

#### **4. THE FRAGMENTATION OF ENVIRONMENTAL DECISION-MAKING**

It is fairly hopeless to try to explain the present environmental policy or actions of the environmental administration from a rational basis. We can clarify the picture, though, by examining sociological processes at work in the society.

The first is the fragmentation of decision-making. Environmental issues are typically tackled from a narrow ecological standpoint with scant notice to the overall impact of remedial measures on society. As a result, problems get overblown, measures regimented under bureaucratic schemes, and sector-specific agendas advanced at the expense of others.

Financier George Soros has said that all human interpretations of the reality contain some misinterpretations. In areas of human activity people's perceptions can affect the fundamentals which in turn affect perceptions.

Sociological processes are an indivisible aspect of human society. Some activities such as politics and marketing exploit these processes, generally in non-constructive ways. Recognizing these processes gives us a chance to deal with them more efficiently. The following discussion considers administration of dredging as an example.

##### **How administration of dredging got out of hand**

Dredging activities in Finland are closely associated with the development of our maritime shipping infrastructure. Such development promotes foreign trade. Dredging has traditionally been administered under Finland's Water Act. Project conflicts were earlier resolved quickly by the courts, which balanced the interests of affected groups. Large projects have been carried through without notable environmental impacts.

When the Helsinki Commission for protection of the Baltic marine environment (under the HELCOM Convention on the Protection of the Marine Environment of the Baltic Sea Area) issued its revised guidelines for the disposal of dredged spoils, the environmental administration instantly occupied the field as the chief regulator in the area. The concentration limits were plucked almost verbatim from Dutch limits. The interpretation of the guideline, that did not need any interpretation, was assigned to a researcher at the Finnish Environment Institute. Eco-ideological attitude was applied, paying little respect to common sense, accepted international practices or the intent of the law.

The HELCOM dumping guideline, the national draft application guideline with suggested limit values, and evolving social attitudes to environmental issues, had consequences:

- Several maritime infrastructure development projects in Southern and Southwestern Finland were stalled for years in their permitting processes as permit cases were repeatedly appealed;
- The administrative director of the Turku harbor was charged and fined for deepening the Perno channel. He ordered the dredging under a vaguely worded water permit in order to allow departure of cruise ships worth a total of €2.5 billion from shipyard;
- The dredging monitoring and follow-up studies under the new guidelines sometimes cost as much as the dredging itself;

- In several cases, officials required that dredged mass be taken ashore, and the responsible party had to obey to keep any reasonable schedule;
- To protect fish during spawning season, temporary bans were routinely placed on dredging operations, causing delays, increased costs, and disruptions in harbor and channel development projects.

As the situation got out of hand, the Ministry of Communications and Transportation, the Finnish Maritime Institute and main harbors involved in foreign trade launched a project to consider environmental impact and permitting processes /10/.

It was found that the HELCOM dumping guideline had been copied from the Oslo-Paris Convention (OSPARCON) on the North Sea, which had been motivated by the dumping of tens of millions of cubic meters of contaminated sediments annually from inland water areas to the North Sea. Powerful tidal currents and sea waves then churned up the dumped masses and carried the suspended solids back and forth.

In Finland (and in other Baltic Sea areas), most dredging involves transfer of dredged masses from one point to another at sea. The currents are weak, tides are negligible, and no notable erosion occurs in dumping areas. Thus, the language of the HELCOM dumping guideline is quite inappropriate for Baltic Sea circumstances.

Of course, the HELCOM dumping guideline might have been possible to interpret if readers understood its background. Instead, Finland's environmental administration refused to answer the question: "What is the environmental pollution or its risk in dredging operations that the Environmental Protection Act and the dumping guideline are supposed to prevent?" The environmental administration worked under an assumption that some inherent wisdom was contained in the dumping guideline wording. If the wording of the HELCOM guideline did not please people working in the administration, it could always be tightened up in the Finnish interpretation guideline.

Many difficulties were precipitated by the Finnish Environment Institute's interpretation, which said that the hazardous substance content of individual samples or sample fractions, and not just the sample group average, should also be taken into consideration. Thus, if a tiny area of surface sediment was found to exceed the upper limit value, it would need to be scraped up carefully, brought to a site on land, and treated as hazardous waste.

The ecosystem, of course sees the mean value and compares this to the mean of surface sediments at the dumping site.

Another odd interpretation of the HELCOM dumping guideline and the environmental protection act was that if the content a certain harmful substance in the dredging mass exceeded the upper limit, the mass should be brought ashore for treatment and taken to a special site.

Such interpretations do not come cheap. For fine-grained sediments, dredging and dumping typically costs around €3/m<sup>3</sup>, dumping of contaminated sediment and covering with clean sediment €5/m<sup>3</sup>, scraping off of contaminated surface sediments with dumping and stabilization on the bottom of the harbor field €20/m<sup>3</sup>, scraping off and bringing ashore with transport to a hazardous waste site around €100/m<sup>3</sup>, and scraping off, bringing ashore and transport with processing and placement at a special hazardous waste site €200/m<sup>3</sup>.

If hazardous substances are detected during routine dredging operations, the environmental protection act calls for application of the principle of environmental best practices (i.e. the appropriate, cost-effective combination of measures). In defining the technical solution, the principles of cost-efficiency and proportionality (the measures appropriate relative to the selected level of protection) should be considered.

Indeed, this is stated unambiguously also in the HELCOM dumping guideline. Water dumping of contaminated sediments and covering with clean material or other forms of confining area are widely used elsewhere. The interpretation of the Finnish Environment Institute contradicted the environmental protection act.

When a representative of the Southwestern Finland environment center was confronted with these facts, the response was as follows:

- The representative first reacted with disbelief and dismissal.
- The representative then defended the actions of the authorities.
- The representative next made a veiled threat of serious consequences to the project owner questioning the actions of the authorities.
- This was followed by a call for further investigation and more studies at the expense of the project owner.
- Finally there was a reference to some internal guidelines for environmental authorities.

When the implications of dredging were brought up at a seminar on environmental impacts of sea traffic, the construction chief of the Pori harbor asked the Finnish Environment Institute researcher drafting the interpretation guideline of the HELCOM dumping guideline: “The Kokemäki River brings suspended solids containing some mercury into the sea. Part of these solids settle in our harbor area. What is the problem with taking this sediment from the harbor and dumping it in the river’s sedimentation area next to the harbor?”

The researcher responded, “There is no real problem, but once the sediment is contaminated, you have an ethical duty to take it ashore and deal with it.” Silence descended on the hall. Another representative of the Southwest Finland environmental center tried to calm things by stating, “Sure we know the real problem lies with the Harjavalta smelter (the legal source of the mercury) upriver.”

The Finnish Environment Institute’s heavily criticized proposal of how to interpret HELCOM dumping guideline was eventually rejected. Yet even after this some regional environment centers used the rejected proposal as their dumping guideline instead of the HELCOM guideline. Even after decades of studies, monitoring and modeling of turbidity effects, impacts on the fishing and other environmental risks, the regional environmental centers and the fishing unit still demanded new studies on top of the old studies. Projects were routinely required to conform to seasonal limits although the turbidity impact studies had shown them in most cases unnecessary.

If environmental officials are incapable of dealing with environmental issues, it is hardly surprising that private individuals, associations, and municipal environmental boards increasingly feel empowered to file comments and complaints. These comments and complaints contain ever more surprising views than the Finnish Environment Institute on the environmental impacts of dredging and the HELCOM dumping guideline.

