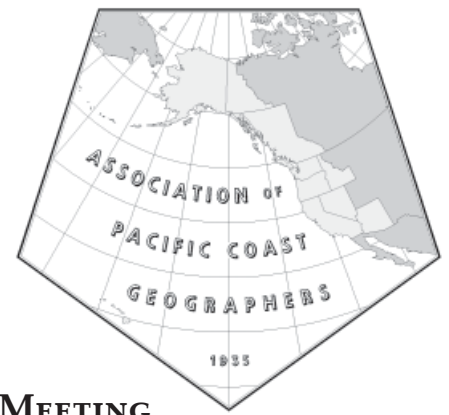


# PACIFICA



The Association of Pacific Coast Geographers

Fall 2006

## BEST STUDENT PAPERS FROM THE ANNUAL MEETING

### Angler movement patterns and the spread of Whirling Disease in the Greater Yellowstone Ecosystem

Kiza K. Gates, Katharine Meehan, and Christopher S. Guy\*

Over the past decade, the accelerating spread of invasive species has captured world attention as a major force in ecosystem degradation (Sala et al 2000). Invasive species –also called alien, non-native, or exotic –represent one of the major causes of global biodiversity loss (Sala et al 2000). Many scientists are aware that trade, transport, travel, and tourism help blaze pathways for invasives (McNeely 2001). Until recently, research efforts have strictly focused on the “invasiveness” of a nuisance relative to native species, or the “invadability” of specific landscapes (P. Robbins 2004). These studies frame the species, but overlook the role of socio-ecological networks (e.g. the specific assemblages of humans and non-humans) in determining the spatial and temporal patterns of invasion (P. Robbins 2004).

Whirling disease is exemplary of this dilemma. *Myxobolus cerebralis*, causative agent of whirling disease, is one of the most pathogenic members of the fish-parasitizing phylum Myxozoa. Native to Eastern Europe, *M. cerebralis* was first discovered in the United States in Pennsylvania during the 1950s. Whirling disease was first diagnosed in Montana on the Madison River in 1994 and has since become a serious threat to native Yellowstone cutthroat trout (*Oncorhynchus clarki bouvier*), recreational fisheries, and local livelihoods dependent on angling tourism.

Biological research on whirling disease has shed light on the life cycle dynamics and cellular actions of *M. cerebralis*; however, little is known about the spatial dissemination of whirling disease between river drainages or the characteristics of these invasive networks. Anglers are highly mobile among river basins and access sites; but it

*Continues on page 6*

### The View from Here: Constructing an Image of the California Emigrant Trail, 1841-1849

Jerome L. Lohry

Heading west from the edge of the Missouri frontier in 1841, the Bidwell-Bartleson Party ventured into their own terra incognita. As the first California-bound overland emigrant party, they were guided by a map showing two great rivers flowing from the Great Salt Lake directly west to northern California, and a fifty-word route description by promoter Dr. John Marsh, which begins, “The difficulty of coming here is imaginary . . .” (Stone, 1956, 25). This map, and others like it at the time, was the cumulative product of incomplete knowledge passed on by fur trappers and missionaries, and would have done little to ensure the emigrant party properly prepared for the 2,000 mile journey across the western half of the continent.

The California Emigrant Trail, which generally followed a route around the Great Salt Lake and across Nevada via the Humboldt River, became known to those in the East through letters and other informal channels, yet was conspicuously absent from most maps of the early-to-mid-1840s. Following the passage of the first emigrants, geographic knowledge trickled back as brief written descriptions in correspondence with those still back East. These descriptions were often published in newspapers to encourage or dissuade potential emigrants thinking of heading west, the bias being at the discretion of the editor (Unruh, 1975, 56 & 74). The potential California Emigrant would have scoured these precious information sources, and attempted to reconcile the information contained with the multiple cartographic depictions of the region available.

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## IN THIS ISSUE

- 1 **Three students**, an undergraduate and two graduate students who won awards at the Annual Meeting in Eugene, present condensed versions of their papers. A Q/A with them is on Page 9.
- 2 **President Kate Berry** provides a sampling of wonderful updates from departments in the APCG region.

- 3 **Jim Craine**: the new Editor for Yearbook
- 4 **Awards**: The awards and scholarships for students
- 11 **Honor your favorite**: A new chance to donate

## FUTURE MEETINGS

Get ready for the next meeting in Long Beach. A brief invitation is on **page 9**. The meeting in 2008? **Alaska** it is!

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## PRESIDENT'S MESSAGE

Kate Berry, University of Nevada, Reno

It is a great honor to be the incoming president of the APCG. This is an exciting time for the organization with increasing new membership, better conferences than ever, new organizational directions and, in general, the growth on so many different fronts. I look forward to this year and hope to hear from you (kberry@unr.edu).

With a membership base extending over eight western U.S. states and one Canadian province, it is sometimes a challenge to keep track of one another. So I am dedicating this column to the new additions of faculty and programs from many of the geography departments and programs across our region. I am indebted to the many Geography department chairs and program heads who have shared good news on their programmatic successes, new initiatives and new faculty.

### Arizona

Arizona State University just became the School of Geographical Sciences on July 1, 2006. Tony Brazel is currently the Acting Director of the School.

University of Arizona has pushed forward in the area of water with two new faculty hires, Carl Bauer and Chris Scott. Also the department has a new economic geographer with the hire of Sandy Dall'erba. The Department expects to announce a new hire in the area of climate-water soon.

### British Columbia

Simon Fraser University appointed two new faculty in September 2005: Geoff Mann as an Assistant Professor in social geography, and Paul Kingsbury, an Assistant Professor in social geography. The department had four more new faculty in September, 2006: Valorie Crooks, an Assistant Professor in geography of health, Owen Hertzman, a Senior Lecturer in meteorology/ climatology, Ilja Tromp Van Meerveld, an Assistant Professor in hydrology, and Jeremy Venditti, an Assistant Professor in fluvial geomorphology. The department expects to search for a new Assistant Professor in atmospheric science. Further good news is that Simon Fraser faculty member Alison Gill is the new President of the Canadian Association of Geographers and faculty member Roger Hayter is the new editor (for human geography) of the Canadian Geographer. Ted Hickin became Chair of the Department in September 2005. And, in September the department's new state-of-the-art Remote Sensing and Geovisualisation Laboratory accommodated its first classes and research use.

