

National Sea Grant



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Species Sites

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# ЗАРУБЕЖНЫЙ ОПЫТ РАБОТЫ С НАСЕЛЕНИЕМ В ПРЕДУПРЕЖДЕНИИ ЗАНОСОВ И РАСПРОСТРАНЕНИЯ ЧУЖЕРОДНЫХ ОРГАНИЗМОВ



М.И. Орлова

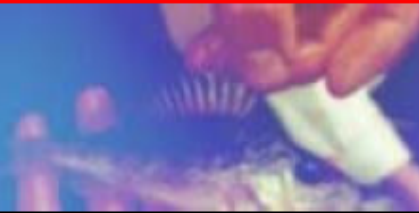
marina\_orlova@rambler.ru

For more information, go to the campaign website:

[www.ProtectYourWaters.net](http://www.ProtectYourWaters.net)



A  
WIKIMEDIA  
project



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**pollution**

[Water Pollution](#)  
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**what's new?**

[2007 Carol A. Ratza Memorial  
Scholarship](#)

Great Lakes Commission (3/28)  
This scholarship competition is  
open to high school seniors and

## Non-native Invasive Species

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Сайт для  
преподавателей

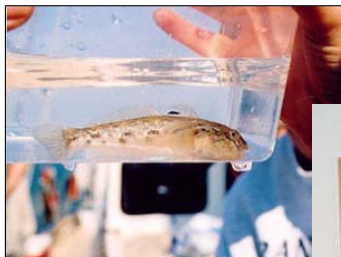
If you live on the Great Lakes or in a similar coastal area, you've no doubt heard of [zebra mussels](#) or [sea lamprey](#). Chances are you've also seen patches of [purple loosestrife](#) growing in your community or on the side of a local highway. You might not have recognized this attractive flowering plant as a non-native species, but it is. Although pretty to look at, these purple stalks are choking out native plant



## 2005 Invasive Species Education Program

### AQUATIC INVASIVE SPECIES

Program Component	2002	2003	2004	2005
<u>A. Monitoring for Invasive Species in Lake Michigan</u>	●	●	●	●
<u>B. Invasive Species Field Course for Teachers &amp; Environmental Professionals</u>	●	●	●	●
<u>C. Great Lakes Invaders Program for Teens</u>		●		
<u>D. Media Day on the Bay</u>			●	
<u>E. Teacher Resource Center</u>			●	●
<u>F. Interactive Invasive Species Exhibits for the Public</u>			○	●
<u>G. Invasive Species Workshops for the Public</u>				●
<u>H. Invasive Species Programs for Schools and Youth Groups</u>				●



of the U.S. Environmental Protection Agency for invasive species monitoring, the development and completion of the First Annual Invasive Species Field Course and website development.

# Работа общественных советов и инициатив, подготовка информационных материалов, непосредственная работа с различными категориями населения

- Объединение ученых и экспертов, представителей общественности, учебных и краеведческих организаций, представителей государственных агентств и частных компаний
- Брошюры и буклеты для населения информационного и учебного характера
- Практические инструкции

# Ирландия: общественная инициатива по ог распространения и контролю дрейссены

Zebra Mussels in Ireland: Spreading  
the Message not the Mussel  
'Zebra Mussel: Prevention and Control  
strategies'  
Zaragoza, Spain  
Aoife Thornton Ph.D.  
Western Region Zebra Mussel Control Initiative



## Members

- Galway County Heritage Forum
- The Heritage Council
- Galway County and City Councils
- Mayo, Sligo, Leitrim, Roscommon, Clare and North Tipperary County Councils
- NPWS, OPW
- Regional Fisheries Boards: NWRFB, WRFB, SHRFB and NRFB (information exchange)
- Inland Waterways of Ireland
- Waterways Ireland
- Carra Mask Corrib Water Protection Group Ltd.
- Trout Angling Federation of Ireland (TAFI)
- Scientists



# Why the Campaign is Effective...

- **Bottom-up approach**
- **Cooperation between representatives of different organisations**
- **Sub-groups operate through the command centre (the Education Officer)**
- **New Membership**
- **Links formed with the Zebra Mussel Control Group in Northern Ireland (Environment & Heritage Service, Northern Ireland) and others.**
- **Limited resources but stretched effectively**
- **Voluntary members**
- **Elements of campaign have been evaluated by international experts**



