

**AGENCE FRANÇAISE
POUR LA BIODIVERSITÉ**
ÉTABLISSEMENT PUBLIC DE L'ÉTAT



Workshop on Invasive Alien Species

Invasive Alien Species: how to develop solutions for preventing and managing their introduction and spread?

EUROPE-INBO 2018

October 17th, 2018, Seville, Spain

Theme 2 : Management of IAS

Ray Earle (IAS Issues in EU and Ireland)

Workshop on Invasive Alien Species -EU Regulation and Irish Perspective

- **Key Management Issue (KPI) --- Strict Hygiene at Every Step**
- Maximum Implementation of Biosecurity - “Good Hygienically Controlled” Ecological Corridors, Ecosystems, Habitats (Aquatic included), Species, Microbes, Neo-Biota etc.
- Habitats Directive -- Annex 1 and Annex 17 ---Water Framework Directive
- Now a Legal Requirement linked to other EU Directives – FD, MSFD. MSPD
- Regulation (EU) No. 1143/2014 - European Parliament and European Council of 22nd October 2014 on “The Prevention and Management of - the Introduction and Spread of Invasive Alien Species” --- for Ireland see especially Articles 1,2 and 5 for Habitats/Species Protection
- **Stringent Timely Expert Border and Port Inspections at Likely Sources**
- Targeted and Routine Inspections by Qualified Expert Personnel for IAS and other “Pests”
- Fishing Harbours, Sea Ports, Airports, Post Storm/Coastal Events
- Inspection of Ship Manoeuvres, Discharge Waters, Hull etc
- Critical to Identify IAS Type, Source and Best Method to Prevent Spread

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- **New Zealand is the Gold Standard - Dedicated Department of Biosecurity**
- IAS Know No Boundaries, Key Sustainability Challenge for SDG – Water, Food, Energy, Climate
- Early Identification and Spread Prevention of Parasites and Pathogens likely to be sourced from and related to IAS is the Key Management Approach to be applied to EVERY SECTOR – Agriculture, Forestry, Fish, Utilities, Transportation, Ports, Tourism
- Once Introduced Not possible “yet” to Eradicate/Kill - Identify Best VFM Management Solution

- **Ever Emerging Better Value Biosecurity Technology**
- Containment and Prevention of Ecological Degradation through ever improving Equipment, Procedures, Techniques and Management is Critical
- Better Hygiene at all Stages is Critical including Aftercare and Monitoring
- Remote/Surrogate Detection with new Digital Sensors, Data Capture and Quality Assure Assessment
- ISO Standard Targeted Project/Process Planning and Management
- Critical Path or other Expert Approach Implemented by Expert Personnel Leaders/Operators - Cost, Time and Quality Assured Tasks/Containment Practices ALL Signed Off
- Quality Assured Coded Protocols/ SOPs for Specific IAS
- Materials re Improved Jute, Hessian and Bootlab

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- **Scale**
- The Spreading of IAS is Worldwide the Second most Anthropogenic Destructor of Nature after Criminal Intent - Natural Disasters Separate – Anthropocene Era Now
- Not ALL Non-Native Species are Invasive Alien Species – Non-Native Species must be assessed separately by Authorities independently of IAS EU Regulation and Directives when NOT Problematic to Ecosystems, Public Health, Healthy Ecological Substrates etc. –Ref. Professors Joe Caffrey/Bruce Osborne, Ireland
- Increasing Population, Global Economic Trading and Tourism Traffic is increasing the Risk to Biosecurity
- **Relation to Climate Change and Carbon Emissions**
- - 30% of Coral Reef is lost; EU Climate Action Network (CAN), UN-IPCC and Irish Independent Detailed Report admits that it will NOT be possible to REACH Zero Carbon Emissions by 2050--it is equivalent to a FOUR (4) Km/Year Shift to South
- Current slow progress will not achieve the globally agreed maximum rise of 1.5 Degrees and as Artic Ice declines there will be additional risks for Water Supply, Sanitation, Floods and Droughts but also Public Health, Food Hygiene and Introduction/Spread of IAS

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- **Lake Corrib –West of Ireland --The famous tourist and fishing attraction in Ireland known as lake Corrib is known to hold: (Now also Lough Erne, Lough Arrow –Interreg Project, etc)**

Fish Habitats/Species in Lough Corrib

- 1) Brown trout, 2) Ferox trout (*Salmo ferox*), 3) Salmon (*Salmo salar*), 4) Pike (*Esox lucius*), 5) Perch (*Perca fluviatilis*), 6) Roach (*Rutilus rutilus*), 7) Bream (*Abramis brama*), 8) Roach x Bream Hybrids (*Rutilus rutilus* x *Abramis brama*), 9) Eels (*Anguilla Anguilla*) and 10) Three-spined stickleback (*Gasterosteus aculeatus*).
- **Roach** a non-native invasive fish species was first identified in Lower Lough Corrib in 1982 and subsequently spread right throughout the lake (O' Grady et al., 1996). Large numbers of Roach were observed in routine netting operations on the lake from the late 1980s until 1992 when a decline in the stock was observed (O' Grady et al., 1996).
- The **Zebra Mussel** (*Dreissena polymorpha*), another invasive species in Ireland was first recorded in Lough Corrib during 2007, though it is thought they were introduced to the lake in 2000/2001.
- **Lagarosiphon Major** --The most recent recorded invasive species to L. Corrib has been the highly invasive plant species Lagarosiphon Major (also known as "curly-leaved waterweed") which was first identified in the lake in 2005 (Caffrey and Acevedo, 2007). This rapidly colonizing plant has already excluded native plant species from bays in which it has become established.

