



# Conflicts between forestry and nature protection – case studies of two Nature Parks in Croatia

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## Abbreviations:

CF – State Forest Company Croatian Forest Ltd.  
CM – Conflict Management  
NGO – Non-Governmental Organization  
NP – Nature Park

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## Abstract

**Background and Purpose:** The forest related conflicts has not been very often used as a research topic in Croatia. This paper presents results from two case studies conducted in Nature Parks »Kopački rit« and »Velebit«. The aim of the study was to explore conflicts between forestry and nature protection on management level. The main research questions were raised: (a) What causes conflicts?; (b) What are the attitudes of conflict actors towards conflicts as a phenomenon and towards other conflict parties?; (c) What was undertaken to manage conflicts and was it successful? and (d) How the conflicts and CM influence forest policy development process?

**Material and Methods:** Data was collected by conducting in-depth resulting in 27 interviews in total. The interviewees were managers in CF, NPs and representatives of NGOs active in the respective areas. Theoretical framework was combination of Progressive Triangle with three main aspects of conflicts: substance, relation and procedure (3) embedded in structure of four main elements: culture, conflicts, conflicts management and policy development (10).

**Results and Conclusion:** Primary parties in conflicts are NPs and CF. Interviewees named mostly problems with legislation, performance of forest management activities within protected areas and lack of proper communication as possible conflict causes. Main conclusion is that differing attitudes towards forestry and nature protection as well as education as elements of cultural background probably influence conflict occurrence, CM and policy development. There is no sound CM strategy or significant policy development.

## INTRODUCTION

So far forestry related conflicts have been rarely researched. Therefore only a few studies on this subject exist. This was the first research on forestry related conflicts in Croatia and was conducted as a part of FOPER (Forest Policy and Economics in Education and Research) project on conflicts between forestry and nature protection involving five SEE countries (Albania, Bosnia and Herzegovina, Croatia, Macedonia and Serbia).

Literature about environmental conflicts in Croatia is very scarce. In one of these papers the author mentions ecological conflicts, defines potential conflict areas (nature, as conflict area between humankind and nature; economical conflicts, as a result of desire for technological domination; social conflicts, between groups or individuals and generation conflicts) and proposes strategy of nature and environmental protection as a conflict management mechanism (1). Conflicts involve ac-

tors, i.e. parties included in conflict situation and their power can be equal or unequal, i.e. they can be symmetric or asymmetric (2) in a terms of power. Walker and Daniels (3) differentiate primary, secondary and peripheral parties. Primary parties are major players in the conflict. Both secondary and peripheral parties have an interest in conflict, but the former group may be affected by the outcome and the latter is not affected directly. These positions of the parties are not permanent, which means that secondary party can become primary party, while peripheral party can become secondary or even primary party.

Conflict theories often perceive conflict as very important factor of social change, while conflict regulation theories see social conflicts as temporary disturbances. Greenberg and Baron (4) named key elements of conflict referring to conflicts in organizations: differing interests, awareness of these differing interests, believe that one party will obstruct other party's interests and acting in a way that impact other party negatively. They also pointed out possible useful outcomes of conflict situation, e.g. (a) problems are not being ignored, (b) conflicts can motivate both sides to better understand others point of view, (c) conflicts can result in better decisions and new ideas, (d) conflicts can bring closer people belonging to the same group. But conflicts are usually perceived as something negative, as Folger, Pool and Stutman (5) remarked »conflict is one of the most dramatic- and sometimes traumatic-events in life«.

Conflicts do not need to be solved every time, because in that case actors are losing driver of change. Actors should try to manage conflicts instead, because due to conflict complexity, some can never be solved (3). Basic conflict management framework created by Walker and Daniels (3) includes three elements: strategy, implementation and assessment, while Niemelä *et al.* (6) expanded this framework and suggests general framework of adaptive conflict management, stressing communication among the parties and participatory approach that should involve monitoring of conflict management outcomes as a feedback mechanism. Monitoring goals should coincide with conflict dimensions (substance, procedure and relationship).

Thomas (7) identified 5 conflict management strategies: competition (high concern for personal interests and low for other people's interests), collaboration (high concern for interests of both sides), withdrawal (low concern for interests of both sides), accommodation (low concern for own interests and high for others) and compromise (high interest for benefit of both sides). Most of active conflict management situations are neither purely competitive nor purely collaborative, but mixed, i.e. somewhere between competition and collaboration. The Dual Concern model of conflict management strategies (8, 9) employs similar logic.

Conflicts in forestry sector have not been researched very often. Some of the recent studies are comparative analysis of environmental conflicts in forestry in several

countries (Finland, France, Norway, Sweden and USA) (10), analysis of conflict management in Finnish state forests (11) and investigation of relationship between forestry industry and environmental NGOs (12).

In that context our goal was better understanding of conflicts between forestry and sector of nature protection, since they have not been often researched. In this paper results of two case studies will be presented: NP Kopački rit, as a wetland area and NP Velebit, as a mountainous area. These Nature Parks were chosen deliberately, because in this type of protected areas overlapping jurisdiction with regard to forest management between sectors of forestry and nature protection is present.

Various definitions of conflicts exist, but in this research conflicts are defined as a situation in which mutually interdependent parties with different interests and goals interact in a way that one party obstructs other party's actions.

According to Nature Protection Act (13) public institutions are in charge of managing protected areas (§72, line 1) and these institutions are governed by Management Board (§ 75, line 1). State forest company Croatian forests Ltd. is in charge of managing forests with terms of nature protection embedded in management plans according to Nature Protection Act (13) (§ 5, line 2) and Forest Act (14). Also both Nature Parks have Rulebook of Internal Order (15, 16).

## MATERIALS AND METHODS

Case study was chosen as the most appropriate research method, since in this situation following preconditions were fulfilled: explanatory research questions (»how? and why?« questions) are used, control of behavioural events is not required and research is focused on contemporary events (17).

Case study protocol was created comprising research questions, theoretical framework, hypothesis, units of analysis, list of interviewees and details about the way of collecting data.