*'Zebra Mussels create links between organisations'*



Credit: Dan Minchin

Western Region Zebra Mussel Control Initiative  
(2004 – 2006)

'Caring image'  
Little emphasis  
on actions  
Created  
awareness

SIGNS

Minnesota

Zebra Mussels in Ireland: Spreading the Message not the Mussel

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### ZEBRA MUSSELS WILL DAMAGE THIS LAKE

If your boat has been in infested waters such as the Shannon you may not launch it on this lake unless it has been cleaned and left out of the water for one month.

**THE BEST ADVICE**  
Leave your boat behind and rent one locally

### MILLFIDH DIÚILICÍNÍ RIABHACHA AN LOCH SEO

Pháin do bhád ar stóir in áite truaidhe mar an Clonane, ní dhéanfaid a' bheathú ar loch seo mairbh ná gléas agus ar dháiríe truaidhe nach mairbh.

**AN COMHAIRLE IS FEARR**  
Fág do bhád sa bhaile agus faigh báid ar chíos go h-áitiúil



This Initiative is funded by the Heritage Council and Galway County Council and is supported by The Western Regional Fisheries Board and angling and boating organisations. Photo courtesy of WRCB & DNR MA, Florida Fisheries and Sea Watch.

**Zebra Mussels**  
For further advice contact  
The Western Region  
Fisheries Board Tel: 091 561110 or  
Environment Section Galway Co.  
Council Tel: 091 209000

**Dlíleirí Riabhacha**  
Táfaí eile ar bád le baint  
Beithiúchán an loch seo  
Tel: 091 561110  
An t-Áiríneirí Inneallacha,  
Contae Galway nó Contae Mayo  
Tel: 091 209000

## ATTENTION BOATERS

HELP STOP ZEBRA MUSSELS, HARMFUL AQUATIC HITCHHIKERS, FROM COMING TO MARYLAND

IF YOU'RE LAUNCHING A BOAT IN MARYLAND, HERE'S WHAT YOU CAN DO!

**INSPECT** and remove mussels and aquatic plants from boat and trailer; put in trash can

**DRAIN** water from bilge, live wells, bait buckets, engine, trailer, coolers, and SCUBA gear

**RINSE** hull, trailer, engine, live wells, bait buckets, and SCUBA gear with hot water (if available) or tap water

**DUMP DRY** leftover bait on land, away from water

boat, engine, and trailer in sun for 3-4 days between outings

**IDENTIFY THE ENEMY**  
Looks like a small clam; yellow or brown with stripes; usually about thumb-nail size; often occurs in clusters

### ZEBRA MUSSEL ALERT!

FOR MORE INFORMATION OR TO REPORT SUSPECTED SIGHTINGS, CALL MARYLAND DEPARTMENT OF NATURAL RESOURCES (410-260-0540)

MARYLAND DEPARTMENT OF NATURAL RESOURCES

Robert L. Ehrlich, Jr.  
Governor  
Michael S. Steele  
Lt. Governor  
C. Ronald Francis  
Secretary  
www.dnr.state.md.us

## HELP STOP the ZEBRA MUSSEL

**Watercraft**  
You can protect your boats/engines by:

- Inspecting routinely.
- Rinsing/washing between put-ins.
- Removing any mussels and disposing in trash.

**Bait Bucket**  
You can prevent spreading by:

- Emptying bait bucket on shore.
- Not taking bait from one body of water to another.

**Where to Look**

**For more information:**  
Maryland Department of Conservation  
Zebra Mussels  
P.O. Box 380  
Jefferson City, MD 21701-0380

# Инструкция: Как правильно составить буклет

**STOP**

**THE SPREAD OF ZEBRA MUSSELS**      **SCAIPÉADH DIÚILICÍNÍ RIABHACHA**

**Infested Foirgthe**  
This Waterbody is infested with Zebra Mussels  
Tá an t-uisce seo foirgthe le diúilicíní riabhacha

