ABSTRACT:
This thesis adds to the knowledge base in the field of environmental and regulatory economics by addressing three current topics in environmental regulation. The first topic examines the importance of accurate information in the design and use of regulatory policies. The second topic considers how, or if, citizen complaints could be used as a new regulatory tool. Finally, the last topic considers the impact that litigation might play in establishing optimal environmental regulations.

The first topic, which is presented in chapter two of thesis, reconsiders Winston Harrington's paper "Enforcement leverage when penalties are restricted". Harrington's work offers an explanation for why so many firms seem to be in compliance with pollution laws despite the existence of low expected fines. We show that Harrington's results are not necessarily robust to a more general specification of information and compliance cost structures. The research in chapter two reconsiders Harrington's original work and exposes the critical affect that uncertainty and asymmetric information can have on a state-dependent enforcement regime.

The second topic, which is presented in chapter three of this thesis, examines the use of citizen complaints as potential environmental monitors that can be used by regulatory agencies. Environmental protection agencies must decide how to allocate scare monitoring and enforcement resources amongst competing uses. With recent increased citizen awareness about the importance of the environment, pressure has been created to have tighter emission regulations and to have the regulations more strictly enforced.

Dasgupta and Wheeler (1996) introduce the idea that citizen complaints may be a useful tool for environmental regulators. The purpose of the work done in chapter three is to examine the characteristics of citizen complaints about the environment. The work addresses what types of regulatory violations are generating the complaints and what types of citizens are doing the complaining. The findings of this research raise concerns about the use of citizen complaints in allocating a regulatory agency's monitoring resources. Empirical evidence suggests that although citizen complaints may be useful in deploying resources to clean up potentially harmful spills the general lack of significance between specific types of complaints and industry spills types seems to imply citizens know something has gone wrong, but that they cannot determine exactly who is responsible for the spill. Evidence also suggests that citizens do not necessarily complain because of a violation of a regulation, but rather because of the preferences they maintain about the environment. Variables like a citizen's employment industry, house value, education and income seem to be key determinates in indicating which citizens are most likely to complain as well as the rate at which they will complain.

Finally, the third topic, which is presented in chapter four of this thesis, examines the role that litigation plays in regulation. As noted above Harrington (and more recent papers by Heyes and Rickman (1999), Livernois and McKenna (1999), and Heyes (1996)) has attempted to explain why so many firms seem to be in compliance with pollution laws despite the existence of low expected fines. Forcing a firm to comply with a regulation can be a costly undertaking for an enforcement agency. Previous literature dealing with this paradox has always assumed that compliance is assured once the violating firm has been detected. In practice, litigation proceedings can last for months or even years and always carry some degree of uncertainty.

The work done in chapter four finds that when the litigation process is not certain and is costly, the enforcement agency may find it optimal, under plausible conditions, to lower the fine for non-compliance to in order to raise the industry compliance rate. This is because lower fines reduce the likelihood that a firm will proceed with litigation.