12 Prevention of farm crimes and crimes against nature

This chapter takes the issues of Chapter 8 forward by discussing the main crime prevention initiatives related to farm crimes and environmental and wildlife crimes (EWC). These crimes and their prevention are rarely in the headlines, which is not surprising given that in most countries crime control and prevention strategies focus on big-city problems. The role of community in dealing with farm crime and EWC in rural municipalities through crime prevention initiatives is given special attention. First, farm crimes and EWCs are framed taking into account a selection of international studies followed by examples from Sweden. Then the chapter turns to new forms of surveillance and protest against farm crime and EWC using ICT and social media.

Preventing farm crimes

Preventing crime is difficult, but it is even more challenging to prevent farm crime. One of the main difficulties is lack of useful data, especially from official sources. If data is not available, it is difficult to implement actions aimed at reducing and preventing crime. Even in early stages, if a crime cannot be reported, the police cannot catch criminals. In Australia, Sweden, England, and Wales, farmers state that they do not report farm crime, either because they accept a certain level of theft and damage on their properties or they believe that going to the police is a waste of time (Barclay, Donnermeyer, Doyle, & Talary, 2001; Jones & Phipps, 2012; Lantbrukarnas Riksförbund, 2012). This raises questions about the community's confidence in formal policing. When statistics are available, such as those recorded by the police, they may be too broad in scope to allow analysis based on crime type or comparative trends, either spatially or temporally. Consequently, crime prevention strategies become limited and rarely lead to generalization (e.g., Ceccato & Dolmén, 2013). When data exists, it may be selective, covering experiences of victimization in certain groups, such as only farmers. In the United Kingdom, Jones and Phipps (2012) exemplify a number of data sources and the limitations, from police statistics, to data registered by insurance companies.

Another issue is that farm crime and its prevention may depend more on context than other forms of big-city crime do. Chapter 8 showed that most farm crimes follow regional patterns, indicating the need for specific intervention in

terms of prevention. In Sweden, low temperatures in the north limit the type of farming, so intervention against tractor theft is particularly important in southern Sweden, where most agricultural properties are located. As suggested by Donnermeyer, Barclay, and Mears (2011), although the specific circumstances or risk factors associated with farm crime appear to be similar, it cannot be assumed that issues related to the policing of farm crime are similar. The authors also highlight the importance of considering potential differences in the organization of law enforcement at different places. They note that in US counties where agriculture is economically important, it is likely that more attention is paid to the safety and security needs of farmers. The availability of resources among police forces as well as the profile of police officers on each police force (O'Connor & Gray, 1989) can also influence whether farm crime is on the daily police agenda.

Experience from the United States suggests that a lack of data is not the only problem when dealing with farm crime, as better data sharing among actors and organizations is needed, too. Better crime prevention would be in place if farmers would report all types of farm crime, which does not always happen. Mears, Scott, and Bhati (2007) indicate that the police should consider collaborating with law enforcement agencies within and between counties to deal with existing crime and to deter would-be offenders. Collaborative work by police is essential, as suggested by Donnermeyer et al. (2011), when dealing with organized drug production and agro-terrorism, when it may include state-level police and various law enforcement agencies at the national level.

Before adopting any models of intervention toward farm crime, it is necessary to consider differences in police organization, particularly those stemming from international experience. As suggested in Chapter 11, what is defined as relevant in crime control (and by whom) depends on the police organization, which in turn affects what works and what does not work in preventing farm crime.

Despite these challenges, a number of studies report experiences preventing farm crime. Donnermeyer et al. (2011) summarize in detail experiences in Australia and the United States. The authors conclude that there are two types of problems in dealing with farm crime in Australia. The first relates to the challenges of enforcement in remote areas where guardianship is poor, by farmers as well as society in general. The second relates to specificities of local cultures found in any rural community that make crime prevention and crime control difficult. In Sweden, slow police response times have affected satisfaction with the police in most Swedish remote areas (SOU, 2002). The size of local police areas also varies. Southern areas are relatively easy for police forces to cover because of the relatively high population density, whilst in the north some police areas are very large.

A study from Australia assessed the work done by police squads or crime investigators who specialize in rural crime (Donnermeyer & Barclay, 2005). According to this analysis, the most common obstacles to effective policing were the lack of time and resources to deal with farm crime and the difficulty of effectively patrolling large areas, according to police officers. Officers also found it difficult to deal with several calls for service, for instance, when they suspected that farmers were reporting a theft for the purpose of tax evasion.

In other cases, it was difficult to make a case, because farmers were negligent. Poor management practices include rarely locking gates, sheds, and fuel tanks, lack of identification on livestock, farm produce, machinery, and equipment, and poor recordkeeping on stock numbers and stock movements. They also felt that gathering enough evidence to prove a case beyond a reasonable doubt was one of the most challenging tasks by the police dealing with farm crime.

In the United States, the literature on farm crime and how to deal with it is limited. One exception is a recent research project conducted by Mears (Mears et al., 2007). The initiative was called the Agricultural Crime, Technology, Information, and Operations Network (ACTION), located in California's Central Valley. The study assessed the effectiveness of a number of activities aimed at preventing and reducing farm crime. These activities involved actions such as collecting and analyzing crime data, encouraging information sharing among law enforcement agencies, and marking equipment and livestock. The study shows that although farm crimes were common, they were rarely reported. Some crimes follow seasonal patterns, sometimes depending on the demand for products in the market. The authors also show that "one solution fits all" in terms of farm crime prevention does not work, as some farm crimes are unique, requiring specific actions. As farmers are vulnerable to victimization from multiple sources, a crime prevention initiative has to follow a multi-pronged approach.

In the United Kingdom, the use of private policing against farm crime has figured less in rural areas, compared to the use of more formalized public volunteering, police ancillaries, and safety walkers (Mawby & Yarwood, 2011). There are few systematic evaluations of these initiatives. One was done in the mid-1990s by Yarwood and Edwards (1995), assessing the importance of neighborhood watch schemes in rural areas. Although authors did not look at farm crime only, their study confirms the importance of neighborhood watch schemes in reducing fear of crime and improving police–community relations but warns that such schemes could reinforce social bias, a recognized problem associated with voluntary action.

Several initiatives devoted to farm crime in England and Wales are reported by Jones and Phipps (2012). These initiatives vary, from "volunteer arms" and farm watch schemes, to labeling of products and security measures developed against the theft of machinery and livestock. One farm watch scheme makes use of an online "watch link" that allows two-way communication between police and people in the community, via telephone, fax, email, or mobile phone. Although new channels are potentially available via ICT technology, the authors reveal some concerns. One concerns the viability of such technologies in rural areas, as broadband technology has not been developed to its full potential and 3G signals may be out of reach for emails. The other refers to the need for community participation to make these initiatives possible.