When tributyltin re-hit the headlines in connection with the Vuosaari harbor project, the national interpretation guideline project got new wind in its sails. Then environment minister Jan-Erik Enestam asked that the interpretation guideline be prepared before the environmental permits on the Vuosaari dredging project were handed down. The new draft guideline now covered both dredging and dumping. The following legislation and agreements needed to be considered in connection of dredging projects:

1. The Water Act
2. The Environmental Protection Act
3. The Sea Protection Act
4. The Waste Act
5. State Council decision on landfill sites
6. The Environmental Damage Act
7. The Nature Conservation Act and the Antiquities Act
8. The Land Use and Construction Act
9. EIA procedures for dredging and dumping
10. International agreements
11. European Community legislation

The draft guideline also included descriptions of the possible environmental impacts of dredging and dumping activity under the following headlines:

1. Impacts of harmful substances
2. Changes in water quality
3. Water vegetation
4. Bottom organisms
5. Fish
6. Currents
7. Commercial and recreational fishing
8. Other recreational uses
9. Impacts on undersea structures and use of sea bottom
10. Impacts of transportation and temporary storage
11. Impacts on biodiversity

A permit application for a dredging project required the following:

1. Definition of the scope of dredging and dumping needs
2. Assessment of the measures presented in the permit application
3. Evaluation of sediment quality: physical, chemical and biological properties and impacts
4. Sediment sampling
5. Dumping site details
6. Evaluation of dumping options
7. Impact assessment

The quality criteria for sediment were stated in the new draft guideline. The lower limit for TBT was set at 3 µg/kg dry weight solids and the upper limit 200 µg/kg dry weight solids.

During the Ministry of the Environment's hasty comments round, it was once again told of the magnitude of impacts, current international practices and limits elsewhere. The comments on the proposed guideline acknowledged that no other country applied such strict limits to TBT. Furthermore it was told that the proposed administrative measures are at odds with Finnish law and government efforts to encourage job creation.

In May 2004, the Ministry of the Environment published a slightly tuned version on the dredging and dumping guideline. The strict limit values were allowed to stand as part of a wait-and-see strategy. The Ministry said it would issue a decree on new limits later.

The emerging of heavy-handed environmental bureaucracy to regulate dredging projects is a fascinating area of research. It includes the following relevant facts:

- Some Finnish environmental researchers and officials first created a view that the dredging and dumping of sediments containing harmful substances posed a serious environmental threat from one-sided international information. Their view was strengthened by enthusiasm over challenging new research opportunities, desire to develop know-how and total lack of expertise.
- The newly manufactured threat to the Baltic Sea was an instant hit with the media and political classes.
- Once the Greens gained top posts at the Ministry of the Environment, they bent policy to fit their own political objectives. Civil servants in the Green network were given important tasks, subjugating the Ministry's operations to totalitarian views. This development was not unwelcome, because the Greens and the environmental administration largely shared the interests of expanding their domain of power. The importance of environmental issues was growing in the larger cities and the officials were free to operate to their heart's desire.
- The prevailing view in the environmental administration was that harbor operators were getting off easy. The views and aggressions of environmental administration officials manifested themselves as a desire to discipline and control. Instead of using risk analysis to define the problem, the environmental administration went straight to draft a guideline and limit values for sediments. The relative size of the problem was never an issue.
- Officials fed the media with interpretations of sampling rules and data in direct contradiction to the HELCOM guideline and international practice. The hazardous substance content in a single outlier sample was compared to limit value with great publicity. This further reinforced the widely held perception in the public of dredging as a shady activity and environmental threat.
- As if those developing the national maritime infrastructure were not already miserable enough, the environmental administration sought to bolster its profile as defender of the general welfare by imposing more harsh rules and entering into legal disputes with permit applicants. Officials found it easy to deal with troublesome applicants by calling for further monitoring studies of the impacts of dredging on the environment and fishing stocks. Indeed, the key adequate ground of regional environmental centers for demanding studies was the developers had the money to pay for such studies.
- The situation became awkward for environment and fisheries officials, however, when studies and investigations identified no real problems from dredging activity. It appeared that these officials had engaged in frivolous abuse of their authority by requiring massive amounts of unnecessary studies and abuse of the appeals process to oppose development of the national maritime infrastructure.
- Ironically, the general public continued to side with the environmental officials, especially suspicious fishermen, summer house owners happy with the status quo, and

city-dwellers looking for a target for their aggressions. These groups would have felt betrayed if the environmental administration, after so much study, issued a public apology to marine infrastructure developers and withdrew their demands.

- The histrionics surrounding the Vuosaari TBT issue breathed new life into efforts to tighten regulations on dredging and dumping activity. As several harbors had already made their basic investments, it was to their advantage to keep quiet and let the new, harsher rules be imposed on competing harbor projects.
- Using the new guideline, the environmental administration effortlessly buried its mistakes and occupied the field in this matter. As the guideline was not official, it continued to evade broader political review. Moreover, Finland's environment minister had established himself as a defender of the Baltic Sea. Finland had become the model for sanctimonious environmental policy also in this area.
- The final outcome was fairly predictable, given that the media covering the environment minister's political wisdom had kept to the official narrative, and thereby avoided the far more difficult problem of changing the narrative while maintaining credibility. The legal rights of those developing the national maritime infrastructure were coldly ignored.

We Finns consider US Iraq policy with manufactured evidence as mindless and deeply deplore the prisoner humiliation at the Abu Ghraib. We also consider Silvio Berlusconi a buffoon, manipulating the Italian people through his media empire. Our prime minister has considered it appropriate to advise Russian leadership about the lack of investor protection in their country.

Our sense of self-righteousness prevents us from facing the harms that Finnish society, led by the environmental administration and the media, have brought upon those involved in productive activities in general and development of maritime infrastructure in specific. Our society accepts a manipulated view of the facts and tolerates abuse of fundamental legal protections. It humiliates organizations working to increase the national prosperity by forcing them to make unreasonable economic sacrifices. It destroys possibilities for implementing infrastructure projects that would reduce our dependence on fossil fuels.

All this has occurred for reasons that have practically nothing to do with the state of the environment.

### **Environmental problems everywhere**

The overblown administration of dredging activities is not an isolated occurrence in environmental administration. Here are a few other recent examples:

- The European Commission is seeking to ban the sale of Baltic herring because of too high dioxin levels. The Finnish journalist Aarno Laitinen, has pointed out that to get the same level of dioxin poisoning suffered by Viktor Yushchenko during the 2004 Ukrainian presidential campaign, one would need to eat 210,000 kilograms of Baltic herring at one sitting.
- Environmental officials intervened in the demolition a swinery owned by Finnish MP Heikki A. Ollila. The parliamentarian had failed to take demolition waste from the site to waste management system in a timely manner. Mr. Ollila was even suspected of burying concrete blocks on his own land – an environmental crime under bureaucratic interpretation.

- A new decree forces over 300,000 rural households in Finland to invest into new waste water treatment systems costing 5,000 – 10,000 euros per set or a total of 2 – 3 billion euros. Many of these new systems do not work and some pose a health hazard. The decree is supposed to protect the Baltic Sea from further eutrophication. The Finnish journalist Martti Backman has calculated that the theoretical cut in phosphorus load to the Baltic Sea is 0.2 % and in practice one order of magnitude less as most of the phosphorus is attached to soil particles long before reaching the sea. Indeed a 10 kg package of ordinary garden fertilizer poses the same threat to the Baltic Sea as a rural human being in the old system in three years.
- A small company selling natural stone to gardeners found itself in a fight for survival after cleaning a 200 meters long ditch near the Natura 2000 protection area of Lake Matala. Lake Matala's aquatic vegetation includes the rare lake grass *Najas tenuissima*.
- The presence of a long-legged 6 mm beetle (*Macrolea pubipennis*) or the Northern Bat (*Eptesicus nilssonii*), both of which have been declared endangered species in Finland, has also become a basis for restricting land use. Interestingly, the environmental administration has not seen any need to invest its own money in habitat for these species.
- Noise nuisance has become a defining issue in the siting of offshore wind farms in Finland. Depending on wind speed, of course, modern wind turbines produce average noise levels around 60 dB measured at the base of the tower. This is comparable to the noise level of normal speech. The guideline threshold value for protected areas like protected sea outcroppings is 45 dB during daytime and 40 dB during night time (Council of State decision 993/92). The background noise of a 10 m/s sea breeze already exceeds 45 dB.
- New limits on release of heavy metals (so-called "national priority materials") are being considered for industrial facilities next to rivers that naturally carry many dozens of times as much of the same heavy metals to the sea. The critical values for heavy metal content being presented are a fraction of the guideline values for heavy metal content in drinking water.
- Under Directive 86/278/EEC, the heavy metal content in sludge from an ordinary sewage treatment plants is suitable for spreading on fields. Yet under Finland's SAMASE criteria, the same sludge is so contaminated that it must be placed in a special landfill.
- One municipal environmental official in the Helsinki region has come up with a demand that a landscaping permit is to be required in urban areas for the cutting of diseased trees that pose a threat to people or property. This is supposed to be good governance.

