Environmental Crime Intelligence

The need for a locally and regionally oriented intelligence system on the field of environmental crime

David Carlsson
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Abstract

This study concerns researching the need for an environmental crime intelligence system at regional and local level geared specifically for environmental crimes within the Swedish Police as well as the need for such a combined operation towards e.g. supervisory authorities.

The study views the current situation of environmental crime and environmental damage in part being caused due to an environmental legal implementation deficit. The study explains and defines the need as well as initiates a theoretical systematic design for an Environmental Crime Intelligence which could help reduce the deficit and so help reduce environmental damage. An Environmental Intelligence which in operation from the national level down through the organization would be linking police, prosecutors and county administrations. Authorities – who are assumed to enable, simplify, and standardize discoveries, obligations, investigations and prosecution – would be better interlinked and processed for an improved view and control in the field of environmental crime.

This study shows the need to rethink and reevaluate the current state of environmental crime prevention process in terms of priorities and chronological regard. It has shown to verify the theory of legal implementation deficiency. Besides this, the study has also shown a way to reduce that deficiency. With this in mind it has been made visible how the need for an Environmental Intelligence system on a local and regional level would with all probability do very well by current anthropogenic systems.

The study finds the presence of an Environmental Intelligence a consistently desired, preferred, alternative from the perspectives of the authorities mentioned above. Many of the findings points straight towards a similarity – principally in prioritization and procedures – through the intent and purpose of research for reducing environmental crime on an international level. This is viewed as a suitable segment of the methodological foundation.

*Keywords: Environmental crime, Environmental Intelligence, Criminal intelligence, Environmental Criminology, Implementation deficiency, Three filter-theory.*
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# Table of contents

1. Introduction .......................................................................................................................... 1

2. Background .......................................................................................................................... 2

3. Purpose, goals and method .................................................................................................... 3
   3.1. Goals ................................................................................................................................ 4

3.2. Method ................................................................................................................................ 5
   3.2.1. Literature ....................................................................................................................... 5
   3.2.2. Personal communication ............................................................................................... 6
   3.2.3. Case studies ................................................................................................................... 7
   3.2.4. Participatory Action Research ......................................................................................... 7

4. Theory .................................................................................................................................... 7

5. Results ..................................................................................................................................... 10
   5.1. Current situation of environmental crime .......................................................................... 10
      5.1.1. The current Police authority in Sweden ....................................................................... 13
      5.1.2. The new Police reorganization .................................................................................... 15
      5.1.3. Police work regarding environmental crime .............................................................. 16
   5.2. Case studies ...................................................................................................................... 18
      5.2.1. Illegal shipments of waste ............................................................................................. 18
      5.2.2. The ScanDust case ...................................................................................................... 22
   5.3. Suggestions and design for a systematic Environmental Intelligence ................................ 23

6. Discussion ............................................................................................................................... 27
   6.1. Reasoning tied to the illegal shipments of waste in 5.2.1 .................................................... 28
   6.2. Reasoning tied to the ScanDust case study in 5.2.2 .......................................................... 31
   6.3. Reasoning tied to suggestions and design for a systematic Environmental Intelligence in 5.3 32
      6.3.1. Conceptual systematic design ...................................................................................... 36
   6.4. Concluding discussion ...................................................................................................... 39

7. Conclusion ............................................................................................................................... 40

8. Epilogue .................................................................................................................................. 41

9. References ............................................................................................................................... 46
   9.1. Published references .......................................................................................................... 46
   9.2. Referenced laws and regulations ...................................................................................... 49
   9.3. Unpublished references .................................................................................................... 49
1 Introduction

From a global viewpoint when looking at why environmental degeneration, due to crime, is a very important subject within the regions in Sweden findings show ties to another current problem. It is well known today how the global population is exponentially growing, and while that carries different issues and hardships of its own it also poses risks relating more directly to this subject. This is, when observing just the current values and figures, a logical conclusion that we live in a finite world. Meadows et al. makes a good and well worked case of this, published in the book “Limits to growth”, 1972 (updated continuously by “The Club of Rome” as well as re-published in book form twice, 1993 and 2004, since then), where it was shown how mankind is at a threshold and if inaction follows, environmental reactions will assail us all (Meadows, D, et al. 2004).

Bardi has later showed that the scenarios by Meadows et al. have become a reality. How reality has met the curves generated by the scenarios (Bardi, U. 2011) posed before us more than 40 years ago is another reason convincing of the importance of this study. Before Limits to Growth Garret Hardin wrote his very often quoted article; “the Tragedy of the Commons” (G. Hardin. 1968), which among other things also addressed the growing problem of population growth as well as several surrounding problems to it (e.g. the lack of resources).

So with an ever increasing population, what follows? Two things are in focus here. Another increasing environmental impact and a steadily increasing amount of criminal conduct (M.B. Short et al. 2008. Luiz, G.A. et al. 2013). Some of which adds to the former as an increasing population leads to more growing conflicts, emigration (thereto due to e.g. climate or civil unrest) and poverty which in turn leads to more criminality. An increasing criminal conduct would force law enforcement, such as the Police, to develop systematically in kind (if criminal conduct is on an upwards going curve, the Police needs to follow with a similar one).

The environmental-bound effects that environmental crime causes are multiple, and today such crimes are similarly valued in terms of severity: In line with generic volume crimes, violations without real cause-arbitration from other crimes. This means that violations of the Swedish Criminal Code (from 1965, replacing the penal law from 1864), can usually be classified "major challenges" in relation to an offense contrary to the Environmental Code (From 1999) (Personal interview with Police, 2015). This would be based on a view that takes into account the social economy and personal safety in a short-term perspective rather than the long-term security and stability, with the same safety and economy unconditionally baked in, but from a farther point in chronological terms.

After more than half a decade in academia, most of which took place under the banner environmental science, my experience and conviction points in the direction of a required improvement in environmental crime prevention for society to reach a more sustainable contemporary. In this study I research if a locally and regionally oriented intelligence system on the field of environmental crime could help solve, reduce and subsequently perhaps even abolish environmental problems present due to crime. At the same time, as the intentions to improve the work against environmental crime, research if such a systematic tool would reduce the current legal implementation deficit. I will e.g. exemplify this with the current continuous illegal transboundary shipments of waste happening within the regions in Sweden
(Region North being the center for the examples), seemingly part of a higher scheme of in a web of multiple types of large scale organized crime where Sweden is but one affected part.

The regions, as defined in the new Police reorganization, in Sweden remain the operating scope in this study even though environmental effects may be spread to a global level as environmental adverse effects care little for anthropogenic geographical divisions. A problem briefly looked at next to the illegal shipments is that of illegal waste dumps, allowing oil, heavy metals etc. to leak out into the ground and water. That there are likely links between the last two examples is not hard to imagine. It is examples like these that produce environmental detriment, and examples like them are bound to continue with current outlook. As the environmental situation is continuously going downwards the need for Police work to prevent damage done is urgent. To improve this work the potentials of a singular system working specifically to combat such damage to our environment is investigated in this study.

The system would not, as this study shows, solve one environmental science-problem in the singular, and stop there. It would rather carry help for our society to solve numerous issues, here at a local and regional level. By aiming to provide a more efficient way for, especially, the Police to weed out non-crimes and to continue work with actual crimes. As such it presents not one solution but rather a milestone on the way to solve and even prevent many. If focus was put on a system created to give us an enhanced normality to help prevent and clear up more crimes resulting in a negative environmental impact it would lead to a less environmentally-negative result. A question is formed somewhere therein; how would it look like? To achieve this, what would this tool look like?

To summarize the introduction so far my hypothesis looks towards having a locally and regionally oriented intelligence system on the field of environmental crime linking together police, prosecutors, municipalities, counties, county administration, the Environmental Protection Agency and so on. Such a system would enable, simplify and partially standardize discoveries, undertakings, investigations and legal punishment. As well as by gathering tips, links, habits, knowledge, practices and precedents in a growing and further organized scale.

2 Background
This study’s underlying context was cultured from a will to improve environmental legal proceedings. It is an already stated fact that environmental problems are growing and it is a similarly stated fact that part of the reason for this is due to criminal activity. How this, today, should be best handled, remediated and averted, is still up for debate (Personal communication with Police and County administration official, 2014 and 2015). What will be addressed in this study are intentions of enforcement on the legal side and how such improvements is a problem today from, mainly, the Police Authority’s point of view.

This study aims to contribute to the enforcement of the environmental law in Sweden to function better by discovering if there is a need for an environmental crime intelligence system on a local and regional level (hereinafter called ”Environmental Intelligence”), for the Swedish Police and Prosecutors and the organizations linked to them. A study where several state and regional authorities are linked together, like the Criminal Intelligence in Sweden in
which the synergetic effect of diverse feedback continuously and clearly plays a major role (Personal communication with Police, 2014). If a system like this could lead to an improvement in the clarification of discoveries, criminal investigations, as well as in completed cases in the form of passed judgment and, perhaps more importantly, crime prevention to assist in reaching a lessened environmental assail by reaching a higher percentage of prevented and solved crimes. The onset is similar to how prevention at the source is now more commonly seen as a sustainable solution, away from past emission focus.

It is continuously suspected and increasingly recognized that where crime according to the Criminal Code occurs, there too environmental crime often occurs in the same processes (Personal communications with Police and Prosecutors, 2014) surrounding the same situations. Limiting this would directly lead to a slowing increase of environmental degeneration. This forms a need for this study and the systematic tool it initiates.

This study is conducted from the perspective of environmental science for its interdisciplinary focus (integrating e.g. judicial, system, physical, chemical, biological etc. sciences). It aims to prepare this systematic tool to use the gathered and researched ability to grasp, to understand, the problem of environmental crime from a multitude of angles. The environmental needs is based on e.g. the latest assessment report from the Intergovernmental Panel on Climate Change: How remedies are ventured on a global scale down to local endeavors, cause and effect of pollutants and emissions. Knowledge of current climatic conditions, why things looks like they do today and where we still seemingly have a chance to evade catastrophe, the understanding of intergenerational comprehension and so on (IPCC, 2014).

These insights are well suited for a study like this. The environmental effects that crimes cause in our environment is today perhaps not held in a high enough regard and the effects that this place upon society is herein educed. The environmental problems, it seems, weigh more than we have so far dared to admit (IPCC, 2014).

### 3 Purpose, goals and method

This study’s purpose aims at streamlining Police work in terms of decreasing environmental crime and thereby lessen anthropogenic environmental degradation. This is epitomized with examples related to illegal waste-shipments. The study’s focus is on Sweden and on the Swedish authorities connected to environmental crime reduction with an emphasis on the Swedish Police Authority.

Here reasons towards why this is a problem emerges, with resources like lacking time, economy and knowledge being quick to surface. These could be looked at as resources of which generally are in need for a constant improvement. Time will not be the main focus here. Neither will economy be, although this is one resource often tied onto the others, thus it will be briefly touched upon.

The Environmental Intelligence, as it is being in this dissertation, derives its focus mainly from the Police authority to help their endeavors of criminal elucidation and prevention. Included are also points of focus derived via the environmental protection unit of the Jämtland
County Administration, mostly in their position as Supervisory Authority in environmental cases such as emission allowances.

The study is describing environmental crime today. To this end examples will be highlighted and case studies performed. Reason for this is to see if, with a working Environmental Intelligence, the environmental crime could have had its environmental damage limited, or wholly averted. The study is also describing today’s management mode, the workload priorities of police, prosecutors and other organizations working towards protecting the environment by limiting damage done. Lastly the study looks towards describing the effects of a local and regional oriented Environmental Intelligence and how such an operation would from an environmental science point of view come to mean in terms of further and future environmental damage done or averted.

The above boiled down to two questions:

1. What does environmental crime in Sweden in general look like today and how does this affect the environment?
2. How would a local and regional Environmental Intelligence help reduction of environmental crime and would this reduce environmental damage done?

This study’s intention is to explore these points in order to continue the streamlining of the judicial system in this area, and to allow for more successful prosecution and further crime prevention in the field of environmental crime in Sweden.

### 3.1 Goals

Answers to the questions posed above will be reached by describing the following goals

**Goal 1 – Current situation of environmental crime**

This goal focuses on investigating the contemporary situation in environmental crime solution and prevention on a local and regional level.

**Scope: Describing the current situation**

To describe the current situation of environmental crime from mainly the Police’s perspective in order to elucidate the need to further systematically develop the work against such crime. This is looked at through the three-filter theory and the theory of implementation deficit by Westerlund (Westerlund, 2003).

**Goal 2 – The need for a local and regional environmental intelligence service**

To analyze and illuminate the need for an intelligence service, for environmental crime, on local and regional level in Sweden.

**Scope: Case studies**

By reviewing cases and events transpiring today in regards to environmental crime certain examples have been further highlighted. The examples was picked from what, by the Police,
was deemed to be one of the most demanding areas of environmental crime today: That of illegal waste shipments.

**Goal 3 – The design for a local and regional environmental intelligence service**

To initiate theorems for the design of an intelligence service with the intention to improve results in environmental crime prevention and solving.

**Scope: Finding systematic operating procedures**

Reviewing and investigating what information and knowledge to include in a system with the intention described.

**3.2 Method**

The dissertation is performed from a strong sustainability perspective, the conviction that society and economy exists beneath the ecosystems and for the former to flourish healthy ecosystems are required. It is suchlike performed with the long-grown and empirically shaped opinion that ecological progress is required to be emphasized above economical gain for any actual sustainability to be reached and held as a reachable goal.

This dissertation is based on literature studies (3.2.1), personal communications (3.2.2), case studies (3.2.3) and personal experience (3.2.4).

- Case studies to gain information from projects, plans and actions within the Police to which I was cleared entrance and granted an observers position.
- More than six months of personal experience in my work during interning at both the Police authority in Jämtland and the Jämtland county administration’s unit for environmental protection. The internships started with this study as a prime reason. Lastly, as a juror at Östersund’s district court I also had access to continuous judicial and legal correspondence.