Farm crime in Sweden: the perspective of crime prevention groups

The way police are organized influences policing work and whether or not farm crime becomes a priority on a daily agenda. In the past two decades, in Sweden

and elsewhere, partnerships between the police and other local authorities have been characterized by community safety initiatives in both urban and rural areas (Ceccato & Dolmén, 2013; Yarwood & Edwards, 1995). There is consensus that this community safety model has evolved but that a fully collaborative framework between police and local actors remains to be seen (BRÅ, 2009). In the 2010s, the winds of centralization led to the reorganization of the police (currently ongoing), which is expected to affect policing across the country. However, as yet no one knows for certain whether these changes will affect the day-to-day work of the police and crime prevention (CP) groups in rural communities. As it is now, the police play the leading role in controlling and reducing farm crime. Theft of diesel machinery and tools has become burdensome in many rural areas (Lantbrukarnas Riksförbund, 2012). So how do these local partnerships deal with farm crime? What is the role of CP groups in rural areas in dealing with this offense?

To answer these questions, a short email survey was sent to all municipalities in rural Sweden that have a CP group, with a response rate of 62 percent. Members of CP groups were invited to describe the most important short- and long-term actions they would take as a group to tackle the following problem.

Five cases of theft have been reported to the police recently. Tractors, tools and generators have been stolen from farms outside the city. It is suspected that the perpetrators come from a nearby town. What would your local crime prevention councils do to address the problem and ensure it does not recur? Please describe the most important actions you take.

CP groups in rural areas appear to be prepared to tackle farm crime “if something happens,” or at least they have the organization to deal with this offense. The scenario above is much more part of the reality of communities in southern Sweden than in the extreme north, where agriculture is limited by long cold winters. However, the way CP representatives reacted to the above scenario differed little regardless of where they lived. Interestingly, a few representatives believe that their CP group would not bother to react to such a small number of crimes.

The large majority of representatives regard farm crime as a “police issue” (Figure 12.1). As in the case below, CP representatives highlight the importance of reporting the crime to the police (if the police do not know yet). Similar to findings in the United States (Mears et al., 2007), a couple of CP representatives would highlight the need to establish cooperation with other police forces beyond the boundaries of the local police district to tackle farm crime:

This is a police matter, not an issue for the CP council.

(CP representative, municipality in central Sweden)

Have a dialogue with the police in the first place. This is a police matter. The police, in turn, may have to work over the boundaries of jurisdictions. Important to inform residents about the importance of police reports.

(CP representative, municipality in southern Sweden)

Figure 12.1 What would your local crime prevention councils do to address farm crime? (source: own survey, $N=60$ local crime prevention councils).

Echoing findings in Australia and in the United Kingdom (Donnermeyer et al., 2011; Jones & Phipps, 2012), CP representatives who answered the survey indicated that poor willingness to report minor farm crimes was a problem. Some representatives highlighted the need to inform residents about the importance of reporting all kinds of crime to the police, as there is “a local culture of acceptance” of minor thefts, vandalism on roads, and littering in forests.

Most representatives consider the partnerships within the CP groups important to support preventive actions to control and prevent farm crime. Improving guardianship and strengthening information channeled by passers-by are often considered important in tackling farm crime.

Keep alive the positive social networks.... It may be important that postmen, paperboys and other people moving around [rural] areas can report what they see.

(CP representative, municipality in southwestern Sweden)

Unfortunately, representatives tended to react to the scenario by suggesting actions toward properties in urban areas rather than considering the challenges on farms or in areas outside the urban core. For instance, some suggested implementing neighborhood watch schemes, instead of farm watch, or installing CCTV cameras. It was notable that very few CP groups had representatives from farms.

We inform residents, property owners and others so they can prevent burglary, check locks, possibly alarm, tell neighbors when you go away, have lamps turned on, etc.

(CP representative, municipality in southwestern Sweden)

A CP representative from a municipality in central Sweden suggested a fairly complete range of measures to be tackled, from farm watch schemes and labeling and registering theft-prone goods, to educational programs to help farms discourage offenders from steal off their property. Collaborative work between the police, CP members and relevant organizations is considered important, though the interviewee was not completely certain about engaging safety walkers, or “vigilante groups.”

[W]e make sure that a police report is made, otherwise we help with that. Collaborate with appropriate organizations, such as insurance companies, The Federation of Swedish Farmers locally and create educational programs to disseminate information on how to protect their property.... The experience we have here in the county is from many thefts of snowmobiles and ATVs. In the long run, we would continue working with and supporting farm watch schemes.

(CP representative, municipality in central Sweden)

Even though the police are regarded as the main player in preventing farm crime, CP representatives suggest hiring private companies to help with patrol work. Beyond groups performing private patrols, there are also companies that work together with the police, other local actors (e.g., trucking companies, forest contractors, backhoe operators, and retailers), and CP groups on situational crime prevention in rural areas as illustrated in Box 12.1.

The use of ICT in rural areas is allowing new forms of surveillance, especially in remote areas and during times nobody is around. Partnerships between private and public actors have been fundamental to this development, coordinated by CrimeStoppers Sweden (CrimeStoppers, 2014). These partnerships involve the police, the Farmers’ Association, construction companies, and insurance and telecom companies. These particular partnerships with CrimeStoppers Sweden showed a rapid expansion in Sweden. They have been working with target hardening and increasing the risk for offender detection on three main fronts.

Crime reporting. A cell phone app called CrimeAlert has also become popular for reporting crime as it happens. Development is underway of new services with new features, such as multi-language support and uploading movies and notes from the crime scene.

Product marking. Crimestoppers Sweden cooperates with an insurance company on the product Datatag, a British marking method that utilizes microchips, etching, special decals, DNA, and microdots. As in the United Kingdom, Datatag has built-in registers that the police and insurance companies can use to search misappropriated equipment and accessories. A liquid DNA for diesel is also being implemented that will facilitate finding the rightful owner of diesel stolen from machinery.

Crime detection. Cameras (e.g., hunt trail camera) that are used in places with machines and sheds are showing good results. (A good camera costs about €400 or US\$550.) If someone burgles the premises, for example, an image or movie is

Box 12.1 Checklist to reduce the risk of diesel theft in rural areas

Diesel theft is on the rise. What can you do to prevent it?

It is estimated that the cost of diesel theft was around SEK200 million in Sweden in 2013. In the construction industry, the cost of stolen materials reached SEK1.5 billion. Many of these thefts are cleared up thanks to tips, cameras, alarms, and other good preventive measures. Unguarded places are often the target of fuel thieves. You can protect your property with simple means. Here are a few suggestions that can make it difficult for thieves to succeed.

- 1 Plan your protection based on where you work (the greater the risk of detection, the less the risk of theft).
- 2 Find out if the place you will be working at is a crime “hot spot.”
- 3 Based on information from the police, take appropriate security measures.
- 4 Place machinery, sheds, and tools in highly visible places, as transparency and lighting discourage thieves.
- 5 Ensure that your diesel tank has an alarm or is monitored.
- 6 Close shelves and personal property with approved locks and chains. Do not buy cheap locks, as they are not rated for heavy damage.
- 7 Do not leave any property visible in a vehicle. It only takes a minute for a thief to empty the cab.
- 8 Use alarm, complete with multimedia camera, and put up a sign that the area is under surveillance.
- 9 Let the police know that you have implemented security measures and that they are welcome to stop by your workplace.
- 10 A guard patrol sometimes can be a good solution. Check if your colleagues can join in and share patrolling duties.
- 11 Label your theft-prone equipment and machinery.
- 12 Try to leave as little diesel fuel as possible in each machine.
- 13 Enlist the help of neighbors and landowners in the place where you’re working. They can certainly pay attention to what happens in the area.
- 14 If you monitor your machine with a camera, follow current rules on general camera surveillance.
- 15 Report all kinds of crime!

