

**University of Toronto Scarborough
Department of Physical and Environmental Sciences**

**EES C24 – Picturing ‘Truth’: Environmental Filmmaking/
Environmental Science
2012 Fall Outline**

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Lecture time: Wednesday 7pm – 9pm
Location:IC130

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COURSE OBJECTIVE

The objective of this course is to provide students of environmental sciences and media with a behind-the-scenes view of the challenges and choices involved in the production of environmental films, and to explore the dynamic between environmental filmmaking and environmental science.

Television and film documentaries offer an intriguing and affecting view of the environment and the natural world, and they are often the general public’s primary source for this information. Filmmakers seek to document endangered species, threatened environments, explore remote and exotic landscapes, and access the impact of new technology and development on the natural world. But what are the influences at play in the making of such a documentary? How are complex situations distilled into hour long, narrative and scene-driven TV? In the quest to both tell the truth and tell a good story, what is lost and what is gained?

In this ten-part lecture series, “Picturing ‘Truth’ – Environmental Filmmaking/Environmental Science”, each session will focus on a particular theme and deconstruct a specific documentary film (or films) to illustrate and explore that theme. In each session, the question asked will be how scientific information has been ‘pictured’ for the screen. Specific documentary clips will be screened during class to illustrate issues and demonstrate filmmaking decisions.

Lecturer Michael Allder, veteran TV director and producer, including 14 years as executive producer of the CBC’s **The Nature of Things**, will identify major decision points evident on screen and behind the scenes with guest filmmakers and scientists

involved in the making of each film, who will be on hand to discuss and defend their choices.

COURSE EVALUATION:

In addition to weekly preparation and class participation, students will be asked to complete two major written assignments, one at mid-term and one at term's end.

Mid-term Assignment: A thorough minute-by-minute analysis and critique of an environmental film, focusing on the variety of ways that environmental science is incorporated into the film, the elements of the story-telling that affect, enhance and hinder the strength of the science behind the subject matter, the influence of the film's style, characters, scenes as they impact the effectiveness of the science. (40%)

End-term Assignment: Students will be asked to produce a thoughtful and credible proposal for their own environmental film on a subject of their choosing. They will be asked to write up a formal treatment (10-15 pages) for an environmental film that they might theoretically propose to a broadcaster, including subject matter, theme, thesis, scientific groundwork for the story, methods of illustrating the story, elements of filmmaking employed, scientific experts if any, scenes, characters, locations, graphics, and other didactic elements, with an eye to addressing the demand for both entertainment/engagement value and scientific integrity. (40%)

Class participation including short class presentations of mid-term assignments. (20%)

LECTURE SCHEDULE (SUBJECT TO CONFIRMATION)

1. September 12 - Exploring Activism

Session explores the challenges and dilemmas facing a filmmaker when profiling eco-activists. In films of this kind access is everything, but how do you negotiate it and what are the constraints? Every protestor has an agenda, how do you avoid the message track? Good journalism is perceived to be strenuously objective, but are there difficulties in this approach? Environmental protest needs good science if it is to succeed. How do you visualize that science, but keep the process part of the narrative? How do you convey the science when emotions are running high? How do you ensure scientific credibility?

Likely main topic will be the late eco-activist Wiebo Ludwig, as portrayed by filmmaker David York in the much acclaimed documentary film, **Wiebo's War** which premiered at the 2011 Toronto Hot Docs Festival, and has since been screened around the world.

Possible additional story: Port Hope and the campaign to clean up nuclear tailings sites.

Preparation for class: Research background on sour gas issues, and Ludwig Wiebo's controversial activism. Possible other reading Saboteurs: Wiebo Ludwig's War Against Big Oil, by Andrew Nikofovik.