The purpose of the personal experience was to find the lacking areas in the topic of environmental crime prevention from a practical point of view in order to complement the grasps from the purely theoretical and what comes from trusted literature study and previous research (being the other obvious and essential part of this venture). All of this combined with this study as a paramount focus and purpose. The four main method-areas are further explained as follows:

**3.2.1 Literature**

Literature studied was picked from a plurality of disciplines. Here follows a description about the kind of literature, chosen for their research in fields deemed valid to include in this study. For further details see the reference list in the study’s final chapter.

- Environmental science literature
Chosen as to highlight their inclusion and conclusions as well as to point at reasoning.

- **Criminology and judicial literature**
  - e.g. the Environmental Code, Basel convention report, and reports/books by Stefan Karlmark and Bo Wennström. Chosen for their valuable reasoning and conclusions.

- **Chemistry literature** such as Environmental Chemistry (*Manahan, 2010*) etc.
  - Chosen to point at chemical explanations and the potential damage towards health and environment certain effects may carry with them.

- **Statistics**: Journal of Official Statistics etc.
  - Chosen to illustrate calculated values and numbers.

- **System science**, such as works by Jessup & Valacich etc.
  - Chosen to elucidate and provide systematic reasoning when it comes to systematic intelligence and theoretical design.

- **Philosophical literature**, such as works by professor Georg Henrik von Wright etc.
  - Chosen to act as an explanatory pillar to certain reasoning. A chosen critical way of looking at prospects.

### 3.2.2 Personal communication

Below is a description of the types of personal communication, which granted me a good amount of information for this study. Information coming from meetings and continuous contacts from a variety of professionals located at a plurality of organizations where personal communications and interviews were performed. All manners of communication were permitted to be used by me in this study. All names of operatives, police, court-personnel etc. as well as certain information like names, dates, exact details etc. will be kept confidential as per prior agreements. Communication based on:

- **Personal interviews**
  - Prepared and organized with either writing the responses down or recording them. The results were then translated as they were transcribed.

- **Personal communication**
  - Quicker and less prepared grants of information from when working with or discussing a certain subject or topic.

The corresponding persons were chosen from:

- The function of their roles in the organization.
- After certain events, observed by me, taking place in their work.
- Opportunities ceased by me to gain further understanding of specific cases.

All interviews and personal communication was based on open questions. Further details is found in chapter 9.3.
3.2.3 Case studies
By reviewing a new case and an old completed one, which have been allowed to run its full length the purpose is to gain understanding of pitfalls to avoid.

The cases studied and why these were chosen:

- Illegal waste shipments
  - These occur in places in the Swedish regions and all the way up to global level.
  - Organized crime which operates internationally towards, and ties into, local and regional crime in Sweden.
- The “ScanDust-case”
  - To elucidate the need for a continuous understanding and knowledge of projects where the lack of such puts society at a risk for large environmental, societal and judicial damage and expenses.
  - To show that by improving such understanding and knowledge it could help to reduce the implementation deficit (as explained in chapter 4).

3.2.4 Participatory Action Research
For about 10 months in total I took part of the daily work to gain understanding and knowledge of how a variety of work, at the Police and the County Administration, in the area of environmental crime prevention is performed. Results in this study are, in part, based on what I saw and heard when participating. Part of the limitations in this study regards how I only took part of happenings situated in the northern region of Sweden, and thus shaped conclusion from that scope. I gained a multitude of inputs, regarding ideas on potential improvements to how work against environmental crime is conducted, while accompanying and observing:

- Police operatives at different units, albeit with a majority next to environmental crime investigators.
- County Administrations Environmental Protection unit personnel.

4 Theory
Current environmental law is the result of today’s operationalization from objectives and goals calculated to be required for society to reach in order to avert future catastrophe (Naturvårdsverket, 2015). These values, these numbers and levels (IPCC, 2014) are under constant and consistent high debate, under fire from a variety of nations and organizations on a global scale oft for economic reasons. I will start with raising two major examples here which in tandem with other demonstrated and evinced results are helping these environmental goals to continuously narrow down. These are examples with wholly different scope and aim but with two things in common: They enact change towards the better due to newly understood and evinced knowledge and they need authorities like the Police or supervisory authorities to ensure such changes are being met and followed.
The first example is the Stern Review (Stern, N, et al. 2006) which deals with the effect of climate change and global warming in economical terms. It showed how the action of postponing or averting actions to limit the damage done will soon demand a far higher price than the cost, today, of early and strong preemptive actions. (This is, in brief, also describing the paradigm shift between weak and strong sustainability).

The second example is the concept of the Planetary Boundaries (Rockström, J, et al. 2009), a systematic framework which designed and calculated, including all levels of society, humanity’s safe operating space on planet earth. Boundaries, or thresholds, of nine earth systems that, if crossed, could likely lead to an irreversible damage and change to the environment.

Evinced and continuously updated knowledge, like in the two examples mentioned, are often what eventually is transcribed into goals and thereafter policies. But in countries operating under the rule of law, like Sweden, such goals and policies are not yet enforceable as they are so far, along the judicial chain, not operationalized, bound, to enforceable law. In short; in Sweden we may well be aware of the environmental impendence of our inaction but as long as something is not yet illegal, it is by definition legal. This forms what could be described as a license pursuant problem where legal systems can even work against the environment by protecting environmentally harmful, but not illegal, actions by legal right. This happens (in a way exemplified in 5.2.2) but it also strengthens the reasons as to why it is all the more important to enforce, and to live up to, environmentally beneficent laws in place. Laws that make it possible to counteract environmental problems that are criminal acts.

When looking at the three-filter theory (Westerlund, 2003) it soon shows how the social control apparatus works. The three-filter theory joins with the theory of implementation deficiency (Westerlund, 2003), within which, in closer detail, is shown how goals are meant to be implemented and legally enforced is not reached due to politics, money and knowledge but also environmental crime. Environmental crime thus stands as one of the reasons why targets fail to be reached. The intention of this study is that an Environmental Intelligence service on a local and regional level needs to be developed to reduce the deficiency. The problem in this end of the spectrum is tied to one column with a deficient reach, the third filter, and that is the one I aim to give ways to heightening with this report since it involves violations of law. Further visualized in figure 1 and 2 and explained in the next subsection.

To grant further understanding I will briefly explain these two, just mentioned, theories: When talking about translating goals and political decisions into implementation in reality (from an environmental law perspective as well as legal perspective in general), in order to have enforceable laws, policymaking is managed first and lawmaking later. But it soon shows how there are several instruments before that as well. With goals to reach, moral reasons, economical reasons and lastly judicial reasons are enacted to steer progress towards said goal. I find the three-filter theory, in short describing these instruments in three principle types, a suiting description of this. This problem (of environmental crime), overall, reaches over all three filters (with a main focus on the last one). Those three filters are the informal instruments, the economic instruments and lastly the legal instruments. These three filters
exist in our society, in this order, to have issues – which risking assailing the environment – engage them one at a time. Only for those issues, project or ventures, which informal or economical control does not suffice, the issue penetrates those filters and end up in the third filter. And there law comes into it.

This study, and this situation in which we are grasping for more applicable knowledge and understanding, falls into the third filter, toward help and improvement of the red arrow in figure 1. Knowledge that through the help of a system for an improved environmental and legal knowledge bank with accessibility, for affected authorities, could help to strengthen the third filter by facilitating improvements in handling intelligence, evidence, suspicions, and reporting. The third filter, however, is not a perfected solution. All which passes by the previous two filters is not necessarily stopped here (crassly; that would perhaps require a perfect law). And this is where our problem is located. Here, in this third filter, all matters like crimes, misconduct, illegal negligence, legal (but still environmentally harmful) conduct, and so on, are situated. Some issues pass through it, and evade being stopped. This is referred to as an implementation deficiency. The law-filter does not stop everything it is intended to.

The third filter is further looked into in the theory describing deficiency of environmental legal implementation (Westerlund, 2003). It highlights how laws bound to certain limits, be they values or otherwise aligned, will rarely be reached due to a falling ability from the anthropogenic angle in shapes of understanding, management and actual priority. As figure 2 illustrates: When a quality objective is set, in the first column, by being decided on a governmental plane, the aim is thereafter for these goals to be legally operationalized. This, first, give room for potential deficiencies like mistakes or misunderstandings, legal softness and lacking understanding, of reciprocal influence between legislations, when the laws are formed and set. This forms the second column. Thereafter one would come upon the time when this new law is to be complied and obeyed. I dare say, it is common knowledge that all rules, laws, are never fully ensued, for reasons wide in scope (ignorance, sloth etc.).

Westerlund mentions how this deficiency, in this position, is often very large but if looking at it as a 25% lack from the original goal we are looking at a very positive picture of reality.
This forms a third column. The results, in total then, when taking account of nature and its non-linearity with its reactions from every input from all sources and actions – no matter what anthropogenic law might say – end up far below the set values originally aimed for.

The column of implementation, the third, would be helped by a system that helps us to limit the deficiency. And it would also be strengthened by a more efficient handling and prevention of environmental crimes through a continuous prevention of criminal environmental devastation, which is the result of continuing affictions. This, in turn, would quite clearly cause “a higher result”. With an improved enforcement, a lessened deficiency in the end.

5 Results
The desire for an Environmental Intelligence on local and regional level was, from Police personnel’s point of view, made quite prominent for me early on in the study. Details on the “why” and “how”, however, were initially very hazy. So, how such a system should be constructed was not clear when I started this study. To clarify this, let us start with the situation today. A lot of the anthropogenically caused environmental damage, in the contemporary, is legal. By not crossing a law an e.g. emission is by definition legal. But some of the anthropogenically caused environmental damage IS illegal. It is this environmental damage, which is also part of the reason for the legal implementation deficiency (figure 2), which is addressed in this study.

5.1 Current situation of environmental crime
The purpose of an Environmental Intelligence is to minimize environmental crime. What such crime looks like was well defined by FOI (“Totalförsvarets Forskningsinstitut”, the Swedish Defense Research Agency), one of Europe’s leading defense and security research agencies
operating under the Swedish Ministry of Defense: “Environmental crime, typified by illegal trade in animals or animal parts, or in hazardous waste, is one of the most widespread forms of crime in the world today. More research is needed to increase our knowledge of the social and economic consequences”. Upon finding this information from FOI I clarified how a systematic solution could look (FOI, 2014).

FOI points at how environmental crime is increasing, and effects of this are felt both in Sweden and the EU. One example is that of corruption in areas of conflict or crisis, which carry a high risk of an “unconscious contribution, directly or indirectly, to the complex environmental crime economy”. There it remains a constant and “a pressing need to gain a better understanding of the links between the transnational illegal markets, organized crime and conflicts”. This need is highlighted by the EU, Interpol, the UN Secretary General, Swedish Police and others as well.

The Environmental Intelligence Service-tool mentioned by FOI (FOI, 2014) is similar to the system I aimed at developing in this study, although aimed towards different areas, a system which “can provide early indications of developments relating to environmental crime.” Techniques which could be included in such a system would contain things similar to Geographic Information Systems (GIS) and satellite image interpretation. FOI and this study are, as mentioned, not working towards the same area here, but I do believe there should subsist potentials for each to learn from the others’ discoveries as local and regional input are likely required to form an image of the greater whole. FOI further more points out that “More research in this area is needed. There are still gaps in our knowledge where the linkages between environmental crime, organized crime, terrorism and conflicts are concerned.” and more to the point, “research into the mechanisms behind criminality and to develop methods of speeding up the detection and prevention of environmental crime” (FOI, 2014). This reasoning falls well in line with the reasoning behind this study and its motivation and connects to how an increasing crime calls for more research as part of the counteraction.

FOI’s conclusions tie several authoritarian, governmental, organizations into the chain of environmental crime prevention. This is required, but there is also cause for concern when including more organizations into any systematic solution since any new system ought to ensure it is doing its utmost to prevent hasty, ineffective or downright harmful decisions and actions. I will, in 6.1, raise an example how ventures in this area can go wrong.

Today the cooperation between the authorities in Sweden use, what could be considered, outdated terms. This means that regulations still looks like they did in the beginning of 2000 when the environmental code still was new and was being worked into normal procedures. The fundamental idea behind these terms are not at all bad, as it implies a requisite for cooperation and this is especially obvious from the Police Authority’s point of view, as it is made adamantly clear in the Police Act “Collaboration with other agencies and organizations”, (in section 3 before the end of 2014, and after 2015-01-01, positioned in Section 6). Two sentences read [translations by author]: "The police authority and the Security Police shall cooperate with each other and with the prosecuting authorities" and
"The police authority and the Security Police shall also cooperate with other agencies and organizations whose activities affect police operations." (Polislag (1984:387), 2015).

Here it is also imperative to note how these terms include other supervisory authorities which are required to assist the police from their positions. This is a cooperation of mutual gain as long as all involved parties gain mutual help in their own assignments in order to be able to continue their own work, and so be able to assist when need arises. To highlight this, I will quote a few lines from the Environmental Code’s proposition, part 1; “An effective environmental legislation requires that each of its ranks is working effectively. At the same time it requires that the relationship between the links is in sequence accordingly and clearly defined. If environmental legislation is compared to a chain - that may be called the Environmental Code chain - whose links consist of e.g. environmental objectives, considerations, permits, conditions, supervision, information, review, violation and punishment, it is required for the effectiveness of the legislation that links one by one, on their own, but also that the interaction between the chain-links works well”.

Further on the proposition relates to how a good cooperation between police and supervisory authorities is required; “Here permissions and supervision is a central feature as practical tools to steer every activity away from environmentally destructive and resource wasting actions”. This was a part of the proposition, before the Environmental Code was enacted. It is therefore one of the reasons that it is currently in operation (Swedish Government, 1997). This was thereafter legislated in the Environmental Code: “Supervisory authorities shall cooperate with each other and with such government and municipal bodies designated for supervising the specific aspects or otherwise perform tasks relevant to the supervisory activities” (Environmental Code. Ch. 26, 6§. 2015). If looking above it is shown how the legislation of systematic cooperation is connecting the different authorities concerned with environmental work in Sweden.