Underlying these and many other astonishing cases are the same sociological processes as in the dredging and dumping bureaucracy. Finnish society, feeling both guilty and sanctimonious at the same time, washes its hands of responsibility with an obsessive intensity. Our nation clings to a dream of people frolicking in a bucolic idyll in clean linen clothing among butterflies and lambs, oblivious to the realities of every-day existence.

## **Sustainable development action committees**

The politics of sustainable development in their current incarnation emerged from the UN's Brundtland Commission report /65/. According to Finnish interpretation, sustainable development is a continuous process at the global, regional and local levels, intended to preserve a good standard of living for current and future generations. Sustainable development is seen as whole, with ecological, social and economic ramifications.

Finland established its National Commission on Sustainable Development in 1993. The Commission, which is led by the prime minister, and includes ministers, high-level state officials and other players, meets to discuss various themes mentioned in the work program. It claims to be promoting sustainable development by assigning priorities, by acting as a forum for discussion, and by providing initiatives for official preparation. The Commission is supported by the state bureaucracy and has the economic resources of the Council of State.

The fruits of the Commission's work include government's sustainable development program, a national action plan for Finland's biodiversity, a program for ecological construction in accordance with sustainable development principles, an environmental cluster program, a program for sustainable development of a knowledge-based society as well as a program for sustainable production and consumption.

Within the context of the Commission's work, models for structural change are also being developed to assist in the shift to a society governed by the principles of sustainable development. The government is supposed to play a central role in all stages of structural adjustment (the "breaking loose" stage, the "acceleration" stage, and the "balancing" stage).

To secure the conditions for a good standard of living for current and future generations is an excellent goal, but certainly nothing new. The decision to build ecological, economic and social pillars looks like an ideological structure. More concrete and immediate problems identified in the original report, particularly difficult problems facing people in developing countries such as explosive population growth, famine, desertification, pollution, poverty, illiteracy, unemployment, lack of a social safety net, and war are pushed aside.

It is worth mentioning that the author was able to locate a copy of the Brundtland Commission Report in the basement of the Helsinki University of Technology, where it had been moved into storage because of low demand. In other words lots of people speaking about the principles of sustainable development have not taken the time to familiarize themselves with the crucial source document.

Barring a surge in immigration, Finland's population is set to decline and gray as the average age of the population increases. Some observers even speak of a "pension bomb." At the same time, tighter international competition and globalization threaten jobs in Finland. State secretary Raimo Sailas has suggested that the Finnish economy could wither away.

Finnish society has already experiencing increasing problems with unemployment, marginalization, violence, alcohol, drugs, crime, and worker burn-out. The collapse of the social security systems and unbridled social trends from an economic collapse would cause further social destabilization.



What actually threatens the ecological conditions for a good life in Finland? Finland's overall eco-balance, as shown earlier, is headed in the right direction. Industrial pollutants have been dramatically reduced and constitute little threat to us or future generations. For example, fertilizer problems from agriculture still require action, but are hardly a threat to the quality of life in Finland.

Sauli Rouhinen, the secretary general of the Finnish National Commission on Sustainable Development was asked: "If we exclude fossil fuels from the discussion, where do we Finns meet our ecological borders with the current pace?" The response was that from this perspective Finland probably lives within its ecological footprint.

Sustainable development globally has social, ecological and economic dimensions, but the emphasis varies across time and space. Every problem has a core issue; not all problems can be solved simultaneously. Thinking globally, controlling the population explosion would solve many problems and pressures on the environment.

So what is the sense of the new Finnish ecological thinking? Why should we intensify the efficiency of our material use by a factor of four or ten at this particular moment? Is material use as timely a problem as energy use? We consider these issues in the following example of house construction.

### **Housing and sustainable development**

In its construction policy program /73/, Finland's Council of State notes: "The principles of lifecycle economics and sustainable development are to be observed in the fields of construction and real estate throughout the entire chain from municipal planning, zoning, and building design to construction, use, maintenance, renovation, and decommissioning. In project planning, the creation of lifecycle and environmental analyses should be as routine as cost calculation. Waste from building activity and demolition of structures should be minimized and the reuse of building materials increased. When possible, the reuse of building materials and components is preferred to dumping of the demolition waste."

On its face, this policy sounds quite rational. But what are the magnitudes of various environmental impacts and where does this analysis lead us? This problem is addressed with elementary calculus in the following case study.

**Case:** Environmental impact of a four-person family home in the Helsinki suburbs

Assume a family house in the Helsinki region. Annual energy consumption (heating, hot water, lighting, and other electrical appliances) is 108,000 MJ. The house is built for a service life of 100 years. Estimated amount of materials and energy tied up in the house is:

<u>Materials</u>	<u>Amount</u>	<u>Energy content</u>	<u>Non-renewable energy</u>
Brick	20 tons	3.2 MJ/kg	64,000 MJ
Mortar	6 tons	1.2 MJ/kg	7,000 MJ
Concrete	40 tons	0.6 MJ/kg	24,000 MJ
Mineral wool	4 tons	20 MJ/kg	80,000 MJ
Lumber	8 tons	1.2 MJ/kg	10,000 MJ
Chipboard	2 tons	10 MJ/kg	20,000 MJ
Drywall	6 tons	7 MJ/kg	42,000 MJ
Bitumen felt roofing	1 ton	5 MJ/kg	5,000 MJ
Glass	0.5 tons	8 MJ/kg	4 000 MJ
Tile	2 tons	5 MJ/kg	10,000 MJ
Steel and other metals	2 tons	15 MJ/kg	30,000 MJ
Other materials	2 tons	10 MJ/kg	20,000 MJ
Energy used at building site	160 m <sup>2</sup> x 400 MJ/m <sup>2</sup>		64,000 MJ
<u>Renovations (1 + 2)</u>	<u>6.5 tons</u>	<u>8 MJ/kg</u>	<u>50,000 MJ</u>
<b>Total</b>	<b>100 tons</b>		<b>420,000 MJ</b>

According to the technical data sheets by the Finnish building industry, the amount of energy invested in manufacturing and transport of construction materials, as well as the amount of energy expended on construction itself represents only about 4 % of a building's energy consumption over its life. Thus, it is difficult to see how the choice of material has a significant impact on the amount of energy tied up in the structure or energy efficiency.

The environmental impact of energy use under the current energy production structure with assumptions presented in Appendixes 3 and 4 is about -1.5 km<sup>2</sup> eq. x year and a footprint effect of construction waste at the landfill about - 0.0001 km<sup>2</sup> eq. x year.

Buildings account for about 40 % of Finland's energy consumption. If the goal is to significantly reduce CO<sub>2</sub> emission under the current energy production structure, part of the building stock must be replaced. Another part must be renovated with emphasis on HEPAC systems, windows, outer doors, increased insulation and better seals.

