Environmental Studies Capstone Seminar ENVST-UA 900

“Protecting Nature Through Responsible Banking and Conservation Finance”

a program of Innovations in Conservation LLC (ICONS)–Rainforest Alliance–Wildlife Conservation Society-NYU

Spring Semester 2016

Prof. Jim Tolisano (Innovations in Conservation - ICONS), jtolisano@gmail.com or jtolisano@nyu.edu. Office hours Monday 4-5pm Gallatin 407 or by appointment.

The ICONs Responsible Finance Initiative: Our capstone experience will examine the intricate connection between finance, business, and the conservation of nature. Our work as conservationists must include measures to ensure that funds directed to development projects minimize, avoid, or offset any adverse impacts to the integrity of critically important ecosystems. At the same time, we need to ensure that sufficient funds are in place to finance conservation programs that can help sustain and enhance habitat connectivity, reduce risks from exotic and invasive species, maintain hydrologic function, and ensure overall ecosystem resilience on private lands and adjacent public or protected areas. Our work in this semester’s capstone project will examine two critically important aspects of conservation finance: (a) measures adopted by banks, investors, and other institutions to manage the impacts from development projects that they finance; and (b) the diverse strategies used by governments, NGOs, and businesses to raise funds to support nature conservation.

Increasingly, financial institutions are responding to this first aspect of conservation finance by requiring borrowers to achieve specific environment-social-governance (ESG) standards, and governments and businesses are developing the capacity to abide by them. The development and use of such standards in the lending and investment sector can also be a critical ingredient in the shift to a more “green economy”. This economic shift can also then create the framework for the second aspect of conservation finance by rewarding financial and development decisions that increase incomes and local economies. The outcome from these new investments and policies can create a diverse source of funds for conservation programs, including tax deductions or deferrals; sales from certified timber and non-timber forest products; nature-based tourism; small-scale specialized agriculture; and income derived from still emerging markets such as certified carbon credits; biodiversity offsets and species banking;
wetland mitigation banking; water quality trades; transfers of development rights; and conservation easements. New models are necessary to show how these two approaches - the use of standards by financial institutions and their clients, and the dedication of market driven funds to finance conservation - can produce important results to reduce ecological, social, and financial risks.

The ICONS Sustainable Finance Initiative (SFI) responds directly to these challenges through a multi-phased effort that (a) engages banks, impact investors, and businesses to adopt and apply safeguards in the financing and development of emerging environmental markets, and (b) works with governments and civil society to develop integrated conservation finance programs. The ICONS SFI project also works to support the policy changes necessary to motivate these sustainable investments, and the science required to support it. Our work in the NYU ES capstone class will specifically provide an opportunity to test how conservation practitioners can support financial institutions to catalyze a shift toward sustainability, and particularly by influencing investments in food systems, forestry, mining, energy, and infrastructure development projects. The approach places a particular emphasis on the role that banks and other financial institutions can play in driving change at scale:

• Within the financial sector, by creating commitment to banking, lending, and investment standards that work towards no net loss for biodiversity and ecosystems (NNL) and potentially net positive impacts (NPI).
• Within the capital markets, driving financial gain and leverage to the corporate players who account for and avoid, minimize, or mitigate impacts to biodiversity, ecosystems, and scarce natural resources.
• Within the policy context, creating national government support for regulatory mandates that level and/or clarify the playing field;
• On the ground, creating incentives for individual producers in agriculture, forestry, tourism and related locate enterprises to adopt more sustainable practices; and,
• Within the supply chain, reshaping the terms of demand and setting new standards for entire sectors of production.

Students in the spring 2016 capstone experience will carry out a critical analysis of conservation finance practices being developed in one or more national context in order to establish lessons learned to guide the ICONS SFI. The students in the capstone experience will select one national context and then carry out the research necessary to describe the characteristics of a sustainable finance program for the country or state in which their research is focused. Students in the class will divide into three teams, with each team researching, documenting, and reporting on one of the following topics:
1.0 How can responsible banking and investing standards make a difference for nature?

1.1 How can the experience with ESG standards adopted by international banks inform and guide the lending and investment practices of local banks?