University of British Columbia hired Andreas Christen in August 2006, as an Assistant Professor in Physical Geography - Climatology.

University of Northern British Columbia has initiated a joint major with the Anthropology Department. Dr. Ellen Petticrew, the first member of the UNBC Geography

*Continues on page 3*

program, has returned to the University and program, in an appointment as Landscape Ecology Chair, a position shared with another geographer, Dr. Phil Owens, who has been appointed to UNBC's Environmental Science Program. Also of interest is a recent Academic Visioning Exercise at the university that identified six Thematic Academic Clusters that "it believes best represent what the University should seek to address through its academic programs over the coming decade". Five of these are already developed at UNBC (Natural Resources and Environment, Health and Human Development, Commerce and Community Sustainability, Indigenous Peoples' Knowledge, and Global Processes and Perspective); a sixth (Artistic Cultural Expression) is targeted for expansion. The Geography Department was named as contributing to the five extant clusters - the only program's name to appear under all five.

#### California

Humboldt State University has hired a new Assistant Professor, Joy Adams.

Sonoma State University has hired a new tenure track professor of biogeography and GIS, Matthew Clark. He is also serving as Director of the Geographic Information Center, a research lab that offers undergraduates the opportunity for internships on real world GIS and remote sensing projects.

University of California Los Angeles added three new faculty members as Assistant Professors, tenure track this past year: Lisa Davis, with specialties in Human Geography and Korea, Greg Okin, with specialties in Physical Geography – Geomorphology, and Yongwei Sheng, with specialties in GIS/Remote Sensing in forestry and hydrology. The department is currently searching for an assistant professor (tenure track) in gender-feminist geography. Additionally, extensive renovations have been made to the physical geography lab. The new Chair of the department is Denis Cosgrove.

#### Idaho

University of Idaho added a new position this year and hired Jeffrey Hicke, a specialist in bio-geochemical modeling and biogeography. This position came about through a successful NSF EPScOR grant which supports an interdisciplinary initiative to improve research capability in biogeochemistry and biogeography. The grant provides three years of funding for a new position for three years and will be followed by permanent funding from the university.

#### Nevada

University of Nevada, Reno had a new Ph.D. program approved this year which will admit its first students for the fall 2007 semester.

#### Oregon

Portland State University has hired Geoffrey Duh in a tenure track position. His specialties are GIS, modeling, and digital image analysis. Also, the department has established the Center for Spatial Analysis and Research (CSAR, pronounced Cesar), and hired a lab manager, Dave Banis, to support geographical research and provide consultation, production services, and education for researchers and organizations in the greater Portland area.

University of Oregon is pleased to announce that Dan Gavin joins the department in September as an assistant professor in biogeography and paleoecology. His research interests are forest responses to past climatic change, tree-ring records of climate and forest health, and disturbance dynamics.

#### Washington

Central Washington University recently hired Latin Americanist Jennifer Lipton. Along with Anthropology, the department has also increased the size of our shared, interdisciplinary master's degree program in Resource Management, to more than 60 graduate students. In addition, external funding of a graduate fellowship stipend for Native American students has been renewed. Robert Kuhlken is the new department chair.

### NEW APCG YEARBOOK EDITOR

The Yearbook of the Association of Pacific Coast Geographers has an enthusiastic new editor, Dr. James Crane. After an enjoyable career in the music industry, Jim did his Masters in Geography at California State University, Northridge and his Ph.D. from the San Diego State-University of California, Santa Barbara Joint Doctoral Program. He is currently an Assistant Professor of Geography at California State University, Northridge. Jim's research interests include geographies of media, particularly cinematic geographies; geovisualization; and cultural production and he still occasionally plays his bass.

Please contact Jim for questions related to the APCG Yearbook, Volume 69, to be published in August, 2007. We are primarily looking for articles by our membership on topics related to our region. These may be empirical studies, conceptual/theoretical thought pieces, essays or GIS-related

studies. We are continuing to upgrade our graphic capabilities; so, image-intensive articles are welcome although our publication will continue in its current black-and-white format for the immediate future.

The Yearbook is also accepting book reviews and short opinion/editorial pieces. Reviews of books about our region or authored by members of APCG will be given priority. However, reviews of more general geographic books will also be considered. Short opinion or editorial pieces should first consider issues relevant to our region although any submission related to the discipline of geography will be considered. Themed group editorials are also welcome.

We especially encourages submissions from junior faculty, graduate students, and retired faculty. All article submissions will be peer-reviewed.

## OBITUARIES

**Dr. Bill Bailey** of Department of Geography at Simon Fraser University died last November after a several month battle with cancer. Professor Bill, as he was called, was a champion of all things meteorological and climatological. He had a strong following of committed students and is dearly missed by his colleagues.

**Dr. Mike Doran** died this past winter. His Ph. D. was from the University of Oregon.

**Dr. Chris Exline** of UNR Geography and supporter of APCG, passed away in April, 2006. Before joining the Department of Geography at UNR in 1981, Chris taught at the College of Marin and Univ of Colo, Colorado Springs. He served as Department Chair for 16 years, from 1981 to 1997. In acknowledgement of his great record of teaching and advising, Chris received the University's Tibbitts Distinguished Teaching Award and the Board of Regents Undergraduate Advisor Award. His distinguished record of service, both within the University and the community, have also been recognized with numerous awards.

**Dr. Otto Jakubek** became the third member of Central Washington University's Geography staff when he joined it in 1959 and was exceptionally instrumental in the Department's subsequent rapid growth. His contributions to the Department's curriculum were particularly notable in the fields of geographic education and land use planning. He initiated the first interdisciplinary major, Resource Management. Otto's classroom teaching skills combined with hands-on community and county planning experiences inspired many of his students to enter careers in teaching or to pursue opportunities in planning and public service.

