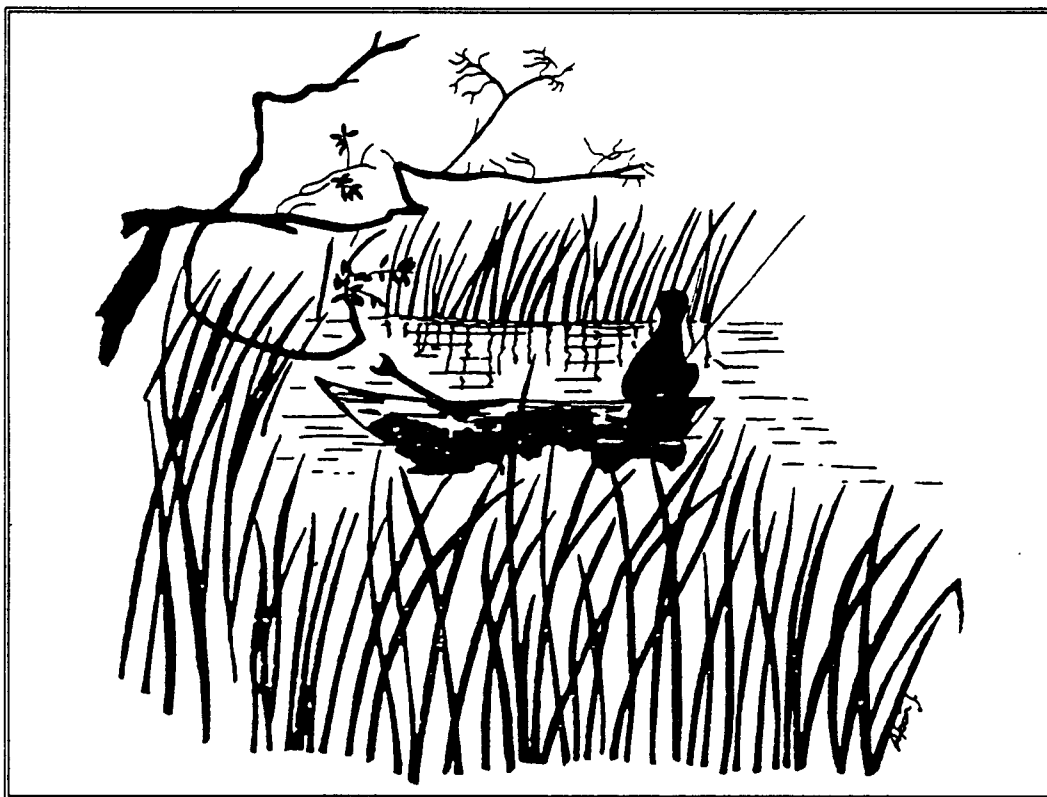


# MedWet

MedWet TRAINING SUB-PROJECT  
"APPLICATION ON TEST SITE"  
LAKE KERKINI, GREECE

DESCRIPTION OF ACTION  
& APPLICABILITY OF MedWet METHOD FOR TRAINING

*Maria Anagnostopoulou & Kyriakos Skordas*



THE GOULANDRIS NATURAL HISTORY MUSEUM  
GREEK BIOTOPE / WETLAND CENTRE

Το Ελληνικό Κέντρο Βιοτόπων-Υγροτόπων (ΕΚΒΥ) ιδρύθηκε το 1991 ύστερα από πρόταση του Υ.ΠΕ.ΧΩ.Δ.Ε προς την Επιτροπή της Ευρωπαϊκής Ένωσης, με βάση το συμβόλαιο αριθμός Β91/91/SIN/8192 μεταξύ της Επιτροπής της Ευρωπαϊκής Ένωσης (Γεν. Διεύθυνση XI) και του Μουσείου Γουλανδρή Φυσικής Ιστορίας.

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**SUMMARY**

Before the end of the preparatory phase of the MedWet project, it is crucial to test the MedWet method for training developed by the Biological Station Tour du Valat (TdV), in order to assess its applicability and effectiveness. For Greece, the Ramsar site Lake Kerkini was selected as a test site.