1.2 What are the pros and cons of implementing banking and finance safeguards through voluntary frameworks (e.g. Equator Principles, Banking and Environment Initiative)? Regulatory frameworks (e.g. national green credit policy)? Or through trade agreements? (e.g. FLEGT and others)

1.3 What lessons can be learned from microfinance and smallholder finance to incubate “green businesses”?

2.0 What are the critical factors that can influence success in responsible banking and finance, and what metrics are needed to verify and document this success?

2.1 Factors that will influence success:

2.1.1 Factors affecting bank policy, planning, and decisions

2.1.2 Factors affecting the technical implementation of strengthened

2.1.3 Factors affecting stakeholder engagement

2.2 Required metrics to verify and document success:

2.2.1 Biodiversity conservation indicators

2.2.2 Climate indicators

2.2.3 Social indicators

3.0 What are the most effective conservation finance tools available to ensure that sufficient funding is available to protect important ecological and biological values in a specific ecoregion over the immediate and longer term? What are the risks and challenges to implementing a successful conservation finance strategy?

The 3 teams will use the results from this research to collaboratively develop an integrated conservation finance model that can strengthen the lending and investment practices of international and local banks in a specific site or region, and generate essential funds to protect biodiversity, natural resources, and ecosystem functions in this same region. Students will select their project from one of four potential target areas:

A. The lowland forest and grassland areas of tropical Colombia, with a particular focus on managing impacts from agricultural developments including soy, beef, palm oil, and other high value crops.

B. The protected forests and protected areas of Cambodia, with a particular focus on managing impacts from agriculture, infrastructure, and energy development.
C. The freshwater and marine ecosystems of the Pacific Northwest in North America, with a particular focus on managing impacts in the commercial fisheries sector.

D. The coastal and near shore marine environments of the Western Indian Ocean, with a particular focus on managing impacts to tourism, and artisanal and commercial fisheries.

The students will select one of these target areas and propose a sustainable finance model that includes recommendations to strengthen lending and investment practices, and increase the amount of funding available to respond to threats, risks, and opportunities for nature conservation.

**LEARNING GOALS:**

The capstone experience will allow students to:

- Develop familiarity with social and natural science literature on biological diversity, nature conservation, sustainable natural resource uses, environmental economics, and conservation finance.
- Develop familiarity with social and environment standards used by international and local banks to manage impacts to biodiversity and natural resources, including the Performance Standards of the International Finance Corporation, the Equator Principles, and green credit policies of selected national governments.
- Develop familiarity with trade agreements used to manage impacts to biodiversity and natural resources.
- Define the components of a conservation finance strategy and evaluate market-based alternatives to generate revenues to support conservation programs.
- Identify and evaluate biological and social indicators that can be used to determine the effectiveness of sustainable finance policies and practices.
- Articulate solutions to conservation problems using marketplace tools.

**Class Outputs:** Each group will produce a final project that includes a written report; visual summary (using PowerPoint or Prezi); and a formal presentation of project results. The format for the written report will be elaborated in class during weeks one and two. The PowerPoint or Prezi formal presentation will be delivered during the final week of the semester to an audience including representatives from the organizations engaged in the SFI program, stakeholder groups, other project participants, ES and other faculty, and interested community members. The presentation will be
approximately 25 minutes in duration, including time allocated for questions and dialogue.

**Intended Client:** The results from this project will contribute to a Sustainable Finance Initiative being developed by a collaborative team comprised of Innovations in Conservation LLC, Rainforest Alliance, the Wildlife Conservation Society, and the Stern Business School at NYU. The project will provide a model for responsible banking that can be shared with banks, impact investors, businesses, and private landowners to understand ecosystem and natural resource based income opportunities from traditional and emerging markets.

**Statement of interest:** Students interested in participating in the project should have completed coursework in environmental science, conservation biology, and economics, with a demonstrated interest in the use of business and market tools to advance conservation.

**Class Structure and Content**

We will meet for 14 sessions during the course of the semester (thus we will not necessarily meet every week.) Our meetings will be divided into a 1.5 hour discussion and topic exploration period, followed by a 30 minute project work session in which each team will have time to consult and advance their respective research topics, and work on the final collaborative presentation.