Above the ongoing and growing problem of environmental crime is described, as well as how it connects to the authorities working to counteract such crime. That leads to a point where a choice needs to be made. A choice showing that if society wants to work towards and run a chance of reaching a better more sustainable society, society have to act. But this still requires an active choice. What seems to continuously be the negating argument, impairing such choice, is the one implying that the expenditure of money is required. In this case, in the current situation of environmental crime today, the choice is rather simple. Either money is spent now, or more money will be required to be spent later. It is a choice of continuous maintenance or the mending of damage done. Much like the Stern report showed us in 2006, early and strong actions now will by far outweigh the costs of not acting, and awaiting the damage. (Stern, N, et al. 2006). The review focused on – the economical aspects of – climate change whereas this report focuses on – the reduction of – environmental crime, but just as one thing leads to another the increase of environmental crime too would lead to increased costs for society in the end. I believe, and have been told from the ones I visited in this study, that several institutions would agree with such a conclusion, even though it is one of the things that would require more research if an actual holistic picture of the monetary amount is to be reached. Analysts at FOI, for instance, concludes “We need to carry out research into
the mechanisms behind criminality and to develop methods of speeding up the detection and prevention of environmental crime, including models for calculating the hidden costs of environmental crime” (FOI, 2014). That action now would in all likelihood mean a lesser cost compared to inaction now and forced mending action later. So how does the Swedish Police authority stand to date with current conclusion?

5.1.1 The current Police authority in Sweden

According to my findings there have been little research done regarding environmental crime-intelligence research on local and regional level today. This brings on learning of environmental crime research from prior experience up to an international level where there do exist some interesting, albeit not completed, systems and projects tied to similar crimes but on an international level of organized crime (INTERPOL, 2014).

Searching online for public, overt, information about the Swedish Police you soon run into “The Swedish Police – an introduction”. This is a documentation describing the mission and the competence as well as the organization of the Swedish Police. There, within, one finds a short chapter about the counteraction of environmental crime. It says:

“One important issue for the police is to control and manage activities that pose risks to human health and the environment.

Together with the Swedish Prosecution Authority, the Swedish National Police Board has developed a strategy against environmental crime.

The strategy aims to:

• increase the risk of getting caught for those who commit more serious environmental crimes;
• increase knowledge of environmental crime within the judicial system and the supervisory authority; and
• work against transnational environmental crime more effective.”

(Swedish national police board, 2014)

This is all it says. While short, it is lucidly clear what the intentions are supposed to look like, even though questions may arise as to e.g. what would be defined as “more serious” (first point in the bulleted list above). Increasing knowledge to prevent environmental crime. The reasons and the obligations are stated.

In regards to the Police Regulation, Chapter 3 about the Police Authority role, Karlmark wrote: “The unit within the police dealing with environmental crime should therefore maintain a close working relationship with those authorities which may provide information of value to the surveillance and investigation work. The supervisory authorities belong to the authorities that the police have to cooperate with.” (Karlmark, S. 2004). Agreements with this have been confirmed to me by, especially but not singularly, the Police’s Environmental Unit. But at the same time I was told how this relationship needed to work better than it does today. I was told, by a Police officer in an interview, how “We want a better working relationship.
On a personal level, it works pretty well today, they are skilled over there [meaning the officials at the County Administration Environmental Protection Unit]. However, from a practical perspective, there is a lot of hassle. The information is not always easy to obtain. We'll see what happens with it based on the reorganization [Police reform, 2015-01-01] but I think something else is needed there...”. From another source, in a different interview but on the same topic, I was told about how “The risk is, and it happens rather often, that it takes [-too long (author’s note)] time. We often need to have some information faster, and I guess that requires a lot from the different parties.” (Interviews with Police, 2014). This also point towards a contemporary requisite of systematic improvement in the availability, user friendliness and interlinking of the different authoritarian knowledge bases (databases included but not exclusive) to e.g. make better use of time to allow further reach in terms of criminal prevention.

According to interviews with employees from several units, at both Police and County Administration, I have heard their perspective about what does not function very well today, and as I have personally noticed and been directly and indirectly informed about, are the (computer) system solutions currently in use by operative personnel. The systems function, but they are too many, too complicated, too disconnected and they do not seem to work well enough to help make the work efficient or better, as is the intention. Instead they often complicate and delay matters instead of simplifying and streamlining said matters (which must be supposed to be the reason for even using such tools). This is an important part of the current situation and ties into the third goal of this study. It will be further addressed in 6.3

One of the times when I was following the operational department, during a rather “normal” night, and returning to the station to “report in and do the paperwork” (normal proceedings), the personnel sat down in front of the computers and I studied how this work was handled. Even though this was a common type of case the reporting took a long time due to the amount and complexity of the systems required to be used. Irritation from the officers’ side soon appeared. One of the interviews gave the following comment in regards to this problem; “Do you see what we have to work with here? [miscellaneous curses], we should not sit here and tap on computers all night, we ought to be out there and do something useful! But, well, this is how it is...” (Interview with Police, 2014). This view was shared by other Police personnel. I heard similar “curses” directed at systems from time to time in almost every department I visited, including the criminal intelligence unit. The case tied to the comment above had little to do with environmental crime in particular, but these systems are the same even had it been. The difference if it had been an environmental case is, mainly, the potential inclusion of more personnel from other authorities. With that would follow that more systems were added leading to a more; complicated situation, room for error, and time required in the end.

The police officers I followed the night of the example above are also the kind of officers in a position to often be the first ones to see, or miss, an occurring or a completed crime. This includes environmental crimes “out in the field”. That is those which to a greater extent are hidden environmental crimes and not the ones that is, according to an investigator, most worked with today; “well-known operators whom of one or more reasons cannot keep within their permissions [levels of permits etc.]” (Interview with Police, 2015). It shows here how an
increased knowledge to prioritize and find these hidden crimes, together with a better system to aid in the search for and reporting of information is needed to improve criminal counterwork and reduce the environmental implementation deficit.

5.1.2 The new Police reorganization
In 2015 the Swedish Police went through a national reorganization so as to remove obstacles present in daily police work.

I was informed about how a higher rate of change in the operating environment, and criminality which rapidly changes character, meant that there was a need for a more flexible and unified organization (Interview with Police, 2014). In another interview I was told about how the 2015 reorganization has been met with criticism both inside and outside the Police authority (Interview with Police, 2014). At the time of writing this reorganization is still taking place and according to several officers from a couple of different regions (north and west, and according to the interviewed ones this spanned over every region) it will bring authoritarian troubles and hassles in the daily work (Interview with Police, 2015).

Even if the plans for the new reorganization are well intended and diligently pre-researched problems soon started to show up. The results of my study and conclusions made will bear this in mind. As Professor Bo Wennström writes in his book “Swedish Police: The piece of the puzzle that does not fit” when describing this reorganization: “To build a pyramid from the top is not easy. The day the scaffolding is taken down it is important that the foundation is in place, at the right place, and not somewhere else or a little askew. The risk is, as everyone understands, that the whole pyramid collapses”. And in one of his many interviews he is told by ‘a seasoned officer’ that “We are accustomed to reorganizations. We will wait and see what this one leads to. Then we shall have to do what we have had to do time and again and have our planning in the garage, after the bosses ramblings are finished. Someone also has to manage the operation” (B. Wennström. 2014).

Wennström also touches upon another important view to the problems posed before the police, both the operation and the individuals within, when it comes to prioritizing and knowing full well what expectations lie before them. Wennström’s book also refers to Lars Nylén, who was Director General of the Prison and Probation Administration between 2004 and 2011, and previously Head of the National Police in Sweden. In Wennström’s book (B. Wennström. 2014) Nylén’s views in respect of the rule-governed segment in the work of the Police tells how: “The whole thing leads to a dilemma that I have experienced over the years, namely that the only thing the government can say is that we, the police, should prioritize and "do this too" and "this too" and "also this" and finally priority is given to almost everything." and he continues with "For the police management and ultimately the individual police it remains to decide which is most important, and then I touch upon another thing, namely the police organization as an authority and the relationship between the police officer as an official and the operation. And then we are back to the independent responsibility in everyday police work and that the outermost priorities are taken there."

This study stands with a potential to see that an Environmental Intelligence would, while helping to improve the environment, also at the same time help the Police personnel in
general. To help in the clarification and the ease of handling knowledge and necessary information, when it comes to dealing with environmental crime. By speeding up and simplifying work, granting a more knowledge-bound font of applicable information the Environmental Intelligence, with an interlinked system solution on several levels, would be a solid part in the foundation of work against environmental crime.

5.1.3 Police work regarding environmental crime

One might relate to the work regarding environmental crime done today as inefficient and this is part of the problem. In a way this will always be true seeing how a crime preventing organization must continue to develop otherwise it might allow criminal actions to develop past its control. In the field of environmental crime interviews have shown this is especially prevalent today (Interview with Police, 2014). There is a need to improve and develop further.

Figure 3, which is developed together with two Environmental Crime Investigators from the northern region, is to provide a visualization of the Environmental Intelligence's area of application by looking at the environmental crime event chain. This, of course, is similar to any crime event chain in that it is using the same Code of Judicial Procedures, e.g. suspicions are served, suspects are summoned to hearings and so on. This is a general review of the procedures, but cases may, in details especially, differ from this chain. The crosses mark areas not in scope for this study.

Figure 3 is explained as follows: Environment stands as our starting point. This is where society is located. Sometimes an Occurrence happens, this is where questions are first formed such as “what happened?” Other is an area of a large variety and is often already initially obvious, or soon appears evident, that it is not a case for the judicial system (e.g. natural incidents). Perhaps due to being a civil matter or something not passing from an initiation as a vague tip etc. (reached by a red arrow to illustrate that it is not a case for the judicial system).

Crime? is where we go if the Occurrence carries enough suspicion to be the cause of criminal conduct. Crisis is a position where, either from natural or anthropogenic cause, something alarming has happened, which may or may not be labeled a crime further on. Depending on the type of environmental Crisis, this is only sometimes of interest for the Police but more commonly a case for a Supervisory authority. E.g. the cryptosporidium-tangle in Östersund (capital of Jämtland County), in 2010, which is to this day still unresolved, awaiting judgment by the Court of Appeal.

Not a crime is likely first something dismissed or a non-crime (Interview with Police, 2015). It could also be something not pushed further due to lacking, vague or defective evidence after having been processed through a Police investigation. I am told this is often due to questions of who should be held responsible. But if an occurrence is a suspected criminal activity, and it initially is deemed a probable Crime?, a Police investigation is started. The Supervisory authority is in a position close to the Police, when it comes to measuring, reporting and receiving reports regarding Occurrence’s and potential Crisis. The Police investigation is where a case is decided if it is to be brought to court or not and if it is; then it is submitted to the Prosecutor.
When this, as mentioned above, occur the Police checks with the Prosecutor and decides if it is to be put under the label of suspected crime, whereas the Supervisory authority in question investigates effects etc. After an environmental occurrence the Supervisory authority and the Police work together, sharing information and/or helping each other out. If a crime is suspected the Prosecutor is also heard, and it is decided whether to start a Police investigation. However, far from all cases reaches the Prosecutor this way.

Often an Environmental sanction charge can be sent directly from the Supervisory authority to the responsible person (legal person included). For a case to be raised by a prosecutor after such sanction can be imposed it is required that such case is raised in public interest (which is quite rare). If a supervisory authority imposes an environmental sanction charge the case usually stops there. However, the supervisory authority is not forced to send an environmental sanction charge. It is enough for them to be able to and it can only happen when the potential penalty only encompass a legal fine (law (2011:734)). When such charge is sent no Prosecutor may pursue the matter otherwise it would be a risk for double punishment. It is only in exceptional circumstances that prosecution notifications appear in cases subject to an environmental sanction charge. These should never come to the police. When they do so anyway, the police contacts the supervisory authority (and possibly the prosecutor too, if it remain unnoticed from that end) and informs about it. A case may reach the District court, where the representatives involved in the case are heard and subsequently a Ruling is reached.

This “legal roadmap” is based on the prosecution rule in the Environmental Code. Ch. 29, §11. To elucidate: This study’s focus is, in the chain just described, situated surrounding the work by the Police and the Supervisory authorities as illustrated with the red dotted line in figure 4. Now, if society is to move towards a sustainable development said society cannot
The major focus of this study is located within the dotted line of the Environmental crime event chain, based on figure 3 (figure by author).

settle with only slowing the degradation of the environmental situation, society must eventually turn the degradation over towards actual environmental improvement.

However without first slowing it down it is impossible to turn it thither. It should thus be noted that the overarching aim in this situation is not a “blind” hope of securing a total lessening of continuous anthropogenic environmental impacts. Instead the aim steers towards lessening the increase of the current increment of environmental problems in today’s society.

5.2 Case studies
Two cases were researched in this study. The ScanDust case, an older and finished case, and Illegal shipments of waste from the Police’s point of view, as it is occurring today.

5.2.1 Illegal shipments of waste
Another example concerns illegal waste dumps and illegal transboundary shipments of waste. Where waste is collected, often bought, from a local owner and then transported, over borders, and sold. I am told there are often obvious links between these types of crime as well as other types. There are and have been, numerous examples of suspected and shown correlations between e.g. shipments like these and waves of detached burglary (Personal communication, 2014, and Personal interview, 2015). In short, environmental crimes like these are often organized. Likely from a controller-perspective where “one” unit plans and organize the crime-waves suddenly that occur in a region. (Personal interview, 2015).

As Sweden has ratified the “Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal” the Swedish legislations against illegal transboundary waste shipments thus adhere to it. The Basel Convention came into effect on the 5th of May, 1992 and is also ratified by EU. In 2015 182 states had ratified the agreement. This international agreement was designed with the intention to limit and prevent the transfer of hazardous waste products and focusing on transports between developed and less developed countries (Basel Convention, 1989).