The main research questions were: (a) What is the conflict all about, i.e. Over what do they disagree?; (b) What are the attitudes of involved actors towards conflict as phenomenon and towards conflict actors?; (c) What was undertaken to manage these conflict and was it successful?; (d) How the conflicts and conflict management influence forest policy development?

Theoretical framework used is Walker and Daniels (3) Progressive Triangle embedded into theoretical framework of Eeva Hellström (10) (Figure 1). According to Walker and Daniels (3) conflict can be depicted as a triangle comprising dimensions of substance (What is the conflict all about?), process (How is the conflict manifested?) and relations (What is the relation between conflict parties?). Conflict can be caused by any of these dimensions. Proper conflict management addresses them. This means if conflict is caused by bad or insufficient communication between the parties, conflict manage-

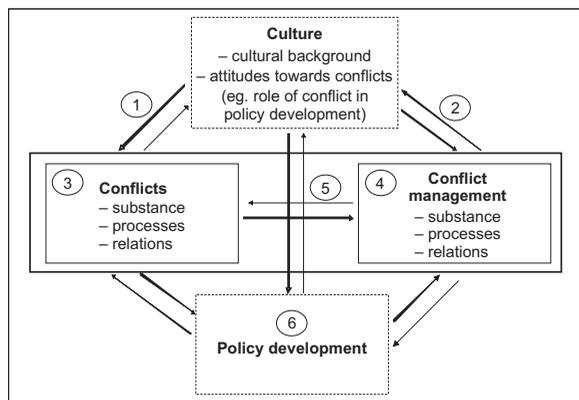


Figure 1. Theoretical framework (3, 10).

ment is supposed to aim this dimension in order to be successful. According to Hellström (10) environmental conflicts are composed of four elements (Conflict, Conflict Management, Culture and Policy Development). All these elements are inextricably interwoven and influence each other. Adequately managed conflict situations can lead to positive policy development.

While conducting qualitative research researchers usually rely on four methods of qualitative data collection: (a) participation in setting, (b) direct observation, (c) in-depth interviews and (d) analysis of documents and materials (18). The latter two methods were used in this research due to sensitive nature of the research topic. In case of employing researcher’s participation in setting and direct observation it could have resulted in respondents altering their behaviour and causing bias (19).

Semi-structured questionnaire applied on both case studies was designed to fit face-to-face data collection and pre-tested afterwards (20). It was divided into four blocks of questions:

(a) Introductory questions about interviewee – age, education, position, years on duty and the main actors the interviewee is in contact the most;

(b) Questions with regard to conflict – the most important legislation regulating the performance of respective institutions; the most important tasks in nature park; opinion regarding forest utilization in nature park area (e.g. forest roads, quarries); opinion regarding hunting activities in nature park area; opinion on existence of lobbies (forestry and hunting);

(c) Questions about conflict management – questions regarding conflict management activities, if any; suggestion for handling future conflicts;

(d) Suggestions for policy development related to management of nature parks – questions regarding interviewee’s familiarity with related legislation (Law on Nature Protection, Management Plan and Specific Action Plans for particular Nature Park, Law on Forests, Law on Hunting); suggestions for improvement of existing legislation, if need; the role of policy instruments in dealing with present and future conflicts.

The information about date, time, place and length of the interview are also collected.

A list of the potential interviewees was designed to cover representatives of all major stakeholders related to nature park areas with special attention given to covering different levels (both executive and decision making) within organizations of major interest, i.e. public institutions and forest offices. One could argue about the final list of interviewees, given the fact that more people from local community could have been included, but researchers had decided to interview only people presumably very informed about the conflict. Initial list of possible interviewees were expanded by using snowball technique (21).

TABLE 1

Structure of interviewees in case study NP Kopački rit according to institution, educational background and working position.

No.	Institution	Education	Specific function
1	NP Kopački rit	BSc, Law Faculty	Head of the Department for Public Relations
2	NP Kopački rit	BSc, Faculty of Defence	Informatics
3	NP Kopački rit	BSc, Faculty of Agronomy	Head of a Ranger Service
4	NP Kopački rit	High School, Construction Work technician	Ranger
5	NP Kopački rit	High School, Veterinary technician	Ranger
6	CF	BSc, Faculty of Forestry	Head of a Forest District
7	CF	BSc, Faculty of Forestry	Head of a Forest Office
8	CF	BSc, Faculty of Forestry	Head of a Forest Office
9	CF	BSc, Faculty of Forestry	Head of the Hunting Dept.
10	CF	BSc, Faculty of Forestry	Head of the Department for Forest Management
11	Hunters’ Association	High School, Salesperson	Head of a Hunters’ Association
12	Environmental NGO	BSc, Faculty of Agronomy	Head of the environmental NGO

TABLE 2

Structure of interviewees in case study NP Velebit according to institution, educational background and working position.

No.	Institution	Education	Specific function
1	NP Velebit	Vocational School, Carpenter and Driver	Ranger
2	NP Velebit	MSc, Biology	Higher Expert Advisor
3	NP Velebit	BSc, Faculty of Forestry	Head of a Nature Park
4	NP Velebit	High School, Mathematics and Informatics	Head of a Ranger Service
5	NP Velebit	Polytechnic, College for Hunting and Nature Protection	Ranger
6	NP Velebit	Polytechnic, College for Fire Protection	Ranger
7	CF	BSc, Faculty of Forestry	Head of a Forest District
8	CF	BSc, Faculty of Forestry	Head of a Forest Office
9	CF	BSc, Faculty of Forestry	Head of a Forest Office
10	CF	BSc, Faculty of Forestry	Head of a Forest Office
11	CF	BSc, Faculty of Forestry	Head of the Hunting Department
12	Fishermen Association	BSc, professor	Head of the Fishermen Association
13	Local Administration	BSc, Faculty of Civil Engineering	Head of the Physical Planning Department
14	Environmental NGO	MSc, Faculty of Biology	Head of the environmental NGO
15	Mountaineers' Association	High School, Journalist	Head of the Mountaineers' Association

Field work proceeded after pre-testing of the questionnaire and resulted in 27 interviews in total (Tables 1, 2). Interviews were conducted during August and September 2008 by four interviewers, all of them with forestry background.