Moreover, construction materials are largely rock, minerals, or wood. Rock, concrete, bricks and other minerals can be crushed and wood can be burned, but at some point the economics of recycling and reuse no longer holds. How much a problem is really created by extracting rock and wood from nature and returning back after a century of use?

Thus, priority should go to energy efficiency, rather than selection and reuse of building materials. The tons of carbon dioxide expended on new construction and renovation represent far less than a tenth of the energy use of the building during its life. The selection of materials for normal construction, the amount and recycling of construction waste are marginal issues relative to the other challenges in mankind's future.

Based on these calculations, the sustainable construction policy program seems to be on the wrong track with respect to its eco-thinking. Nothing new has been invented, and the only viable observations are familiar energy efficiency and quality issues. To learn these mundane truths, however, our officials now have to travel around the planet to eco-building conferences. Our public administration research institutes year after year pump out the same empty baroque prose filled with politically correct tributes to the construction based on the principles of sustainable development.

The highest civil servant at Finland's Ministry of the Environment has joined with Germany's environment minister in expressing horror over the problem of construction waste. She has asked those in the building industry to figure out what is to be done with all this waste. Some environmental officials, for example, want to restrict around-the-year habitation in simple circumstances such as summer cottages on the basis of sustainable development principles. On the other hand, the construction policy program recommends reuse of structures.

Sustainable development can thus be marketed in a variety of contradictory incarnations in the construction sector. The environmental administration uses it for self-initiative and emphasizes of the significance of its own agenda. State administration research institutes have found fresh marketing arguments for their own work. Large construction firms have begun to use fashionable eco-images in their marketing.

Once the notion of sustainable development principles has been adopted, inadequate grounds for decisions or programs are tolerable. Nobody bothered to ask the simple questions that could have been answered and rationally assessed before the construction policy program draft was finalized.

Political realities and impressions matter most in a decision-maker's world. Indeed, expansion of the sustainable development ideology to the construction branch has not hurt the government. Many people have bought into the idea that somebody in government is doing something about a "problem".

Once Finland's construction policy program had gained political acceptance, there was no benefit to voluntarily admitting to a mistake. Small and medium-sized companies operating in the construction field increasingly face dire circumstances caused by the actions and demands of the environmental bureaucracy. They have little choice but to go along with the whirlwind of image marketing.

### **Eco-management systems and eco-labeling – modern indulgences?**

The European Union and industry have responded to political pressures connected to environmental matters by developing eco-management and audit schemes. Under such schemes, the firm or the organization reviews the environmental impacts of its operations, decides on an environmental policy, commits to continuous improvement of its level of environmental protection, makes an environmental action program, and periodically prepares and audits environmental reports for interest groups. The data on emission trends are especially enlightening.

Many standard bureaus and other organizations issue eco-labels. The idea is that the label is granted to products with lower environmental loading than similar products in their class.

The bureaus and organizations may also grant recommendations to particular products or methods they consider eco-friendly. Public procurement officials can justify selection of goods or services that would otherwise lose in competitive bidding by pointing to environmental reasons for their decisions.

Environmental management systems may be beneficial tools, especially for large industrial firms seeking to manage their environmental impacts better than the limits of the law. The problem is the reporting rarely addresses the scale or significance of individual environmental problems. Important and unimportant problems are considered side by side.

It is useful for companies to know the environmental impacts for the full lifecycles of their activities and products. It would be even more beneficial if the overall relative significance of these impacts were also considered. Such information could also be useful to the consumer.

The operations of most firms and productive organizations have minor environmental impacts. In such cases, the establishment of eco-management systems makes little sense. Environmental issues can be dealt as a part of the quality management system.

On the other hand, a single activity or product line of certain companies and organizations may have substantial environmental impacts. The energy efficiency of the activity, the carbon dioxide and particulate emissions from energy production, agricultural nutrient releases, the ability of fish stocks to replenish themselves, the risk involved in transport of oil products and chemicals, and even the use of antibiotics, are all examples of issues deserving good management.

The use of eco-labels is problematic since the criteria for labeling are vague /4, 49, 50/. Issues of proportionality are often ignored. Currently, the process of granting an eco-label is a black box. There is little likelihood that the criteria used could withstand critical inspection. For example, is green toilet paper more eco-friendly than normal toilet paper if it has to be folded twice?

At best, environmental management systems are tools for companies and organizations to limit their impacts in a cost efficient manner. Eco-labels and technical data sheets can guide consumer behavior and through this, companies and organizations.

There are two sides to this coin, however. Eco-labels and eco-management systems can also be used to prey on the guilt feelings of the consumer by offering a way to assuage his conscience. When consumer choices are linked to marginal environmental impacts or the principles for conferring the eco-label are vague, environmental systems and eco-labels become tools for mass manipulation. When issues of relative significance are pushed aside, environmental justifications become the tools of protectionism in public procurement and sow the seeds of social decay.

What product groups have the most environmental impacts, and in which product groups does greenness make a significant difference? Why has this critical question been ignored in eco-management systems and eco-labeling, as well as in public procurement processes? Is there a drive to create a pan-European bureaucracy for the sale of eco-indulgences? Are research and standards bureaus attempting to extend their scope of business? Are large corporations exploiting these systems and labels to their own benefit, when smaller cannot afford to play the same game?

## **Sectoral administration problems and the environmental administration**

In principle all public administrations should work for the good of the society. In practice, however, the operation of an individual organization is disturbed in pursuing this goal, as it has a tendency to put its own issues and interests above everything else.

The consequences are summarized in the charts in Figure 4.1, which considers a hypothetical environmental problem that can be partially or totally eliminated. However, the eco-balance of doing this is not necessarily positive. There can also be knock-on effects leading to perverse results like magnifying climate change.

Indeed, the environmental administration does not even consider the impact of its actions in terms of eco-balance, due to a lack of appropriate indicators and the fact that the environmental administration itself is divided into competing sub-sectors. It would be interesting to see the energy consumption, for example, for recycling of waste or remediation of contaminated land. Obviously, there must be a limit also from the environmental standpoint where recycling or remediation activity ceases to confer a net benefit.

The costs of dealing with the specific problem generally increase exponentially in accordance with the law of diminishing returns. Finland's environmental administration generally seeks to deal with a problem thoroughly, which sounds good politically when somebody else pays. However, when the starting point is already close to optional, achieving a much lower target level makes little sense.

The ultimate price to society also goes beyond the cost of the measure itself, as it may have to be paid in terms of e.g. loss of industrial competitiveness, higher unemployment or degradation of social justice.

Figure 4.2 suggests several problems in the area of environmental administration. The cubes represent the relative size of problems, for example, Finland's contribution to climate change, Finland's contribution to Baltic Sea problems, and Finland's waste management issues. The figure illustrates the effectiveness of different approaches to tackle the problems.

The approach using guilt and purification rites may not be particularly effective in dealing with environmental issues as they blur the boundaries between existing and invented problems. This setting is appealing to the environmental administration since it makes everybody else sinners and gives the administration the role of merciful shepherd.

The sector-by-sector approach doles out the same heavy-handed treatment to large and miniscule problems alike. True, this approach achieves some results in important matters but may cause more harm than general good when dealing with small or minuscule problems. The sector administration is used to this traditional approach and likes the safety it provides.

From society's standpoint, it makes sense to prioritize the deployment of resources so that they are focused on the most important and timely problems. Indeed, such an approach might even achieve progress in dealing with other problems. For example, if we focus on reduction of greenhouse gas emissions, one source of Baltic Sea eutrophication and the amount of waste are also reduced. Such a prioritizing approach, however, is strongly opposed by sectoral bureaucrats as it upsets their own structures and challenges former actions.