The first hour and half of each weekly meeting will be devoted to a concise overview of a specific technical topic that will provide important background information and support to the design of the sustainable finance model. *Starting with our second meeting, the first 45 minutes of the class will be led by me, and will include a concise overview of the week’s topic. A capstone student will lead the second 45 minutes of the class. The student leading this session will prepare a short activity designed to engage fellow students in a practical analysis of the topic, and include at least 3 questions that can guide a deeper dialogue on the topic. A sign up sheet will be provided the first week of class in which students will select a topic and the week in which they want to lead the class in this discussion. The student leading this session should submit their proposed activity and 3 questions to me at least 48 hours before the class begins.*

The final 30 minutes of each class will be devoted to work by each team on their respective sustainable finance research tasks. The teams will use this time to explore ways to incorporate some of the ideas from the class sessions to develop research questions and strategy; review achievements; identify and mitigate obstacles and challenges to your research; and communicate with other teams to ensure that each
team project will fit seamlessly into the final presentation and report.

Preparing for Classes: Readings will be assigned for each class topic and should be reviewed before each class meeting. Readings will be uploaded in PDF format and placed in a topic folder on our NYU Class site. *Students are expected to provide everyone in the seminar with a list of any additional readings or other materials that they feel are necessary to support the class sessions they will lead. Any supplemental materials will be distributed to everyone in the capstone at least 2 days before our class meeting.*

Project update reports: Each team will prepare and deliver to the instructor a 1-page status report on work accomplished, and present a concise status summary to the full team at the beginning of the 4th and 9th class meetings. The status report will summarize accomplishments, obstacles and challenges, and proposed strategy to complete the project work. The class will then offer collaborative advice to individual groups to help them mitigate obstacles and challenges, and we will use these reporting sessions to ensure that each team project is continuing to fulfill the overall class objectives.

Getting the Message Across: We will dedicate our final meeting of the semester to consolidating and finalizing the content of your group’s assessment, and preparing oral and visual presentation materials to communicate a concise, but thorough synopsis of your findings. We will work with public speaking and communications skills to strengthen your ability to communicate technical information in a public setting.

*A great deal of self-directed, independent work is expected in this course. You should anticipate and allocate time for meetings with your team outside of our formal class meeting times. These supplemental meetings will be essential to keep pace with the work needed to advance the team project.*

Assignments/Products – Formats – Grading - Policies

Your final grade for the capstone experience will be determined through an assessment of five factors:

1. **Class Preparation / Attendance / Participation / Effort – 20% of final grade**

Preparation and attendance are expected for all class meetings. Your participation will be evaluated according to substance and regularity of contribution to in-class discussion, respect for classmates, and support for project team members’ needs. Your effort will also be evaluated by receptivity to new skills and ideas, responsiveness to the
needs of the client, collaboration within groups, and a demonstration of your understanding of the subject matter expertise over the course of the term.

Team update reports (10 minute oral presentation) are considered as part of your class participation grade and are due on during classes 4 and 8.

2. **Work Plan – 10% of final grade**

In week one we will outline the focus and tasks for the semester project and form 3 teams to respond to the specific themes within the project. Each team will then work collaboratively to produce a concise work plan for the topic your Project Team seeks to address. This plan will include an introductory summary that explains the purpose of your team’s initiative; how it will fit into the overall semester project; and a description of the research strategy you will follow. The plan will also include a table showing your proposed work schedule, with dates, milestones, and individuals responsible for each milestone. The Work Plan serves four primary functions:

- It will provide context and background for the research work your group is doing;
- It will define the outputs you will produce from your work (e.g., the “deliverables”);
- It will provide a map or blueprint for how you plan to achieve the outputs and results your team will produce; And,
- It will describe each person’s specific role and responsibilities – in other words, what each person in the group will to do achieve your team’s results. Your personal work plan should sync with and support the proposed outcomes for your team, and for the cumulative class project report.