Source: CrimeStoppers (2014).

sent to contractors via cellphone. According to CrimeStoppers (2014), in recent years a number of offenders have been caught thanks to these cameras. Signage is required, as is compliance with national regulations about where the camera can be located and filming only in places to which the public should not be allowed access.

Prevention of environmental and wildlife crime

The need to protect nature from damaging action by humans has long been recognized. Prevention of environmental harm can be defined, according to White (2007,

p. 36), “in terms of ensuring future resource exploitation and dealing with specific instances of victimization that have been socially defined as a problem.” This means that protective actions are directed at preventing or minimizing certain destructive or injurious practices into the future based upon analysis and responses to damage identified in the present.

Environmental crime prevention in rural areas faces a unique challenge – its location. The contamination of a lake in an urban area is easily noticed and perhaps quickly repaired, while an oil spill or deforestation in a remote area may go unnoticed for years. The recognition of the harm depends also on awareness of the problem, which in part can be linked to proximity to the environmental damage itself.

Several issues are listed by White and Heckenberg (2014) to indicate how environmental crime prevention is more demanding than traditional crime prevention. For instance, environmental crime prevention has to deal with acts and omissions that are already criminalized and prohibited but it also has to identify events that have yet to be designated as harmful. Many areas of harm are not yet criminalized. Moreover, interventions often collide with economic interests and growth, as compliance with precautionary principles will almost always reduce current profit margins. Environmental crime prevention also has to negotiate different kinds of harm, which affect humans, at different scales, local and global environments, and non-human animals. Thus, while the specificity of the harm demands a tailored response, there are some forms of environmental harm that cannot be contained, requiring coordination at supranational levels. This is particularly important when the harmful effects are not homogeneously distributed geographically or across social groups, such as those based on gender (e.g., Arora-Jonsson, 2011).

Presumably tightening regulations in one area may lead to displacement of the problem elsewhere. Thus, the attitude of “not in my back yard” (NIMBY) among countries in the Global North runs the risk of perpetuating environmental harm in countries in the Global South. Moreover, environmental crime prevention deals with actors of different agencies, which means in practice that only a few voices are heard. However, these differences in power are no excuse for not incorporating the activities of ordinary people and the involvement of diverse communities in crime prevention. Likewise, environmental crime prevention requires multidisciplinary approaches to the study of the environment that goes beyond the boundaries of traditional disciplines.

Most environmental problems have an identifiable location associated with place characteristics – a quality that for crime prevention is an important resource. Knowing the type of place means that harm can be easily predicted and different actions can be taken to solve the problem or prevent it from happening in the future. Theories that start from an opportunity perspective, the characteristics of the place, and time that crime occurs, such as routine activity theory, crime pattern theory, and situational crime prevention theory, focus on the specific characteristics of a situation. Thus, situational crime prevention strategies can be particularly useful when the place or site of environmental harm is

known, as these strategies are based on removing the opportunity to commit crime and increasing the likelihood of apprehension. The design of prevention strategies may follow the five categories of opportunities (effort, risks, rewards, situational conditions, and neutralizations). A number of recent examples in the international literature report the use of situational crime prevention applied to EWC.

Lemieux (2011), for instance, exemplifies the case of elephant poachers in Africa, suggesting a number of measures to limit the number of criminal opportunities, such as limiting access to areas where wildlife live, controlling weapons, increasing police patrols, and using technology to enhance the monitoring capabilities of wildlife authorities. Another, more difficult, suggestion is to reduce consumption of wildlife products, demanding measures against traders and consumers by systematic screening of exports and imports.

On the other side of the Atlantic, Pires and Clarke (2011) study the situational conditions of parrot poaching in Bolivia. They found that parrot poaching was consistent with parrot poaching in Mexico, which is predominantly an opportunistic activity performed by *campesinos*, local farmers who have easy access to bird nests and are motivated by poor economic conditions. The authors suggest increased penalties, more enforcement, and more protected areas but also a number of other strategies based on situational crime prevention. They suggest that intervention should be focused on the most poached species with protection of their nests during the breeding season. This could be accomplished through the use of nets and other physical barriers, CCTV surveillance of open areas with termite mounds, and installation of nesting boxes at a height too great for poachers. Reducing poaching requires engaging local communities in conservation and generating revenues through alternative livelihood, such as ecotourism or regulated trade, and employing poachers as rangers.

White and Heckenberg (2014) illustrate the use of situational crime prevention combined with more long-term actions applied to illegal fishing in Australia and other types of EWC. They suggest tackling illegal fishing by providing alternative sources of revenue for traditional fishers, working with changes in attitudes and community mobilization, such as by educating children about species decline and implementing coastal watch schemes, increasing efforts by fencing off key areas, increasing the risk of apprehension by installing CCTVs, increasing patrols, and reducing rewards, such as by disrupting markets and strengthening moral condemnation of overfishing. Authors highlight that they are suggested actions, not one-size-fits-all. The suggestions only make sense when put into a specific context, requiring close analysis of the different dimensions of each type of environmental problem.

Following a similar line of thought, Huisman and van Erp (2013) state that the prevention of environmental crime requires, in addition to situational crime prevention measures, a more macro approach. The authors analyze 23 criminal investigations of environmental offenses in the Netherlands, claiming that to understand opportunities for environmental crime one cannot rely on a situational analysis of criminal opportunities of individual cases alone. One must

also take into account the political and regulatory culture and socioeconomic context of environmental crime. Despite criticism of using situational crime prevention on environmental crime (e.g., Huisman & van Erp, 2013), the attractiveness of this approach lies in its potential for the design of simple yet effective preventive measures (Clarke, 1997). Taking into account the current international evidence, the next section focuses on EWC prevention in Sweden.

Environmental crime prevention in Sweden

In the 1960s, environmental harm started to be perceived as a serious problem for society. At the same time, there was a shift, from the notion of *protection*, to *conservation* of nature. According to that notion, individuals should be able to benefit from natural resources at the same time that they should care for them. This shift in the perception of environmental harm, however, did not change the view of value and consumption of nature.

In the 1970s, Forsling and Borgblad (1978, p. 54) indicated that the challenge in Sweden was still a “balanced vision” in society that would equalize things that were not actually equivalent (for instance, monetary returns of water use and value of clean water). A number of steps forward were taken when the Swedish minister of justice demanded international action against environmental crime and economic crime among multinational companies.

In 1972 a conference was held in Stockholm which became a milestone for the international environmental movement (UN, 1972), and in the 1980s and 1990s interventions against nature gradually had to be assessed from an ecological point of view, following standards of use of natural resources and environmental assessment protocols. Since then, there have been major changes in criminal law and environmental regulation, following the conferences in Rio, Kyoto, and Johannesburg (e.g., UN, 1992). Shifts in public perception of environmental problems globally impose new values on natural resources and demand preventive measures.