All interviews were conducted at interviewee's work place by using somewhat old fashioned paper and pen, i.e. interviewer have been asking open-ended questions and tried to write down the conversation with the interviewee as exact as possible. This method was used instead of recoding the conversation by dictaphone to make respondents more relaxed, due to results of pre-testing phase, when all interviewees refused to be recorded. The reasons lying behind this reaction can only be guessed and are not subject of this research.

## Data analysis

After data collection all interviews were transcribed and summaries have been made.

Interviews were analysed in 6 steps:

1. For each case study parts of the interviews related to theoretical framework were marked. This means that words or sentences related to conflict, conflict management, cultural background and policy development were marked in different colours.

2. Excerpts from interviews were named with labels i.e. key-words explaining their meaning, e.g. legislation, attitudes towards conflict etc.

3. Interviewees were grouped into three groups – NP employees, CF employees and Others. By Others authors consider all interviewees that are not NP or CF employees. The rationale for this grouping lies in the fact that both parties, NP and CF, are authorised by state to

be in charge of either forest management or management of entire NP area. Therefore these parties are of main interest in this paper.

4. Descriptive statistics (frequencies and percentages) was made by using key-words according to each group and overall, e.g. causes of the conflict, CM activities and policy suggestions.

5. Analysis of the cultural background included variables of age, working experience, formal education, attitudes towards conflicts, attitudes towards forestry and nature protection, as well existence of forestry and hunting lobbies. Average age and average work experience were calculated for each group and for all interviewees in each case study.

6. Comparison of the case studies both on general level and by groups according to theoretical framework.

Multiple sources of information were used (e.g. newspaper articles, articles from professional and scientific papers as well as internet fora) in order to achieve reliability and validity in the research and to minimize researcher's bias, especially when it comes to data analysis and interpretation.

## RESULTS

### NP Kopački rit

NP Kopački rit has been on a list of Ramsar sites from the 1993, as an internationally important site for wetland birds. It is situated between rivers Danube and Drava, comprises 177 km<sup>2</sup> with Special Zoological Reserve therein and is rich in biodiversity – more than 2000 species, some of which are very rare and threatened on both European and global level (e.g. white-tailed eagle, which is

a symbol of NP Kopački rit, black stork, little egret and wild geese). Also very valuable and famous hunting area abundant with deers and wild boars is situated within the Park. Public Institution NP Kopački rit was established by Croatian Government in 1997. Conflicts started with the very proclamation of the Public Institution due to shift of jurisdiction from Public Forest Enterprise »Croatian Forests« to Public Institution and appear »in cycles« as one respondent stated

### Conflict

In this case study several conflicts have been identified, but the most important is between the Public Institution and Croatian Forests Ltd., as primary parties (3) regarding the forest management within the NP Kopački rit area.

Analysis of the conflict causes as stated by interviewees revealed 13 themes and those themes appeared in the interviewees 33 times in total, since each interviewee named more than one cause.

Figure 2 presents occurrence of the conflict origins as stated by all interviewees and according to groups of interviewees. When all interviewees are taken into consideration than legislation is one of the major causes of the conflict. The other very important cause is different approach of conflict actors towards how forests should be managed, which is manifested though disagreements between NP and CF employees while cutting poplar trees in Special Zoological Reserve, rejuvenation of old-growth oak stands or cutting of deadwood. Reason for that probably lies in fact that both parties are not very informed about other party's professional activities and work technique. Technique of forestry work is often under question, e.g. how proper stand rejuvenation should be performed in terms of selection of adequate species or how cutting should be performed. Differing attitudes are best presented by a syntagm »active and passive protection«. Nature Park's primary goal is nature conservation and tourism, while foresters argue this »passive« approach and suggest that forests should be managed »actively«, i.e. in the same way as other public forests, which means that all activities like rejuvenation, felling and game management should be conducted according to rules of forestry profession. In their opinion number of wild boars and cormorants should be decreased, but hunting is banned in Special Zoological Reserve and cormorants do not fall into a category of game.

Communicational skills and personality of certain individuals, employees of both NP and CF seemed to be important in some cases. This refers to situations when, as stated by both NP's and CF's interviewees, those individuals refused to even discuss about possible solutions. Instead they called Inspection what was not necessary according to some interviewees. After replacing those people, communication between the parties was improved to some extent.

Comparison between three groups of interviewees revealed some differences in identifying conflict causes.

NP interviewees named 8 causes that occurred in total 10 times in the interviews, while CF interviewees named 11, with occurrence of 21 times. Both NP and CF named overlapping and vaguely written legislation as pressing issue, as well as different approaches and attitudes towards how forests within NP or NP as a whole should be managed. NP employees placed human factor very high in comparison to CF employees. On the other hand, both representatives of NGOs had not perceived ongoing conflict between NP and CF. In their opinion those major parties had reached mutual 'not to step on each other toes' agreement while at the same time excluding other parties from decision-making process. This could be corroborated by the fact that neither NP, nor CF interviewees were aware of the existence of local Hunting Association active within NP area. Conflicts are manifested mostly in a form of arguing and dispute in the field between forestry professionals and Nature Park rangers, which results either in settlement or delays of forestry activities. Also the conflict was manifested in a form of discussion in local papers. There are no rules agreed among the parties related to how to behave in a conflict. The escalation in the year 2004 was caused by attempts to proclaim higher level of protection, i.e. National Park, where all management activities are prohibited according to Nature Protection Act (§11, line 4) (13). Now conflict is in its latent phase.