In order to fulfil this objective, a pilot training course was organised on the test site by EKBV/Ministry of Environment, closely following the "training engineering" proposed by TdV. The course was entitled "Sustainable management of the water of Lake Kerkini" (a title expressing the general objective of the training course) and was held in the town of Serres, from 25 to 29 September 1995.

All the successive stages of the training engineering were faithfully followed and led to a successful training course. It was confirmed that the emphasis on the stage of analysis is crucial for the successful selection of the key issue, the training needs, the training objective and the target group. The development of different partnerships contributes to a better outcome, increases prestige and credibility, and sets the foundations for future communication and collaboration among partners. The positive assessment of the training course by the participants demonstrated its success and indicated the necessity for training courses that address real needs.

It is believed that the MedWet method for training is a readily applicable and useful tool for bodies and people involved in organising training.

**ΥΠΟΠΡΟΓΡΑΜΜΑ ΚΑΤΑΡΤΙΣΗΣ MedWet  
"ΕΦΑΡΜΟΓΗ ΣΕ ΔΟΚΙΜΑΣΤΙΚΗ ΤΟΠΟΘΕΣΙΑ"  
ΛΙΜΝΗ ΚΕΡΚΙΝΗ, ΕΛΛΑΔΑ**

**ΠΕΡΙΓΡΑΦΗ ΤΗΣ ΔΡΑΣΗΣ  
ΚΑΙ ΕΦΑΡΜΟΓΗΣ ΤΗΣ ΜΕΘΟΔΟΥ MedWet ΓΙΑ ΤΗΝ ΚΑΤΑΡΤΙΣΗ**

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**ΠΕΡΙΛΗΨΗ**

Πριν από τη λήξη της προπαρασκευαστικής φάσης του προγράμματος MedWet, είναι σημαντικό να δοκιμαστεί η μέθοδος κατάρτισης η οποία έχει αναπτυχθεί από τον Βιολογικό Σταθμό Tour du Valat της Γαλλίας, ώστε να εκτιμηθεί η δυνατότητα εφαρμογής της και βέβαια, η αποτελεσματικότητά της.

Για να εκπληρωθεί αυτός ο σκοπός, ένα πιλοτικό πρόγραμμα κατάρτισης διοργανώθηκε από το ΕΚΒΥ/ΥΠΕΧΩΔΕ στη δοκιμαστική τοποθεσία, που για την Ελλάδα είναι η λίμνη Κερκίνη. Ο τίτλος του προγράμματος κατάρτισης ήταν "Αειφορική διαχείριση του νερού της λίμνης Κερκίνης" και εξέφραζε και τον γενικό σκοπό του. Το πρόγραμμα κατάρτισης διεξήχθη στις Σέρρες, από 25 έως 29 Σεπτεμβρίου 1995.

Όλα τα διαδοχικά στάδια του "μηχανισμού κατάρτισης" που προτείνονται από την μέθοδο του MedWet, ακολουθήθηκαν πιστά και οδήγησαν σε ένα επιτυχές πρόγραμμα κατάρτισης. Επιβεβαιώθηκε ότι η έμφαση στο στάδιο της ανάλυσης είναι απαραίτητη για την εύστοχη επιλογή των αναγκών κατάρτισης, των σκοπών της και των καταρτιζόμενων. Η ανάπτυξη συνεργασιών συμβάλει σε ένα καλύτερο αποτέλεσμα, αυξάνει το κύρος και την απήχηση του προγράμματος κατάρτισης και δέτει τα δεμέλια για μελλοντική επικοινωνία και συνεργασία μεταξύ των συνεργαζόμενων μερών. Η δετική αξιολόγηση του προγράμματος από τους συμμετέχοντες, επιβεβαίωσε την επιτυχία του και κατέστησε εμφανή την ανάγκη για κατάρτιση απευθυνόμενη σε πραγματικές ανάγκες.