In Sweden, environmental issues and environmental harm became the central focus in the 1990s with the introduction of the Environmental Code in 1999 and the establishment of a new organization in the police and the prosecution service for combating environmental crime (Korsell, 2001). The Environmental Code states that agencies exercising a control function have a duty to report suspected environmental offenses to the public prosecutor. Moreover, such agencies were empowered to impose administrative sanctions. According to Korsell (2014), although crime registers show an increase in environmental crimes recorded, only a few criminals have been sentenced to prison. As Chapter 8 showed, the most common sanctions for crimes against the Environmental Code are fines.

Nowadays, in order to ensure that environmental laws are observed, authorities divide their tasks into three types: regulatory, supervisory, and self-monitoring. The self-monitoring is performed by the entity itself and aims to create systematic work procedures, risk management, and other precautions

within their own operations. The authorities who are responsible for supervision have the task of providing the operational regulatory support and advice regarding how to apply environmental regulations. Furthermore, they ensure the coordination of operational supervision, so that environmental laws are applied in the same manner by the various operational supervisors. The Inspections Ordinance (Naturvårdsverket, 2011a, p. 13) states that government authorities should give guidance to operational supervisors. Sweden currently has 16 supervisors. The Inspections Ordinance (p. 13) also indicates how oversight work between the state and municipal authorities is allocated. The most common case is for a municipal authority to be responsible for the supervision and inspection at the municipal level (Naturvårdsverket, 2011b).

Municipalities are the main framers of the tasks of the environmental inspector, whose job is to give notice of cases that do not follow the law and environmental requirements, though the county administration and other state authorities may also be involved, depending on the case. Given such importance in the detection of EWC, what is the professional profile of these environmental inspectors?

In an attempt to answer this question, the duties and expected qualifications of environmental inspectors in two rural municipalities of about 30,000 inhabitants were selected from daily newspaper job ads searching for these professionals. There is fair demand for environmental inspectors, a job regarded as extra demanding. One reason is that the work of an environmental inspector, together with police officers, health and animal inspectors, and other similar professionals in Sweden, is regarded as particularly stressful. The scientists' union studied whether and how often various inspectors are intimidated in their work. The survey shows that the worst affected category is animal welfare inspectors; about 70 percent state they have been threatened and are threatened when performing their duties. It is estimated that four out of 10 environmental inspectors have been threatened in the past year (Warne, 2013).

Table 12.1 provides two recent job descriptions for environmental inspectors in rural Sweden. Though they are fairly similar in terms of duties and qualifications, note that for Municipality 2 the advertisement explicitly requests an individual who can cooperate across departmental and other agency lines (county and local authorities) as well as can handle "stressful situations." As suggested by Korsell (2001, p. 133) those who probe environmental crimes face a problem that investigators of other economic crimes do not face. The majority of environmental harm is, according to Korsell, legal and takes place with the consent of society. Only when environmental harm involves breaches of rules and permits does it become an issue. For this reason, it is difficult to prosecute many environmental offenses.

Another challenge is that in Sweden (e.g., Korsell & Hagstedt, 2008), as in Scotland (e.g., Fyfe & Reeves, 2011) and certainly many other places worldwide, the definition of an EWC crime is contested on a daily basis by those from the community and elsewhere. For instance, if livestock are in danger because of an increase in the population of large predators, illegal hunting of these animals

Table 12.1 Examples of job descriptions in two rural municipalities, 2014

<i>Municipality 1 and Municipality 2 seek an environmental inspector</i>	
Municipality 1 – northern Sweden	Municipality 2 – southern Sweden
<p>Duties</p> <p>We are looking for an environmental inspector for a permanent position. The tasks involve the examination and supervision of environmental and health protection under the Environment Act. Responsibilities include independently conducting and administrating cases. Desired skills are in any of the areas of waste management, vehicle service and fuel, contaminated soil, solvent management, engineering workshops. The business focus will depend among other things on the candidate's skills and experience.</p>	<p>Duties</p> <p>As Environmental Inspector in the municipality, you will work mainly with testing, supervision, advice, and information under the Environmental Code. You should also handle complaints, orders, and prohibitions. Projects and investigation, preliminary tests, and sampling/measurement are other duties that may be included in the work. You will work with sewage, but the service may also include other tasks. <i>You should be able to work across departmental and administrative boundaries and with other agencies.</i></p>
<p>Qualifications</p> <p>The candidate has to have environmental and health inspector education or other appropriate higher education in the environmental field. Long-term experience of environmental work and leadership are an advantage. The candidate must be able to express himself/herself orally and in writing and be able to independently formulate and make his/her own decisions. Driver's license required.</p>	<p>Qualifications</p> <p>You must have relevant academic training in the environmental health field and good knowledge of the Environmental Code and its rules and regulations. Good computer skills are essential, as well as working with public sewage systems. It is an advantage if you have previously worked in ECOS, which is our case management system.</p> <p>A driver's license is a requirement, since the position involves field work. <i>We are looking for someone who is confident, purposeful, and can handle stressful situations but be calm and work in an objective manner.</i></p> <p>You should have good social skills and ability to operate and structure your work. We assume that you have the ability to express yourself orally and in writing and that you are committed to your field of specialization.</p>

Sources: NetJobsGroup (2014); Röhne (2014).

may become socially accepted, locals may turn a blind eye, and may even support it in the community, despite the act being illegal. Tradition and “the way things are done in the countryside” trump criminal law, a thing that is defined by groups living far from the local reality. This form of disputation is portrayed by von Essen, Hansen, Källström, Peterson, and Peterson (2014) as a form of resistance to imposed external values. They suggest that a recent phenomenon of illegal hunting of protected species has been observed in Scandinavian countries. Von Essen et al. (2014) suggest that as an everyday form of resistance, illegal hunting provides a continuity of livelihood practices while at the same time providing the group with the means of challenging the legitimacy of the regime in subversive ways in the struggle for recognition. These forms of disputation are against the state, the European Union, and also locals who represent “mainstream values.”

The next section discusses who is responsible for dealing with EWCs in selected rural municipalities in Sweden. To assess the actions of these groups against farm crime and EWC, data from two different sources was analyzed: semi-structured interviews with representatives of CP groups in eight rural municipalities and responses from an email survey to all representatives of CPs. The short email survey was based on hypothetical scenarios and sent to all municipalities with a CP group in rural Sweden.

EWC and the role of CP councils

EWC is not regarded as an issue for CP councils. The large majority of CP representatives in Sweden think that it is up to the municipal and county authorities, especially environmental inspectors, together with the police to deal with EWC in first place. Based on responses from police officers, local police forces do not feel comfortable in this role and point to the environmental inspectors as key in the process. Interestingly, this seems to be replicated elsewhere. For example, White (2008, p. 197) suggests:

for the police ... dealing with environmental harm is basically dealing with the unknown ... environmental law enforcement is a relatively new area of police work ... and it is at a stage where perhaps more questions are being asked than answers are provided.

To assess in detail the role of a CP council if an environmental crime were to happen in their municipality, an email survey was sent to all representatives of CPs in Sweden (62 percent response rate). The email survey contained a hypothetical EWC scenario, and CP members were invited to describe the most important short- and long-term actions they would take as a group to tackle it.

You have learned that an unknown quantity of toxic waste has been dumped near a large river at the border of your municipality on several occasions. Two other municipalities were also affected by the waste. You suspect that

the waste comes from a company in your community. What would your local crime prevention council do to solve the problem and ensure that this crime does not happen again?