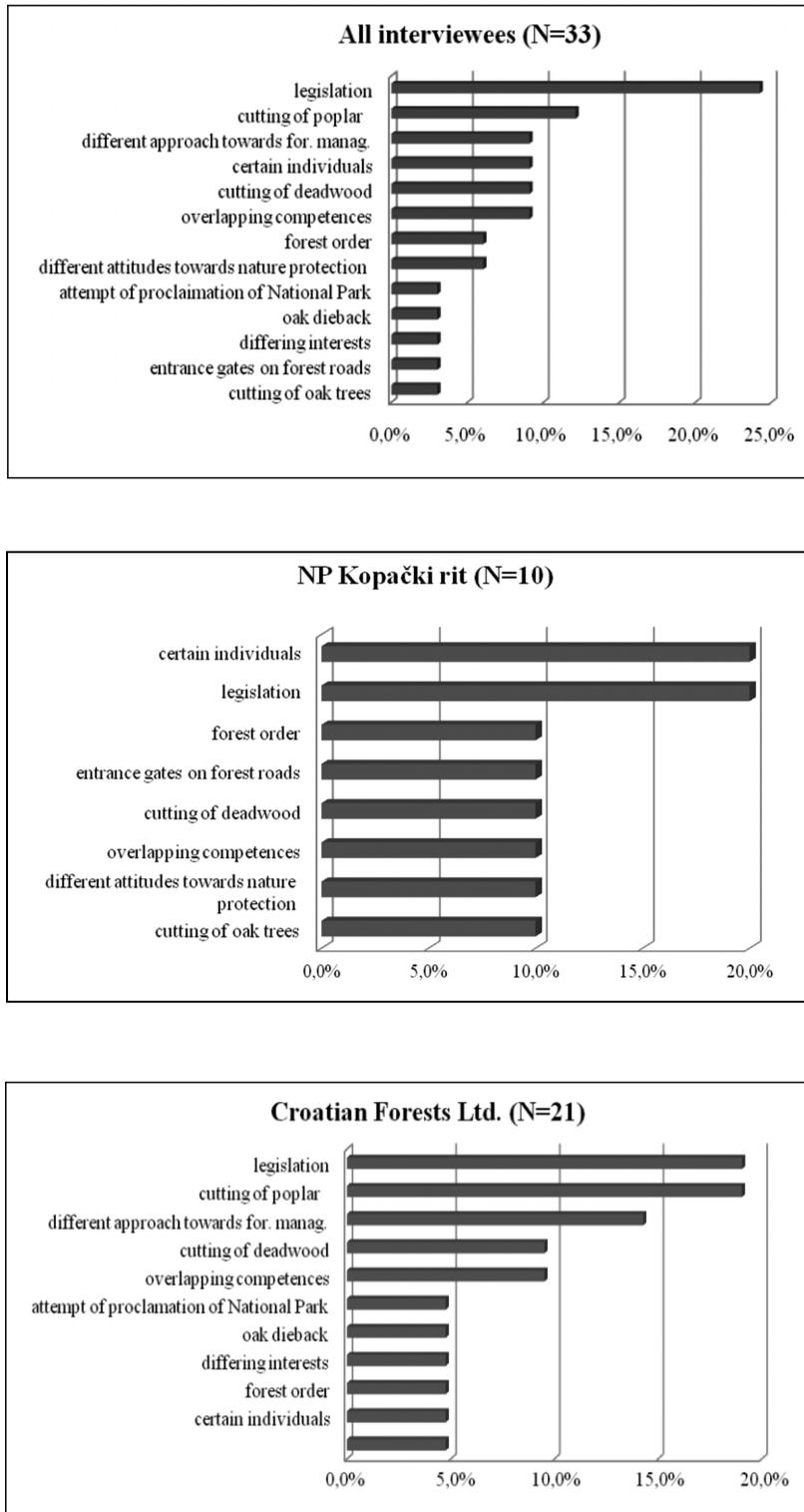
It is hard to say which party is more powerful. Both parties have legal right for forest management, but CF needs permission in a form of the »Conditions for Nature Protection«, issued by the Ministry of Culture, Department for Nature Protection, in order to conduct forestry activities. The Company is also obliged to inform the Nature Park about its activities one month in advance. Parties admit to each other having good intentions even when disagreeing, so mutual trust is present to an extent where they can work together. As one employee of Croatian Forests Ltd. stated »...both parties have good intentions«, and the employees of Nature Park stated that they perceive foresters as »partners, not enemies«.

### Conflict management

Parties in conflict admitted the existence of conflicts, which can be referred to as the starting point of conflict management process.

Figure 3 shows that six different CM actions had been undertaken according to interviewees, stated in total 14 times. NP interviewees named 4 actions that occurred in the interviews 6 times, while CF employees stated 3 actions that were repeated in interviews 7 times. Representative of environmental NGO named meetings and representative of Hunting's Association is not informed about any CM activity. Therefore their responses are not presented graphically.

The most pronounced activity on general level is harmonization of activities/concerted actions between primary parties, which means that CF announces its activities in advance to Public Institution to avoid overlapping,

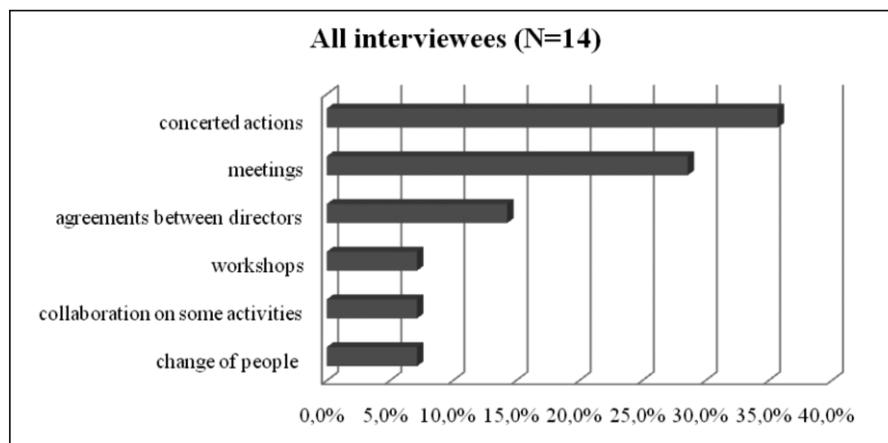


**Figure 2.** Occurrence of stated conflict causes in case study NP Kopački rit.

especially when it comes to hunting activities. This action was also most frequently named by CF employees.