**Harold Murray** passed away in 2005. He was a longtime contributing member of APCG. Harold was born in 1912 in Minnesota and got his BA from Mt. Angel College, Oregon in 1971 followed by his MS in 1977 from Oregon College of Education.

**Dr. George Nasse** recently passed away during a racquetball game. George received his PhD from University of Michigan and spent time in the military in WWII and in the Korean War. At the time of his death he was emeritus faculty at the Dept of Geography at CSU Fresno. He counted among his accomplishments were serving as chair of the Dept at CSU Fresno and president of the California Geographical Society.

**Dr. Bob O'Brien** died in June at the age of 75 years. He was a geographer for over 45 years and spent many of those years at San Diego State. Before coming to SDSU in 1965, Bob received his undergraduate in Texas (from whence he hailed), received a PhD from Washington and taught for a time at Montana. He published a book on U.S. National Parks and had publications specifically on Yosemite NP.

**Douglas R. Powell**, a legendary figure in geography in the west, passed away in Berkeley this winter after a lengthy illness. Amongst geographers he is especially remembered for his popular fieldtrips, in which he led groups of students through various western landscapes, particularly the Sierra Nevada Mountains, Death Valley, the Owens Valley and Mono Lake. For this ability to fire the intellectual imagination, his Berkeley students voted him "Best Undergraduate Instructor".

**Charles (Chuck) Yahr** died this past year after a long battle with Alzheimer's disease. He taught at San Diego SU for over thirty years, from 1955 to 1987, He was president of California Geographical Society twice and was active in local geography.

## APCG TREASURER'S REPORT

SEPTEMBER 8, 2006

Robert T. Richardson, CSU Sacramento  
Transactions for October 14, 2005--August 28, 2006.

**Forward at close of books, 10/14/05** **\$53,847.16**

### RECEIPTS

Dues	\$14,111.00
Gifts (from a number of people)	\$2,300.00
Profit, 2005 Annual Meeting (inc. return of \$500)	\$9,372.87
AAG Regional Allocation	\$955.20
YEARBOOK v.66	\$778.51
Interest on Regular Account (post CD rollover)	\$53.36
<b>TOTAL INCOME</b>	<b>\$27,570.94</b>

### DISBURSEMENTS

APCG '05 Annual Meeting Grants & Awards	\$2,686.74
Student Travel Awards (inc. GeoBowl)	\$1,835.00
Presidents Awards	\$651.74
Regional Geography Award	\$200.00
Advance for 2007 Annual Meeting	\$3,000.00
PACIFICA Printing Production Postage	
F'05 (770x12 pp) \$714.94 \$176.00 \$475.00	\$1,365.94
S'06 (800x16 pp) \$808.48 \$501.72	\$1,310.20
Corporate Filing Fee (Olympia, WA)	\$10.00
Membership (mostly mailings)	\$940.01
YEARBOOK v.66 (mostly UHP bill)	\$5,640.17
YEARBOOK v.67 (mostly UHP bill)	\$4,840.28
YEARBOOK v.68 (copy edit primarily)	\$2,687.60
<b>TOTAL EXPENDITURES</b>	<b>\$22,480.94</b>

**Balance on books, 8/28/06** **\$58,937.16**

### SPECIAL FUNDS

<b>Bailey Schl. Fund</b> (forward 10/14/05)	<b>\$3,064.70</b>
(no activity since last year)	
Balance 8/28/05	\$3,064.70

<b>McKnight/Clemons Schl. Fund</b> (forward 10/14/05)	<b>\$14,087.13</b>
(no activity since last year)	
Balance 8/28/06	\$14,087.13

<b>Margaret Trussell Mem. Fund</b> (forward 10/14/05)	<b>\$60,821.14</b>
(no activity since last year)	
Balance 8/28/06	\$60,821.14
(\$57,336.10 of which is Trussell Scholarship fund)	

<b>Cult. Geog. Fieldwork Schl. Fund</b> (fwd 10/14/05)	<b>\$14,151.01</b>
new contributions	\$300.00
Scholarship granted in July	(\$500.00)
Balance 8/28/06	\$13,951.01

<b>Mexican American Undergraduate SGF (new)</b>	
original contributions (John & Bev Passerello)	\$500.00
additional contributions (various members)	\$1,590.00
interest (prorated from regular funds)	\$7.29
Balance 8/28/06	\$2,097.29

Membership 9/10/03:	625	ultimate in '03:	716
Membership 9/1/04:	666	ultimate in '04:	691
Membership 10/14/05:	638	ultimate in '05:	749
Membership 8/28/06:	642		

## MINUTES OF THE APCG BUSINESS MEETING

Bob Richardson, CSU Sacramento

President Jenny Zorn called the meeting to order at 4:37 p.m. About thirty people attended ultimately (I neglected to count).

1. Last year's Business Meeting minutes, as published in the Fall '05 issue of *Pacifica*, were approved unanimously.

2. Alec Murphy reported attendance at 316 as of two hours ago. The large number of papers required running six concurrent sessions (and seven in several instances). Vigorous applause acknowledged the fine job Alec and his colleagues have done hosting this annual meeting.

3. Vinnie Del Casino reported that he has already booked Snoop Dog for next year's annual meeting in downtown Long Beach, October 17-20, at the Hilton. To hold costs down, only five meeting rooms have been booked. Vinnie has figured how to run four sessions a day rather than the usual three, to make up for this if necessary.

4. Elections (Bob Richardson): Kate Berry (unopposed) is our President elect and Darrick Danta is our Vice-President elect. Their terms begin after tonight's banquet. Participation was down somewhat from the previous two years, but still good. Nominations Committee chair Nancy Wilkinson urged people to run for APCG office, noting it is a very rewarding experience.