## 1. INTRODUCTION

Before the end of the preparatory phase of the MedWet project, it is crucial to test the method for training engineering developed by the Biological Station Tour du Valat (TdV), in order to assess its applicability and effectiveness and possibly, propose slight modifications. For Greece, the Ramsar site Lake Kerkini was selected as a test site.

In order to fulfil this objective, a pilot training course was organised on the test site by EKBY/Ministry of Environment, closely following this training engineering.

## 2. DESCRIPTION OF ACTION

The entire procedure of preparation, performance and evaluation of the training course, faithfully followed the five stages of the training engineering, thus the stages of 1. analysis, 2. construction, 3. planning, 4. piloting and 5. assessment, which are described in the working document "MedWet: Application of training to test sites-Methodological Guide", August 1994, by Jean Jalbert (TdV). The implementation of the method per stage is described below.

### 2.1. Analysis

The stage of analysis (May-July 1995) was completed, through:

- ◊ an assessment (by EKBY) of the site's context, including the identification of most serious conservation problems
- ◊ assessment of potential capacity of training to address these problems
- ◊ the choice of the focal problem and the identification of all involved actors
- ◊ the definition of the target public through i. the assessment of the demand for training and ii. the analysis and definition of their training needs

At this stage, after the assessment of the ecological, socio-economic and cultural context of the site, and considering the fact that most serious conservation problems of the site were closely associated with the water management, the latter (water management) was selected as the key-issue whereupon the analysis would focus.

The involved bodies were contacted during May. To maximise the effectiveness of these contacts, an informal questionnaire was prepared and used as a "guide" to the required answers. The questionnaire included questions about:

- ◊ which management problems of the wetland the individual perceived as most serious
- ◊ how their service and they themselves are involved in these problems and in particular in water management
- ◊ what problems their services and themselves face, when dealing with water management
- ◊ which of these difficulties could be overcome by training

- ◊ whether they would welcome a relevant training course and in which specific subjects they would like to be trained on
- ◊ whether they believed they would be able to implement the knowledge from a possible training course in their work and what the major difficulties for this would be
- ◊ other existing ways (beside training) for improving their effectiveness
- ◊ which other body or individual they thought should be included in the participants of a training course on sustainable water management
- ◊ which would a suitable range of dates be for a training course
- ◊ what the required administrative procedure for their participation would be

The participants, by large majority originated from the prefecture-level services of the Ministries of Agriculture and of Environment, Physical Planning & Public Works plus a small number of individuals from other services or bodies related to the conservation and water management of lake Kerkini.

## 2.2. Construction

Considering the problem of unsustainable water management and the training needs identified in the previous stage, the general objective of the pilot training course was formulated as follows:

General objective: to inform and convince the people involved in the management of the lake, about the need, but also the possibility for integrated and sustainable management of the water, which will permit the best possible coexistence of all major wetland values.

The course was therefore entitled "Sustainable management of the water of Lake Kerkini".

The general objective was then broken into the following specific objectives:

- ◊ to demonstrate the conservation problems arising for the current water management of the system Lake Kerkini-River Strymon
- ◊ to convince the participants on the need for the co-existence of the major wetland values (as an irrigation reservoir, as a flood-control system, as a fishing resource and as a system with high biodiversity)
- ◊ to propose water management practices for a sustainable water management of the system Kerkini-Strymon, and
- ◊ to increase communication and collaboration among involved bodies

The content of the training course was then structured, and the trainers were selected, with regard to the general and specific objectives, and of course, considering availability and level of knowledge of trainees, the available budget, the available training skills, and other technical constraints.