Meetings as CM tools were often stated, showing that communication between the parties exists, as well as intent for at least conflict mitigation, if not resolution. NP

employees frequently stated agreements on management level as CM activity, i.e. between Head of the Public Institution and Head of Forest District Osijek, who is also a member of Management Board of Public Institution. Also one NP employee was not informed about any CM action.



**Figure 3.** Occurrence of stated CM actions in case study NP Kopački rit.

Third most pronounced CM action was collaboration on some activities, e.g. monitoring of deers in mating period. Change of some employees on both sides positively influenced conflict mitigation according to some interviewees.

It can be concluded that mixed conflict management strategy was employed, i.e. strategy between collaboration and competition (8, 9).

### Culture

If cultural background is taken into consideration in this case study some variables were found more important than others. Elements of cultural background that appeared to be different between two major actors were considered to influence more on other elements of theoretical framework, i.e. conflict, CM and therefore policy development. Formal education, attitudes towards other party in conflict and attitudes towards forestry and nature protection were different between groups of interviewees. There is no big difference between groups when it comes to age, working experience and attitudes towards conflict.

Formal education of NP interviewees (Table 1) is very heterogeneous and mostly not in biotechnical or nature sciences. There are no employees with forestry background. On the other side, all CF interviewees are with forestry background. Some conflicts rooted in unfamiliarity with other party's activities and how they should be properly performed could be caused by this difference, among other reasons.

Attitudes towards other party in conflict are not unanimous. NP interviewees expressed mostly their conviction that forestry professionals are necessary for management of forests within NP, except one ranger whose attitude is that forestry activities should be limited. Forestry is perceived positively as tradition with great influence on local economy by all interviewees, but some interviewees are convinced of existence of forestry and hunting lobby, where lobby is perceived as negative phenomenon. Two out of five NP interviewees are convinced of existence of forestry and hunting lobbies, as well as representative of environ-

mental NGO. On the other side all foresters and representative of Hunting's Association denied its existence. General attitude of interviewed foresters is that forests and NP in whole are not well managed and they do not feel comfortable with the fact that they lost power over entire NP area. This is well depicted by statements like »It would be better that only one institution has jurisdiction over entire area and others should comply.« or »Foresters should be in charge of the NP, while Public Institution should be in charge only for tourism.«

Representative of environmental NGO showed more positive attitude towards activities of Public Institution that towards foresters who »manage forests in outdated manner only felling and hunting.« Representative of Hunting Association is positive towards foresters and neutral towards Public Institution, due to lack of communication.

Overall perception of conflicts is that they are »vast of time and energy«. Even though it refers to all groups with no difference, still it is important for conflict management.

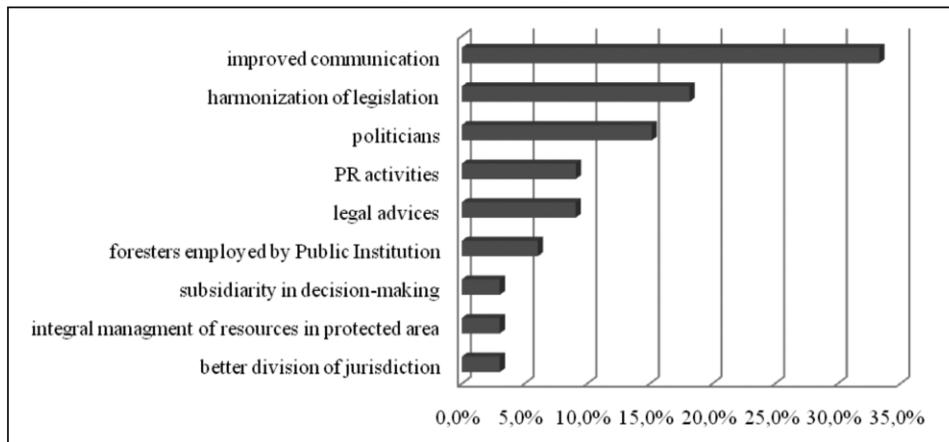
### Policy development

There are some indications showing that relationship between parties has been improved over time. Parties in conflict consider themselves as »partners, not enemies« which is a good starting point for sound CM and therefore indirectly for policy development. Attempts to solve conflicts by themselves when they occur is a good step forwards in comparison with how conflicts had been dealt with in the past.

Analysis of the interviews revealed some suggestions made by interviewees about what could be done to improve present situation. Occurrence of stated suggestions by all interviewees is presented in Figure 4.

The most important steps as suggested are improving communication between parties in conflict, harmonization of legislation and hopefully some help »from above«, which refers to politicians in related ministries. PR activities are considered very important for both sides.

Analysis of the interviews showed that all NP and CF interviewees stated their familiarity with related legisla-



**Figure 4.** Occurrence of stated suggestions for policy improvement in case study NP Kopački rit by all interviewees (N=33).

tion, which is not the case with representatives of NGOs. Both representatives are unfamiliar with Forest Act and representative of environmental NGO with Hunting Act. On the other side representative of Hunting Association is only partially informed about Nature Protection Act, NP's Management Plan and Specific Action Plans.

Even though major parties in conflict seem to be informed about relevant legislation, they admitted that laws are vaguely written which cause troubles with their implementation. Legal advices how to implement laws are also very important to interviewees. Especially for NP because rangers need to be sure how to proceed in situations where bad judgement can lead to stopping other party's activities.

According to some foresters NP should employ someone with forestry background. It is interesting that integral management is not highly positioned on the list of priorities.

### NP Velebit

NP Velebit, situated on mountain Velebit, was designated in 1981 by Croatian Parliament and Public Institution for governing this area was established in 1998. It is the area of great biological and landscape diversity, and therefore entire mountain Velebit was designated a UNESCO MAB biosphere reserve in 1977 (22), as one of the ten important areas for the biodiversity of Mediterranean forests. Entire Mountain, except for the two national parks, is under the jurisdiction of CF and also under the jurisdiction of the NP Velebit, whose management areas overlap.