2. September 19 - One Ocean

Viewed from a satellite, our planet is mostly ocean. But where did all the water come from? How did a molten mass of lava evolve into a sea? Our oceans are the drivers of climate, weather, the carbon cycle. They are also the product of four billion years of history. Life has existed on land for a modest 9% of Earth's history, but it has existed in the oceans for 80%. The oceans have also been a continuing food source for millennia, influencing where and how whole civilizations evolved. Yet in the last century this astonishing resource has been steadily exploited, its riches taken for granted.

The CBC series **One Ocean** attempted to tell the story of the past, present and future of the world's oceans. But how do you compress such an epic and complex the past journey into four hours of television. How do you select from a mass of research on a vast range of fronts. How do you assess the gravity of a situation, convey the seriousness of a threat? There are also more practical issues: How do you chose key characters from the scientific community to take part. How do you dramatize or visualize their information? How do you convey very detailed scientific information in the most engaging possible way.

Directors Mike Downie and Erna Buffie will be on hand to help deconstruct the production of this award winning series.

Preparation for class. **One Ocean's** web site.

3. September 26 - Into the Wild

Wildlife filmmaking poses distinct challenges of its own. Access is often difficult. There are logistical issues. It can be very, very time consuming. The production of wildlife films requires special skills from crews in the field. Cinematographers must be able to react quickly, but be prepared to wait and watch. There are no scripts for the big scenes, which are often difficult, if not impossible to predict. Filmmakers have to continually second guess what might happen next. All of which can make production notoriously costly and subject to delay.

In the environmental community there are sometimes suggestions that the emphasis on capturing dramatic or compelling moments of behavior often excludes adequate comment on context...that there is, for example, insufficient, or sometimes

no depiction of a rapidly declining habitat. The suggestion is that the broadcasters/filmmakers can be so focused on the telling animal moment that they choose to discard or neglect reporting that the immediate environment is so compromised that the animals long term survival prospects are seriously threatened. There are concerns too, that as a genre, wildlife filmmaking can be lacking in content, that films can morph into one long lavishly photographed spectacle. Eye candy for the armchair traveler. A kind of animal porn, where scenes of violence in particular are exploited for dramatic value.

That said, the genre remains extraordinarily popular, and in this session we meet with a filmmaker whose experience encompasses an eye for animal behavior, a deep awareness of the environmental context, and a strong sense of content.

Jeff Turner has worked for twenty five years as a wildlife filmmaker, principally for the **BBC** but also for **The Nature of Things**. His recent film **The Bear Man of Kamchatka** documents the experiences of animal behaviorist Charlie Russell who has spent much of the past decade rearing orphaned grizzly bears in the wilds of southern Kamchatka in Russia. He also recently completed the documentary the **Last Grizzly of Paradise Valley**, which he filmed near his home in B. C.

Preparation for class: The Nature of Things web site: “**Edge of Eden**” film. Also, if available, recommended reading, *Learning to be Wild: Raising Orphaned Grizzlies* by Charlie Russell.

4. October 3 - Disappearing World I, Environment and Conservation

The challenges facing conservationists initiatives are often extreme. Habitat is declining, the pace of development quickening, as too the rate of species extinction. In many countries, these issues are compounded by poverty, crime and civil war. In the session “Environment and Conservation “ we deconstruct two widely acclaimed documentaries **Ghosts of Lomako** and **Game Over** both of which were filmed in Africa, but which document very different local realities. The first, **Ghosts of Lomako** which was directed by Kenton Vaughan and was filmed in the Lomako Forest in the Congo, depicts the findings and experiences of an ill-starred expedition. The team of scientist’s objective was to follow up on earlier studies on the rare and most human of apes, the Bonobo. But as it progressed into a region still recovering from a prolonged civil war, the expedition found itself embroiled in some potentially dangerous and very volatile situations. There were misunderstandings with local tribes people and the expedition was forced to focus on personal survival as well as the hunt for Bonobos.

In the second film, **Game Over**, which was shot in Kenya, the filmmaker Sara Marino explores both the experiences of veteran conservationists like Richard Leakey but also the increasing involvement of the Maasai tribe. Both are seeking to find a balance between the interests of the local indigenous community and an

increasingly constrained wildlife population.