**Clean Your Boat!**      **Glan Do Bhád!**

1 Inspect      1 Scrúdaigh  
2 Drain      2 Taosc  
3 Hot Wash      3 Nigh le hUisce Te

**or Dry Out Your Boat!**      **nó Triomaigh Do Bhád!**

for 1 month if it has been in a Zebra Mussel infested water body  
ar feadh míosa má tá sé go raibh sé in uisceabánalach ina bhfuil diúilicíní riabhacha

**www.alienspecies.ie**

## WARNING SIGNS 2006

### High-visual impact

Striped background

### Location:

Piers and slipways in the West of Ireland & along the Shannon (western side)

### Preserving our cultural heritage:

Bilingual – Irish and English

### Infested stickers –

At sites where Zebra Mussels exist

### Website address:

[www.alienspecies.ie](http://www.alienspecies.ie)

### Contact details of each Fisheries Board.

### Funding provided by the Heritage C

*Zebra Mussels in Ireland: Spreading the Message not the Mussel*

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Western Region Zebra Mussel Control Initiative



# Zebra Mussel Education Brochure

Basic rules for boat owners wishing to move boats to the Western Lakes from infested waters.

### Best Advice

If possible rent a boat locally

However, should you decide to move your boat, please have it steam cleaned and:

1. Scrape any obvious zebra mussels off the boat and engine.
2. Remove all wood from boat, trailer and engine.
3. Steam clean the hull, engine and trailer at an approved cleaning station.
4. For anglers and fishermen, please ensure that all nets are free from weed, sticks and zebra mussels.
5. Display a valid cleaning receipt on your windscreen.

A list of approved cleaning stations is attached.

### CURRENT DISTRIBUTION OF ZEBRA MUSSELS IN IRELAND



**STOP**  
**ZEBRA MUSSELS**  
**Clean Your Boat**



**SAVE OUR WESTERN LAKES**  
**We are all Responsible**

### ANGLERS - BE VIGILANT

If you see someone launching a boat on the Western Lakes, check the windscreen for the presence of a cleaning receipt.

If it is not present, immediately call  
The Western Regional Fisheries Board  
@ Tel. 091-563110 or

The Northwestern Regional Fisheries Board

@ Tel. 096-22788



Photographs courtesy of  
Dail Meath and The Western Regional Fisheries Board

Current Brochure –  
8,000 distributed  
recently through  
Waterways Ireland to  
boat-owners in Northern  
Ireland & the Republic  
of Ireland

### New brochure:

➤ More graphics,  
less words

➤ Important  
message:

➤ 'Clearer  
waters are not  
cleaner waters'

# HELP!

SAVE OUR WATERWAYS!



Above: Image of native Swan Mussel covered in Zebra Mussels.  
Credit: Dan Minchin

"Already, Zebra Mussels are causing irreversible changes to the waterway ecology in Ireland. Native Mussels are dying and we are seeing changes in the balances between fish population. International information indicates that the further spread of these invasive shellfish to western lakes could spell the end of angling in this region as we know it..."

- Prof. Micheal J. Hynes  
Chairman of the Western Region Zebra Mussel Control Initiative

## HELP PROTECT IRELAND'S

- \* FISHING STOCKS
- \* DRINKING WATER
- \* LAKES & RIVERS
- \* HERITAGE
- \* BIODIVERSITY

# DON'T BE FOOLED!

STAY ALERT!

Zebra Mussels make water look clearer - **not cleaner!** Initially, the water appears clearer, resulting in improved fish "catchability". Result: Over-Fishing leading to Stock Depletion!

## Zebra Mussel infestation leads to:

- Algal Blooms
- More Weeds
- Blocked Water-intakes
- High Economic cost

Spawning can take place in the water once temperatures reach 12°C typically between May and September.



Adult Zebra Mussel  
Credit: Dan Minchin



## REMEMBER...

YOUNG ZEBRA MUSSELS ARE TINY

ONE PERSON'S MISTAKE AFFECTS EVERYONE!  
IT'S UP TO YOU - SO MUSSEL IN!



# TAKE ACTION!

HOW? CLEAN YOUR BOAT!



**Step 1:** Inspect boat hulls, equipment and machinery for adult zebra mussels. If present see step 2. If you cannot see them see step 3.

**Step 2:** Scrape off adult Zebra Mussels. Zebra Mussels can survive out of water for 18+ days. You should leave your boat to dry out in full sunlight for 1 month.