Partnerships were accomplished:

- ◊ with the Prefecture of Serres for the provision of the facilities (course room, audio-visual equipment, technical support, catering) of the Centre for Agricultural Training of Serres for the training course
- ◊ with the prefecture Division of Forests, for the provision of 2 jeeps and their drivers for the course field visit to the lake
- ◊ with the Ministry of Macedonia-Thrace, for the funding of the publication of the proceedings in 1000 copies (3300 ECU)
- ◊ with the Ministry of Agriculture, for funding the delivery of the publication to interested services and individuals (in progress)

The trainers were sought individually, and not through specific partners. Seven major trainers dealt with the following issues:

- ◊ General context of the site, wetland uses and values, ornithological value, biodiversity
- ◊ Legal framework for the protection of wetlands in general and of lake Kerkini in particular
- ◊ Management of irrigation water
- ◊ Impact on wetlands from land reclamation projects
- ◊ Management for protection from floods
- ◊ Control of sediment deposition
- ◊ Management of the lake as a fishing resource
- ◊ Ecological value and conservation problems arising from past and current management

Most presentations were given by staff of local services (Prefecture level), but also by staff of the University of Thessaloniki, EKBY, central-services of the Ministries of Environment and of Agriculture.

As concerns the "specifications" of the training course (Methodological Guide, p. 18), a document was prepared explaining the framework of the course, the main conservation problems of the wetland, the justification of choosing to deal with the water management issue, the work done (very briefly) during the stage of analysis, and the general and specific objectives of the training course.

### **2.3. Planning**

At this stage, all the organisational details (e.g. related to the use of the course room and facilities, the guided field visit, training material, etc.) were settled.

The potential participants were invited and informed about the training course through the "specifications" document and a draft daily syllabus. Furthermore, personal contacts by visits or telephone calls were made, at least with all higher staff of the invited services.

The trainers were contacted, and were initially informed about the course with the same material and by personal contact. Moreover, a "teaching sheet" was prepared for every trainer, informing them on the course context (place and dates,

number, origin and background of participants, general and specific objectives of the course, time allowed for their presentations, audio-visual equipment available, outline of the presentations expected by them. Every trainer was asked to structure their presentations on the following pattern:

- ◊ understanding of the relevant function and value of the wetland (different for each trainer)
- ◊ illustration of the problems and interrelations
- ◊ suggestions for the resolution of the problems within a sustainable and integrated framework
- ◊ identification of the possible difficulties for the implementation of the suggested measures and management practices
- ◊ development of collaboration among the involved bodies

Each of the trainers was orally informed about the outline content of the presentations of the other trainers.

Finally, the Greek team prepared the questionnaire for the scheduled interdisciplinary work group exercise.

## **2.4. Piloting**

The training course took place on 25-29 September 1995 at the Centre of Agricultural Training, in the town of Serres. It was regularly attended by 25 individuals, whereas 15 more people attended parts of the course as observers.

A 10 to 15 minutes discussion followed every presentation, and a longer discussion of half to 1 hour, took place at the end of the last presentation each day. A vital part of the course consisted of a structured work group exercise. Three work groups were formed, consisting of individuals with different background and professional origin. The groups worked approximately on the pattern on which the trainers were asked to structure their presentations (see above in 2.3.). This procedure led to the formulation of suggested measures and management practices for a wiser use of the water of lake Kerkini. Every group presented their views through a spokesman, and answered questions from members of the rest of the groups.

The field visit to lake Kerkini was guided by two ornithologists (one in each jeep), and aimed at providing to the participants the opportunity to learn about the outstanding biotic features of the site in situ, discuss the management problems on the site, and hopefully see the lake from a point of view, different than their standard one.

On the closing day, a printout of the synthesis of the results of the work group exercise (prepared immediately after the end of the exercise) was distributed to the participants. The synthesis was presented by K. Skordas, and a long discussion followed for every main field of interest (irrigation, flood control, fisheries and biodiversity). The participation of Ms Spala, responsible for the MedWet project from the Greek Ministry of Environment, as a trainer, but also during the closing



discussion, was very helpful. The closing discussion was taped and later put in writing.

The tasks of the training officer (as described in the "Methodological Guide", p. 20), were performed by K. Skordas & Maria Anagnostopoulou.

## 2.5. Assessment

A daily and a final assessment was done, on the basis of the respective forms proposed by TdV.

The daily assessment was very positive in all aspects.