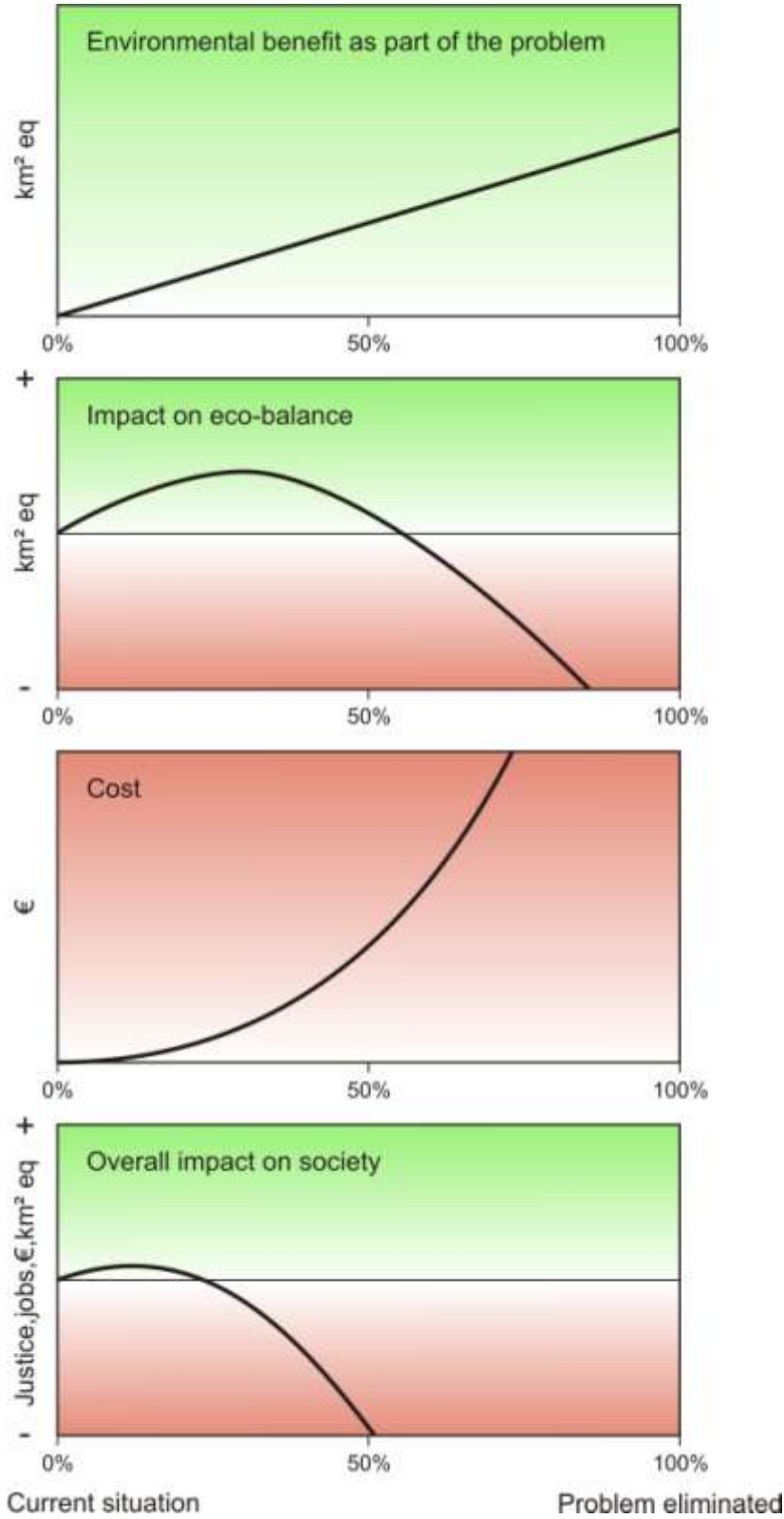


Figure 4.1. Consequences of dealing with a given environmental problem as a function towards total elimination.

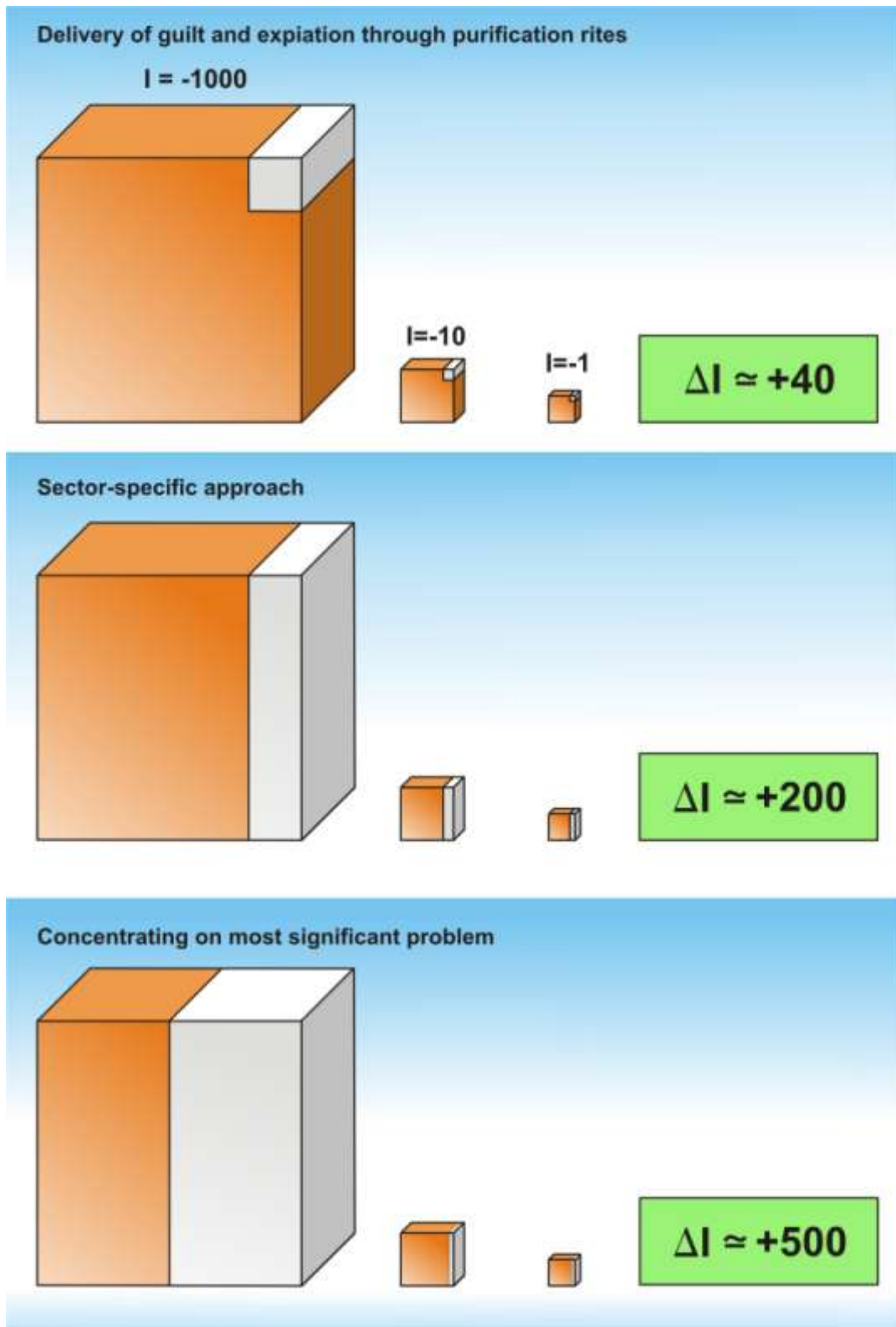


Figure 4.2. The effectiveness of different approaches in managing big (e.g. Finnish share of climate change), small (e.g. Finnish impact on the condition of the Baltic Sea), and minuscule (e.g. Finnish waste management) environmental problems.

