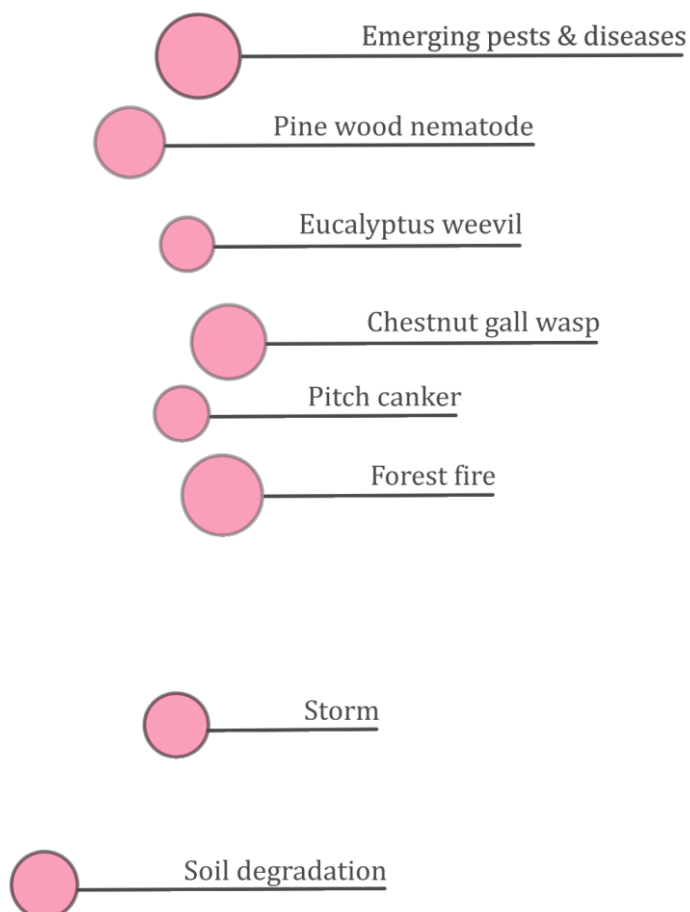


## Deliverable 4.2.1.

### *INTERNATIONAL SUMMER SCHOOL*

# PROTECTING THE FOREST RESOURCE: RISK ASSESSMENT AND MANAGEMENT USING INNOVATIVE TOOLS



June 2019

## Authors

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European Forest Institute (EFI)

**28-06-2019**

## SUMMARY OF THE INTERNATIONAL SUMMER SCHOOL.

An International Summer School was organised from 24 to 28 June 2019 in Waterford, Ireland as part of the outreach program of EFIPLANT and WIT (Waterford Institute of Technology). The title of the summer school was “*Protecting the Forest Resource: Risk assessment and Management using Innovative Tools*”. As part of the summer school there was a particular focus on the risk tools developed in the PLURIFOR project. One session of the talks on Tuesday 25 June was dedicated to PLURIFOR results and colleagues from the PLURIFOR project were engaged in field and laboratory work highlighting the tools from the project. Participants from EFIPLANT, INRA, CETEMAS, Neiker and CIF-Lourizán all contributed to the summer school.

The summer school had 28 attendees attending for the whole week from 15 countries (12 in Europe and 3 outside of Europe), and in addition there were a further 7 attendees from Ireland for the Tuesday talks, and approximately 10 to 12 further participants on the Wednesday field day at the John F. Kennedy arboretum in Ballysop, including members of the Irish Forest Service and staff of the arboretum.

### 1. Summer School Program

The summer school took place in Waterford, Ireland and was hosted by the Waterford Institute of Technology (WIT).

The summer school was divided into field visits, field activities, lectures, computer and laboratory training sessions, and group work and discussions:

#### Day 1. Monday 24 June

- a. Morning Field Visit: Forests showing impact of different hazards
- b. Afternoon Group Work: Discussions based on field visit

#### Day 2. Tuesday 25 June

- a. Morning Opening of the summer school by Mr. Andrew Doyle, Irish Minister of State for Food, Forestry and Horticulture (Figure 1)
- b. Morning Talks on risk tools developed in the PLURIFOR project
- c. Afternoon Talks on forest risk tools

#### Day 3. Wednesday 26 June

- a. Visit to JFK arboretum: Collect field data and test tools

#### Day 4. Thursday 27 June

- a. Morning Laboratory: Using tools with field data to assess risk
- b. Afternoon Laboratory: Using tools with field data to assess risk

#### Day 5. Friday 28 June

- a. Morning Talks: Mitigating risk and crisis management
- b. Morning Group Work: Scenario testing, crisis management, group presentations

The full summer school program can be found in the Appendix. A selection of photographs illustrating the field visits, field work, talks and laboratory sessions are shown below.