Workshop on Invasive Alien Species - Irish Perspective and EU Regulation

Please see <https://www.fisheriesireland.ie/Research/invasive-species.html>



Plate 1. A – Zebra mussel, B – *Lagarosiphon major* (photos courtesy of IFI)

Workshop on Invasive Alien Species -EU Regulation and Irish Case Study

- **The Future for IAS Policing, Source Detection, Enforcement of Legislation and Management in EU is to aspire to and equal the New Zealand Gold Standard**
- **The Key Elements underpinning almost ALL EU Regulations and Directives are IAS applicable:**
- **Massive Awareness Campaign** to Raise Awareness by Celebrity such as David Attenborough who at 92 has just published a fascinating Article as to why "Population Growth must slow down to Protect our Planet OR Disaster Awaits", has published Blue Planet Version2 and has been a Champion for the Catastrophe associated with Plastics in our Waters and Fish Species ----**Critically KEP THE MESSAGE SIMPLE BUT STARK!!!!**
- **Massive Funding Requirements Campaign**--Corresponding Detection, Planning, Enforcement and Management Costs Funding Awareness. ----Call from ALL Relevant International Bodies (UN, OECD, CAN etc.) Public Institutions and Governments/States alongside Philanthropists and Investors
- **Coherent Powerful Focussed Public/Private Management Team at Highest Level with Ring-Fenced Long-Term Budgets**--Dedicated UN, EU and Irish Biosecurity Departments with Strong Legal Powers AND Political Influence to Drive IAS Targeted and Properly Funded Scientific Research, Technological Innovation, Science/Technology Policy and Legislative Interface that is affordable, timely and credible
- **Training and Build-Up of Expert Human Capital**--Comprehensive Study Programmes, Research Opportunities and Field Learning/Training and Certified Degrees for IAS Enthusiasts
- **Leading Office/Lab Independent Non-Political Appointments to Dedicated High-Powered Departments**----CEO, Directors, Managers to a Modern Model Competent Real-Time Informed and Verifiably Based Governed Organisational Structure that has ALL necessary Qualified Experts and is "Fit for Purpose" by Experts from a Range of Key Relevant Disciplines
- **Leading Field Personnel**--Empowering Expert Managers and Operators to address Urgent Issues with Minimum of "Red-Tape" Complications re Planning, Waste, Insurances, Access to appropriate Prevention/Holding Locations etc.

Workshop on Invasive Alien Species -EU Regulation and Irish Case Study

- **The Future for IAS Policing, Source Detection, Enforcement of Legislation and Management in EU is to aspire to and equal the New Zealand Gold Standard**
- **The Key Elements underpinning almost ALL EU Regulations and Directives are IAS applicable:**
- **Best Valuation Budgets based on Experience**—IAS Lagarosiphon Major Management on Lough Corrib has to (approx. 6-years) has cost in the region of 3.5 million Euro and will require at least 0.5 million Euro per year to prevent any spread or deterioration and continue with prudent management. There are additional Risks from other IAS being “unknowingly” introduced by boats etc that will require additional monies to address newly emerging problems for Lough Corrib and to consider All beneficial uses including especially the protection of Endangered Habitats, Species like Pearl Mussel etc. with a view to seasonal, pH, temperature, nutrient, conductivity and other variables including hydrology, hydromorphology, and weather patters on the Atlantic Coast ---- now face these costs for Lough Arrow, Lough Erne etc. ---Separate Issues for Freshwater Rivers such as Protecting Pearl Mussel and tackling Zebra Mussel and similarly for Forestry, Agriculture etc.
- **Dedicated Local/Regional and Department Executives at EU and MS Level**--- will need to entirely integrate the current diverse role of the National Parks and Wildlife Service (NPWS), Inland Fisheries (IFIO, Marine Institute(MI), Local Authorities, Departments of State and Ministerial Responsibility Portfolios which at the moment are quite segregated and often disjointed and at risk of either a dual disjointed approach or missing a “responsible” Executive completely ---- similarly for Member States of EU to have a **CHAMPION EU Biosecurity Executive**
- **Good Economic Analysis is Essential –Achilles Heel of Many EU Initiatives**---to show clearly the Cost and the Losses for Fisheries, Agriculture etc. and accordingly Report Clearly re Cost Impact, Cost Effectiveness, Cost Benefit and other Green Analysis Methods for all to see
- **Finally and CRITICALLY—PUBLIC ENGAGEMENT, COMMUNITY SPIRIT and ON-GOING REAL COMMITMENT**