The session will focus both on the environmental issues facing conservationists and on the practicalities of filmmaking in these regions. How do you reconcile the needs of communities with those of threatened species? In the Congo film, there are obvious personal safety and health issues, and some very prickly situations regarding access. There are also story-telling challenges. How do you strike a balance between the need to convey information and the sheer drama of many of the scenes. Similarly, in the second film, how do you convey the big picture, give a sense of shifts in policy over an extended period of time?

Preparation for Class: Possible reading on classic conservationist, Richard Leaky as well as general research on conservation dilemmas in Africa.

5. October 10 - Disappearing World II - environment, culture and knowledge.

All across the planet loss of habitat and over-development of the natural environment are eradicating ancient cultures, languages and customs. This loss is particularly acute amongst nomadic peoples, the last of the hunter-gatherers. Survival has been dependent on exceptional knowledge of the natural world, which provided food, tools, weapons, shelter, and medicine. Much of that knowledge will likely vanish along with the culture unless recorded. Disappearing World (Part I) explores how anthropology films draw attention both to the human cost of large scale development, but also to the loss of knowledge accumulated through thousands of years of day to day awareness of the inter-connectedness of the natural world, and of the individual properties of trees, plants, insects, animals. Development may bring a better standard of living for many, but it comes at a price.

Films of this kind have particular challenges. Firstly, as so often in documentary, there are issues both of access and trust, but in the case of anthropology films these changes are often compounded by the isolation of the community, or its reluctance to inter-act with the outside world. The logistics of filming in a tropical rain forest or in a desert war zone are also formidable. There are tech issues, health concerns, and increasingly, security threats.

Anthropology films also demand a high degree of scholarship of an especially unusual nature. Academic research is often continuing over an extended period of time. Filmmakers have to be aware of a broad range of specialisms, some societal, others relating to ritual, religion, medicine, botany, food, the mechanics of survival in sometimes seemingly inhospitable places and terrain. How do you distill so much information, make choices regarding the relative weight or importance of such information? How do you visualize this wealth of knowledge? How do you transform such a mass of information, and in many cases, emotion, into a narrative, a single unfolding story? Finally, we assess the value of documentary films as a record of a disappearing world.

In this session, we focus on the documentary **The Last Nomads**, from the mini-series **The Adventurers**, produced for CBC's **The Nature of Things**, which documents the dying days of a nomadic hunter-gatherer culture in the rain forest of Sarawak, Borneo. Director Andrew Gregg joins us to explore an extreme example of how loss of habitat (70% of Sarawak forest is licensed for logging) can decimate a peoples' world.

Gregg travelled to Sarawak along with linguist and anthropologist Ian McEnzie who has been studying and documenting Penan language and culture since 1991. As the expedition heads deeper into what remains of the 130 million year old forest it becomes increasingly evident to McEnzie and Gregg that they are documenting the end of a culture.

Preparation for class. Research Dr. Ian McKenzie's publications/website.

6. October 17 - Disappearing World III, The Real Avatar

In James Cameron's blockbuster movie *Avatar* an indigenous (but alien) people fight off an attack by marauding (human) inter-planetary energy invaders. Despite a seemingly impossible imbalance in weaponry, they win. In real life the Hollywood feel good plot line is not as simple, or the outcome as positive. The constant search for timber and for new oil and gas deposits has prompted global tensions relating to the ownership and exploitation of lands that indigenous peoples once thought their own.

The scale of proposed development (as with the Canadian oil sands) is immense. In Peru a massive area of forest land, the home of various tribal communities, has been licensed for exploration. Some seventy two percent of Peruvian jungle is zoned for oil development alone. Inevitably, as in the Cameron movie, there was angry opposition leading, in one event, to the deaths of twenty three Peruvian police and (the number is contested) ten protestors. Elsewhere communities are divided, some welcoming development as the source of new jobs, others rigidly opposed to change of any kind. The simplicities of *Avatar*, the movie, however well meaning, don't reflect the reality. In this case, art bears scant semblance to life!