*The team Work Plan is due at the beginning of Class 3.*

3. **Class Presentation – 10% of final grade**

Each student will sign up to lead 1 class session during the semester. Each session must include at least one activity that engages the entire class in an exercise that helps everyone deepen their understanding of the chosen topic. The activity should comprise approximately 15 minutes of the 45-minute session, with the remainder devoted to discussion. Examples of activities could include short exams; hands-on construction, drawing, or writing projects; games; role-plays, or on line research. Activities can be assigned individually, in small groups, or to the entire group. Each student-led discussion will be graded on organization, presentation, and engagement of the class.
4. **Interim Project Status Reports – 5% of final grade**

Each student team will submit a status report on the work their team has completed towards the final presentation and the final report. The status report will include a summary and analysis of the following factors:

- The specific topic each student on the team is investigating
- An analysis of the information and results found to date.
- A summary of obstacles, constraints, or limitations encountered in completing the research work to date, and a description of actions to be taken to overcome or mitigate these constraints.
- Proposed next steps to complete the research and prepare for the final presentation and final report.
- A list of references, resources, or individuals contacted to support the research to date.

*The interim project status report is due at the end of the 9th class (April 11).*

5. **Final Presentation – 25% of final grade**

A formal presentation will be delivered at the end of the capstone to an audience including representatives from the client NGOs, stakeholder groups, other project participants, ES and other faculty, and interested community members. *The final presentation will be made by the entire class.* Thus all 3 teams must collaboratively develop a unified presentation summarizing each group’s results. The unified presentation should provide a summary of findings and recommendations that can help advance the semester project. The presentation will include a 25-minute oral summary supported by PowerPoint or other visual media, as appropriate. The PowerPoint will serve as a concise visual summary of the content of your final report. It should include a maximum of 25 slides. The presentation will be graded on the quality, appearance and content of presentation; preparation and delivery of materials; ability to work as a team; and responses to audience questions, objections, and concerns.

6. **Final Project Report – 25% of final grade**

Each group will contribute to the production of one coherent, synchronized final project report. The final report will be structured as a proposal that can be submitted to obtain financial or institutional support for the recommendations made by the class. The final report should describe the specific work carried out; the results derived; lessons learned from your experience; and recommendations for follow-on actions that can be carried out to further develop the work that you have started. The team report can be organized
and structured in any fashion that the class chooses. However, the report can only be a maximum of 25 pages in length and should include, at a minimum, the following information:

**Executive Summary** – a 1-2 page summary of the key points included in the report

**Problem Statement** – a concise description of the specific problem your team studied. In essence, this will be a summary of your “Scope of Work”, and it will include a description of the key conservation risks, threats, and opportunities in the selected target area (*recommendation: 1-2 pages, or less*)

**Methodology** – a description of the methods you used to produce the cumulative team results. (*recommendation: 1 page or less*)

**Results Summary** – the results section will summarize the work produced by each of the 3 teams (*recommendation: 9-12 pages*). Specifically, you will provide a summary of the following:

- What is responsible banking and investing, and what lessons have we learned to show how it can make a difference in nature conservation? What responsible banking and investment measures are already in place in your target area, and how can these be strengthened or further developed?
- What is conservation finance, and what lessons have we learned to show how to develop finance strategies that are effective, sustainable over the long term, and achieve measurable conservation results? What conservation finance measures are already in place in your target area, and how can these be strengthened or further developed?
- What are the anticipated costs and benefits from your proposed strategy, and what are the critical factors we must be sure to monitor to ensure success?

**Required Further Actions** – this section should use the results from your work to show the next steps that are needed to move your proposed strategy forward; this section should also clearly show what will be needed to achieve these recommended next steps – institutionally, socially, and financially – you may need to estimate and include a budget for implementation of these next steps. (*recommendation: 3-5 pages*)

**Conclusions and Recommendations** – (*recommendation: 2-4 pages*)

**References**

**Individuals contacted** (if appropriate)
Appendices – include here charts, graphs, survey instruments, or other materials that are supplemental to, but supportive of the main body of the proposal. This information is not counted towards the total length of the document.

7. Self Assessment - Your Lessons Learned (5% of final grade)

Each person will each submit a 1-page summary outlining the contributions they made to the collaborative final project, and summarizing your personal lessons learned from the challenges and successes of your capstone work. Your Self-Assessment should also include your determination of how you anticipate using or including your lessons learned in your future studies, work, or life investigations.

The Final Report, PowerPoint and 1-page Self-Assessment summary is due by noon on May 13, 2016.

Formats: All written materials will be submitted on standard letter-sized paper format, using Times-Roman 12 point font, with 1.5 spacing and 1 inch margins. Citations from peer-reviewed or published materials are essential and must be formatted as endnotes. Citation style will be MLA format. Citation pages do not count against maximum page limits for written products.