5. Awards: Jim Keese is huddled with his excellent committee deciding on winners, thus cannot be present.

6. AAG News (Doug Richardson): it has been another good year financially for AAG, the fourth in a row, allowing more new initiatives and programs, including the collecting of AAG data from members, departments, and other sources--eventually to be placed on the web--and overhauling the AAG website. The next annual meeting is April 17-21 in San Francisco. Nancy Wilkinson and Scott Mensing are co-chairs. Doug urged us to bring van loads of students. The boycott by hotel workers is of concern; AAG has worked closely with the Hilton, labor, and INMEX to try to solve the problem. Doug thinks the situation will be resolved before the meeting. A geography and the humanities special meeting will be held at the U. of Virginia in Charlottesville this coming June. Joint US/Canadian sessions will be at the SF meeting looking at border issues with similar sessions when CAG meets in Saskatoon. Membership is still strong. Jenny noted that Stuart Aitken, our Regional Councillor, could not attend the Business Meeting but has left a written report to be distributed later.

7. *Pacifica* Report (Sriram Khé): Sriram proudly noted that he has not been fired yet. He's had positive feedback on the count/counterpoint Spring issue and probably will repeat it this year. The Fall issue will again feature short summaries of several of the best student papers from these meetings.

8. Yearbook Report (Darrick Danta): Darrick observed that he also had not been fired, but that he quits (after two full five-volumes terms as editor, eclipsing previous records). Tumultuous applause spontaneously erupted in thanks for his efforts.

9. Membership Committee Report (Vinnie Del Casino):

Early this past spring Vinnie emailed every graduate and undergraduate advisor and chair in our region urging them to promote attendance at this meeting, and several special sessions were organized by Vinnie and Martha Works (grants, social geography, internationalization), both efforts aimed at boosting membership in the long run by boosting attendance in the short run. They plan to organize paper sessions for students and junior faculty, with discussants, as another way to draw in new members. Dan Arreola noted that participation by UW has increased notably; Vinnie said he is organizing a virtual committee with members from PhD granting institutions in hopes of drawing more of them into the APCG. Kate congratulated Vinnie on two years of excellent work; he in turn thanked Martha for her great service.

10. Treasurer's Report (Bob Richardson): The Treasurer's Report (see page 3) shows we are in the black this year by about \$5,090, thanks especially to the huge profit from Phoenix last year (just under \$8,900)--thanks Dan et al.--and to \$2,090 in contributions to the new Mexican American Undergraduate Student Grant Fund. We would be much more in the black had we not received two large bills from Hawaii Press for volumes 66 and 67 of the Yearbook. Our income without a meeting profit would have been about \$15,100 and our expenses with net costs for only one Yearbook would be about \$13,500, so we seem to be safely in the black. But doubling the number of travel grants for this meeting (not yet paid) would increase expenses another \$1,500 leaving us about even if not for meeting profits. Our reserves are quite healthy. The special funds show no changes this year, except for the Cultural Geography Fieldwork (which made its award in July) because last year's meeting came after the CD's matured and this year's meeting is before they mature. All are in good shape and will be more so next year with interest rates rising. The Yearbook is costing us nearly \$10 per member which is what Student and Retired dues are. We may need to increase dues again, but for now are okay with them as they are.

Carl Johannessen asked if the Yearbook could have a color map on the cover on a theme related to the next annual meeting. This will be explored.

11. Budget Committee Report (Tina Kennedy, David Plane): they double checked all of the numbers and everything looks good!

12. Archivist's Report (Andy Bach): Andy could not attend but notified Jenny that no new items came to the archives this past year. Dan urged people to send photos (prints or digital files) from the meetings to the archives. Annotations of the photos were suggested. Chris Lukinbeal noted that the websites for the meetings should be preserved in the archives.

13. Women's Network Report (Vicki Drake): Vicki distributed a spreadsheet showing the history of funds for the Trussell scholarships and the WN Travel Grants. Eight travel grants were given at today's luncheon, half the recipients attending their first meeting and excited to be here. Travel grant funds were diminishing until last year

*Continues on Page 8*

has not yet been established whether anglers (and their gear) are capable of transferring whirling disease. This study examines the movement patterns of anglers in the Greater Yellowstone Ecosystem (GYE) and their potential role in whirling disease transference. By adopting a political ecology approach, this study responds to calls for interdisciplinary research that analyzes both human and non-human components of invasive networks (McNeely 2001; P. Robbins 2004).

#### Background

The spread of whirling disease hinges on an array of ecological and social factors. *M. cerebralis* is a two-host metazoan parasite that alternates between an oligochaete worm host and a salmonid fish host in a presporogonic and sporogonic myxospore stage, respectively (Hedrick et al. 1998). The parasite attacks the cartilage of the salmonid host, grows, and multiplies –causing severe damage to juvenile fish that may lead to premature death (Hedrick et al. 1998).

The resilient features of the myxospore stage permit survival across a range of environmental stresses. The myxospore stage of *M. cerebralis* is highly resistant to temperatures from freezing to 66° C, exposure to low pH, digestion by fish-eating birds or fish, and desiccation (El-Matbouli and Hoffman 1991; Hedrick et al. 1998; Hoffman and Markiw 1977). Furthermore, the myxospore stage is pollution-tolerant and often found in degraded habitats (Nickum and Bartholomew 2001). These characteristics make possible the inadvertent transport of myxospores (via fishing equipment, such as wading gear) among water bodies. Researchers suggest that inter-basin parasite transfer may result from sediment being moved between sites (Baldwin et al 1998), although the validity of these claims has not yet been tested.

#### Research Framework

Given the complex nature of whirling disease transmission, we utilized both social and ecological methods to examine angler dynamics, fishing practice, and disease presence. We surveyed anglers at 40 randomly selected high use access sites on the Beaverhead, Bighorn, Gallatin, Madison, Missouri, and Yellowstone rivers between June and August of 2005. Using a structured survey instrument, we asked questions regarding frequency and location of recent and current fishing trips, home zip code, membership in angling organizations, knowledge of aquatic nuisance species, and equipment cleaning practices.

While conducting our survey, we also sampled angling boots and waders to determine the amount of sediment being carried by anglers between access sites. One of the two boot/leg samples was dried and weighed to determine sediment quantity. The other sample was evaluated for the presence of *M. cerebralis*.