The final assessment forms (evaluation of course structure, training methods and material, content, relevance, effectiveness, impact of training course, the organisation before and during the course), again showed a high degree of satisfaction from the participants (+ or ++ in almost every assessed item). Almost all thought that the different activities (presentations, group work, field visit, discussion) were balanced during the course, whereas everyone thought that the training material was of high to very high quality. The knowledge and skills of the trainers, their ability to express themselves comprehensively and to intrigue discussions, as well as their overall attitude, satisfied the participants. Almost all thought that interdisciplinary group work was helpful, though some of them were not certain they could use this approach in their work. Almost all thought that the course objectives and content were associated with their professional needs and their day-to-day work, whereas 17 felt that the course offered them additional tools for the exercise of their duties. The organisation of the course satisfied almost all participants. Indicative of the interest of the participants was the fact that they regularly attended the course, while most of them were highly positioned staff with numerous technical and administrative tasks.

Generally, aspects that mostly satisfied the participants were: high quality presentations by the trainers, the genuine eagerness of the organisers, the friendly atmosphere which resulted to a pleasant attendance by the participants, the multi-lateral investigation of subjects, the elimination of incredulity among the distinct scientific approaches, etc.

The improvements and modifications proposed by the participants, were: more time available for the indulgence to the different concepts, advanced receipt of all training material in writing, deeper consideration of the technical issues and of the management proposals, synthesis of conclusions also by the trainers, presence of all trainers in the closing discussion, etc. Finally, the participants unanimously suggested that all trainers should ideally be present throughout the training course, in order to obtain the full information and contribute to the formulation of proposals for wise water management.

An assessment of the effects of the training on the behaviour of the participants on return to their work situation, will indirectly be performed through

the form of the six-months assessment, which will be send to the participants in due time.

The possible positive effect of the training on water management of the system Lake Kerkini-River Strymon, will hopefully be revealed by the progress of the associated decisions and interventions in the next few years.

*Output:*

The course material was edited by Kyriakos Skordas and Maria Anagnostopoulou. The MedWet publication produced (on funding from the Ministry of Macedonia-Thrace) is entitled: "Sustainable management of Lake Kerkini. Proceedings of training course, Serres, 25-29 September 1995" and will be delivered to EKBY in 1000 copies on 3.1.96. Apart from the edited course material, the publication (144 pp) includes an introductory part describing wetland functions and values, the MedWet project, the training engineering and the activities of EKBY and a final part where the synthesis of views and conclusions is drawn by the editors, based on the results of the group exercise and the discussion during the closing day of the course. The English summary of the publication is given in the appendix. The publication will be a valuable reference material to all wetland users and to people who decide upon, or exercise the water management of the system Kerkini-Strymon, as well as to the staff of the future management body of Lake Kerkini.

### **3. DISCUSSION**

#### **3.1. Generally**

It is believed that the MedWet training method developed by TdV is a readily applicable and useful tool for bodies and people involved in organising training.

The method was applied on the Greek test site very successfully. It was positively accepted by all involved parties and it had positive results, such as:

- ◊ enhancement of collaboration among involved services and recognition of the need for an integrated and interdisciplinary approach to water management
- ◊ formulation of water management proposals (though informal and within the training procedure), by the collective work of individuals of distinct professional origin and interests

A great publicity was given to the training course, through press releases (5 national daily newspapers, 6 local daily newspapers and 1 local weekly newspaper), television (in the main daily news of 3 local channels, accompanied by interviews of the organisers and certain trainers) and radio (1 national station, several in Thessaloniki, as well as local stations).

EKBY does not perceive this course as an isolated event, but rather as a first step towards the sustainable water management in the system Lake Kerkini-

River Strymon, which will be followed up, supplemented and enhanced by the planned MedWet public awareness activities.

Comments and suggestions are given hereafter, for each successive stage of the training engineering.