Less than one-quarter of the interviewed CP representatives would not know what to do or would not take any action if the case concerning toxic waste described above occurred in the municipality (Figure 12.2a). The main reason they would not act, is that they do not think CP should deal with EWC. However, even if they believe that EWC is not a matter for CP work, two-thirds of them can easily identify the authorities that are responsible for the problem. These respondents pointed out who should investigate the suspected toxic waste, to whom they would report the case (the environmental authorities and the police), and, in case of a crime, they would make sure that the offenders would be taken to court. Some representatives would also list ways to repair the damage and activate insurance for those affected by the crime (*skadestånd*). They also believe that the general public should be informed as soon as possible either by media or Internet. If the damage would affect other municipalities, the county should be involved as well as the local authorities of each municipality concerned.

this must primarily be a matter for the police and the county (länsstyrelsen), as well as for municipal environmental authorities (miljöförvaltningen)... I do not believe this type of crime is a matter for a local CP council, as there are other authorities that monitor, supervise and investigate environmental crimes. In the long run, together with the Environment Agency, the energy company (and possibly county) I would drive a campaign and also organize information sessions. Try to develop checklists or the like, which can be an aid to entrepreneurs in the management of hazardous waste.

(CP representative, municipality, central Sweden)

One-third of the CP members interviewed would not take any action in the long run (Figure 12.2b) or did not answer the question. Most of them see establishing a long-term plan as crucial to ensuring the problem does not happen again. Others believe that improving information about handling toxic waste would be necessary. Education programmes toward companies, especially small ones, was suggested, as was overall improvement of control checks by the local authorities.

As reported by the CP representatives interviewed, the local environmental inspectors and the police still face significant challenges in dealing with EWC at the community level. Overall there is a lack of knowledge about EWCs. Some types get more attention from the media and, in subsequent years, have tended to be easily identified by the same environmental authorities. It seems that in some municipalities, toxic leaks and construction in protected areas are often the problem, while in others, offenses involve littering or illegal hunting.

As previously shown in Chapter 8, there is some sort of regional specialization of EWC. Such specialization is partly a result of the ecosystems

(a)

(b)

Figure 12.2 (a) What would your local crime prevention council do to solve the problem of EWC and (b) ensure that this crime does not happen again? Percentage of valid answers (source: own survey, $N=83$).

themselves (and what they contain across the country, including how accessible they are) but also results from the practices of environmental authorities in detecting EWC. However, it is unknown how the interplay of these two factors affects EWC detection.

Even if EWCs are detected and cases are sent to court, very few offenders are found guilty. If they are guilty, the penalty usually consists of fines, not prison sentences. In the early 2000s, Korsell (2001, p. 134) suggested that the sanctions imposed for environmental crime in Sweden were mild. The explanation was that “agencies that control environmental crime find it difficult to uncover the more serious incidents,” especially because companies work close to the allowed prescribed limits. If there is any deviation, they are often small, so the offender is bound to incur a minor penalty. In certain cases, the crimes may not be reported, as minor violations against nature are often considered acceptable or the price to be paid for the sake of keeping jobs. Those who discover these violations may turn a blind eye despite the crime.

Protest to protect the rural environment

Protesting is regarded in this context as a way of denouncing an environmental harm. Protesting is thus an act of crime prevention and as such can be considered part of rural policing. Paradoxically, protesters and police are rarely on the same side. Though the role of the police is to ensure safety and the common good, it is rare that protesters are placed side by side with the police. On one side are the police, keeping order and protecting public and/or private property. On the other are protesters. This is not only typical for Sweden, of course.

A number of similarities emerge when Woods (2011) presents the history of protests in the countryside in the United Kingdom since the early 1970s. The author suggests that the policing of protests has not traditionally been high in the priorities of rural police forces in the United Kingdom. Woods classifies protests into two types. One type is those genuinely born of a local cause, such as farmers’ protests or protests against mining or hunting. The second type is those that happen to occur in rural areas by chance but are triggered by urban or other types of movement composed of protesters from elsewhere (such as protests against nuclear power or military bases located in a rural area).

Protesting has a long tradition in Sweden. More commonly, protests take shape as face-to-face encounters, on the streets with banners in hand in big cities as well as in rural areas. Although this form of street protesting is rare, it may take on other forms in everyday life. It is part of the Swedish democratic process to react to decisions by protesting through opinion pieces in newspapers or participation in programs on radio or television. More recently, there has been an explosion of blogs and other specialized Internet sites. Most are open forums, but a few call attention to different types of environmental issues.

Throughout the twentieth century, it was common for farmers to go to the Swedish capital to protest against an agreed policy action. More unique was when angry women in the 1960s made their way to central Stockholm to

protest – an event that became a cornerstone in the history of women’s political participation. They were not there as wives only but rather as consumers to protest against rising prices. According to Forsberg (1997), this demonstration would have great significance for the conduct of pricing policy (milk prices) in Sweden. Researchers still talk about this protest as a symbol of public reactions that showed links between the countryside and urban areas.

Since the 1990s, the Swedish media has shown examples of scandalous reports about abuses in the food system. Swedish radio and television reported unethical and disreputable treatment of animals that awoke strong public reactions, such as the treatment of cows and pigs, salmonella outbreaks, and the like, some following the international mad cow disease debate (Forsberg, 1997). In today’s global community, protests deal increasingly often with issues that go far beyond national borders. More recently, social media has become a new arena for protesters. Protesting has provided new ways to flag global problems with a local impact and vice versa.

The police have a role to play in street demonstrations. Apart from the riots in big cities such as Malmö and Stockholm in 2013, when force was used by the police to handle burning cars and contain violence, protests are less violent events.

Speaking for the forest

Some protests reach the national media, as they have had a long life of dispute. One recent example is the protests about iron ore mining in Kallak, Jokkmokk, in northern Sweden. These rural protests are small events and rare in Sweden. The reaction of the police has been reported by the newspapers as non-violent but reports from these events made in the area show that protesters are pulled away from the road by the police and then dispatched by bus.¹ These rural protests are considered peaceful by the media when compared to events that have happened recently in urban areas in Sweden (the confrontations between police and youngsters in riots in Malmö and Stockholm in 2013 mentioned above). Yet, in reality they may also involve a great deal of violence.

In Kallak, there are at least two conflicting interest groups. On one side stand the critics, made up of representatives from Sami groups (the indigenous Finno-Ugric people inhabiting the Arctic area that encompasses parts of far northern Norway, Sweden, Finland, and Russia) as well as tourism entrepreneurs and environmental activists and scholars who emphasize the mining industry’s negative impact on the local environment and the whole river valley.² On the other side stand local politicians and sections of the population who see mining as a positive force that has the potential to create hundreds of new jobs and attract people to Jokkmokk, which currently has around 5,000 inhabitants. Jokkmokk’s association, “Allmänningen,” which is an economic association with all individuals who are owners of forest, owns most of the area staked for the Kallak mine, but part of the land is privately owned. Some suggest that the board of Allmänningen is pro-mining, despite there being members who are against it. The company has rights to

prospect, but in this case the landowners and reindeer herding complained in the media that the company dug beyond the area where they had permission. Newspapers also reported that the landowners and reindeer herding made a complaint about protesters to the police as they felled trees in the area.