#### Results

Key results centered around three axes: 1) angler profiles; 2) angler movement patterns and sediment quantity; and 3) environmental knowledge and practice. First, we discovered that anglers are traveling long distances to fish Montana rivers. Forty percent of surveyed anglers were Montana residents, yet 60% were non-residents (n = 270). Non-residents represented 39 states and 2 foreign countries. Obviously, distance traveled to access sites was significantly different: the average distance traveled by Montana residents from their home was 59 miles ( $\pm 67$ , [95% CI], n=112), while the average distance traveled by non-residents was 1,067 miles ( $\pm 769$ , [95% CI], n=162). These data suggest that non-residents may pose a greater likelihood of introducing (or re-introducing) aquatic nuisance species due to their higher overall visitation numbers.

Movement patterns of anglers and sediment quantity were also queried. Residents and non-residents traveled to an average of 1.76 drainages in the previous 30 days, not including the surveyed drainage. Total visitations ranged from 0-11 drainages and were significantly different between residents and non-residents. The geographic extent of drainage visitations differed considerably between user groups: non-residents were more likely to fish drainages outside of Montana, while residents stuck closer to home. Sediment analysis reveals that the average angler transports 22 g of sediment on their boots and waders between access sites. While residents and non-residents may be carrying similar quantities of sediment, non-residents are carrying that quantity over larger distances.

Finally, anglers were surveyed on knowledge of aquatic nuisance species, organizational membership, and equipment cleaning practices. Nearly all respondents (94%) were familiar with whirling disease and 72% were familiar with zebra mussels (*Dreissena polymorpha*). Forty-one percent reported that they were active members in an angling organization such as Trout Unlimited, the Federation of Fly Fishers, or Walleyes Unlimited (38% of Montana residents and 44% of non-residents). However, despite past educational campaigns by state agencies and environmental organizations on whirling disease transmission and prevention techniques, survey results reveal a disjuncture between everyday fishing practices and aquatic disease prevention. Forty percent of anglers reported that they occasionally, rarely, or never cleaned their fishing equipment between uses.

#### Conclusion and Policy Recommendations

Although some argue that invasive species management should be based on principles of evolutionary ecology (Allendorf et al 2001), our research suggests that whirling disease is governed both by ecological and socio-political variables. Environmental managers, in short, must set policy that reflects the dual nature of invasives: “there

*Continues on page 8*



David Burr, 1839. Map of the United States of North America  
 Courtesy of the David Rumsey Map Collection  
[www.davidrumsey.com](http://www.davidrumsey.com)

Emigrants facing the months-long journey west would have prepared to the best of their ability given the information available. Decisions about what supplies to bring and the expected time of travel had to be made based on their perception of the trail ahead. By examining the maps of this period, we can partially reconstruct the geography of the California Emigrant Trail as it existed in the emigrants' imagination.

#### Creating the Image

Progression of geographic knowledge can be gauged from the evolution of atlases and wall maps of the period. The 1840s were a time of great change in map portrayals of the California Emigrant Trail, and a review of the maps from 1841 to 1849 indicate the advances in knowledge and the changing yearly perception of the road ahead formed by the emigrants before they left the Missouri Frontier.

The geographic imagination of the emigrants was not *tabula rosa*, so when they viewed the maps of the 1840s, they had preconceived notions of the accuracy of maps and beliefs about what to expect in the West. Both correct and incorrect cartographic depictions would have had influence on the emigrants because the information could not be verified until the journey was made.

Before the Civil War, the number of detailed maps was limited due to expensive reproduction methods (Schulzen, 2001, 5). Larger population centers may have had such maps available for public consultation, or the forming western emigration societies may have pooled resources to acquire one. However, the availability of school geography atlases would have served the same function, although they too were of questionable reliability. During the second half of the decade, and especially in 1849, emigrant guidebooks containing maps also became widely available (Hill, 1993, 33).

Maps of the mid-1800s were based on a variety of reports from the field, and collected from a myriad of both

domestic and foreign sources. As of 1841, the information collected on the region of the California Emigrant Trail was sparse. Spanish misconceptions about the flow of western rivers resulted in the creation of the mythical San Buenaventura River. The unwritten knowledge of American fur trappers sometimes disappeared with the death of the trapper, or simply didn't have enough momentum to force its way through the geographic noise (Wheat, 1957, 138).

Known features in the region were rarely fixed by latitude and longitude, making it difficult for cartographers reading field notes to accurately place the new discoveries. British fur trappers working for Hudson's Bay Company found the Humboldt River in 1828 and reported their observations to London, leading to the first portrayals of this river on British and French Maps. Cartographic depictions of this river would change in length, position, and endpoint for at least twenty years beyond its discovery.

In 1844 and 1845, John C. Fremont's exploration of the Great Basin finally resulted in a reliable map of the Intermountain West. While the majority of the trail would not be fully mapped by him until late 1848, Fremont fixed geographic features to accurate geographic coordinates, providing a set of known features in fixed locations (Wheat, 1957, 199). It was in relation to this map that some features would be verified, and others finally relegated to the realm of cartographic myth.

#### Conclusions

The geographic perception of the California Emigrant Trail is something that evolved with the maps of the region during the 1840s. The earliest emigrants would have had only a faint idea of the terrain that lay ahead, so complete was their ignorance of the region. Later emigrants with more knowledge were not necessarily better off, as volumes of conflicting and false information blurred their conception of the region. Given the variety of portrayals of the region in the mid-1840s, one must conclude that the

*Continues on page 8*

*Angler Movement Patterns .... continued*

cannot be just one companion species," writes philosopher Donna Haraway (2003:12), "there have to be at least two to make one."

Whirling disease, like many socio-ecological problems, presents challenges for local decision-makers. Obviously, increased messaging and education campaigns that target resident and non-resident user groups are steps in the right direction. However, given the geographic extent of potential transference by non-resident anglers—in addition to their keystone position in the regional economy—management must occur at a broader geographic scale.

Finally, this work suggests that whirling disease must be set in a larger context of access: to politics, to economic opportunity, as well as to the river itself. As the legal and regulatory context of public stream access in Montana comes under debate (J. Robbins 2006), the management of whirling disease networks stands to become even more complex.

\* Christopher S. Guy served as the Advising professor

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*California Emigrants .... continued*

average emigrant did not take the map portrayals literally and only considered them a loose interpretation of what was really out there.