In this session we analyze two films that document the choices facing indigenous communities when their home and way of life are threatened. One will focus on the conflict over land use in Peru, the other will explore issues here in Canada. Filmmakers Roberto Verdecchia, the director of *The Real Avatar* and tba (Geoff Bowie or Mike Fuller) discuss the choices they faced during production, the difficulties of access, concerns about personal security. How well was environmental science integrated into the stories? Content issues such as the need to condense a complicated societal dilemma into a television hour will also be addressed. Finally the session will also examine the public relations strategies at

play. Hunt Oil, for instance, the American based licensee of much of the Peruvian territory simply choosing not to participate!

Preparation for Class: General reading on development issues as they impact indigenous peoples.

7. October 24 - Oil Sands.

The scale of development is colossal, the pay-off massive. Government estimates suggest that by 2020 production will reach 3.3 million barrels a day. Currently some six hundred square kilometers are impacted, another thousand kilometers licensed. But although big business is enthused, along with the provincial and federal governments, there are dissenters. Indigenous peoples like the Cree in the Athabasca delta worry not just about loss of habitat and pollution, but also about controversial outbreaks of cancer. They're not alone. Leading scientists like Professor David Schindler share their concerns, and have initiated research that has already led to changes in monitoring standards. Not surprisingly it's a topic that sets off spirited, and sometimes angry debate, tensions that are reflected in the mainstream media. Initially the coverage was largely local, though CBC outlets like **The Nature of Things** series that has always had a particular interest in environmental issues, were soon on the scene! Now, however, the Athabasca development has become a global story, and is high on the agenda of environmentalists around the world.

Given the scale, the stakes, and the contentiousness of the various claims, the process of documenting the oil sands development isn't simple. There are science stories that need authenticating, there is a concern that aboriginal interests are properly reflected, there is an obvious need for the oil companies to put their case. There are also story telling/style issues. How do you convey the sheer scale of the Athabasca development? How do you strike a balance between the human story of the impact on an individual or family against the wider impact on a community. Finally, there are economic, energy policy issues relating to ownership and profit. Is the development open to anyone? Is the intensive use of natural gas as a means of supplying oil a wise investment? Should, as in the case of another oil rich country, Norway, Canada be taking a significantly larger cut! How do you explore different aspects of the contentious development of the oil sands?

The Nature of Thing series has been following these issues for many years and we will focus one or two specific films **When is Enough Enough?** We will meet with filmmakers Geoff Bowie and Niobe Thompson, and possibly an indigenous leader or scientist from the films.

Preparation for class: General reading on the oil sands debate.

8. October 31 – Climate Change

The scale of the productions was extraordinary. Two major series, one in the Arctic, and the other in the Antarctic, each documenting first-hand the growing impact of climate change on the region. In the first voyage, the expedition ship, a three-masted schooner, the Sedna (which the filmmakers had purchased and re-equipped!) travelled from the Magdalen Islands to Vancouver via the North West Passage. During the voyage, the filmmakers and the accompanying team of scientists measured changes in ice disposition and thickness, observed the impact of climate change on plankton, and permafrost, and of course, wildlife. The expedition also documented the impact of climate change on indigenous communities, whose lives and livelihoods were threatened by loss of ice and declining numbers in animal life. Other areas of research included the impact of changing temperatures on the earth's atmosphere and ocean currents.