### **3.2. Analysis**

The success of the training course is largely attributed to the emphasis given (in time and labour) to the stage of analysis. The insight into the site's context, permitted a successful selection of the key-issue (water management) and of the involved bodies. The early contacts with potential participants and partners were particularly appreciated, and in many cases, surprised the contacted individuals, who were used to a much more rushed approach for the organisation of training courses. The repeated personal contacts (visits by K. Skordas) with potential participants, partners and trainers, resulted to friendly atmosphere and a good communication during the course and all the arrangements that had to be made before and after the course.

In Greece, where there are numerous bodies involved in wetland management and sometimes their jurisdictions may overlap to some degree, and where communication among involved bodies is not always adequate, the stage of analysis is particularly critical for the preparation of a training course which wishes to contribute to the resolution of a management problem.

### **3.3. Construction**

The development of partnerships must begin long before the training course. Partnerships for crucial issues, e.g. for the funding of the publication, are obviously very important, both for financial reasons, but also (and probably even more) for reasons of interaction, prestige and credibility. Partnerships on simple practical issues, e.g. the provision of a course room and other training facilities, is very important, because it saves resources and stress. Partnerships on "small" issues, such as e.g. the disposal of the jeeps and drivers by the Forest service in this case, are also important, because they result to a more active involvement of a particular body into the procedure. All these partnerships, help create a basis for enhanced future communication and collaboration among partners.

The terms "training objective" and "pedagogical objectives" were thought to be confusing for participants, partners and trainers. A different terminology, frequently used by EKBY and other bodies, is "general objective", which is then broken down into "specific objectives". This terminology is thought to be clearer and easier to understand.

### **3.4. Planning**

There were cases of participants who had only heard about the course a few days before or even by television, even though their services had been contacted at an early stage and officially invited. It was therefore concluded that the invitations to the involved bodies for participation to the training course, should not be restricted to the directors, heads of departments etc. If possible, direct communication must be pursued with every single potential participant, at least at the stage of planning, if not also at the stage of analysis.

The "teaching sheet" was received by the trainers with enthusiasm. A very common problem in Greece, is that trainers are very poorly informed about the exact objective of their expected presentations, the identity and origin of the trainees and other information about the course. It is therefore confirmed that the "teaching sheet" is a very useful tool for the stage of planning.

### **3.5. Piloting**

A common situation in Greece is the subsidised training courses, where all participants receive a daily reimbursement. This approach was not adopted here, and it is believed that the lack of subsidy resulted to a group of really interested participants. Nevertheless, the basic trainers were paid a small fee, which is believed to have partly resulted to the high quality of the training material they produced.

The interdisciplinary work group exercise was well accepted by the participants, was performed successfully, and constituted the basis of the synthesis of management proposals and the associated closing discussion. A critical factor for the fruitful development of the exercise is its careful preparation from the organisers, who must have a very clear objective for it.

Concerning timing, it must be stated that, even in the early contacts, many participants had stressed that the course should start in the morning, at a time which would permit them to go to their office for certain urgent affairs before coming to the course. Therefore, the course started at 9:00 a.m. every morning, which gave everyone 1.5 hours for handling urgent tasks.

### **3.6. Assessment**

It is believed that the assessment forms proposed by TdV work very well, with small modifications according to the particularities of each case. The long term assessment of the effect of the training course on the relevant management issue, is a very complicated task. It is very possible that in the near future, there will be some feedback on it, but it is hard to foresee the parameters that will provide this feedback beforehand.

# SUSTAINABLE MANAGEMENT OF THE WATER OF LAKE KERKINI

Proceedings of the training course  
held in Serres  
25-29 September 1995

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## SUMMARY

The MedWet project for the conservation and wise use of the Mediterranean wetlands, includes five interrelated sub-projects: i. inventory and monitoring, ii. management, iii. education and training, iv. application of research and v. information and public awareness.

The Natural Environment Management Section, Division of Environmental Planning of the Greek Ministry of Environment, in collaboration with the Greek Biotope/Wetland Centre is participating in the sub-projects i, iii and v above.