A central tenet of the Finnish environmental protection act is that best available techniques should be used when an activity causes or may cause damage to the environment. Best available techniques mean the most efficient and advanced technically and economically feasible methods or means to preventing harm to the environment or effectively reducing such harm.

The environmental protection decree lists things to be considered in determining best available techniques, including:

- 1) Reduction of the quantities and harmfulness of waste;
- 2) The hazards associated with the materials involved and the possibilities for using less hazardous substitutes;
- 3) The materials used in production and the possibilities for reuse of the waste generated by the production process;
- 4) The nature, amount, and impact of emissions;
- 5) The type of raw material used and their consumption;
- 6) Energy efficiency;
- 7) Risks related to operations, prevention of accidents, and limiting the impacts of accidents when they occur;
- 8) The timeframe and plan for implementing best available techniques, as well as the costs and benefits from preventing and limiting emissions;
- 9) All environmental impacts;
- 10) Methods in use at the industrial scale for production and emissions control;
- 11) Development of technological and scientific knowledge; and
- 12) Published information about best available techniques from the European Commission or other international bodies.

Figure 4.3 present a flowchart of how the environmental permitting process should work under the environmental protection act. It provides a revealing insight into bureaucratic aspirations: all matters are considered, information is shared, and everybody is heard.

While the system appears to be close to perfect, several fundamental questions deserve consideration, such as:

- 1) What is the system based on since it ignores the relative size of problems?
- 2) How is an average permitting official or regulator supposed to assess best available techniques under the law and statutes?
- 3) Why is it necessary to put someone seeking to build, say, a cow barn, amusement park, or a commercial shipping dock through so much red tape?
- 4) How good are the best available techniques if it may take up to ten years to get a particular technology recognized in case of a dispute (Figure 4.4)?
- 5) Where are the legal protections for the project promoter or entrepreneur if, say, an environmental official demands an expensive investment to deal with a relatively minor environmental impact or extremely low probability risk?

Finland's environmental protection act is an implementation of the EU Directive 96/61/EC concerning integrated pollution prevention and control. In drafting the Finnish legislation, the scope of the directive was broadened to many other activities.



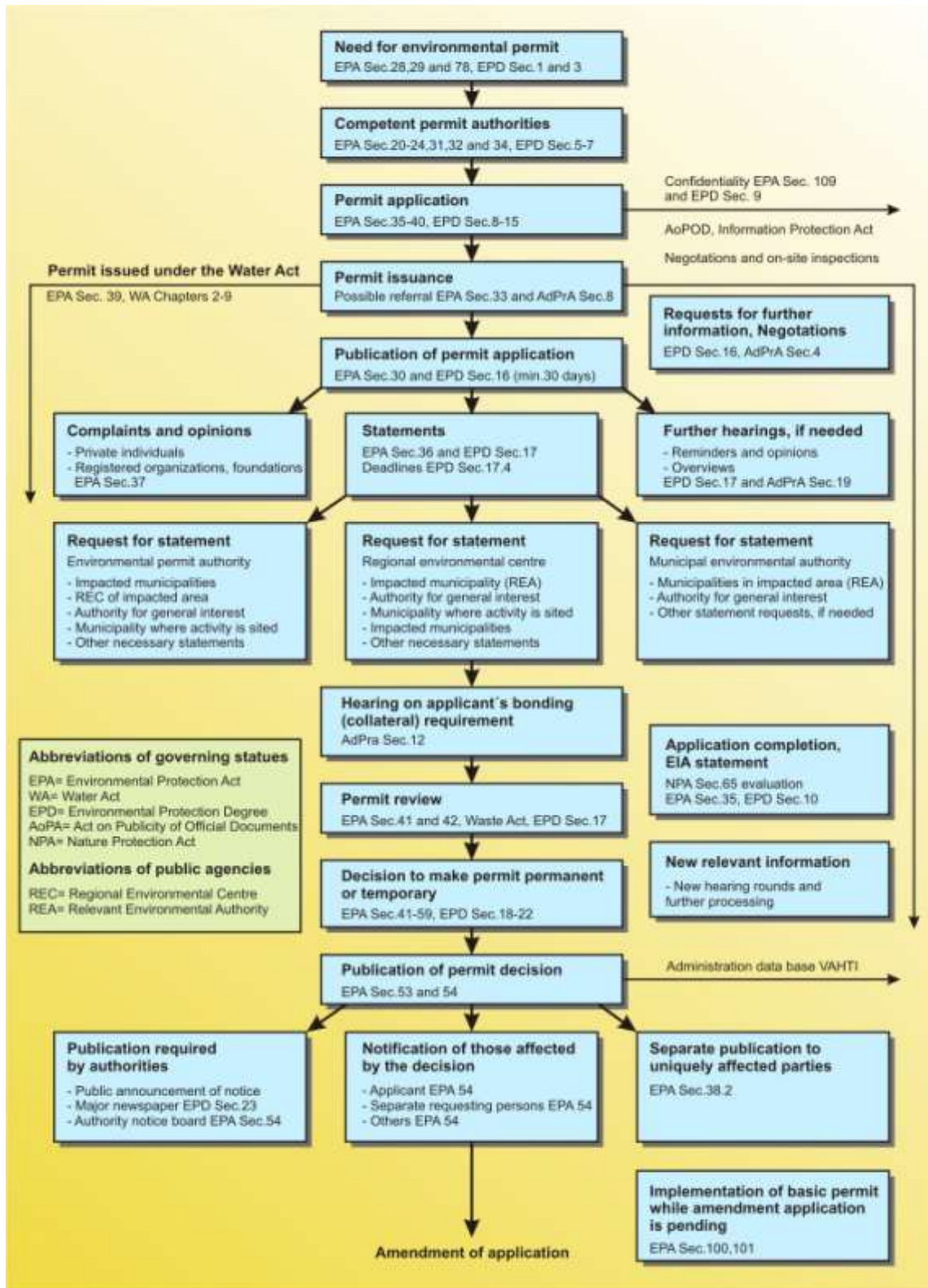


Figure 4.3. Schematic flowchart of the environmental permitting process from the official's perspective.