The final interpretation of what the emigrants knew about the California Emigrant Trail lies within the in the mind of the beholder. Rather than condense the geographic perceptions of tens of thousands of people into a single view, this type of research asks the audience to understand a geographic perception other than their own, and use that perspective to further understand the decisions made by the emigrant.

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*Business Meeting Minutes .... continued*

- when Joan Clemons died, triggering a number of donations in her honor. Vicki and Jenny have begun a new campaign: donations are encouraged honoring someone still living. Those honored will be listed in *Pacifica* (Page 10).
14. Applied Geographers (Terry Simmons): Terry noted the numerous papers and sessions in the program dealing with applied geography, many by applied (or otherwise non-academic) geographers. He urged anyone interested in the Applied Geographers Speciality Group, including independent scholars, to contact him by email.
15. Mexican American Undergraduate Student Grant Fund (Dan Arreola): in its first year generous contributions have been made to the fund and the first two recipients will be honored tonight at the banquet. Details on Page 10.
16. Other/New Business (Jenny): future meeting sites include Long Beach next year and--at the invitation of Mike Sfraga and Roger Pearson--in Fairbanks, Alaska, next year. Following Vinnie's lead, Mike says they will open with an Alaska tradition, Sled Dog. The meeting will be after Labor Day (when hotel rates drop considerably) and probably will include a train trip with speaker to Denali. Jenny and Kate will be looking for ways to offer travel grants for students and junior faculty. Following Jenny's observation that Mike and Roger are extremely well connected in Alaska, Doug Richardson mentioned that Roger, in a five minute phone call, arranged for him to meet with the Governor next week.
17. Jenny adjourned the meeting at 5:45.



## Q/A WITH THE FEATURED STUDENT AUTHORS

*How did you get interested in geography as a field of study?*

**Kiza and Katie:** We have both been flirting with geography and human-environment issues since high school, where we first met. Katie stumbled on geography in a hammock in Belize: she read a world regional geography textbook during Peace Corps service and decided that geography fit the framework of Central American environmental problems. Kiza is formally trained in ecology, but became intrigued by geography through her search for a more integrative theory on how humans relate to the environment (and by drinking beer with Katie).

**Jerry:** I think I've always been interested in geography, but didn't come to appreciate what it was until I moved to Nevada in 1996. Relationships between people and places that were invisible to me in my home state of Pennsylvania seemed more apparent in Nevada, and that led me to an academic field of study that could make sense of those relationships.

*What triggered your interest in this topic [for research]?*

**Kiza and Katie:** This particular work was triggered by Kiza's long-standing interest in invasive species and the unsuccessful outreach campaigns that target individual species or users. Katie came on board with her interests in invasive networks, political ecology, and new approaches to conceptualizing "causality" in human-environment systems.

**Jerry:** My focus on perception of place came about during Dr. Gary Hausladen's Advanced Historical Geography class at the University of Nevada, Reno. Our readings and discussions kept bringing me back to the idea that much of what the West is to people is based on their perception, and that different perceptions can help describe the origins of historic and present landscapes in the West. The idea that the West might be quantifiable as a single location but perceived in many ways depending on culture, media, and

personal experience struck me as a fascinating topic for thesis work.

*What are your career interests?*

**Kiza and Katie:** Kiza will continue her PhD work in aquatic ecology, with plans to investigate social dynamics alongside her primary work in native/non-native species interactions. Katie, a geography PhD student, is formulating her dissertation on institutions, sewage pollution, and wastewater reuse in Tijuana. Above all, we hope to continue our collaboration throughout our careers, and push the theoretical and methodological boundaries of what it means to do interdisciplinary work.

**Jerry:** Opportunities change so rapidly as a graduate student that I try not to look too far ahead. I'm eager to see where my thesis takes me, and see if this field of study can take me into some interesting Ph.D. work. Alternatively, I believe there may be opportunities in assisting tourism bureaus and other place-based entities understand a potential customer's perception of their place, so they can better direct their marketing campaigns.

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### Special Thanks

Thanks to John & Bev Passerello, Jim Allen, Jan Monk, Bob Monahan, Dan Arreola, and Bill Koelsch for giving a combined \$1,790 to the Mexican American Undergraduate Student Grant Fund. Thanks to Dennis Dingemans for contributing \$200 to pay for the Committee's Regional Geography Award given in Eugene. Thanks to Paul Starrs and Dan Arreola for adding a combined \$300 to the Cultural Geography Fieldwork Scholarship. Thanks to Kate Berry, Robin Datel, Vicki Drake, Kelli Larson, Vicky Lawson, Sallie Marston, Janice Monk, Kavita Pandit, Rhea Presiado, Susan Reynolds, Gwenda Rice, Christine Rodrigue, Martha Works, Jenny Zorn, two who wish to remain anonymous, and Bob Richardson, for contributing a total of \$1,500 to support Women's Network travel grants.

*Bob Richardson*

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## 2007 ANNUAL MEETING IN LONG BEACH, CALIFORNIA

The Department of Geography at the California State University, Long Beach will be hosting the 2007 APCG meeting from October 17-20 in Long Beach, California.

An opening reception will be held on evening the 17th followed by field trips on the 18th. Field trips will encompass a wide range of the greater Los Angeles region's physical and human geographies, including at least one 'off shore' adventure.

Formal paper sessions, including the President's Plenary Session, will be held on Friday the 19th and Saturday the 20th. The Awards Banquet and Presidential Address will be held on the evening of the 20th at the conclusion of the formal conference.

We look forward to hosting this event and hope that we can continue to engage a large and variegated audience of geographers from throughout (and perhaps beyond) the region.

We have already established a website, which we will continue to update with information as we get closer to the event. Deadlines for papers will be some time in the summer. The URL for the website is:

<http://www.csulb.edu/depts/geography/apcg/>

Long Beach is a unique city of over 450,000 people. It is one of the most ethnically diverse cities in the United States, home to the largest Cambodian population outside of Phnom Penh, for example. Situated within a quick train ride from downtown Los Angeles or a short bus ride to some of the major beach sites in the region, Long Beach is ideally situated for those interested in exploring the depth and diversity of the Greater Los Angeles and Orange County areas.