This convention has formed the way Police and supervisory authorities today are to act in these matters and where responsibilities lie. The information below is based on a presentation held by intelligence personnel, environmental prosecutors and environmental crime investigators about Police projects and other information regarding illegal shipments of waste. The information below is also based on the discussions during and personal communication.
following after said presentation. Part of the information raised by the intelligence personnel in their part of the presentation was based on examples from a documentary by SVT’s “dokument utifrån” (which originally aired 2014-10-19) which was also shown during this presentation I extracted the following information.

To show a partial background as to how the problem shows, we (the participants of the presentation mentioned above) learned that in the European Union it is shown how about 67% of the produced waste is disappearing. Among other things this results in a current “overcapacity” for waste disposal facilities which I also found to be shown in a report commissioned by the Global Alliance for Incinerator Alternatives (JOFRA SORA, M. 2013). This overcapacity should not exist since these stations were dimensioned to cater to an expected volume (100%) of waste needing to be safely disposed of. Some of the missing waste disappears due to theft and “conventional burglary”, but the majority is disappearing due to an organized theft, an illegal handling which aims to procure this waste in order to sell it onwards down the chain of waste-commerce.

These are the chains which eventually lead the waste shipments to disposal sites in less developed countries such as those in Ghana or Laos. To give further insight to the chain of connections I will re-use, but abbreviate, the example as presented in the documentary (mentioned above). The company “D3E Recyclage” in France collected discarded monitors and other electronic equipment free of charge, relieving authorities and organizations – private and governmental alike – the trouble of handling the discarded products. This took place out in the open, in peace and quiet without the apparent need for inspections or the likes. This later proved to be part of a large network. The waste-products were then sold to “MOBO” in Belgium and from there, onwards, to Luxemburg. The transportations between the countries were performed by a Romanian organization. In the next step the waste was shipped to Hong Kong and from there onwards again sold to somewhere else, where it became very hard to follow.

It is believed that about 65% of all illegal waste shipping containers pass via Hong Kong. Hong Kong harbor is handling around 63 000 large shipping containers per day. These containers with illegal waste are often stamped as “free shipping” and declared as plastic or metal -scrap, is then almost continuously shipped onwards before any declaration or any inspection takes place. Random checks are made but there are, according to supervisors working there no possible alternatives today to check up on 100% of the shipped containers. The waste may, potentially, be shipped to one of the known big waste dumps in the developing world.

According to this example the company owners were in the end tracked down, which is rare enough in itself. Furthermore the money was shown to have ended up rather far away from where it started, in a company in Delaware, USA. This example was only one route, of one link of the chain. The fact that it is an organized crime is however made palpably apparent.

Back to Sweden, what is currently being done here and how this could be improved. An aim for this study’s Environmental Intelligence is to keep continuous situation verification and there is a rather recent, and current, project within the Swedish Police which falls well in line
with part of the theoretical idea behind this. This project is called the “GRÖT-project”, or “Gränsöverskrivande avfallstransporter”, (“transboundary waste-shipments”). This immersed project includes the northern region and aims to e.g. conduct intelligence -gathering, -processing and -analysis. Like such it aims to develop cooperation with authorities and other interest groups and industry associations as well as to create opportunities for skills development. This project seems to be intended to work similar to the idea behind the Environmental Intelligence, albeit it would not be focused singularly on one type of environmental crime (the illegal waste shipments (Environmental Code, Ch 29, §4a)), to develop and expand any supervisory work and to create a basis for operational measures.

I was told the GRÖT-project was one “based around the gathering of intelligence, processing and analysis. Shipments of waste is just one link in a more widespread law tangle” (Personal communication with Police, 2015). The intelligence gathered (see the list on the next page) show how the situation awareness that has been developed is showing that illegal transboundary movements of waste in the Northern Region are only one link in a more extensive criminal chain. This chain includes ‘organized crime’, ‘multi crime’ and ‘large scale crime’. This reflect crimes organized from a third party, that affects more than one type of criminality and which works on a large scale, e.g. across several countries. The chain carries with it large profits for the criminals, high costs for our society and also large environmental impacts and health effects. In the northern region it has come to show how four kinds of waste criminality, shown below, with organized links has more clearly emerged. I will mention parts of it here, as it comes close to the intentions of what the Environmental Intelligence aim to help solve and prevent. Upon inquiring about it, for reasons of ensuring this, I was clearly told how no personal opinions or preconceived opinions shape them. According to the GRÖT-project the four points below give insight to the current situation:

1. Thefts of metal, car batteries and other e-waste are carried out by groups from the Baltic’s and are transported onwards. The most active gangs are shown to come from Lithuania, Latvia and Poland. Other groups are from Ukraine, Belarus, Bulgaria and Romania. These people are primarily active during the snowless part of the year. The crimes are shown to be increasingly significant in connection with the berry picking season. They are also shown to possess technical knowledge and well-organized planning and logistics and deemed as a multi-crime situation.

2. Some illegal scrap yards in the region are suspected to serve as the hub for continued processing. Basically, every municipality has illegal scrap yards and suspicions show that they function as logistics centers for the aforementioned criminal groups. In several cases it is suspected that they are part of larger and more organized activities.

3. Thefts directed at recycling centers around the county, which are often shown to be conducted by asylum seekers. Likely a systematic exploitation of more desperate individuals. Almost all municipalities in the region have losses of metals and e-waste from its recycling centers. In some places the thefts occur more systematic, comprehensive, and the staff there has at times felt personally threatened. Asylum seekers are stealing preferably electronics and e-waste, but also metals. There is an organization behind it, e.g. creating caches near roads from where the material is later
picked up for further transport. East European groups are also known for stealing metals and vehicle batteries, but these actions are shown to be more a part of occurring “theft-tours” taking place in Sweden, than directed against recycling centers specifically.

4. Administrative violations in the transport sector are revealed with illegal actors in car and truck exports, bio energy, the berry picking sector, forest clearing- and tree planting-industry, the construction industry, dumping of hazardous waste in quarries / mines.

An environmental prosecutor, on this topic, pointed at how the prioritizing on thefts from recycling centers is very low, from the Police’s side of things, for reasons of e.g. lack of directly apparent severity. It is often clouded in terms of showing more than a case of arbitrary decision, as there are difficulties when it comes to holding someone accountable unless someone is caught in the act, which is also still quite rare in these cases. I will quote an environmental prosecutor directed towards the gathered Police and authority personnel; “This is very much about us becoming better at knowing what it is we see” (Personal communication with Environmental Prosecutor, 2015). It does not take much effort to see how an intelligence operation, geared for this specifically, from a multitude of angles would help with just that.

An example of ties to organized crime is visible, also strengthening my initial hypothesis of links between environmental and other types of criminal acts, which recently occurred in the northern region. I was shown information about a rather recent instance of an illegal waste dump encountered in Luleå municipality. This waste dump, except for the suspected act of illegally selling said waste (I use the word “suspected”, in this case, on the grounds on me personally being unsure if, at the time of writing, a verdict is yet reached), also served as an illegal gas station, as well as handled sales of narcotics. Links such as these are heavily suspected, and chronologically more evinced, to be much more common than initially recognized and not any one kind of isolated occasions (Personal interview with Police, 2015).

Another case that took place, early in November 2014, when I was seated at the County Administrations environmental protection department I did get a glimpse of the current cooperation between Supervisory Authority and Police. The Police informed about a stopped Latvian truck carrying a big amount of car-tires and batteries. There was a suspicion of this being illegal waste that was intended for transportation across the border, so it was asked that someone was to “come and take a look at it”. Later it was concluded not to be waste-products, but unused and seemingly “pure” merchandise. Thus this time it was not a case for the county administrations environmental protection department nor was it a crime. Even so this shows that the connection between the organizations looked to be working, although uncertainties as to who, from the Environmental Protection Unit, should have gone to investigate the suspected waste were present. Judging by the apparent surprise, as the call had come in, it seems as though these errands, or happenings, are still rather few and/or far in between.

A complaint I heard from a few different persons, regarded the lack of an on-call operator. These calls are never prepared for, and it interferes with the normal day-to-day. That is
something that might need to be readjusted and from the Police’s side of things they say they want a better relationship between the organizations seeing how they need to have someone from the supervisory authority’s side to come and partake in a critical situation (Personal interview and personal observation, 2014).

Before proceeding to the next chapter, let us swiftly reflect on the two case studies in this chapter, ScanDust and the illegal transboundary shipments of waste. In both crime and criminal conduct has been in the center. The examples have shown how current standards, or actions, are insufficient towards lessening the present implementation deficit. Now let us look at what an Environmental Intelligence could contain to help limiting this deficit.

5.2.2 The ScanDust case
There are causes for concern when including governmental authorities in ventures that carry an environmental risk if not kept below certain limits. To elucidate the need for a continuous verification and awareness of projects and supported operations I will highlight one of them, adeptly dissected in a case study (Carlman, I. 1993). Why I select this case is that it has already run its full course. The entire scope is visible and so one may learn from history how, in this case, this legally proceeding project came to cost large amounts of money and was allowed to continue degrading the environment for a long time.

In the 1970’s a company called SKF-Steel developed a technique which came to be called “plasma smelt”. A technology which would help to melt metals from steel industry waste sand. This had only been small-scale tested in a facility in Hofors, Sweden. In the early 1980’s the company deemed their technology to be ready for a large-scale deployment and this turned them towards finding funding and a locality for this project, which ended up being near Landskrona, Sweden. A city that had recently been afflicted with a shipyard closure, causing ~3000 persons to become unemployed and the Swedish state had recently, on accounts of the current state of unemployment ventured large sums of money in employment promoting activities. One of these activities was to be a project that came to be called ScanDust, for which funding then started to show.

The spring of 1982 saw the start of plans to engage said project and shortly thereafter followed a verbal agreement between shareholders. September saw the first general meeting of shareholders taking place. Besides the sponsors found, some time thereafter the Swedish EPA came to venture around 25 million SEK (whom seem to have had a belief that bottomed out and stuck in a strong urge to solve an environmental problem, causing a blinder-opinion to lead). I will not go into all details surrounding this ~one decade long case here, but I will point at how this turned into a complicated case in which conflicts grew in various ways between different parties. Stakeholders blaming lacking information and claiming that the Board of Health, among others, had misunderstood the environmental gain and how there really was nothing to worry about. Besides this, the “fact” that this was a new technology, so there were no way of knowing what and how emissions would look like.

It would still take a long time before this project saw the end. Seeing how there had been clear, and rising, amounts of zinc, lead and sometimes cyanide in disposed water – a waterway that had been redirected to the port, without authorization from the county
administration (nor their knowing), due to current wastewater-drains proving to be inadequate in proportions – and discovered when in 1985 quantities of dead fish was discovered in a dock downstream. Before that, the main concern had been emissions towards air and limits set pointed towards this albeit they were continuously transgressed and never met. Emissions like carbon monoxide, ammonia, cyanide, nitrogen and sulfur oxides as well as various hydrocarbons remained in focus. Persistent and biomagnifying substances directly and indirectly hazardous for human (and animal) health, as well as some extremely potent greenhouse gases, with the damage they cause us directly and over time no less than alarming and well known.

Limits were transgressed but instead of a reduction they still, during the 1990’s, kept contending that the probation for these too large emissions should be prolonged. Criminal acts which repeatedly were allowed to continue due to repeating reprieve based on e.g. hollow promises. To sum all of this up it is sufficient to realize that the total money required (e.g. for restoration from damage caused to society and environment, for legal costs etc.) could have been substantially limited if more resources like time, work and money would have been put into the project initially, as the Stern review highlights (Stern, N, et al. 2006). In total it could have saved on both resources spent and environmental damage caused. I end it here, and will not go into the then following reasoning and plays with prestige. In the “end” it was shown that the only consistently, to the project, negative part was a private interested party who appealed against a project considered inappropriate. This private party gained enemies in this cause but also allies, and it was thanks to this individual that we saw an appeal by the government with a terms and conditions sharpening regarding the emitted dust. This was a case of fraudulent behavior, of criminal behavior. A deception based on e.g. lacking knowledge from both actor and regulator which, while spanning many years, in the end not only harmed economical interests but also threatened and damaged human health as well as cause irredeemable environmental harm.

5.3 Suggestions and design for a systematic Environmental Intelligence

Up until now this study have looked into the theory of implementation deficit and how this problem is part of the reason why there is a deficit. The study has also shown the stated problem and the present situation of environmental crime. Now I will reconnect to the studied cases and some material I came across, during researching the previous cases, which are of interest to give an image of some of the troubles and availabilities on the field of environmental crime prevention today. One could argue that environmental crimes from the Police’s perspective mainly exist from two viewpoints. One represents the “crimes on the streets”, where Police or someone contacting them notice something not quite as it should be. The other represents the financial and “crossed boundaries”-viewpoint where e.g. environmental quality standards or emission-limits are transgressed by organizations.

The first is often, initially, handled next to volume-crimes in general as the crimes today seem to be seen as equally severe. Volume crimes are crimes that could be seen as commonly occurring and where the preliminary investigation is usually led by the police. Although in environmental crimes they are lead by environmental crime investigators, and not other criminal investigators. Of the total amount of reported crimes in Sweden about three-quarters
are volume crimes \((Personal interview, 2014)\). However, environmental crimes are, from this point of view, often initially dealt with by the same external personnel. Here there is a risk of lacking knowledge to what is a crime according to the environmental code and what is just resorting to ignoring issues because “things like that is like it has always been”. Suspected environmental crime is often (albeit not always) noticed as a result of having happened in the same vicinity of other crimes \((Personal communication with Police, 2014)\), Instances somewhat prevalent in Sweden are that of illegal waste dumps.