Within the training sub-project in particular, a "training engineering" has been developed by the Biological Station of Tour du Valat in France, which has the overall coordination of this sub-project. This engineering includes five stages: 1. analysis of training needs, 2. construction of the training programme, 3. planning of activities, 4. performance of training programme, and 5. evaluation.

Lake Kerkini (a reservoir which was constructed on a small natural wetland), was selected as test site for the pilot implementation of the training engineering. It is situated in the prefecture of Serres, which is one of the most productive agricultural areas in Greece. There are high demands for irrigation water, which are largely fulfilled by the system of river Strymon-lake Kerkini. The main values of the lake are flood control, irrigation, fisheries, and biodiversity. The river Strymon carries high quantities of sediments into the lake, negatively affecting the system's values. The protection from floods is theoretically secured by the lowest possible water level. The demand for irrigation water determines the maximum water level in the lake. Assuming that there are no other management needs, irrigation is better served by an elevated water level. The large-scale water management works carried out in the past have caused a severe alteration of the fish fauna in favour of the species of low or no market value and has led important species to extinction.

The preparation, performance and evaluation of the course closely followed the training engineering developed by Tour du Valat. Contacts with the prefecture-level civil services associated with the management of the wetland were performed at an early stage. Considering the site's structural characteristics, its functions and

values, its problems and the identified training needs, the objective of the training course was set, and the course was respectively entitled "Sustainable management of the water of Lake Kerkini". The content focused on water management for the maximum possible preservation of all cardinal values (flood control, irrigation, fisheries, biodiversity) and aimed at the enforcement of the inter-service collaboration.

The training course was performed in the town of Serres, from 25 to 29 September 1995. Twenty five staff members from services associated with the water management of the lake, actively attended the course, whereas staff of the Ministries of Environment and of Agriculture (central, regional and prefecture level), of the University of Thessaloniki and of EKBV acted as instructors. An important constituent of the course was an interdisciplinary work-group exercise, during which the participants discussed the problems and the impact of the present water management and proposed improvements. The course was highly evaluated by the participants.

Based on the training material produced by the instructors, the results of the group work and the closing discussion, the conclusions and recommendations may be summarised as follows:

1. The preservation of biodiversity requires a stable regulation of the water level, with established upper limits, whose overrun will have a detrimental effect on biodiversity. The wide fluctuation of the water level (more than 5m at times) and its timing are crucial negative factors. One of the most important biotic features of the wetland is the riparian forest at the N-NE of the lake. Each year many trees die due to prolonged inundation, whereas natural regeneration is practically annihilated for the same reason. The high water levels recorded in the last years, have already caused a marked loss of shallow water habitats, reedbeds, and half of the riparian forest.

2. The irrigation needs can be fulfilled by saving water through:
  - improvement and maintenance of the irrigation networks
  - changing into other types (little water-demanding) of crops
  - training of farmers on wise use of water

The water saved in this way may result to a lower upper limit of the lake's water level/need for irrigation.

3. The maximum discharge capacity of the river Strymon downstream the dam is low. Therefore, when the water level rises in the lake, there is a long time-lag until the excess water is released. As a result, the water level may remain higher than the upper limit for several days. This fact, in conjunction with the poor maintenance state of the embankments, virtually mean a high risk of flood in the adjacent fields and villages, endangering property and lives. The plan for the elevation of the earth embankment, is not appropriate, since it will only postpone the confrontation with the flood control issue. A longer-lived solution would be the construction of works for the enhancement of the discharge capacity downstream

the dam, in combination with the diversion of the river upstream the reservoir and further works for sediment control, in cooperation with Bulgaria.

4. Fisheries are best served by a stable water management. Several fish species require shallow water habitats for spawning. Moreover, the closed season for fishing must be adaptable to the emerging necessities, according to the climatic conditions each year.

The wise management of the water of lake Kerkini must address the preservation of all major values of the wetland. This can be achieved through the preparation of an integrated management plan of the entire system of river Strymon-lake Kerkini. The real challenge, however, is not the preparation of the plan, but the creation of the appropriate management authority which will coordinate the implementation of the plan.