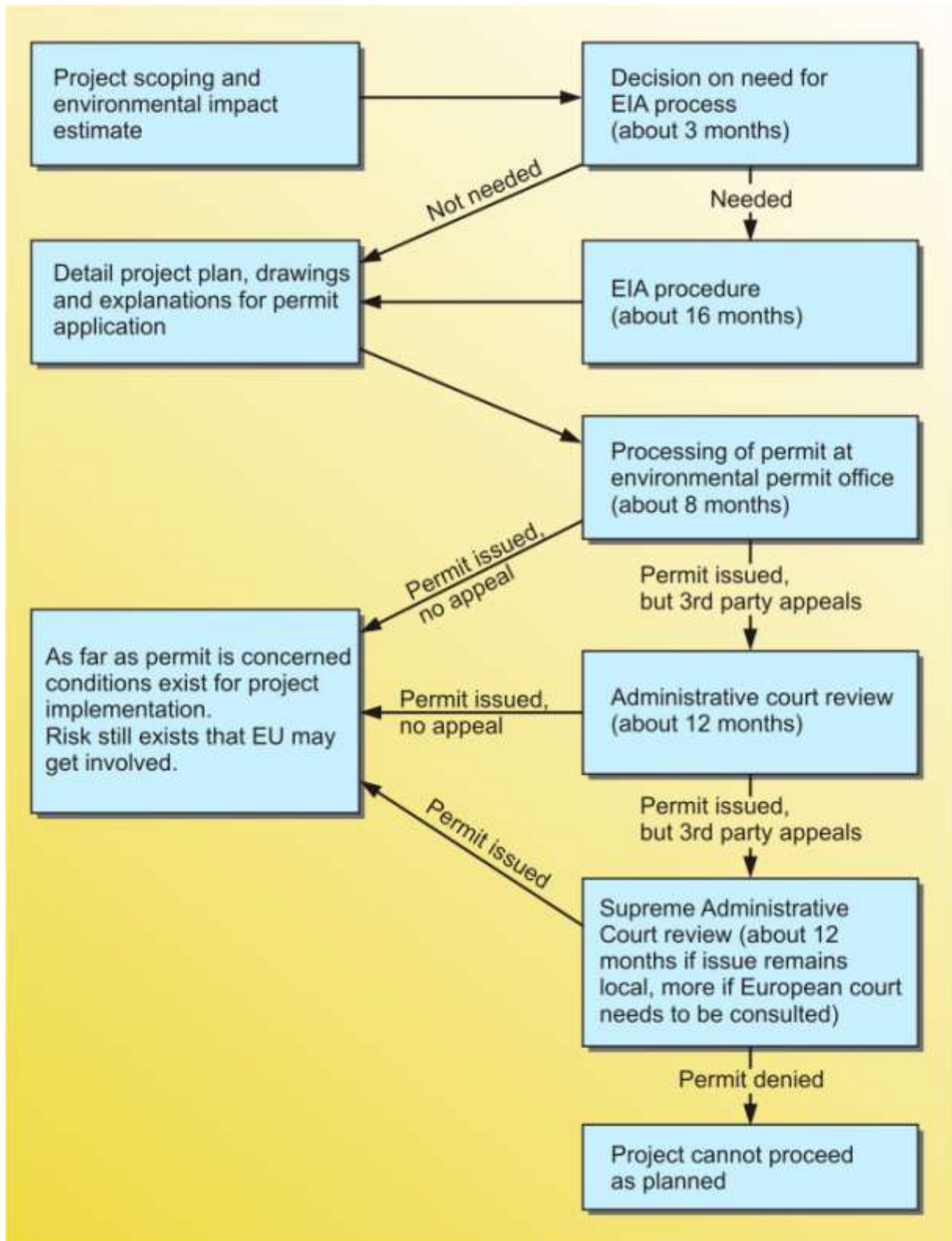


Figure 4.4. Schematic flowchart of environmental permitting process from the permit applicant's perspective.

The most obvious problems with implementing legislative intent are seen with infrastructure projects. While the goal of EU membership was harmonization of legislative structures, new legislation has often simply been superimposed over existing legislation.

Officials and average people have managed to apply convenient interpretations that reflect their own interests, aggressions and attitudes to a massive body of contradictory and ambiguous environmental legislation and standards. Thus, reasons can always be found to block, or at least delay construction of new communities, roads, power lines, municipal infrastructure and other projects. Implementation of the Vuosaari harbor project, for example, which only affected an area of a few square kilometers, required over 20 environmental permits – all appealable.

There are physical and environmental factors that set economic restrictions on land use. Then we have existing communities and infrastructure that can't be easily removed. Zoning restricts land use even further. Now, however, we are also required to take into account a large number of plant and animal species classified as endangered, as well as natural habitats, harmful substances, cultural values and environments, landscapes, etc.

For example, there are roughly 300,000 flying squirrels living in Finland, all enjoying strict protection under the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. All are formidable obstacles for land use. This and other similar cases mean that now we have a proliferation of restrictions and disputes over land use as noted in Figure 4.5.

If, for example, a certain non-vertebrate species in Finland for some reason goes into decline, it may make it impossible for an active project to proceed. If a species is increasing, it can still be classified as threatened and thus a problem. As conditions change and territories shift, new problems with interpretation of the law and statutes arise and new problems are discovered.

Many environmental bureaucrats entertain the notion of a perfect plan. Such a plan will be found when all those involved are included in the planning process and well thought-out interpretations are applied. Such plans will be so good and error-free that nobody will have to file complaints. In such illusions, resources are unlimited and there are no conflicts of interest.

People, who have never seen a concrete project planned through in their lives, let alone managed projects, nevertheless talk about good planning. Their own attempts, unfortunately, have been completely failed projects such as the dredging of Lake Gallträsk or dealing with the Kymijoki dioxin problems.

To secure biodiversity, Finland has joined in the EU Natura 2000 program. Construction projects affect a marginally tiny part of Finland's overall land area. The effect of construction on our national eco-balance or biodiversity is negligible. What is lost in the urban areas of southern Finland is recovered through depopulation of the countryside with fields left fallow.

How on earth have the Finns and the Europeans managed to cultivate the land, built the cities, develop the infrastructure and industrialize in a massive scale without ecocatastrophe, when a tiny change is now so difficult? From the psychological standpoint the new focus on details and formalities in environmental policy is reminiscent of a compulsive neurosis.

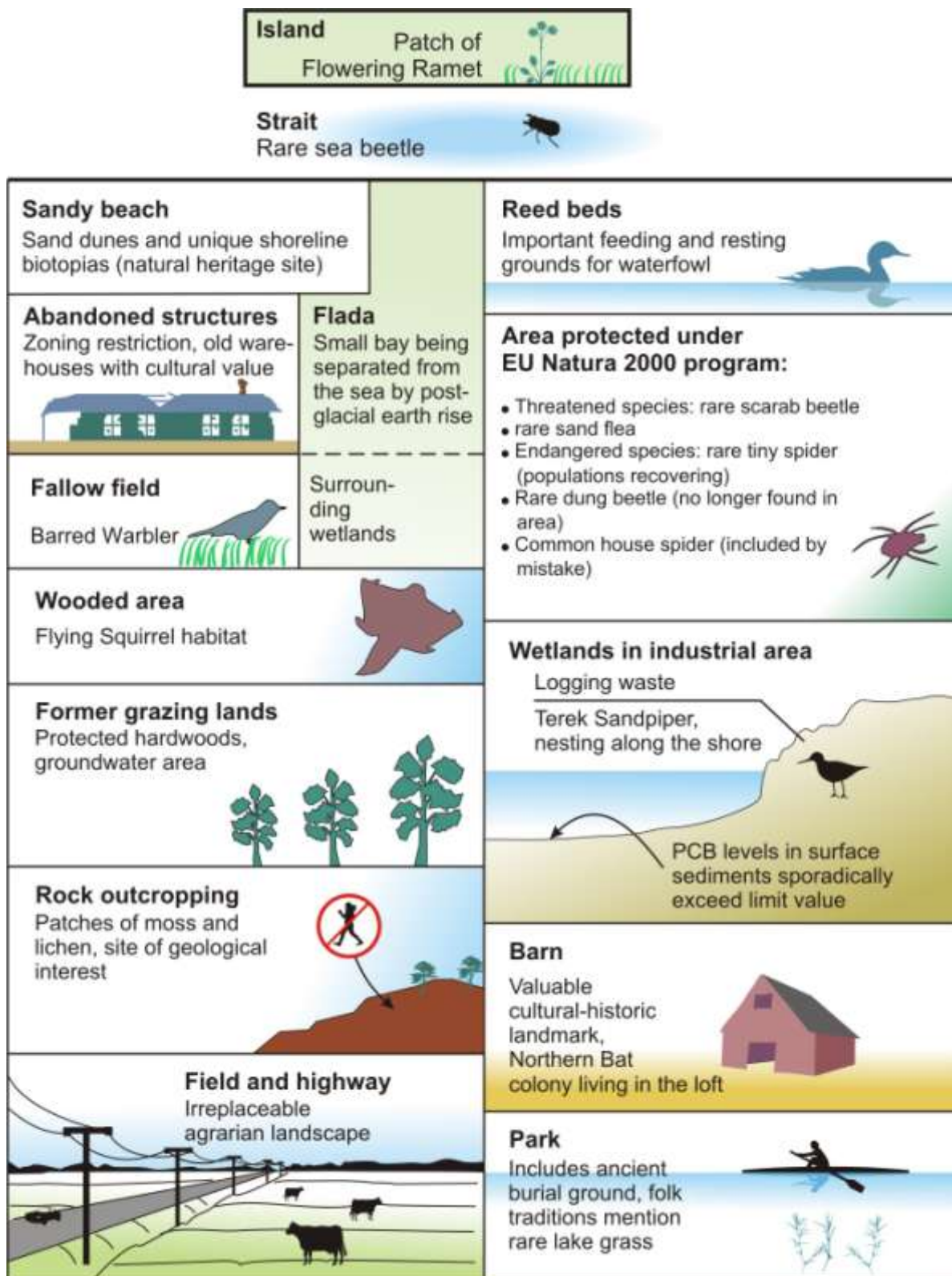


Figure 4.5. Actual examples of natural conditions used to block or slow down land use. Trying to cope with this kind of problems may cost millions, or even tens of millions of euros.