**Step 3:** Hot wash (60°C) boat hull and machinery to kill tiny zebra mussels.

**Step 4:** Remove plant life from trailer hitches, machinery etc. They might be invasive weeds that should not be dumped elsewhere.

**Step 5:** Steep nets in a hot salt water solution and allow to dry fully in sunlight.



## TAKE CARE!

Don't discard adult mussels or bilge water that may contain young mussels into a Zebra-Mussel-Free waterbody.



## PUPPETS and BIODIVERSITY



- ✓ Educational shows for children
- ✓ May also be used in classroom workshops
- ✓ *Your Man's Puppets* – Tommy Baker, Galway.



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# Engaging the Public in Invasive Species Education, Management and Research

Lori Bushway  
Cornell Garden-based Learning Program  
Department of Horticulture  
[www.gardening.cornell.edu](http://www.gardening.cornell.edu)

## Potential Project Participants



- 65% all U.S. households engage in gardening activities
- NYS has 7 million gardeners
- CCE has 1,500 certified Master Gardener Volunteers in 49 counties
- CCE MGV collectively contribute > 100,000 hours of community service

## САДОВОДЫ-ПЕРСПЕКТИВНАЯ КАТЕГОРИЯ НАСЕЛЕНИЯ

## A Real World Issue

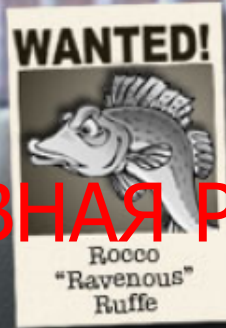
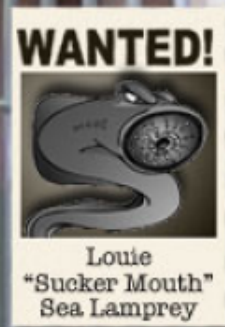


"On a global basis...the two great destroyers of biodiversity are, first habitat destruction and, second, invasion by exotic species"  
- E.O. Wilson

## Findings from Focus Groups



- Gardener are:
- Enthusiastic about many topics
  - Conducting experiments in their own landscape
  - Eager to share their gardening knowledge with others
  - Interest in participating in garden-oriented research projects



Now that you've investigated all the case files (or at least most of them), you now have the chance to arrest all 10 suspects for the crimes they've committed. Each challenge will have five questions, which must be answered correctly to get your "Book 'em Certificate." By arresting all the suspects, you'll have proof that you've gained a better understanding of aquatic invasive species and what's being done to prevent their spread— especially what YOU can do to help solve this problem.

Book 'em

ИНТЕРАКТИВНАЯ РЕГИСТРАЦИЯ  
НАХОДОК



U.S. Fish & Wildlife Service  
**Fisheries and Habitat**



Aquatic Nuisance Species Contacts

**SECTIONS**

[Aquatic Nuisance Species Home Page](#)

[The Aquatic Nuisance Species Program](#)

[Contacts in Your Area:](#)

[◀ Back](#)

[Report a Species](#)

[You Can Help! Please rep](#)

[Report Online](#)

or

Call the Aquatic Nuisance Species Hotline at  
**1-877-STOP-ANS**  
(1-877-786-7267)

## Detection and Monitoring of Aquatic Nuisance Species

Though prevention is the most effective approach to the problem of invasive species, early detection of newly introduced ANS is critical to eradication or control before species become widespread.

Monitoring and reporting locations is also vital to preventing the spread of aquatic invaders. When high-risk or well traveled paths are identified during monitoring activities, outreach efforts can be targeted to these pathways. The **100th Meridian Initiative** is one example of this approach.

К обсуждению:

# Tips & Advice



Определитесь с тем, где вы будете искать деньги (финансирование)

Выясните, кто наиболее заинтересован в вашей работе и готов с вами ее разделить (партнеры)

Продемонстрируйте потенциальным партнерам и спонсорам вашу открытость новым идеям

Подумайте, есть ли у вас человек способный быть координатором и посвящать этой активности много времени (работы много).

Совет. Если есть возможность присоединиться к национальной или международной научно исследовательской или экспертной группе – присоединяйтесь.

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