### Conflict

Conflict started with very proclamation of Public Institution and is still ongoing. Mild conflicts in a form of frictions and arguing occur from time to time between primary parties (3) in conflict. Those are CF and Public Institution NP Velebit. Other conflicts are also present, e.g. between NP and private forest owners, between CF and environmental NGOs, but those are not subject of this paper. Interviews revealed 11 conflict causes that appeared 49 times in total (Figure 5). Legislation appears to be the main reason of the conflict between two primary

parties along with forest roads, e.g. their quality, density, as well as leaving forest order after forestry activities (see also (19)). In the past conflicts over utilization of the quarries were frequent, but today, quarries within NP ceased to be exploited. Lack of proper communication between the parties, different attitudes towards nature protection and lack of communicational skills were less frequently stated causes, among others.

Comparison between groups shows that each group of interviewees identified 7 causes they have found the most pressing. Those causes appeared in the interviews with NP employees 23 times, with CF interviewees 12 times and with Others 14 times. NP and CF employees more or less overlap in their opinion about what causes conflicts. Still one interviewee on each side perceives no conflict. Representatives of NGOs mostly argued about forest roads (e.g. their quality, restricted entrance), forest order after forestry activities and legislation.

Power relations between primary parties clearly differ. CF hold much more power and are highly influential on local level due to long forestry tradition in these areas. Trust is present to some extent since cooperation between primary parties is unavoidable.

### Conflict management

Analysis of the interviews revealed that in total 7 different CM actions were mentioned in interviews and occurred in conversation 24 times (Figure 6).

Meetings are most frequently stated CM tool on general level and according to group of interviewees, even though some respondents argue about their usefulness. Workshops and agreements between parties were also stated very often as CM tool. Other less frequently mentioned actions are concerted planning, cooperation in the field and official correspondence.

NP interviewees stated 4 CM actions that occurred in total 9 times in the text, CF interviewees named 6 actions occurring 10 times and Others named 3 actions which appeared in the text 5 times. CF's interviewees equally frequent stated cooperation in the field, official correspondence, debates, concerted planning in comparison to NP interviewees who did not mention it at all.

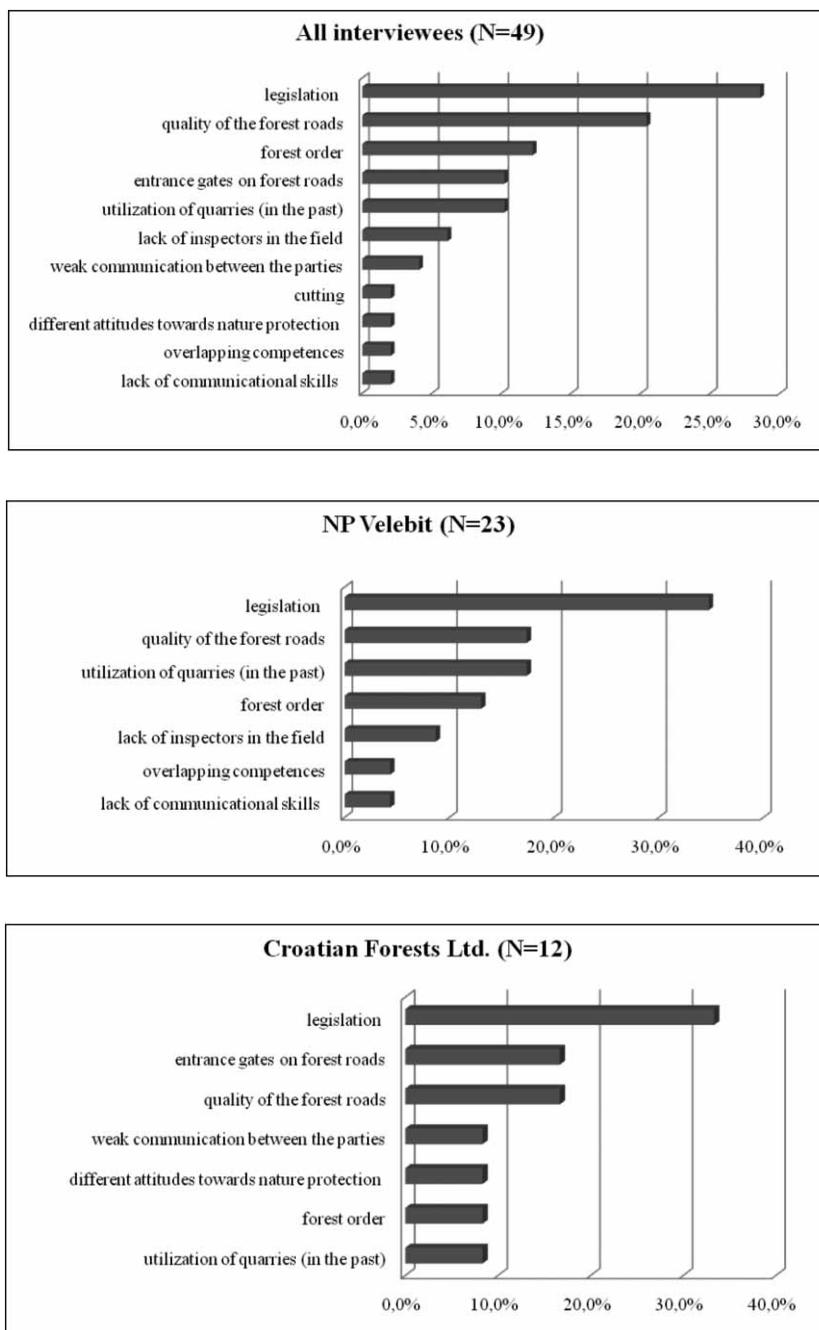


Figure 5. Occurrence of stated conflict causes in case study NP Velebit.