The role of police is often to maintain the peace by avoiding direct conflict between employees and protesters. Confrontations between police and protesters in the area of the planned mine at Kallak went on throughout 2013 (Figure 12.3) and, according to news reports, is still ongoing in 2014. The last police intervention was less violent, but it was still brutal to witness an 85-year-old Sámi reindeer herder being taken away from the area.³ These confrontations are not problem free. It is unknown how the protesters feel about the police when in place. As often happens in the United Kingdom (see e.g., Woods, 2011), rural police officers are also usually residents and may sympathize to some extent with the causes espoused by protesters.

Environmental experts suggest that blasting in the mine can form cracks in the ground and affect the hydropower dam a few kilometers away. There is risk for drinking water contamination, and, in a worst case scenario, downstream villages may be swept away by flooding if anything happens to the dam. A nationwide Swedish newspaper reports the environmental harm is undeniable but is not the only impact. A protester, whose family has reindeer grazing in the area, was lifted away by police and placed in the trench. She says that it's an abuse of her people. She adds "in Sweden we denounce the oppression of indigenous peoples in other countries but oppress its own indigenous people."

Figure 12.3 Protesters against iron ore mine will continue: our fight has just begun (source: Anette Nantell, *Dagens Nyheter*, 2013).

Together with other protesters, this person turned to international law, the ILO Convention, which deals with indigenous people's rights to land and water. Along with 40 other activists, she formed a barricade against the police officers who let the mining company's trucks drive the ore down the road bit by bit.

Undoubtedly, much has changed since the first cries for change in natural conservation approaches and animal rights against economic interests in the 1960s and 1970s. However, cases like the one described above make us return to what Forsling and Borgblad (1978, p. 54) wrote nearly 40 years ago:

As it is today, the short-term economic interests weigh much heavier than, for example, nature conservation interests. Nature cannot be valued in money.... The consequence of adopting this "balanced vision" is that in reality not all interests are not at all equal.

It is perhaps true that the value of untouched nature may not raise the GDP of a country, but steps have been taken since the 1970s to protect natural environments. In the European Union, since the 2000s incentives have been paid to farmers who preserve nature areas. Of course, there are numerous cases in which the process and the decisions are still anchored on an outdated tradition of justice that put in doubt the defense of the community's sustainability. When harm and damage are imminent, it may be too late to undertake mainstream intervention. The only alternative then may be taking more tangible, perhaps drastic, measures such as protesting.

Protests in newspapers

Most local newspapers have a letters column (*insändare*), now also digitally accessible via the Internet. Newspapers have special sections for these types of arenas. In such columns, hundreds of letters may be found denouncing environmental harm across the country: from oil spills and chemical waste dumping, to animal abuse. A recent case of a fishing farm in the northeast of the country became nationally recognized when the company had to look for a new location following protests by the local population in local newspapers. Protests in this case happen without the direct involvement of the police, but the municipality and environmental inspectors were involved after public complaints. Another case exemplifies the dubious role local authorities may play in cases of environmental harm. On one side, the environmental inspectors represent the local authorities who safeguard environmental rights. On the other side, the municipality itself is accused of unlawful actions against the environment by approving the disposal of wastewater into a lake.

How can you dump wastewater in Hamstasjön? Obviously that is an environmental crime.... School kids are taught not to dump waste in nature, but what will they think if the municipality directs wastewater into the lake.... Wake up and act!

(*Sundsvalls Tidning*, February 7, 2010)

Protests can also be made by formal authorities. Five of the northernmost counties have jointly protested recently against the government ICT development proposal. In a protest letter published in several newspapers (e.g., Lindgren, 2014), the counties claim that rural municipalities are at a disadvantage, as the population outside towns with 3,000 residents and fewer are not included in the program, which will ensure access and updates to broadband support for the future. As the communications landscape gets denser, the networked population is gaining greater access to information, opening up opportunities to undertake collective action. In the environmental arena, as a number of examples in Sweden have demonstrated, this participation can help impose demands for change.

Protests in the Internet era

Since the rise of the Internet in the beginning of the 1990s, the population with access to the Internet has increased dramatically, even in the most remote rural areas in Sweden. Over the same period, social media has become a fact of life for civil society worldwide, with the use of different tools: text messaging, email, photo sharing, social networking, and the like. Social media often involves many actors – citizens, activists, nongovernmental organizations, software providers, governments (Shirky, 2011). The possibilities for building networks of information and capacity to quickly influence public opinion have also dramatically changed.

In Sweden, blogs and other forums are often used to inform and mobilize individuals around different types of environmental harm/crime (see, for example, animal rights, www.djurensratt.se/, or the Ministry of the Environment's blog, <http://blogg.miljodep.se/>). The beauty of social media is the independence of location. Protesters fuming about local causes can trigger a movement beyond national boundaries. Enjolras, Steen-Johnsen, and Wollebæk (2013) show that, as a tool for protest, social media represents an alternative structure alongside mainstream media and well-established political organizations and civil society that recruit in different ways and reach different segments of the population.

An agenda to tackle EWC: littering, chemical waste, and illegal trade in endangered animal and plant species

Littering and car dumping in the wild

According to figures presented in Chapter 8, littering accounts for the second largest share of EWC in the police statistics in Sweden. This category is dominated by the disposal of garbage in forests and on the outskirts of main urban areas and tends to be detected close to roads. This includes domestic waste, old furniture and cars. Some cars are burned on-site (Ceccato & Uittenbogaard, 2013).

Levels of littering and garbage dumping are potentially associated with garbage collection fees. As indicated in Chapter 8, the difference in garbage collection fees among municipalities is SEK25,003 per year, according to the Swedish Homeowners Association's 2012 survey. The difference, however, is bound to affect both those that own their homes as well as those who rent (costs are shared by rent tenants).

The increase of vehicle dumping in nearby forests has often been associated with the lack of incentives for car owners to take their cars to the closest junkyard (the incentive expired in the 2010s). Instead, many vehicles are left in the woods or along roads, or parts of them are, as some parts are sold in the second-hand market. This is an example of the complexity of defining actions to prevent this type of harm. An apparently isolated decision taken at the national level of eliminating incentives for car owners has motivated vehicle dumping in the forest. In a single rural municipality in northern Sweden, more than 30 cars are left each year for the municipality to take care of. This problem is not divorced from other types of crime, such as theft of car parts later sold elsewhere.

For the communities in these targeted areas, more awareness would be necessary to report cases of domestic waste dumped into the wild and its impact. Spills of fuel and other chemicals are left with old cars. The detection of these crimes depends on the accessibility of the area by road or through an urbanized area. Recorded cases depend on detection, and detection is based on what people witness on a daily basis. Some of these areas are difficult to access, and garbage and waste in the forest may go undetected for much of the year, as the area is covered by snow, particularly in northern Sweden.

Fencing off properties goes against *allmansrätt*, the Swedish tradition of the right for anyone to use other people's property. However, areas that are constantly targeted by waste dumping should be exempted from the rule. While suggestive of possible intervention, the following list of measures to tackle waste dumping has to be considered in the specific Swedish context.