At a meeting in autumn 2014 I was e.g. told about a time when a helicopter police had reported suspicious sightings when on a flight for another case. Upon inspection this sighting turned out to be a large volume of mainly appliances (illegally) dumped in a forest. This was not the first, nor the only time similar things had happened in recent time. I learned that finding proof and someone responsible is often problematic and this was lifted as a key problem. Again it was told to me how the procedure of gathering of evidence, to find the culpable party, is a major problem, in environmental crimes especially, in need of improvement \((Personal communication with Police, 2014)\).

The second is often the result of financial or authorization errors, when certain actions are taken, often by business-organizations, which result in limits being crossed or certain requirements not being obeyed. This places a business-organization as an, against the environmental code, offending party. The type of transgressions in this area are multifold in their variance and come in several versions, from big to small, such as a malicious spreading of poison or contagion to a careless insufficient environmental information which are two exemplified crimes which could come from the same actions by a perpetrator \((Criminal Code. 13 Ch, 7-9§§) (Environmental Code. 29 Ch)\). These financial crimes are often first noticed by supervisory authorities, during supervision-visits and the likes. Thereafter, if continued and not amended (by, e.g. a corporate fine) and depending on how serious a crime it is or might be, it is passed to an environmental prosecutor. Here the need for proof and to place liability is highlighted yet again.

What information is needed to help in situations like the two above, to assist in dealing with such cases when information is lacking? During the autumn of 2014 at a meeting with officials from the Environmental Protection Unit of the Jämtland County Administrations and the Water Regulation Firms (WRF, or “Vattenregleringsföretagen”), as well as subsequent dialogue with included parties after said meetings’ closure, I came upon some information which soon turned interesting.

I will look at a systematic design, as an example, where the Police have engaged the WRF to create a list of questions, to set in sequence when threats are reported. This list is a support with e.g. specified questions to ask someone calling in the alarm. Threats are those that could result in e.g. dam failure, such as terror-threats. Examples of contingency, like this, shows that some organizations are starting to become systematically tied to each other. To continue such development information ‘just’ has to be further interconnected. The WRF are in possession of certain to do-lists within the contingency plans for dam failure and other "contingency situations". Those are lists with information about e.g. which department does what and when,
about who is ‘on call’, etc. The alarm is generally placed to "SOS alarm" and not to the e.g. county administration. This is because it will then be apparent from where (e.g. geographically) the alarm comes etc. and any response can be further controlled. Agreements were previously signed by each company individually. From 2015 this is collected in regions (not to be confused with the regions of the new Police Authority) showing an improved systematic progress. Emergency numbers and an "Official on standby"-number (TiB-nummer, "Tjänsteman i Beredskap") in place as authority-contact. (more about the potential of this in 6.3). (Personal communication with officials, 2014).

Furthermore, to highlight another adjacent problem, there are also examples of suspected environmental crimes remaining unresolved, with investigations sometimes not initiated. Due to the Police at times does not have the means or potential to come to the area of a suspected crime. A case I was told about during a supervisory guidance-meeting, in late autumn of 2014, was that of illegal water scooter driving in a protected area where the Police “decided not to show up” (Personal communication with official of Bergs Municipality, 2014). This is perhaps, as the municipality official suspected, due to reasons of lacking time or other priorities. With better knowledge an example like this might not have been “discarded” like this. Perhaps it was due to lacking personnel, in which case evidence could have been gathered by the closest supervisory authority, who heard about it first, and through a cooperative linkage conveyed that material to the Police. Photographs may have been taken by the one calling in the alarm of the transgressors as it happened. The crime might not have been stopped, but justice would have had a better chance of subsequently being served. It is nothing revolutionary new that someone gathers material, which is presented to the Police in the form of potential evidence. Here I point at the improvement in time and knowledge-gathering it might bring to have a system in which this is standardized. A system holding the information which is, when needed, directly communicated to the appropriate authority and personnel. Information regarding knowledge of the event, the materials gathered to support it, the geographical location, time and date of the incident, and details to help single out responsible parties etc. For further reasoning see chapter 6.3.

The establishment of an integrated local and regional Environmental Intelligence may meet problems regarding computer systems. This is taken into consideration, with particular focus, to show how this study would even hold the potential to counteract this problem. The problem orbited here (as I was repeatedly told about from several positions, as well as personally noticed at both Police and County Administration) comes when each organization uses several different, often disconnected or unconnected, systems of their own and the officials working therein are expected to make sense of all knowledge they have accessible through this sustained web of deployed information and how to reach it.

In conversations with personnel at the criminal intelligence unit this problem was presented to me and especially held as a major problem of their daily and continued work. The amount of different systems, with overlapping purpose, which consumes “probably around 60% of our work-time” because of several issues, e.g. complexity, intricacies and illogic or obscure links was described and shown to me,. This was held as a definite problem stated clearly (Personal communication with personnel from the Police, Criminal Intelligence unit, 2015). Systems
that were introduced at different occasions over a longer period of time and continuously expected to function well together, but they were often laden with failure.

The reasons for this are plentiful, but there is some research previously performed on this subject. One can find wording surrounding the issue of growing data on the grounds of digital management and information systems role in business globalization, indeed not the same sector as this, but the wordings speak for themselves “With ever-increasing speed, transactions are conducted; likewise, with ever-increasing amounts of data to be captured, analyzed, and stored, companies have to thoroughly plan and manage their infrastructure needs in order to gain the greatest returns on their information systems investments” (L. Jessup, J. Valacich. 2007). By replacing the words ‘companies’ and ‘investments’ with ‘organizations’ and ‘purpose’ one should soon understand the point of such an argumentation. While this is going on in this area, similar problems have been realized and researched in other sectors, such as medicine, where the issues are causing different kinds of problems in the end but the reasons for such problem’s occurrence are similar enough to compare.

In the medicine sector they were seemingly quicker to notice the impact of such issues. An article published, 2002, in the International Journal of Medical Information, dealt with problems like this. The author stated how there are several reasons for failures in information systems and their implementation, two of which are “Communication: ineffective outgoing communication, ineffective listening, and failure to effectively prepare the staff for the new system. Underestimation of complexity: missed deadlines and cost overruns & lost credibility.” (N. M. Lorenzi, R. T. Riley. 2002). The words I put in bold shows parts of the reasons that tie into this study especially, and implies how a singular system with the focus on user friendliness and simplicity towards the user would triumph over a systematic multitude. However I argue that only collecting apparently relevant information and piling it onto the problem in question is not enough to help alleviate environmental issues, rather it risks to slow down the pace on the path towards alleviation and ensure it consume even more time.

Solutions do not just appear no matter the amount of information gathered. They have to be found out through critical thinking and troubleshooting. But it should not be left to a single few persons gracing such attempt with their presence. Instead, and according to Wortley and Mazerolle, critical thinking and troubleshooting must be weaved into everyday policing. Already working to protect civilians and prevent crime the Police would be asked to envelop a new system as well. The foundation of criminal prevention and solution stands on grounds of action and counteraction, or Problem-Oriented Policing. In the USA this was preceded by an efficient interlinking between that alignment and environmental criminology (Wortley, R. Mazerolle, L. 2008).

This falls well in line with the Swedish example, when “jumping to” more problem-oriented Policing, from the 90’s when around 50% of the Police force was set on crime preventing community-policing. This approach did not work very well at first, with reasons pointing at lack of education and training in problem-orientation as a tool and the lack of a basic understanding, what was needed and how to organize such an approach from the national Police Board’s part. From 2005, though, this was part of the national Police Academy’s
education given to crime analysts in which problem-orientation carries a hefty weight. Today it is also seen it in the Police Intelligence Model. I will not further explain the basics or details of Problem Oriented Policing or how to implement it but I deemed it a valued addition to extradite here since I believe this study, and the Environmental Intelligence system it suggests, falls well in line with a problem-based orientation of crime-prevention.

A problem-oriented strategy turns Policing from handling crime and dealing with issues as they appear to focusing on the prevention of crime by practicing and applying scientific principles in the daily work. This is often done by the theories that make up Environmental Criminology. Environmental Criminology draws its expertise from studying the patterns shaped by crimes in order to find solutions in respect to environmental impacts. From these solutions regulations could be developed. Regulations subsequently used to shape a forecast regarding arising criminal issues and which in the end could assist in the ongoing creation of crime-preventing designs (Wortley, R. Mazerolle, L. 2008).

In systematic descriptions for an Environmental Intelligence it is important to include the binding judicial procedures. Since this is a system focused towards the prevention and judiciary results of environmental crimes key aspects and strictures from the Code of Judicial Procedures must be included. An example are the initial paragraphs in the Code of Judicial Procedure (23 Kap. 1-2§) about the initiation of investigations and how an investigation shall try to find who is accountable and about the collocation of proof. Preliminary investigation is said to be initiated as soon as it, due to a charge or other reasons, exist grounds to believe that an offense, subject to public prosecution, has been committed. During preliminary investigation it shall be investigated who is reasonably suspected of the crime and whether sufficient grounds exist for the charges against the person. The case is to be formulated so that the evidence at the trial may be adduced in a context. An important thing to keep in mind from these judicial transcripts is that a system like this must not, in any way, counteract procedures. This is especially important when cases are initiated, proceeded and judicially trialed. What an Environmental Intelligence should do is to facilitate proceedings and gather input in an ordered fashion to, e.g. simplify the gathering and ordering of proof for a prosecutor’s case.

A final part to consider for the systematic design is the desired place of having somewhere to turn. “The need to report” was talked about at an EP-unit meeting I attended at the County Administration as being a current problem and something lacking clear information as to how to go about when an official had information important to save regarding something “not really a case”. This took the form of an expressed need for authority-officials for something akin to a database to record or report to even if you do not know exactly what to report for or against. Simplification, away from the current complicating system-rules, is thus wished for.

6 Discussion
So far, I have looked into and shown examples of environmental criminality and subsequent circumstance. Such circumstance is described as previously stated by e.g. Hardin (G. Hardin. 1968), Meadows (Meadows, D, et al. 2004), the Bruntland-report (United Nations, 1987). In brief the population is constantly growing, with this follows an ever increasing environmental
degradation, and part of this is due to environmental crime which is where this study has its is focus.

Furthermore, the study has related to Westerlund’s three filter-theory (figure 1) and theory of legal implementation deficiency (figure 2). These theories also connect to the problem of environmental crime, how such affects the environment, and part of why there is a legal implementation deficit and hence this study.

The study shows examples on how environmental crime is handled today. It has touched upon how an Environmental Intelligence, as a systematic concept, ties into the reduction of environmental crime by providing Police and Supervisory Authorities an improved way of reaching and preventing the cause of said crimes. Besides improving the implementation the Environmental Intelligence would reduce the current environmental legal deficiency by explicating ways for enforcement. Without enforcement the implementation is stagnated. I will show how this Environmental Intelligence, in turn, could lead to a lessened implementation deficiency and thereby a lessened environmental impact, connecting back to the theories initially implemented. In the coming chapters I will provide reasoning as to how and what could be learned from the discoveries presented in the previous chapters and how enforcement of environmental crime can be improved by such system as herein researched.

6.1 Reasoning tied to the illegal shipments of waste in 5.2.1
First, in this chapter, I would clarify that to reach a better rate of criminal resolution and prevention, performed in a swifter pace to prevent unnecessary loss of time, an Environmental Intelligence system on local and regional level, as it is intended, should strive to attain and maintain efficiency and simplicity for operators. As a system which (1) provides a live-feed of information between the present organizational links and at the same time (2) remove several obstacles of unnecessary hardship (e.g. as the need to use several different systems or accounts) and be time-efficient. Chapter 6.3 will develop these theorems, but they are initially mentioned here to highlight their inclusion throughout the reasoning in this chapter. The links between Police and prosecutors have already been mentioned, but besides that links exist between them and guidance and supervisory authorities. Such as between the Environmental Protection Agency who is accountable for international guidance and towards the County Administrations. The County Administrations holds the position of supervisory authority on international matters, as well as a position of national guidance towards the municipalities on national matters. Municipalities, who in their position is a supervisory authority on national level. Here the Environmental Intelligence would provide a live feed (e.g. updated information automatically updates for all users, who can see what, by who, and when it was updated) which upon any given case or circumstance signals and connects the right (by type and geographic location) authority when need arises. Potentially to whatever ‘on call’-position is tied into that certain element of case. A ‘warning’ sent with direct information before even the first call has been made and onwards with constant ‘real-world’ information availability and updates. In short it would be a feed of data to enable operators to work with a constantly updated knowledge bank in a system to e.g. avoid otiose waste of time.
Now I will reflect upon these illegal transboundary waste shipments. Regarding the “GRÖT”-project, described in 5.2.1, the aim is to develop an action plan for the working methodology of the project. An established Environmental Intelligence would here form a valuable asset. This methodology focuses on the transboundary shipments in general and an Environmental Intelligence would support and deal with all environmental criminology-tied information for any project linked to crime-reduction and resolution. It also aims towards a detailed information retrieval on “interesting objects identified during the survey”. This would perfectly be stored within the Environmental Intelligence. There are aims, within the Police, to continue and establish operational actions, here the Environmental Intelligence might support with environmental and terrestrial intelligence for the shaping of such actions where it would be deemed required. The GRÖT-project also realize the need for educational efforts to increase knowledge and to bring up-to-date knowledge, which would be no less than imperative, to such educational efforts an Environmental Intelligence would be preeminent. Another very suiting part of the project is the intention which aims – suiting namely due to the realization of the need – which aims to continue to develop collaboration with other agencies, which in itself is one of the core topics in this Environmental Intelligence study.

Communication with two of the intelligence operators working on this project pointed out that a vital part of environmental crime, and how to be able to prosecute and not be forced to lie off, is to see how other types of crime are tied to it. For this the Police are dependent on the supervisory authorities. As an example showing this I was told about when police, after having identified and found out that a scrap company from a city in northern Sweden travelled down to a city in southern Sweden to "go through" a shipment of waste shipped back to Sweden, needed supervisory authority-help. To see if something was illegal according to suspicions and to discover what and why (type of materials shipped, reason to have it shipped back etc.). The previous is tied to an example, but I am not at liberty to develop further. The point being, there is a clear need to raise attention on this kind of matters.