For any additional information please contact Vincent Del Casino, Department of Geography, California State University, Long Beach. Email address: [vdelcasi@csulb.edu](mailto:vdelcasi@csulb.edu), and Phone: 562-985-2357.

## 2006 APCG Student Paper Awards

Tom McKnight and Joan Clemens Award for Outstanding Student Paper, \$250

Name: Kiza Gates and Katharine Meehan

Affiliation: Montana State University and The University of Arizona

Title of Paper: Angler Movement Patterns and the Spread of Whirling Disease in the Greater Yellowstone Ecosystem

Gates: P.O. Box 891, Bozeman, MT 59771, kgates@montana.edu Advisor Christopher S. Guy

Meehan: 1303 University Blvd., #20569, Tucson, AZ 85719, kameehan@email.arizona.edu, Advisor Paul Robbins

Committee Award for Regional Geography, \$200

Name: Jerry Lohry

Affiliation: University of Nevada Reno

Title of Paper: The View from Here: Constructing an Image of the California Emigrant Trail, 1841-1849

P.O. Box 14014, Reno, NV 89507, jlohry@yahoo.com,

Advisor Paul Starrs

President's Award for Outstanding Paper by a Master's Student, \$150

Name: Shasta Ferranto

Affiliation: University of Nevada Reno

Title of Paper: Deer-Vehicle Collisions: A Geographical Inroad Toward the Reduction of Red Asphalt

1090 Tudor Court, Reno, NV 89503, sferranto@gmail.com,

Advisor Paul Starrs

President's Award for Outstanding Paper by an Undergraduate Student, \$150

Name: HeatherAnn Van Dyke and Amy Avery-Grubel

Affiliation: Humboldt State University

Title of Paper: Cognitive Mapping and Spatial Interpretation: A Survey of HSU Regional Perceptions

Van Dyke: 560 Michael Dr., Sonoma, CA 95476, lenticularC@gmail.com, Advisor Stephen Cunha

Avery-Grubel, asa10@humboldt.edu

President's Award for Outstanding Poster Presentation, \$150

Name: Thomas Dilts

Affiliation: University of Nevada Reno

Title of Paper: Reclaiming Nevada: Comparing Ecological and Visual Function of Post-Mining Landscapes using GIS and Terrain Metrics

1850 Idlewild Drive H8, Reno, NV 89509, tdilts@unr.edu,

Advisor Jill Heaton

Contact Jim Keese, Chair of the Awards Committee for additional information.

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**Editor's note:** Students whose *papers* were recognized with one of the above awards were invited to submit condensed versions (about 1,000 words) of their papers. The two papers featured in this issue were in response to the request. One student declined the invitation.

## APCG Women's Network

At this year's annual meeting in Eugene, Oregon, the Women's Network awarded eight travel grants, in the amount of \$150.00 each to the following graduate and undergraduate students:

Erika Wise, doctoral candidate, University of Arizona; Pamela Wilson, graduate student, San Francisco State; Nazanin Naraghi, graduate student, CSU Long Beach; Cynthia Schantz, graduate student, CSU Long Beach; Fern Nueno, graduate student, CSU Long Beach; Michelle Degmetich; graduate student, CSU Chico; Nicole DeSante; undergraduate, University of Arizona; & Bonnie Castle, undergraduate, University of Washington, Tacoma.

During the luncheon, the recipients of the Travel Grants were introduced and spoke about their future goals in Geography.

The Network invites all faculty members of the APCG to nominate an outstanding female undergraduate or graduate student for a Women's Network Travel Grant to attend next year's meeting in Eugene, Oregon. The Margaret Trussell Scholarship Committee also invites masters and doctoral candidates in the APCG service area to apply for the Trussell Scholarship.

The Women's Network will have a no-host luncheon at the Fall 2007 conference in Long Beach, California, at which time the award recipients will be asked to speak about their interests and goals and how the Network might assist them in reaching those goals.

Nominations must be postmarked by JULY 1 2007 and should consist of a few brief paragraphs outlining the student's interests and abilities in geography. Look for the official announcements in the spring edition of the *Pacifica*. Contact Vicki Drake, Chair of the Women's Network, for additional information.

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### Mexican American Travel Grant Scholarship Fund

In its inaugural year, the Mexican American Travel Grant Scholarship Fund awarded travel grants to Mark Rincon and Mario Landa. Mark is an undergraduate at University of Nevada, Reno where he is studying GIS and water resource management. Mark hails from Chino in Southern California and is the first in his family to attend university. Mario is an undergraduate at California State University, Fullerton where he is studying GIS. Mario was born in Mexico City and immigrated with his parents to Phoenix, Arizona and then moved to Southern California. Mark and Mario were presented their awards at the banquet in Eugene. They thank the APCG for making their attendance possible.

Contact Dan Arreola, Chair of the Mexican American Travel Grant Scholarship Fund, for additional information.

## NEW MEMBERS

Welcome to the following 97 new members who have joined since the last list in the Spring 2006 issue of *Pacifica*.

Many joined in conjunction with registration for the Annual Meeting in Eugene—thanks to Alec Murphy and the UO crew for their diligence! (Asterisk denotes past membership.)