Note that some of these specific measures include changes in fees and incentives at national level, while most are directed at regional and local actions with the full engagement of the local community. Although local authorities may not have the power to make structural changes that affect the long-term conditions for environmental harm, this chapter offers a number of indications of how conditions may be reconsidered so as to enhance the prevention of waste dumpage in nature in rural communities most targeted by the problem. These suggestions are not organized according to order of priority but rather are linked to the attributes of situational and social crime prevention principles.

Incentive schemes

- Decrease garbage collection fees for domestic waste at national level.
- Increase frequency of collection of domestic waste in tourist areas/"cottage belt."
- Prevent discharge in forest by offering public recycling stations in rural locales.

- Promote public campaigns to reduce waste and encourage re-use and recycling materials.
- Reinstate national system of incentives for old car return.

Improve public awareness

- Inform individuals about consequences of inappropriate garbage dumping in nature.
- Post information about garbage dumping/littering restrictions in nature.
- Education in schools about consequences of waste dumping.
- “Cash and release” media advertising including through social media.

Mobilize community

- Awareness of the problem by visiting the damaged areas.
- Adoption of the problem by crime prevention groups (CP).
- Litter watch schemes (LWS) by grown-ups and schoolchildren.
- Promote coordinated actions by CP, LWS, and other local actors.
- Confidential hot-line and app systems linked to denouncement of garbage and litter.

Increase the difficulty of committing crime

- Identify particular targeted areas/forests/rivers and prevent access to these areas with fences and gates.
- Limit pathways into the wild and nature conservation areas.
- If targeted, make it difficult for outsiders to access natural areas protected by law.
- Remove places that can be used for littering/dumping.

Maximize the risk of detection

- Install CCTV cameras.
- Increase patrols in targeted areas/forests/rivers.
- Disrupt markets for second-hand car parts.
- Investigate origin and identity of previously dumped vehicles.
- Motivate guardianship by transients of suspects along roads.
- Identify unauthorized transients in areas protected by law.
- Report suspect purchases of fuels used to burn cars and other materials.

Reduce the rewards

- Quick removal of waste and dumped materials in nature (avoid “copy cats”).
- Refocus the problem in the media by showing cases when offenders are caught.
- Increase fines for garbage dumping in nature.
- Induce guilt by strengthening moral condemnation of garbage dumping into the wild.
- Spread pamphlets/media about the impact of garbage dumping in the area.

Reporting waste dumping should happen regardless of whether it conforms to the definition of a crime. Dumping domestic waste, for instance, may not be regarded as a serious crime but should be pointed out for its potential harm in a form of chemical pollution to soil and water or plastic materials that are not biodegradable.

Unlawful handling of chemicals/chemical pollution

EWC records of unlawful handling of chemicals present a concentrated pattern in rural areas spread over the country. Remote rural municipalities in Sweden have a significantly high percentage of these crimes: unlawful handling of chemicals, disruption of control, and disregard of regulations and permits for the use of chemical components. Newspaper articles show several cases of inactive businesses that leave machines and products that are the source of the problem. In contrast with littering and car dumping, chemical pollution is often perpetrated by a business (e.g., industry, mining, or farming).

Incentive schemes

- Tailored information to local companies about handling and managing chemicals.
- Control access to prohibited chemicals through import via Internet or tips from police or customs (border patrol).
- Information to personnel on how to handle and manage chemicals in the production process.

Improve public awareness

- Inform individuals about consequences of unlawful handling of chemicals.
- Certification scheme for businesses that are environmentally friendly that can be flagged in their products.
- Create “code of good practices” in managing waste among company associations.

Mobilize community

- Assist compliance through coordinated action at local (CP, police, environmental inspectors) and regional levels, business and environmental authorities.
- Confidential hotline and app systems linked to whistleblowing on chemical pollution and other environmental problems.
- Creation of public–private partnerships to educate appropriate use of chemical handling and management of toxic waste.

Increase the difficulty of committing crime

- Seal production process to reduce the risk of chemical spill.
- Frequent inspections of production system by environmental inspectors and the like.

Maximize the risk of detection

- Trade union representatives can ensure working conditions adhere to rules.
- Companies that shut down are responsible for what is left on the grounds of the company, including chemical waste and other potentially damaging product.
- Improve knowledge of environmental inspectors to increase instances of detection.
- Police officers may be engaged in detection and the investigative process when there is suspicion of crime together with environmental inspectors.
- Collection and analysis of crime data.
- More resources toward the investigative process and during production of evidence (qualified biologists, toxicologists, or epidemiologists).
- Better information sharing along the process and between different actors.

Reduce the rewards

- Increase sanctions to unlawful handling of chemicals/pollution.
- Zero tolerance to businesses that do not comply with environmental norms, including minor deviations.

Illegal trade in endangered animal and plant species

“The global trade in illegal wildlife is a multi-billion dollar industry that threatens biodiversity” (Rosen & Smith, 2010, p. 24). Current evidence shows that regulation and enforcement have been insufficient to effectively control the global trade in illegal wildlife at national and international levels.

Sweden imports and, to a lesser extent, exports endangered animals and plants. As an importing country, endangered species most trafficked from other parts of the world are used as pets, in collections, or in the form of tourist objects and as ingredients for health foods.

Globally southeast Asia is a hub of illegal activity (Rosen & Smith, 2010). As an exporting country, there are cases of poaching large predators, such as bears and wolves, but also bird eggs, mostly for trade. As Chapter 8 suggested, illegal trade conducted by organized criminal networks is more difficult to investigate and is often rejected by public prosecutors on the grounds that the offense cannot be proved because of lack of evidence (Korsell & Hagstedt, 2008; Sazdovska, 2009).

According to Rosen and Smith (2010), the effective control of illegal trade in endangered animal and plant species requires a multi-pronged approach including community-scale education and empowering local people to value wildlife, coordinated international regulation, and a greater allocation of national resources to on-the-ground enforcement. At regional and national levels, nations without the independent capacity for enforcement will require help from other nations in the form of partnerships to be able to control trade. White and Heckenberg (2014) suggest also that to control illegal trade as an organized crime, it is necessary to share knowledge of perpetrators, involving the investigation of

chains of damage and the network of players, which may involve corruption of authorities as part of the organized crime system.

Chapter 8 suggested that a slightly higher percentage of cases of animal abuse, illegal animal possession, and disregard of protected species are recorded in remote rural municipalities than in accessible and urban municipalities. Together with illegal trade, this calls for preventive action at national, regional, and local levels, where environmental authorities can act upon the problem. Suggestions put forward below to tackle illegal trade in endangered animal and plant species in Sweden focus on issues that have a local dimension, though some indicate the need for structural changes in national and global regulation and planning.

Incentive schemes

- Secure reserves and conservation areas.
- Increase the natural habitat for endangered species.
- Reward vigilance from patrols, voluntary poaching control units.
- Compensation when endangered species destroy crops or livestock.
- Invest in community-based eco-projects in origin countries (as alternative to poaching).

Improve public awareness

- Inform individuals about consequences of inappropriate consumption of endangered animal and plant species.
- Media advertising including through social media about the local and global impact of the trade (both origin and host ecosystem).
- Incentive for consumption of certified products only (e.g., wood, fur).