Environmental crimes can also be reached in other ways. An example may, e.g., become a tax case as these feigned legal operations are bound by several weak links. Or, as I was told, when certain papers were signed then subsequently retracted as “a clerical mistake” which eventually turned into an attempt for a scrapped truck to be exported in order to be sold, “in working condition”, elsewhere. It did not meet Swedish standards, but fell below the error limit elsewhere. The key, I was also told, lies in following the money (Personal interview with Police, 2015). Crime like in these examples likely carries no other real, prime, incentive for the ones in charge of it, behind the backdrop. A need for an Environmental Intelligence seems to be crystallized but the need would not end in environmental crime singularly, as they are so often tied to other crimes.

The problems today are also tied to our multitude of organizations; the EPA, the County administrations, the tax authority, the EBM (Ekobrottsmyndigheten – eco crime unit) and so on. Often at least one of these is in possession of information about a case. But today neither of these is in the possession of an intelligence operation, nor do they “per default” link gathered knowledge and conclusions back to law enforcement agencies. Hence the responsibility falls back to the Police. The need for new links is spawned and hereinto made
clearer still. The Police are in need for a better cooperation with the supervisory authorities as well as a better way of having and organizing this cooperation.

On the topic of local surveillance and reporting the interviews also highlighted how municipalities must look at more than the mere limits (e.g. emission-limits or amount of collected scrap). I am told it is, in the contemporary, evidently apparent how many of them just “do not want to see the problem, even though it is staring them right in the face”. And, for this reason, they seemingly often do not even dare to contact the Police when a suspicious instance is observed. I believe problems like these, too, would be reduced with the transparency presented through an environmentally founded and focused intelligence in which municipalities are a part like the other, now centripetal, governmental authorities. Thus remove the incentive for ignorance through a united cooperation with a unifying goal.

Regarding the issues of reoccurring environmental crimes, e.g. waste-shipments, where the Police is in need of a Supervisory Authority’s assistance the problem is to hold someone accountable. Without culpable individuals criminal investigations soon run aground. Interviews with personnel from the County Administrations’ environmental protection unit and Police personnel the following show us that side of current problems in daily work and ideas on how it could be amended. The examples leaned upon was taken from occurrences which had happened in very recent time, and the facts were either “right there on paper” or gathered from experience, and they are also regarding the already mentioned (plurality of) examples coming in conjunction with illegal and transboundary waste shipments.

I was informed about how a majority of the occurrences of transboundary illegal waste shipments being stopped are occurring continuously with the highest annual volume taking place in October to November. The transports are stopped by the Police (who are likely not able to find out about or stop all of them brings an added number of unreported cases to the total). Transports are filled with e.g. used tires, which are potential waste and hence the need to contact the county administration and additionally gained from potential theft. This often falls under what is known as a ”Pollution Crime” (INTERPOL's nomenclature). Except for tires other common findings are coils, compressors etc. The known facts that shipments going from here to Latvia, Lithuania (the most frequently occurring) or any other country in Eastern Europe are increasing.

Relevant documentation for transports is often lacking, some are not currently required by law and accordingly this creates problems regarding approaches. It is common for products, such as used tires (which just manage to uphold Swedish standards for use), being sold from here to, for example, Latvia in order to be resold there. It is also common that said transports are carrying stolen tires (which are probably also intended to be sold). This creates a persistent problem as the police having stopped a transport do not know whether it concerns products or wastes, if they are stolen or not etc. It is likely that further and clarifying documentation is required. This is also where the county administration is unable to send a controller (such as an on-call operator) when the transport is stopped a problem emerge.

If the responsibility is e.g. placed on the dealers in Sweden, which are usually professional companies, information about the transport, and its contents, could be connected via a "proper
organization” (potentially the county administration) which can then directly link this on to the Environmental Intelligence in which the register of permitted / registered passages is updated. Then the Police have a simple connection to directly ascertain whether or not the transport is legal. This information about requirements should also go outwards towards the buyers, wherever they be seated, that their purchase must be registered and if this is not done, it could stop the shipment from continuing and not reaching the intended destination.

Regardless of how information is received the information must, first and foremost, exist. The question is then "Is this an allowable transportation or is this stolen goods?" During several, unrelated, occasions of personal communications and interviews with both Police and personnel from the county administration I learned how there are very many and very large volumes of goods like the exemplified used tires going on in Sweden today. These are classified as waste only if they are sufficiently worn down (Personal interviews with Police and County Administration officials, 2014). That they are being sold is of course permissible if laws are followed, but how are these occasions smoothly separated from those where admissibility is non-existent? A step in the right direction, to reduce both unreported cases and difficulties in actual situations, would be to use a cross-organizational systems with this in mind, this would ensure that personnel obtains the correct information on a swift basis.

The Environmental Intelligence could, with its current information and real time data stand in a position to assist law enforcement, advice supervisory authorities and remain in an objective position without reasons for subjectively go for or against any given party. Private or governmental alike. With that follows how the Environmental Intelligence would be in an objective position well suited to prevent organizational wrongdoings (similar to e.g. the example in 5.2.2) allowing environmental harm to continue over long periods of time. In doing so it would act as a counterweight against legal implementation deficiencies (figure 2) on environmental matters especially.

6.2 Reasoning tied to the ScanDust case study in 5.2.2

Looking at the case studies, let us start by seeing what else to learn from the ScanDust example and connect to a systematic Environmental Intelligence. This one example picked from the legions of similar specimens, concurrent and consistently appearing in our news today as it did previously. One thing to learn from this example is that the lack of up-to-date and concurrent knowledge about e.g. environmental stress and the cost of not acting are not only perceived as hazardous from a multitude of angles but also that it is outright dangerous. ScanDust was allowed, legally, to keep emitting hazardous amounts of emissions for several years, with governmental backing. They did, illegally, also dump certain chemical waste, but this is strangely somewhat besides the point here. A key point is the amount of time during which ScanDust’s activity was allowed to continue, and time is never on side of the environment in cases when its passing allows for more toxic emissions. In short the ScanDust-case was a case which due to erring technology went bad but was kept running for a long time due to e.g. prestige and to the fact that the Swedish EPA was part of it (likely prolonging the time until a resolution was formed in hopes of the example turning into a successful venture if given more time). Here it was not until a private person managed to file a legal complaint that it started to turn around, something which eventually forced the company to cease. This
shows a clear implementation deficit, a legally backed result which, as it happens, would be part of why the last columns in figure 2 are not contemporary reaching their intended height.

Even if somewhat beside the point in the actual example, as stated above, looking at the emissions in question in the ScanDust case I theorize how a more detailed and maintained knowledge about different emissions could help. E.g. carbon monoxide, a substance common to cause anthropogenic poisoning (Committee on Medical and Biological Effects of Environmental Pollutants, 1977) of which chronic exposure of low level concentrations is highly suspected to cause heart and respiratory system disorders (Manahan, 2010). Being able to provide, for any case, all the known environmental risks or potentials right from the start would likely limit transgressions like the ScanDust-case by a significant amount. There exists a good amount of environmental knowledge today, but that information is not really worth much unless it is put to good use. This is a use an operating Environmental Intelligence would strive to ensure and work into our common normality by its interlinked system solution, on several levels, embraced by a control unit for continuous conduct and response.

An Environmental Intelligence system would be well suited in cases similar to the ScanDust case. Cases similar to it, where organizations apply for a variety of permits, are rather common and this brings potential, seeing how they are initiated for goals of gain and progress. An Environmental Intelligence would help operatives cease chances to ensure a minimization of damaging ventures being given help to progress by limiting the implementation deficit such ventures could add by providing the correct authorities with environmental knowledge about the intended ventures. Besides this I do believe an Environmental Intelligence working as a centralized knowledge-bank of environmental concerns and issues transpiring around us would be a much needed help for the cooperation between e.g. the Police and the County Administration. Help such as, in cases like the example previously mentioned, by saving, and thus possessing, all acquired knowledge from a certain situation. As well as any situation that might be connected to it, having taken place in the vicinity or in recent times, with connected persons of interest etc. All to learn more about a situation, right there and then, and use such knowledge to further assure handling the current situation in the best possible manner and simultaneously reducing time required to reach solutions.

6.3 Reasoning tied to suggestions and design for a systematic Environmental Intelligence in 5.3

All data and information previously researched and examined, unless specifically pointed at, will henceforth simply be referred to as ‘data’.

An interview by Wennström puts more weight onto my discoveries regarding the computer-systems used within the Police. Seemingly, “It is catastrophically bad! That, for example, IT-systems do not work when you are going out onto the scene of a crime.” and “Computer systems within the Swedish Police Authority is a catastrophe” (B. Wennström. 2014).Within this chapter I will show what my research, in this area of systematic potential, infers.

What if this (as reviewed in chapter 5) data was linked, unified in a single system, and readily available for both reasons of preventing crime and keeping an up to date, backwards
viewable, databank with current and historical knowledge-links easily accessible for whichever designated party in need? In terms of the crime-side of things especially, there ought to be different levels of access, authorization levels, and an idea like this is heightened by the sheer deduction that organizations would have an easier way of operating having access to only “their own” side of an issue. I asked an analyst at the criminal intelligence whether or not all the information, all the cases and queries, would potentially work in a unified system and the answer was a definite “yes”. Not only that, it would also “very likely save time and allow us to spend more time with the work of actually finding and assembling the required information”. Today, as was described and shown to me, the criminal intelligence works with more than six different systems, with an overlapping purpose and distribution of domain. Often it seemed to be vague which system to use when searching for a specific issue, evidently consuming even more time better put to use elsewhere. This information being used, some would claim, is already present. That it is available. I, and numerous professionals asked by me to elaborate on this subject, would claim that as a false positive (as suggested to me in several interviews and personal communications, 2014). The data exists, from a certain point of view, but it is spread out and not readily available. Hardly anyone, including the operating Police, knows the extent of collected and known data lurking and slowly updating through toilsome chores in all the different and non-connected organizational localities and often private parts of the web, e.g. intranets.

Additionally this data is seemingly not collected with any greater aim to help directions, but merely to fulfill the latest requirement put on top of the current. That is touching upon a manifest concernment which – according to deductions made after several observations throughout this study – seems to have been emerging the last few decades: New information leading to new decisions, leading to new ways of dealing with ‘the new’, in turn leading to new systems included next to the old ones which are kept. And what does this leave other than an assorted congregtion of clustering systems unrelated to each other but each dependant on input which soon turn redundant? It seems to me that it is a cluster of branching where every bough grows their own way, irrespective and insensate of just about all others, and yet somewhere along the line there is a wish for them to align and make sense. The Environmental Intelligence could be the shaper, the intelligence alignment or a “shaperate” of sorts, fashioning these branches to be visible and in collaboration next to each other, no matter their e.g. geographical distance or chronologic situation. This would also follow well in line with current law, how those responsible for any information are required to cooperate.

If agreements like those signed by the WRF, as mentioned in 5.3, are now in operation then perhaps this too can be linked into a "total system" such as shown on alarm maps in a central station. Where data, including for example external factors such as threats, are continuously added as they appear, guaranteeing it all being quickly visible and transparent for the appropriate personnel. It would likely be wise to remember how – like in the governmental so too in company owned organizations – it is usually at the individual level that responsibility is deployed. And individuals are, generally, either too time-pressed or, hopefully more rarely, for various reasons too indifferent in order to review "all problems" at a detailed level. To solve this I would argue how society is at an imposition to find a sustainable angle in what is
currently in use or find new alternatives altogether. This course connects to the police, perhaps mostly because of individual time and knowledge deficiencies.

Other problems often seem to come to be akin to "Who is responsible?" and "Who should be contacted?" etc. In this batch of potential and different problems a central unit would be of the utmost benefit. For some of the same reasons that we, the citizens, have one emergency number to call, no matter the type of alarm. Had the environmental aspects of crimes been thoroughly documented, recorded and made more visible it would be likely that the mapping of links such as these, conjoined with the mapping between the other crimes (burglaries etc.) would permit further conclusions to be drawn. Not only in a number of crimes committed but also in terms of uncovering leads and proof. Environmental conditions are likely often traceable back to their original geographical location. As example; could not documented soil-conditions from place X, later found on boots or equipment in the back of a truck far away, in place Y, help to show some kind of link? It would give something more to go on when documenting and learning a suspect’s previous route. This could be further exemplified with current figures, albeit today they are not readily accessible to the police when searching for links etc. Examples of such current figures could be the data about EBH-objects, or zones, risk-classified by the Swedish Environmental Protection Agency in their MIFO (Methodology for inventory of contaminated sites – report 4918, Swedish Environmental Protection Agency, 1999) which deals with such areas in the Storsjö-area (in the county of Jämtland).

Without this in a system used by operative personnel, however, these links are hard to draw. As it is today, according to discussions overheard at the Police’s technical division, it seems to be only by chance one manages to. If environmental conditions, changes and aspects were documented and continuously updated this could stand out as a tool for discovering links between locations. Comparable to how living tissue – and through that; identities – can be traced by discovered DNA on found objects (Personal communication with Police, 2014).

Yet another problem this could help reduce may be certain infrastructural problems and prevention in e.g. the connection between the emergency situations at organizations and the need for a connection to the transport department/authority. "Is that road passable if...". A continuous connection would keep the Environmental Intelligence aware. Additionally, and similar to this, the power supply status in the country and its "Interaction during disturbance in the power grid" (Svenska kraftnät, 2015) is working towards a "disturbance Web" to show the status of electricity or mobile networks, is being used by some organizations and continuously developed.