In the second expedition to Antarctica the production team spent an incredible seventeen months at sea and were ice-locked for part of a winter. As in the earlier voyage, they documented continuing evidence of the impact of climate change, including significant declines in wildlife caused by changes in weather and global warming. Together, the two series were five years in the making, covering thousand of miles, and put the filmmakers and their crews through extraordinary hardship. In this session we bring together the series producer and leader of the expeditions, Jean Lemire, and his principal director, Caroline Underwood, to discuss the production of the two mini-series **Arctic Mission** and **Antarctic Mission**. Inevitably in a project of such a scale there was massive pre-planning both in logistics and research. In our discussions we will explore how and why the filmmakers made choices related to location and content, and how they set about visualizing the science on which the series was based.

Preparation for class: **Arctic Mission** and **Antarctic Mission** websites and general research on Jean Lemire and his expeditions.

9. November 7 - Rock On

Geology is in many ways a very young science, some of its most influential base theories, such as tectonic plate science being developed as recently as the 1960's. (in Canada!) In the public eye, the science is perhaps best known for its influence on the hunt for precious metals like gold and silver, and there's less awareness of its usefulness as an indicator not just of our planet's past, but also of its future. As a science, Geology has also benefited hugely from advances in technology particularly relating to dating and mapping. It is also a very accessible science. The evidence of the past is all around us, we just have to know HOW to look.

The series **Geologic Journey** set out to educate its audience on where to look, and how to interpret what we see. It was filled with surprising facts, telling viewers to their astonishment that Toronto was once the site of a mountain range the size of the Himalayas, that the neighboring city of Detroit sits on a bed of salt, the remnants of an ancient ocean. As with the Oceans project, there were huge challenges distilling the research. How do you build a story around a topic with a 4.5 billion year long plot? How do you strike a balance between new research and existing knowledge? What were the creative, editorial and philosophical decisions that drove the production?

How do you use a scientist as your guide? How do you direct a scientist?

After two highly successful series, **Geologic Journey: North America** and **Geologic Journey: The World**, Professor Nick Eyles and Executive Producer Michael Allder look back on five years of production, an epic schedule involving 23 countries around the world, and the challenge of shooting landscape and landforms.

Preparation for class: Geologic Journey web site. Ed Bartram web site .
Recommended reading, *Canada Rocks* by Professor Nick Eyles.

10. November 14 - After Mao - China's environmental challenge

During the Mao era the Chinese people were instructed to look on nature as the enemy, a force that must be tamed and put to the service of the community. As in Stalinist Russia there were various massive but ill conceived programs to push agricultural targets and to re-configure the Chinese landscape. Even birds were singled out for attack. It was a period of astonishing hubris and was to leave a disturbing legacy of dust and dereliction. Not surprisingly the devastation of nature, the crassness of policy, and the dismissal of science embittered many, and perhaps have prompted a re-appraisal of China's relationship with Nature.

In this session we meet with filmmaker Gary Marcuse who has been researching both the absurdities of Mao's war on nature and also the growth of a Chinese environmental protest movement. In his film *Waking the Green Tiger* Marcuse documents the Mao years by the use of archive film and contemporary descriptions. Also in the film he documents a protest campaign that persuaded the government to abandon plans to build a dam in Yunnan province. But how difficult was access? Were there concerns about editorial influence? Were there minders? Were the protestors at risk? Marcuse is also something of a specialist in the finding and use of archive film. In previous documentaries for the Nature of things he has explored the Russians ill fated schemes to open up Siberia, and an odd and dangerous rivalry between the Americans and the Russians... to devise ways of using nuclear bombs to facilitate civil engineering projects.

Preparation for class: Waking the Green Tiger web site.
Misc reading on environment issues in China

GENERAL INFORMATION ON ASSIGNMENTS

Evaluation of assignments takes into account organization and structure, style and presentation, as well as research and content. Writing quality and content are both considered in grading. Your work will be graded by a teaching assistant (TA). If you have a question or problem with the grade you receive, consult the TA. Your grade may be revised up or down based on the review.

Your assignments must have a plain title page with the title of your assignment, your name, course number, the date, your student number, and the instructor's name. Staple your assignment in the upper left corner; do not use folders, cover slips, or binders.