Mobilize community

- Adoption of the problem by crime prevention groups (CP).
- Promote coordinated actions – more explicit customs declarations.
- Popularize the database of national endangered species.

Increase the difficulty of committing crime

- Identify and protect particular species of animals and plants.
- Limit pathways into the wild and nature conservation areas.
- More rangers and patrols on the ground (origin country).

Maximize the risk of detection and reduce rewards

- Disrupt market for commercialization of endangered animals and plants.
- Investigate origin and identity of animals by using micro-chipping, DNA forensic techniques.
- Motivate guardianship by locals, including by purchase of animal medication.
- Report suspect purchases of organic/biological materials through customs.
- Better information sharing along the process and between different actors.
- Bilateral government agreements to tackle illegal trade.

- Increase sanctions and fines on convicted offenders.
- Refocus the problem in the media by showing cases when offenders are caught.

Concluding remarks

Farm crime and EWC are not considered a priority in CP councils' agendas or by the police. Exceptions are municipalities that are targeted by these problems, where environmental inspectors and the police play an important role in crime detection. Although local CP councils demonstrate good knowledge of what to do in the case of a farm crime or EWC occurring in their municipality, there is an overall lack knowledge about what works and what does not work when tackling farm crime as well as EWC among those interviewed from CP councils. Such crimes normally are not followed up and are considered one-off events detected by environmental inspectors and police. There are indications that public (including CP groups) and private partnerships are blooming in municipalities that are often targeted by farm crime and EWC.

Environmental inspectors, who might detect such offenses, cannot be expected to take over the role of the police as criminal investigators; so many cases never reach trial. At the same time, CP groups in each municipality should be more aware of, and perhaps be more curious about, these events than they are nowadays. There is a clear scope for further research here. First, research can be helpful in improving crime prevention practices by taking a closer look at the barriers (legal, organizational, economic, and cultural) that make the detection of farm crime and environmental violations difficult as well as the reasons why they rarely go to trial. It is possible that there are geographical differences across the country that explain levels of detection and conviction rates. As most community practices to prevent these crimes fall outside the range of responsibilities of the traditional actors engaged in crime prevention (such as the police and CP councils), a good start is to find out ways to keep the new public–private partnerships alive as legitimate actors in rural policing. With clearly defined roles, there is no doubt about who is in charge when dealing with farm crimes or EWCs.

A model of a rural CP that takes into account the needs in the countryside must capture the changing urban–rural relationships. These relationships are currently being redefined as the use of ICT makes crime less dependent on space. ICT can be used to increase efficiency in crime detection and the reporting of criminal events, as suggested by the use of CrimeAlert, tagging, and specialized cameras. The use of CCTV to detect criminals on building sites or in forests, a common target of thefts in rural areas, is an example of how the technology can be used in areas where guardianship is low. The use of social media in community policing may be particularly important in rural areas because of the long distances. The powerful capacity of georeferencing social control by texting, voicing or imaging as crime happens is new in policing, but it is here to stay as a new expression of surveillance (Ceccato & Dolmén, 2013). In a more general account, for prevention and reduction of farm crime and EWC, the collection

and analysis of crime data must be improved via police records and partnerships, followed by information sharing throughout the process and among different actors. In the future, national victims' surveys should incorporate questions that are more appropriate for rural areas, with samples that allow meaningful analysis across rural municipalities and regions, which, for the time being, is not possible.

Indeed, the sharing of information is an important activity in order to raise awareness of farm crime and EWC occurring in particular areas. Public awareness is also important, education about the issues for children, and engagement in safety walks and watch schemes are potential ways to get the community involved and prevent crime. For farm crime, especially concerning machines and tools, marking equipment and promoting harder sanctions and more aggressive enforcement may be effective in high targeted areas.

It is not known why remote rural municipalities show higher shares of chemical environmental crimes, but lack of support by environmental authorities and lack of adequate information about how to handle chemical waste is certainly a major contributor to the problem. Better information from environmental authorities on handling chemical components should be in place. Municipal authorities should impose better control of waste left by inactive companies. Small businesses, perhaps the most important group of offenders, should get better information from environmental authorities on handling these components. Resources should be earmarked from the national to the local levels to provide educational programs that prevent the problem in the first place.

EWC records, in particular for garbage dumping and littering, show that such crimes often occur in accessible areas, such as near roads, though not too close to urban areas, as that may increase the risk of being detected or recognized. Police records also show that larger municipal areas can lead to an increase in cases of dumping. The adoption of electronic surveillance along roads could, for instance, be an alternative to increasing surveillance in areas more targeted by garbage dumping. Routine activity principles can be the basis for assessing detection schemes and EWC concentrations. Popular places may see more EWCs, which then can be easily combated by improving surveillance and security at that particular spot. Public campaigns can suggest that such dumping spots should be better supervised and may be under indirect social control of the local community. Future research should focus on finding ways to deal with the problem and better implementing preventive schemes using current public and private partnerships, such as the ones found in rural Sweden.

To restrict the illicit market in plants and animals, information should reach the general public, as many crimes of this type are committed "by mistake" or ignorance of the current environmental laws. In Sweden, Customs has a key position in preventing protected plants and animals from entering the country. Within the country, the rate of detection of these environmental violations can be improved by increasing surveillance at suspected locations. At the individual level, consumers can be vigilant of ingredients in food and medicines that can arise from illegal trade. For example, furniture can contain types of wood that

are threatened in their local habitat or fur from endangered species. So consumers should avoid buying products that are not certified. The same can be said about other products of suspicious origin.

Nature is a means for economic sustainability but it is submitted here that EWCs cannot be excused for the sake of keeping the rural economy alive. The issues of the social and economic sustainability of rural areas must be assessed in relation to the needs of the environment. To make things more difficult, some of these recorded environmental crimes are caused by businesses such as saw-mills and more traditional enterprises that have been part of the community for a long time and are now targeted by new environmental rules. Most people in the community do not view these activities as crimes. Perhaps this is a reflection of the fact that society is still adopting a “balanced vision” noted already in the 1970s by Forsling and Borgblad (1978). And yet, natural resources are exploited individually, while the costs of harm to nature are shared collectively.

Protesting, either through the media or face-to-face, is an example of people’s capacity to mobilize around a specific cause. So far, protests in rural areas, either for inherited causes or new externally imposed ones, are for the time being seen as exogenous to crime prevention actions and policing. As illustrated in the Swedish mining case, although the police may sympathize with the causes of protesters, as some police officers are locals, structural barriers keep their actions apart. Cases like this one call for a discussion of the police’s role and legitimacy in rural communities, particularly now when Swedish police centralization will soon be a fact.

Notes

- 1 Polisingripande i Kallak. Retrieved April 17, 2015, from www.youtube.com/watch?v=YhhFdLvPinU.
- 2 Gruvbrytning kan orsaka dammhaveri. Retrieved April 17, 2015, from www.nsd.se/nyheter/gruvbrytning-kan-orsaka-dammhaveri-7659120.aspx.
- 3 The old man in Gällök. Retrieved April 17, 2015, from www.youtube.com/watch?v=kLCiKXsui_k.

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