Visual presentation material will be in Microsoft Office PowerPoint format.

Attendance and Other Class Policies

Attendance will be taken for all classes, and students are expected to attend all classes on time. You must notify the instructor ahead of time if you will miss a class for any reason, and you are still expected to complete any assignments for each class. Because coursework will be cumulative, any material missed due to absences must be made up for the following week. More than one unexcused absence will result in a loss of one grade level.

As the culminating experience in your Environmental Studies major, the performance expectations for the Capstone Seminar are very high. Successful performance in the class requires a significant amount of self-initiated research, synthesis of research across multiple disciplines, and clear communication of complex, applied topics. As such, you are expected to read all of the reading closely, actively discuss it in class, and apply the practical and analytical skills learned during your undergraduate career.
**Plagiarism Policy** - Plagiarism results in failure of the class. It includes: copying sentences or fragments from any source without quotes or references; not citing every source used in your papers; citing internet information without proper citation; presenting someone else’s work as your own; or inadvertently copying verbatim from any source.

**Other Policies** – There are no “extra credit” assignments available. You are expected to be considerate of everyone else in the class, and any chatting, texting or web-surfing will result in you being asked to leave the class.

**Contacting the Instructor**

Email is the preferred option if you need to contact me (jat10@nyu.edu or jtolisano@gmail.com). I will do all I can to get back to you as soon as possible.

**Other Class Guidance**

**Effective Presentations** - We will assign short readings and include at least one class session to support best practices in creating PowerPoints, designing visual aids, and providing effective public speaking skills, or other aspects of a successful presentation.

**Methods for Pursuing Environmental Research** - The instructor will recommend written and other resources on basic referencing, statistical analysis, research methods and analysis. It will be your responsibility to work with these resources and seek guidance through consultation with the instructor or other experts for areas in which you have questions or want to further develop your skills.

**Resources for Group Collaboration** - The NYU Classes discussion board will be used as a tool to stimulate class discussion and require active participation.
Weekly Session Topics:

Team Meeting 1 (Jan 25)  – An introduction to sustainable finance concepts and an overview of class objectives and responsibilities – In our first class meeting we will explore an overview of how economics, finance, and business management decisions affect nature. We will establish what we mean by “sustainable finance” and look at the options available to banks, investors, and other financial institutions to contribute to biodiversity and natural resource conservation. We will also explore what is meant by “conservation finance” and review the approaches often used to generate funding and support for conservation strategies. We will also use this first class to review the four case study options available for your semester project. The students will then consult to select the case study they will choose to research as their conservation finance model. Each student will then select the research team they want to join, the class meeting they want to lead, and make certain they fully understand the overall semester requirements.

Class Preparation Materials:


Team Meeting 2 (Feb 1) - An introduction to responsible banking principles - We will look at international and local safeguards being used by banks and lenders to ensure that borrowers apply best practices and standards in infrastructure and
natural resource development projects. We will use the International Monetary Corporation’s Performance Standards, and the Equator Principles as models that can inform national and local banks in the U.S. and internationally. At the end of the class the entire capstone group will come to agreement and select the case study they will examine.

**Class Preparation Materials:**


**Team Meeting 3 (Feb 8) – An introduction to impact investing** We will examine the potentials, risks, and constraints to using investments made into companies, organizations, or funds with the specific intent to create beneficial social and environmental impacts and an acceptable financial return. We will look at case
studies of impact investments and try to determine the reach and impact these investments appear to have in terms of increased environmental conservation. Research work plan due from each team.

Class Preparation Materials:


NatureVest Overview and 2015 Outlook (PPT presentation)

J.P. Morgan, 2010. Impact Investments – An Emerging Asset Class. Read pp. 5-29

**February 15** – no formal class meeting. Individual research teams should make plans to meet independently and advance their work towards the final presentation and report.

**Team Meeting 4 (Feb 22) – Conservation Finance Tools – taxes, fees, easements and transfer of development rights** - In this class we will review how government regulated taxes, fees, fines, and the transfer of development rights can be used to generate the finances need by agencies and NGOs to carry out conservation work. We will also examine the constraints and limitations of using taxes and fees for conservation.