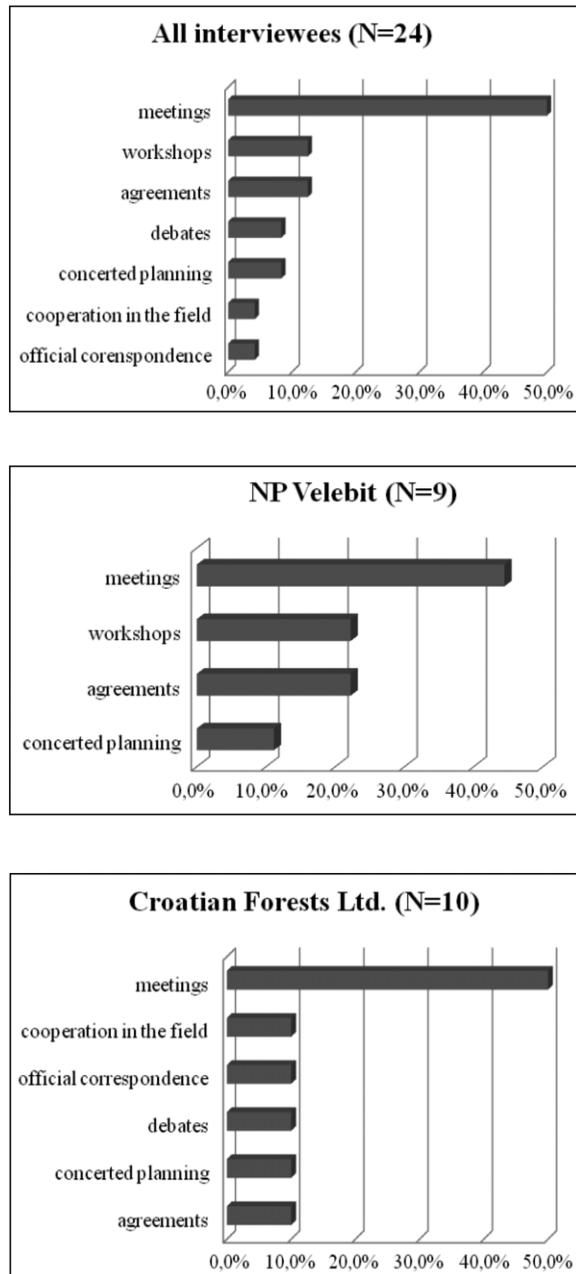
Some small steps for conflict mitigation have been undertaken so far. Foresters and Public Institutions reached an agreement when it comes to constructing of forest roads. CF is obliged by law to obtain Conditions of Nature Protection from Ministry of Culture, Department for Nature Protection for every action, including constructing of forest roads, that needs to be undertaken within Nature Park area. They agreed about consulting Nature Park first and issuing Conditions from Ministry afterwards. Also park rangers according to some respondents were present during cutting. These mutual agreements can be considered as conflict management activi-

ties, even though they are not perceived as such by some respondents. Conflict management strategy is shifting slowly from competition towards compromise (8, 9).

**Culture**

Applying the same rationale as in case study NP Kopački rit, only elements of cultural background that differ between major parties in the conflict are presented.

Formal education of NP employees is miscellaneous, with 3 out of 6 with background in biotechnical and nature sciences. Head of NP is with forestry background, as well as all CF employees.



**Figure 6.** Occurrence of stated CM activities in case study NP Velebit.

Attitudes towards other party in conflict and attitudes towards forestry and nature protection are also not unanimous. Some rangers expressed negative feelings towards forestry professionals and forestry, but they also were not informed about any CM activity. There is lack of vertical communication within NP, especially between Head of NP and rangers (23). Representatives of NGOs feel excluded from decision-making process. General impression is that interviewed NGOs are more positive towards NP and more critical towards CF. One representative of environmental NGO stated that the main problem is »foresters' attitude that everyone who is not a forester has no right to speak about how forests should be managed.«

All interviewees stated that forestry is part of tradition and the most important source of income to local people, but also all interviewees apart from foresters are strongly convinced of existence of forestry and hunting lobby in the region. Lobby is perceived as negative. Some NGOs are opposing to any forestry activities in the NP, while environmental NGO found unacceptable using heavy mechanization for forest utilization within NP area.

### Policy development

Interviewees stated 11 suggestions occurring in interviews in total 31 times (Figure 7).

On the top of everybody's list is improvement of communication, which is important both generally and according to groups. Even though some meeting are organized from time to time, all parties agree that it is not enough. As one employee of CF stated »Only meetings and collaboration can fix out problems, but people should listen to each other«. The question is who should initiate these meetings? In opinion of some employees of CF »...those who complain should call for a meeting«. Interviewees from Public Institution, supported by environmental NGOs, realize that they should be the initiators of these meetings. Therefore common opinion of all interviewees is that Public institution should be the initiator of future conflict management activities.

CF and Others agree that legislation comes second according to their priorities, while NP interviewees put there Public Relations and increasing participation of all stakeholders. Both NP and CF are aware of importance of positive public image. One interviewee from forestry sector stated that forestry sector is »...not visible in media enough...« and even though »...we are possibly the only country in Europe with all state forests certified...« the public is not informed about the fact that Croatian Forest Ltd. company holds FSC certificate. NP is generally satisfied with relation with media.

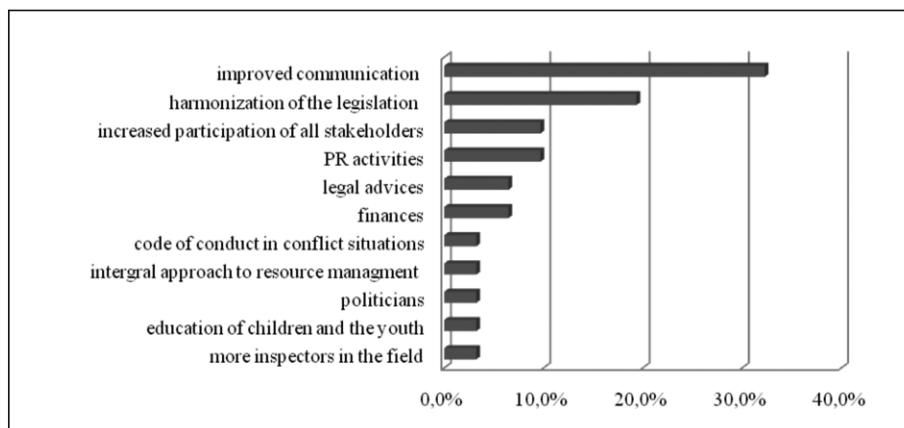
Some other suggestions occurred once in the text, e.g. legal advices, help from politicians etc. Nevertheless, some interviewees stated their unfamiliarity with relevant legislation. Interviewees from NP Velebit are less familiar with Forest Act and Hunting Act. Interviewed CF employees are less familiar with Nature Protection Act and NP's Management and Specific Action Plans, while representatives of some NGOs, namely mountaineers' and fishermen's associations, are unfamiliar with laws related to forest management as well as laws and regulations related to management of nature parks.