Edward Aguado  
Max W. Altman  
Lacy Anderson  
Dr. Robert C. Balling  
Nicolas Barbier  
Laura Barncard  
Sarah E. Battersby  
Cherise Beatus  
Catherine Benjamin  
Gina Bloodworth  
Gregory S. Bohr\*  
Patricia Burns  
Mark Carper  
Brittany Castillo

Grandy Carla Chenault  
Benjamin Christian  
Rebecca Ciccone  
Peter Cohen\*  
Statia R. Cupit  
Shawn Curley  
Ron A. Davidson  
Mark DeMuth  
Courtney J. Donovan  
Brian W. Dunbar  
Jennifer Durst  
Andrew W. Ellis\*  
J. Nicholas Entriokin\*  
Nicholas Exline  
Michael J. Farrell  
Giulia Favia  
Matthew Fockler  
Marguerite S. Forest  
Jon J. Franczyk  
Lars Freeman-Wood  
Richard Fusch  
Eric Garrison  
Kiza Gates  
D. A. Giles  
Elena Givental  
Hannah Gosnell  
Peter Gower  
Christopher Gwyn

Joseph Hannah  
Sean Harrell  
Jill S. Heaton  
Camille Holmgren  
J. L. Jackson  
Elizabeth Jones  
Lawrence G. Joseph Jr.  
Jong Wook Kim  
Howatt Peter King  
LaDona Knigge  
Mario Landa  
Anthony Leiserowitz  
Robin A. Lewis  
Dr. Mark Lowry II\*  
April D. Mattheus  
Shoshana Mayden  
Toby Minear  
Sarah Moore  
Emily Murai  
Lise Nelson\*  
Fern Nueno  
Jessica Olson-Ealy  
Hari Osofsky  
John Parent  
Denielle Perry  
Kiersten Poncho  
Melanie Renfrew\*  
Janet Rhoades

Gwenda Rice\*  
Mark D. Rincon  
Paul F. Robbins  
Miles Roberts\*  
Curt Robinson\*  
Christine M. Rodrigue\*  
Tricia Ruiz  
Cynthia Schantz  
Dr. Nancy J. Selover  
Tyler Shaw  
Gregory L. Simon  
Yelizaveta Skryzhevskaya  
Terry Slocum  
David A. Smith  
Eric Sproles  
Paul Stangl\*  
Adam Steiner  
Jeremy Tasch  
Marie Trammell  
Jeffrey Underwood\*  
Dorn Van Dommelen\*  
Katherine Wilcoxon\*  
Sara Wilkens  
Pamela L. Wilson  
Suzanne Withers  
Keith Woodward  
Dawn J. Wright\*

## DONATE TO HONOR A FAVORITE

The Women's Network was able to award eight travel grants this year because of the contributions made by APCG members and interested parties. The fund had received considerable contributions after the passing of Joan Clemons.

This year, in order to assure a more secure funding for the Travel Grants, Jenny Zorn and Vicki Drake introduced a fund-raising campaign to honor someone (living or passed on) who are (or had been) mentors in Geography. We gave members the opportunity to send a donation to the Women's Network Travel Grant, along with the name of the 'honoree'. Listed below are the names of people who were honored by donations in their name this year:

William Bowen, Joan Clemons, Margaret Trussell, Judith Tyner, Teresa Bulman, Charles Alexander, Christopher Tom Lee, William Selby, James and Nancy Allen, Jan Monk, Al Urquhart, Ev Smith, Gene Martin, Debbie Elliott-Fisk, Dennis J. Dingmans, Jenny Zorn, Pat Gober, Barbara Marston, Leslie Duram, and Robert W. Richardson.

The above geographers were honored and recognized for their role in influencing, mentoring and supporting the donors. To date, the Women's Network Travel Grant has received \$1,500 from this fund-raising campaign. We send a big "Thank You" to all who made donations this year.

We, of course, continue to encourage financial contributions from the APCG membership for the travel grant fund. The travel grant provides an opportunity for female students to attend a regional conference by awarding the recipients \$150 towards registration fees and travel costs associated with the meeting, plus a one year membership to the APCG.

It is not necessary that the student present a paper; rather, the monetary award provides an opportunity for a student to gain experience from attending a major regional meeting.

This program is entirely funded through contributions to the Women's Network of the APCG. Please send donations in honor of your mentor to Bob Richardson. For additional information, please contact Vicki Drake.

## MARGARET TRUSSELL SCHOLARSHIP

The winners of the Margaret Trussell Scholarship were Erika Wise (Ph.D.) and Shoshana Mayden (M.A.), both of the University of Arizona, both in the amount of \$1000.

All female graduate students are encouraged to apply next year; details will follow in early spring. Please contact Martha Henderson for additional information.

## ABOUT THE APCG

Founded in 1935 by a gathering of geographers including graduate students and faculty from universities, normal schools and junior colleges, and a few from government and industry, the Association of Pacific Coast Geographers has a long and rich history promoting geographical education, research, and knowledge.

Members gather at the annual meetings for social and intellectual interaction. They receive the annual *Yearbook*, first published in 1935, that includes abstracts of papers from the meetings and a number of full-length peer-reviewed articles. Members also receive the bi-annual newsletter *Pacifica*, first published in Fall 1994. Since 1952 the APCG has also been the Pacific Coast Regional Division of the Association of American Geographers, serving AK, AZ, CA, HI, ID, NV, OR, WA, BC, and YT.

*Pacifica* is a publication of the Association of Pacific Coast Geographers, a regional division of the Association of American Geographers. The newsletter appears two times a year in fall and spring. The deadline for submission of announcements and reports for the Spring issue is March 1, and for the Fall issue is a fortnight after the conclusion of the annual meeting.

For further information about *Pacifica* contact Sriram Khé at: [khes@wou.edu](mailto:khes@wou.edu) or at 503-838-8852.

## MEMBERSHIP

Questions about membership should be directed to Bob Richardson at the address below, or phone (916) 278-6410, fax (916) 278-7584, or e-mail [apcg@csus.edu](mailto:apcg@csus.edu). Visit the APCG web site at [www.csus.edu/apcg/](http://www.csus.edu/apcg/) for information about the organization and for a new member application form.

APCG member dues, although raised for 2001, remain modest: Regular \$20; Joint (2 people at same address) \$23; Student and Retired \$10; Contributing \$25 or more (any contribution over \$20 is tax deductible). Joint members receive only one copy of *Pacifica* and one *Yearbook*.

Dues are paid for the calendar year. Unless indicated otherwise, checks dated before November 1 will be credited to the current year, while those dated after November 1 will be credited to the next year. Only current year members receive the *Yearbook*. Current members will be sent a membership renewal notice near the end of the calendar year.

## CORRECT ADDRESS?

Most mailings to members are done using the APCG's Non-Profit authorization. Non-Profit mail is not forwarded, so to be sure you receive your copies of *Pacifica* and the *Yearbook* it is critical that you provide new address information to the Association.

### The Association of Pacific Coast Geographers, Inc.

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