Imagining the above interconnected in an Environmental Intelligence; operators would be able to see statuses, geographically, and besides the known environmental status and impacts also the current situation of waterways, infrastructure, electricity, telecommunications, etc. And who to contact to receive or deliver further info and so on. Additionally, seeing such statues together would certainly stand strong when it comes to drawing conclusions for solving and preventing criminal injustice as personnel would start the case with "all current information close at hand" (words which came up during a dialogue with a Police investigator about these ideas). Additionally, having these statues monitored in a given case, and being
able to see potential changes or alterations in some part of the system would also prove beneficial for purposes of unearthing proofs against suspected criminal action.

As an Environmental Intelligence would, as mentioned, work on several levels there would perhaps be need for a variety of access-levels depending on the organization. I stress, however, that I believe here the fewer is the better, to avoid unnecessary mistakes and complications. Mainly, and preferably, there would be one level for the common utilization and one for a control unit seated within the Police. A control unit in place would act as a main cog in an ever spinning wheel of environmental case-solutions. As was illustrated in Figure 3, the picture showing the “environmental incident ley-lines” (nomenclature spawned at the figures creation) in which the Police Authority already acts as a rather central organization. The control unit would e.g. work directly with the police for helping supplying information for a case, deduct potential cause and so on. It would ensure that the continuous stream of updates is “within protocol” (and not, for instance, made due to a mistake), as well as keep track of data security, backup etc. The common utilization would be used along work both within the Police Authority (different units) as well as at supervisory authorities, such as the County Administration, to help with cases, as the majority of the work, and to be where new data is registered, and replaces the old. It would also be a place where old but still active data from a legal point of view remain available. An example could be an old verdict with still enforced latent conditions regarding a certain geographical location. If this verdict comes up when a County Administration official works a case of shoreline protection supervision this official would ensure this old verdict is submitted to the relevant location.

An input regarding this in a discussion with a Police Officer told about how it is likely that: “a variety of connections between an Environmental Intelligence on local and regional level and other institutions, such as the National Forensic Center (NFC, or “Nationellt forensiskt centrum”, a department within the new Swedish Police Authority), could serve well as a modular part of an effective construction of a corresponding division or system”. But to just intend a systematic solution to help reduce and prevent environmental crime one soon runs into the harsh reality of understanding. This study has already shown how understanding rarely appears by itself. To facilitate and help bring said understanding forth education sessions regarding the issues this system should help tackle is likely in need to be continuously implemented for the personnel intended to use it. This appear essential as organizations, governmental and others, with all of their employees are in need of being able to identify a plurality of different environmental crimes as well as being kept up to date with recent understanding. Also private organizations are likely in need of information and knowledge to understand the need to report, notify and advice on e.g. suspicious findings or sightings but this is an area in need of future research, out of scope for this study. However, what still remain in scope, in regards to the research in the medicine sector as mentioned in 5.3, is how in the end it is “normal people” who will work with these systems on a daily basis and if these persons, police and others, are to become more efficient, their use of systems must change and turn into a cooperating web of readily accessible and editable environmental knowledge. Perchance it took the need for working with life more directly, than on the further reaching scope of governmental and environmental care, to spark the conclusion that this was
a problem in need of amelioration. But despite of whatever reasons to it the aim and purpose of such research may not be similar but, to the rising issue in this case, the stated problem is.

For the sake of understanding and the hope of comprehension as to how a cross-organization cooperation like this one would look one would need a better view as to how I consider a system like this in operation. Even though this study is not aiming to provide a definite answer to this (that would have to wait until a future publication) I will herein develop briefly as to where the ideas are en route. But again I would stress the following: It is important when forming a system, of such magnitude of which I describe and imply, to remember and ensure that such a system, an intelligence service in which multiple ends of the legal spectrum will both add to and learn from, must not divide when meaning to unite its efficiency.

6.3.1 Conceptual systematic design

This section will develop on a conceptual design of an Environmental Intelligence system, from the perspective of environmental betterment through a systematic design to assist environmental legal proceedings. This part of the study acts as a concept towards future research and what an Environmental Intelligence system would do well to include, as well as to explain further about the systematic intent and ties. This part of the study is, therefore, not the major part building up to the main researched conclusion but it was performed, and kept in the study, to elucidate and explain e.g. needs as well as ties to international uniform intelligence systems such as INTERPOL’s Ecomessage system (INTERPOL, 2014). This conceptual design is based on reflections towards existing systems, in use today, and how such systems seemingly fail in intended efficiency and intent by e.g. consuming an unnecessary amount of time and focus from operators. The conceptual design will herein be illustrated with a “temporary screenshot” of what a system like this might look like on the screen of an operator’s workstation (Figure 5). This is, of course, but an early mockup but it is likely to serve to illustrate the lines of thought a little bit better and could help explain the general idea. The green number-markers serve as “anchors” for further illustration and referencing to the figure (Figure 5).

To start is a consistently updated database of information about localities, organizations etc (1) which would be simple to search (6) and find (through either text or geographic localization) and information about localities which would be simple for a user to adjust and update (4) and, for input data, real-time GIS-solution connected to maps, both (for the user selectable) drawn maps together with satellite maps and a simplified Computer Aided Design (in built areas where deemed necessary) (3) and, where available, a sketch-like addition with an added raster of coordinates to act as a complimentary part of this system (5).

A map (3) and 3D view (5) of an area in which it is detailed important data about the surroundings, such as ground-bound toxins or suspected illegal dumps (which could be seen by the red marking-example in (3)) could be selected to be shown. Any risk classification, (for instance) according to MIFO – Methodology for inventory of contaminated sites – (report 4918, Swedish Environmental Protection Agency, 1999) showing if, and how and in what risk classification, an area is polluted would also do well to follow in such a raster (3, 4 & 5). A view like such would assist in any preparatory and ongoing case in the proximity as officials
would find an ease of adding together the how’s and why’s. “Why is there not a dumpster placed in that factory backyard, when the path between buildings clearly is wide enough. Now, rainfall flushes toxins down from the trash-pile towards the groundwater extraction situated in the vicinity.” All of such a few clicks away for any employee signed in at work at the county administration, the police, the environmental protection agency etc.

All the in-data to manage and arrive to such collections of information would have to come from multiple organizations. The police office would not be able to deal with all of this on their own. As one example out of many for such potential input I point at a table with EBH objects and their available map layers (including bodies of water, showed pollution and comments) like EBH-Objects in the Storsjön water-area that could potentially threaten the water body. Each object class appears under MIFO. If another case, organization or zone have a recorded history of interest with links to the current selection or if areas with a certain status of interest lay in a geographic vicinity they would also do well to show up under (7 & 8).

A side-note, worth to mention, is that all the material in the EBH-portals internal collaboration workspace is only available to County Administrations, the Environmental Protection Agency, SGI (Swedish Geotechnical Institute) and SGU (Swedish Geological Survey). It would seem that for Police investigators to gain information about polluted areas from this they would, today, be required to include a third party (EBH-portal, 2012).

This would mean that if a suspicion are within range x there would exist information whether area x is within an "EBH-zone" or near an old factory, etc. Thus; reports and data from organizations such as the Environmental Protection Agency would be a vital part of the inputs
into the "whole". Again; here a GIS-solution would likely incur substantial benefits. In addition; to create a simple input of such data would be even easier if reports etc. are made by collectedly predetermined and established methods. It sometimes seems like methods as such are secluded within a certain organization, but at this stage I will leave this as is. Lastly, any significant planned actions would do well to also be included, and at what stage they are.

This, of course, would be a rather large system, in the sense that a lot of data is put in. But simplicity would be key, and not at all impassable. The GIS side of the system would work geographically. Click on a map (3) to see or change “what is there?” or add “what is there now” (1 & 4). Another side would be a search-function (6) where you can search through e.g. convictions or verdicts and/or established suspicion records (where responses would also, where possible, be linked to one or several geographic locations) and both, together, would allow for no escaping data or unplaced information. It could also show the links between cases, issues or old verdicts etc. in a way easy to view. I keep returning to arguing how a “GIS-side” would do well in this system, however working with GIS is today often backed up by different and complex systems which is not always such a well received part of everyday work, with wordings like “GIS is complicated, it gets stuck. Becomes mediocrity conducted and is soon inefficient.” (Personal interview with official, 2014) which tells us that simplicity for user/operator becomes essential in the Environmental Intelligence. That is, the “programmer complexity” of a GIS-system must be brought to a more user friendly approach.

A point of departure to locate or add information related to a location – or vice versa; information that could be taken from a place – I believe would be an important tool further on. All of this, mentioned here, should be wrapped up in a “wiki-like” function (1 & 4 especially) so that every change and adjustment, every addition and so on, would be traceable. What was changed, when it was changed and also by whom it was changed, always readily viewable and kept for a certain, deemed suiting, time. This would be there to counteract and alleviate pressures from mistakes, making any such thing swift to find and fix or readjust.

Through these different functions we would be using current system-functions in a newly developed system instead of insistently re-developing the wheel. Not only are such functions already proved to work well but they are also already invented. Thus cutting off hazards and hardships from any systematic creation and design as well as avoiding multitudes of “digital childhood illnesses”. New systems are nearly always the faultiest systems, which during use can be improved. (The throngs of euphemisms describing this are ample; I will not add one more here.) Therefore it is wise to look at well versed system types for uses herein intend.

From an international perspective, looking back towards Sweden, there is interesting systems being built up which would favor to keep in mind as the Environmental Intelligence system is developed. Interpol, in their systems developed to combat international environmental crime, has raised one part which this Environmental Intelligence should take part of. The third point, especially, in their designated response under the INTERPOL Environmental Crime Programme. It reads: “Provides environmental law enforcement agencies with access to our services by enhancing their links with INTERPOL National Central Bureaus” (INTERPOL, 2014). Besides that, there are other possibilities to “take after” when it comes to situations, occurrences and so on being “linked with…” another (7). Be it locations, responsible persons,
equipment and so on, a system with this function would very likely help the links which are intended to be visualized and made use of in this study. Additionally INTERPOL has acted upon the understanding of comprehensive knowledge giving the best potential to prevent and combat environmental crime. They work with an intelligence-led policing and “A vital step towards effective intelligence-led policing is the comprehensive collection of data from our member countries across the world, in order to enable a truly global analysis of environmental crime”. This is directed through what they call the Ecomessage system. This system provides all law enforcement agencies Involved, from all involved countries, with a uniform intelligence data gathering system. “These messages are passed from an enforcement agency in one country, via INTERPOL National Central Bureaus, to the relevant agencies in the other countries concerned” (INTERPOL, 2014). This is likely an important part for an Environmental Intelligence on regional and local level to take part of. To give and get information about all relevant cases possible.

6.4 Concluding discussion
This study has taken the reader through a network of branches over the chapters, each branch pointing towards its own partial conclusion leading up to the researched requirement of an Environmental Intelligence system on local and regional level. Branches like the examples telling of current troubles, knowledge gathered through interviews and observations, as well as from ideas forming theorems from their logical and scientifically based backing on how such a system could be employed, would include, and could be used. The main reason for this study in the first place was to take note of and, if found, describe the need for an Environmental Intelligence on a local and regional level. The need is herein described mainly through describing what environmental, health and economical damage the lack of it continuously cause us, such as a common understanding about the environmental effects and their severity of suspected criminal actions. The need is found significant. Besides that, this study verifies Westerlund’s theory of implementation deficiency as it shows how the streamlining of environmental crime enforcement could look which would in all likelihood improve results and thereby lessen the deficiency.

Today there is no real system in place to maintain an environmental order or prosecution, nor perhaps even a current volition, to force a conduct like this. Of course there are systems, there are a plurality of them, often plenty per organization and continuously different from each other. Having spent time at the Police authority and the County Administration, having viewed several departments of each, I have come to several conclusions. Some of which are; the systems in place today are too many, too disconnected and too much of a “necessary evil” in the minds of individuals working with them. Intricate, troublesome, vexatious and arduous were words continuously voiced in its regard. The hardship of gaining information, of updating information, of adding new information together was shown to be a continual bane of a common day’s work. Information about e.g. past events, current actions and of future projects, of ongoing, suspected and past crimes. These are, on paper, linked. Or at least they should be. But it seems that in practice there is a lot lacking for it to work as intended. Information known somewhere is not necessarily present elsewhere when needed. This is part of the deficit. It seems a complete revamp, a new and updated path, a system making use of
what good is already learned and at the same time rejecting what is found to upset efficiency is called for. A system which, when in place, would help learn from experience, grow stronger over time and help discard any notion of time-added complexity.

Today, in the middle of another Police authoritarian reorganization, the addition of new systems and suggestions are sure to be plenty. So why would another one catch much attention, especially a completely new one, in the sense of lacking a similar system, it would replace? As Wennström discovered, about reorganizations and continuous uncertainties, after a while “priorities are given to almost everything”. This is an area deserving of the Police's priority as it aims to aid and fortify an area already lacking whereas other areas would have to become secondary, in the end for the sake of continued human and environmental welfare. The requirement to change this is rather evident and can only be ignored so many times. Besides, action to reduce environmental crime would mean less environmental impact, which – as previously reviewed – would e.g. in turn reduce the financial penalty in the future.

Further research would do well to focus on: 1. Further (and a continuous) environmental intelligence education towards Police and other Officials, and the further plans and development for the Environmental Intelligence-system. 2. From developers and programmers point of view as well as “sketching out” the systematic skeleton to know what need, and what would do well, to be included should be initiated and continued with a simplifying focus between the control unit and the common utilization (as described in 6.3). 3. Subsequently perhaps most important research should be proceeded to develop a high enough digital security for a system like the Environmental Intelligence, and all its retained information. Information safely stored with backup systems for servers and all data mirrored in different geographical locations and to thus be available for continuous check-up, adjustments and arrangements. 4. Together with this the link to international organized crime should be further clarified and understood as such crimes also occur locally, from at least one geographic perspective. These links need to be connected. From this the need for a gathered source translating, organizing and tying these links up appear paramount. The Environmental Intelligence as a system, as a tool for the operators, need to continuously improve (in function as well as in knowledge inclusion and user friendliness) lest it would suffer the same fate as so many systems today; falling to a state of aversion and disrepair.