Class Preparation Materials:


Team Meeting 5 (Feb 29) – Conservation Finance Tools – Payments for Ecosystem Services – We will review the various options for private landowners to receive payments to protect the ecosystem values on their properties. We will specifically look at payments for carbon sequestration, water and watershed conservation, tourism, and species protection, and we will examine case studies of payment systems operating in the U.S. and worldwide.

Class Preparation Materials:

Ecosystem Marketplace, 2012. Payments for Ecosystem Services Matrix Chart, 1pp. (study this summary of the existing markets)


Team Meeting 6 (March 7) – Conservation Finance Tools – Offsets and Compensation Agreements – We will review how governments or lending institutions (banks, equity investors) can require developers to pay for conservation measures that will offset irreversible environmental impacts. We will examine the regulatory or policy changes that will need to occur for such offset and compensation plans to make a difference on the ground.

Class Preparation Materials:


Bovarnick A, Knight C & Stephenson J., 2010. Habitat Banking in Latin America and

**Team Meeting 7 (March 21) – Conservation Finance Tools – Trust Funds –**

We will review how conservation trust fund mechanisms are set up, funded, and operated, and examine case studies trust funds that have been created in the U.S. and worldwide to ensure long term protection of nature and natural resources.

**Class Preparation Materials:**


[http://pubs.iied.org/16574IIED](http://pubs.iied.org/16574IIED)

**Team Meeting 8 (March 28) – Conservation Finance Tools – Creating the standards for sustainable businesses and a “Green Economy” –**

This class will include an overview of certification standards and other measures being used to encourage the use of good practices in the production, distribution and marketing of agriculture, forestry, and mining products. We will look at supply chain dynamics and examine how lending and investment practices can affect each element in the supply chain. We will also explore how improved standards can help rural landowners improve their business while also increasing their attractiveness as potential clients in financial sectors.

**Class Preparation Materials:**


World Resources Institute (WRI) in collaboration with United Nations Development


**Team Meeting 9 (April 4) Conservation Finance Tools – Green Bonds and Debt Relief** An increasingly important tool in conservation finance is the use of debt instruments and debt relief to finance conservation programs. We will look at how standard bonds can be structured to fund projects that have beneficial social and environmental results, and how national debt can be restructured to achieve conservation targets.

**Class Preparation Materials:**


Week of April 4 – Teams meet independently to review findings, identify research problems and constraints, and troubleshoot any constraints.

Team Meeting 10 (April 11) – Regulating the Green Economy - Creating an “even playing field” – The policies and laws put into place by governments create the incentives and rules by which banks, lenders, and corporations must operate. In this class we will review rules that can drive the financial and corporate sectors towards greater accountability and sustainability, and we will look at how these kinds of policies can be used to strengthen nature conservation in a specific country or region. 

At the end of class each team will provide a 5-10 minute report on research results achieved thus far.

The Interim Project Status Report is due at the end of this class.

Class Preparation Materials:


Team Meeting 11 (April 18) – Measures of Success – are we producing the world we want? This class will bring us back to biology. Government policies and laws, and banking and corporate standards will only be effective if we understand how to measure and verify success. What do we measure and why? What metrics and methods do we need to be able to apply the mitigation hierarchy, IFC performance standards, or equator bank principles? What do we need to know, and what do we do with this information when we have it?

Class Preparation Materials:


Team Meeting 12 (April 25) Putting It All Together – Creating an Integrated Sustainable Finance Strategy for Local and Regional Conservation Initiatives We will examine and evaluate several case studies of integrated conservation finance strategies to see how the various financial instruments
we have covered in our class are being used, the results being observed, and the overall lessons learned. We will also use this class to identify new financial instruments that may hold important values for conservation, but that have not yet been widely tested.

**Class Preparation Materials:**


**Team Meeting 13 (May 2) Getting the Message Across – Communication Skills for Conservation Practitioners** We will use our final class meeting to review methods to deliver formal presentations and communicate conservation to non-science audiences. We will also prepare and rehearse the content for the formal presentation the class will deliver in the final week of the semester.

**Class Preparation Materials:**


**Team Meeting 14 - Final Presentation (May 9)**

**May 15, 2015** Submit final report