## **The threat of environmental administration to Finnish society**

Problems with sector administration plague to some degree all societies. The question here is why specifically the environmental administration has got so badly out of hand in Finland at the moment?

It is first important to consider from where it takes its political direction. At the national level, the environmental administration has been in Green hands for nearly a decade. The environment minister is in a key position to direct of environmental policy and to choose the ones who implement it. The minister's actions influence the administrative culture and the working environment. There certainly has been charismatic leadership /23/.

While the political leadership in the environmental ministry has changed with a new coalition governments, the minister of environment is still expected to act unilaterally to the same monochromatic line on environmental issues as previous ministers. This tendency is reinforced by an administration dominated by greenish bureaucrats.

At the same time, powerful Scandinavian politicians have served as EU environmental commissioners. They have sought to build their own political monuments to EU legislation based on the ecologically weighted ideology of sustainable development. This situation has exponentially increased the amount of EU environmental legislation. The quantity of EU environmental legislation increased about ten-fold over ten years, reaching around 600 pieces of legislation in 2003 /61/.

The term "civil servant" is used in English as a synonym for public official. In Finnish government, however, we find examples of officials more interested in pursuing the political agenda of a small group than the citizenry for whom they should be working. Perhaps this bureaucratic tradition has been long tolerated due to a belief that the pursuit of different political agendas would eventually balance out.

From a rational perspective, the smuggling of the flying squirrel into the EU habitat directive seems like a premeditated sabotage to promote a narrow goal of the bureaucracy and the environmental movement at the expense of the Finnish people. The designating of some areas with no exceptional environmental values to the Natura 2000 network when they had already been planned for infrastructure development or for production facilities seems like a deliberate move to block these projects. The most notable cases are connected to the Vuosaari harbor project and Vuotos hydropower project but there are more.

Finland's accession to the EU involved a massive effort to harmonize existing legislation. Individual bureaucrats and researchers at the central administration and at regional environmental centers had to face unreasonably demanding tasks with virtually no experience. The environmental administration faced simultaneously strong internal greenish pressures and external pressures, in particular, from the scientific community, non governmental organizations, and other interest groups all wanting to implement their own agendas through the administration. The political situation, the legislative tumult and the fact that issues were being handled at such abstract levels, created the perfect storm for political and bureaucratic opportunists.

Many in the environmental administration were caught up in power struggle with the green network and its policies. Those who thought matters through themselves and made independent decisions fared poorly. When pressure is high, people are inexperienced and the working environment is dominated by a certain set of views, so the staff learns quickly to keep their heads down and stick to the official script.

When political and bureaucratic objectives crushed rational thinking and working environment became oppressive for some of the staff, security was sought from higher authorities, regulations, collective decision-making, internal administrative guidelines, and politically correct statements. The interpretations within the environmental administration were magnified through declarations and statements of principle. These declarations and principles were mainly creations of the EU bureaucratic elite. Rather than admit uncertainty, the environmental administration adopted a tone of dogmatic certainty and an urgency to take comprehensive control.

The field of environmental administration now faces a powerful contradiction. On one hand, there is the illusion of operational bliss and regulatory infallibility. On the other hand, there is the collapse of values and common sense. As a result, the environmental administration now focuses with furrowed brow on such questions as whether tar stumps constitute hazardous waste or aquatic vegetation is suitable for landfills if the bottom sediment contained slightly elevated heavy metal levels.

Part of the problem lies in international cooperation. Environmental politicians, the higher officials in the environmental administration, and the so called environmental experts exchange ideas and develop action programs in international forums in an introspective and abstract atmosphere. Many find such activity refreshing. One can embrace global environmental problems and partake of the environmental missionary work so dear to some members of Finnish society. Politically correct principles and strategies can be developed even by those with the thinnest expertise and experience, as there is no accountability for how their ideas are applied.

For example, Finland and the other Nordic countries managed to push a ten-year framework program for changing production and consumer behavior included in the final communiqué of the World Summit on Sustainable Development: Johannesburg Conference. Now the EU is adopting framework legislation on the matter, and, on the basis of its proposal, the Finnish government has named a committee to work on this magnificent program. What remains unclear is in what matters the limit will be reached in Finland or Europe within the next thousand years.

This, however, is not a case of a benign government or an administrative devotional exercise. Finland is not satisfied with defining its positions concretely on the most significant and pressing environmental problems and solving them at home. The environmental administration is promoting at international forums its own idealistic social experiment, for which it offers Finland to be the guinea pig. When eco-ideology is implemented by force and without basis, the notion of sustainable development becomes ridiculous and turns against itself.

The eco-weighted interpretation of sustainable development has reached similar proportions in the environmental administration as the information technology bubble did on the stock market a few years ago. When the IT bubble popped, market forces separated the chaff from

the wheat and people wised up to the hype. Unfortunately there is no comparable force that could separate the chaff from the wheat and bring back common sense in the environmental administration.

Over-regulation of dredging activities, the classification of rock chips and smelter slag as waste, the unrealistic setting of limits on harmful substances, unreasonable measures to protect natural areas and other unjustified acts by the environmental administration have been mentioned above. The environmental administration, however, declines to respond to these observations, even when confronted directly. This due to several factors:

- The Finnish mass media based in Helsinki have uncritically adopted the marketing material of the environmental administration. As a result, the actions of the environmental administration are still seen as positive by many groups in our society.
- Under the unwritten rules governing behavior of state officials, other administrative areas have been unwilling question the principles of environmental policy or the methods of the environmental administration, even when the outcomes are clearly in conflict with their own agendas.
- Reversing course and overturning decisions would mean a loss of face which is very hard for a bureaucracy working under the illusion of superior expertise and moral excellence.
- The dismantling of burdensome layers of redundant legislation and overly heavy standards is hard work for anyone and overwhelming for those bureaucrats who should correct their own mistakes.
- The fear of making mistakes applies to all change processes, and particularly deregulation.
- Insecurity is often reflected as a need to control.
- The environmental administrator seeks to deal with his anguish by calling for more guidelines, standards and regulations, while belief in common sense has been suppressed.
- Sector administration has a tendency to try to construct perfect systems from its own perspective.
- It is easy to hide behind collective decision-making and let the weakest link decide.
- Expensive mistakes that are the result of political administration failures are never analyzed. Instead, state resources are used to cover up mistakes, rather than to help the organization learn and develop.

The environmental administration employs also many fine and reasonable people. The main problem is in the administrative culture and values. The bureaucratic infatuation with ideological structures and miniscule problems is turning a constellation of public institutions into generators of social injustice and economic chaos.

All this is still insufficient to explain how environmental administration in a Nordic democracy has itself become a threat to the sustainable development of society. We must still deal with one more sociological process. That is the process of power itself.