## 2. Discussion

The summer school was an excellent forum for introducing the outputs of the PLURIFOR project. It allowed the tools from the PLURIFOR project and other risk tools and methodologies to be considered in real situations. The Monday visit was to a farm forestry site near to McGarth's Cross (Figure 2) and to Kilclooney Forest (Figure 3), which is predominately a commercial spruce forest. These two sites provided a focus for the summer school and allowed an investigation of the challenges facing forestry in such locations, the hazards affecting the trees now and into the future, and how to incorporate these threats into management plans. The final session of the summer school involved group work in 4 groups (Figure 12), in which each group was asked to discuss the topics listed below and to report back to the whole summer school on their ideas and plans:

1. What are the objectives for each site?
2. What approach would you take to achieve these objectives?
3. What threats does each site face?
4. What information do you need to assess the threats and how would you obtain it?
5. How would you incorporate the threats into your management plan?
6. How would you monitor the sites in the future?

The groups provide excellent responses to the questions. The groups suggested how a number of the tools presented and used during the week in the lectures (Figure 4), laboratory sessions (Figure 5, Figure 6, Figure 7, Figure 10, Figure 11), and arboretum field work (Figure 8, Figure 9) could be helpful in analysing the current situation and the probable future situation, assessing the threats to the forests, and incorporating those threats into their management plans to ensure the objectives for each site were met.

## 3. Conclusions

1. International Summer Schools offer an ideal opportunity of presenting results from European projects to a wide audience who can potentially utilise the project deliverables and will spread the word about these deliverables.
2. Bringing together expertise from within a European project, such as PLURIFOR, and from outside the project is an excellent way to engage in critical evaluation of EU project deliverables, and to plan future work that can build on the interactions between researchers, practicing foresters, forest planners, and other stakeholders.
3. Summer schools provide an ideal environment for sharing knowledge and experience across Europe and further afield, and for developing strong peer groups in the forestry community who will be able to support each other in the future.
4. Within the European Union there is an outstanding group of young foresters, forest engineers, and forest scientists that are highly educated, extremely engaged and who are willing to utilise the new tools and technologies becoming available to assist in forest planning and management. These foresters, engineers and scientists will help to ensure that European forests are managed in a sustainable and resilient manner in the future.
5. Incorporation of training and education as part of EU projects will have enormous future benefits for European forests and the citizens who depend on them.



Figure 1: Mr. Andrew Doyle, Irish Minister of State for Food, Forestry and Horticulture opening the summer school





Figure 2: Field visit to farm forestry site near McGrath's Cross, Waterford



Figure 3: Field visit to Kilclooney Forest





Figure 4: Participants listening to lectures on risk tools



Figure 5: Training in the use of fire risk assessment tools



Figure 6: Training in the use of drones in forestry



Figure 7: Training in pathogens affecting forest trees





Figure 8: John F. Kennedy arboretum in Ballysop. The arboretum was used for the field training day.



Figure 9: Preparing a drone with a thermal camera for a flight during the field training session in JFK Arboretum



Figure 10: Training in the use of MCDA (Multi Criteria Decision Analysis)



Figure 11: Training in computer-based risk tools





Figure 12: Group discussion at the end of the summer school



WATERFORD  
INSTITUTE OF  
TECHNOLOGY,  
IRELAND

24-28 JUNE

**INTERNATIONAL  
SUMMER SCHOOL  
2019**

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**PROTECTING THE **FOREST**  
RESOURCE: RISK ASSESSMENT  
AND MANAGEMENT USING  
INNOVATIVE TOOLS**

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Waterford Institute *of* Technology  
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE





# PROGRAMME

SUNDAY, JUNE • 23

**ARRIVAL:** FREE BUS IN  
EVENING AT 20:00 FROM  
DUBLIN AIRPORT TO  
WATERFORD

**AFTERNOON**

**DINNER (OWN PLANS)**

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# PROGRAMME

MONDAY, JUNE • 24

## MORNING

DEPART 08:00

RETURN 13:30

**FIELD VISIT:** SITE VISIT TO  
FORESTS AFFECTED BY  
SERIOUS  
DISTURBANCE

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**LUNCH**  
WIT CANTEEN

13:30-14:30

## AFTERNOON

14:30-15:30

**GROUP WORK:**  
COLLECTIVE AND TEAM  
DISCUSSIONS ON ISSUES  
RELATED TO THE SITE VISIT.

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**DINNER**  
SUMMER SCHOOL BANQUET

19:00

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# PROGRAMME

TUESDAY, JUNE • 25

WELCOME TO SUMMER  
SCHOOL: DR. NICHOLAS  
MCCARTHY (WIT)

8:30 - 8:40  
8:40 - 9:00

OPENING OF SUMMER  
SCHOOL

LECTURES: TALKS ON RISK  
TOOLS DEVELOPED IN THE  
PLURIFOR PROJECT

MORNING  
9:00-12:00  
OPEN FOR  
DAY  
ATTENDEES



# PROGRAMME

TUESDAY, JUNE • 25

## LUNCH

WIT CANTEEN

12:00-13:30

## LECTURES: TALKS ON FOREST RISK TOOLS

-WIND DAMAGE RISK MODELLING IN  
IRELAND: DR. AINE NI DHUBHAIN  
(UCD)