7 Conclusion

The focus of this study is the Environmental Intelligence and how it could better prevent environmental crime. The main results are.

- There is a significant need to rethink and reevaluate the current state of environmental crime prevention process in terms of priorities and chronological regard.
- It verifies the theory of legal implementation deficiency as well as shows a way to limit said deficiency.
- An Environmental Intelligence would help the anthropogenic society and its systems to impair the environment less while improving legal enforcement.
It provides a systematic concept to improve the environmental crime counteractions for Police and Supervisory Authorities in Sweden and furthermore illustrates the vital role law has as a part of the steering system (see figure 1 and 2).

With this in mind it has been made visible how the need for an Environmental Intelligence service on a local and regional level could strengthen the environmental police work to and thus the degradation of the environment. The only doubt, I have come across, regards whether or not there is a potential to create an Environmental Intelligence system today (as it is described in this study), or if more time is needed before it can be realized. However there is seemingly no disagreement that it is needed. Waiting like such is then the equivalent of postponing the inevitable. If this is delayed, the result will most surely be a larger bill to pay for society and a longer period of time in which crimes can go unresolved.

8 Epilogue

For the interested reader, as a personal dividend here at the end, before putting down this digital quill, wielded in a disputing approach, I will explain my own mental proceedings and ponderings. The mental view and the way of thinking, that got me into this line of though, as catered to by this study, some years ago. This view was something which was drawn on and from throughout it all. I did not end up catering to environmental preservation for reasons that might first come to mind in a third party observant. While I indeed would love a more thriving nature compared to a devastated one this is not why I first set my claws into this erratic cluster of inattentive anthropogenically established systems today spinning the cogs, out of step, for those socio-governed environmental targets. This study was a chance to wreck some well needed havoc upon the multitude of current systems not appreciated by their users and not helping each other where logic dictates how tenable systematic cooperation would bring a synergetic gain. I saw in this a chance to denounce and reject a host of complex and inefficacious retrograde frameworks still in use today, and so pave the ground for a single cross-boundary cooperating modus operandi between the environmentally responsible governmental organizations. Certainly the way to such a reality may seem a long one, but I contradict such mentality. A first step is an infinitely longer stride in contrast to no step at all.

The hardest and likely most time consuming part is realizing that we must act. I will compare this, or side this, with the philosophical point of departure and the time diagnostics of professor Georg Henrik von Wright and his wordings in "To Understand one's own Time" [“Att förstå sin samtid”], anno 1994, in many respects about the rising knowledge but the continuous lacking action. This was a book which, in the beginning of this millennium, turned out to become something of a milestone in my own academic development even though it later got substantially sidetracked for a decade or so. About the contemporary reception of global environmental stress [all translations by author]: “My pessimism, I would describe as inter alia a powerful experience of a gap between ought and able - or rather between "should" and "may". It is easy to enumerate and to be agreed on a number of things that should be done if disaster on a large scale should be avoided.” And he goes on, shortly thereafter, in brief describing the global response. Similar to this day, I might add: “Eloquent and simultaneously shocking documents from symposiums, congresses and world-watching institutions is reminiscent of these and similar requests. Often they also convey concrete
proposals and recommendations.” (von Wright, G. H. 1994). These words are now more than two decades past and, while knowledge and awareness in this area have multiplied tremendously ever since, the human nature remains, to my eye, nigh similar. With this it is clear I am also well aware of the risk of the ‘understanding’ being present, while the ‘approach’ remains in shadows. Here I am presenting a “should” that would suffice and do well by us in this sector for now. Compared to the present; a slingshot toppling towers.

What this volume of independent and unlinked systems have brought, the amount of technological reliance which today still seem to have led to what was then argued forthcoming, we can still go on and criticize today. Today, as well as when it took its Swedish foundation, in the 80s when von Wright’s speech gave consent in this debate in Sweden. He stated criticism of technological developments and argue that science and reason not alone leads to the good of man (von Wright, G. H. 1986). I dare to draw parallels here. After my observations and experience in the subject of environmental science, subsequently aligned towards environmental law, I find common ground. It seems to me virtually clear and present that the technological developments, in this topic, provided us with the emergence of a variety of systems that, each of which, certainly seemed eminent and better helped authoritarian environmental work, such as supervising and guidance.

But they did, and does, not work singularly on their own but rather, directly connected or not, without due from different levels towards the same goals. And this does not work well; the connections are incompatible and not working at worst, and highly time-consuming and shaky at best (Interview with official, 2014). Not efficient nor logically, as it seemingly creates problems after another where solutions instead are clearly desired from multiple sides (Interview with official, 2014). Today we align them, the goals, into national objectives (Naturvårdsverket, 2015) towards which we are aiming. Together there is, today, no properly functioning exercise of technological possibility even if plans for it were there in its various foundations. As time went on it seems that the various systems and solutions appearing one after another, with intentions of their own, were not constructed to take others into account. Neither the systems already in place nor the systems bound to come along in time. So how would an Environmental Intelligence be of any help in this, one may ask. Is it not just another added system to the bunch already present?

Simply put: No. The intention is for an Environmental Intelligence to hold a central position as a singular system to help official work be dependent on fewer systems and just so increasing efficiency. Humanity is venturing towards an unknown future and is on that path effectively, blindingly, influencing it. With our own ability to select what tools we use to reach it, tools which will form this future on our path onwards, we hold directly before us the possibility to reach the best possible alternative as we approach. The unknown, however, often seem to frighten us. It should not, for I believe that it is only there we might grasp hold of what could become a positive change, a chance to cast known hardships aside. I will end this paragraph with a lasting quote from Professor von Wright, 1993, one last time: “There is no reason to believe that an unforeseeable future would invite solely painful surprises. For those who are not imprisoned in nostalgic dreams how a lost world would be restored, the encounter with the unexpected is foremost a challenge for rethinking and re-evaluation.”
I am aware, and I would argue, that we do live in an age continuously and increasingly suspicious of institutions and systemized order. That the process of composing approaches and producing implements on a digital medium, in a digital age and spectrum, does not belong to the people in the way that the older systems in past days tied to a geographical vicinity, with data available through the harrowing search through acres of physical archives and information being gathered and shared on a physical medium, did. That the internet, and all its instantaneous global-spanning transfers of data, belongs to the people in a way such elder systems could never do. And that I, at first, would not want to hand it over to a completely closed group of gatekeepers situated in one sequestered position no matter how well intended.

But consider how much of current environmental affect is controlled by huge corporations and big business in general. Their influence is far-reaching, and their decisions often show little regard for their individual customers, their audience, in the end. That is very dangerous as it reaches far down to local levels in a multitude of countries with short-term economical gain the prime focus and the long-term sustained survival of humanity the burden of another. This, of course, starts on a high level where as the commons (G. Hardin. 1968), in which we all walk somewhere, is facing related issues of a wholly different character. Here each and everyone is concerned exceedingly with their own immediate needs, thus virtually assuring other outward momentum would not connect to anything unless there is a statutory congregation with the sole aim directed towards an environmental amelioration. The current state of “progress” is a debatably fine and flourishing alternative but, crassly, it is an anarchic ecosystem. There ought to be a third way, or a recreation with conformation of already visited methods from other arrays, an organization with the influence of a corporation, the mandate of a governmental organization, but the altruistic interests of the people at heart. That is what the Environmental Intelligence can, at least where geographically aimed, represent. That is what I feel we need in the counteraction of environmental crime and thereby a reduction of anthropogenically caused environmental degradation.

The rest of us would be failing too, of course. If the linchpins carrying the Swedish legal systems are together unable to fulfill an obligation allowing the majority of official actions taken to cater to a new generation of people who crowd around headlines (digital newspapers etc.), wireless broadcasts (live reporting etc.), news-streams (website-subscriptions and rss-feeds etc.), forums (reddit etc.) and an ongoing “rage” (flaming comments tied to the previous examples) about the local desecrations of global situations, then the liability of responsibility falls upon those able to initiate using the internet and digital media, with all the actual potential it brings, as a platform for prevention, elucidation and judicial means. The entirety of the environment, us included within, is a feedback loop between actors and reactors, and it is the job of organized institutions, of people, able to help build an apparatus that makes that loop productive, profitable and prosperous.

We see ourselves – nearly every environmentally conscious individual – too often as proponents of a medium – the instrument of sustainability – which is under fire from a mainstream, rather than a part of it. We try to convince the world of our righteousness and relevance continuously vindicating our right, when we should have long ago recognized that the criticism we are subject to is an implicit recognition of an existing right and relevance. We
need to move quickly on to more fundamental questions about what the significance of not postponing such systematic adaptations are, how they can help society, how they, albeit slowly, have helped society.

The following are a scant examples picked from the throng. Since the Silent Spring (Carson, R. 1962) calling for attention to the treatment of, to people and to the environment, toxic chemicals. The Buchanan report (Buchanan, C. 1963), answering the traffic congestion from exponential rise of car ownership in Great Britain, shaping the urban landscape by supplying planners a set of policy blueprints in which the environmental aspects of this plan became a felicitous side-effect when it was showed that it would be better to spend economical means preemptively and so avoid a much larger bill afterwards. Perhaps even more clearly since the Bruntland-report, “Our Common Future”, in the 1980’s (United Nations, 1987) calling for the re-examination of critical environmental issues, improved international cooperation and for an improvement in understanding and commitment on the part of involved parties.

Ever since then things have, indeed, started to happen as we have seen how organizations were formed, new types of governmental and international offices saw the light of day, global protocols were authored and it looked like we were on the right track. All that was left was to transcribe those high goals down and into the daily actions of the commons, and make that debate as relevant and vital to people everywhere as, for instance, the debate over the future of nuclear power was in Sweden after the Harrisburg incident, the Three Mile Island accident in 1979, and the following Swedish Nuclear Power referendum held in 1980 (Swedish Election Authority, 2014) which ended in the decision that no more nuclear power plants were to be built in Sweden, that nuclear power phase-out should be completed in 2010. Five years ago it turned out we did not manage that. Not yet, but at least the plan was hatched and got us going towards it. All of these examples do share a common denominator: They had scant little to do with, overt and intentional, criminal actions – at least on the surface – but there were still enough time spent, or wasted, over the years prior before decisions were made or actions were taken to risk significant environmental damage to be caused before it was averted.

Another example of a systematic adaption, perhaps the most fitting example yet, would be the actual “introduction” of an internet-connection first in our homes in the 1990’s, and today wireless in most people’s pocket (Statistics Sweden, 2015 & 2013) after the swift diffusion of digital cell-phones (Kauffman, R. 2009). It is, consequently, vastly significant not to forego the clear connection – disposed a positive or a negative depending on the chosen outlook – between humanity’s never before seen swiftness, with scant skepticism, to embrace new technology when we entered this digital era – And we are keeping at it! Even when “scandals” surface and become public knowledge, such as those with whistleblowers like Edward Snowden expunging thousands of classified documents about global surveillance programs held by NSA etc. (Macaskill, W & Dance, G. 2013) in the United States and Julian Assange, responsible at WikiLeaks in 2010 (and the years prior), leaking supplied documents about U.S. military, governmental and corporate wrongdoings (Keller, B. 2011), examples which are in place here to serve as highlighting a passed fulcrum of systematic trust – together with the universal connection to the internet, and our actual knowledge of the impact we incur over the global environment. Even if our current state of politics have not managed
to prioritize and focus such a spectrum of monumentally significant issues, on the level of humanity’s far-reaching survival, as is today there is no reason to continuously ingeminate it.

There are examples of people doing just that, learning from experience, which ought to offer some hope even to the most skeptic among us. Examples like certain infrastructural change-initiations, like how certain municipalities aim to soon be “carbon free” and are actually starting to work towards it in terms of e.g. electric vehicles. Examples how various ecological products which for the sake of e.g. biological diversity or a fear of chemicals are gaining in popularity where conceptions are slowly changing from an industrialized imposed need to ecological potential. Examples tied to power-production and the realization of e.g. photovoltaic or tidal potential. Examples of less harmful kinds of remediation and restoration of e.g. polluted areas and products. The list, I am sure, goes on and changes over time.

These things are good. They are also a drop in the ocean, with nothing like the kind of lasting reach and grip of reality of which we are in dire need. An Environmental Intelligence in operation is a growingly imperative constituent of any venture aimed to bring humans forth within the rule of law towards a future seeing a continuously invigorating rather than degenerating society, due to one probable and sole reason: The acting humanity is involved.

Was Rachel Carson right? “We stand now where two roads diverge. But unlike the roads in Robert Frost’s familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road — the one less traveled by — offers our last, our only chance to reach a destination that assures the preservation of the earth.”(Carson, R. 1962) Could this systematic path not help guide us onto that road, 53 years later and still less traveled? Or were we simply more liable, and better prepared, in 1990’s to recognize the power and potential of the newest means of progress, and to make sure it was put to good use?
9 References

All translations in the dissertation, to English from Swedish, are done by the author.

9.1 Published references


9.2 Referenced laws and regulations
Swedish Criminal Code - Brottsbalk (1962:700)
Swedish Police Act - Polislag (1984:387)
Swedish Police Regulation - Polisförordning (1998:1558)

9.3 Unpublished references
Multiple personal communications and interviews taken place during the time period of this study. That is, between September 2014 and may 2015.

Communication and interview-references are based on hearing

- 14 different Police-personnel from region north (the majority) and region west.
  - Where a few were civilian employees. The majority Police, at different levels, at six different units.
- Two environmental prosecutors
- Two judges at the Östersund district court
- Five officials at the Jämtland county administration
- One municipality official
- Additionally, in some of the discussions I took part in except for some of those already mentioned, one official from the Environmental Protection Agency and two employees at the Water Regulation Firms were also included

Note; as described in the Method-section, the officers, persons etc. in the interviews are not mentioned by name. Also, to elucidate, most of the interviews are not held with the same persons albeit some of them was heard more than once.

As per agreements in prior some information or details was withheld to protect either/and personnel or cases being worked.