In this case study no significant policy development in a form of improved and harmonized legislation is evident. Nevertheless some improvement with regard to relations between the parties was identified.

### Comparison of two case studies

#### Conflict

In both case studies legislation is perceived as the most important cause of conflict. Other causes stated by interviewees could be attributed as performance of forestry work and relates to technique of cutting trees, reju-



**Figure 7.** Occurrence of stated suggestions for policy improvement in case study NP Velebit by all interviewees ( $N=31$ ).

venation, forest order and building forest roads. In case study NP Kopački rit causes are mostly related to cutting, rejuvenation and forest order, while in NP Velebit main theme apart from legislation is related to forest road and in the past conflicts were related a lot to utilization of quarries, as a material for forest roads.

Main causes of conflict according to groups of interviewees apart from legislation for employees of NP Kopački rit is bad interpersonal relation caused by some individuals, while conflicts caused by performance of forestry activities were stated less. On the other side employees of NP Velebit mostly named causes related to performance of forestry activities, as well as forestry professionals in both case studies. Other representatives in case study NP Velebit were more critical than in case study NP Kopački rit, putting an emphasis on performance of forestry work.

### Conflict management

In both case studies parties in conflict admit conflict existence but there is no code of conduct in conflict situations meaning that when conflict occurs there is no prescribed procedure how to behave and what to do. CM actions are not a part of premeditated and continuous strategy. Still it seems that some of them are actually helpful, especially those actions related to harmonization of activities. CM so far is showing some improvement shifting slowly from competition towards mixed strategy, somewhere between collaboration and competition.

### Culture

Elements of cultural background seem to follow some patterns. Formal education of employees in both NP is heterogeneous, mostly not related to forestry or similar education, while in CF is homogenous, with background in forestry. NP and CF employees in both case studies show similarity in their attitudes towards other party and also in attitudes towards other party's activities. NGOs are positive towards NP and protected areas as well, and share similar attitudes towards nature protection with NPs, while Hunting Associations are traditionally better connected to forestry. Those NGOs that expressed strong-

ly negative attitudes towards forestry activities are in the same time unfamiliar with either legislation related to forestry or nature protection, like Mountaineer's and Fishermen's associations.

Common for both case studies is that NGOs feel excluded from decision-making process.

### Policy Development

There is no significant policy development in either case study NP Kopački rit or case study NP Velebit. Some improvements in relations between parties in conflict are evident in both case studies.

## DISCUSSION

Nature parks are good examples of areas where various and mutually interdependent stakeholders with differing interests and attitudes struggle to achieve their goals. Interactions of various stakeholders often cause tensions. This is especially good field for research about relations between forestry and nature protection sectors in Croatia, due to overlapping jurisdictions over forest management in this type of protected areas.

Conflict is a sensitive and complex issue therefore hard to explain. It can be approached from different angles. Hellström (10) analysed conflict cultures lead by a notion that »certain society tends to create certain types of conflicts, and respond to them in a certain way« (p 8). Therefore besides descriptive aspects, like types of conflicts and approaches to CM, also societal aspects, e.g. social, political and economic, are taken into consideration. Establishment of protected areas sometimes cause conflicts (24) creating variety of reactions. When it comes to natural resource conflicts some societies avoid conflicts, while others would use even physical violence to achieve their goals (25). It is important to stress difference between conflict cultures and conflicting (sub)cultures. The latter is related to »situations where the cultural backgrounds of the conflict partners differ to the extent of creating a conflict« (p8) (10). In this article forestry and nature protection sectors presented through two case studies are considered as conflicting (sub)cultures.

In two chosen case studies public institutions were vested by state to be in charge for management of protected areas, where other state company was already positioned. It created changes in existed equilibrium and tackled conflict occurrence. Change tends to create »winners« and »losers«, even though it does not have to be realistic, but only actor's own perception (26). This means that even when one actor is considered as »winner«, its own perception does not need to coincide with the fact. Applied to our research CF used to be the only master of the protected area and than new actor appeared with whom power and decision-making must be shared. Interviewees from forestry sector expressed their disappointment with this change.

Vaguely written legislation certainly contributes to conflict occurrence what was also well recognized by interviewees in both case studies. Overlapping and non-harmonised legislation in combination with interviewees' unfamiliarity with legislation create confusion in its interpretation and therefore implementation. Also both parties in conflict are under great deal of pressure when it comes to performance of their everyday activities. NPs are struggling with lack of finances, technical and human resources, bad working conditions etc. On the other hand CF is faced with bureaucratic issues, while claiming permissions for every action from both Ministry of Culture and Public Institution. It results in reduced number of days spent in the field performing forestry activities in addition to so called 'rainy days', i.e. bad weather conditions. Apart from this every forestry action within NP areas are scrutinized by both Public Institution and general public. Unfamiliarity of other party's activities in relation to technique of forestry work combined with foresters being almost invisible in the media creates fertile ground for conflicts to occur.

There is no substantial policy development sprouted from conflict or CM, but suggestion made by interviewees could help decision-makers to address problem in adequate manner. Effective communication and willingness to overcome differences could be sufficient for starting with integral management of resources.

Results showed that cultural backgrounds of forestry and NP employees are indeed different in both case studies, as well as of their adjacent NGOs. It is also very likely that it influences conflict, CM and therefore policy development. Research also confirmed applicability of Hellström's theoretical framework in studying natural resource conflicts. Authors' intention is not to present respective sectors as enemies but to give fair overview of the issues presented through two case studies and to initiate more intensive research on this subject.

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