-FIRE RISK PREDICTION TOOLS: MR.  
CIARAN NUGENT (FOREST SERVICE)

-DEER IMPACT ASSESSMENT  
METHODOLOGY: DR. HELEN  
ARMSTRONG (BROOMHILL ECOLOGY)  
AND MR. CIARAN NUGENT (FOREST  
SERVICE)

## AFTERNOON

13:30-17:00

OPEN FOR

DAY

ATTENDEES





# PROGRAMME

TUESDAY, JUNE • 25

-CHALARA OUTBREAK IN IRELAND: MR. TOM HOULIHAN (TEAGASC)/  
MR. TOM MC DONALD (DAFM)

-DETECTION OF ALIEN INVASIVE PATHOGENS: PROF. STEPHEN  
WOODWARD (UNIV. OF ABERDEEN) AND PROF. TUGBA DOGMUS  
(SULEYMAN DEMIREL UNIV.)

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## DINNER

BARBECUE/OWN PLANS (WEATHER DEPENDENT)



# PROGRAMME

WEDNESDAY, JUNE • 26

FIELD WORK: VISIT TO JFK  
ARBORETUM AT BALLYSOP  
TO COLLECT FIELD DATA AND  
TEST TOOLS

MORNING  
8:00-12:00

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PICNIC LUNCH

12:00-13:00

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FIELD WORK: VISIT TO JFK  
ARBORETUM AT BALLYSOP  
TO COLLECT FIELD DATA AND  
TEST TOOLS

AFTERNOON  
13:00-17:00

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BARBECUE/OWN PLANS (WEATHER DEPENDENT)

19:00



# PROGRAMME

THURSDAY, JUNE • 27

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**LABORATORY WORK: USING TOOLS  
WITH FIELD DATA TO ASSESS RISK**

**MORNING**  
8:30-12:00

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**LUNCH**  
WIT CANTEEN

12:00-13:30

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**LABORATORY WORK:**  
USING TOOLS WITH FIELD DATA TO  
ASSESS RISK

**AFTERNOON**  
13:30-17:00

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**DINNER**  
OWN PLANS





# PROGRAMME

FRIDAY, JUNE • 28

**MORNING**

8:30-10:00

**TALKS:**

-MANAGEMENT OPTIONS TO  
MITIGATE RISK: DR. BILL MASON  
(FOREST RESEARCH)

-CRISIS MANAGEMENT IN FORESTRY:  
MR. MICHAEL POWER (COILLTE)

10:00-12:00

**GROUP WORK AND**

**PRESENTATIONS:**

SCENARIO TESTING, CRISIS  
MANAGEMENT PLANS, RISK  
MANAGEMENT





# PROGRAMME

FRIDAY, JUNE • 28

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**LUNCH**  
WIT CANTEEN

12:00-13:30

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**AFTERNOON DEPART**  
FREE BUS AVAILABLE TO DUBLIN AIRPORT AT 13:30

FOR ALL INQUIRIES, PLEASE SEND AN EMAIL TO  
[CLAUDIA.ANTONIOTTI@EFI.INT](mailto:CLAUDIA.ANTONIOTTI@EFI.INT)



# TUTORS

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DR. NICK MCCARTHY (WIT)  
DR. BARRY GARDINER (EFI)  
DR. TOM LOCATELLI (FOREST RESEARCH)  
ING. J. CHRISTOPHE ORAZIO (EFI)  
DR. HELEN ARMSTRONG (BROOMHILL ECOLOGY)  
MR. ALEX HELD MSC (EFI BONN)  
MR. MIKE POWER (COILLTE)  
DR. JUAN SUAREZ (FR)  
MR. JOHN CASEY (TEAGASC)  
DR. NAHIA GARTZIA BENGOTXEA (NEIKER)  
MR. CIARAN NUGENT (FOREST SERVICE IRELAND)  
PROF. STEPHEN WOODWARD (UNIV. OF ABERDEEN)  
PROF. TUGBA DOGMUS (SULEYMAN DEMIREL UNIV)  
DR. SANDRA SÁNCHEZ (CETEMAS)  
MR. JOSÉ MARÍA FERNÁNDEZ AND ENRIQUE JIMÉNEZ (CIF-LOURIZÁN)  
DR. ING. HERVÉ JACTEL (INRA)  
PROF. STEPHEN WOODWARD (UNIV. OF ABERDEEN)  
PROF. TUGBA DOGMUS (SULEYMAN DEMIREL UNIV)  
DR. BILL MASON (FOREST RESEARCH)



# STEERING COMMITTEE

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NICK MCCARTHY (CHAIR) | WIT  
LIAM MALONE | COILTTE  
NUALA NÍ FHLATHARTA | TEAGASC  
FERGUS MOORE | DAFM  
PAT O'SULLIVAN | SOCIETY OF IRISH FORESTERS  
BARRY GARDINER | EFIPLANT

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WITH THE SUPPORT OF



An Roinn Talmhaíochta,  
Bia agus Mara  
Department of Agriculture,  
Food and the Marine

**Interreg**  
**Sudoe**  
European Regional Development Fund



